

OPERATION MANUAL

FA-9500

Frame Synchronizer

FA-95PS

FA-95DACBL

FA-95RU*

FA-95CO

FA-95D-D/DE-E

FA-95AIO

FA-95ALA

10th Edition – Rev.1

SOFT Ver. 8.00 – higher

Edition Revision History

Edit.	Rev.	Date	Description	Where
Preliminary	-	2010/08/03	Preliminary edition (V0010)	
1		2010/09/13	First edition (V0100)	Throughout
1	1	2011/01/20	Added FA-95DACBL option, color correction description. Other text amendments.	
2		2011/03/23	Added 3G-SDI, Second Converter, and Auto Video Optimizer features, and FA-95PS option. Other text amendments.	Throughout
3		2011/06/14	Added FA-95RU option. (Issued the separate FA-95RU Operation Manual)	7-1
4		2011/08/19	Added FA-95CO Option Added the login page and Logout button	5-7 9-1
4	1	2011/10/18	Revised AVO Scene Cut Detection frame delay, and Forced Field frame delay settings	5-5-2, 9-2-2-1, 5-10-1, 9-2-3, 9-4-1
5		2011/11/08	Closed captioning CEA608, S334-1, CEA708 compatible	5-10-13, 5-11, 5-12, 5-16-13 through 5-22, 9-4-1, 9-4-3, 9-7-4, 18
6		2011/12/16	Added FA-95D-D and FA-95DE-E options. Enhanced Audio processing feature Added PAL-M support	5-15, 5-16-13, 6-9, 9-3, 9-4, 10, 13, 19, etc.
7		2012/02/16	Added FA-95AIO option.	5-7-1, 5-8-5, 5-10-3, 5-15, 5-17-2&3, 5-17-5, 7-3, 16
7	1	2012/03/06	Deleted NTSC SETUP exceptional condition	5-15
8		2012/03/26	Added Logo feature	5-9-1
9		2012/07/06	Enhanced FA-95DE-E option. Added AFD support. (S2016/VI/WSS) CONV2 modified to Up/Down/Cross converter.	5-3, 5-4, 20, 21, etc.
9	1	2012/08/06	Added VITS feature description	5-10-4 through 5-10-7, 9-4-1
9	2	2013/04/12	Revised specifications (optional video formats)	25-1
10		2013/06/03	Added FA-95ALA option. Enhanced FA-95RU for FA-9520 support	6-9-9, 9-3-17, etc.
10	1	2013/06/13	Operation Manual added to User Manual CD	

Software Versions and Supported Options

Version *1	Supported Feature/Option	Note
FPGA1:1.36 or higher FPGA2:1.27 or higher FPGA3:1.01 or higher SOFT:1.13 or higher	FA-95PS 3G-SDI Second Converter Auto Video Optimizer FA-95DACBL	First edition
FPGA1: 1.40 or higher FPGA2: 1.28 or higher FPGA3: 1.01 or higher SOFT : 2.00 or higher	FA-95RU	Supports FA-95RU option.
FPGA1:1.51 or higher FPGA2: 1.29 or higher FPGA3: 1.01 or higher SOFT: 2.10 or higher	FA-95CO	Supports FA-95CO option FA-95RU ver. 1.10 or higher-compatible
FPGA1:1.55 or higher FPGA2: 1.30 or higher FPGA3: 1.01 or higher SOFT: 2.22 or higher	AVO Scene cut detection	Modified frame delay settings for Forced Field function. Corrected a bug on AUTO LOAD. FA-95RU ver. 1.20 or higher-compatible
FPGA1:1.58 or higher FPGA2: 2.00 or higher FPGA3:1.01 or higher SOFT: 2.30 or higher		Closed captioning CEA608, S334-1, CEA708 compatible Revised menu display upon switching VIDEO/AUDIO menus.
FPGA1: 2.08 or higher FPGA2: 3.00 or higher FPGA3: 1.01 or higher SOFT: 3.00 or higher	FA-95D-D FA-95DE-E	Supports FA-95D-D and FA-95DE-E options Supports PAL-M

Version *1	Supported Feature/Option	Note
FPGA1: 2.28 or higher FPGA2: 4.10 or higher FPGA3: 1.01 or higher SOFT: 4.00 or higher	FA-95AIO	Supports FA-95AIO option FA-95RU ver 3.00 or higher-compatible
FPGA1: 2.30 or higher FPGA2: 4.10 or higher FPGA3: 1.02 or higher SOFT: 5.00 or higher	Logo Generator	Supports Logo Generator FA-95RU ver 4.00 or higher-compatible
FPGA1:3.14 or higher FPGA2: 5.02 or higher FPGA3: 1.02 or higher SOFT: 6.00 or higher	Added performance features.	S2016/VI/WSS AFD support, CONV2 Up/Down/Cross converter support, and FA-95DE-E option enhanced encoding function. FA-95RU ver 5.00 or higher-compatible
FPGA1:3.15 or higher FPGA2: 5.10 or higher FPGA3: 1.02 or higher SOFT: 6.01 or higher	Added performance features.	SD-SDI VITS output support
FPGA1:3.20 or higher FPGA2: 5.20 or higher FPGA3: 1.02 or higher SOFT: 8.00 or higher	FA-95ALA	Modified FA-95RU to add FA-9520 support FA-95RU Ver. 6.00 or higher-compatible Modified FA-95D-D and FA-95DE-E communication methods with main unit to support FA-95ALA. Supported FA-95D-D/FA-95DE-E versions: FPGA1: 1.00 FPGA2: 2.10 (1.01 or lower is inoperative in this unit.)

*1 Version information can be seen as described in section 7-6 "UNIT Ver.".

Precautions

Important Safety Warnings

[Power]

 Caution	Operate unit only on the specified supply voltage.
	Disconnect power cord by connector only. Do not pull on cable portion.
 Stop	Do not place or drop heavy or sharp-edged objects on power cord. A damaged cord can cause fire or electrical shock hazards. Regularly check power cord for excessive wear or damage to avoid possible fire / electrical hazards.

[Grounding]

 Caution	Ensure unit is properly grounded at all times to prevent electrical shock hazard.
 Hazard	Do not ground the unit to gas lines, units, or fixtures of an explosive or dangerous nature.
 Caution	Ensure power cord is firmly plugged into AC outlet.

[Operation]

 Hazard	Do not operate unit in hazardous or potentially explosive atmospheres. Doing so could result in fire, explosion, or other dangerous results.
 Hazard	Do not allow liquids, metal pieces, or other foreign materials to enter the unit. Doing so could result in fire, other hazards, or unit malfunction.
	If foreign material does enter the unit, turn power off and disconnect power cord immediately . Remove material and contact authorized service representative if damage has occurred.

[Transportation]

 Caution	Handle with care to avoid shocks in transit. Shocks may cause malfunction. When you need to transport the unit, use the original packing materials or alternate adequate packing.
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[Circuitry Access]

	Do not remove covers, panels, casing, or access circuitry with power applied to the unit! Turn power off and disconnect power cord prior to removal. Internal servicing / adjustment of unit should only be performed by qualified personnel.
 Stop	Do not touch any parts / circuitry with a high heat factor. Capacitors can retain enough electric charge to cause mild to serious shock, even after power is disconnected. Capacitors associated with the power supply are especially hazardous. Avoid contact with any capacitors.
 Hazard	Unit should not be operated or stored with cover, panels, and / or casing removed. Operating unit with circuitry exposed could result in electric shock / fire hazards or unit malfunction.

[Potential Hazards]

 Caution	If abnormal smells or noises are noticed coming from the unit, turn power off immediately and disconnect power cord to avoid potentially hazardous conditions. If problems similar to above occur, contact authorized service representative before attempting to again operate unit.
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[Rack Mount Brackets, Ground Terminal, and Rubber Feet]

 Caution	To rack mount or ground the unit, or to install rubber feet, do not use screws or materials other than those supplied. Otherwise, it may cause damage to the internal circuits or components of the unit. If you remove the rubber feet attached on the unit, do not reinsert the screws securing the rubber feet.
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[Consumables]

 Caution	The consumables used in unit must be replaced periodically. For further details on which parts are consumables and when they should be replaced, refer to the specifications at the end of the Operation Manual. Since the service life of the consumables varies greatly depending on the environment in which they are used, they should be replaced at an early date. For details on replacing the consumables, contact your dealer.
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Upon Receipt

Unpacking

FA-9500 units and their accessories are fully inspected and adjusted prior to shipment. Operation can be performed immediately upon completing all required connections and operational settings.

Check your received items against the packing lists below.

FA-9500

ITEM	QTY	REMARKS
FA-9500	1	
AC Cord	1 set	(Incl. ladder strap/retaining clip assembly)
Rack Mount Brackets	1 set	EIA standard type (Including 4 screws.)
CD-ROM	1	FA-9500/FA-9520/FA-95RU User Manuals (PDF)
Quick Setup Guide	1	

Option

ITEM	QTY	REMARKS
FA-95PS	1 set	Redundant power supply unit (with AC cord and AC cord retaining clip)
FA-95DACBL	1	Digital audio expansion cable (to expand digital audio I/O up to 8 inputs and 8 outputs.) Normally installed in slot B.
FA-95RU	1	Remote Control Unit
FA-95D-D *	1	Dolby E/Digital decoder
FA-95DE-E	1	Dolby E encoder FA-95D-D option required for FA-95DE-E installation.
FA-95AIO *	1	Analog component I/O expansion card (with dedicated connection cable: PC-3307-1)
FA-95ALA *	1	Automatic Loudness Adjustment card

* FA-95DACBL, FA-95D-D, FA-95DE-E, FA-95AIO and FA-95ALA options (any combination other than 2 of the same option) can be installed into option slots A and/or B.

Software Option

ITEM	QTY	REMARKS
FA-95CO	1	Changeover

Check

Check to ensure no damage has occurred during shipment. If damage has occurred, or items are missing, inform your supplier immediately.

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Rack Mounting

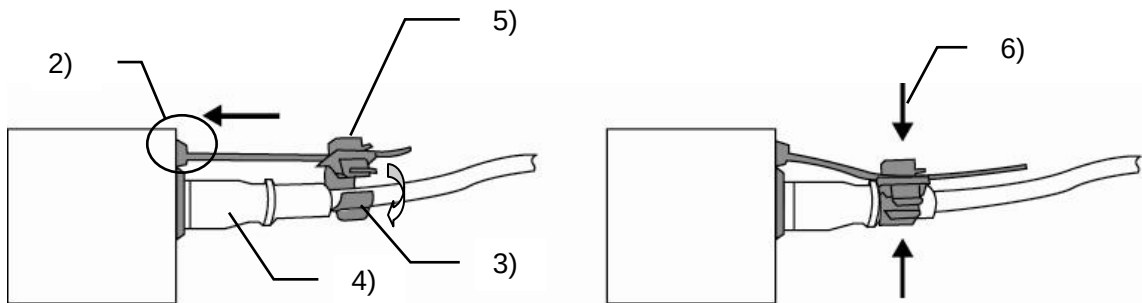
FA-9500/RPS can be mounted to EIA standard rack units. When rack mounting a unit, remove the rubber feet and use the accessory rack mount brackets (rack ears).

Installing the AC Cord Retaining Clip

Secure the AC cord with the supplied ladder strap/retaining clip assembly to prevent accidental removal from the FA-9500.

◆ Installing the clip

- 1) Wrap the retaining clip around the AC cord. (with the anchor of the ladder strap toward the unit.)
- 2) Insert the anchor into the hole next to the AC IN socket.
- 3) Lightly fasten the clip around the AC cord.
- 4) Plug in the power cord.
- 5) Slide the clip on the ladder strap toward the plug.
- 6) Fasten the clip tightly.
- 7) Gently pull on the AC cord to ensure it is secured.



◆ Unplugging the AC cord

- 1) Push the tab on the retaining up to unfasten the clip.
- 2) Push the tab on the ladder strap up and slide the clip back.
- 3) Unplug the AC cord.

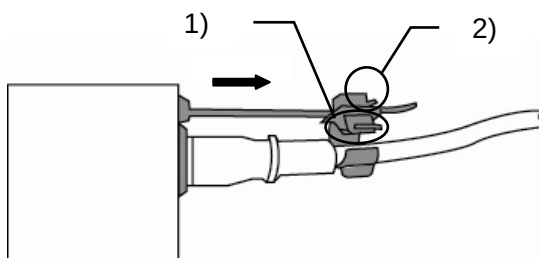


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1. Prior to Starting

1-1. Welcome

Congratulations! By purchasing FA-9500 Frame Synchronizer you have entered the world of FOR-A and its many innovative products. Thank you for your patronage and we hope you will turn to FOR-A products again and again to satisfy your video and audio needs.

FOR-A provides a wide range of products, from basic support units to complex system controllers, which have been increasingly joined by products for computer video based systems. Whatever your needs, talk to your FOR-A representative. We will do our best to be of continuing service to you.

1-2. Features

The FA-9500 is a multipurpose signal processor loaded with all the functions you need for video production.

3G-SDI, HD/SD-SDI, and analog composite I/O is supported in addition to its functionality as a frame synchronizer. The unit provides dual up/down/cross/aspect converters, color corrector, and automatic video optimizer (AVO) as standard features, allowing for the conversion of many types of video and audio signals. Numerous additional optional features include analog component I/O, frame rate converter, logo generator, Dolby E encoder and Dolby E decoder. By combining these varied options, a single unit can provide optimal functionality for all your video production scene requirements, including line, relay, reporting, production, editing and delivery. If you have the FA-9500, you will never need another piece of peripheral video equipment!

Standard Features

- 3G-SDI/HD-SDI/SD-SDI/Analog Composite I/O
- Digital/Analog Audio I/O
- Main Converter (Up/Down/Cross/Aspect conversion)
- Second Converter (Up/Down/Cross/Aspect conversion)
- Color Corrector
- Auto Video Optimizer (AVO)
- Powerful Frame Synchronizer Performance
- Logo Generator
- Other Features
 - Video delay
 - 2D/3D comb filter for Y/C separator (composite)
 - Web browser-based monitoring and control possible
 - SNMP monitoring and partial control function

Additional Features

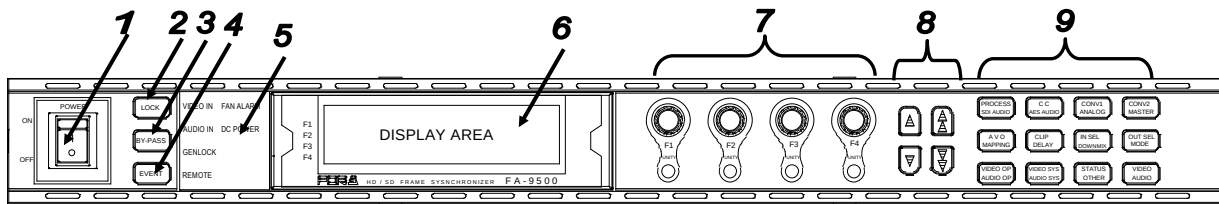
- Redundant power supply unit
- Changeover function
- Remote control unit via Ethernet
- Dolby E/Digital decoder and Dolby E encoder
- Analog component I/O
- Automatic Loudness Adjustment Function

1-3. FA-95LG GUI Download

The FA-9500 Logo generator function is designed to be used with logo management software, FA-95LG GUI, enabling logo data import to FA-9500 via Ethernet. The FA-95LG GUI can be downloaded from FOR-A's website: http://www.for-a.com/products/fa9500/fa95lg_gui.zip. The operation manual for the FA-95LG GUI will download automatically along with the software.

2. Panel Descriptions

2-1. Front Panel

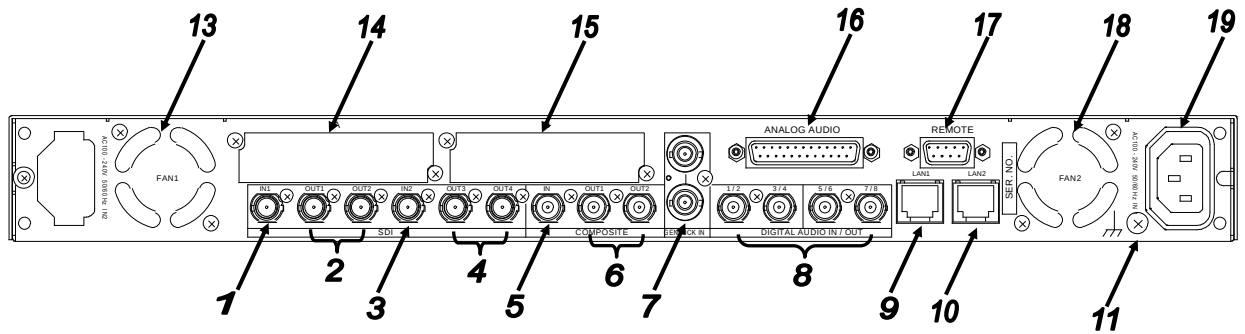


No	Name	Description			Ref.
1	POWER switch	Used to turn the unit ON / OFF. Pressing the " " side turns on the power.			4-1
2	LOCK button	Lit when pressed, and the buttons and controls on the front panel except this LOCK button are disabled. To enable the disabled buttons and controls, press and hold this button down for several seconds.			
3	BY-PASS button	Bypasses input signals (video and audio). The input signals are directly output when the BY-PASS button is pressed (lit). See the description of No. 2, 4, and 6 of the rear panel for details.			
4	EVENT button	Used to save and load events.			8
5	Status indicator	VIDEO IN	Lit green	An input signal is present in the connector selected in the menu.	5-7 5-13-2
			Unlit	An input signal is not present in the connector selected in the menu.	5-7 5-13-2
		AUDIO IN	Lit green	An audio signal is present.	6-5
			Unlit	No audio signal is present.	6-5
		GENLOCK	Lit green	A genlock signal input is present. (Unlit if SYNCHRO is set to INPUT. See section 5-10-1 FS MODE SET for details)	5-10-1 5-13-2
			Unlit	No genlock signal input is present.	5-13-2
		REMOTE	Lit green	CONTROL SETTING is set to REMOTE.	7-1
			Unlit	CONTROL SETTING is set to LOCAL.	
		DC POWER ^{*1}	Lit red	A power failure has occurred. Turn the power of the unit OFF, and contact your supplier.	5-13-1
			Unlit	Power supply is normal.	5-13-1
		FAN ALARM	Lit red	One or more fans have failed. Turn the power of the unit OFF, and replace the failed fans if needed.	5-13-1
			Unlit	All fans are operating normally.	5-13-1
6	Menu display	Used to display menus and make operational settings			4-2
7	Controls (F1-F4) UNITY buttons	Used to change operational settings. Turn and select values. The Unity buttons return the settings to the default values.			4-2
8	Arrow buttons	Single-arrow buttons	Used to move between parameters. (Indicators light up to indicate the accessible direction.)		4-2
		Double-arrow buttons	Used to move between menus (same as the menu buttons). (Indicators light up to indicate the accessible direction.)		4-2
9	Menu buttons	Used to select menus.			4-2

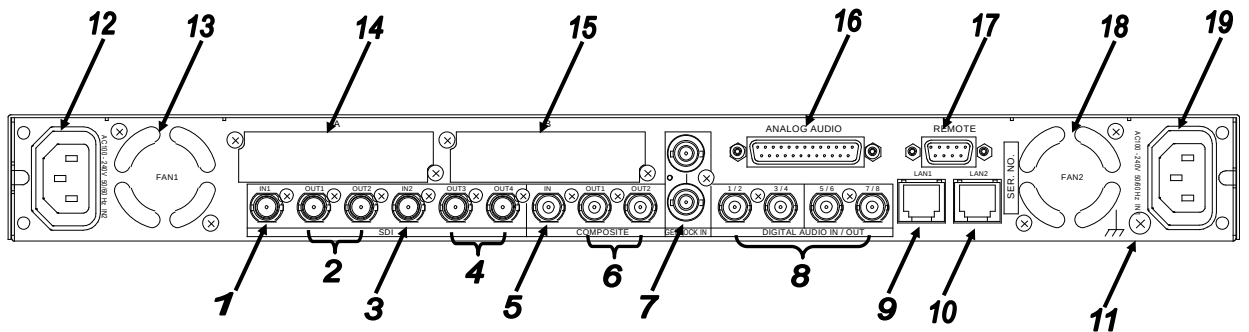
*1 The DC POWER indicator functions when the optional FA-95PS is installed.

2-2. Rear Panel

◆ FA-9500



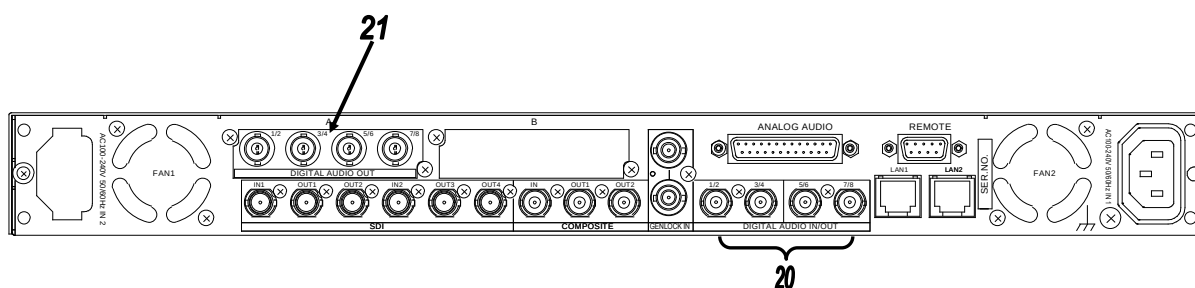
◆ FA-9500 with the FA-95PS option installed



No	Name	Description	Ref.
1	SDI IN 1	Used for HD/SD-SDI video input 1.	5-7
2	SDI OUT 1-2	Used for HD/SD-SDI video output 1. The input signal in SDI IN 1 is output from SDI OUT1 when BY-PASS is enabled or the unit is turned off.	
3	SDI IN 2	Used for HD/SD-SDI video input 2.	5-7
4	SDI OUT 3-4	Used for HD/SD-SDI video output 2. The input signal in SDI IN 2 is output from SDI OUT3 when BY-PASS is enabled or the unit is turned off.	
5	COMPOSITE IN	Used for analog composite video input.	5-7
6	COMPOSITE OUT 1-2	Used for analog composite video output. The input signal in COMPOSITE IN is output from COMPOSITE OUT1 when BY-PASS is enabled or the unit is turned off.	
7	GENLOCK IN	Used for reference signal input (black burst or tri-level sync) to synchronize the system. The bottom connector is for a loop through. It must be terminated at 75 ohm when not in use.	
8	DIGITAL AUDIO IO 1/2 - 7/8	Used for digital audio inputs and outputs. Select whether to use for input or output as in section 6-2-5 "AES I/O SETUP".	6-2-5
9	LAN1	A 1000/100BASE-TX/10BASE-T Ethernet LAN port. Used to connect an external remote control unit or to transfer data to an external device. RJ-45	
10	LAN2	A 1000/100BASE-TX/10BASE-T Ethernet LAN port. Used to connect an external remote control unit or to transfer data to an external device. RJ-45 (For future use)	
11	Ground Terminal	Used to ground the unit to protect operators against static electricity and electrical shock.	

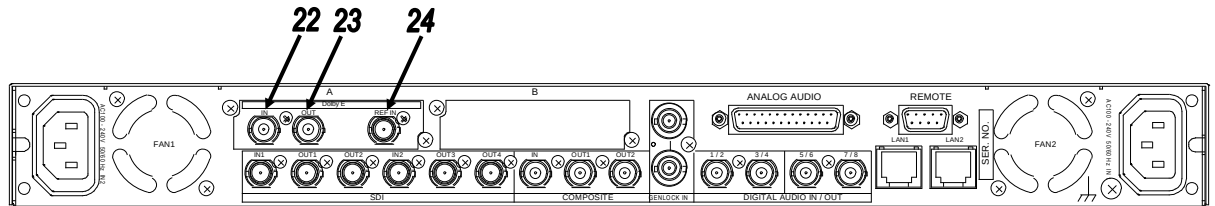
No	Name	Description	Ref.
12	AC IN 2	Used to connect the unit to an AC power source. (AC100V-240V 50/60Hz) Enabled only when the optional redundant power unit FA-95PS is installed. The operation status can be viewed from the DC POWER 2 menu as described in section 5-13-1 "UNIT ALARM". (The menu is displayed if the optional FA-95PS is installed.)	
13	FAN1	Used to air-cool the unit to prevent overheating. Do not block the ventilation with other equipment or objects. The operation status can be viewed from the FAN1 menu as described in section 5-13-1 "UNIT ALARM".	
14	SLOT A	OPTION SLOT A for an optional expansion card.	15
15	SLOT B	OPTION SLOT B for an optional expansion card.	15
16	ANALOG AUDIO	Used for four-channel analog audio input and output. See section 12 "Analog Audio Connection" for details.	12
17	REMOTE	Used for remote control. Assign functions to each pin. See section 7-4 "GPI SETTING" for details on assigning functions. See section 14 "REMOTE" for connections.	7-4 14
18	FAN2	Used to air-cool the unit to prevent overheating. Do not block the ventilation with other equipment or objects. The operation status can be viewed from the FAN2 menu as described in section 5-13-1 "UNIT ALARM".	
19	AC IN1	Used to connect the unit to an AC power source. (AC100V-240V 50/60Hz) The operation status can be viewed from the DC POWER 1 menu as described in section 5-13-1 "UNIT ALARM". (The menu is displayed if the optional FA-95PS is installed.)	

◆ FA-9500 with the FA-95DACBL option installed



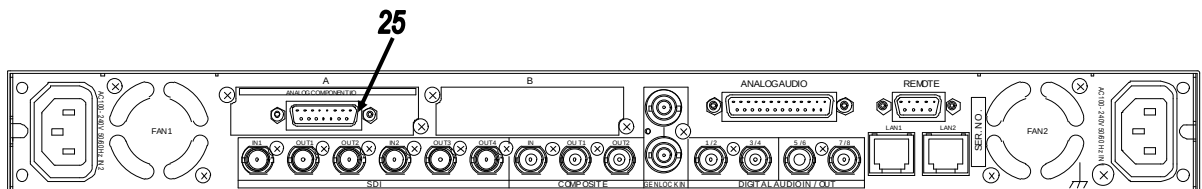
No	Name	Description	Ref.
20	DIGITAL AUDIO IO 1/2 - 7/8	Digital audio input and output connectors. Used only for inputs when the FA-95DACBL option is installed.	
21	DIGITAL AUDIO OUT 1/2 - 7/8	Digital audio output connectors. (FA-95DACBL option) (The above figure of rear panel depicts an AF-95DACBL option installed in slot A. The option can also be installed in slot B.)	15

◆ FA-9500 with the FA-95D-D/DE-E options installed



No	Name	Description	Ref.
22	Dolby E IN (AUX IN)	Digital audio input connector on the FA-95D-D/DE-E option. Used to input Dolby E and/or digital signals to the Dolby decoder.	6-9-1-2
23	Dolby E OUT (AUX OUT)	Digital audio output connector on the FA-95D-D/DE-E option. Used to output signals output from the Dolby decoder and/or Dolby encoder.	6-9-1-1
24	REF IN	Reference signal input connector on the FA-95D-D/DE-E option. Used to input reference signal (B.B. or tri-level sync) for the Dolby decoder. 75 ohm terminated inside.	6-9-1-3

◆ FA-9500 with the FA-95AIO option installed



No	Name	Description	Ref.
25	ANALOG COMPONENT I/O	Analog component input/output connector on FA-95AIO option. Connect the supplied I/O cable.	16

2-3. Internal Settings

IMPORTANT

Note that internal switch settings should not be changed from factory defaults. If you have accidentally changed the settings, return them to the factory default settings as shown in this section.

Be sure to have qualified technical personnel perform the settings and adjustments in the interior, or contact your dealer.

CAUTION

Do not access any internal cards while the unit is powered ON. Always power OFF all connected units / disconnect power cords prior to accessing the interior. To protect boards from electrostatic damage, do not touch the components on the boards.

2-3-1. Dipswitch Settings

The following settings can be made at the dipswitches on MAIN CARD inside the unit.

◆ Dipswitch S1 Settings

Pin No.	Default setting	Setting
1	ON	Do not change.
2	OFF	Do not change.
3	OFF	Do not change.
4	OFF	Do not change.
5	OFF	Do not change.
6	OFF	Do not change.
7	OFF	Do not change.
8	OFF	Do not change.

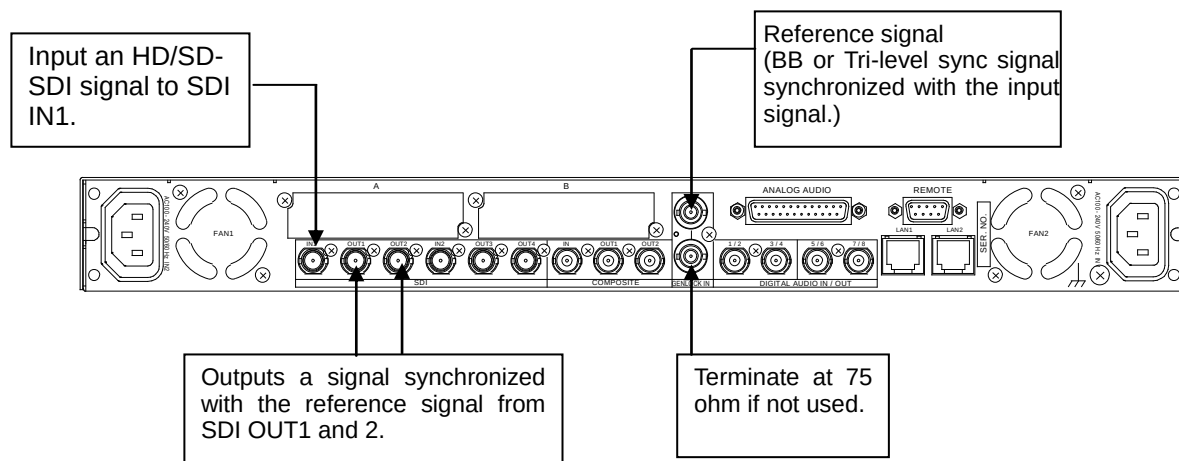
◆ Dipswitch S2 Settings

Pin No.	Default setting	Setting
1	ON	Do not change.
2	OFF	Do not change.
3	OFF	Do not change.
4	OFF	Do not change.
5	OFF	If the FA-95DACBL is installed in SLOT A: OFF If the FA-95DACBL is installed in SLOT B: ON If the FA-95DACBL is not installed: OFF
6	OFF	Do not change.
7	OFF	Standard FA-9500: OFF (without FA-95PS) If the FA-95PS is installed: ON
8	OFF	Do not change.

3. Connections

This section describes the connections and settings for specific usages. The descriptions on the settings are based on the factory default. If you are not sure of your current settings, you can reset the unit to the default setting by selecting DEFAULT in the EVENT LOAD menu described in the section 8-1 “EVENT LOAD”.

3-1. For HD /SD-SDI Frame Synchronizer Use



Settings that need to be checked:

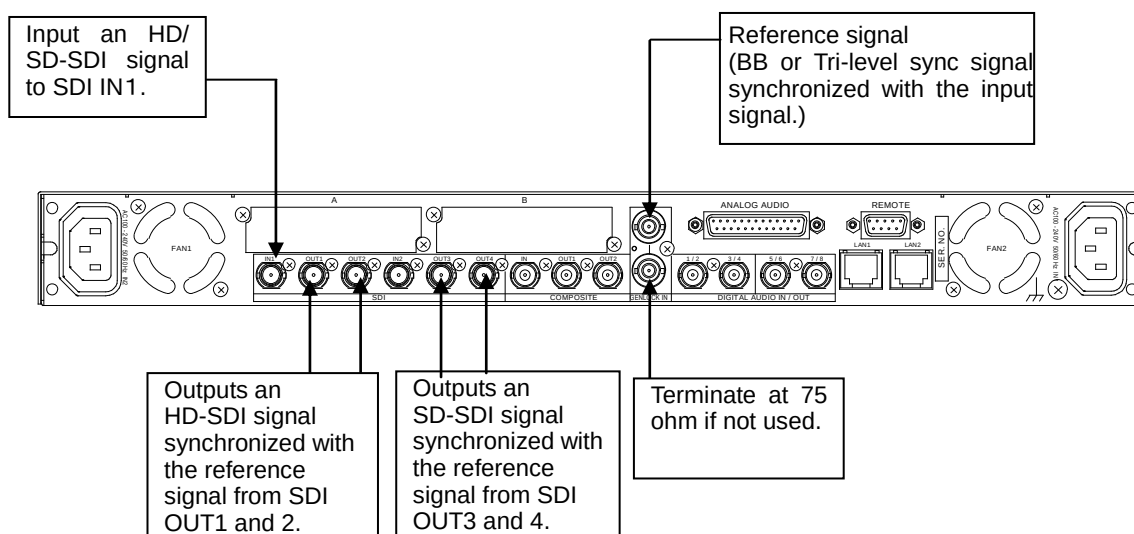
- INSEL is set to SDI1 as described in section 5-7-1 “VIDEO INPUT SET”.
- CONV1 is set to BY-PASS as described in section 5-3-1 “CONV1 U/D MODE”.
- SDI1/2 OUT SET is set to CONV1 as described in section 5-8 “VIDEO OUT SELECT (OUT SEL)”. (To output the same synchronized signal from SDI3 and 4, set SDI3/4 OUT SET to CONV1.)
- Select a sync mode in the SYNCHRO menu as described in section 5-10-1 “FS MODE SET”.
- Make sure the SYS FRMT is appropriately set for the input signal as described in section 5-10-1 “FS MODE SET”.
- Adjust phase and position to match the reference signal as described in section 5-10-6 “HD PHASE” if necessary.

NOTE

The SD-SDI input signal in SDI IN1 can also be output from COMPOSITE OUT. To do so, set COMPOSITE to CONV1 as described in section 5-8 “VIDEO OUT SELECT (OUT SEL)”. To adjust the signal phase of the output from the COMPOSITE OUT, see section 5-10-7 “SD PHASE SET”.

The input signal can be selected from the inputs in the SDI IN1, SDI IN2, and COMPOSITE IN connectors. The input selection can be made by the IN SEL setting as described in section 5-7-1 “VIDEO INPUT SET”.

3-2. For HD/SD-SDI Simultaneous Output

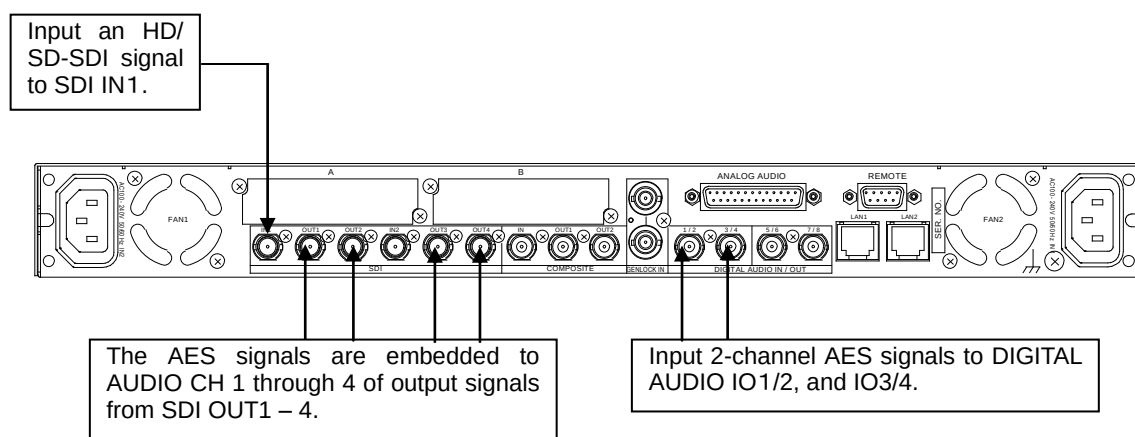


Settings that need to be checked:

- INSEL is set to SDI1 as described in section 5-7-1 "VIDEO INPUT SET".
- CONV1 is set to SD as described in section 5-3-1 "CONV1 U/D MODE". (To convert to 720p, set it to 720p.)
- CONV2 is set to SD as described in section 5-4-1 "CONV2 U/D MODE".
- To convert to 4:3, set ASPECT in CONV2 U/D MODE to 4:3 F 4:3, and ASPECT in CONV1 U/C MODE to 16:9 P 4:3. Also set ASPECT in the 5-7-2 SD INPUT ASPECT menu to 4:3. To enable automatic aspect ratio conversion according to the AFD data, select an automatic conversion mode from among AFD(4:3), AFD-ALT(4:3), AFD(16:9) or AFD-ALT(16:9). Make sure the AFD data is embedded into the input signal. Whether the AFD data is embedded or not can be verified in the 5-15 AFD IN STATUS menu. If the input signal is 525/50 or 625/50, S20163-3, VI (Video Index), and WSS (Wide-Screen Signalling) AFD formats are supported. Select the type of AFD data to refer to in the 5-10-15 ANC DETECT SEL menu from S2016-3 AFD, RP186VI, and BT1119 WSS. Also set ANC MODE to DETAIL in the 5-10-15 ANC DETECT SEL menu from S2016-3 AFD, RP186VI, and BT1119 WSS. Also set ANC MODE to DETAIL in the **5-10-9 CONV1 ANC SET**, and 5-10-10 CONV2 ANC SET menus.
- SDI1/2 OUT SET is set to CONV1 as described in section 5-8-1 "SDI1/2 OUT SET".
- SDI3/4 OUT SET is set to CONV2 as described in section 5-8-2 "SDI3/4 OUT SET".
- Select a sync mode in the SYNCHRO menu as described in section 5-10-1 "FS MODE SET".
- SYNC FRMT is set to AUTO DET as described in section 5-10-1 "FS MODE SET".
- Adjust the HD output phase to match that of the reference signal as described in section 5-10-6 "HD PHASE". (The SDI OUT1/2 output signals will be adjusted.)
- Adjust the SD output phase to match that of the reference signal as described in section 5-10-7 "SD PHASE SET". (The SDI OUT3/4 output signals will be adjusted.)
- To embed AFD data into the FA-9500 output video signal, set ANC MODE to DETAIL in the 5-10-9 CONV1 ANC SET, and 5-10-10 CONV2 ANC SET menus, then select the AFD data you wish to embed for each converter in the 5-10-16 ANC DATA EMBED menu.

3-3. To Embed AES Input Signals on SDI Signals

The following describes how to embed 4 channel AES signals on SDI signals in SDI OUT1 – 4.



Settings that need to be checked:

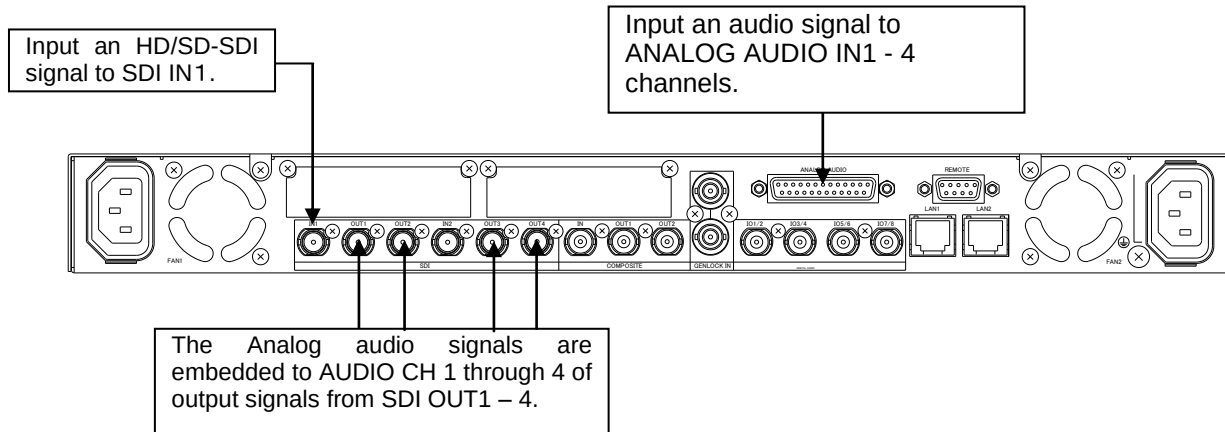
- Select SOURCE SEL 1/2 and set SOURCE SET to AES1/2 as described in section 6-5-1 "SOURCE/SRC SEL".
Also, select SOURCE SEL 3/4, set SOURCE SET to AES3/4 and set SRC OP/BY to AUTO.

NOTE

Provide audio settings, if necessary, as described in section 6-2 "AES AUDIO Settings (AES AUDIO)".

3-4. To Embed Analog Audio Signals on SDI Signals

The following describes how to embed a 4- channel analog audio signal on SDI OUT1 through 4 output signals.



Settings that need to be checked:

- Select SOURCE SEL 1/2 and set SOURCE SET to ANA1/2 as described in section 6-5-1 "SOURCE/SRC SEL".
Also, select SOURCE SEL 3/4, and set SOURCE SET to ANA3/4.

NOTE

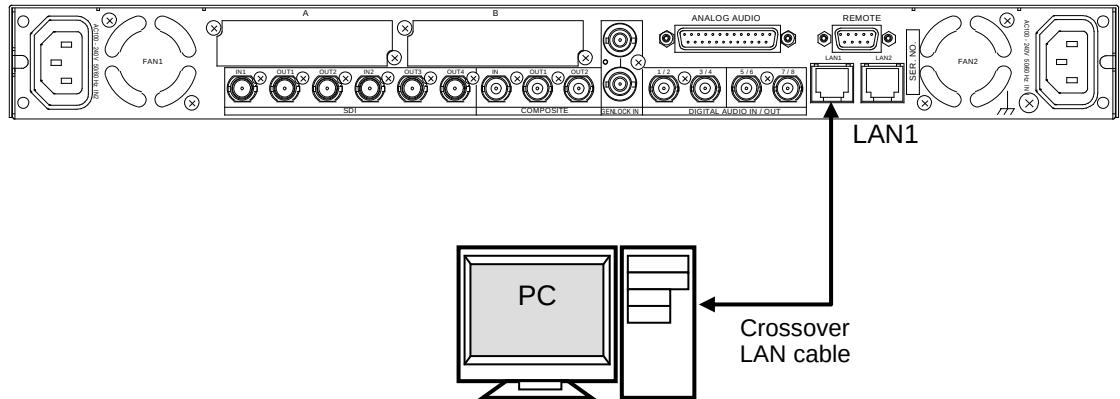
See section 12 "Analog Audio Connection" for the ANALOG AUDIO connector connection.

Provide audio settings, if necessary, as described in section 6-3 "ANALOG AUDIO Settings (ANALOG)".

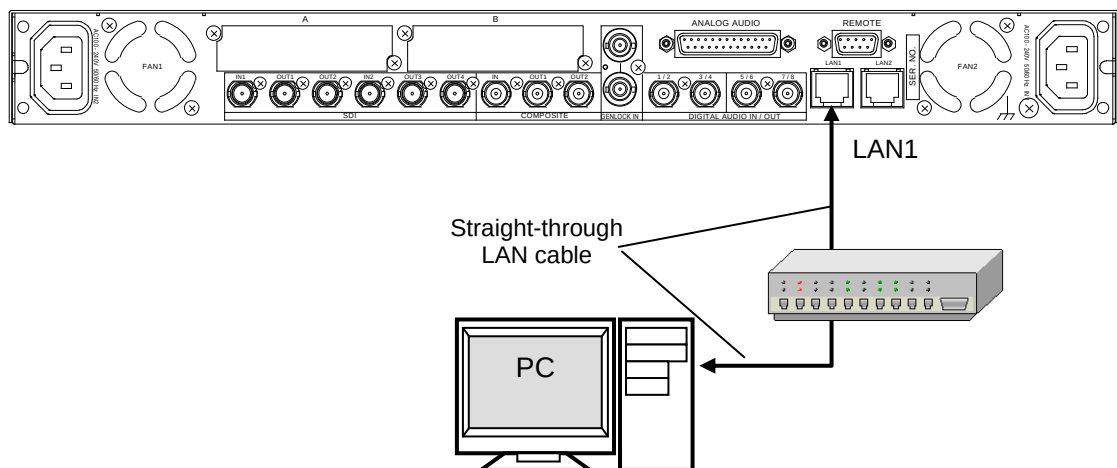
3-5. Connecting a Computer

The FA-9500 can be controlled from a computer through a Web browser. Connect a computer to the FA-9500 as shown below.

◆ Connection using a crossover LAN cable.



◆ Connection using a hub



The FA-9500 network settings must be adjusted for your network after purchase.

- The FA-9500's LAN1 IP address is set to 192.168.0.10 at the factory.
- Set the IP address and subnet mask of the computer.

IP address: 192.168.0.1 to 192.168.0.254 (except 192.168.0.10)

Subnet mask: 255.255.255.0

In Windows, open the **Local Area Connection Properties** dialog box, and open the **Internet Protocol (TCP/IP) Properties** window. The settings must be made in the window. See the user's manual of your computer for details.

- Start a web browser on your computer, and enter the address as <http://192.168.0.10>.
- Enter the default user name (fa9500), and the default password (foranetwork).
- The FA-9500 control window appears on the web browser window.
- See section 9-8 "Network Settings" for details on changing the FA-9500's IP address.
- See section 9 "Control via WEB Browser" for details on the FA-9500 web browser control window.

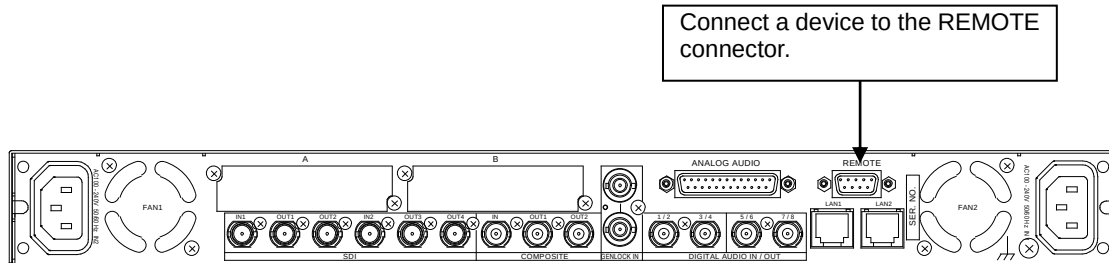
NOTE

The FA-9500's IP address can be checked on the front panel display. See section 7-5 "NETWORK INFO" for details.

3-6. Connecting to the REMOTE (GPI) Connector

Easy control over the FA-9500 from an external device is also possible by connecting the device to the REMOTE connector.

Seven ports are provided on the connector. Assign functions to the respective ports to control the FA-9500.



- See section 14 "REMOTE" for details on pin assignments and triggers.
- See section 7-4 "GPI SETTING" for details on function assignments for the ports.

4. Front Panel Operations

4-1. Powering ON

Turn the power ON after all system connections are complete. The indicators on the front panel light up during startup. When startup is complete, the indicators will go off and the VIDEO STATUS menu showing the current input video and reference signal formats will be displayed.

VIDEO IN STATUS	502
SDI1: 1080/59i	
SDI2: 525/60	
COMPOSITE: 525/60	
REFERENCE: 525/60	

If Logo data is stored:

A loading progress message is displayed in the menu display as shown below.

Logo data may take up to 2.5 minutes to load.

LOADING LOGO DATA...
00% COMPLETE

4-2. Basic Operations

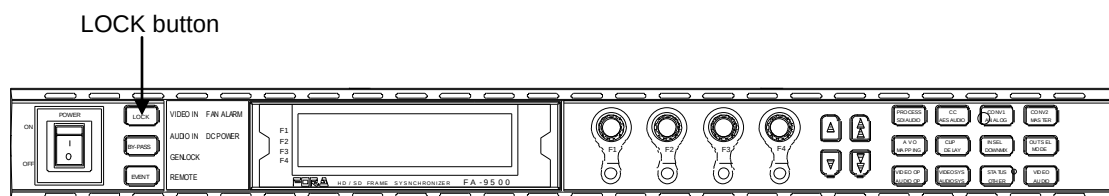
This section explains how to select menus and parameters.

Most of the menus can be controlled by these basic operations. However, some menus work differently. See the descriptions given for each menu for details.

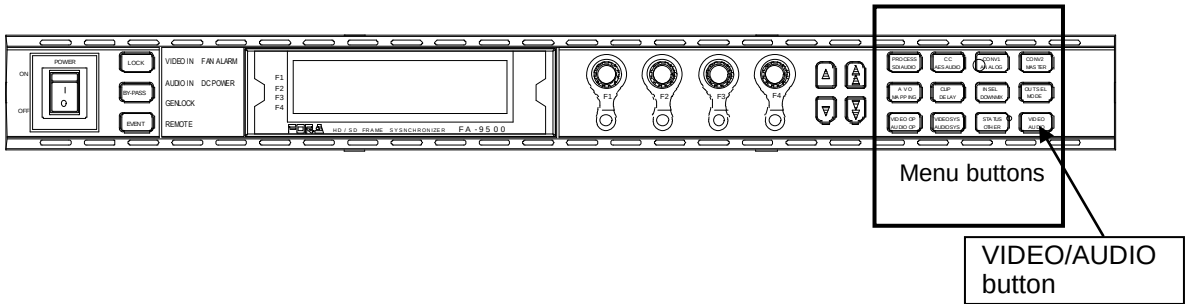
The FA-9500 has two modes for the menu operation: NORMAL mode, in which setting changes immediately take effect, and LIVE SAFE mode, in which some settings request confirmation before changes take effect. NORMAL and LIVE SAFE modes can be selected in the FRONT OPERATION menu (sec. 7-3). Factory default is NORMAL mode. Menus that request a setting confirmation are shown in the menu list in section 4-2-2. "Menu Buttons" with a black circle (●).

IMPORTANT

Make sure that all indicators on the front panel are turned off before starting an operation. If the LOCK indicator is lit, all operations on the front panel except the LOCK button are disabled. Press and hold the LOCK button to enable the operations.



4-2-1. Accessing Menus

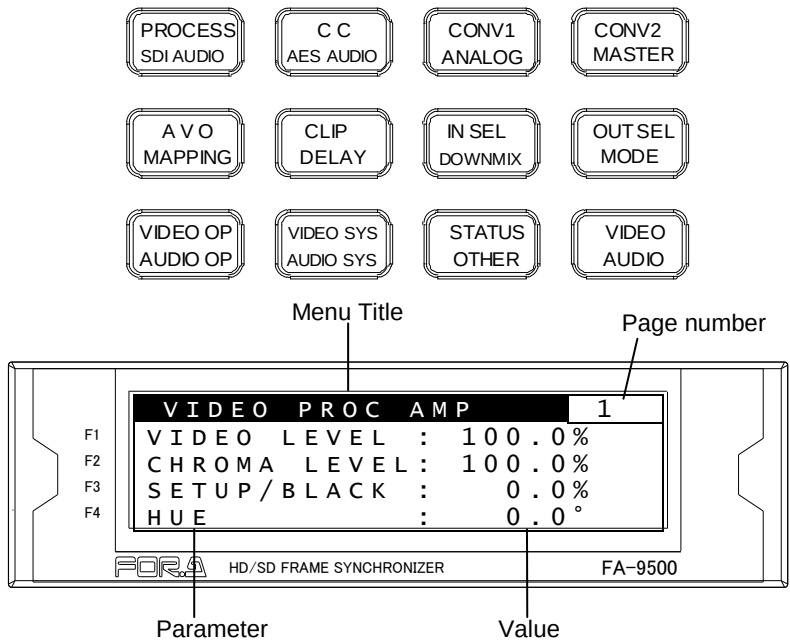


Every press of the VIDEO/AUDIO button alternates the menu button assignments between video menus and audio menus. The button indicators light up green when the buttons are accessible to video menus that are indicated on the top row of each menu button. They light up orange when they are accessible to audio menus that are indicated on the bottom row of each menu button.

Pressing a menu button displays the corresponding menu on the menu display. Menus are divided into categories. The single-arrow buttons allow you to move between menus if the selected menu button has multiple menu pages in the category. The single-arrow button lights up when there are more menus to be accessed in the direction. If the single-arrow button is unlit, the direction is not accessible.

The double-arrow buttons allow you to go to the first menu of the menu button.

◆ Menu Buttons



In the example above, the PROCESS/SDI AUDIO button has been pressed, so that the VIDEO PROC AMP menu is displayed.

4-2-2. Menu Buttons

The VIDEO/AUDIO button at the bottom right switches between the video and audio-related menus. Pressing the button alternates the button to work as video menu buttons (lit green) and audio menu buttons (lit orange). The menus at the top of each button label are video menus (lit green), and the menus at the bottom are audio menus (lit orange). Menus that request a setting confirmation are shown with a black circle (●) in the following list.

Menu Button	VIDEO menus (lit green)	AUDIO menus (lit orange)
PROCESS SDI AUDIO	◇VIDEO PROC AMP	◇SDI AUDIO GAIN ● SDI REMAPPING SDI MONO SUM ● SDI AUDIO CLOCK SDI IN AUDIO
CC AES AUDIO	◇WHITE LEVEL BLACK LEVEL GAMMA LEVEL COLOR CORRECT	◇AES IN GAIN AES HYSTERESIS ● AES REMAPPING AES MONO SUM ● AES I/O SETUP ^{*1}
CONV1 ANALOG	◇● CONV1 U/D MODE CONV1 SIZE/POS CONV1 CROPPING CONV1 IMPROVE CONV1 SIDE RGB	◇ANALOG IN LEVEL ANALOG IN GAIN ANALOG OUT LEVEL ANALOG OUT GAIN ● ANALOG REMAPPING ANALOG MONO SUM ● ANALOG SYSTEM
CONV2 MASTER	◇● CONV2 U/D MODE CONV2 SIZE/POS CONV2 CROPPING CONV2 IMPROVE CONV2 SIDE RGB	◇MASTER OUT GAIN
AVO MAPPING	◇● AVO SETTING USER1-5 LEVEL SET USER1-2 AREA SET AVO SETUP	◇● SOURCE/SRC SEL
CLIP DELAY	◇YPbPr/RGB CLIP COMPOSITE CLIP	◇AUDIO DELAY
IN SEL DOWN MIX	◇● VIDEO INPUT SET ● SD INPUT ASPECT CHGOV(CHANGE OVER) MODE SET ^{*2} SDI ERROR TRG ^{*2} FORMAT ERROR TRG ^{*2} CRC ERROR TRG ^{*2} BLACK VIDEO TRG ^{*2} AUDIO LOSS TRG ^{*2} AUDIO ERR TRG ^{*2} SILENCE TRG ^{*2} CHGOV STATUS ^{*2} CHGOV VID STATUS ^{*2} CHGOV AUD STATUS ^{*2} AUD LOSS STATUS ^{*2} AUD ERROR STATUS ^{*2} SILENCE STATUS ^{*2}	◇● DOWN MIX SET ● DOWN MIX ASSIGN
OUT SEL MODE	◇● VIDEO OUT MODE ◇● SDI1/2 OUT SET ● SDI3/4 OUT SET ● COMPOSITE SET ^{*5} ● COMPONENT SET	◇● AUDIO MODE SET
VIDEO OP AUDIO OP	◇CONV1 LOGO SEL CONV1 KEYSER SET CONV2 LOGO SEL CONV2 KEYSER SET	◇● Dolby AUX OUT ^{*3} ● Dolby DEC INPUT ^{*3} ● Dolby DEC REF ^{*3} ● Dolby DOWNMIX ^{*3} ◇Dolby DEC GAIN ^{*3} ● Dolby ENC INPUT ^{*4} ● Dolby ENC SET ^{*4} ● METADATA INPUT ^{*4}

Menu Button	VIDEO menus (lit green)	AUDIO menus (lit orange)
VIDEO OP AUDIO OP		◇LOUD MEASURE 1, 2 ^{*6} LOUD CTRL ENA1, 2 ^{*6} LOUD CTRL SET1, 2 ^{*6} LOUD CH ASGN1, 2 ^{*6} ◇LOUD STANDARD ^{*6}
VIDEO SYS AUDIO SYS	◇● FS MODE SET FREEZE SET COMPOSITE SET ● VIDEO SUB ● TEST SIGNAL HD PHASE SET SD PHASE SET VIDEO POSITION ● CONV1 ANC SET ● CONV2 ANC SET CONV1 AUDIO GRP CONV2 AUDIO GRP SD LINE MASK ANC DETECT LINE ANC DETECT SEL ANC DATA EMBED ANC EMBED LINE ANC LOSS SET WSS AFD ERROR ^{*5} NTSC SETUP ^{*5} ● PAL-M MODE SET	◇● FADE IN/OUT ● DIGITAL AUDIO ● AUDIO ERR SENSE ● DIGITAL SILENCE
STATUS OTHER	◇ UNIT ALARM ◇VIDEO IN STATUS COMPONENT INPUT ^{*5} ◇VIDEO OUT STATUS COMPONENT OUTPUT ^{*5} ◇SOURCE AUDIO CH1 – 16 ◇SDI1 IN AUDIO CH1 – 16 ◇SDI2 IN AUDIO CH1 – 16 ◇AES IN AUDIO CH1 – 8 ◇ANALOG IN AUDIO CH1 – 4 ◇SDI1/2 OUT AUDIO CH1 – 16 ◇SDI3/4 OUT AUDIO CH1 – 16 ◇AES OUT AUDIO CH1 – 8 ◇ANALOG OUT AUDIO CH1 – 4 ◇Dolby AUX STATUS ^{*3} ◇AFD IN STATUS ANC IN STATUS ANC IN STATUS1-2 ◇CONV1 ANC OUT CONV1 S2016 OUT CONV1 VI OUT CONV1 WSS OUT CONV1 ANC OUT1 ◇CONV2 ANC OUT CONV2 S2016 OUT CONV2 VI OUT CONV2 WSS OUT CONV2 ANC OUT1	◇● CONTROL SETTING FRONT OPERATION FRONT PANEL SET GPI SETTING NETWORK INFO UNIT Ver. OPTION A Ver. OPTION B Ver. OTHER OPTION SOFT OPTION1 SOFT OPTION2
VIDEO AUDIO	VIDEO menus	AUDIO menus

*1 Hidden if the optional FA-95DACBL is installed.

*2 Shown if the optional FA-95CO is installed.

*3 Shown if the optional FA-95D-D is installed.

*4 Shown if the optional FA-95DE-E is installed.

*5 Shown if the optional FA-95AIO is installed.

*6 Shown if the optional FA-95ALA is installed.

◇ Can be navigated to using double (up and down) arrow buttons. “◇” is not shown in the menu display.

- When settings in menus shown with a black circle (●) are changed in LIVE SAFE mode, single (up and down) arrow buttons and the LED around the control knob of which setting is changed blink confirming the setting change. To set the FA-9520 to LIVE SAFE mode, change the mode setting referring to section 7-3. “FRONT OPERATION”.

4-2-3. Arrow Buttons

◆ Double-arrow buttons (up and down)

<NORMAL mode>

The double-arrow buttons allow you to go to the first menu of the video or audio menus that are assigned to the respective menu buttons. These buttons can also navigate STATUS/OTHER video related menus (designated by “◇” in the above menu list).

<LIVE SAFE mode>

Button functions are the same as NORMAL mode, however, double-arrow buttons are inoperative while single-arrow buttons are blinking (indicating the FA-9500 is in the setting change confirming state, because a parameter in one of the menus requiring a setting change confirmation has been changed).

◆ Single-arrow buttons (up and down)

<NORMAL mode>

The single-arrow buttons allow you to move between menus within the menus that are assigned to respective menu buttons.

When it reaches the last menu, the light goes off.

<LIVE SAFE mode>

Single-arrow buttons blink when a parameter in one of the menus requiring a setting change confirmation is changed. To confirm the change, press the single down arrow button. Pressing the single up arrow button cancels the change, and the parameter before change will be displayed.

While single-arrow buttons are blinking, all buttons except single-arrow buttons are disabled until either single-arrow button is pressed.

Menus that request a setting confirmation are shown with a black circle (●) in the menu list in section 4-2-2. “Menu Buttons”.

4-2-4. Consecutive Viewing of Settings

<NORMAL mode>

While a menu button is turned on, the menu display will be in consecutive display mode when both single (up and down) arrow buttons are pressed simultaneously. Both single arrow buttons blink when they are in consecutive display mode. To exit the mode, simultaneously press both arrow buttons again. Then arrow buttons will stop blinking.

The single down and up arrow buttons, while in consecutive display mode, can consecutively display all menus in which menu list settings can be changed, from the first to last or last to first menu item. Meanwhile, holding down the single down or up arrow button also allows you to consecutively view menus.

<LIVE SAFE mode>

Button functions are the same as NORMAL mode, however, consecutive display mode is inoperative while single-arrow buttons are blinking (indicating the FA-9520 is in the setting change confirming state, because a parameter in one of the menus requiring a setting change confirmation has been changed). Consecutive display becomes operable when the change is either confirmed or canceled.

Order of Consecutive Menu Display

◆ VIDEO Menus (Lit green)

The single down-arrow button consecutively displays menu pages from VIDEO PROC AMP of PROCESS to CONV2 ANC OUT1 of STATUS in the menu list in section 4-2-2. On the other hand, the single up-arrow button consecutively displays menu pages from CONV2 ANC OUT1 of STATUS to VIDEO PROC AMP of PROCESS in the menu list.

◆ AUDIO Menus (Lit orange)

The single down-arrow button consecutively displays menu pages from SDI AUDIO GAIN of SDI AUDIO to SOFT OPTION2 of OTHER in the menu list in section 4-2-2. On the other hand,

- * The EVENT button-assigned menus cannot be consecutively viewed. The consecutive display mode is not supported for EVENT menus.
- * While the menu display is in consecutive display mode, pressing the EVENT button cancels the mode.

Some menu buttons allow you to directly go to specific menus when they are held down for at least 1 second. This feature helps you quickly check the state of specific settings.

VIDEO AUDIO	Button	Destination	Reference
Button mode			
VIDEO	CONV1	CONV1 ANC SET (99)	5-10-9
VIDEO	CONV2	AFD IN STATUS (641)	5-13-16
VIDEO	IN SEL	VIDEO IN STATUS (502)	5-13-2
VIDEO	OUT SEL	VIDEO OUT STATUS (511)	5-13-4
AUDIO	SDI AUDIO	SDI 1/2 OUT AUDIO (561)	5-13-11
AUDIO	AES AUDIO	AES OUT AUDIO (569)	5-13-13
AUDIO	ANALOG	ANALOG OUT AUDIO (571)	5-13-14
AUDIO	MAPPING	SOURCE AUDIO (531)	5-13-6
AUDIO	AUDIO OP ^{*1}	Dolby AUX STATUS (573) ^{*1}	5-13-15

The page jump feature is inoperative while the FA-9520 is in the setting change confirming state. It becomes operable when the change is either confirmed or canceled. Refer to section 4-2-6, "Changing Setting Values" for details.

Once the desired menu is displayed, use the control knobs (F1-F4) to change the setting values.

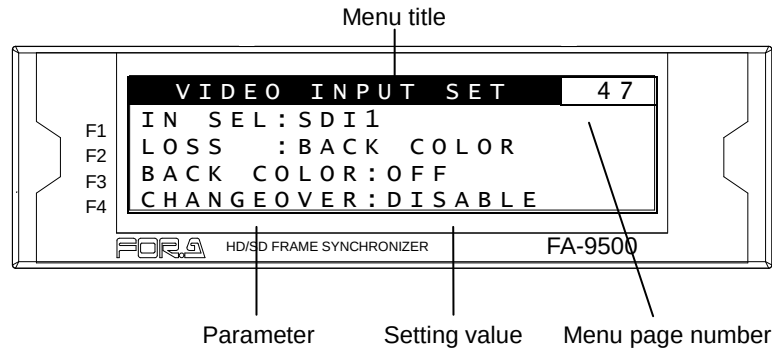


<NORMAL mode>

In the above example, the PROCESS/SDI AUDIO button has been pressed while the menu buttons are turned to video menus (lit green) by pressing the VIDEO/AUDIO, so that the VIDEO PROC AMP menu is displayed.

(If the LEDs around control F1 through 4 knobs are lit, the setting value corresponding to the lit control knob can be changed.)

If you want to change the VIDEO LEVEL setting value, turn F1. To change the CHROMA LEVEL setting value, turn F2. For SETUP/BLACK, turn F3, and for HUE turn F4. To go to other menus assigned to the menu button, press the single-arrow down button. To return to the previous menu, press the single-arrow up button.



<LIVE SAFE mode>

Menus that do not request a setting change confirmation (such as VIDEO PROC AMP) are used the same as in NORMAL mode.

Menus that request a setting change confirmation (such as VIDEO INPUT SET) will be in the setting change confirming state when the parameter is changed.

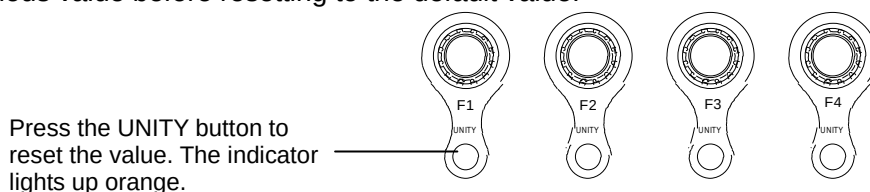
In the above example, pressing the IN SEL/DOWNMIX button while the button is in VIDEO menu selection mode (lit green) will display the VIDEO INPUT SET menu. To change the IN SEL setting, turn F1. Turn F2 for the LOSS setting, and F3 for the BACK COLOR setting. If any setting is changed, single-arrow buttons and the control knob for the setting that has changed will blink indicating the setting change confirming state. Pressing the single down arrow button confirms the change and LEDs stop blinking, then light. Pressing the single up arrow button cancels the change, the setting returns to before the change, and LEDs stop blinking, then light.

While the FA-9520 is in a setting change confirming state, all buttons except single-arrow buttons, control knobs F1 to F4 and their Unity buttons are disabled. To go to other menus, press either single-arrow button to complete the confirmation.

4-2-7. Resetting to Default

<NORMAL mode>

The UNITY indicator light goes off when the setting value is changed from the default value. Pressing the UNITY button while the light is off returns the corresponding setting value to the default value. Then the light goes off. Pressing the button again returns the value to the previous value before resetting to the default value.



<LIVE SAFE mode>

The UNITY indicator light goes off when the setting value has changed from default. Pressing the UNITY button while the light is off returns the corresponding setting value to default, and single-arrow buttons and the LED around the control knob above the UNITY button blink in the setting change confirming state. Pressing the single down arrow button will resets the value to default, and the UNITY indicator light turns on. Pressing the single up arrow button cancels the reset, the setting returns to the value before it was reset, and the UNITY indicator light goes off.

5. VIDEO Menus

Make the menu buttons light up green using the VIDEO/AUDIO button.
(Pressing the button while the buttons are lit orange turns the lights green.)
Then the menus displayed on the upper row on each menu button *can be selected*.

Menu button

VIDEO
AUDIO

5-1. VIDEO PROC AMP (PROCESS)

VIDEO PROC AMP		1
VIDEO LEVEL :	100.0%	
CHROMA LEVEL :	100.0%	
SETUP/BLACK :	0.0%	
HUE :	0.0°	

Menu button

PROCESS
SDI AUDIO

Parameter	Default	Setting range (Steps)	Description
VIDEO LEVEL	100.0%	0.0 - 200.0% (0.1%)	Adjusts the video level.
CHROMA LEVEL	100.0%	0.0 - 200.0% (0.1%)	Adjusts the chrominance level.
SETUP/BLACK	0.0%	-20.0 - 100.0% (0.1%)	Adjusts the black level.
HUE	0.0°	-179.8 - 180.0° (0.2°)	Adjusts the color phase.

5-2. COLOR CORRECTOR (C.C.)

Allows you to adjust the Color corrector settings.

5-2-1. WHITE LEVEL

WHITE LEVEL		2
RED :	100.0%	
GREEN :	100.0%	
BLUE :	100.0%	
GROUP ADJUST		

Menu button

CC
AES AUDIO

Parameter	Default	Setting range (Steps)	Description
RED, GREEN, BLUE (RGB White Level)	100.0%	0.0 - 200.0% (0.5%)	Adjusts the white level of R, G, and B components separately.
GROUP ADJUST (Group Adjustment)	100.0%	0.0 - 200.0% (0.5%)	Adjusts the white level of R, G, and B components all together while retaining the proportion of the separately adjusted levels.

If MODE is set to SEPIA in the COLOR CORRECT (C.C.) menu (5-2-4), the menu as shown below will be displayed.

WHITE LEVEL		2
RED :	NOT ADJUST	
GREEN :	NOT ADJUST	
BLUE :	NOT ADJUST	
C.C MODE IS SEPIA	* 1	

*1 If AVO is enabled, the message "AVO IS USING IT" will be displayed.

5-2-2. BLACK LEVEL

BLACK LEVEL	3
RED : 100.0%	
GREEN : 100.0%	
BLUE : 100.0%	
GROUP ADJUST	

Menu button

CC
AES AUDIO

Parameter	Default	Setting range (Steps)	Description
RED, GREEN, BLUE (RGB Black Level)	100.0%	0.0 - 200.0% (0.5%)	Adjusts the black level of R, G, and B components separately.
GROUP ADJUST (Group Adjustment)	100.0%	0.0 - 200.0% (0.5%)	Adjusts the black level of R, G, and B components all together while retaining the proportion of the separately adjusted levels.

If MODE is set to SEPIA in the COLOR CORRECT (C.C.) menu (5-2-4), the menu as shown below will be displayed.

BLACK LEVEL	3
RED : NOT ADJUST	
GREEN : NOT ADJUST	
BLUE : NOT ADJUST	
C.C MODE IS SEPIA * 1	

*1 If AVO is enabled, the message "AVO IS USING IT" will be displayed.

5-2-3. GAMMA LEVEL

GAMMA LEVEL	4
RED : 100.0%	
GREEN : 100.0%	
BLUE : 100.0%	
GROUP ADJUST	

Menu button

CC
AES AUDIO

Parameter	Default	Setting range (Steps)	Description
RED, GREEN, BLUE (RGB Gamma level)	100.0%	0 - 200% (0.5%)	Adjusts the gamma level of R, G, and B components separately.
GROUP ADJUST (Group Adjustment)	100.0%	0 - 200% (0.5%)	Adjusts the gamma level of R, G, and B components all together while retaining the proportion of the separately adjusted levels.

If MODE is set to SEPIA in the COLOR CORRECT (C.C.) menu (5-2-4), the menu as shown below will be displayed.

Only the value of GREEN can be changed.

GAMMA LEVEL	4
SEPIA : 100.0%	

The menu appears as shown below if AVO is enabled.

GAMMA LEVEL	4
RED : NOT ADJUST	
GREEN : NOT ADJUST	
BLUE : NOT ADJUST	
AVO IS USING IT	

5-2-4. COLOR CORRECT (C.C.)

COLOR CORRECT	5
MODE : BALANCE	
CURVE : CENTER	

Menu button

CC
AES AUDIO

Parameter	Default	Setting range (Steps)	Description
MODE (Correction Mode)	BALANCE	BALANCE DIFFERENTIAL SEPIA	Selects a correction mode from BALANCE (RGB), DIFFERENTIAL (YPbPr), or SEPIA. BALANCE: RGB signal correction mode Allows you to adjust the white balance. Gray scale can be changed by adjusting R, G and B levels. DIFFERENTIAL: Color difference signal mode Allows you to adjust contrast without changing white balance. R, G and B levels can be changed without affecting gray scale. This adjustment is effective for images with different color saturation levels. SEPIA: Sepia mode Useful for creating black and white images.
CURVE (Gamma Curve)	CENTER	CENTER BLACK WHITE	Selects a gamma curve type.

If MODE is set to SEPIA, the menu as shown below will be displayed.

COLOR CORRECT	5
MODE : SEPIA	
CURVE : CENTER	
SEPIA LEVEL : 25.0%	
SEPIA COLOR : -160.0°	

Parameter	Default	Setting range (Steps)	Description
SEPIA LEVEL	25.0%	0% - 100% (0.1%)	Adjusts the color level in the SEPIA mode.
SEPIA COLOR	-160.0°	-179.8° - 180.0° (0.2°)	Adjusts the color in the SEPIA mode.

If AVO is enabled, the menu as shown below will be displayed.

COLOR CORRECT	5
MODE : NOT ADJUST	
CURVE : NOT ADJUST	
AVO IS USING IT	

5-2-5. Color Corrector and AVO Modes

Auto Video Optimizer and Color Corrector use the same circuit. The color corrector settings are not fully changeable when AVO mode is set to Auto. (See section 5-5-1 “AVO SETTING”.)

Changeable Color Corrector menus according to AVO modes

AVO Modes			Color Corrector Menus
AUTO	HOLD	OFF	
×	○	○	WHITE LEVEL
×	○	○	BLACK LEVEL
×	○	○	GAMMA LEVEL
×	×	○	CORRECTION MODE /CURVE

○: Enabled setting

×: Disabled setting

IMPORTANT

DIFFERENTIAL and SEPIA mode settings under COLOR CORRECT will automatically change to BALANCE mode whenever AVO is enabled.

While AVO is being used, the color corrector performs correction as if MODE is set to BALANCE and CURVE is set to BLACK in the COLOR CORRECT menu.

Color correction enabled by setting AVO Control to HOLD is also performed in the above state.

5-3. CONV1 (UP/DOWN/CROSS CONVERTER)

Both converters, CONV1 and CONV2, can equally output video signals in formats specified for respective output connectors, and convert the aspect ratio according to the S2016, VI, or WSS AFD (Active Format Description) data.

The video signal selected under IN SEL in the VIDEO INPUT SELECT (IN SEL) menu as shown in section 5-7 will be input to UP/DOWN CONVERTER1 (CONV1). The signal will be processed in CONV1 and output from the output connector for which CONV1 is selected as described in section 5-8. "VIDEO OUT SELECT (OUT SEL)".

The converter requires 1 frame to process video signals, so that processed output signals are delayed by 1 frame from the bypassed video signals. In case the input signal is a progressive video signal, or all 3 following conditions are met, processed output signals will be delayed by 2 frames.

- SYNCHRO MODE is set to INPUT
- FRAME DELAY is set to OFF
- V phase settings for the Converter (CONV 1 or 2) are set between Minimum to 1 line

Change the settings, if necessary, referring to section 5-10-1 "FS MODE SET", 5-10-6 "HD PHASE SET" or 5-10-7 "SD PHASE SET".

5-3-1. CONV1 U/D MODE

Converts video signals according to the AFD (Active Format Description) data.

CONV1 U/D MODE	6
CONV1 : SD	
ASPECT : AFD (4 : 3)	
1080 / 59i >> 525 / 60	

Menu button

CONV1
ANALOG

Parameter	Default	Setting range	Description
CONV1	BY-PASS	BY-PASS SD 1080i 720p 1080PsF 1080p(3G)	Selects a mode for UP/DOWN CONVERTER1 to convert the input signal in CONV1 connector. BY-PASS : Outputs the signal without converting. SD : Converts signals to a standard definition format. 1080i : Converts signals to a 1080i format. 720p : Converts signals to a 720p format. 1080PsF : Converts signals to a 1080PsF format. 1080P(3G) : Converts signals to a 3G-SDI 1080p format.
ASPECT	AFD(4:3)	AFD(4:3) AFD-ALT(4:3) AFD(16:9) AFD-ALT(16:9) 4:3 L 16:9 T 4:3 L 14:9 T 4:3 L>16:9 4:3 F 4:3 4:3 L16:9PRTD 4:3 L 14:9 4:3 F ALT14:9 4:3 L ALT14:9 ^{*1} 4:3 L ALT 4:3 ^{*1} 16:9L >16:9 16:9 F 16:9 ^{*1} 16:9 P 4:3 16:9 F PRTD ^{*1} 16:9 P 14:9 ^{*1} 16:9P ALT 14:9 ^{*1} 16:9F ALT14:9 ^{*1} 16:9F ALT4:3 ^{*1}	Selectable aspect ratio settings when CONV1 is set to SD. AFD(4:3), AFD-ALT(4:3), AFD(16:9), AFD-ALT(16:9) automatically select an aspect ratio according to the AFD data in the input signal. If no AFD data is found in the input signal, the aspect ratio will be determined according to the setting made under ANC LOSS SET (Sec. 5-10-18). To output video signals in 4:3, select either ratio with (4:3). To output in 16:9, select either ratio with (16:9). Other options will output video signals in the specified aspect ratio. See section 20 "About AFD" for details. Options (4:3 L 16:9 T to 16:9 F ALT 4:3) other than the above four require the input signal aspect ratio to be specified in SD INPUT ASPECT (Sec. 5-7-2) if the input signal is an SD signal.
	AFD	AFD AFD-ALT 16:9 L>16:9 16:9 F 16:9 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9P ALT14:9 16:9F ALT14:9 16:9F ALT4:3	Selectable aspect ratios when CONV1 is set to 1080i, 720p, 1080PsF, or 1080(3G). AFD and AFD-ALT automatically select an aspect ratio according to the AFD data in the input signal. If no AFD data is found in the input signal, the aspect ratio will be determined according to the setting made under ANC LOSS SET (Sec. 5-10-18). Options other than the above two are output in the specific aspect ratio. See section 20 "About AFD" for details on conversions according to AFD data.
-	-	-	The format of the input signal to CONV1 and the format the signal will be converted to in CONV1 are displayed on the 4 th row.

*1 BT1119 WSS will be embedded according to the WSS AFD ERROR settings (Sec. 5-10-19) for the non-WSS aspect ratio conversions.

◆ **Enhanced CONV U/D MODE Settings**

The CONV 1 and 2 U/D MODE menu settings have been changed in software versions 6.00 and higher as shown in the table below.

Input format	Menu settings				
	Older than ver. 6.00		Newer than ver. 6.00		
	CONV1	ASPECT	SD INPUT ASPECT *	CONV1, 2	ASPECT
SD	ASPECT SD	Any format	4:3	SD	4:3 Any format
1080i	ASPECT 1080i	Any format	-	1080i	Any format
720p	ASPECT 720p	Any format	-	720p	Any format
1080PsF	ASPECT 1080PsF	Any format	-	1080PsF	Any format
1080p(3G)	ASPECT 1080p(3G)	Any format	-	1080p(3G)	Any format
SD	1080i 720p 1080PsF 1080p(3G)	4:3	4:3	1080i 720p 1080PsF 1080p(3G)	16:9 P 4:3
		13:9	4:3		-
		14:9	4:3		16:9 P 14:9
		16:9	4:3		16:9 F 16:9
		SQUEEZE	16:9		16:9 F 16:9
1080i 720p 1080PsF 1080p(3G)	SD	4:3	-	SD	4:3 F 4:3
		13:9	-		-
		14:9	-		4:3 L 14:9
		16:9	-		4:3 L 16:9 PRTD
		SQUEEZE	-		16:9 F 16:9
1080i 720p 1080PsF 1080p(3G)	1080i 720p 1080PsF 1080p(3G)	4:3	-	1080i 720p 1080PsF 1080p(3G)	Any format
		13:9	-		Any format
		14:9	-		Any format
		16:9	-		Any format
		SQUEEZE	-		Any format

* SD INPUT ASPECT menu settings in section 5-7-2.

5-3-2. CONV1 Conversion Table

Possible Conversions in CONV1 for Input Signal Formats and Mode Selections						
Input signal		CONVERTER1 mode selection				
		SD	1080i	720p	1080PsF	1080p(3G)
NTSC formats	525/60	525/60	1080/59i	720/59p	1080/23PsF	1080/59p
	1080/59i	525/60	1080/59i	720/59p	1080/59i (BY-PASS)	1080/59p
	720/59p	525/60	1080/59i	720/59p	720/59p (BY-PASS)	1080/59p
	1080/59p	525/60	1080/59i	720/59p	1080/59p (BY-PASS)	1080/59p
PAL formats	625/50	625/50	1080/50i	720/50p	1080/24PsF	1080/50p
	1080/50i	625/50	1080/50i	720/50p	1080/50i (BY-PASS)	1080/50p
	720/50p	625/50	1080/50i	720/50p	720/50p (BY-PASS)	1080/50p
	1080/50p	625/50	1080/50i	720/50p	1080/50p (BY-PASS)	1080/50p
Other formats	1080/23PsF	525/60	1080/23PsF (BY-PASS)	1080/23PsF (BY-PASS)	1080/23PsF	1080/23PsF (BY-PASS)
	1080/24PsF	625/50	1080/24PsF (BY-PASS)	1080/24PsF (BY-PASS)	1080/24PsF	1080/24PsF (BY-PASS)

In the conversions to the formats indicated as (BY-PASS), the CONV2SIZE/POS, CONV2 CROPPING, CONV2 IMPROVE, and CONV2 SIDE RGB settings cannot be changed.

5-3-3. CONV1 SIZE/POS

CONV1 SIZE/POS	7
H SIZE: 100.0%	
V SIZE: 100.0%	
H POS: 0 PIXEL	
V POS: 0 LINE	

Menu button

CONV1
ANALOG

Parameter	Default	Setting range (Steps)	Description
H SIZE (Horizontal Size)	100.0%	50.0 - 150.0% (0.1%)	Adjusts the width of the video displayed on the monitor. ^{*1}
V SIZE (Vertical Size)	100.0%	50.0 - 150.0% (0.1%)	Adjusts the height of the video displayed on the monitor. ^{*1}
H POS (Horizontal Position)	0 Pixel	Variable ^{*2} (2 Pixel)	Adjusts the horizontal position of the video displayed on the monitor.
V POS (Vertical Position)	0 Line	Variable ^{*2} (1 Line)	Adjusts the vertical position of the video displayed on the monitor.

^{*1} If the size is made smaller than the original size, set the background color under CONV1 SIDE RGB (see section 5-3-6).

^{*2} The following parameters interact with each other. When you change one of their setting values, setting ranges of other parameters will also change.

SYNC FRMT Parameter in FS MODE SET (see section 5-10-1).

CONV 1 parameter in CONV1 U/D MODE (see section 5-3-1).

If the CONV1 mode is set to BY-PASS, the CONV1 SIZE/POS setting cannot be changed. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV1 Conversion Table (see section 5-3-2). In both cases, the menu as shown below will be displayed.

CONV1 SIZE/POS	7
H SIZE: NOT ADJUST	
V SIZE: NOT ADJUST	
H POS: NOT ADJUST	
V POS: NOT ADJUST	

5-3-4. CONV1 CROPPING

CONV1 CROPPING			8
LEFT	:	0 PIXEL	
RIGHT	:	0 PIXEL	
TOP	:	0 LINE	
BOTTOM	:	0 LINE	

Menu button

CONV1
ANALOG

Parameter	Default	Setting range (Steps)	Description
LEFT	0 Pixel	Variable *1 (2 Pixel)	Crops the left side of the video.
RIGHT	0 Pixel	Variable *1 (2 Pixel)	Crops the right side of the video.
TOP	0 Line	Variable *1 (1 Line)	Crops the top of the video.
BOTTOM	0 Line	Variable *1 (1 Line)	Crops the bottom of the video.

These setting ranges vary depending on the input signal format. The LEFT and RIGHT settings, and the TOP and BOTTOM settings interact with each other. If the size cannot be adjusted as desired, try changing the setting of another parameter.

*1 The following parameters interact with each other. When you change one of their setting values, setting ranges of other parameters will also change.

Video format

SYNC FRMT Parameter in FS MODE SET (see section 5-10-1).

If the CONV1 mode is set to BY-PASS, the CONV1 CROPPING setting cannot be changed. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV1 Conversion Table (see section 5-3-2). In both cases, the menu as shown below will be displayed.

CONV1 CROPPING			8
LEFT	:	NOT ADJUST	
RIGHT	:	NOT ADJUST	
TOP	:	NOT ADJUST	
BOTTOM	:	NOT ADJUST	

IMPORTANT

The cropping setting range resets itself if the video input changes. If the set value exceeds the setting range due to an input change, the set value will automatically reset itself to the default value. If the set value exceeds the horizontal range, the LEFT and RIGHT settings will reset to their default values. If the value exceeds the vertical range, the TOP and BOTTOM settings will also reset accordingly.

5-3-5. CONV1 IMPROVE

CONV1 IMPROVE	9
MOTION:ADAPTIVE	
ANTIALIAS H:NORMAL	
ANTIALIAS V:NORMAL	
ENHANCE :LEVEL0	

Menu button

CONV1
ANALOG

Parameter	Default	Setting range (Steps)	Description
MOTION ^{*1}	ADAPTIVE	FIELD ADAPTIVE FRM(ODD 1st) FRM(EVEN 1st)	FIELD: Generates a progressive scan image from one field of an interlaced scan image. The created image has no motion artifacts, but vertical resolution will be reduced. ADAPTIVE: Detects whether there is motion or no motion in the scene, and generate an optimal progressive scan image. FRM(ODD 1st): Generates a progressive scan image from two fields (odd/even) of and interlaced scan image. Suitable for the progressive segment frame input of progressive scan signals. FRM(EVEN 1st): Generates a progressive scan image from two fields (even/odd) of interlaced scan image.
ANTIALIAS H ^{*2}	NORMAL	WEAK 8-1 NORMAL STRONG1-8	Performs horizontal anti-aliasing for the output video image. WEAK 8 to STRONG 8 (low to high) This setting cannot be changed if the conversion is set to the formats indicated as (BYPASS) in the CONV1 Conversion Table in section 5-3-2.
ANTIALIAS V ^{*2}	NORMAL	WEAK 8-1 NORMAL STRONG1-8	Performs vertical anti-aliasing for the output video image. WEAK 8 to STRONG 8 (low to high) This setting cannot be changed if the conversion is set to the formats indicated as (BYPASS) in the CONV1 Conversion Table in section 5-3-2.
ENHANCE ^{*2}	LEVEL 0	LEVEL 0-8	Sharpens the output video image. LEVEL 0 to 8 (low to high)

^{*1} Common MOTION settings for CONV1 and CONV2. (This setting can be changed from either the CONV1 IMPROVE or CONV2 IMPROVE menu, and applied to both menus.)

^{*2} ANTIALIAS and ENHANCE settings cannot be changed if CONV1 UHD MODE is set to BY-PASS, or the conversion is set to the formats indicated as (BY-PASS) in the CONV1 Conversion Table (see section 5-3-2).

In both cases, the menu as shown below will be displayed.

CONV1 IMPROVE	9
MOTION:FIELD	
ANTIALIAS H:NOT ADJ	
ANTIALIAS V:NOT ADJ	
ENHANCE :NOT ADJUST	

IMPORTANT

Setting MOTION to FRM (ODD 1st) or FRM (EVEN 1st) for input signals other than progressive segment frame inputs causes motion artifacts to appear. In such case, change the MOTION setting to FIELD or ADAPTIVE.

5-3-6. CONV1 SIDE RGB

CONV1 SIDE RGB	10
RED : 0	
GREEN : 0	
BLUE : 0	
GROUP ADJUST	

Menu button

CONV1
ANALOG

Parameter	Default	Setting range	Description
RED, GREEN, BLUE (Background color)	0	0 - 255	Sets background color that will be visible if the converted image is set smaller than original in CONV1 SIZE/POS (5-3-3). R, G, and B components can be adjusted separately. F4 control knob allows you to adjust R, G, and B at the same time.
Group Adjust (Group Adjustment)	0	0 - 255	Adjusts the R, G, and B components separately, then turns this Group Adjust on. Changing any R, G, or B value will change the values of the three components accordingly while retaining the proportion.

If the CONV1 mode is set to BY-PASS, the CONV1 SIDE RGB setting cannot be changed. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV1 Conversion Table (see section 5-3-2). In both cases, the menu as shown below will be displayed.

CONV1 IMPROVE	10
RED : NOT ADJUST	
GREEN : NOT ADJUST	
BLUE : NOT ADJUST	

5-4. CONV2 (UP / DOWN / CROSS CONVERTER)

The video signal selected under IN SEL in the VIDEO INPUT SELECT (IN SEL) menu as shown in section 5-7 will be input to UP/DOWN CONVERTER2 (CONV2). The signal will be processed in CONV2 and output from the output connector for which CONV2 is selected under ASSIGN in the "VIDEO OUT SELECT (OUT SEL)" menu (Sec. 5-8).

The converter requires 1 frame to process video signals, so that processed output signals are delayed by 1 frame from the bypassed video signals. In case the input signal is a progressive video signal, or all 3 following conditions are met, processed output signals will be delayed by 2 frames.

- SYNCHRO MODE is set to INPUT

- FRAME DELAY is set to OFF

- V phase settings for the Converter (CONV 1 or 2) are set between Minimum to 1 line

Change the settings, if necessary, referring to section 5-10-1 "FS MODE SET", 5-10-6 "HD PHASE SET" or 5-10-7 "SD PHASE SET".

5-4-1. CONV2 U/D MODE

CONV2 U/D MODE	2 1
CONV2 : SD	
ASPECT : AFD (4 : 3)	
1080 / 59i >> 525 / 60	

Menu button

CONV2
MASTER

Parameter	Default	Setting range	Description
CONV2	BY-PASS	BY-PASS SD 1080i 720p 1080PsF 1080p(3G)	Selects a mode of the UP/DOWN CONVERTER2 to convert the input signal in CONV2. BY-PASS : Outputs the signal without converting. SD : Converts signals to a standard definition format. 1080i : Converts signals to a 1080i format. 720p : Converts signals to a 720p format. 1080PsF : Converts signals to a 1080PsF format. 1080P(3G) : Converts signals to a 3G-SDI 1080p format.
ASPECT	AFD(4:3)	AFD(4:3) AFD-ALT(4:3) AFD(16:9) AFD-ALT(16:9) 4:3 L 16:9 T 4:3 L 14:9 T 4:3 L>16:9 4:3 F 4:3 4:3 L16:9PRTD 4:3 L 14:9 4:3 F ALT14:9 4:3 L ALT14:9 ^{*1} 4:3 L ALT 4:3 ^{*1} 16:9 L >16:9 16:9 F 16:9 ^{*1} 16:9 P 4:3 16:9 F PRTD ^{*1} 16:9 P 14:9 ^{*1} 16:9P ALT 14:9 ^{*1} 16:9F ALT14:9 ^{*1} 16:9 F ALT4:3 ^{*1}	Selectable aspect ratio settings when CONV2 is set to SD. AFD(4:3), AFD-ALT(4:3), AFD(16:9), AFD-ALT(16:9) automatically select an aspect ratio according to the AFD data in the input signal. If no AFD data is found in the input signal, the aspect ratio will be determined according to the setting made under ANC LOSS SET (Sec. 5-10-18). To output video signals in 4:3, select either ratio with (4:3). To output in 16:9, select either ratio with (16:9). Other options will output video signals in the specified aspect ratio. See section 20 "About AFD" for details. Options (4:3 L 16:9 T to 16:9 F ALT 4:3) other than the above four require the input signal aspect ratio to be specified in SD INPUT ASPECT (Sec. 5-7-2) if the input signal is an SD signal.
	AFD	AFD AFD-ALT 16:9 L>16:9 16:9 F 16:9 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9P ALT14:9 16:9F ALT14:9 16:9F ALT4:3	Selectable aspect ratios when CONV1 is set to 1080i, 720p, 1080PsF, or 1080(3G). AFD and AFD-ALT automatically select an aspect ratio according to the AFD data in the input signal. If no AFD data is found in the input signal, the aspect ratio will be determined according to the setting made under ANC LOSS SET (Sec. 5-10-18). Options other than the above two are output in the specific aspect ratio. See section 20 "About AFD" for details on conversions according to AFD data.
-	-	-	The format of the input signal to CONV2 and the format the signal will be converted to in CONV2 are displayed on the 4 th row.

*1 BT1119 WSS will be embedded according to the 5-10-19 WSS AFD ERROR setting for the non-WSS aspect ratio conversions.

5-4-2. CONV2 Conversion Table

Possible Conversions in CONV2 for Input Signal Formats and Mode Selections

Input signal		CONVERTER2 mode selection				
		SD	1080i	720p	1080PsF	1080p(3G)
NTSC formats	525/60	525/60	1080/59i	720/59p	1080/23PsF	1080/59p
	1080/59i	525/60	1080/59i	720/59p	1080/59i (BY-PASS)	1080/59p
	720/59p	525/60	1080/59i	720/59p	720/59p (BY-PASS)	1080/59p
	1080/59p	525/60	1080/59i	720/59p	1080/59p (BY-PASS)	1080/59p
PAL formats	625/50	625/50	1080/50i	720/50p	1080/24PsF	1080/50p
	1080/50i	625/50	1080/50i	720/50p	1080/50i (BY-PASS)	1080/50p
	720/50p	625/50	1080/50i	720/50p	720/50p (BY-PASS)	1080/50p
	1080/50p	625/50	1080/50i	720/50p	1080/50p (BY-PASS)	1080/50p
Other formats	1080/23PsF	525/60	1080/23PsF (BY-PASS)	1080/23PsF (BY-PASS)	1080/23PsF	1080/23PsF (BY-PASS)
	1080/24PsF	625/50	1080/24PsF (BY-PASS)	1080/24PsF (BY-PASS)	1080/24PsF	1080/24PsF (BY-PASS)

In the conversions to the formats indicated as (BY-PASS), the CONV2SIZE/POS, CONV2 CROPPING, CONV2 IMPROVE, and CONV2 SIDE RGB settings cannot be changed.

5-4-3. CONV2 SIZE/POS

CONV2 SIZE/POS	2 2
H SIZE : 100.0%	
V SIZE : 100.0%	
H POS : 0 PIXEL	
V POS : 0 LINE	

Menu button

CONV2
MASTER

Parameter	Default	Setting range (Steps)	Description
H SIZE (Horizontal Size)	100.0%	50.0 - 150.0% (0.1%)	Adjusts the width of the video displayed on the monitor. ^{*1}
V SIZE (Vertical Size)	100.0%	50.0 - 150.0% (0.1%)	Adjusts the height of the video displayed on the monitor. ^{*1}
H POS (Horizontal Position)	0 Pixel	Variable ^{*2} (2 Pixel)	Adjusts the horizontal position of the video displayed on the monitor.
V POS (Vertical Position)	0 Line	Variable ^{*2} (1 Line)	Adjusts the vertical position of the video displayed on the monitor.

^{*1} If the size is made smaller than the original size, set the background color under CONV2 SIDE RGB (see section 5-4-6).

^{*2} The following parameters interact with each other. When you change one of their setting values, setting ranges of other parameters will also change.

Video format

SYNC FRMT Parameter in FS MODE SET (see section 5-10-1).

All parameters in CONV2 U/D MODE(see section 5-4-1).

If the CONV2 mode is set to BY-PASS, the CONV2 SIZE/POS setting cannot be changed. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV2 Conversion Table (see section 5-4-2). In both cases, the menu as shown below will be displayed.

CONV2 SIZE/POS	2 2
H SIZE : NOT ADJUST	
V SIZE : NOT ADJUST	
H POS : NOT ADJUST	
V POS : NOT ADJUST	

5-4-4. CONV2 CROPPING

CONV2 CROPPING			2 3
LEFT	:	0 PIXEL	
RIGHT	:	0 PIXEL	
TOP	:	0 LINE	
BOTTOM	:	0 LINE	

Menu button

CONV2
MASTER

Parameter	Default	Setting range (Steps)	Description
LEFT	0 Pixel	Variable ^{*1} (2 Pixel)	Crops the left side of the video.
RIGHT	0 Pixel	Variable ^{*1} (2 Pixel)	Crops the right side of the video.
TOP	0 Line	Variable ^{*1} (1 Line)	Crops the top of the video.
BOTTOM	0 Line	Variable ^{*1} (1 Line)	Crops the bottom of the video.

These setting ranges vary depending on the input signal. LEFT and RIGHT settings, and the TOP and BOTTOM settings interact with each other. If the size cannot be adjusted as desired, try changing the setting of another parameter.

*1 The following parameters interact with each other. When you change one of their setting values, setting ranges of other parameters will also change.

Input video format

SYNC FRMT Parameter in FS MODE SET (see section 5-10-1).

If the CONV2 mode is set to BY-PASS, the CONV2 CROPPING setting cannot be changed. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV2 Conversion Table (see section 5-4-2). In both cases, the menu as shown below will be displayed.

CONV2 CROPPING			2 3
LEFT	:	NOT ADJUST	
RIGHT	:	NOT ADJUST	
TOP	:	NOT ADJUST	
BOTTOM	:	NOT ADJUST	

IMPORTANT

The cropping setting range resets itself if the video input changes. If the set value exceeds the setting range due to an input change, the set value will automatically reset itself to the default value. If the set value exceeds the horizontal range, the LEFT and RIGHT settings will reset to their default values. If the value exceeds the vertical range, the TOP and BOTTOM settings will also reset accordingly.

5-4-5. CONV2 IMPROVE

CONV2 IMPROVE	2 4
MOTION:ADAPTIVE	
ANTIALIAS H:NORMAL	
ANTIALIAS V:NORMAL	
ENHANCE :LEVEL 0	

Menu button

CONV2
MASTER

Parameter	Default	Setting range (Steps)	Description
MOTION ^{*1}	ADAPTIVE	FIELD ADAPTIVE FRM(ODD 1st) FRM(EVEN 1st)	FIELD: Generates a progressive scan image from one field of an interlaced scan image. The created image has no motion artifacts, but vertical resolution will be reduced. ADAPTIVE: Detects whether there is motion or no motion in the scene, and generate an optimal progressive scan image. FRM(ODD 1st): Generates a progressive scan image from two fields (odd/even) of and interlaced scan image. Suitable for the progressive segment frame input of progressive scan signals. FRM(EVEN 1st): Generates a progressive scan image from two fields (even/odd) of interlaced scan image.
ANTIALIAS H ^{*2}	NORMAL	WEAK 8-1 NORMAL STRONG1-8	Performs horizontal anti-aliasing for the output video image. WEAK 8 to STRONG 8 (low to high) This setting cannot be changed if the conversion is set to the formats indicated as (DOWN) in the CONV2 Conversion Table in section 5-4-2.
ANTIALIAS V ^{*2}	NORMAL	WEAK 8-1 NORMAL STRONG1-8	Performs vertical anti-aliasing for the output video image. WEAK 8 to STRONG 8 (low to high) This setting cannot be changed if the conversion is set to the formats indicated as (DOWN) in the CONV2 Conversion Table in section 5-4-2.
ENHANCE ^{*2}	LEVEL 0	LEVEL 0-8	Sharpens the output video image. LEVEL 0 to 8 (low to high)

^{*1} Common MOTION settings for CONV1 and CONV2. (This setting can be changed from either the CONV1 IMPROVE or CONV2 IMPROVE menu, and applied to both menus.)

^{*2} ANTIALIAS and ENHANCE settings cannot be changed if CONV1 UHD MODE is set to BY-PASS, or the conversion is set to the formats indicated as (BY-PASS) in the CONV2 Conversion Table (see section 5-4-2).

In both cases, the menu as shown below will be displayed.

CONV2 IMPROVE	2 4
MOTION:FIELD	
ANTIALIAS H:NOT ADJ	
ANTIALIAS V:NOT ADJ	
ENHANCE :NOT ADJUST	

IMPORTANT

Setting MOTION to FRM (ODD 1st) or FRM (EVEN 1st) for input signals other than progressive segment frame inputs causes motion artifacts to appear. In such case, change the MOTION setting to FIELD or ADAPTIVE.

5-4-6. CONV2 SIDE RGB

CONV2	SIDE	RGB	25
RED	:	0	
GREEN	:	0	
BLUE	:	0	
GROUP	ADJUST		

Menu button

CONV2
MASTER

Parameter	Default	Setting range	Description
RED, GREEN, BLUE (Background color)	0	0 - 255	Sets background color that will be visible if the converted image is set smaller than original in CONV2 SIZE/POS (5-4-3). R, G, and B components can be adjusted separately. F4 control knob allows you to adjust R, G, and B at the same time.
Group Adjust (Group Adjustment)	0	0 - 255	Adjusts the R, G, and B components separately, then turns this Group Adjust on. Changing any R, G, or B value will change the values of the three components accordingly while retaining the proportion.

If the CONV2 mode is set to BY-PASS, the CONV2 SIDE RGB setting cannot be changed. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV2 Conversion Table (see section 5-4-2). In both cases, the menu as shown below will be displayed.

CONV2	SIDE	RGB	25
RED	:	NOT ADJUST	
GREEN	:	NOT ADJUST	
BLUE	:	NOT ADJUST	

5-5. Auto Video Optimizer (AVO)

5-5-1. AVO SETTING

AVO SETTING	3 6
MODE : OFF	
LEVEL : STANDARD	
AREA : FULL SCREEN	
AREA DISPLAY : OFF	

Menu button

AVO
MAPPING

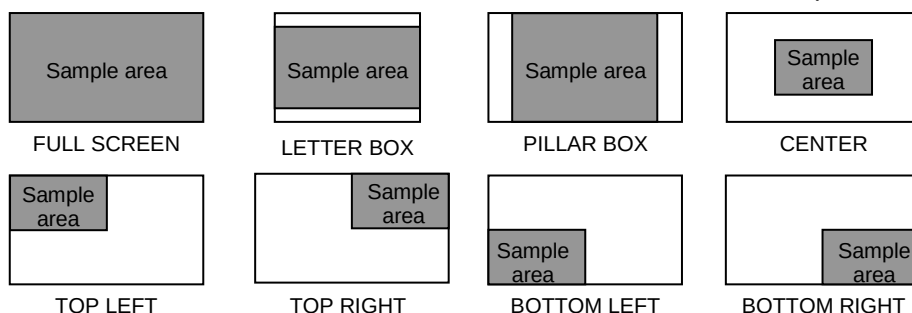
Parameter	Default	Setting range	Description
MODE (Auto level adjustment)	OFF	OFF, AUTO, HOLD	AUTO : Enables automatic level adjustment. HOLD : Stops auto level adjustment. When MODE selection is changed from AUTO to HOLD, the signal levels stop and remain as they are. OFF : Disables automatic level adjustment. When MODE selection is changed from AUTO to OFF, the signal levels return to their state before auto level adjustment is applied. When set to OFF, the signal levels can be manually adjusted. See section 5-5-4-1 "Manual Level Adjustment" for details.
LEVEL (Adjustment level)	STANDARD	DARKER DARK STANDARD BRIGHT BRIGHTER USER1, USER2, USER3, USER4, USER5	Selects a type of signal level adjustment. 10 options are available: Five fixed options and five custom options. Darker < Dark < Standard < Bright < Brighter User1 - User5 : Customizable Selecting one user settings from User1 through 5 opens the USER1 - 5 LEVE SET page. See section 5-5-3 "USER1 - 5 LEVEL SET" for details.
AREA (Sample area)	FULL SCREEN	FULL SCREEN, - BOTTOM RIGHT, USER AREA1, USER AREA2	Sets the sample area to calculate the adjustment. 10 options are available: Eight fixed areas and two custom areas. ● Fixed areas FULL SCREEN, LETTER BOX, PILLAR BOX, CENTER, TOP-LEFT, TOP-RIGHT, BOTTOM LEFT, BOTTOM RIGHT (See "Sample Area" in the next page.) ● Custom areas Selecting USER AREA1, or 2 opens the USER AREA SET page. See section 5-5-4 "USER1, 2 AREA SET" for details.
AREA DISPLAY (Marker display)	OFF	OFF, ON	Sets sample area display ON/OFF . If set to ON , the sample area appears as a semi-transparent white rectangle on all output videos. It is set to OFF at startup. Also, if MODE is set to OFF , AREA DISPLAY is automatically set to OFF .

IMPORTANT

The Auto Level Adjustment will provide optimal results in many cases, but it does not always yield optimal results. Sample Area determines the area where the data are sampled and the level adjustments are applied to whole images.

◆ Sample Area (Fixed area)

Eight available sample areas are as shown below. Data are continuously sampled within each area. (See section 5-5-4 "USER1, 2 AREA SET" for USERAREA 1, and 2.)



5-5-2. AVO SETUP

A V O S E T U P		3 9
R E S P O N S E	: L E V E L 3	
S C E N E C U T	: O F F	
G A M M A M O D E	: O N	

Menu button

AVO
MAPPING

Parameter	Default	Setting range	Description
RESPONSE (Filtering strength)	LEVEL 3	LEVEL 1 - 5	Sets the filtering strength for calculating the mean distances that are applied to histograms created using the sample data. The larger the value, the more gradually filtering is performed, with a more stable image but slower response. The smaller the value, the less stable the image, but with a faster response.
SCENE CUT *1 (Scene cut detection)	OFF	OFF, ON	When set to ON, the cut transitions are detected and images are properly adjusted even if there are sharp luminance changes.
GAMMA MODE (Gamma correction)	ON	OFF, ON	When set to ON, signal levels are adjusted using the GAMMA LEVEL settings. (See section 5-2-3 "GAMMA LEVEL".

*1 The following delay will be produced when performing scene cut detection depending on the input signal format.

Interlaced formats:

2 fields (1 frame) + some lines

Progressive and PsF formats:

2 frames + some lines

Scene cut detection images will be properly adjusted and output when enough frame delay is set. If the amount of frame delay is insufficient, Scene cut detection will not be properly processed.

To perform AVO scene cut detection properly, set enough delay using the FRAME DELAY function. The output delay varies depending on the SYNCRO MODE, input signal format, FRAME DELAY setting, and video signal H/V phase difference. FRAME DELAY settings are described on the next page.

5-5-2-1. About Scene Cut Detection and Frame Delay Settings

To properly perform AVO scene cut detection and adjustment, the FRAME DELAY must be set in the setting range according to the menu settings (5-10-1 “FS MODE SET” menu) as shown in the table below.

FRAME DELAY Setting Range Chart

^{*1} SYNCRO	^{*2} Setting Range per Input Video Format	
	525/60i 625/50i 1080/59i 1080/50i	720/59p/50p 1080/59p,50p 1080/23PsF, 24PsF
FRAME	1 to 8 FRAME	2 to 8 FRAME
LINE/AVDL	Cannot be set	Cannot be set
INPUT	2 to 8 FRAME	3 to 8 FRAME

^{*1} FS mode settings under SYNCRO in section 5-10-1 “FS MODE SET”

^{*2} The current input video format can be verified in the VIDEO IN STATUS menu (Sec. 5-13-2) for each input selected in the VIDEO INPUT SET menu (Sec. 5-7-1).

IMPORTANT

Adjust the audio delay as required in the AUDIO DELAY menu (Sec. 6-6-1) to account for any additional video signal delay produced by changing FRAME DELAY.

5-5-3. USER1 - 5 LEVEL SET

Setting LEVEL of the AVO SETTING menu to one user settings from USER1 through 5 opens the USER1 - 5 LEVEL SET menu. This menu allows you to store five sets of level settings as USER1 – 5.

USER1 LEVEL SET				3 7
IN WHITE	:	99.0%		
IN BLACK	:	1.0%		
TARGET WHITE	:	80.0%		
TARGET BLACK	:	3.0%		

Menu button

AVO
MAPPING

Each USER1 – 5 is composed of four level settings such as IN WHITE, IN BLACK, TARGET WHITE, and TARGET BLACK. The default settings of USERS 1 through 5 are the same as those for DARKER, DARK, STANDARD, BRIGHT, and BRIGHTER, respectively. The desirable level settings are easily obtained by adjusting values from the default values.

◆ USER1 – 5 Default Settings

Parameter	SELECT LEVEL (Adjustment level)				
(Custom levels)	USER1 Default	USER2 Default	USER3 Default	USER4 Default	USER 5 Default
(Fixed levels)	Darker	Dark	Standard	Bright	Brighter
IN WHITE	99.0%	98.0%	97.0%	95.0%	93.0%
IN BLACK	1.0%	2.0%	3.0%	5.0%	7.0%
TARGET WHITE	80.0%	88.0%	93.0%	95.0%	97.0%
TARGET BLACK	3.0%	5.0%	7.0%	12.0%	17.0%

IMPORTANT

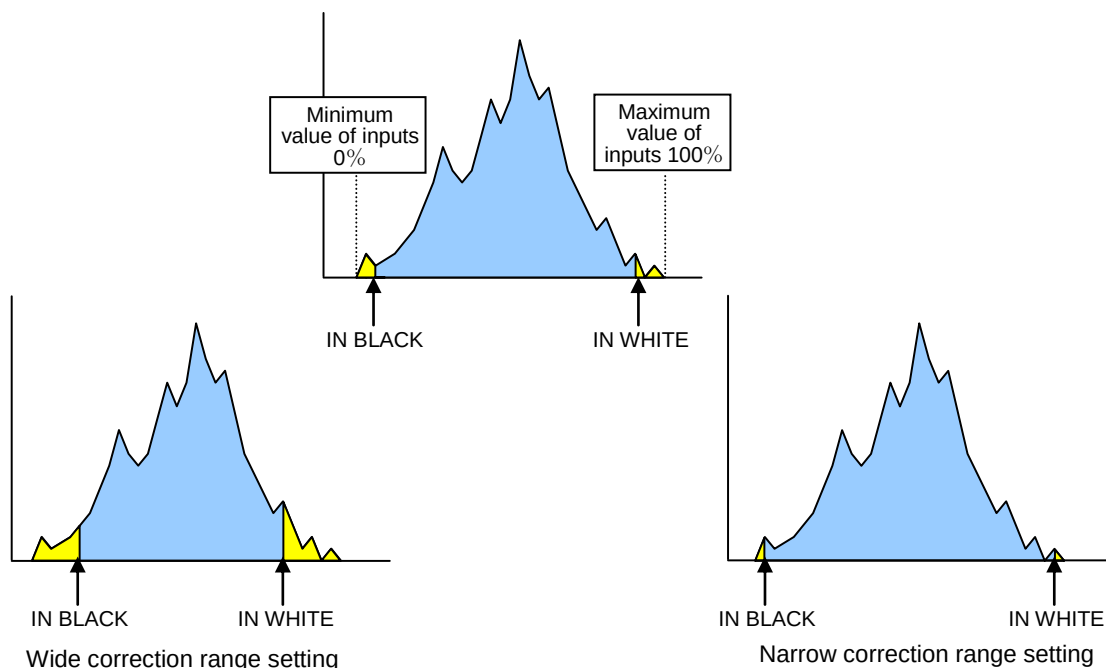
While the USER setting menu is open and the LEVEL is changed via web browser or the connected FA-95RU to other than USERS 1 through 5 in the AVO SETTING menu (5-5-1), the menu will change to display the AVO SETTING menu (5-5-1).

IN WHITE and IN BLACK

These two parameters determine the highest and lowest levels of luminance in the input signal.

Parameter	Setting range (step)	Description
IN WHITE	80.0% - 99.0% (0.5%)	The maximum value of luminance in the sample data is defined as 100%. Based on this reference value, this determines the highest level of luminance for level control. If the value is too large, some noise may be picked up and cause the results to become unstable. If the value is too small, it increases contrast, but it may cause the images to be overexposed.
IN BLACK	1.0% - 20.0% (0.5%)	The minimum value of luminance in the sample data is defined as 0%. Based on this reference value, this determines the lowest level of luminance for level control. If the value is too small, some noise may be picked up and cause the results to become unstable. If the value is too large, it increases contrast, but it may cause the images to be underexposed.

The figures below are luminance histograms of input.
(X-axis: Luminance level, Y-axis: Number of pixels)

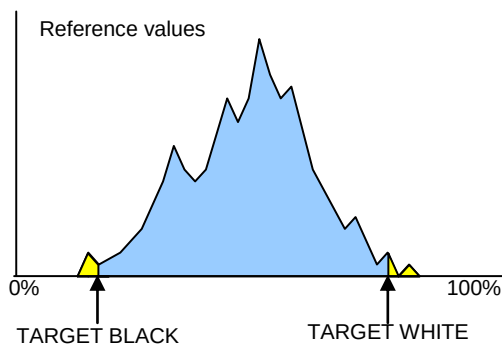


TARGET WHITE and TARGET BLACK

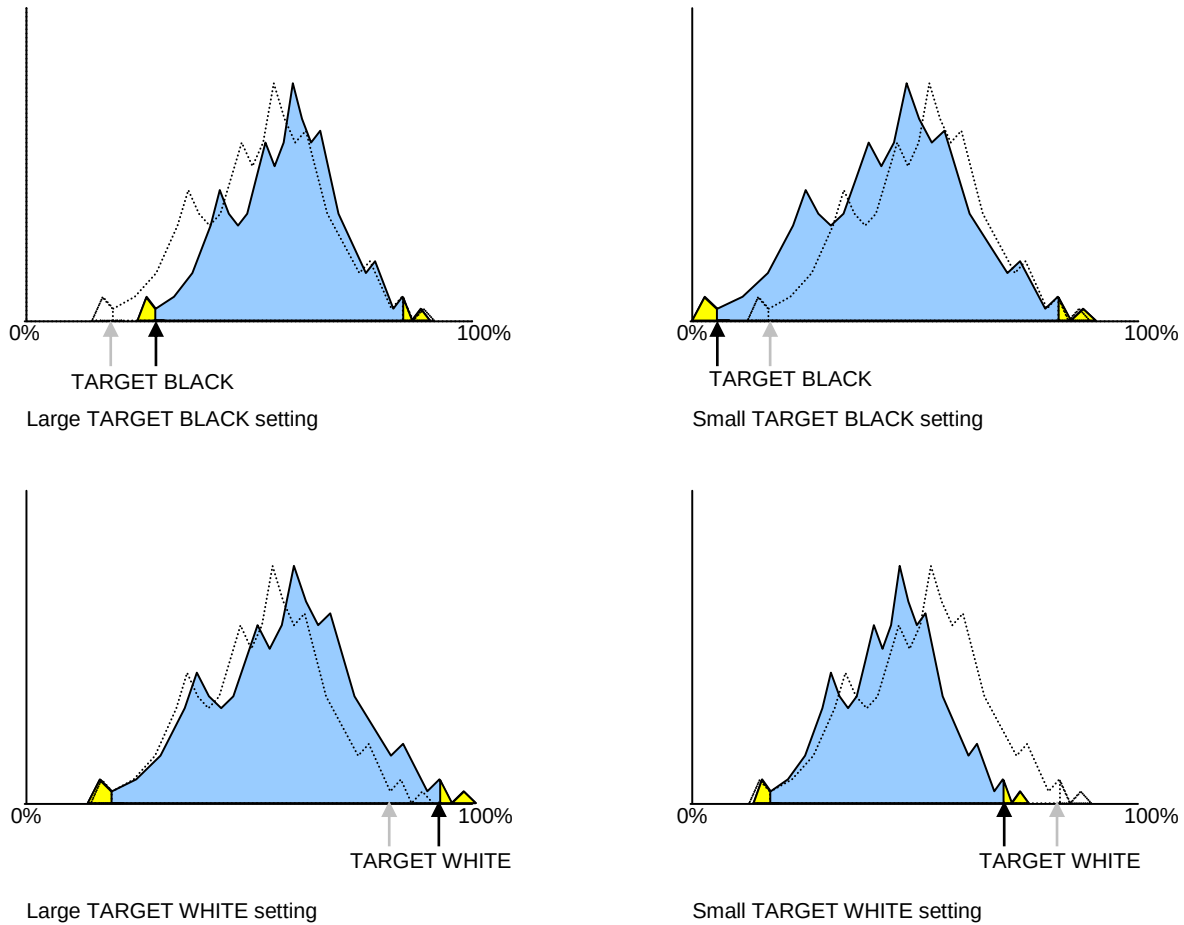
These two parameters determine the highest and lowest levels of luminance for target images (outputs). (See figures below and in the next page.)

Parameter	Setting range (step)	Description
TARGET WHITE	60.0 - 100.0% (0.5%)	Determines the maximum value of luminance for outputs. The maximum luminance value of the image after correction should approximate this value. The larger the value, the brighter the image, which may however cause the image to be overexposed. The smaller the value, tones of the bright part are kept. However, the overall obtained image may be dark.
TARGET BLACK	0 - 40.0% (0.5%)	Determines the minimum value of luminance for outputs. The minimum luminance value of the image after correction should approximate this value. The larger the value, the dark area in pictures will appear brighter, which may however lower the contrast and the noise will become apparent. The smaller the value, the higher the contrast, which may however cause the image to be underexposed.

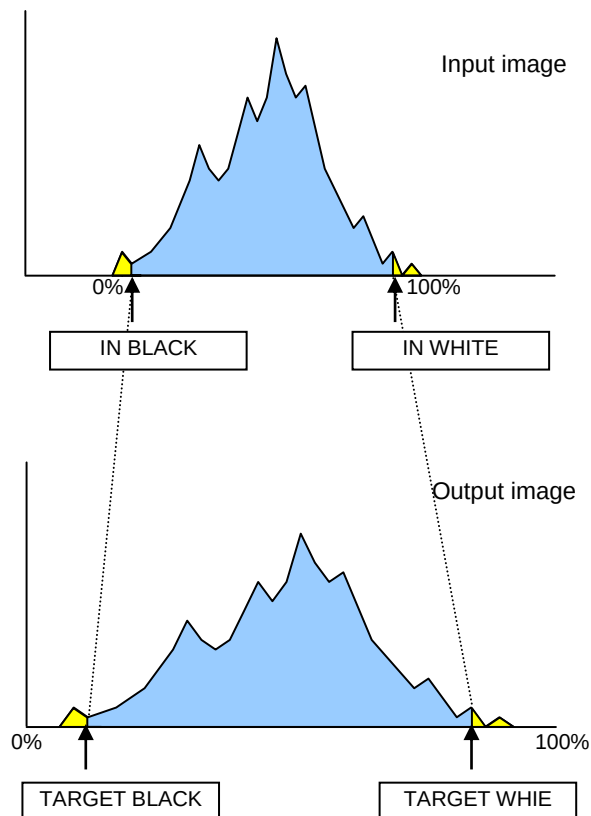
The figure below is a luminance histogram of output.
(X-axis: Luminance level, Y-axis: Number of pixels)



The figures below compare the reference values (dotted line) for output and the actual values after correction (full line).



Relationship between IN BLACK, IN WHITE and TARGET BLACK, TARGET WHITE levels



5-5-4. USER1, 2 AREA SET

Selecting USER1 (or 2) AREA for AREA in the AVO SETTING menu opens the USER1, 2 AREA SET menus.

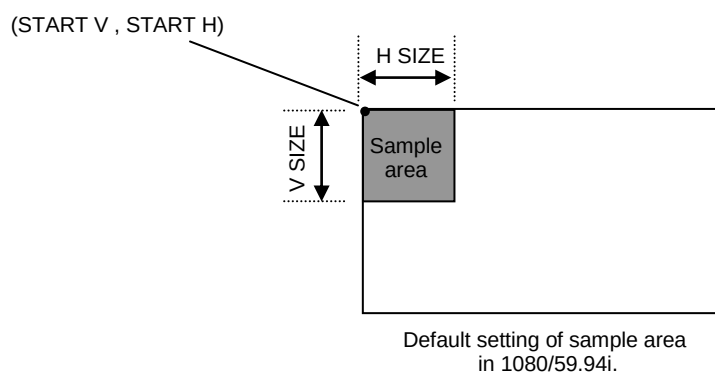
USER1 AREA SET			3 8
START H	:	0 PIXEL	
START V	:	0 LINE	
H SIZE	:	360 PIXEL	
V SIZE	:	360 LINE	

Menu button

AVO
MAPPING

To set the sample area, set the start point and the size.

Parameter	Default	Setting range	Description
START H	0 Pixel	Variable (2Pixel)	Specifies the horizontal start point.
START V	0 Line	Variable (2Line)	Specifies the vertical start point.
H SIZE	360	Variable (2Pixel)	Specifies the horizontal size (distance) from the start point.
V SIZE	360	Variable (2Line)	Specifies the vertical size (distance) from the start point.



IMPORTANT

The sample area should be set within the effective lines and pixels. Otherwise, the sample area will automatically revert to their default values. Be particularly careful in the following cases.

- When the video format is changed to SDTV after the sample area has been set.
- When the sample area settings are changed by loading an event.

While the USER 1, 2 AREA SET setting menu is open and the AREA is changed via web browser or the connected FA-95RU to other than USER AREAs 1 and 2 in the AVO SETTING menu (5-5-1), the menu will change to display the AVO SETTING menu (5-5-1).

5-5-4-1. Manual Level Adjustment

The FA-9500 automatically adjusts the signal level if the MODE of the AVO SETTING menu is set to AUTO (see section 5-5-1). The signal level can also be manually adjusted if the MODE is set to HOLD or OFF.

◆ **To provide fine adjustment on the automatically adjusted level**

Changing the AVO MODE selection from AUTO to HOLD will enable fine adjustment of the adjusted signal levels that are provided by the automatic level adjustment. However, the change will not be retained after restarting the unit. The signal levels return to the values before the manual adjustment (the values provided by the automatic level adjustment). While AVO is turned on, the COLOR CORRECT menu settings will automatically adjust. MODE will change to BALANCE, and CURVE to BLACK. The fine adjustment enabled in HOLD mode is enabled only for color correction BALANCE mode.

◆ **To manually adjust the signal levels**

Set AVO MODE to OFF to manually adjust the signal levels. If the AVO MODE selection is changed from AUTO to OFF, the signal levels return to their values before the automatic level adjustment.

The adjustable items in the Color Correction menus are as shown in the table below.

AVO MODE selection			Color Corrector Menu	Reference
AUTO	HOLD	OFF		
×	○	○	WHITE LEVEL	5-2-1 WHITE LEVEL
×	○	○	BLACK LEVEL	5-2-2 BLACK LEVEL
×	○	○	GAMMA LEVEL	5-2-3 GAMMA LEVEL
×	×	○	CORRECTION MODE /CURVE	5-2-4 COLOR CORRECT

○ : The setting is enabled.

× : The setting is disabled.

The message "NOT ADJUST" appears when the disabled menu is opened.

5-6. CLIP (VIDEO CLIP)

5-6-1. YPbPr/RGB CLIP

Y P b P r / R G B C L I P	4 5
C L I P M O D E : O F F	

Menu button

CLIP
DELAY

Parameter	Default	Setting range	Description
CLIP MODE (Clip Mode)	OFF	OFF, YPbPr CLIP, RGB CLIP	Selects a mode whether to clip signals in the YPbPr color space or RGB color space.

◆ YPbPr CLIP

Y P b P r / R G B C L I P	4 5
M O D E : Y P b P r C L I P	
Y W H I T E : 1 0 9 . 0 %	
Y B L A C K : - 7 . 5 %	
C H R O M A : 1 1 1 . 0 %	

Parameter	Default	Setting range (Steps)	Description
Y WHITE (Y White Clip)	109.0%	50.0 - 109.0% (0.5%)	Sets the Y signal upper threshold.
Y BLACK (Y Black Clip)	-7.5%	-7.5 - 50.0% (0.5%)	Sets the Y signal lower threshold.
CHROMA (YPbPr Chroma Clip)	111.0%	50.0 - 111.0% (0.5%)	Sets both the upper and lower thresholds of PbPr signals.

◆ RGB CLIP

Y P b P r / R G B C L I P	4 5
M O D E : R G B C L I P	
W H I T E : 3 0 0 . 0 %	
B L A C K : - 2 0 0 . 0 %	

Parameter	Default	Setting range (Steps)	Description
WHITE (RGB White Clip)	300.0%	50 - 300% (0.5%)	Sets the upper threshold of RGB color space.
BLACK (RGB Black Clip)	-200.0%	-200 - 50% (0.5%)	Sets the lower threshold of RGB color space.

5-6-2. COMPOSITE CLIP

COMPOSITE CLIP	4 6
MODE: COMPOSITE CLIP	
WHITE: 150.0%	
BLACK: -50.0%	

Menu button

CLIP DELAY

Parameter	Default	Setting range (Steps)	Description
CLIP MODE (Clip Mode)	OFF	OFF, COMPOSITE CLIP	COMPOSITE CLIP enables clipping on the composite output signals.
WHITE (Composite White Clip)	150.0%	50 - 150% (0.5%)	Sets the upper threshold of analog composite color space.
BLACK (Composite Black Clip)	-50.0%	-50 - 50% (0.5%)	Sets the lower threshold of analog composite color space.

The COMPOSITE CLIP settings are effective only on the analog composite outputs. The settings are not effective on the SDI1/2 and SDI3/4 outputs. To enable the COMPOSITE CLIP menu, set YPbPr/RGB CLIP to OFF.

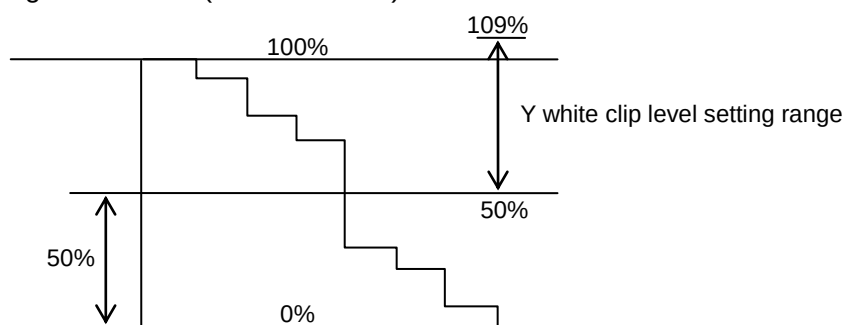
5-6-3. VIDEO CLIP Setting Ranges

◆ YPbPr CLIP

Y Signal Settings

① Y White Clip Level

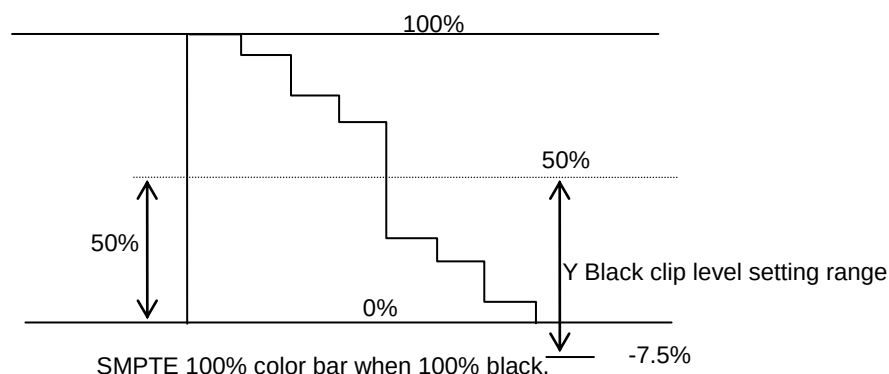
Setting range 50 - 109% (Default: 109%)



SMPTE 100% color bar when 100% white.

② Y Black Clip Level

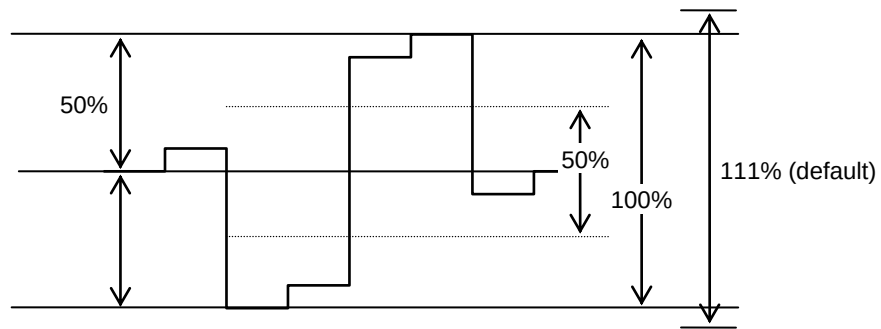
Setting range -7.5 - 50% (Default: -7.5%)



SMPTE 100% color bar when 100% black.

③ C White Clip Level
Setting range 50 - 111% (Default: 111%)

Setting range 50 - 111% (Default: 111%)



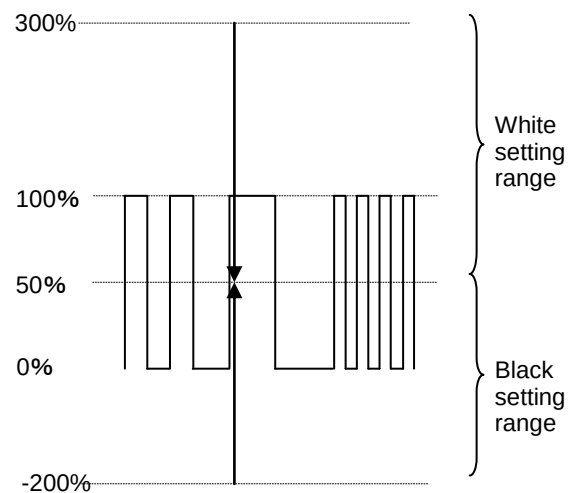
SMPTE 100% color bar when color 700mVp-p.

◆ RGB CLIP

To adjust the RGB clipping, select the RGB CLIP under CLIP MODE, and then set RGB White Clip and RGB Black Clip.

Once the “RGB CLIP” is selected, the YPbPr input video signal is converted into an RGB signal in the unit. The converted RGB signal is processed so as not to exceed the RGB gamut range set under the RGB White Clip and RGB Black Clip parameters in the menu.

Then the processed RGB signal is converted again to YPbPr format. This correction is used to eliminate out-of RGB gamut problems.



RGB Clip Processing

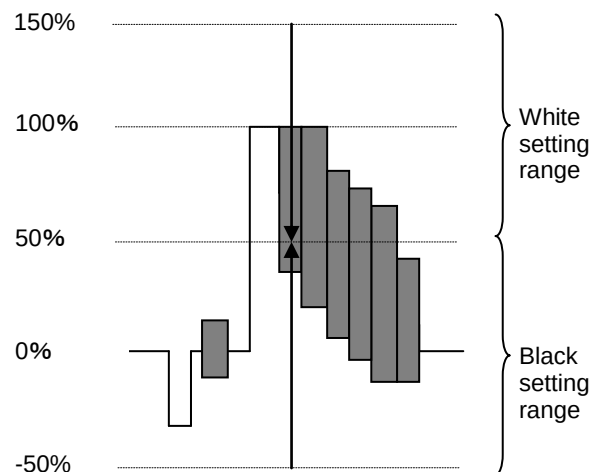
◆ COMPOSITE CLIP

To adjust the COMPOSITE clip, set WHITE and BLACK.

Once the COMPOSITE CLIP mode is turned ON, YPbPr input video signal is converted to composite signal in the unit. The converted composite signal is processed so as not to exceed the composite gamut range set at WHITE and BLACK in the menu.

The processed composite signal is then reconverted to YPbPr format. This correction is used to eliminate out-of-composite gamut problems.

This correction is applied to composite output signals.



Composite Clip processing

5-7. VIDEO INPUT SELECT (IN SEL)

Allows you to select input video signals, and select the operation for when signal input is lost.

5-7-1. VIDEO INPUT SET

VIDEO INPUT SET		4 7	Menu button
IN SEL: SDI1 LOSS : BACK COLOR BACK COLOR: OFF CHANGEOVER: DISABLE			IN SEL DOWNMIX
Parameter	Default	Setting range	Description
IN SEL	SDI1	SDI1 SDI2 COMPOSITE YPbPr SMPTE ^{*1} YPbPr BETACAM ^{*1} RGB ^{*1} Y/C ^{*1}	Selects an input signal.
LOSS	BACK COLOR	BACK COLOR AUTO FREEZE ^{*2} COLOR BAR OUT DISABLE	Selects an operation for the time the signal input selected under IN SEL is lost.
BACK COLOR	BLACK	OFF BLACK BLUE RED MAGENTA GREEN CYAN YELLOW	Select a background color.
CHANGEOVER ^{*3}	DISABLE	DISABLE ENABLE	Enables or disables CHANGEOVER. Changeover can be enabled only if IN SEL is set to SDI 1.

^{*1} Selectable only if the FA-95AIO option is installed.

^{*2} The selected AUTO FREEZE functions the same as BACK COLOR if SYNCHRO in section 5-10-1 "FS MODE SET" is set to LINE, AVDL, or INPUT. In such case, the menu is indicated as "*AUTO FREEZE".

^{*3} This parameter is displayed only if FA-95CO software option is installed. CHANGEOVER is always set to DISABLE at power-on.

◆ LOSS Operation

If the signal input that is selected under IN SEL is lost, the FA-9500 operates in the selected LOSS mode as follows.

- In BACK COLOR mode
Outputs a matte signal of the color selected under BACK COLOR.
- In AUTO FREEZE mode
Freezes the last image before signal input is lost.
Freezes the field.
Freezes the frame if the lost input signal is of a progressive scan video format such as 720p.
- In COLOR BAR mode
Outputs the SMPTE color bar.
- In OUT DISABLE mode
Does not output any signal from SDI OUT1, 2, 3, 4, COMPOSITE OUT1 or 2.
- In AUTO FREEZE mode
Outputs a black screen if SYNCHRO is set to LINE, AVDL or INPUT under FS MODE SET (section 5-10-1).

5-7-2. SD INPUT ASPECT

SD INPUT ASPECT	4 8
ASPECT : 4 : 3	

Menu bottun

IN SEL
DOWNMIX

Allows you to specify the SD input signal aspect ratio.

CONV1 and 2 process specified aspect conversions (4:3 L 16:9 T to 16:9 F ALT4:3) according to this input signal aspect ratio.

This setting is effective under the following conditions:

“CONV1 U/D MODE” (Sec. 5-3-1) ASPECT is set to other than AFD(4:3), AFD-ALT(4:3), AFD(16:9), AFD-ALT(16:9), AFD, and AFD-ALT.

And, “CONV2 U/D MODE” (Sec. 5-4-1) ASPECT is set to other than AFD(4:3), AFD-ALT(4:3), AFD(16:9), AFD-ALT(16:9), AFD, and AFD-ALT.

Parameter	Default	Setting range	Description
ASPECT	4:3	4:3 16:9	Select the aspect ratio of the SD input signals in CONV1 and CONV2. Select 16:9 for horizontally squeezed (anamorphic) images.

5-7-3. About Changeover

The Changeover function is supported for the main input, SDI 1. If the SDI 1 input encounters a problem, Changeover switches the input to input SDI 2. However, if SDI 2 also encounters the same problem, a changeover will not occur. Conditions to determine problem occurrence can be selected in menus 5-7-4 CHGOV (CHANGEOVER) MODE SET through 5-7-11 SILENCE TRG. Input selection under IN SEL cannot be changed while Changeover is enabled. Also, IN SEL must be set to SDI 1 to enable Changeover. Whether a changeover has been performed can be checked in menus 5-7-12 CHGOV STATUS through 5-7-17 SILENCE STATUS, which allow you to know what caused the changeover. To reset the status menus, set Changeover to Disable.

5-7-3-1. Changeover and Loss Operation

Changeover has priority over Loss operation. However, if neither an SDI 1 or SDI 2 input signal exists, the FA-9500 performs LOSS according to the selection made under LOSS in the VIDEO INPUT SET (5-7-1) menu. If both SDI 1 and 2 inputs encounter the same problem and the problem is not signal loss, the FA-9500 will output the SDI 1 input signal.

5-7-3-2. Changeover and Input Switchover Using a Router

An SDI 1 input signal switchover conducted via router will be detected as an error by the CRC ERROR TRG (5-7-7) and AUDIO ERR TRG (5-7-10) functions. If either trigger has been enabled for a short duration, a changeover will occur. To avoid such input switchover-triggered changeovers, set DURATION under CRC ERROR TRG to longer than 2 frames, and DURATION under AUDIO ERR TRG to longer than 0.2 sec..

5-7-3-3. How to Reset to SDI 1 (Main Input)

This section describes how to reset input to SDI 1 after a Changeover.

- 1) Check menus 5-7-12 CHGOV STATUS through 5-7-17 SILENCE STATUS to verify what caused the changeover.

- 2) Resolve the issue(s).
- 3) Check that the issue(s) is/are resolved using a waveform monitor.
- 4) Disable Changeover. (The status menus will be reset.)
- 5) Set IN SEL to SDI 1 (input signal selection).
- 6) Enable Changeover again.

IMPORTANT
If SYNCHRO in section 5-10-1 FS MODE SET is set to LINE, AVDL, or INPUT, or SYNCHRO is set to FRAME with FRAME DELAY turned OFF, a changeover may produce video noise. To avoid video noise, set SYNCHRO to FRAME and FRAME DELAY to 1 or more frames.

5-7-4. CHGOV (CHANGEOVER) MODE SET

This menu is accessible only if the FA-95CO software option is installed.

CHGOV MODE SET	5 5
VIDEO TRG:DISABLE	
AUDIO TRG:DISABLE	
CHGOV DISABLED	

Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range	Description
VIDEO TRG	DISABLE	DISABLE ENABLE	Selects changeover trigger mode for below 4 video triggers: 5-7-5 SDI ERROR TRG, 5-7-6 FORMAT ERROR TRG, 5-7-7 CRC ERROR TRG, 5-7-8 BLACK VIDEO TRG DISABLE: Disables auto changeover by the video trigger. ENABLE: Performs a changeover if any video trigger is activated.
AUDIO TRG	DISABLE	DISABLE ENABLE	Selects changeover trigger mode for below 3 audio triggers: 5-7-9 AUDIO LOSS TRG, 5-7-10 AUDIO ERR TRG, 5-7-11 SILENCE TRG DISABLE: Disables auto changeover by the audio trigger. ENABLE: Performs a changeover if any audio trigger is activated.

- * The "CHGOV DISABLED" message is displayed if CHANGEOVER is set to DISABLE in the VIDEO INPUT SET menu (Sec. 5-7-1). If this message is displayed, a changeover will not be performed even though VIDEO TRG/AUDIO TRG is enabled.

5-7-5. SDI ERROR TRG

This menu is accessible only if the FA-95CO software option is installed.

SDI ERROR TRG	5 6
TRIGGER : DISABLE	
DURATION : IMMEDIATE	
CHGOV DISABLED	

Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range (Steps)	Description
TRIGGER	DISABLE	DISABLE ENABLE	Enables or disables auto changeover for SDI signal loss, an unsupported video format, or TRS error.
DURATION	IMMEDIATE	IMMEDIATE 0.5 to 5.0 sec (0.5 sec)	Sets the duration of SDI signal loss, unsupported video format or TRS error detection (in the active picture area) required to trigger a changeover.

- * The “CHGOV DISABLED” message is displayed if CHANGEOVER is disabled in the VIDEO INPUT SET (5-7-1) menu or VIDEO TRG is disabled in the CHGOV (CHANGEOVER) MODE SET (5-7-4) menu. If this message is displayed, a changeover will not be performed even though SDI ERROR TRG is enabled.

5-7-6. FORMAT ERROR TRG

This menu is accessible only if the FA-95CO software option is installed.

FORMAT ERR TRG	5 7
TRIGGER : DISABLE	
DURATION : IMMEDIATE	
AUTO SYS FORMAT	
CHGOV DISABLED	

Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range (Steps)	Description
TRIGGER	DISABLE	DISABLE ENABLE	Enables or disables auto changeover for SDI input and system format mismatches.
DURATION	IMMEDIATE	IMMEDIATE 0.5 to 5.0 sec (0.5 sec)	Sets the duration of the detected format mismatch required to trigger a changeover.

- * The “AUTO SYS FORMAT” message is displayed if SYS FRMT is set to AUTO DET in the 5-10-1 FS MODE SET menu. The TRIGGER cannot be enabled when the message is displayed. To enable the trigger, set SYS FRMT to other than AUTO DET in the FS MODE SET (5-10-1) menu.
- * The “CHGOV DISABLED” message is displayed if CHANGEOVER is disabled in the VIDEO INPUT SET (5-7-1) menu or VIDEO TRG is disabled in the CHGOV (CHANGEOVER) MODE SET (5-7-4) menu. If this message is displayed, a changeover will not be performed even though FORMAT ERROR TRG is enabled.
- * FORMAT ERROR TRG also triggers a changeover for SDI input signal loss. If FORMAT ERROR TRG is enabled and the SDI signal input is lost, a changeover will be performed, even though SDI ERROR TRG is disabled, based on the FORMAT ERROR TRG DURATION setting.

5-7-7. CRC ERROR TRG

This menu is accessible only if the FA-95CO software option is installed.

CRC ERROR TRG	5 8
TRIGGER : DISABLE	
DURATION : IMMEDIATE	
CHGOV DISABLED	

Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range	Description
TRIGGER	DISABLE	DISABLE ENABLE	Enables or disables auto changeover for SDI video CRC error.
DURATION	IMMEDIATE	IMMEDIATE 1 to 100 FRAMES	Sets the detected video CRC error duration required to trigger a changeover. * To avoid an unexpected changeover triggered by a switchover of input signals via router, set DURATION to longer than 2 frames.

- * The "CHGOV DISABLED" message is displayed if CHANGEOVER is disabled in the VIDEO INPUT SET (5-7-1) menu or VIDEO TRG is disabled in the CHGOV (CHANGEOVER) MODE SET (5-7-4) menu. If this message is displayed, a changeover will not be performed even though CRC ERROR TRG is enabled.
- * CRC ERROR TRG also triggers a changeover for SDI input signal loss. If CRC ERROR TRG is enabled and the SDI signal input is lost, a changeover will be performed, even though SDI ERROR TRG is disabled, based on the CRC ERROR TRG DURATION setting.
- * "CRC ERROR TRG" (5-7-7) also detects TRS errors in blanking intervals as well as in the active picture area, while "SDI ERROR TRG" (5-7-5) detects them only in the active picture area. A changeover according to a TRS error in a blanking interval can only be triggered by "CRC ERROR TRG" (5-7-7).

5-7-8. BLACK VIDEO TRG

This menu is accessible only if the FA-95CO software option is installed.

BLACK VIDEO TRG	5 9
TRIGGER : DISABLE	
THRESHOLD : 0.0%	
DURATION : IMMEDIATE	
CHGOV DISABLED	

Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range	Description
TRIGGER	DISABLE	DISABLE ENABLE	Enables or disables auto changeover for SDI black signal.
THRESHOLD	0.0%	-7.5 to 30.0%	Sets the threshold of average luminance of one field (of interlaced or segment frame video) or one frame (of progressive video) to determine a black signal.
DURATION	IMMEDIATE	IMMEDIATE 1 to 100 FRAMES	Sets the detected black signal input duration required to trigger a changeover.

- * The "CHGOV DISABLED" message is displayed if CHANGEOVER is disabled in the VIDEO INPUT SET (5-7-1) menu or VIDEO TRG is disabled in the CHGOV (CHANGEOVER) MODE SET (5-7-4) menu. If this message is displayed, a changeover will not be performed even though BLACK VIDEO TRG is enabled.

5-7-9. AUDIO LOSS TRG

This menu is accessible only if the FA-95CO software option is installed.

AUDIO LOSS TRG	6 0
GROUP SEL : GROUP1	
TRIGGER : DISABLE	
DURATION : 0.0sec	
CHGOV DISABLED	

Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range (Steps)	Description
GROUP SEL	GROUP1	GROUP 1 to 4	Selects a group from the embedded audio for which to set the trigger.
TRIGGER	DISABLE	DISABLE ENABLE	Enables or disables auto changeover for signal loss of SDI embedded audio.
DURATION	0.0sec	0.0 to 1.0sec (0.1sec)	Sets the detected SDI embedded audio signal loss duration required to trigger a changeover. This setting will be shared by all 4 audio groups.

* The "CHGOV DISABLED" message is displayed if CHANGE OVER is disabled in the VIDEO INPUT SET (5-7-1) menu or VIDEO TRG is disabled in the CHGOV (CHANGE OVER) MODE SET (5-7-4) menu. If this message is displayed, a changeover will not be performed even though AUDIO LOSS TRG is enabled.

5-7-10. AUDIO ERR TRG

This menu is accessible only if the FA-95CO software option is installed.

AUDIO ERR TRG	6 1
CH SEL : CH1	
TRIGGER : DISABLE	
DURATION : 0.0sec	
CHGOV DISABLED	

Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH 1 to 16	Selects a channel from the embedded audio for which to set the trigger.
TRIGGER	DISABLE	DISABLE ENABLE	Enables or disables auto changeover for errors listed below. - DBN (Data Block Number) discontinuity - Channel status discontinuity - HD audio clock data error or change
DURATION	0.0sec	0.0 to 1.0sec (0.1sec)	Sets the detected audio error duration required to trigger a changeover. This setting will be shared by all 16 channels. * To avoid an unexpected changeover triggered by a switchover of input signals via router, set DURATION to longer than 0.2 sec..

* The "CHGOV DISABLED" message is displayed if CHANGE OVER is disabled in the VIDEO INPUT SET (5-7-1) menu or VIDEO TRG is disabled in the CHGOV (CHANGE OVER) MODE SET (5-7-4) menu. If this message is displayed, a changeover will not be performed even though AUDIO ERR TRG is enabled.

* AUDIO ERR TRG also triggers a changeover for SDI input signal loss. If AUDIO ERR TRG is enabled and the SDI signal input is lost, a changeover will be performed, even though AUDIO LOSS TRG is disabled, based on the AUDIO ERR TRG DURATION setting.

5-7-11. SILENCE TRG

This menu is accessible only if the FA-95CO software option is installed.

SILENCE TRG	6 2
CH SEL : CH1	
TRIGGER : DISABLE	
CHGOV DISABLED	

Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 to 16	Selects an embedded audio channel for which to set the trigger.
TRIGGER	DISABLE	DISABLE ENABLE	Enables or disables auto changeover for audio silence in the embedded audio channel.

* The "CHGOV DISABLED" message is displayed if CHANGEOVER is disabled in the VIDEO INPUT SET (5-7-1) menu or VIDEO TRG is disabled in the CHGOV (CHANGEOVER) MODE SET (5-7-4) menu. If this message is displayed, a changeover will not be performed even though SILENCE TRG is enabled. The duration to determine SDI embedded audio is silent depends on the duration set in the 6-10-4 DIGITAL SILENCE menu.

5-7-12. CHGOV STATUS

This menu is accessible only if the FA-95CO software option is installed.

Settings in this menu will reset themselves whenever **CHANGEOVER** in the VIDEO INPUT SET (5-7-1) menu has been set to DISABLE.

CHGOV STATUS	6 3
VIDEO: NON-TRG	
AUDIO: NON-TRG	
VIDEO IN: SDI1	
CHGOV DISABLED	

Menu button

IN SEL
DOWNMIX

Parameter	Description
VIDEO	Displays the status of video related triggers at the time a changeover is performed. DISABLE: Video-related triggers are disabled. NON-TRG: No video-related trigger is activated. TRIGGER: Changeover is performed due to (a) video-related trigger(s).
AUDIO	Displays the status of audio related triggers at the time a changeover is performed. DISABLE: Audio-related triggers are disabled. NON-TRG: No audio-related trigger is activated. TRIGGER: Changeover is performed due to (an) audio-related trigger(s).
VIDEO IN	Displays the current active input signal. SDI1: The current active input is SDI1. SDI1→SDI2: The input signal is changed over to SDI2 from SDI1. SDI2: The current active input is SDI2. Composite: The current input signal is composite video. YPbPr SMPTE^{*1}: The current input signal is component video. (SD-SDI signals are SMPTE level signals.) YPbPr BETA^{*1}: The current input signal is component video. (SD-SDI signals are BETACAM level signals.) RGB^{*1}: The current input signal is RGB video. Y/C^{*1}: The current input signal is Y/C video.

*1 Shown only if the FA-95AIO option is installed.

* The "CHGOV DISABLED" message is displayed if CHANGEOVER is disabled in the 5-7-1 VIDEO INPUT SET menu. If this message is displayed, a changeover will not be performed.

5-7-13. CHGOV VID STATUS

This menu is accessible only if the FA-95CO software option is installed.
Settings in this menu will reset themselves whenever **CHANGEOVER** in the VIDEO INPUT SET (5-7-1) menu has been set to DISABLE.

CHGOV VID STATUS	6 4
SDI ERROR : NON-TRG	
FORMAT ERR : NON-TRG	
CRC ERROR : NON-TRG	
BLACK VIDEO : NON-TRG	

Menu button

IN SEL
DOWNMIX

Parameter	Description
SDI ERROR	Displays SDI error trigger status at the time a changeover is performed. DISABLE: This trigger is disabled. NON-TRG: This trigger is not activated. TRIGGER: Changeover is performed due to this trigger.
FORMAT ERR	Displays Format error trigger status at the time a changeover is performed. DISABLE: This trigger is disabled. NON-TRG: This trigger is not activated. TRIGGER: Changeover is performed due to this trigger.
CRC ERROR	Displays CRC error trigger status at the time a changeover is performed. DISABLE: This trigger is disabled. NON-TRG: This trigger is not activated. TRIGGER: Changeover is performed due to this trigger.
BLACK VIDEO	Displays Black Video trigger status at the time a changeover is performed. DISABLE: This trigger is disabled. NON-TRG: This trigger is not activated. TRIGGER: Changeover is performed due to this trigger.

5-7-14. CHGOV AUD STATUS

This menu is accessible only if the FA-95CO software option is installed.
Settings in this menu will reset themselves whenever **CHANGEOVER** in the VIDEO INPUT SET (5-7-1) menu has been set to DISABLE.

CHGOV AUD STATUS	6 5
AUDIO LOSS : NON-TRG	
AUDIO ERR : NON-TRG	
SILENCE : NON-TRG	

Menu button

IN SEL
DOWNMIX

Parameter	Description
AUDIO LOSS	Displays Audio Loss trigger status at the time a changeover is performed. DISABLE: This trigger is disabled. NON-TRG: This trigger is not activated. TRIGGER: Changeover is performed due to this trigger.
AUDIO ERR	Displays Audio Error trigger status at the time a changeover is performed. DISABLE: This trigger is disabled. NON-TRG: This trigger is not activated. TRIGGER: Changeover is performed due to this trigger.
SILENCE	Displays Audio Silence trigger status at the time a changeover is performed. DISABLE: This trigger is disabled. NON-TRG: This trigger is not activated. TRIGGER: Changeover is performed due to this trigger.

5-7-15. AUD LOSS STATUS

This menu is accessible only if the FA-95CO software option is installed.
Settings in this menu will reset themselves whenever **CHANGEOVER** i in the VIDEO INPUT SET (5-7-1) menu has been set to DISABLE.

AUD LOSS STATUS	6 6
GROUP 1 : NON - TRG	
GROUP 2 : NON - TRG	
GROUP 3 : NON - TRG	
GROUP 4 : NON - TRG	

Menu button

IN SEL
DOWNMIX

Parameter	Description
GROUP1-4	Displays Audio Loss trigger status in each audio group at the time a changeover is performed. DISABLE: This trigger is disabled. NON-TRG: This trigger is not activated. TRIGGER: Changeover is performed due to this trigger.

5-7-16. AUD ERROR STATUS

This menu is accessible only if the FA-95CO software option is installed.
Settings in this menu will reset themselves whenever **CHANGEOVER** in the VIDEO INPUT SET (5-7-1) menu has been set to DISABLE.
Numbers 1 to 16 indicate SDI 1 input audio channels 1 to 16.

AUD ERROR STATUS	6 7
1 : + 2 : + 3 : + 4 : +	
5 : T 6 : T 7 : T 8 : T	
9 : - 10 : - 11 : - 12 : -	
13 : - 14 : - 15 : - 16 : -	

Menu button

IN SEL
DOWNMIX

Parameter	Description
1 to 16 (CH1 to 16)	Displays audio error trigger status of SDI embedded audio channels 1 through 16. - : This trigger is disabled. + : This trigger is enabled, but not activated. T : Changeover is performed due to this trigger.

5-7-17. SILENCE STATUS

This menu is accessible only if the FA-95CO software option is installed.
Settings in this menu will reset themselves whenever **CHANGEOVER** in the VIDEO INPUT SET (5-7-1) menu has been set to DISABLE.
Numbers 1 to 16 indicate SDI input audio channels 1 to 16.

SILENCE STATUS	6 8
1 : + 2 : + 3 : + 4 : +	
5 : T 6 : T 7 : T 8 : T	
9 : - 10 : - 11 : - 12 : -	
13 : - 14 : - 15 : - 16 : -	

Menu button

IN SEL
DOWNMIX

Parameter	Description
1 to 16 (CH1 to 16)	Displays audio silence trigger status of SDI embedded audio channels 1 through 16. - : This trigger is disabled. + : This trigger is enabled, but not activated. T : Changeover is performed due to this trigger.

5-8. VIDEO OUT SELECT (OUT SEL)

Allows you to select output modes and whether to output a signal from CONV1 or CONV2 for respective video output connectors.

IMPORTANT

If CONV DLY ADJ in section 5-10-4 "VIDEO SUB" is enabled, all outputs from SDI 1/2, SDI 3/4, Composite, and Component will be adjusted to be the same delay.

If CONV DLY ADJ is disabled, the outputs in the same format with inputs will be by-passed through without conversions.

5-8-1. SDI1/2 OUT SET

Allows you to assign video signals to output from video output connectors SDI1 and 2.

SDI 1/2 OUT SET	7 2
ASSIGN: CONV1	
525/60 >> 1080/59i	

Menu button

OUT SEL
MODE

Parameter	Default	Setting range (Steps)	Description
ASSIGN	CONV1	CONV1 CONV2	Selects whether to output a signal of CONV1 or CONV2 from SDI1 and 2 connectors.
—	—	—	The input signal format and SDI1 and 2 output signal formats are displayed on the third row.

5-8-2. SDI3/4 OUT SET

Allows you to assign video signals to output from video output connectors SDI3 and 4.

SDI 3/4 OUT SET	7 3
ASSIGN: CONV1	
525/60 >> 1080/59i	

Menu button

OUT SEL
MODE

Parameter	Default	Setting range	Description
ASSIGN	CONV1	CONV1 CONV2	Selects whether to output CONV1 or CONV2 signal from the SDI3 and 4 connectors.
—	—	—	The input signal format and SDI3 and 4 output signal formats are displayed on the third row.

5-8-3. COMPOSITE SET

Allows you to assign video signals to output from the COMPOSITE video output connector.

COMPOSITE SET	7 4
ASSIGN: CONV1	
5 2 5 / 6 0 >> 5 2 5 / 6 0	

Menu button

OUT SEL
MODE

Parameter	Default	Setting range (Steps)	Description
ASSIGN	CONV1	CONV1 CONV2	Selects whether to output CONV1 or CONV2 signal from the COMPOSITE connector.
—	—	—	The input signal format and COMPOSITE output signal format are displayed on the third row.

* If the assigned CONV1 or CONV2 signal is an HD signal, the COMPOSITE output will be a black video. See the below Composite Output Format Table for details.

Composite Output Format Table

CONV1 and 2 output signals	Output signal from COMPOSITE connector
525/60	CONV1,2 signals in 525/60
625/50	CONV1,2 signals in 625/50
1080/59i	B.B. in 525/60
1080/50i	B.B. in 625/50
1080/24PsF	B.B. in 625/50
1080/23.98PsF	B.B. in 525/60
720/59p	B.B. in 525/60
720/50p	B.B. in 625/50
1080/59p	B.B. in 525/60
1080/50p	B.B. in 625/50

5-8-4. COMPONENT SET

Allows you to assign video signals to output from the FA-95AIO video output connectors.
Effective only if the FA-95AIO option is installed.

COMPONENT SET	7 5
ASSIGN: CONV1	
525/60 >> 1080/59i	
OUTPUT: YPbPr SMPTE	

Menu button

OUT SEL
MODE

Parameter	Default	Setting range	Description
ASSIGN	CONV1	CONV1 CONV2	Selects whether to output CONV1 or CONV2 signal from the ANALOG COMPONENT OUT connector.
—	—	—	The input signal format and analog component output signal format are displayed on the third row.
OUTPUT	YPbPr SMPTE	YPbPr SMPTE YPbPr BETACAM RGB Y/C	Selects a format for the analog component output (FA-95AIO). SMPTE and BETACAM are SD-SDI output formats.

- * The FA-95AIO connector outputs a black video if the output signal from the selected CONV1 or CONV2 is 1080p and MODE is set to YPbPr or RGB. See the below YPbPr/RGB Output Format table for details.
- * The FA-95AIO connector outputs a black video if the output signal from the selected CONV1 or CONV2 is an HD signal and MODE is set to Y/C. See the below Y/C Output Format table for details.

YPbPr/RGB Output Format

CONV1 or 2 output signal	FA-95AIO YPbPr/RGB output signal
525/60	525/60 signal in CONV1 or 2
625/50	625/50 signal in CONV1 or 2
1080/59i	1080/59i signal in CONV1 or 2
1080/50i	1080/50i signal in CONV1 or 2
1080/24PsF	1080/24PsF signal in CONV1 or 2
1080/23.98PsF	1080/23.98PsF signal in CONV1 or 2
720/59p	720/59p signal in CONV1 or 2
720/50p	720/50p signal in CONV1 or 2
1080/59p	1080/59i black video
1080/50p	1080/50i black video

Y/C Output format

CONV1 or 2 output signal	Y/C output signal
525/60	525/60 signal in CONV1 or 2
625/50	625/50 signal in CONV1 or 2
1080/59i	525/60 BB signal
1080/50i	625/50 BB signal
1080/24PsF	625/50 BB signal
1080/23.98PsF	525/60 BB signal
720/59p	525/60 BB signal
720/50p	625/50 BB signal
1080/59p	525/60 BB signal
1080/50p	625/50 BB signal

5-9. VIDEO OPTION (VIDEO OP)

5-9-1. Logo Generator

The logo generator allows you to superimpose logos to FA-9500 outputs for each converter. Run the FA-95 LG GUI, which can be downloaded from FOR-A's website, on a PC to register logos to the FA-9500 via Ethernet. See the FA-95LG GUI Operation Manual (downloaded with the software) for details on logo management.

The **VIDEO OP/AUDIO OP** button LED flashes red while storing logo data to the FA-9500 from the FA-95LG GUI. Once the data is stored, it will be transmitted to the video memory. The **VIDEO OP/AUDIO OP** button LED flashes green during this transmission. Do not turn the power of the unit off while the button is flashing in order not to obstruct the data storage process.

IMPORTANT

The FA-9500 front panel button/control operation, and web browser will be slowed down while storing logo data using FA-95LG GUI. Complete necessary settings before storing logo data.

5-9-1-1. CONV1 LOGO SEL

Allows you to select a logo function mode for CONVERTER1.

CONV1 LOGO SEL	401
LOGO ID: 1	
NAME: FOR A	
LOGO FORMAT: HD 1080	
CONV1: 1080/59i	

Menu button

VIDEO OP
AUDIO OP

Parameter	Default	Setting range	Description
LOGO ID	1	1-256	Selects a logo to be output to CONV 1 output.
NAME *1	-	-	Displays the registered name of the ID-selected logo. Displays "-----" if the logo is not registered.
LOGO FORMAT *1	-	-	Displays the format of the ID-selected logo. Logo formats: SD 525, SD 625, HD 1080, HD 720 Displays "-----" if the logo is not registered.
CONV1 *2	-	-	Displays the video format of the Converter 1 output signal.

*1 NAME and LOGO FORMAT can be registered for each logo ID via FA-95LG GUI. See the separate FA-95LG GUI Operation Manual for details.

*2 The video format displayed under CONV1 and the logo format displayed under LOGO FORMAT must match. Otherwise no logo will be displayed even if KEYER in section 5-9-1-2 "CONV1 KEYER SET" is turned On.

5-9-1-2. CONV1 KEYER SET

Allows you to set a keyer for CONVERTER 1.

CONV1 KEYER SET		4 0 2
KEYER :	OFF	
LEVEL :	100 %	
H POS :	0 PIXEL	
V POS :	0 LINE	

Menu button

VIDEO OP
AUDIO OP

Parameter	Default	Setting range (Steps)	Description
KEYER	OFF	OFF ON	Allows you to enable or disable the keyer for the Converter 1 output signal. ON: Enables display of logos selected in the CONV1 LOGO SEL menu (5-9-1-1).
LEVEL ^{*1}	100%	0-100% (0.1%)	Allows you to set a key level for a logo to be output to the Converter 1 output signal.
H POS ^{*1}	0	^{*2} (2 Pixel)	Allows you to set the horizontal position for a logo to be output to the Converter 1 output signal.
V POS ^{*1}	0	^{*2} (1 Line)	Allows you to set the vertical position for a logo to be output to the Converter 1 output signal.

^{*1} Key level and position settings are saved for each logo ID. Changing logo settings for Converter 1 will also change the logo settings of Converter 2 using the same logo.

^{*2} Actual logo position differs depending on the logo format selected when registering the logo. See section 5-9-1-5 "Logo Position Setting Range" for details.

LEVEL and H/V POS settings are disabled under the following conditions:

- No logo is assigned to the logo ID selected under LOGO ID in the 5-9-1-1 CONV1 LOGO SEL menu.
- Different formats are displayed for LOGO FORMAT and CONV1 in the 5-9-1-1 CONV1 LOGO SEL menu.

CONV1 KEYER SET		4 0 2
KEYER :	ON	
LEVEL :	NOT ADJ	
H POS :	NOT ADJ	
V POS :	NOT ADJ	

5-9-1-3. CONV2 LOGO SEL

Allows you to select a logo function mode for CONVERTER2.

CONV2 LOGO SEL	403
LOGO ID: 1 NAME: FOR A LOGO FORMAT: HD 1080 CONV1: 1080/59i	

Menu button

VIDEO OP
AUDIO OP

Parameter	Default	Setting range	Description
LOGO ID	1	1-256	Selects a logo to be output to CONV 2 output.
NAME ^{*1}	-	-	Displays the registered name of the ID-selected logo. Displays "-----" if the logo is not registered.
LOGO FORMAT ^{*1}	-	-	Displays the format of the ID-selected logo. Logo formats: SD 525, SD 625, HD 1080, HD 720 Displays "-----" if the logo is not registered.
CONV2 ^{*2}	-	-	Displays the video format of the Converter 2 output signal.

*1 NAME and LOGO FORMAT can be registered for each logo ID via FA-95LG GUI. See the separate FA-95LG GUI Operation Manual for details.

*2 The video format displayed under CONV2 and the logo format displayed under LOGO FORMAT must match. Otherwise no logo will be displayed even if KEYER in section 5-9-1-4 "CONV2 KEYER SET" is turned ON.

5-9-1-4. CONV2 KEYER SET

Allows you to set a keyer for CONVERTER 2.

CONV2 KEYER SET	4 0 4
KEYER : OFF	
LEVEL : 100%	
H POS : 0 PIXEL	
V POS : 0 LINE	

Menu button

VIDEO OP
AUDIO OP

Parameter	Default	Setting range (Steps)	Description
KEYER	OFF	OFF ON	Allows you to enable or disable the keyer for the Converter 2 output signal. ON: Enables to display logos selected in the 5-9-1-3 CONV2 LOGO SEL menu.
LEVEL ^{*1}	100%	0-100% (0.1%)	Allows you to set a key level for a logo to be output to the Converter 2 output signal.
H POS ^{*1}	0	^{*2} (2 Pixel)	Allows you to set the horizontal position for a logo to be output to the Converter 2 output signal.
V POS ^{*1}	0	^{*2} (1 Line)	Allows you to set the vertical position for a logo to be output to the Converter 2 output signal.

^{*1} Key level and position settings are saved for each logo ID. Changing logo settings for Converter 2 will also change the logo settings of Converter 1 using the same logo.

^{*2} Actual logo position differs depending on the logo format selected when registering the logo. See section 5-9-1-5 "Logo Position Setting Range" for details.

LEVEL and H/V POS settings are disabled under the following conditions:

- No logo is assigned to the logo ID selected under LOGO ID in the 5-9-1-3 CONV2 LOGO SEL menu.
- Different formats are displayed for LOGO FORMAT and CONV2 in the 5-9-1-3 CONV2 LOGO SEL menu.

CONV2 KEYER SET	4 0 4
KEYER : ON	
LEVEL : NOT ADJ	
H POS : NOT ADJ	
V POS : NOT ADJ	

5-9-1-5. Logo Position Setting Range

Positional settings will vary according to the logo formats as shown below.

Logo Format	H POS setting range	V POS setting range
SD 525	0 to 718	0 to 486
SD 625	0 to 718	0 to 575
HD 1080	0 to 1918	0 to 1079
HD 720	0 to 1278	0 to 719

The logo format selection is saved for each logo ID using FA-95LG GUI. See the separate FA-95LG GUI Operation Manual for details.

5-10. VIDEO SYSTEM (VIDEO SYS)

5-10-1. FS MODE SET

Allows you to set the FS (Frame Synchronizer) operation modes.

FS MODE SET	9 1
SYNCHRO : FRAME	
SYNC FRMT : AUTO DET	
FRAME DELAY : OFF	
FORCED FIELD : OFF	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
SYNCHRO ^{*1} ^{*3} ^{*4} ^{*5} ^{*6}	FRAME	FRAME LINE AVDL ^{*7} INPUT ^{*1}	FRAME: Enables horizontal and vertical alignment of video signals to a genlock signal. Effective on both synchronous and asynchronous signals. LINE: Locks the video signal of within $\pm 1/2H$ to a genlock signal. Output delay is 1H. Effective only when video signal is synchronous to the genlock signal. AVDL: Locks the video signal to a genlock signal with a 1H delay. Effective only when video signal is synchronous to the genlock signal. INPUT: Locks the system to an input video signal. The delay can be adjusted by System Phase and/or Frame Delay. However, the minimum delay is 520clk common in all formats. (HD: 74MHz, SD: 27MHz) Does not use a genlock signal.
SYNC FRMT ^{*8}	AUTO DET	AUTO DET 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23f 1080/24f 1080/59p 1080/50p	Sets a system format for the FA-9500. AUTO DET: Detects and sets the detected input video format to the system format. Other values make the system work in the format.
FRAME DELAY ^{*2} ^{*3}	OFF	OFF 1 FRAME to 8 FRAME	Sets the amount of frame delay.
FORCED FIELD ^{*2} ^{*4}	OFF	OFF ODD EVEN	Selects which field to be used twice to compose a frame. (Effective on composite signal inputs.)

*1 Setting SYNCHRO to INPUT cannot synchronize the system with an invalid composite signal input. In such case, set SYNCHRO to FRAME. Also, when SYNCHRO is set to INPUT, the horizontal and vertical phases of the system need to be offset by more than 1 line to keep the delay between CONVERTER and BY-PASS outputs to within 1 frame. See 5-3 "CONV1", 5-4 "CONV2", 5-10-6 "HD PHASE SET", and 5-10-7 "SD PHASE SET" for details. However, if a progressive signal format is selected for SYNC FRMT, the output delay between CONVERT and BY-PASS is fixed at 2 frames.

*2 Selecting ODD/EVEN for FORCED FIELD, while IN SEL in section 5-7-1 "VIDEO INPUT SET" is set to COMPOSITE, SYNCHRO to FRAME, and FRAME DELAY is set to OFF, FRAME DELAY will always reset to 1 frame. Set FRAME DELAY between 1 and 8 frames.

*3 FRAME DELAY cannot be set if SYNCHRO is set to LINE or AVDL. In such case, the menu will be displayed as "FRAME FRAME DELAY: NOT ADJ".

*4 FORCED FIELD cannot be set if SYNCHRO is set to LINE, AVDL, or INPUT. In such case, the menu will be displayed as "FORCED FIELD: NOT ADJ".

*5 The FREEZE function via GPI input is disabled if SYNCHRO is set to LINE, AVDL, or INPUT. See section 7-4 "GPI SETTING" for details.

*6 Changing the SYNCHRO setting will reset V 1080 and V 720 settings in section 5-10-6 "HD PHASE SET" and the V PHASE setting in section 5-10-7 "SD PHASE SET" to their default values according to the set SYNCHRO mode.

- *7 Switching input signals with a phase difference using a router or such device may cause shock noise to occur on video or audio signals if the phase difference (compared to the genlock signal) exceeds the range shown in the following table. If the difference is within range, shock noise will not occur.

Video format	Phase difference from genlock signal
SD	-1H (with line differences depending on video format) to +1/2H
HD	-5H (with line differences depending on video format) to +1/2H

Table of Reference signals and Input formats that can lock

Input signal	Reference signal							
	525/60	1080/59i	720/59p	625/50	1080/50i	720/50p	1080/23PsF	1080/24PsF
525/60	✓✓✓	✓✓✓	✓	-	-	-	✓	-
1080/59i	✓✓✓	✓✓✓	✓	-	-	-	✓	-
720/59p	✓✓✓	✓✓✓	✓✓✓	-	-	-	✓	-
1080/59p	✓✓✓	✓✓✓	✓✓✓	-	-	-	✓	-
625/50	-	-	-	✓✓✓	✓✓✓	✓	-	✓
1080/50i	-	-	-	✓✓✓	✓✓✓	✓	-	✓
720/50p	-	-	-	✓✓✓	✓✓✓	✓✓✓	-	✓
1080/50p	-	-	-	✓✓✓	✓✓✓	✓✓✓	-	✓
1080/23PsF	✓	✓	✓	-	-	-	✓✓✓	-
1080/24PsF	-	-	-	✓	✓	✓	-	✓✓✓

✓✓✓: SYNCHRO can be set to FRAME, LINE, or AVDL.

✓: SYNCHRO can only be set to FRAME.

-: Unable to synchronize.

- *8 If an FA-95CO option is installed and TRIGGER is set to ENABLE in 5-7-6. FORMAT ERROR TRG, a change cannot be made.

5-10-2. FREEZE SET

Allows you to set an operation mode for FREEZE.

FREEZE SET	9 2
FREEZE : OFF	
MODE : FRAME	
STROBE : OFF	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
FREEZE ^{*1}	OFF	OFF, ON	Turns FREEZE ON/OFF.
MODE ^{*2}	FRAME	FRAME ODD, EVEN	Select an operation mode for FREEZE.
STROBE	OFF	OFF 1 - 255	Sets the interval to refresh the images by the number of fields for the field or frame freeze. OFF: Images are not refreshed.

- *1 Changing the SYNCHRO setting in section 5-10-1 "FS MODE SET" while FREEZE is set to ON will turn FREEZE OFF. FREEZE cannot be set to ON if SYNCHRO is set to LINE or AVDL. FREEZE is always set to OFF at startup. These settings are not stored in the event memory.

FREEZE SET	9 2
FREEZE : NOT ADJUST	
MODE : NOT ADJUST	
STROBE : NOT ADJUST	
FS MODE IS NOT FRAME	

When FREEZE is ON:

VIDEO SYS
AUDIO SYS

button flashes.

*2 If the input signal is a PsF signal, MODE is automatically set to FRAME and the setting cannot be changed. See the following FREEZE MODE table for details.

FREEZE Mode Table

SYS FRMT setting	Input signal									
	525/60	625/50	1080/59i	1080/50i	720/59p	720/50p	1080/23PsF	1080/24PsF	1080/59p	1080/50p
AUTO	OE	OE	OE	OE	F	F	F	F	F	F
525/60	OE	NOE	NOE	NOE	NOE	NOE	NOE	NOE	NOE	NOE
625/50	NOE	OE	NOE	NOE	NOE	NOE	NOE	NOE	NOE	NOE
1080/59i	NOE	NOE	OE	NOE	NOE	NOE	NOE	NOE	NOE	NOE
1080/50i	NOE	NOE	NOE	OE	NOE	NOE	NOE	NOE	NOE	NOE
720/59p	NF	NF	NF	NF	F	NF	NF	NF	NF	NF
720/50p	NF	NF	NF	NF	NF	F	NF	NF	NF	NF
1080/23PsF	NF	NF	NF	NF	NF	NF	F	NF	NF	NF
1080/24PsF	NF	NF	NF	NF	NF	NF	NF	F	NF	NF
1080/59p	NF	NF	NF	NF	NF	NF	NF	NF	F	NF
1080/50p	NF	NF	NF	NF	NF	NF	NF	NF	NF	F

OE: Can be set to FRAME, ODD, or EVEN.

F: Fixed to FRAME.

NOE: Can be set to FRAME, ODD, or EVEN, but the image does not appear properly.

NF: Fixed to FRAME, and the image does not appear properly.

See section 5-10-1 "FS MODE SET" for the SYS FRMT.

5-10-3. COMPOSITE SET

COMPOSITE SET	9 3
COMB FILTER : 3D	
NR LEVEL : OFF	
CROSS COLOR : OFF	
NTSC SETUP : OFF	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
COMB FILTER	2D	3D 2D TRAP	Selects a mode to separate the Y (luminance) and C (chrominance) of composite signals.
NR LEVEL	OFF	OFF LEVEL1 - 4	Sets the noise reduction level for the composite signal inputs.
CROSS COLOR	OFF	OFF LEVEL1 - 3	Sets the cross color (noise) reduction level.
NTSC SETUP ^{*1}	OFF	OFF ON	Select OFF when using signals without 7.5 IRE setup. Select ON when using signals with 7.5 IRE setup.

*1 This parameter will not be displayed when the FA-95AIO option is installed. It is supported in the NTSC SETUP menu (section 5-15).

5-10-4. VIDEO SUB

Black and white video and VITS signal settings.

VIDEO SUB	9 4
BLK/WHT : OFF	
VITS : OFF	
CONV DLY ADJ : OFF	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
BLK/WHT	OFF	OFF ON	Turn ON for black and white video signals.
VITS	OFF	OFF ON	ON: Passes through VITS (V-ANC) lines 10 to 21 (NTSC), or 6 to 23 (PAL) of composite input signals. For SD-SDI output signals, inserts VITS lines into Y signals.
CONV DLY ADJ	OFF	OFF ON	Allows you to align unprocessed output video signal phases to those of processed video signals delayed by processing. ON: Aligns CONV1 and 2 output video signal phases and adjusts audio delay. See the table below for the delay amounts.

◆ Automatic Delay Adjustment by the CONV DLY ADJ function

If CONV1 is set to:	If CONV2 is set to:	CONV1 Output delay	CONV2 Output delay	Audio output delay (SDI/AES/Analog audio channels)
BY-PASS	BY-PASS	0	0	0
Other than BY-PASS	BY-PASS	Delay ^{*1} produced by conversion	Auto adjustment ^{*1}	Auto adjustment ^{*1}
BY-PASS	Other than BY-PASS	Auto adjustment ^{*1}	Delay ^{*1} produced by conversion	Auto adjustment ^{*1}

*1 The amount of delay varies depending on the input format. Progressive format signals require 2 frames, and other format signals require 1 frame.

5-10-5. TEST SIGNAL

Internal test signal settings.

Video and audio signal processing will stop and a test signal will be output from all output connectors.

TEST SIGNAL	9 5
VIDEO : OFF	
AUDIO : OFF	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
VIDEO	OFF	OFF FULL CB 75% CB SMPTE CB RAMP	Selects an internal video test signal.
AUDIO	OFF	OFF 1KHzTONE	Selects an internal audio test signal

If VIDEO and AUDIO of the TEST SIGNAL menu are set to other than OFF:

VIDEO SYS
AUDIO SYS

button flashes.

5-10-6. HD PHASE SET

H D P H A S E S E T			9 6
H	1 0 8 0 :	0 C L K	
V	1 0 8 0 :	0 L I N E	
H	7 2 0 :	0 C L K	
V	7 2 0 :	0 L I N E	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range (Steps)	Description
H 1080 ^{*1} (Horizontal Phase)	0	-1375 - 1375 (CLK)	Adjusts the horizontal and vertical phases of the system referring to genlock signal. This setting is applied to 1080-format output signals.
V 1080 ^{*1 *2} (Vertical Phase)	0 ^{*3} (FRAME,INPUT) 1 ^{*3} (LINE,AVDL)	-563 - 563 (LINE)	
H 720 ^{*1} (Horizontal Phase)	0	-2063 - 2063 (CLK)	Adjusts the horizontal and vertical phases of the system referring to genlock signal. This setting is applied to 720-format output signals.
V 720 ^{*1 *2} (Vertical Phase)	0 ^{*3} (FRAME,INPUT) 1 ^{*3} (LINE,AVDL)	-375 - 375 (LINE)	

*1 The settings are not available if there is no reference signal input. In such case, the menu as shown below will be displayed.

H D P H A S E S E T			9 6
H	1 0 8 0 :	N O T A D J U S T	
V	1 0 8 0 :	N O T A D J U S T	
H	7 2 0 :	N O T A D J U S T	
V	7 2 0 :	N O T A D J U S T	

*2 Set V PHASE to more than 1 line when setting SYNCHRO mode to INPUT.

*3 The default value varies depending on the SYNCHRO setting in section 5-10-1 "FS MODE SET" and the IN SEL setting in section 5-7-1 "VIDEO INPUT SET" as shown in the below table. The set value will be reset to its relevant default value whenever the SYNCHRO setting is changed.

SYNCHRO	IN SEL	Default
FRAME	—	0
LINE	SDI1, 2	1
	COMPOSITE (525/60)	3
	COMPOSITE (625/50)	4
	COMPONENT (Y/C)	4
	COMPONENT (others)	1
AVDL	SDI1, 2	1
	COMPOSITE (525/60)	3
	COMPOSITE (625/50)	4
	COMPONENT (Y/C)	4
	COMPONENT (others)	1
INPUT	SDI1, 2	0
	COMPOSITE (525/60)	2
	COMPOSITE (625/50)	3
	COMPONENT (Y/C)	4
	COMPONENT (others)	1

5-10-7. SD PHASE SET

SD PHASE SET			9 7
H	PHASE :	0 CLK	
V	PHASE :	0 LINE	
SC	PHASE :	0.0°	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range (Steps)	Description
H PHASE ^{*1}	0	-864 - 864 (CLK)	Adjusts the horizontal and vertical phases of the system referring to genlock signal. This setting is applied to SD output signals.
V PHASE ^{*1 *2}	0 ^{*3} (FRAME, INPUT) 1 ^{*3} (LINE, AVDL)	-313 - 313 (LINE)	
SC PHASE ^{*1}	0.0°	-179.8° - 180° (0.2°)	Adjusts the subcarrier phase of composite and Y/C output signals referring to the B.B. genlock signal. Not adjustable with the tri-level genlock signal. In such case, the menu will appear as "NOT ADJUST".

*1 The settings are not available if there is no reference signal input. In such case, the menu as shown below will be displayed.

SD PHASE SET			9 7
H	PHASE :	NOT ADJUST	
V	PHASE :	NOT ADJUST	
SC	PHASE :	NOT ADJUST	

*2 Set V PHASE to more than 1 line when setting SYNCHRO mode to INPUT.

*3 The default value varies depending on the SYNCHRO setting in section 5-10-1 "FS MODE SET" and the IN SEL setting in section 5-7-1 "VIDEO INPUT SET" as shown in the below table. The set value will be reset to its relevant default value whenever the SYNCHRO setting is changed.

SYNCHRO	IN SEL	Default
FRAME	—	0
LINE	SDI1, 2	1
	COMPOSITE (525/60)	3
	COMPOSITE (625/50)	4
	COMPONENT (Y/C)	4
	COMPONENT (others)	1
AVDL	SDI1, 2	1
	COMPOSITE (525/60)	3
	COMPOSITE (625/50)	4
	COMPONENT (Y/C)	4
	COMPONENT (others)	1
INPUT	SDI1, 2	0
	COMPOSITE (525/60)	2
	COMPOSITE (625/50)	3
	COMPONENT (Y/C)	4
	COMPONENT (others)	1

5-10-8. VIDEO POSITION

VIDEO POSITION		98
H POS:	0 PIXEL	
V POS:	0 LINE	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range (Steps)	Description
H POS	0	525/60 ±92 625/50 ±92 1080/59i ±240 1080/50i ±240 1080/23PsF ±240 1080/24PsF ±240 720/59p ±160 720/50p ±160 1080/59p ±240 1080/50p ±240 (SD: 4 PIXEL) (HD: 2 PIXEL)	Adjusts the horizontal/vertical position of output videos.
V POS	0	525/60 ±30 625/50 ±36 1080/59i ±68 1080/50i ±68 1080/23PsF ±68 1080/24PsF ±68 720/59p ±90 720/50p ±90 1080/59p ±135 1080/50p ±135 (LINE)	

5-10-9. CONV1 ANC SET

CONV1 ANC SET	99
ANC MODE:H/V ANC	
H ANC:OVERWRITE	
V ANC:BLANK	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
ANC MODE	H/V ANC	H/V ANC DETAIL	Selects ancillary data processing mode for the CONV1 output signal. H ANC and V ANC menu settings will become available when H/V ANC is selected. DETAIL: Removes all H and V ancillary data, and embeds newly specified ancillary data (such as CC and AFD). Set to DETAIL to enable settings in 5-10-16. "ANC DATA EMBED" and 5-10-17. "ANC EMBED LINE".
H ANC *	OVERWRITE	OVERWRITE IN DATA BLANK	Embeds audio signals into horizontal ancillary data of CONV1 output videos. OVERWRITE: Removes the embedded audio signal from the input SDI video signal, then embeds the processed audio data on the video signal. Whether to embed is determined by the AUDIO GROUP setting in section 5-10-11 "CONV1 AUDIO GROUP". The input SDI data will be embedded on the video signal after audio signals are embedded. IN DATA: Passes the input SDI horizontal ancillary data without processing. (Processed audio data cannot be embedded.) BLANK: Deletes all horizontal ancillary data, and embeds the processed audio data.
V ANC *	PASS	PASS BLANK	Embeds audio signals into vertical ancillary data of CONV1 output videos. PASS: Embeds the vertical ancillary data without processing. BLANK: Deletes all vertical ancillary data.

* H ANC and V ANC settings become available when ANC MODE is set to H/V ANC. H ANC and V ANC settings are effective if input and output formats are the same. If such formats are different, both H ANC and V ANC will be set to BLANK.

5-10-10. CONV2 ANC SET

CONV2 ANC SET	100
ANC MODE: H/V ANC	
H ANC: OVERWRITE	
V ANC: BLANK	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
ANC MODE	H/V ANC	H/V ANC DETAIL	Selects ancillary data processing mode for the CONV2 output signal. H ANC and V ANC menu settings will become available when H/V ANC is selected. DETAIL: Removes all H and V ancillary data, and embeds newly specified ancillary data (such as CC and AFD). Set to DETAIL to enable settings in 5-10-16. "ANC DATA EMBED" and 5-10-17. "ANC EMBED LINE".
H ANC *	OVERWRITE	OVERWRITE IN DATA BLANK	Embeds audio signals into horizontal ancillary data of CONV2 output videos. OVERWRITE: Removes the embedded audio signal from the input SDI video signal, then embeds the processed audio data on the video signal. Whether to embed is determined by the AUDIO GROUP setting in section 5-10-12 "CONV2 AUDIO GROUP". The input SDI data will be embedded on the video signal after audio signals are embedded. IN DATA: Passes the input SDI horizontal ancillary data without processing. (Processed audio data cannot be embedded.) BLANK: Deletes all horizontal ancillary data, and embeds the processed audio data.
V ANC *	PASS	PASS BLANK	Embeds audio signals into vertical ancillary data of CONV2 output videos. PASS: Embeds the vertical ancillary data without processing. BLANK: Deletes all vertical ancillary data.

* H ANC and V ANC settings become available when ANC MODE is set to H/V ANC. H ANC and V ANC settings are effective if input and output formats are the same. If such formats are different, both H ANC and V ANC will be set to BLANK.

5-10-11. CONV1 AUDIO GROUP

Allows you to set whether or not to embed audio signals as a group.

CONV1 AUDIO GRP	1 0 1
GROUP1 : ENABLE	
GROUP2 : ENABLE	
GROUP3 : ENABLE	
GROUP4 : ENABLE	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
GROUP1	ENABLE	DISABLE ENABLE *2	DISABLE: Does not insert the GROUP1 embedded audio. ENABLE: Inserts the GROUP1 embedded audio.
GROUP2	ENABLE	DISABLE ENABLE *2	DISABLE: Does not insert the GROUP2 embedded audio. ENABLE: Inserts the GROUP2 embedded audio.
GROUP3	ENABLE	DISABLE ENABLE *2	DISABLE: Does not insert the GROUP3 embedded audio. ENABLE: Inserts the GROUP3 embedded audio.
GROUP4*1	ENABLE	DISABLE ENABLE *2	DISABLE: Does not insert the GROUP4 embedded audio. ENABLE: Inserts the GROUP4 embedded audio.

*1 GROUP4 embedded audio cannot be inserted into SD-SDI output signals regardless of the GROUP4 setting.

*2 The setting is ineffective if the input and output formats are the same and H ANC is set to IN DATA in the 5-10-9 CONV1 ANC SET menu.

5-10-12. CONV2 AUDIO GROUP

Allows you to set whether or not to embed audio signals as a group.

CONV2 AUDIO GRP	1 0 2
GROUP1 : ENABLE	
GROUP2 : ENABLE	
GROUP3 : ENABLE	
GROUP4 : ENABLE	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
GROUP1	ENABLE	DISABLE ENABLE *2	DISABLE: Does not insert the GROUP1 embedded audio. ENABLE: Inserts the GROUP1 embedded audio.
GROUP2	ENABLE	DISABLE ENABLE *2	DISABLE: Does not insert the GROUP2 embedded audio. ENABLE: Inserts the GROUP2 embedded audio.
GROUP3	ENABLE	DISABLE ENABLE *2	DISABLE: Does not insert the GROUP3 embedded audio. ENABLE: Inserts the GROUP3 embedded audio.
GROUP4*1	ENABLE	DISABLE ENABLE *2	DISABLE: Does not insert the GROUP4 embedded audio. ENABLE: Inserts the GROUP4 embedded audio.

*1 GROUP4-embedded audio cannot be inserted into SD-SDI outputs regardless of the GROUP4 setting.

*2 The setting is ineffective if the input and output formats are the same and H ANC is set to IN DATA in the CONV2 ANC SET menu (Sec. 5-10-10).

5-10-13. SD LINE MASK

SD LINE MASK	1 0 3
LINE SEL : LINE 6	
MASK SET : PASS	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
LINE SEL	LINE6	LINE6 - 23	Selects a line from lines 6 through 23 of an SD-SDI or COMPOSITE output signal.
MASK SET	PASS	PASS BLANK	Sets the line selected in LINE SEL to PASS or BLANK. PASS: Outputs a line of the composite, Y/C ^{*1} , SD-SDI input signal that is the same number as the selected output signal line to a composite, Y/C ^{*1} , SD-SDI output signal without processing. BLANK: Masks the selected composite, Y/C ^{*1} , SD-SDI output signal line.

*1 Selectable only if FA-95AIO option is installed.

IMPORTANT

Ancillary data is embedded in signals at a later step of the process. Embedding will occur if the line mask is set to the same line as that of the ancillary data to be embedded.

5-10-14. ANC DETECT LINE

Allows you to select a line to detect ancillary RP186 VI or BT1119-2 WSS data in input signals.

◆ For RP186 VI

ANC DETECT LINE	1 0 4
ANC : RP186 VI	
FORMAT : 525/60	
FIELD1 : 14 LINE	
FIELD2 : 277 LINE	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
ANC	RP186 VI	RP186 VI BT1119 WSS	Selects an ancillary data standard.
FORMAT	525/60	525/60 625/50	Selects the input signal format.
FIELD1	14 LINE (525/60) 19 LINE (625/50)	12-19 LINE (525/60) 8-22 LINE (625/50)	Selects a line to detect ancillary data in field 1.
FIELD2	277 LINE (525/60) 324 LINE (625/50)	275-282 LINE (525/60) 321-335 LINE (625/50)	Selects a line to detect ancillary data in field 2.

◆ For BT1119 WSS

ANC DETECT LINE	1 0 4
ANC : BT1119 WSS	
FORMAT : 625/50	
FIELD1 : 23 LINE	

Parameter	Default	Setting range	Description
ANC	RP186 VI	RP186 VI BT1119 WSS	Selects an ancillary data standard.
FORMAT	625/60	625/50	Selects the input video format.
FIELD1	23LINE	8-23 LINE	Selects a line to detect ancillary data in field 1.

5-10-15. ANC DETECT SEL

ANC DETECT SEL	1 0 5
CAPTION: CEA608 CC	
AFD: S2016-3 AFD	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
CAPTION *1	CEA608 CC	CEA608 CC S334-1 CC	Select CEA608 CC to process closed caption data in the luminance signal (Y) of 525/60 system. Select S334-1 CC to process closed caption data in ancillary data space of SDI signal.
AFD	S2016-3 AFD	S2016-3 AFD RP186 VI BT1119 WSS	Selects a type of AFD data to be detected for SD input signals.

*1 Be sure to set to CEA608 CC when processing closed caption data in 525/60 composite signals. Otherwise the caption data will not be detected.

5-10-16. ANC DATA EMBED

Allows you to set ancillary data insertion into SDI signal ancillary spaces.

ANC DATA EMBED	1 0 8
ANC: CEA608 CC	
FORMAT: 525/60	
EMBED: DISABLE	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
ANC	CEA608 CC	CEA608 CC S334-1 CC SD CEA708 CC HD S2016-3 AFD RP186 VI BT1119 WSS	Selects an ancillary data type to insert.
FORMAT	-	*	Selects a video format that supports the ancillary data selected under ANC. Only selectable format will be shown.
EMBED	DISABLE	DISABLE CONV1 CONV2 CONV1/2	DISABLE: Does not insert ancillary data selected under ANC. CONV1: Inserts ancillary data selected under ANC into the CONV1 output signal. CONV2: Inserts ancillary data selected under ANC into the CONV2 output signal. CONV1/2: Inserts ancillary data selected under ANC into CONV1 and CONV2 output signals. This value can be set respectively for each selection (S334-1 CC SD to BT1119 WSS) under ANC.

◆ Ancillary Data Types

Data type	Description
CEA608 CC	Closed caption data inserted as Y signals into line 21 of 525/60 analog and SDI signals.
S334-1 CC	Closed caption data inserted as data packets into the ancillary data space of 525/60 SDI signals.
CEA708 CC	Closed caption data inserted as data packets into the ancillary data space of HD-SDI signals.
S2016-3 AFD	Aspect ratio data inserted as data packets into the ancillary data space of SD and HD-SDI signals.
RP186 VI	Aspect ratio data inserted into bit 3 of Chroma data in the SD-SDI V ANC data space.
BT1119 WSS	Aspect ratio data inserted as Y signals into line 23 of 625/50 analog signals.

5-10-17. ANC EMBED LINE

Allows you to select a line of SDI signal ancillary data space to insert closed caption data.

ANC EMBED LINE	109
ANC: CEA608 CC FORMAT: 525/60 FIELD1: 21(284) LINE	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
ANC	CEA608 CC	CEA608 CC S334-1 CC SD CEA708 CC HD S2016-3 AFD RP186 VI BT1119 WSS	Selects a type of ancillary data to insert.
FORMAT	-	*	Selects a video format compatible with the ancillary data selected under ANC. Only compatible Video formats will be displayed.
LINE FIELD1	-	*	Selects a line in ancillary data space into which ancillary data is inserted. A line can be selected for different ANC and FORMAT selections separately. If ANC is set to RP186 VI, this parameter allows you to select a line for FIELD 1. Lines can be selected for fields 1 and 2 respectively.
FIELD2	-	*	If ANC is set to RP186 VI, this parameter allows you to select a line for FIELD 2. Lines can be selected for fields 1 and 2 respectively.

* The setting range varies according to the ancillary data type and video format.

Ancillary data type	FORMAT	LINE	Default
ANC:CEA 608 CC	525/60	FIELD1: 21(284) fixed ^{*1}	
ANC:S334-1 CC SD	525/60	FIELD1:12(275) to 19(282) ^{*1}	FIELD1:12(275) ^{*1}
ANC:CEA708 CC HD	1080i	LINE 9 to 20	LINE 9
	720p	LINE 9 to 25	LINE 9
ANC:S2016-3 AFD	525/60	FIELD1:12(275) to 19(282) ^{*1}	FIELD1:12(275) ^{*1}
	625/50	FIELD1:8(321) to 22(335) ^{*1}	FIELD1:8(321) ^{*1}
	1080i/PsF	LINE 9 to 20	LINE 9
	720p	LINE 9 to 25	LINE 9
	1080p/(3G)	LINE 9 to 41	LINE 9
ANC:RP186 VI	525/60	FIELD1: 12 to 19	FIELD1: 14
		FIELD2: 275 to 282	FIELD2: 277
	625/50	FIELD1: 8 to 22	FIELD1: 11
		FIELD2: 321 to 335	FIELD2: 324
ANC:BT1119 WSS	625/50	FIELD1: 8 to 23	FIELD1: 23

*1 Field2 line number displayed in parentheses.

NOTE
If CEA608 or S334-1 CC closed caption data is detected in the 525/60 input signal, and the CONV1 and/or CONV2 output format/s is/are 1080/59i and/or 720/59p, the detected closed caption data will not be converted to CEA708. The CEA708 closed caption data insertion will be automatically terminated. Meanwhile, if CEA708 closed caption data is detected in the 1080/59i or 720/59p input signal, it will be converted to S334-1 CC or CEA608 CC for 525/60 output signals to output from CONV 1 and/or CONV 2.

IMPORTANT
Closed caption data output will stop when data input is lost. S2016-3 AFD, RP186 VI, and BT1119 WSS ancillary data will be output according to the ANC LOSS SET settings when their data input is lost. See section 5-10-18 “ANC LOSS SET” for details.

◆ **Ancillary data combinations that cannot be simultaneously embedded to the same line.**

Video format	Ancillary data type	S334-1 CC	S2016-3 AFD	RP186 VI	BT1119 WSS
525/60	S2016-3 CC		Can be set to same line	Unable to set to same line	
	S2016-3 AFD	Can be set to same line		Unable to set to same line	
	RP186 VI	Unable to set to same line	Unable to set to same line		
625/50	S2016-3 AFD			Unable to set to same line	Unable to set to same line
	RP186 VI		Unable to set to same line		Can be set to same line
	BT1119 WSS		Unable to set to same line	Can be set to same line	

If the same line is set for the ancillary data combination described as “Unable to set to same line”, and both ancillary data types are set to be embedded in the ANC DATA EMBED menu (see Sec. 5-10-16), an asterisk “*” will appear next to the selected data type as an error

message. If the sign is displayed, ancillary data will not be properly embedded. The line settings must be properly set. Usually the default value will properly embed the ancillary data. Keep this in mind when changing the value to configure a system with other devices.

Error message example:

ANC EMBED LINE	109
ANC: *RP186 VI	
FORMAT: 525/60	
FIELD1: *12 LINE	
FIELD2: *275 LINE	

5-10-18. ANC LOSS SET

Allows you to select an operation mode when input AFD data is lost, or unsupported AFD code is input.

ANC LOSS SET	110
ANC : S2016-3 AFD	
FORMAT : SD	
MODE : REMOVE	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
ANC	S2016-3 AFD	S2016-3 AFD RP186 VI BT1119 WSS	Selects an ancillary data type to insert into the SDI signal.
FORMAT	SD	SD HD ^{*1}	Selects a video format compatible with the ancillary data selected under ANC. Only compatible Video formats will be displayed
MODE	REMOVE	If FORMAT is set to SD REMOVE ^{*2} HOLD ^{*2} 4:3 L 16:9 T ^{*2} 4:3 L14:9 T ^{*2} 4:3 L>16:9 ^{*2} 4:3 F 4:3 ^{*2} 4:3 L16:9PRTD ^{*2} 4:3 L 14:9 ^{*2} 4:3 F ALT14:9 ^{*2} 4:3 L ALT14:9 4:3 L ALT 4:3 16:9 L>16:9 16:9 F FRM ^{*2} 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9P ALT14:9 16:9F ALT14:9 16:9 F ALT4:3	MODE can be set for respective ANC and FORMAT selections. REMOVE: Does not embed the ancillary data to either CONV1, or 2. HOLD: Retains the last ancillary data aspect ratio and outputs video signal in the aspect ratio. Other values operate according to the selected AFD as an input AFD. BT1119 WSS selected under ANC can only select AFD codes indicated by ^{*2} .
		If FORMAT is set to HD REMOVE HOLD 16:9 L>16:9 16:9 F 16:9 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9P ALT14:9 16:9F ALT14:9 16:9F ALT4:3	

*1 HD is selectable only when ANC is set to S2016-3.

5-10-19. WSS AFD ERROR

Allows you to select the operation mode when the aspect ratio conversion result is not standardized by WSS, and embedding WSS AFD ancillary data to CONV1 and/or 2 is enabled.

WSS AFD ERROR	111
MODE: REMOVE	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
MODE	REMOVE	REMOVE F 4:3	REMOVE: Does not embed BT1119 WSS to CONV1 and/or 2. F 4:3: Embeds BT1119 WSS F 4:3 (code 8) to CONV1 and/or 2.

5-11. NTSC SETUP

This menu, which allows you to set the analog composite, Y/Pb/Pr, or Y/C NTSC input and output signal settings, is accessible only if the FA-95AIO option is installed.

NTSC SETUP	1 1 4
NTSC SETUP: ON	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
NTSC SETUP	OFF	OFF ON	Set to OFF for signals without 7.5 IRE setup. Set to ON for signals with 7.5 IRE setup.

5-12. PAL-M MODE SET

Allows PAL-M signals to be output from the COMPOSITE OUT and Y/C^{*1} connectors.

PAL-M MODE SET	1 1 5
MODE: DISABLE	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
MODE	DISABLE	DISABLE ENABLE	DISABLE: Allows NTSC signals to be output. ENABLE: Allows PAL-M signals to be output. ^{*2}

*1 Y/C output is supported only if the FA-95AIO option is installed and Y/C output is selected.

*2 This setting enables PAL-M output for COMPOSITE OUT and Y/C^{*1} outputs, however, NTSC signal output will be disabled.

To synchronize the PAL-M output, input a PAL-M BB or 59.94/29.97 Hz tri-level sync signal to the GENLOCK IN connector. (NTSC BB signals cannot synchronize PAL-M output signals.)

PAL signals can always be input and output regardless of this setting.

5-13. Various Signal Status Display (STATUS)

5-13-1. UNIT ALARM

UNIT ALARM	5 0 1
FAN1: NORMAL	
FAN2: NORMAL	
DC POWER1: NORMAL	
DC POWER2: NORMAL	

Menu button

STATUS
OTHER

Parameter	Display	Description
FAN1	NORMAL STOPPED	Displays the status of FAN1. NORMAL: Operating normally. STOPPED: FAN1 has stopped. Turn the unit power OFF, and contact your dealer if the replacement is needed.
FAN2	NORMAL STOPPED	Displays the status of FAN2. NORMAL: Operating normally. STOPPED: FAN2 has stopped. Turn the unit power OFF, and contact your dealer if the replacement is needed.
DC POWER1 ^{*1}	NORMAL ABNORMAL	Displays the status of DC POWER1. NORMAL: The power supply is normal. ABNORMAL: DC POWER1 has failed. A power failure has occurred. Although the unit is working properly, It is recommended that the power supply unit be replaced. Contact your dealer if a replacement is necessary.
DC POWER2 ^{*1}	NORMAL ABNORMAL	Displays the status of DC POWER2. NORMAL: The power supply is normal. ABNORMAL: DC POWER2 has failed. A power failure has occurred. Although the unit is working properly, It is recommended that the power supply unit be replaced. Contact your dealer if a replacement is necessary.

^{*1} Displayed only if FA-95PS is installed.

5-13-2. VIDEO IN STATUS

VIDEO IN STATUS	502
SDI1 : 1080/59i	
SDI2 : 525/60	
COMPOSITE : 525/60	
REFERENCE : 525/60	

Menu button

STATUS
OTHER

Parameter	Display	Description
SDI1	LOSS 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF 1080/59p 1080/50p BY-PASS UNKNOWN	Displays the video format of the SDI1 input signal. Displays " LOSS " if there is no input signal. Displays " UNKNOWN " if there is an unsupported input signal.
SDI2	LOSS 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF 1080/59p 1080/50p BY-PASS UNKNOWN -----	Displays the video format of the SDI2 input signal. Displays " LOSS " if there is no input signal. Displays " UNKNOWN " if there is an unsupported input signal. Displays "-----" if the FA-95AIO option is installed and VIDEO INPUT SET (section 5-7-1) is set to YPbPr SMPTE, YPbPr BETACAM, RGB, or Y/C
COMPOSITE	LOSS 525/60 625/50 BY-PASS	Displays the video format of the COMPOSITE input signal. Displays " LOSS " if there is no input signal.
REFERENCE	LOSS 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF PAL-M ^{*1} UNKNOWN	Displays the video format of the genlock input signal. Displays " LOSS " if there is no input signal. Displays " UNKNOWN " if there is an unsupported input signal.

*1 Shown when Mode in the 5-12 PAL-M MODE SET is set to ENABLE, and an input signal in GENLOCK IN connector is 525/60 or PAL-M signal.

5-13-3. COMPONENT INPUT

This menu is accessible only if the FA-95AIO option is installed.

COMPONENT INPUT	5 0 3
FORMAT : 5 2 5 / 6 0	
MODE : Y P b P r S M P T E	

Menu button

STATUS
OTHER

Parameter	Display	Description
FORMAT	LOSS 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF BY-PASS UNKNOWN	Displays the video format of the FA-95AIO input signal. Displays " LOSS " if there is no input signal. Displays " UNKNOWN " if there is an unsupported input signal.
MODE	YPbPr SMPTE YPbPr BETACAM RGB Y/C -----	Displays the FA-95AIO input signal format. Displays "-----" if IN SEL in the 5-7-1 "VIDEO INPUT SET" menu is set to SDI 1, SDI 2 or COMPOSITE. See section 5-7-1 "VIDEO INPUT SET" for details on the input signal selection.

5-13-4. VIDEO OUT STATUS

Displays the status of output video signals.

VIDEO OUT STATUS	5 1 1
SDI 1 / 2 : 1 0 8 0 / 5 9 i	
SDI 3 / 4 : 1 0 8 0 / 5 9 i	
COMPOSITE : 5 2 5 / 6 0	

Menu button

STATUS
OTHER

Parameter	Display	Description
SDI1/2	525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF 1080/59p 1080/50p BY-PASS DISABLE	Displays the video format of the SDI1 output signal. Displays " DISABLE " if there is no signal output.
SDI3/4	Same as above	Displays the video format of the SDI2 output signal. Displays " DISABLE " if there is no signal output.
COMPOSITE	525/60 625/50 BY-PASS DISABLE PAL-M	Displays the video format of the COMPOSITE output signal. Displays " DISABLE " if there is no signal output. Displays " PAL-M " if 5-12 "PAL-M MODE SET" is enabled, and the format of the output video signal from COMPOSITE OUT, that is shown in 5-8-3. "COMPOSITE SET" is 525/60.

5-13-5. COMPONENT OUTPUT

This menu is accessible only if the FA-95AIO option is installed.

COMPONENT OUTPUT	512
FORMAT: 525/60	
MODE : YPbPr SMPTE	

Menu button

STATUS
OTHER

Parameter	Display	Description
FORMAT	525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF PAL-M BY-PASS DISABLE	Displays the video format of the FA-95AIO output signal. Displays "DISABLE" if there is no signal output.
MODE	YPbPr SMPTE YPbPr BETACAM RGB Y/C ^{*1}	Displays the format of the FA-95AIO output signal. See section 5-8-4 COMPONENT SET for details on formats.

^{*1} The output video format for Y/C mode is either 525/60,625/50, or PAL-M.

5-13-6. SOURCE AUDIO

SOURCE AUDIO	5 3 1
CH 1 : LOSS	
CH 2 : LOSS	
CH 3 : LOSS	
CH 4 : LOSS	

Menu button

STATUS
OTHER

SOURCE AUDIO	5 3 2
CH 5 : LOSS	
CH 6 : LOSS	
CH 7 : LOSS	
CH 8 : LOSS	

SOURCE AUDIO	5 3 3
CH 9 : LOSS	
CH 10 : LOSS	
CH 11 : LOSS	
CH 12 : LOSS	

SOURCE AUDIO	5 3 4
CH 13 : LOSS	
CH 14 : LOSS	
CH 15 : LOSS	
CH 16 : LOSS	

Parameter	Display	Description
CH1-CH16	LOSS PCM PCM 48kHz PCM 44.1kHz PCM 32kHz PCM Other SILENCE SILENCE 48kHz SILENCE 44.1kHz SILENCE 32kHz SILENCE Other NON-PCM PCM(Async) SILENCE (Async) NON-PCM(Async) IN (Analog) UNKNOWN	Displays the status of audio sources CH1 through CH16 that are selected in the AUDIO MAPPING (MAPPING) menu (6-5). LOSS: No audio signals PCM: Normal audio signal (SDI input) PCM 48kHz: Normal audio signal (AES input approx. 48kHz) PCM 44.1kHz: Normal audio signal (AES input approx. 44.1kHz) PCM 32kHz: Normal audio signal (AES input approx. 32kHz) PCM Other: Normal audio signal (Other AES input) SILENCE: Mute signal (SDI input) SILENCE 48kHz: Mute signal (AES input approx. 48kHz) SILENCE 44.1kHz: Mute signal (AES input approx. 44.1kHz) SILENCE 32kHz: Mute signal (AES input approx. 32kHz) SILENCE Other: Mute signal (Other AES input) NON-PCM: Compressed audio data such as AC3 PCM (Async) : Normal audio signal (Asynchronous SDI input) SILENCE (Async): Mute signal (Asynchronous SDI input) NON-PCM (Async): Compressed audio data such as AC3 (Asynchronous SDI input) IN (ANALOG): Analog audio signal UNKNOWN: Unidentifiable

Displays the status of the selected audio sources CH1 through CH16 that are selected by MAPPING.

5-13-7. SDI 1 IN AUDIO

SDI1 IN AUDIO	535
CH 1:LOSS	
CH 2:LOSS	
CH 3:LOSS	
CH 4:LOSS	

Menu button

STATUS
OTHER

SDI1 IN AUDIO	536
CH 5:LOSS	
CH 6:LOSS	
CH 7:LOSS	
CH 8:LOSS	

SDI1 IN AUDIO	537
CH 9:LOSS	
CH10:LOSS	
CH11:LOSS	
CH12:LOSS	

SDI1 IN AUDIO	538
CH13:LOSS	
CH14:LOSS	
CH15:LOSS	
CH16:LOSS	

Parameter	Display	Description
CH1 - CH16	LOSS PCM SILENCE NON-PCM PCM(Async) SILENCE (Async) NON-PCM (Async) UNKNOWN	Displays the status of audio signal channels CH1 - CH16 of the SDI1 input signal. LOSS: No audio signals PCM: Normal audio signal SILENCE: Mute signal NON-PCM: Compressed audio data such as AC3 PCM (Async) : Normal audio signal (asynchronous) SILENCE (Async): Mute signal (asynchronous) NON-PCM (Async): Compressed audio data such as AC3 (asynchronous) UNKNOWN: Unidentifiable

5-13-8. SDI 2 IN AUDIO

SDI 2 IN AUDIO	5 3 9
CH 1 : LOSS	
CH 2 : LOSS	
CH 3 : LOSS	
CH 4 : LOSS	

Menu button

STATUS
OTHER

SDI 2 IN AUDIO	5 4 0
CH 5 : LOSS	
CH 6 : LOSS	
CH 7 : LOSS	
CH 8 : LOSS	

SDI 2 IN AUDIO	5 4 1
CH 9 : LOSS	
CH 10 : LOSS	
CH 11 : LOSS	
CH 12 : LOSS	

SDI 2 IN AUDIO	5 4 2
CH 13 : LOSS	
CH 14 : LOSS	
CH 15 : LOSS	
CH 16 : LOSS	

Parameter	Display	Description
CH1 - CH16	LOSS PCM SILENCE NON-PCM PCM(Async) SILENCE (Async) NON-PCM(Async) UNKNOWN -----	Displays the status of audio signal channels CH1 - CH16 of the SDI2 input signal. LOSS: No audio signals PCM: Normal audio signal SILENCE: Mute signal NON-PCM: Compressed audio data such as AC3 PCM (Async) : Normal audio signal (asynchronous) SILENCE (Async): Mute signal (asynchronous) NON-PCM (Async): Compressed audio data such as AC3 (asynchronous) UNKNOWN: Unidentifiable Displays "-----" if the FA-95AIO option is installed and the 5-7-1 VIDEO INPUT SET menu is set to YPbPr SMPTE, YPbPr BETACAM, RGB, or Y/C.

5-13-9. AES IN AUDIO

AES IN AUDIO	5 4 3
CH 1 : LOSS	
CH 2 : LOSS	
CH 3 : LOSS	
CH 4 : LOSS	

Menu button

STATUS
OTHER

AES IN AUDIO	5 4 4
CH 5 : LOSS	
CH 6 : LOSS	
CH 7 : LOSS	
CH 8 : LOSS	

Parameter	Display	Description
CH1 - CH8	LOSS PCM 48kHz PCM 44.1kHz PCM 32kHz PCM Other SILENCE 48kHz SILENCE 44.1kHz SILENCE 32kHz SILENCE Other NON-PCM OUTPUT SETTING	Displays the status of the audio signal input to the DIGITAL AUDIO IO connectors. LOSS: No audio signals PCM 48kHz: Normal audio signal (approx. 48kHz) PCM 44.1kHz: Normal audio signal (approx. 44.1kHz) PCM 32kHz: Normal audio signal (approx. 32kHz) PCM Other: Normal audio signal (Non AES input) SILENCE 48kHz: Mute signal (approx. 48kHz) SILENCE 44.1kHz: Mute signal (approx. 44.1kHz) SILENCE 32kHz: Mute signal (approx. 32kHz) SILENCE Other: Mute signal (Non AES input) NON-PCM: Compressed audio data such as AC3 OUTPUT SETTING: Connector is set to output

5-13-10. ANALOG IN AUDIO

ANALOG IN AUDIO	5 4 5
CH 1 : LOSS	
CH 2 : LOSS	
CH 3 : LOSS	
CH 4 : LOSS	

Menu button

STATUS
OTHER

Parameter	Display	Description
CH1 - CH4	LOSS IN	Displays the status of the input audio signal in the ANALOG AUDIO connector. LOSS: No audio signal is present. IN: An audio signal is present.

5-13-11. SDI 1/2 OUT AUDIO

SDI 1/2 OUT AUDIO	5 6 1
CH 1 : PCM	
CH 2 : PCM	
CH 3 : PCM	
CH 4 : PCM	

Menu button

STATUS
OTHER

SDI 1/2 OUT AUDIO	5 6 2
CH 5 : PCM	
CH 6 : PCM	
CH 7 : PCM	
CH 8 : PCM	

SDI 1/2 OUT AUDIO	5 6 3
CH 9 : PCM	
CH 10 : PCM	
CH 11 : PCM	
CH 12 : PCM	

SDI 1/2 OUT AUDIO	5 6 4
CH 13 : PCM	
CH 14 : PCM	
CH 15 : PCM	
CH 16 : PCM	

Parameter	Display	Description
CH1 - CH16	PCM SILENCE NON-PCM UNKNOWN BLANK BY-PASS	Displays the status of audio signal channels CH1 through CH16 of the SDI 1/2 output. PCM: Normal audio signal SILENCE: Mute signal NON-PCM: Compressed audio data such as AC3 UNKNOWN: Unidentifiable BLANK: No audio signal embedding BY-PASS: By-passed through

5-13-12. SDI 3/4 OUT AUDIO

SDI 3/4 OUT AUDIO	5 6 5
CH 1 : PCM	
CH 2 : PCM	
CH 3 : PCM	
CH 4 : PCM	

Menu button

STATUS
OTHER

SDI 3/4 OUT AUDIO	5 6 6
CH 5 : PCM	
CH 6 : PCM	
CH 7 : PCM	
CH 8 : PCM	

SDI 3/4 OUT AUDIO	5 6 7
CH 9 : PCM	
CH 10 : PCM	
CH 11 : PCM	
CH 12 : PCM	

SDI 3/4 OUT AUDIO	5 6 8
CH 13 : PCM	
CH 14 : PCM	
CH 15 : PCM	
CH 16 : PCM	

Parameter	Display	Description
CH1 - CH16	PCM SILENCE NON-PCM UNKNOWN BLANK BY-PASS	Displays the status of audio signal channels CH1 through CH16 of the SDI 3/4 output. PCM: Normal audio signal SILENCE: Mute signal NON-PCM: Compressed audio data such as AC3 UNKNOWN: Unidentifiable BLANK: No audio signal embedding BY-PASS: By-passed through

5-13-13. AES OUT AUDIO

AES OUT AUDIO	5 6 9
CH 1 : PCM	
CH 2 : PCM	
CH 3 : PCM	
CH 4 : PCM	

Menu button

STATUS
OTHER

AES OUT AUDIO	5 7 0
CH 5 : PCM	
CH 6 : PCM	
CH 7 : PCM	
CH 8 : PCM	

Parameter	Display	Description
CH1 - CH8	PCM SILENCE NON-PCM UNKNOWN INPUT SETTING	Displays the status of the audio signal output from the DIGITAL AUDIO IO connectors. PCM: Normal audio signal SILENCE: Mute signal NON-PCM: Compressed audio data such as AC3 UNKNOWN: Unidentifiable INPUT SETTING: Connector is set to input

5-13-14. ANALOG OUT AUDIO

ANALOG OUT AUDIO		5 7 1	Menu button
CH 1 : SILENCE			STATUS OTHER
CH 2 : SILENCE			
CH 3 : SILENCE			
CH 4 : SILENCE			
Parameter	Display	Description	
CH1 - CH4	SILENCE OUT	Displays the status of the output audio signal from the ANALOG AUDIO connector. SILENCE: Mute signal OUT: Output signal is present	

5-13-15. Dolby AUX STATUS

* This menu is available only if FA-95D-D option is installed.

DOLBY AUX STATUS		5 7 3	Menu button
INPUT : LOSS			STATUS OTHER
OUTPUT : NONE			
REFERENCE : LOSS			
Parameter	Display	Description	
INPUT	LOSS PCM NON-PCM UNKNOWN	Displays status or type of signal input to the optional Dolby input connector (Dolby IN). LOSS: No audio signal PCM: Standard audio signal NON-PCM: Compressed audio data such as Dolby E encoded data UNKNOWN: Unknown signal.	
OUTPUT	PCM NON-PCM NONE	Displays status or type of signal output to the optional Dolby output connectors (Dolby OUT). PCM: Standard audio signal NON-PCM: Compressed audio data such as Dolby E encoded data NONE: No signal	
REFERENCE	LOSS 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF UNKNOWN	Displays signal format of reference signal input to the optional Dolby REF IN connector. LOSS: No signal UNKNOWN: Unknown signal format	

5-13-16. AFD IN STATUS

◆ When detecting AFD in input S2016-3

AFD IN STATUS	6 4 1
DETECT : S 2 0 1 6 - 3	
AFD : 0 2 AR : 0	
4 : 3 L 1 6 : 9 T	
D : 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	

Menu button

STATUS
OTHER

AFD: Active Format Description is displayed in hexadecimal format.

AR: Aspect Ratio is displayed in binary format (0=4:3, 1=16:9)

The detected AFD type is shown on the third row.

D: Detected Data1-8 are displayed in hexadecimal format.

◆ When detecting AFD in input RP186 VI

AFD IN STATUS	6 4 1
DETECT : RP186 VI	
AFD : 0 2 SS : 0 0	
4 : 3 L 1 6 : 9 T	
D 1 : 1 0 D 2 : 0 0 D 3 : 0 0	

Displays the status of RP186 VI (Video Index) Class1.

AFD: Active Format Description is displayed in hexadecimal format.

SS: Scanning System is displayed in hexadecimal format.

The detected AFD type is shown on the third row.

D1-D3: Detected Data are displayed in hexadecimal format.

◆ When detecting AFD in input BT1119-2 WSS

AFD IN STATUS	6 4 1
DETECT : BT1119 WSS	
AFD : 0 1	
BOX 1 4 : 9 CENTER	
BIT 1 3 - 0 : 0 0 0 0	

Displays the status of BT1119-2 WSS (Wide Screen Signalling).

AFD: Active Format Description is displayed in hexadecimal format.

The detected AFD type is shown on the third row.

BIT13-0: Detected Bits 13 – 0 are displayed in hexadecimal format.



See section 20-6 “AFD Code Abbreviations” for details on AFD types.

5-14. ANC IN STATUS

ANC IN STATUS	6 5 1
CEA608 : PRESENT L : 2 1	
WSS : ABSENT	
VI : PRESENT L : 1 4 / 2 7 7	

Menu button

STATUS
OTHER

Displays the status of CEA608, WSS, and VI ancillary data in the input signal luminance component.

The line number in which the ancillary data is in is displayed.

5-15. ANC IN STATUS 1-2

ANC IN STATUS 1	6 5 5
DID / SDID : ** / **	
S 3 3 4 - 1 CDP (7 0 8)	
S 3 5 2 M VPID	
- - - - -	

Menu button

STATUS
OTHER

Displays the status of ancillary data packets in an input SDI signal.

Displays the detected DID and SDID of the ancillary data in hexadecimal format, such as DID/SDID: 15/30, if they are different from that of supported formats.

Displays the ancillary data name, such as S334-1CDP(708), if the DID and SDID of the ancillary data match that of supported formats.

See section 19. "FA-9500 Ancillary Data Packet Name List" for details on ancillary data names, and DID and SDID of formats.

The status of up to 8 ancillary data can be displayed.

5-16. CONV1 ANC OUT

CONV1 ANC OUT	6 7 1
CEA 6 0 8 : P R E S E N T	L : 2 1
W S S : A B S E N T	
V I : P R E S E N T	L : 1 4 / 2 7 7

Menu button

STATUS
OTHER

Displays the status of CEA608, WSS, and VI ancillary data inserted into luminance signal of CONV 1 output.

The line number in which the ancillary data is in is displayed.

Displays PRESENT if ancillary data is inserted. Displays ABSENT if no ancillary data is inserted.

If ANC MODE is set to H/V ANC, the state of the V ANC setting (PASS or BLANK) will be displayed. In such case, no line number will be displayed. (See section 5-10-9 CONV1 ANC SET for details on ANC MODE and V ANC setting.)

5-16-1. CONV1 S2016 OUT

Displays whether the S2016-3 ancillary data is inserted into CONV 1 output video signal.

◆ When no S2016-3 is in the CONV1 output video signal

CONV1 S2016 OUT	6 7 2
S 2 0 1 6 - 3 : A B S E N T	

Menu button

STATUS
OTHER

If ANC MODE in 5-10-9 CONV1 ANC SET is set to H/V ANC, the state of the V ANC setting (PASS or BLANK) is displayed.

◆ When S2016-3 is in the CONV1 output video signal

CONV1 S2016 OUT	6 7 2
S 2 0 1 6 - 3 : P R E S E N T	
A F D : 0 2 A R : 0	
4 : 3 L 1 6 : 9 T	
D : 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	

AFD: Active Format Description is displayed in hexadecimal format.

AR: Aspect Ratio is displayed in binary format (0=4:3, 1=16:9)

The detected AFD type is shown on the third row.

D: Detected Data1-8 are displayed in hexadecimal format.



See section 20-6 "AFD Code Abbreviations" for details on AFD types.

5-16-2. CONV1 VI OUT

Displays whether the RP186 VI ancillary data is inserted into CONV 1 output video signal.

◆ When no RP186 VI is in the CONV1 output video signal

CONV1 VI OUT	6 7 3
RP186 VI: ABSENT	

Menu button

STATUS
OTHER

If ANC MODE in 5-10-9 CONV1 ANC SET is set to H/V ANC, the state of the V ANC setting (PASS or BLANK) is displayed.

◆ When RP186 VI is in the CONV1 output video signal

CONV1 VI OUT	6 7 3
RP186 VI: PRESENT	
AFD: 02 SS: 02	
BOX 16: 9 TOP	
D1: 12 D2: 02 D3: 02	

Displays the status of RP186 VI (Video Index) Class1.

AFD: Active Format Description is displayed in hexadecimal format.

SS: Scanning System is displayed in hexadecimal format.

The detected AFD type is shown on the third row.

D1-D3: Detected Data are displayed in hexadecimal format.



See section 20-6 “AFD Code Abbreviations” for details on AFD types.

5-16-3. CONV1 WSS OUT

◆ When no BT1119-2 WSS is in the CONV1 output video signal

CONV1 WSS OUT	6 7 4
BT1119 WSS: ABSENT	

Menu button

STATUS
OTHER

If ANC MODE in 5-10-9 CONV1 ANC SET is set to H/V ANC, the state of the V ANC setting (PASS or BLANK) is displayed.

◆ When BT1119-2 WSS is in the CONV1 output video signal

CONV1 WSS OUT	6 7 4
BT1119 WSS: PRESENT	
AFD: 04	
BOX 16: 9 TOP	
BIT13-0: 0004	

Displays the status of BT1119-2 WSS.

AFD: Active Format Description is displayed in hexadecimal format.

SS: Scanning System is displayed in hexadecimal format.

The detected AFD type is shown on the third row.

D1-D3: Detected Data are displayed in hexadecimal format.



See section 20-6 “AFD Code Abbreviations” for details on AFD types.

5-17. CONV1 ANC OUT1

CONV1	ANC	OUT1	675
S334-1	CEA608	L11	

Menu button

STATUS
OTHER

L indicates the line number into which ancillary data is inserted.

Displays the ancillary data packet name and line number for the inserted ancillary data in the CONV 1 output signal. The status of up to 4 ancillary data can be displayed.

See section 19. "FA-9500 Ancillary Data Packet Name List" for details on ancillary data names.

5-18. CONV2 ANC OUT

CONV2	ANC	OUT	681
CEA608:PRESENT		L:21	
WSS:ABSENT			
VI:PRESENT		L:14/277	

Menu button

STATUS
OTHER

Displays the status of CEA608, WSS, and VI ancillary data inserted into luminance signal of the CONV 2 output.

The line number in which the ancillary data is in is displayed.

Displays PRESENT if ancillary data is inserted. Displays ABSENT if no ancillary data is inserted.

If ANC MODE is set to H/V ANC, the state of the V ANC setting (PASS or BLANK) will be displayed. In such case, no line number will be displayed. (See section 5-10-10 CONV2 ANC SET for details on ANC MODE and V ANC setting.)

5-18-1. CONV2 S2016 OUT

Displays whether the S2016-3 ancillary data is inserted into CONV 2 output video signal.

◆ When no S2016-3 is in the CONV2 output video signal

CONV2	S2016	OUT	682
S2016-3:ABSENT			

Menu button

STATUS
OTHER

If ANC MODE in 5-10-10 CONV2 ANC SET is set to H/V ANC, the state of the V ANC setting (PASS or BLANK) is displayed.

◆ When S2016-3 is in the CONV2 output video signal

CONV2	S2016	OUT	682
S2016-3:PRESENT			
AFD:02	AR:0		
4:3	L16:9T		
D:10000000	00000000		

AFD: Active Format Description is displayed in hexadecimal format.

AR: Aspect Ratio is displayed in binary format (0=4:3, 1=16:9)

The detected AFD type is shown on the third row.

D: Detected Data1-8 are displayed in hexadecimal format.



See section 20-6 "AFD Code Abbreviations" for details on AFD types.

5-18-2. CONV2 VI OUT

Displays whether the RP186 VI ancillary data is inserted into CONV 2 output video signal.

◆ When no RP186 VI is in the CONV2 output video signal

CONV2 VI OUT	6 8 3
RP186 VI: ABSENT	

Menu button

STATUS
OTHER

◆ When RP186 VI is in the CONV2 output video signal

CONV2 VI OUT	6 8 3
RP186 VI: PRESENT	
AFD: 02 SS: 02	
BOX 16: 9 TOP	
D1: 12 D2: 02 D3: 02	

Displays the status of RP186 VI (Video Index) Class1.

AFD: Active Format Description is displayed in hexadecimal format.

SS: Scanning System is displayed in hexadecimal format.

The detected AFD type is shown on the third row.

D1-D3: Detected Data are displayed in hexadecimal format.



See section 20-6 “AFD Code Abbreviations” for details on AFD types.

5-18-3. CONV2 WSS OUT

Displays whether the BT1119 WSS ancillary data is inserted into CONV 1 output video signal.

◆ When no BT1119 WSS is in the CONV2 output video signal

CONV2 WSS OUT	6 8 4
BT1119 WSS: ABSENT	

Menu button

STATUS
OTHER

If ANC MODE in 5-10-10 CONV2 ANC SET is set to H/V ANC, the state of the V ANC setting (PASS or BLANK) is displayed.

◆ When BT1119 WSS is in the CONV2 output video signal

CONV2 WSS OUT	6 8 4
BT1119 WSS: PRESENT	
AFD: 04	
BOX 16: 9 TOP	
BIT13-0: 0004	

Displays the status of BT1119-2 WSS (Wide Screen Signalling).

AFD: Active Format Description is displayed in hexadecimal format.

The detected AFD type is shown on the third row.

BIT13-0: Detected Bits 13 – 0 are displayed in hexadecimal format.



See section 20-6 “AFD Code Abbreviations” for details on AFD types.

5-19. CONV2 ANC OUT1

CONV2	ANC	OUT1	685
S334-1	CDP(708)	L	12

Menu button

STATUS OTHER

L indicates the line number into which ancillary data is inserted.

Displays the ancillary data packet name and line number for the inserted ancillary data in the CONV 2 output signal. The status of up to 4 ancillary data can be displayed.

See section 19. "FA-9500 Ancillary Data Packet Name List" for details on ancillary data names.

6. AUDIO Settings

Make the menu buttons light up orange using the VIDEO/AUDIO button.
(Pressing the button while the buttons are lit green turns the lights orange.)
Afterwards, the audio menus displayed on the lower row on each menu button can be selected.

Menu button

VIDEO
AUDIO

6-1. SDI AUDIO Settings (SDI AUDIO)

Allows you to set the SDI IN1/2, SDI OUT1/2, and SDI OUT3/4 embedded audio signals.

6-1-1. SDI AUDIO GAIN

SDI AUDIO GAIN			
CH SEL	:	CH1	
GAIN SET	:	0.0 dB	
MASTER	:	0.0 dB	

Menu button

PROCESS
SDI AUDIO

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 - CH16	Selects a channel for which to adjust the gain.
GAIN SET	0.0 dB	-20.0 - +20.0 dB (0.1 dB) ^{*1}	Sets the input gain for the SDI embedded audio channel that is selected under CH SEL.
MASTER	0.0 dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the input gain for all channels CH1 to CH16 of SDI-embedded audio.

^{*1} The total value of GAIN SET and MASTER should not exceed the setting range. If the range is exceeded, the alert will be displayed as *20.0 dB or *-20.0 dB.

6-1-2. SDI REMAPPING

SDI REMAPPING	1 2 2
CH SEL: CH1	
ASSIGN: SOURCE 1	
SOURCE: SDI 1	

Menu button

PROCESS
SDI AUDIO

Parameter	Default	Setting range		Description
CH SEL	CH1	CH1 - CH16		Selects an embedded audio channel of an SDI output signal from CH1 through 16.
ASSIGN	Each SOURCE	SOURCE 1 – 16 ^{*1} 500Hz 1KHz SILENCE DOWNMIX-L ^{*2} DOWNMIX-R ^{*2} Dolby DEC 1 – 8 ^{*3} ^{*6} Dolby DM-L ^{*4} ^{*6} Dolby DM-R ^{*4} ^{*6} Dolby ENC 1 – 2 ^{*5} ^{*7}		Selects an audio signal to assign to the channel selected under CH SEL. SOURCE 1-16: Assigned SOURCE channel signals 500Hz/1KHz: Test signal SILENCE: Mute signal DOWNMIX-L/R: Signal generated by downmixing SOURCE channel signals. Dolby DEC 1-8: Dolby-decoded PCM signals Dolby DM-L/R: Signal generated by downmixing Dolby-decoded PCM signal Dolby ENC 1-2: Encoded Dolby E data of selected SOURCE channel signals. LOUD1/2, L, R, C, LFE, Ls, Rs: Loudness-processed signal of the selected SOURCE channel.
		LOUD1- ^{*8} LOUD2- ^{*8}	L R C LFE Ls Rs	
SOURCE	-	SDI1 - 16 AES1 - 8 ANA1 - 4		Displays the input signal in the SOURCE selected under ASSIGN. Unvisible if ASSIGN is not set to any SOURCE 1-16.

^{*1} See section 6-5 “AUDIO MAPPING (MAPPING)” for details on SOURCE settings.

^{*2} See section 6-7 “DOWN MIX SET” for details on DOWN MIX settings.

^{*3} See section 6-9-1-2 “Dolby DECODER INPUT” for details on Dolby DEC settings.

^{*4} See section 6-9-1-4 “Dolby DOWNMIX” for details on Dolby DM settings.

^{*5} See sections 6-9-2 “Dolby ENCODER INPUT” and 6-9-2-2 “Dolby ENCODER SETTING” for details on Dolby ENC settings.

^{*6} Not shown if the FA-95D-D option is not installed.

^{*7} Not shown if the FA-95DE-E option is not installed.

^{*8} Not shown if the FA-95ALA option is not installed.

See section 6-9-3-4. “LOUDNESS CHANNEL ASSIGNMENT” for details on LOUD 1/2 settings.

◆ Auto Channel Pairing for NON-PCM Audio Inputs

The FA-9500 recognizes NON-PCM audio input signals in L/R channel pair units, and adjusts assignments according to the signal selected for the L channel.

L/R channel pairs are SOURCE 1/2, SOURCE 3/4.....SOURCE 15/16.

The channel assignments that are changed by the adjustment will be shown with “*” as “CH1: * SOURCE2”.

Auto channel pairing example (on NON-PCM inputs):

Conditions:

NON-PCM inputs in SOURCE 1 and 2

PCM inputs in SOURCE 3 through 16

Entered value	Menu display	Auto channel pairing
CH1: SOURCE1 CH2: SOURCE2	CH1: SOURCE1 CH2: SOURCE2	CH1: SOURCE1 CH2: SOURCE2 Unchanged. The selected L/R channels are a correct NON-PCM channel pair.
CH1: SOURCE3 CH2: SOURCE5	CH1: SOURCE3 CH2: SOURCE5	CH1: SOURCE3 CH2: SOURCE5 Unchanged. The selected L/R channels are PCM audio signals.
CH1: SOURCE1 CH2: SOURCE1	CH1: SOURCE1 CH2: *SOURCE2	CH1: SOURCE1 CH2: SOURCE2 Changed to make a proper pair including the assigned L channel signal. The selected L/R channels are the same channel of a NON-PCM channel pair.
CH1: SOURCE2 CH2: SOURCE2	CH1: *SOURCE1 CH2: SOURCE2	CH1: SOURCE1 CH2: SOURCE2 Changed to make a proper pair including the assigned L channel signal. The selected L/R channels are the same channel of a NON-PCM channel pair.
CH1: SOURCE4 CH2: SOURCE2	CH1: *SOURCE3 CH2: *SOURCE4	CH1: SOURCE3 CH2: SOURCE4 Changed to make a proper pair including the L channel assigned signal. PCM and NON-PCM signals are selected for L/R channels.
CH1: SILENCE CH2: SOURCE2	CH1: SILENCE CH2: *SILENCE	CH1: SILENCE CH2: SILENCE Changed to make a proper pair including the assigned L channel signal. SILENCE and NON-PCM signals are selected for L/R channels.
CH1: 500Hz CH2: SOURCE2	CH1: 500Hz CH2: *500Hz	CH1: 500Hz CH2: 500Hz Changed to make a proper pair including the assigned L channel signal. 500Hz and NON-PCM signals are selected for L/R channels. (1KHz signal will be processed the same.)
CH1: DOWNMIX—L CH2: SOURCE3	CH1: DOWNMIX—L CH2: SOURCE3	CH1: DOWNMIX—L CH2: SOURCE3 Unchanged. DOWNMIX-L and PCM signals are selected for L/R channels.
CH1: DOWNMIX—L CH2: SOURCE2	CH1: DOWNMIX—L CH2: *DOWNMIX—R	CH1: DOWNMIX—L CH2: DOWNMIX—R Changed to make a proper pair including the assigned L channel signal. DOWNMIX-L and NON-PCM signals are selected for L/R channels.
CH1: Dolby ENC 1 CH2: 1KHz	CH1: Dolby ENC 1 CH2: *Dolby ENC 2	CH1: Dolby ENC 1 CH2: Dolby ENC 2 Changed to make a proper pair including the assigned L channel signal. NON-PCM and 1KHz signals are selected for L/R channels.

6-1-3. SDI MONO SUM

SDI MONO SUM			1 2 3	Menu button PROCESS SDI AUDIO
CH SEL : 1/2 MONO SUM : DISABLE				
Parameter	Default	Setting range	Description	
CH SEL	CH1/2	CH1/2-15/16	Selects a stereo pair of embedded audio channels of an SDI output signal.	
MONO SUM	DISABLE	DISABLE ENABLE	ENABLE: Outputs the stereo pair channels selected under CH SEL as a mono sum. (The signals of the selected pair channels are added and divided by two to output from each channel.)	

6-1-4. SDI AUDIO CLOCK

SDI AUDIO CLOCK			1 2 4	Menu button PROCESS SDI AUDIO
GROUP 1 : REFERENCE GROUP 2 : REFERENCE GROUP 3 : REFERENCE GROUP 4 : REFERENCE				
Parameter	Default	Setting range	Description	
GROUP 1	REFERENCE	AUTO REFERENCE CH 1/2 CH 3/4	Selects an audio clock signal per group for SDI embedded audio output. AUTO: Automatically selects audio clock input in the NON-PCM signal channel, if an input NON-PCM signal is in the selected SDI embedded audio group. Automatically selects audio clock signal in the smallest numbered channel, if all signals in the audio group are NON-PCM. Automatically selects audio clock signal synchronized to the output video signal, if all signals in the audio group are PCM. REFERENCE: Audio clock signal synchronized to the output video signal. (Used to synchronize audio with the video signals processed in the SRC.) CH 1/2 to 15/16: Audio clock input in SOURCE channels CH 1/2 to 15/16. ^{*1} To output asynchronous audio signals, ^{*2}select one input channel pair for each group. For SD-SDI outputs, REFERENCE is automatically selected regardless of the settings.	
GROUP 2	REFERENCE	AUTO REFERENCE CH 5/6 CH 7/8		
GROUP 3	REFERENCE	AUTO REFERENCE CH 9/10 CH 11/12		
GROUP 4	REFERENCE	AUTO REFERENCE CH 13/14 CH 15/16		

*1 See section 6-5 "AUDIO MAPPING (MAPPING)" for details on SOURCE settings.

*2 Embedded audio signals are divided into 4 groups. Each group consists of 4 audio channels; Group 1 (CH 1 to 4), Group 2 (CH 5 to 8), Group 3 (CH 9 to 12), Group 4 (CH 13 to 16). The audio signals in the same group are transmitted together using the same audio clock (48kHz). PCM audio signals will be synchronized to a genlock signal in the SRC (sampling rate converter) so as to synchronize with the output video signal. Non-PCM audio signals (compressed audio data such as AC-3) do not go into SRC. If the NON-PCM audio input signal is asynchronous with the output video signal, the NON-PCM audio output signal will be asynchronous. The asynchronous NON-PCM audio signals can be embedded to SDI video signals by selecting an audio clock for each audio group. To do so, all 4 channels in the respective audio groups must be synchronous. Assign 4 synchronous audio signals to channels in a group. (See section 6-1-2. "SDI REMAPPING" for details.) Then the asynchronous audio signal will be properly embedded to the video signal.

6-1-5. SDI IN AUDIO

SDI IN AUDIO	1 2 5
ALIGNMENT: DISABLE	
HD-SDI ACLK: AUTO	

Menu button

PROCESS
SDI AUDIO

Parameter	Default	Setting range	Description
ALIGNMENT ^{*1}	DISABLE	ENABLE DISABLE	Enables or disables automatic phase adjustment for input embedded audio channel groups. ENABLE: Automatic adjustment (normal setting) DISABLE: No adjustment
HD-SDI ACLK	AUTO	AUTO SYNC SDI AUD CLK	Selects audio clock signal to use for de-embedding and processing audio data in HD-SDI input signal. AUTO: De-embeds HD-SDI embedded audio data using the audio clock phase data in the embedded audio. Synchronous and asynchronous embedded audio signals from 4 audio groups can be de-embedded separately. ^{*2} Audio data will be processed as synchronous data if the audio clock phase data is incorrect, or jitter is too great. Sync SDI: All audio data in 4 audio groups are always processed as synchronous data without referring to the respective audio clock phase data. ^{*3} AUD CLK: Always uses audio clock phase data in HD-SDI embedded audio data to de-embed the audio data. ^{*4}

^{*1} Embedded audio signal groups are automatically phase-adjusted when they are input to the FA-9500. If there is an abnormal audio signal in an audio group, whether the audio group is in use or not, audio streams may be obstructed by the auto phase adjustment. In such cases, audio stream obstruction can be avoided using this Alignment enable/disable function.

^{*2} Embedded audio signals in SD-SDI video inputs are always processed as synchronous signals.

^{*3} Sync SDI should be selected only if audio data cannot pass through as AUTO or asynchronous audio data is never input.

^{*4} AUD CLK may be effective in the case audio data cannot properly pass through as AUTO or Sync SDI.

IMPORTANT

Use this Alignment enable/disable function only if the audio output has noise or is muted. Do not change the setting for normal audio output.

Note that the audio output will be temporally muted when ALIGNMENT is changed from DISABLE to ENABLE while audio signal phases are aligning.

6-2. AES AUDIO Settings (AES AUDIO)

Allows you to set the DIGITAL AUDIO IN/OUT settings.

6-2-1. AES IN GAIN

AES IN GAIN		1 3 1
CH SEL	: CH1	
GAIN SET	: 0.0 dB	
MASTER	: 0.0 dB	

Menu button

C C
AES AUDIO

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 - CH8	Selects an AES audio channel for which to adjust the gain from channels CH1 through 8.
GAIN SET	0.0 dB	-20.0 - +20.0 dB (0.1 dB) ^{*1}	Sets the input gain for the AES audio channel that is selected under CH SEL.
MASTER	0.0 dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the input gain for all channels CH1 to 8 of AES inputs.

^{*1} The total value of GAIN SET and MASTER should not exceed the setting range. If the range is exceeded, the alert will be displayed as *20.0 dB or *-20.0 dB.

6-2-2. AES HYSTERESIS

AES HYSTERESIS		1 3 2
CH SEL	: CH1 / 2	
HYS SET	: OFF	

Menu button

C C
AES AUDIO

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH 1/2	CH 1/2 CH 3/4 CH 5/6 CH 7/8	Synchronizes the AES input signals in group A or B per group. These settings are effective when using AES audio signals to output multi-channel audio signals such as surround sound.
HYS SET	OFF	OFF GROUP A GROUP B	

The channel pair with the smallest channel numbers within a group is used as the reference pair and other channel pairs are synchronized to it. If there is no audio signal in the channel pair, the next channel pair will be the reference. Audio signals with a phase difference relative to the reference within ± 0.25 of a sample period can be synchronized.

Setting Examples:

◆ When setting all channel pairs CH 1/2 to 7/8 to GROUP A

CH 1/2 will be the reference. Other channel pairs will be synchronized to the word clock of CH1/2.

◆ When setting channels CH1/2 to 3/4 to GROUP A, and channels CH5/6 to 7/8 to GROUP B

CH 1/2 will be the reference pair for GROUP A, and CH 5/6 the reference pair for GROUP B.

IMPORTANT

Channel pairs in an audio group must be synchronous and must have the same sampling rate. Changing the audio assignment of the reference channel pair may cause noise on other channel pairs in the same audio group.

Also, changing the assignment may affect the phase alignment of the reference and other channel pairs. If the alignment is turned off, set MASTER MUTE (see section 6-4 "MASTER OUT GAIN Settings (MASTER)") on and off, or turn the unit power off and on to regain the alignment.

6-2-3. AES REMAPPING

AES REMAPPING	1 3 3
CH SEL: CH1	
ASSIGN: SOURCE 1	
SOURCE: SDI 1	

Menu button

C C
AES AUDIO

Parameter	Default	Setting range		Description
CH SEL	CH1	CH1 - CH8		Selects an AES output audio channel from channels CH1 to 8.
ASSIGN	Each SOURCE	SOURCE1 – 16 ^{*1} 500Hz 1KHz SILENCE DOWNMIX-L ^{*2} DOWNMIX-R ^{*2} Dolby DEC 1 – 8 ^{*3} ^{*6} Dolby DM-L ^{*4} ^{*6} Dolby DM-R ^{*4} ^{*6} Dolby ENC 1 – 2 ^{*5} ^{*7}		Selects an audio signal to assign to the AES audio output channel selected under CH SEL. SOURCE 1-16: Signals assigned to SOURCE channels 500Hz/1KHz: Test signal SILENCE: Mute signal DOWNMIX-L/R: Downmixed signal generated from SOURCE channels. Dolby DEC 1-8: Dolby decoded PCM signals Dolby DM-L/R: Downmixed signal generated from Dolby decoded PCM signals. Dolby ENC 1-2: Encoded Dolby E signal of selected signals of SOURCE channels. LOUD1/2, L, R, C, LFE, Ls, Rs: Loudness processed signal of the selected SOURCE channel.
		LOUD1- ^{*8} LOUD2- ^{*8}	L R C LFE Ls Rs	
SOURCE	-	SDI1 - 16 AES1 - 8 ANA1 - 4		Displays the input signal in the SOURCE channel that is selected under ASSIGN. Shown only if ASSIGN is set to SOURCE 1-16.

If the AES connector is set to be used for input, the menu display for the selected AES output audio channel appears as *CH1. See section 6-2-5 “AES I/O SETUP” and change the setting if necessary.

*1 See section 6-5 “AUDIO MAPPING (MAPPING)” for details on SOURCE settings.

*2 See section 6-7 “DOWN MIX SET” for details on DOWN MIX settings.

*3 See section 6-9-1-2 “Dolby DECODER INPUT” for details on Dolby DEC settings.

*4 See section 6-9-1-4 “Dolby DOWNMIX” for details on Dolby DM settings.

*5 See sections 6-9-2 “Dolby ENCODER INPUT” and 6-9-2-2 “Dolby ENCODER SETTING” for details on Dolby ENC settings.

*6 Shown only if FA-95D-D option is installed.

*7 Shown only if FA-95DE-E option is installed.

*8 Shown only if FA-95ALA option is installed.

See section 6-9-3-4. “LOUDNESS CHANNEL ASSIGNMENT” for details on LOUD 1/2 settings.

◆ Auto Channel Pairing for NON-PCM Audio Inputs

The FA-9500 recognizes NON-PCM audio input signals in L/R channel pair units, and adjusts assignments according to the signal selected for the L channel.

L/R channel pairs are SOURCE 1/2, SOURCE 3/4.....SOURCE 15/16.

The channel assignments that are changed by the adjustment will be shown with “*” as “CH1: *SOURCE2”.

channel pairing example (on NON-PCM inputs):

Conditions:

NON-PCM inputs in SOURCE 1 and 2

PCM inputs in SOURCE 3 through 16

Entered value	Menu display	Auto channel pairing
CH1: SOURCE1 CH2: SOURCE2	CH1: SOURCE1 CH2: SOURCE2	CH1: SOURCE1 CH2: SOURCE2 Unchanged. The selected L/R channels are a correct NON-PCM channel pair.
CH1: SOURCE3 CH2: SOURCE5	CH1: SOURCE3 CH2: SOURCE5	CH1: SOURCE3 CH2: SOURCE5 Unchanged. The selected L/R channels are PCM audio signals.
CH1: SOURCE1 CH2: SOURCE1	CH1: SOURCE1 CH2: * SOURCE2	CH1: SOURCE1 CH2: SOURCE2 Changed to make a proper pair including the assigned L channel signal. The selected L/R channels are the same channel of a NON-PCM channel pair.
CH1: SOURCE2 CH2: SOURCE2	CH1: * SOURCE1 CH2: SOURCE2	CH1: SOURCE1 CH2: SOURCE2 Changed to make a proper pair including the assigned L channel signal. The selected L/R channels are the same channel of a NON-PCM channel pair.
CH1: SOURCE4 CH2: SOURCE2	CH1: * SOURCE3 CH2: * SOURCE4	CH1: SOURCE3 CH2: SOURCE4 Changed to make a proper pair including the L channel assigned signal. PCM and NON-PCM signals are selected for L/R channels.
CH1: SILENCE CH2: SOURCE2	CH1: SILENCE CH2: * SILENCE	CH1: SILENCE CH2: SILENCE Changed to make a proper pair including the assigned L channel signal. SILENCE and NON-PCM signals are selected for L/R channels.
CH1: 500Hz CH2: SOURCE2	CH1: 500Hz CH2: * 500Hz	CH1: 500Hz CH2: 500Hz Changed to make a proper pair including the assigned L channel signal. 500Hz and NON-PCM signals are selected for L/R channels. (1KHz signal will be processed the same.)
CH1: DOWNMIX—L CH2: SOURCE3	CH1: DOWNMIX—L CH2: SOURCE3	CH1: DOWNMIX—L CH2: SOURCE3 Unchanged. DOWNMIX-L and PCM signals are selected for L/R channels.
CH1: DOWNMIX—L CH2: SOURCE2	CH1: DOWNMIX—L CH2: * DOWNMIX—R	CH1: DOWNMIX—L CH2: DOWNMIX—R Changed to make a proper pair including the assigned L channel signal. DOWNMIX-L and NON-PCM signals are selected for L/R channels.
CH1: Dolby ENC 1 CH2: 1KHz	CH1: Dolby ENC 1 CH2: * Dolby ENC 2	CH1: Dolby ENC 1 CH2: Dolby ENC 2 Changed to make a proper pair including the assigned L channel signal. NON-PCM and 1KHz signals are selected for L/R channels.

6-2-4. AES MONO SUM

AES MONO SUM	1 3 4
CH SEL : CH 1/2	
MONO SUM : DISABLE	

Menu button

CC
AES AUDIO

Parameter	Default	Setting range	Description
CH SEL	CH1/2	CH1/2 - 7/8	Selects a stereo pair of AES output audio channels.
MONO SUM	DISABLE	DISABLE ENABLE	ENABLE: Outputs the stereo pair channels that are selected under CH SEL as a mono sum. (The signals of the selected pair channels are added and divided by two to output from each channel.)

If the AES connector is set to be used for input, the menu display for the selected AES output audio channel appears as *CH1. See section 6-2-5 "AES I/O SETUP" and change the setting if necessary.

6-2-5. AES I/O SETUP

AES I/O SETUP	1 3 5
AES1 - 4 I/O : INPUT	
AES5 - 8 I/O : INPUT	

Menu button

CC
AES AUDIO

Parameter	Default	Setting range	Description
AES1 - 4	INPUT	INPUT OUTPUT	INPUT: AES1/2, and 3/4 connectors are set to be input connectors. OUTPUT: AES1/2, and 3/4 connectors are set to be output connectors.
AES5 - 8	INPUT	INPUT OUTPUT	INPUT: AES5/6, and 7/8 connectors are set to be input connectors. OUTPUT: AES5/6, and 7/8 connectors are set to be output connectors.

All connectors are set as input connectors and this menu is not displayed if the FA-95DACBL option is installed.

6-3. ANALOG AUDIO Settings (ANALOG)

6-3-1. ANALOG IN LEVEL

ANALOG IN LEVEL	1 4 1
CH SEL : CH1	
LEVEL SET : +4 dBm	

Menu button

CONV1
ANALOG

Parameter	Default	Setting range	Description
CH SEL	CH1	CH1 - CH4	Selects an analog audio input channel for which to set the signal level from channels CH1 to CH4.
LEVEL SET	+4dBm	-10dBm 0dBm +4dBm +8dBm	Sets the signal level for the analog audio input signal that is selected under CH SEL.

6-3-2. ANALOG IN GAIN

ANALOG IN GAIN	1 4 2
CH SEL : CH1	
GAIN SET : 0.0 dB	
MASTER : 0.0 dB	

Menu button

CONV1
ANALOG

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 - CH4	Selects an analog audio input channel for which to set the input gain from channels CH1 to CH4.
GAIN SET	0.0dB	-20.0 - +20.0 dB (0.1 dB) *1	Sets the input gain for the analog audio input signal that is selected under CH SEL.
MASTER	0.0 dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the input gain for all analog audio channels CH1 to CH4.

*1 The total value of GAIN SET and MASTER should not exceed the setting range. If the range is exceeded, the alert will be displayed as *20.0dB or *-20.0dB.

6-3-3. ANALOG OUT LEVEL

ANALOG OUT LEVEL	1 4 3
CH SEL : CH1	
LEVEL SET : +4 dBm	

Menu button

CONV1
ANALOG

Parameter	Default	Setting range	Description
CH SEL	CH1	CH1 - CH4	Selects an analog audio output channel for which to set the signal level from channels CH1 to CH4.
LEVEL SET	+4dBm	-10dBm 0dBm +4dBm +8dBm	Sets the signal level for the analog audio output signal that is selected under CH SEL.

6-3-4. ANALOG OUT GAIN

ANALOG OUT GAIN		1 4 4
CH SEL	:	CH 1
GAIN SET	:	0.0 dB
MASTER	:	0.0 dB

Menu button

CONV1
ANALOG

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 - CH4	Selects an analog audio output channel for which to set the input gain from channels CH1 to CH4.
GAIN SET	0.0dB	-20.0 - +20.0 dB (0.1 dB)	Sets the output gain for the analog audio output signal that is selected under CH SEL.
MASTER	0.0 dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the output gain for all analog audio channels CH1 to CH4.

*1 The total value of GAIN SET and MASTER should not exceed the setting range. If the range is exceeded, the alert will be displayed as *20.0dB or *-20.0dB.

6-3-5. ANALOG REMAPPING

ANALOG REMAPPING		1 4 5
CH SEL	:	ANALOG1
ASSIGN	:	SOURCE1
SOURCE	:	SDI1

Menu button

CONV1
ANALOG

Parameter	Default	Setting range	Description
CH SEL	ANALOG1	ANALOG1 - 4	Selects an analog audio output channel from ANALOG1 through 4.
ASSIGN	Each SOURCE	SOURCE1 - 16 ^{*1} 500Hz 1KHz SILENCE DOWNMIX-L ^{*2} DOWNMIX-R ^{*2} Dolby DEC1 - 8 ^{*3 *5} Dolby DM-L ^{*4 *5} Dolby DM-R ^{*4 *5}	Selects a signal f to output from the analog audio output channel that is selected under CH SEL. SOURCE 1-16: Signals assigned to SOURCE channels 500Hz/1KHz: Test signal SILENCE: Mute signal DOWNMIX-L/R: Downmixed signal generated from SOURCE channels. Dolby DEC 1-8: Dolby-decoded PCM signals Dolby DM-L/R: Downmixed signal generated from Dolby-decoded PCM signals LOUD1/2, L, R, C, LFE, Ls, Rs: Loudness processed signal of the selected SOURCE channel.
		LOUD1- ^{*6} LOUD2- ^{*6}	L R C LFE Ls Rs
SOURCE	-	SDI1 - 16 AES1 - 8 ANA1 - 4	Displays the input signal in the SOURCE channel selected under ASSIGN. Shown only if ASSIGN is set to SOURCE 1-16.

*1 See section 6-5 "AUDIO MAPPING (MAPPING)" for detail on SOURCE settings.

*2 See section 6-7 "DOWN MIX SET" for details on DOWN MIX settings.

*3 See section 6-9-1-2 "Dolby DECODER INPUT" for details on Dolby DEC settings.

*4 See section 6-9-1-4 "Dolby DOWNMIX" for details on Dolby DM settings.

*5 Shown only if FA-95D-D option is installed.

*6 Shown only if FA-95ALA option is installed.

See section 6-9-3-4. "LOUDNESS CHANNEL ASSIGNMENT" for details on LOUD 1/2 settings.

6-3-6. ANALOG MONO SUM

A N A L O G M O N O S U M	1 4 6
CH SEL : CH 1/2	
MONO SUM : DISABLE	

Menu button

CONV1
ANALOG

Parameter	Default	Setting range	Description
CH SEL	CH1/2	CH1/2-3/4	Selects a stereo pair of analog audio output channels.
MONO SUM	DISABLE	DISABLE ENABLE	ENABLE: Outputs the stereo pair channels that are selected under CH SEL as a mono sum. (The signals of the selected pair channels are added and divided by two to output from each channel.)

6-3-7. ANALOG SYSTEM

A N A L O G S Y S T E M	1 4 7
TERMINAL SET: 600Ω	
SILENCE TIME: 2sec	
SILENCE LVL : -72dBFS	

Menu button

CONV1
ANALOG

Parameter	Default	Setting range (Steps)	Description
TERMINAL SET	600Ω	600Ω Hi-Z	Selects how to terminate the analog inputs 1/2 and 3/4. 600Ω: 600Ω termination Hi-Z: High-impedance
SILENCE TIME	2sec	1 - 10sec	Sets the duration to determine whether the input analog audio is silent.
SILENCE LVL	-72dBFS	-72 - -48dBFS (6dBFS Step)	Sets the audio level to determine whether the input analog audio is silent.

6-4. MASTER OUT GAIN Settings (MASTER)

MASTER OUT GAIN		1 5 1
CH SEL	:	CH 1
GAIN SET	:	0.0 dB
MASTER	:	0.0 dB
MASTER MUTE	:	OFF

Menu button

CONV2
MASTER

Parameter	Default	Setting range (Steps)	Description
CH SEL	CH1	CH1 - 16 DEC CH1 - 8 ^{*1} DolbyDM-L ^{*1} DolbyDM-R ^{*1}	Selects an audio channel for which to set the audio gain. CH 1-16: Signals assigned to SOURCE channels DEC CH 1-8: PCM signals decoded in the Dolby decoder. Dolby DM-L/R: Downmixed signal generated from Dolby-decoded PCM signals
GAIN SET	0.0dB	-20.0 - +20.0 dB (0.1 dB) ^{*2}	Sets audio gain for the signal selected under CH SEL.
MASTER	—	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to audio gain for all audio channels CH1 through 16.
MASTER MUTE ^{*3}	OFF	OFF ON	ON: Mutes all audio channels.

^{*1} Shown only if the FA-95D-D option is installed.

^{*2} The total value of GAIN SET and MASTER should not exceed the setting range. If the range is exceeded, the alert will be displayed as *20.0dB or *-20.0dB.

^{*3} MASTER MUTE is always set to OFF at startup. The setting is not stored in the event memory.

MASTER MUTE is not effective on NON-PCM outputs. NON-PCM output signals pass through.

6-5. AUDIO MAPPING (MAPPING)

Allows you to route 16 audio channels.

The SOURCE/SRC SET menu allows you to select 16-channel audio signals to process from among SDI embedded, AES and analog input audio signals.

6-5-1. SOURCE/SRC SEL

SOURCE / SRC SEL 1 5 5 SOURCE SEL: CH 1 / 2 SOURCE SET: SDI 1 / 2 SRC MODE : SRC IN	Menu button
	AVO MAPPING

Parameter	Default	Setting range	Description
SOURCE SEL	CH1/2	CH1/2 - CH15/16	Selects stereo pairs of 16-channel audio signals to be internally processed.
SOURCE SET	SDI channels corresponding to source channels	SDI1/2 - 15/16 ^{*1} AES1/2 - 7/8 ^{*2} ANA1/2 - 3/4	Selects audio signals to input to the SOURCE that are selected under SOURCE SEL.
SRC MODE	SRC IN	AUTO BY-PASS SRC IN	Sets the SRC circuit to pass or by-pass audio signals per channel pair. AUTO: Sets the SRC circuit to pass signals. However, NON-PCM audio signals will be by-passed. BY-PASS: Sets the SRC circuit to by-pass signals. Set to By-pass to output asynchronous audio signals. To embed the asynchronous audio signals to SDI video signals, an audio clock must be selected under (6-1-4) "SDI AUDIO CLOCK" for the respective audio groups. SRC IN: Sets the SRC circuit to pass both PCM or NON-PCM signals. Useful for the irregular PCM signal with the NON-PCM audio channel status indication. However, real NON-PCM signals cannot be output properly.

*1 If IN SEL in section 5-7-1 "VIDEO INPUT SET" is set to SDI 1 or SDI 2, the embedded audio signals of either selected SDI 1 or SDI 2 will be assigned to SDI 1/2 – 15/16. If IN SET is set to other than SDI 1 and SDI2 such as COMPOSITE, the embedded audio signals of SDI 1 input video will be assigned.

*2 If the AES connector is set to be used for output, the menu display for the selected AES audio channel pairs appear as *AES1/2. See section 6-2-5 "AES I/O SETUP" and change the setting if necessary.

NOTE

The 16 audio channels can be set to output from desired output connectors or embed into SDI signals. See section 6-1-2 "SDI REMAPPING" for how to embed the audio channels into SDI signals.

The SDI embedded audio signals can be masked on a group basis. See sections 5-10-11 "CONV1 AUDIO GROUP" and 5-10-12 "CONV2 AUDIO GROUP" for details.

For details on AES output, see section 6-2-3 "AES REMAPPING". For analog output, see section 6-3-5 "ANALOG REMAPPING".

IMPORTANT

Changing the SOURCE SET settings may affect the phase alignment of the reference and other channel pairs. If the alignment is turned off, set MASTER MUTE (see section 6-4 "MASTER OUT GAIN Settings (MASTER)") to on and off, or turn the unit power off and on to regain the alignment.

6-6. AUDIO DELAY Settings

6-6-1. AUDIO DELAY

AUDIO DELAY		1 6 1
CH SEL :	CH 1	
OFFSET :	0 m s	
MASTER :	4 m s	
TOTAL :	4 m s	

Menu button

CLIP
DELAY

Parameter	Default	Setting range	Description
CH SEL	CH 1	CH1 - CH16	Selects a SOURCE channel for which to set a delay.
OFFSET	0msec	-996ms - 996ms	Sets the delay for the SOURCE channel that is selected under CH SEL. ^{*1}
MASTER	4msec	4ms - 1000ms	Sets the offset to the delay for all audio channels CH1 to 16. ^{*2}
TOTAL	-	-	Displays the amount of delay set under CH SEL for the SOURCE audio channels. ^{*3} (OFFSET + MASTER)

*1 The OFFSET setting range varies depending on the MASTER setting.

*2 Enabling CONV DLY ADJ while CONV1 or CONV2 is in use adds a delay equivalent to 1 frame (2 frames for progressive signals) of the input video signal to the set value and the menu displays the summed value. See sections 5-3 "CONV1 (UP/DOWN/CROSS CONVERTER)", 5-4 "CONV2 (UP / DOWN / CROSS CONVERTER)", and 5-10-4 "VIDEO SUB".

*3 The total value of DELAY and MASTER should not exceed the setting range; between 2 and 1,000 msec. If the range is exceeded, the alert will be displayed as *1,000 msec or *2 msec. (if CONV DLY ADJ is disabled as described in section 5-10-4 "VIDEO SUB".)

The amounts of delay in CONV1 and CONV2 will be displayed as shown below if CONV DLY ADJ is enabled as described in section 5-10-4 "VIDEO SUB". The displayed amount of total delay will be the sum of delays in CONV1 and CONV2. The maximum delay is 1,000 msec+1 frame (2 frames for progressive signals) of the input video signal.

If a NON-PCM signal is assigned to a selected channel, the audio delay adjusted for the channel will be applied to another channel of the stereo channel pair.

AUDIO DELAY		1 6 1
CH SEL :	CH 1	
OFFSET :	0 m s	
MASTER :	1 6 m s + 2 0 m s	
TOTAL :	3 6 m s	

6-7. DOWN MIX SET

DOWN MIX SET				1 6 5
MODE: STEREO				
SURROUND MIX: -3 dB				
CENTER MIX: -3 dB				
MASTER LVL: -3 dB				

Menu button

IN SEL
DOWN MIX

Parameter	Default	Setting range (Steps)	Description
MODE ^{*1}	STEREO	STEREO SURROUND MONAURAL	Selects a mode to downmix audio signals.
SURROUND MIX	-3dB	-3dB -6dB -9dB 0	Sets the Ls/Rs (surround channels) level. 0 : ($-\infty$ dB) Excludes surround channels from the downmix.
CENTER MIX	-3dB	-3dB -4.5 dB -6dB	Sets the C (center channel) level. -3dB : The output level after the downmix retains the original center channel level. -4.5dB, -6dB : Used to reduce the audio level in case it becomes too loud due to the center channel audio mixing to both the right and left channels.
MASTER LVL	-3dB	-3dB AUTO	Sets the level for the downmixed audio signals as a whole. If set to AUTO , Down MIX Master Level changes according to the Downmix Mode and Surround Mix level selections. ^{*2}

*1 See the Downmix Block Diagram in the next page for details on downmix modes.

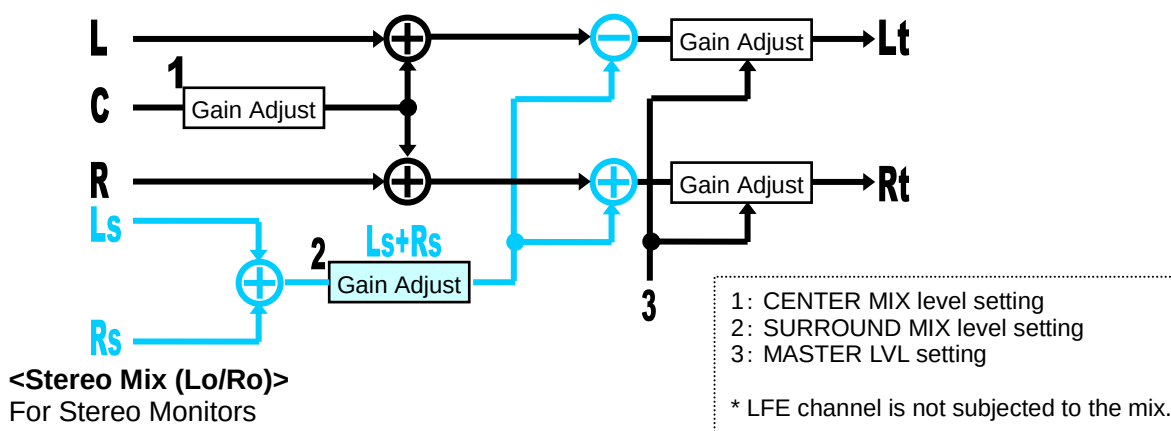
*2 If MASTER LVL is set to AUTO, Master Level changes as shown in the below table.

Surround Mix Level Down Mix Mode	-3dB	-6dB	-9dB	0 ($-\infty$ dB)
Stereo	approx.-7.7dB	approx.-6.9dB	approx.-6.3dB	approx.-4.6dB
Surround	approx.-9.9dB	approx.-8.7dB	approx.-7.7dB	approx.-4.6dB
Monaural	approx.-12.9dB	approx.-12.0dB	approx.-11.4dB	approx.-9.5dB

◆ Downmix Block Diagram

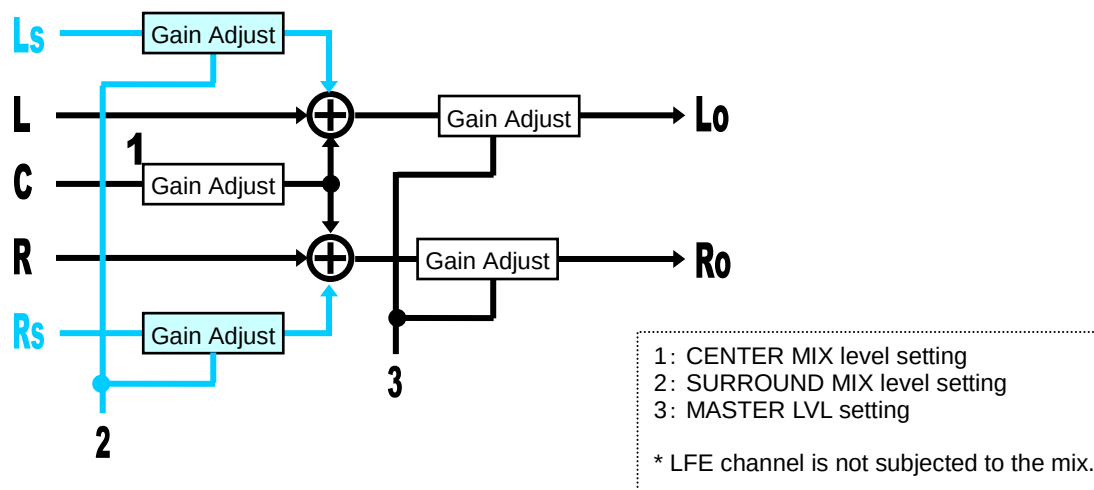
<<Surround Mix (Lt/Rt)>

Ls/Rs surround channels are summed to produce a mono surround channel and mixed to right and left channels by the 180 degree phase difference. (LFE channel is discarded.)



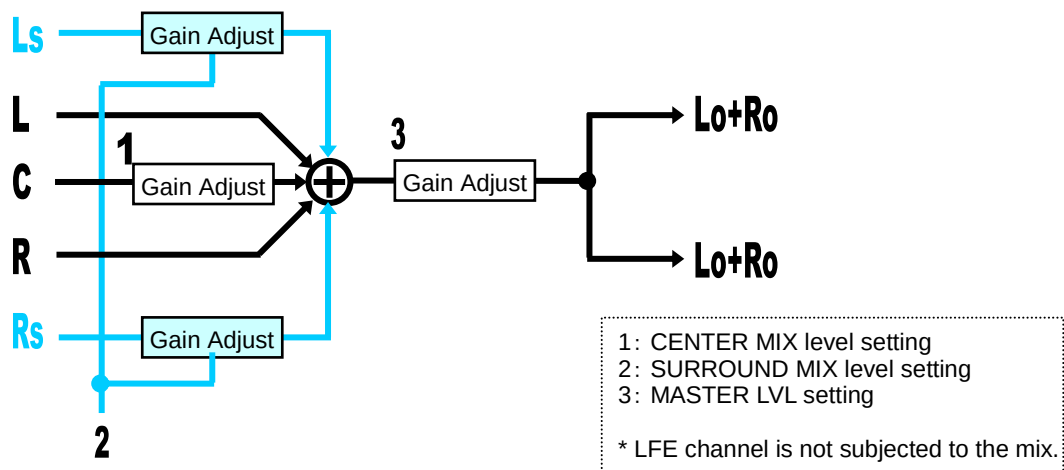
<Stereo Mix (Lo/Ro)>

For Stereo Monitors



<Monaural Mix (Lo+Ro/Lo+Ro)>

For Monaural Monitors



6-7-1. DOWN MIX ASSIGN

DOWN MIX ASSIGN	1 6 6
CH SEL: LEFT SOURCE: SOURCE1	

Menu button

IN SEL
DOWNMIX

Parameter	Default	Setting range (Steps)	Description
CH SEL	LEFT	LEFT(L) RIGHT(R) CENTER(C) LEFT SRRND(LS) RIGHT SRRND(RS)	Selects a channel to be downmixed for which to assign a source audio.
SOURCE	L:SOURCE1 R:SOURCE2 C:SOURCE3 LS:SOURCE5 RS:SOURCE6	SOURCE1-16 ^{*1}	Selects a SOURCE channel to assign to the channel that is selected under 6-5 AUDIO MAPPING (MAPPING) from channels CH1 to 16.

^{*1} If the same SOURCE channel is selected for multiple CH SEL channels, or a NON-PCM signal is assigned to a SOURCE channel, the menu will be indicated with an “*”, and **DOWNMIX-L** and **DOWNMIX-R** will be mute.

NOTE

To embed downmixed audio signals, see section 6-1-2 “SDI REMAPPING”. To output downmixed audio signals from AES connectors, see section 6-2-3 “AES REMAPPING”. To output from the analog audio output connector, see section 6-3-5 “ANALOG REMAPPING”.

6-8. AUDIO MODE SET (MODE)

AUDIO MODE SET	1 7 5
SOURCE SEL : CH1 POLARITY SET: NORMAL	

Menu button

OUT SEL
MODE

Parameter	Default	Setting range	Description
SOURCE SEL	CH1	CH 1 - 16 DEC CH 1 - 8 ^{*1} DolbyDM-L ^{*1} DolbyDM-R ^{*1}	Selects a channel for which to set the polarity. CH1-CH 16: Selected SOURCE channels DEC CH 1-8: Dolby-decoded PCM signals DolbyDM-L/R: Down mixed signals generated from Dolby-decoded PCM signals
POLARITY SET	NORMAL	NORMAL INVERT	Sets the polarity for the channel that is selected under POLARITY SEL. INVERT: Reverses the polarity.

^{*1} Shown only if the FA-95D-D option is installed.

6-9. AUDIO OPTION (AUDIO OP)

6-9-1. Dolby Decoder Option (FA-95D-D)

6-9-1-1. Dolby AUX OUTPUT

* This menu is available only if the FA-95D-D option is installed.

Dolby AUX OUT	3 0 1
OUTPUT: DEC CH1 / 2	

Menu button

VIDEO OP
AUDIO OP

Parameter	Default	Setting range	Description
OUTPUT	DEC CH1/2	DEC CH1/2 – CH7/8 DolbyDM L/R ENC CH1/2 ^{*1} 500Hz TONE 1kHz TONE SILENCE NONE	Selects an audio signal to be output from the optional Dolby output connector (Dolby OUT). DEC CH1/2 – CH7/8: Dolby-decoded PCM signals DolbyDM L/R: Down mixed signals generated from Dolby-decoded PCM signals ENC CH1/2: Encoded Dolby E signal of selected SOURCE channel signals. 500Hz/1kHz TONE: Test signal (TONE) SILENCE: Mute signal NONE: No signal output

*1 Shown only if the FA-95DE-E option is installed.

6-9-1-2. Dolby DECODER INPUT

* This menu is available only if the FA-95D-D option is installed.

Dolby DEC INPUT	3 0 2
INPUT : AUX IN	
STREAM : LOSS	
PROGRAM : LOSS	

Menu button

VIDEO OP
AUDIO OP

Parameter	Default	Setting range	Description
INPUT	AUX IN	AUX IN SOURCE 1/2 -15/16	Selects an audio signal to be input to the Dolby decoder. AUX IN: Input signal in the optional Dolby input connector (Dolby IN). SOURCE 1/2 – 15/16: SOURCE signals selected in the 6-5 AUDIO MAPPING (MAPPING) menu.
STREAM	-	D 32bit D 16bit 1CH D 16bit 2CH D 16bit 1/2CH E 24bit E 20bit E 16bit PCM LOSS ERROR	Displays signal type and bit width of signal selected under INPUT. D ***: Dolby Digital signal E ***: Dolby E signal PCM: Normal audio signal LOSS: No signal ERROR: Unidentifiable
PROGRAM	-	Dolby E 5.1+2 5.1+2x1 4+4 4+2x2 4+2+2x1 4+4x1 4x2 3x2+2x1 2x2+4x1 2+6x1 8x1 5.1 4+2 4+2x1 3x2 2x2+2x1 2+4x1 6x1 4 2+2 2+2x1 4x1 7.1 7.1 Screen NON-Dolby E Dolby Digital 1+1 1/0 2/0 3/0 2/1 3/1 2/2 3/2 3/0L 2/1L 3/1L 2/2L 3/2L LOSS INVALID	Displays Dolby E program configuration (Coding mode) or status of signal selected under INPUT. See Dolby E/Digital Decoder Output Channel Assignment table in section 13 "Dolby E Decoder/Encoder Channel Assignment Table" for channel assignments of respective configurations.

6-9-1-3. Dolby DECODER REFERENCE

* This menu is available only if the FA-95D-D option is installed.

Dolby DEC REF		3 0 3
INPUT : AUX REF IN		

Menu button

VIDEO OP
AUDIO OP

Parameter	Default	Setting range	Description
INPUT	AUX REF IN	OUTPUT VIDEO AUX REF IN INPUT VIDEO	Selects a reference signal to be used in the Dolby decoder. PCM signal output from the Dolby decoder will be synchronized to the selected reference signal. OUTPUT VIDEO: Uses the output video signal. AUX REF IN: Uses the input signal in the optional Dolby reference input connector (REF IN). If no signal is in the REF IN connector, the PCM signal output will be in free-run mode. INPUT VIDEO: Uses the input video signal as a reference signal.

6-9-1-4. Dolby DOWNMIX

* This menu is available only if FA-95D-D option is installed.

Dolby DOWNMIX		3 0 4
MODE : SURROUND		

Menu button

VIDEO OP
AUDIO OP

Parameter	Default	Setting range	Description
MODE	SURROUND	SURROUND STEREO MONAURAL	Selects a downmix mode for the Dolby decoder.

6-9-1-5. Dolby DECODER GAIN

* Menu is available only if the FA-95D-D option is installed.

Dolby DEC GAIN		3 0 5
CH SEL : DEC CH1		
GAIN SET: 0.0 dB		
MASTER : 0.0 dB		

Menu button

VIDEO OP
AUDIO OP

Parameter	Default	Setting range	Description
CH SEL	DEC CH1	DEC CH1 – CH8 DolbyDM-L DolbyDM-R	Selects a signal for gain adjustment. DEC CH1-CH8: Dolby-decoded PCM signal DolbyDM-L/R: Down mixed signal generated from Dolby-decoded PCM signal
GAIN SET	0.0 dB	-20.0 - +20.0 dB (0.1 dB) ^{*1}	Sets gain for the signal selected under CH SEL.
MASTER	0.0 dB	-20.0 - +20.0 dB (0.1 dB)	Sets offset for all Dolby-decoded signals.

*1 If the MASTER setting exceeds the total setting range of individual channels, the alert will be displayed as *20.0dB or *-20.0dB.

6-9-2. Dolby ENCODER INPUT (FA-95DE-E)

6-9-2-1. Dolby ENCODER INPUT

* Menu is available only if the FA-95DE-E option is installed.

Dolby ENC INPUT	306
INPUT : DIRECT IN SEL	
CH SEL : CH1	
ASSIGN : SOURCE 1	

Menu button

VIDEO OP
AUDIO OP

Parameter	Default	Setting range		Description
INPUT	DIRECT IN SEL	DIRECT IN SEL Dolby DEC OUT		Selects a signal to be input to the Dolby encoder. ^{*1} DIRECT IN SEL: SOURCE channel signals Dolby DEC OUT: Output signal from the Dolby decoder
CH SEL	CH 1	CH 1-8		Selects a channel to which to assign a signal.
ASSIGN	SOURCE 1 ^{*2}	When DIRECT IN SEL is selected: SOURCE 1-16 PCM DOWNMIX-L PCM DOWNMIX-R 500Hz TONE 1KHz TONE SILENCE		When INPUT is set to DIRECT IN SEL: SOURCE 1-16: SOURCE signal selected in the 6-5 AUDIO MAPPING (MAPPING) menu PCM DOWNMIX-L/R: Down mixed signal generated from SOURCE channel signals. 500Hz/1KHz TONE: Test signal (TONE) SILENCE: Mute signal LOUD1/2,L,R,C,LFE,Ls,Rs: Loudness processed signal of the selected SOURCE channel.
		LOUD1- ^{*3} LOUD2- ^{*3}	L R C LFE Ls Rs	
		When Dolby DEC OUT is selected: Dolby DEC 1-8 DolbyDM-L DolbyDM-R 500Hz TONE 1KHz TONE SILENCE		When INPUT is set to Dolby DEC OUT: Dolby DEC1-8: PCM signal output from the Dolby decoder DolbyDM-L/R: Down mixed signal generated from Dolby-decoded PCM signal 500Hz/1KHz TONE: Test signal (TONE) SILENCE: Mute signal

*1 DIRECT IN SEL and Dolby DEC OUT settings are retained until changed. When an INPUT setting, DIRECT IN SEL or Dolby DEC OUT, is changed, CH1-8 signal assignments will be changed to that of the INPUT selection. DIRECT IN SEL and Dolby DEC OUT signals cannot be input to the Dolby encoder together. Dolby Digital signal output from the Dolby decoder, Dolby DEC OUT, cannot be encoded to the Dolby E signal.

*2 SOURCE channels corresponding to CH1-8 will be the default value.

(CH1: SOURCE 1 - CH8: SOURCE 8)

If INPUT is set to Dolby DEC OUT, the settings will be; CH1: Dolby DEC 1 - CH8: Dolby DEC 8.

*3 Shown only if FA-95ALA option is installed.

See section 6-9-3-4. "LOUDNESS CHANNEL ASSIGNMENT" for details on LOUD 1/2 settings.

6-9-2-2. Dolby ENCODER SETTING

* Menu is available only if the FA-95DE-E option is installed.

Dolby ENC SET		3 0 7
PROGRAM	:	5.1+2
BIT DEPTH	:	20bit
FRAME REF	:	CONV1

Menu button

VIDEO OP
AUDIO OP

Parameter	Default	Setting range	Description
PROGRAM	5.1+2	5.1+2 ^{*1} 5.1+2x1 ^{*1} 4+4 ^{*1} 4+2x2 ^{*1} 4+2+2x1 ^{*1} 4+4x1 ^{*1} 4x2 ^{*1} 3x2+2x1 ^{*1} 2x2+4x1 ^{*1} 2+6x1 ^{*1} 8x1 ^{*1} 5.1 4+2 4+2x1 3x2 2x2+2x1 2+4x1 6x1 4 2+2 2+2x1 4x1 ^{*1} 7.1 ^{*1} 7.1 Screen ^{*1}	Selects Dolby E encoder program configuration. See Dolby E Encoder Input Channel Assignment table in section 13 "Dolby E Decoder/Encoder Channel Assignment Table" for channel assignments of respective configurations.
BIT DEPTH	20bit	20bit 16bit	Selects the bit width of the Dolby E encoder output.
FRAME REF	CONV1	CONV1 CONV2	Selects a video output to which the Dolby E encoder output is synchronized. ^{*2} (Converter 1 or converter 2)

1 If BIT DEPTH is set to 16bit, the "" will be displayed and the program functions as 5.1. To select these configurations, set BIT DEPTH to 20bit.

*2 See section 5-8 "VIDEO OUT SELECT (OUT SEL)" for details on CONV1 and CONV2 settings.

6-9-2-3. METADATA INPUT

* Menu is available only if the FA-95DE-E option is installed.

METADATA INPUT		3 0 8
SELECT	:	INTERNAL

Menu button

VIDEO OP
AUDIO OP

Parameter	Default	Setting range	Description
SELECT	INTERNAL	INTERNAL Dolby DEC OUT	Selects a metadata to be used for Dolby E encoding. INTERNAL: Uses the program configuration and bit depth selected in the 6-9-7 Dolby ENCODER SETTING menu. Other metadata will be reset to default. Dolby DEC OUT: Uses the metadata of the Dolby E signal input to the Dolby decoder. The program configuration and bit depth selected in the 6-9-2-2 Dolby ENCODER SETTING will be ineffective.

6-9-3. Automatic Loudness Adjustment (FA-95ALA)

Automatic Loudness Adjustment is the function that measures and automatically adjusts the input audio signal loudness level to the target level. The FA-95ALA in one option slot can measure and adjust the loudness level of 2 signals (monaural, stereo, or 5.1 ch selectable) simultaneously. The following menus allow you to set the loudness measurement and adjustment parameters. See section 6-1-2 "SDI REMAPPING" 6-2-3 "AES REMAPPING" 6-3-5 "ANALOG REMAPPING" for details on the output assignments of the adjusted signals to SDI, AES or analog audio output.

* Available only if the FA-95ALA option is installed.

6-9-3-1. LOUDNESS MEASUREMENT

• Channel -1 display

LOUD MEASURE 1				3 2 1
MOMENT SHORT LONG				
I :	- 20.0	- 20.0	- 20.0	
O :	-----	-----	-----	
F3>	STR	F4>CL	0:00:03	

Menu button

VIDEO OP
AUDIO OP

• Channel -2 display

LOUD MEASURE 2				3 3 1
MOMENT SHORT LONG				
I :	- 20.0	- 20.0	- 20.0	
O :	-----	-----	-----	
F3>	STR	F4>CL	0:00:03	

Parameter	Default	Setting range	Description
I (INPUT)	-	-	Displays the measured loudness level of the FA-95ALA input audio signal in LKFS. See section 6-9-3-4. LOUDNESS CHANNEL ASSIGNMENT for details on input settings. ^{*1} MOMENT : Momentary loudness level SHORT : Short-term loudness level LONG : Long-term loudness level
O (OUTPUT)	-	-	Displays the loudness level of the audio signal adjusted by the FA-95ALA in LKFS. Displays "-----" if the adjustment is disabled. ^{*1} MOMENT : Momentary loudness level SHORT : Short-term loudness level LONG : Long-term loudness level
F3>	STR	STR (START) STP (STOP)	Pressing the F3 control knob starts loudness measurement and adjustment. Press again to stop. Pressing the F3 control knob alternates the menu display between STR and STP. ^{*2} STR : Starts measuring and adjusting. STP : Stops measuring and adjusting. Once the measurement and adjustment starts, the elapsed time will be displayed.
F4>	CL	-	Pressing the F4 control knob clears all measured loudness levels and the elapsed time display.

^{*1} Displays "NA" for no input signal. All values measured as over 0.0 LKFS will be displayed as "0.0".

IMPORTANT

Measurement and adjustment can be performed for up to 6:59:59 (6 hr 59 min 59 sec). If measurement continues for the maximum duration, the elapsed time display restarts from 0:00:00.

6-9-3-2. LOUDNESS CONTROL ENABLE

• Channel -1 display

LOUD CTRL ENA1	3 2 2
CONTROL	: OFF
RESPONSE S	: NORMAL
RESPONSE F	: NORMAL

Menu button

VIDEO OP
AUDIO OP

• Channel -2 display

LOUD CTRL ENA2	3 3 2
CONTROL	: OFF
RESPONSE S	: NORMAL
RESPONSE F	: NORMAL

Parameter	Default	Setting range	Description
CONTROL	OFF	OFF ON	Allows you to turn On or Off the Loudness Level Adjustment feature. Set to Off to perform only loudness measurement. The setting can be changed only when loudness is not being measured. While measuring the loudness level, "OFF(LOCK)" or "ON(LOCK)" is displayed, and the setting cannot be changed.
RESPONSE S	NORMAL	NA -4, -3, -2, -1 NORMAL +1, +2, +3, +4	Allows you to select the loudness level adjustment speed (SLOW) to achieve the target level for long-term loudness level adjustment, allowing gradual leveling. The larger the value, the faster the response allowing greater adjustment. NA: Disables the SLOW adjustment function.
RESPONSE F	NORMAL	NA -4, -3, -2, -1 NORMAL +1, +2, +3, +4	Allows you to select the loudness level adjustment speed (FAST) to achieve the target level for instantaneous loudness level adjustment allowing sudden leveling (leveling down only). The larger the value, the faster the response allowing greater adjustment. NA: Disables the FAST adjustment function.

IMPORTANT

Set RESPONSE according to the input signal. Larger values under both RESPONSE settings are recommended for materials with dynamic loudness level ranges. Smaller values under both settings are recommended for materials for which only minimum leveling is preferred, such as music materials.

6-9-3-3. LOUDNESS CONTROL SETTINGS

• Channel -1 display

LOUD CTRL SET1			3 2 3
TARGET	:	- 2 4 . 0 + 0 . 0 L U	
MIN GAIN	:	- 2 0 . 0 d B	
MAX GAIN	:	0 . 0 d B	

Menu button

VIDEO OP
AUDIO OP

• Channel -2 display

LOUD CTRL SET2			3 3 3
TARGET	:	- 2 4 . 0 + 0 . 0 L U	
MIN GAIN	:	- 2 0 . 0 d B	
MAX GAIN	:	0 . 0 d B	

Parameter	Default	Setting range	Description
TARGET	+0.0 LU	-2.0 to +2.0 LU (0.1 LU)	Allows you to set the target loudness level. The target level specified by the standard that is selected under the LOUDNESS STANDARD menu (sec. 6-9-3-5) is displayed to the left.
MIN GAIN	-20.0 dB	-20.0 to 0.0 dB (1.0 dB)	Allows you to set the minimum gain (lower threshold) to limit attenuation.
MAX GAIN	0.0 dB	0.0 to +5.0 dB (1.0 dB)	Allows you to set the maximum gain (upper threshold) to limit magnification.

6-9-3-4. LOUDNESS CHANNEL ASSIGNMENT

• Channel -1 display

LOUD	CH	ASGN1	3 2 4
MODE	:	STEREO	
L	:	SOURCE1	
R	:	SOURCE2	
C	:	INVALID	
LOUD	CH	ASGN1	3 2 5
LFE	:	INVALID	
LS	:	INVALID	
RS	:	INVALID	

Menu button

VIDEO OP
AUDIO OP

• Channel -2 display

LOUD	CH	ASGN2	3 3 4
MODE	:	STEREO	
L	:	SOURCE9	
R	:	SOURCE10	
C	:	INVALID	
LOUD	CH	ASGN2	3 3 5
LFE	:	INVALID	
LS	:	INVALID	
RS	:	INVALID	

Parameter	Default	Setting range	Description
MODE	STEREO	MONAURAL ^{*3} STEREO 5.1 CH	Allows you to specify the audio mode of the audio signal to be measured and adjust its loudness level. MONAURAL : Only L channel will be subject to loudness adjustment. Other channels will be unselectable. STEREO : L and R channels will be subject to loudness adjustment. Other channels will be unselectable. 5.1 CH : All channels will be subject to loudness adjustment.
L (CH)	SOURCE1 ^{*1}	SOURCE 1-16 ^{*4} DOWNMIX-L, R ^{*5} Dolby DEC-1-8 ^{*5} Dolby DM-L, R ^{*5}	Allows you to select an audio channel of which loudness level to be measured and adjusted. SOURCE : Source channel signals (See sec. 6-5-1. SOURCE/SRC SEL) DOWNMIX : Internally generated downmixed audio channels (See sec. 6-7. DOWN MIX SET) Dolby DEC : Dolby decoder output audio channels (See sec. 6-9.AUDIO OPTION (AUDIO OP).) Dolby DM : Dolby decoder downmixed output audio channels (See sec. 6-9.AUDIO OPTION (AUDIO OP).) Invalid channels due to their Mode settings will be indicated as "INVALID".
R (CH)	SOURCE2 ^{*1}		
C (CH)	INVALID (SOURCE3) ^{*1}		
LFE (CH) ^{*2}	INVALID (SOURCE4) ^{*1}		
Ls (CH)	INVALID (SOURCE5) ^{*1}		
Rs (CH)	INVALID (SOURCE6) ^{*1}		

^{*1} Default of Channel-1 is "L(CH)=SOURCE1, R(CH)=SOURCE2" and Channel-2 is "L(CH)=SOURCE9, R(CH)=SOURCE10, C(CH)=SOURCE11, LFT(CH)=SOURCE12, Ls(CH)=SOURCE13, and Rs(CH)=SOURCE14".

^{*2} The LFE channel is not subject to measurement, but to adjustment.

^{*3} If MODE is set to MONAURAL, the output signal for LOUD 1/2 R selected in the SDI, AES or Analog REMAPPING menu will be the same as that for LOUD 1/2-L.

^{*4} Only signals processed in the SRC will be subject to Loudness adjustments. See section 6-5. "AUDIO MAPPING (MAPPING)" for details on SRC settings.

^{*5} Shown if the FA-95D-D or FA-95DE-E is installed.

6-9-3-5. LOUDNESS STANDARD

Settings in this menu are common for channels 1 and 2.

LOUD STANDARD		3 4 0
STANDARD	:	ARIB
TARGET LVL	:	- 24.0 LKFS
MOMENTARY	:	400 msec
SHORT TERM	:	3000 msec

Parameter	Default	Setting range	Description
STANDARD	ARIB	ARIB ATSC A85 EBUR128 ITU R1770	Allows you to select the standard under which the loudness measurement and adjustment will be conducted. ARIB: ARIB TR-B32 ATSC A85: ATSC A/85 EBU R128: EBU-R128 ITU R1770: ITU-R BS.1770
TARGET LVL	-	-	Displays the specified target level of the selected standard.
MOMENTARY	-	-	Displays the specified measurement duration (Momentary) of the selected standard.
SHORT TERM	-	-	Displays the specified measurement duration (Short Term) of the selected standard.

Parameter Specification of Standards used in the FA-95ALA

Parameter	ARIB TR-B32	ATSC A/85	EBU-R128	ITU-R BS.1770
Target Level	-24.0 LKFS	-24.0 LKFS	-23.0 LUFS	-24.0 LKFS
Momentary Average Time	400 msec	125 msec	400 msec	400 msec
Short Term Average Time	3000 msec	10000 msec	3000 msec	3000 msec
Absolute Gating	-70.0 LKFS	NONE	-70.0 LUFS	-70.0 LKFS
Relative Gating	-10 LU	NONE	-10 LU	-10 LU
Overlap Size	75%	0%	75%	75%

6-10. AUDIO SYSTEM Settings (AUDIO SYS)

Allows you to set basic settings on the audio system.

6-10-1. FADE IN / OUT

FADE IN/OUT	1 8 1
FADE MODE: DISABLE	
FADE TIME: 12 msec	

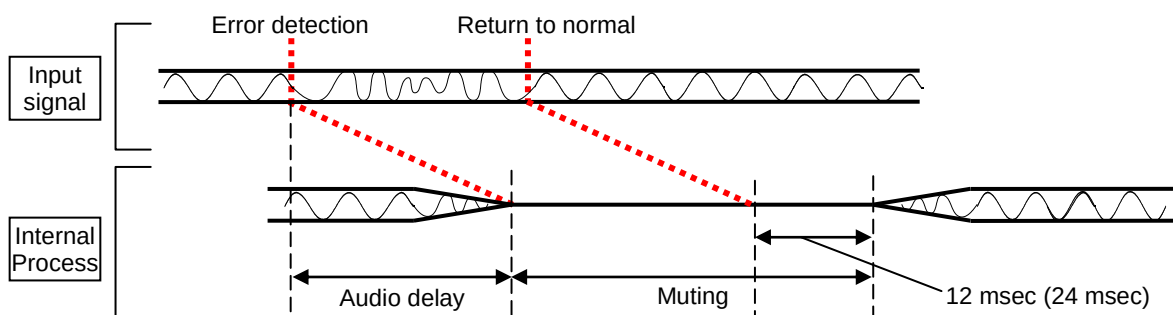
Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
FADE MODE	DISABLE	DISABLE ENABLE	DISABLE: Always outputs input audio signals without adding any effect such as Fade or Mute. ENABLE: Sets an audio to mute with fade out if an audio error is detected, and make it fade in when recovered. ^{*1}
FADE TIME	12 msec	12 msec 24 msec	Sets the duration for FADE IN and OUT transitions.

^{*1} To use this function, the audio delay must be set longer than the sum of the FADE TIME and error detection time (2 msec).

Ex.) If FADE TIME is set to 12 msec, the audio delay must be longer than 14 msec; i.e. 12+ 2 msec (error detection time).



IMPORTANT

FADE IN/OUT may not function properly for the switching between AES input signals whose sampling rates are different, or that are asynchronous.

6-10-2. DIGITAL AUDIO

DIGITAL AUDIO	1 8 2
REF LEVEL : -20dBFS	
GRADE : PROFESSIONAL	
RESOLUTION : 24bit	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
REF LEVEL	-20dBFS	-18dBFS -20dBFS -24dBFS	Selects the reference level for digital audio signals. See section 11 "ANALOG/DIGITAL Audio Input/Output Level" for details.
GRADE	PROFESSIONAL	PROFESSIONAL CONSUMER	Selects an audio application for AES and SDI AUDIO outputs. PROFESSIONAL : Optimized for professional use. CONSUMER : Optimized for consumer use.
RESOLUTION	24bit	24bit, 20bit, 16bit	Selects an audio word length for AES and SDI AUDIO outputs.

6-10-3. AUDIO ERR SENSE

AUDIO ERR SENSE	1 8 3
CH SEL : SDI 1/2	
CH STATUS : SRC BYPASS	
VALIDITY : SRC BYPASS	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
CH SEL	SDI 1/2	SDI 1/2 - SDI 15/16 AES 1/2 - AES 7/8	Selects a stereo channel pair for which to enable Audio Error SENSE.
CH STATUS	SRC BYPASS	SRC BYPASS PCM MUTE	Selects audio error sensor mode for each stereo channel pair of SDI and AES input audio signals whose NON-PCM channel status flag is 1. ^{*1} SRC BYPASS : Treats audio signals as NON-PCM. By-passes audio signals through SRC ^{*2} , and selects audio clock input in the NON-PCM ^{*3} signal channel for SDI AUDIO CLOCK. PCM : Treats audio signals as PCM (standard audio signal). By-passes audio signals through SRC ^{*2} , and selects REFERENCE for SDI AUDIO CLOCK. ^{*3} MUTE : Treats audio signals as mute signals.
VALIDITY	SRC BYPASS	SRC BYPASS PCM MUTE	Selects audio error sensor mode for each stereo channel pair of SDI and AES input audio signals whose channel status Validity Bit flag is 1. ^{*1} SRC BYPASS : Treats audio signals as NON-PCM. By-passes audio signals through SRC ^{*2} , and selects audio clock input in the NON-PCM ^{*3} signal channel for SDI AUDIO CLOCK. PCM : Treats audio signals as PCM (standard audio signal). By-passes audio signals through SRC ^{*2} , and selects REFERENCE for SDI AUDIO CLOCK. ^{*3} MUTE : Treats audio signals as mute signals.

Parameter	Default	Setting range	Description
CORRECTION	NORMAL	DISABLE NORMAL SENSITIVE	FA-9500 can fade^{*4} and mute audio when it detects a change in the audio status due to, e.g., signal switchover. This parameter allows you to select whether to detect changes and how sensitive detection should be to such changes. DISABLE: Disables mute function when change in audio status is detected. Normally not selected. NORMAL: Mutes when a change on an SDI signal, ADP (Audio Data Packet), or DBN (Data Block Number) is detected. Normally selected. SENSITIVE: Mutes when a change on channel status, or EDP (Extended Data Packet) presence (only for SD-SDI), as well as the above items, is detected.

*1 Channel status and audio channel (input) Validity Bit can be checked using a wave form monitor.

*2 Processes audio signals as described if SRC MODE in the 6-5-1 SOURCE/SRC SEL menu is set to AUTO.

*3 Processes audio signals as described if SDI AUDIO CLOCK in section 6-1-4 is set to AUTO.

*4 Fade function depends on the FADE MODE setting in the 6-10-1 FADE IN/OUT menu.

◆ CH STATUS

The FA-9500 determines whether the input audio signal is PCM or not from the NON-PCM flag carried in the Audio Channel Status (ACS). If ACS is incorrect it may lead to improper processing. This setting may effective processing such audio signals with incorrect ACS properly.

◆ VALIDITY

The FA-9500 determines whether the input audio signal is PCM or not using Validity Bits (V Bit) in audio signal. If Validity Bit (V Bit) is incorrect the audio signal may cause improper processing. This setting may effective processing such audio signals with incorrect Validy Bits properly.

IMPORTANT

Please use these settings only if there is audio noise or the audio is muted. Otherwise, do not change the default setting.

◆ CORRECTION

Normally set to **NORMAL**. Set to **DISABLE** for a specific program or duration when audio output has noise or is muted.

The FA-9500 fades out audio or resets the delay circuit when a status change (SDI signal input interruption, signal switchover (by a router, etc.) is detected. Faulty ancillary data in normal audio signals may also be detected as status changes.

Audio signals with such faulty ancillary data may lead the FA-9500's automatic correction to improperly process the audio input and produce noise or mute the audio.

Note that disabling the automatic correction can prevent such improper processing, however, the following functions will also be disabled.

- After a signal switchover by router or the recovery of an interrupted SDI signal, delay settings will lose their accuracy to within 1.3 msec max. Audio signal phases among audio groups will not match.

Perform either of the following operations when setting CORRECTION to **DISABLE**, or changing the setting from **DISABLE** to **NORMAL**.

(a) Change the 6-1-5. "SDI IN AUDIO" ALIGNMENT setting from **DISABLE** to **ENABLE**.

(b) Disconnect and reinput the SDI input signal.

These operations reset the audio circuit and minimize the delay differences and group audio phase differences. Output audio signals will be muted while performing the operations.

6-10-4. DIGITAL SILENCE

DIGITAL SILENCE	184
SILENCE TIME: 2sec	
SILENCE LVL : -72dBFS	

Menu button

VIDEO SYS
AUDIO SYS

Parameter	Default	Setting range	Description
SILENCE TIME	2sec	1 - 10sec	Sets the duration to determine the SDI embedded audio and AES input signals are silent. The audio status display appears as ^{*1} Silence after the set duration.
SILENCE LVL	-72dBFS	-72dBFS -66dBFS -60dBFS -54dBFS -48dBFS	Sets the audio level to determine the SDI embedded audio and AES input signals are silent. ^{*1}

*1 According to this setting, the audio status is displayed in the SDI 1 IN AUDIO (5-13-7), SDI 2 IN AUDIO (5-13-8), and AES IN AUDIO menus (5-13-9).

7. Other Settings & Information (OTHER)

Allows you to set other settings other than video and audio settings.

Also, information on the various versions and installation states of FA-9500 option items can be viewed.

7-1. CONTROL SETTING

CONTROL SETTING	1 9 5
CONTROL : LOCAL	

Menu button

STATUS
OTHER

Parameter	Default	Setting range	Description
CONTROL	LOCAL	LOCAL REMOTE	LOCAL: Disables control from FA-95RU. (Front panel REMOTE LED is lit.) REMOTE: Enables control from FA-95RU. (Front panel REMOTE LED is unlit.)

* This menu cannot be accessed from the FA-95RU.

7-2. FRONT OPERATION

FRONT OPERATION	1 9 6
MODE : NORMAL	

Menu button

STATUS
OTHER

Parameter	Default	Setting range	Description
MODE	NORMAL	NORMAL LIVE SAFE	Allows you to select a front panel operation mode. NORMAL: Changes made by control knobs F1 to F4 will be applied immediately to the unit. LIVE SAFE: Requires confirmation before control knob changes are applied. *

* Whenever a change is made by control knobs F1 to F4, the single-arrow buttons (up and down) and the LED around the control knob of the changed parameter blink confirming the change. Pressing the single down arrow button confirms the change and the control knob LED lights. Pressing the single up arrow button cancels the change and everything reverts to the previous state. Refer to section 4. "Front Panel Operations" for details.

* The FRONT OPERATION menu in the FA-95RU allows you to select a front panel operation mode for the FA-95RU.

7-3. FRONT PANEL SET

FRONT PANEL SET		197
VFD BRIGHT	:	50
VFD AUTO OFF	:	5min
LED BRIGHT	:	LEVEL4
BUZZER	:	ENABLE

Menu button

STATUS
OTHER

Parameter	Default	Setting range	Description
VFD BRIGHT	50	10 - 50	Sets brightness of the menu display. 10 - 50: dark to bright
VFD AUTO OFF	DISABLE	DISABLE 5min 10min 30 min	Sets the idle time before turning off the menu display. DISABLE: Does not turn off the menu display.
LED BRIGHT	LEVEL4	LEVEL1 - 8	Sets the brightness of all LED indicators on the front panel. LEVEL1 – 8: dark to bright
BUZZER	ENABLE	DISABLE ENABLE	DISABLE: Disable buzzer ENABLE: Enable buzzer

* This menu cannot be accessed from the FA-95RU.

7-4. GPI SETTING

GPI SETTING	198
GPI1-7 SEL: GPI1 IN/OUT SEL: INPUT ASSIGN: NONE	

Menu button

STATUS
OTHER

Parameter	Default	Setting range	Description
GPI1-7 SEL	GPI1	GPI1-7	Selects a GPI pin of the REMOTE port.
IN/OUT SEL ^{*1}	INPUT	INPUT OUTPUT	Selects whether to use the GPI pin that is selected under GPI1-7 SEL for input or tally output.
ASSIGN	NONE	In case IN/OUT SEL is set to INPUT^{*2} NONE BY-PASS FREEZE FULL CB 75% CB SMPTE CB RAMP SDI1 SDI2 COMPOSITE YPbPr SMPTE^{*4} YPbPr BETACAM^{*4} RGB^{*4} Y/C^{*4} DEFAULT EVENT1 - 100 CHGOV ENABLE^{*5} CHGOV DISABLE^{*5} CONV1 KEYSER CONV2 KEYSER^{*6} CONV1 LOAD 1 - 7^{*6} CONV2 LOAD 1 - 7^{*7} LOUD1, 2 START^{*7} LOUD1, 2 CLEAR^{*7} In case IN/OUT SEL is set to OUTPUT NONE^{*3} FREEZE^{*3} VIDEO IN^{*3} AUDIO IN^{*3} REF IN^{*3} FAN ALARM^{*3} DC POWER1^{*3} DC POWER2^{*3} SDI1 SDI2 COMPOSITE^{*4} YPbPr SMPTE^{*4} YPbPr BETACAM^{*4} RGB^{*4} Y/C^{*4} CHANGEOVER^{*5} CHGOV ENABLE^{*5} CONV1KEYER CONV2KEYER^{*7} LOUD1, 2 CTRL^{*7}	Assigns a function to the GPI pin that is selected under GPI1-7 SEL according to the selection under IN/OUT SEL.
LOGO ID	1 - 7	1 - 256	Selects a logo ID for the selected CONV1 LOAD 1 - 7, or CONV2 LOAD 1 - 7.

^{*1} Whenever the IN/OUT SEL setting is changed, ASSIGN is reset to NONE. Reset ASSIGN.

^{*2} The input functions consist of pulse mode and level mode functions. See the following “◆INPUT FUNCTION” for details.

^{*3} Details of the output functions are shown in the “◆OUTPUT FUNCTION” on the next page. Power 1 and 2 are selectable if the FA-95PS option is installed.

- *4 Effective if the FA-95CO option is installed.
- *5 Effective if the FA-95AIO option is installed.
- *6 CONV1 LOGOs 1 - 7, and CONV2 LOGOs 1 – 7 will be displayed, if selected, as “LOGO ID: 1”. Logo ID can be assigned to any number 1 through 256. In the following cases, the logo will not be inserted to the converter output signals, although data will be loaded to the FA-9520.
- No logo is registered under the selected Logo ID.
 - The registered logo format and converter output video format do not match.
 - The keyer of the relevant converter is turned off.
- *7 Shown only if the FA-95ALA option is installed.

◆ INPUT FUNCTION

Function	Mode	Description
NONE		No function
BY-PASS	Level	Selects OPERATE or BY-PASS Shorted to GND: BY-PASS OPEN: OPERATE
FREEZE ^{*1}	Level	Sets FREEZE ON/OFF Shorted to GND: FREEZE ON OPEN: FREEZE OFF
FULL CB	Level	Selects FULL CB (color bar) for the test signal Shorted to GND: FULL CB ON OPEN: FULL CB OFF
75% CB	Level	Selects 75% CB for the test signal Shorted to GND: 75% CB ON OPEN: 75% CB OFF
SMPTE CB	Level	Selects SMPTE CB for the test signal Shorted to GND: SMPTE CB ON OPEN: SMPTE CB OFF
RAMP	Level	Selects RAMP for the test signal Shorted to GND: RAMP ON OPEN: RAMP OFF
SDI1 ^{*2} SDI2 ^{*2} COMPOSITE YPbPr SMPTE ^{*3} YPbPr BETACAM ^{*3} RGB ^{*3} Y/C ^{*3}	Pulse	Selects an input video signal. Switches over to the selected input signal when shorted to GND.
CHGOV ENABLE CHGOV DISABLE	Pulse	Enables or disables the CHANGE OVER settings. If CHGOV ENABLE is selected, CHANGE OVER will be enabled when the pin is shorted to GND. If CHGOV DISABLE is selected, CHANGE OVER will be disabled when the pin is shorted to GND. However, CHANGE OVER may not be enabled depending on the 5-7-1 VIDEO INPUT SET menu setting.
DEFAULT EVENT 1 - 100	Pulse	Loads the DEFAULT, and events 1 through 100. When shorted to GND, the assigned settings (among default and events) will be loaded.
CONV1 KEYER CONV2 KEYER	Level	Sets the converter 1 keyer ON/OFF. Shorted to GND: Keyer ON OPEN: Keyer OFF
CONV1 LOAD 1-7 CONV2 LOAD 1-7	Pulse	The logo assigned to a LOGO ID will be loaded to the selected converter. CONV1/2 LOAD 1 - LOAD 7 are assigned to LOGO IDs.
LOUD1 START ^{*4} LOUD2 START ^{*4}	Level	Starts or Stops LOUDNESS measurement. Shorted to GND: Starts LOUDNESS measurement OPEN: Stops LOUDNESS measurement
LOUD1 CLEAR ^{*4} LOUD2 CLEAR ^{*4}	Pulse	Clears LOUDNESS measurement and elapsed time.

*1 Although FREEZE is set to ON, the freeze function is disabled if SYNCHRO in section 5-10-1 “FS MODE SET” is set to LINE, AVDL, or INPUT. In such case, the menu will be displayed as “*FREEZE”. To enable FREEZE for INPUT FUNCTION, be sure to set SYNCHRO to FRAME.

- *2 When the FA-95CO is installed and Changeover is enabled the value will be displayed with an asterisk, as ***SDI1**, ***SDI2**, or ***COMPOSITE** indicating the input selection cannot be changed. See section 5-7-1 "VIDEO INPUT SET" for details.
- *3 Effective only if FA-95AIO option is installed.
- *4 Effective only if FA-95ALA option is installed.

NOTE	
See section 14 "REMOTE" for details on pulse and level durations.	

◆ OUTPUT FUNCTION

Function	Description	
NONE	No function	
FREEZE	FREEZE ON:	Low
	FREEZE OFF:	High (Open Collector)
VIDEO IN	Signal present:	Low
	No signal present:	High (Open Collector)
AUDIO IN	Signal present:	Low
	No signal present:	High (Open Collector)
REF IN	Signal present:	Low
	No signal present:	High (Open Collector)
FAN ALARM ^{*1}	FAN failed:	Low
	FAN normal:	High (Open Collector)
DC POWER 1 ^{*2}	Power 1 failure:	Low
	Power 1 normal:	High (Open Collector)
DC POWER 2 ^{*2}	Power 2 failure:	Low
	Power 2 normal:	High (Open Collector)
SDI1	SDI1 input signal is selected:	Low
	SDI1 input signal is not selected:	High (Open Collector)
SDI2	SDI2 input signal is selected:	Low
	SDI2 input signal is not selected:	High (Open Collector)
COMPOSITE	COMPOSITE input signal is selected:	Low
	COMPOSITE input signal is not selected:	High (Open Collector)
YPbPr SMPTE ^{*3}	YPbPr SMPTE input signal is selected:	Low
	YPbPr SMPTE input signal is not selected:	High (Open Collector)
YPbPr BETACAM ^{*3}	YPbPr BETACAM input signal is selected:	Low
	YPbPr BETACAM input signal is not selected:	High (Open Collector)
RGB ^{*3}	RGB input signal is selected:	Low
	RGB input signal is not selected:	High (Open Collector)
Y/C ^{*3}	Y/C input signal is selected:	Low
	Y/C input signal is not selected:	High (Open Collector)
CHANGEOVER ^{*4}	CHANGEOVER inactive:	Low
	CHANGEOVER occurring:	High (Open Collector)
CHGOV ENABLE ^{*4}	CHNGEOVER is enabled:	Low
	CHNGEOVER is disabled:	High (Open Collector)
CONV1 KEYER	CONVERTER1 KEYER is enabled:	Low
	CONVERTER1 KEYER is disabled:	High (Open Collector)
CONV2 KEYER	CONVERTER2 KEYER is enabled:	Low
	CONVERTER2 KEYER is disabled:	High (Open Collector)
LOUD1 CTRL ^{*5}	LOUDNESS CONTROL1 CONTROL is enabled: Low LOUDNESS CONTROL1 CONTROL is disabled: High (Open Collector)	
LOUD2 CTRL ^{*5}	LOUDNESS CONTROL2 CONTROL is enabled: Low LOUDNESS CONTROL2 CONTROL is disabled: High (Open Collector)	

*1 FAN ALARM goes to low (active), if either one of two fans fails.

*2 Effective if the optional FA-95PS is installed.

*3 Effective if the optional FA-95AIO is installed.

*4 Effective if the optional FA-95CO is installed.

*5 Effective if the optional FA-95ALA is installed.

7-5. NETWORK INFO

NETWORK INFO		199
NAME: FA-9500		
IP: 192.168.0.10		
SUB: 255.255.255.0		
GW: 0.0.0.0		

Menu button

STATUS
OTHER

Parameter	Default	Description
NAME	FA-9500	Displays the unit name. To change the unit name, see Unit Name in section 9-6-1 "Event Control"
IP	192.168.0.10	Displays the LAN PORT1 IP address.
SUB	255.255.255.0	Displays the LAN PORT1 subnet mask.
GW	0.0.0.0	Displays the LAN PORT1 gateway.

The NETWORK INFO settings can be changed on a web browser window on a computer.
See section 9-8-2 "NETWORK SETTING" for details.

7-6. UNIT Ver.

UNIT Ver.		200
FPGA1: 01.00		
FPGA2: 01.00		
FPGA3: 01.00		
SOFT: 01.00		

Menu button

STATUS
OTHER

Parameter	Description
FPGA1	Displays the FPGA1 version information.
FPGA2	Displays the FPGA2 version information.
FPGA3	Displays the FPGA3 version information.
SOFT	Displays the software version information.

7-7. OPTION A Ver.

OPTION A Ver.	201
NAME : NONE	
FPGA1 : --. --	
FPGA2 : --. --	
SOFT : --. --	

Menu button

STATUS
OTHER

Parameter	Default	Setting range (Steps)	Description
NAME	-	-	Displays the name of the optional device that is installed in OPTION SLOT A. Displays "NONE" if no device is installed.
FPGA1	-	-	Displays the FPGA1 version information in OPTION SLOT A. Displays "--. --" if the version is not supported.
FPGA2	-	-	Displays the FPGA2 version information in OPTION SLOT A. Displays "--. --" if the version is not supported.
SOFT	-	-	Displays the version information of SOFT in OPTION SLOT A. Displays "--. --" if the version is not supported.

◆ Display when FA-95DACBL is installed

OPTION A Ver.	201
NAME : FA-95DACBL	
FPGA1 : --. --	
FPGA2 : --. --	
SOFT : --. --	

7-8. OPTION B Ver.

OPTION B Ver.	202
NAME : NONE	
FPGA1 : --. --	
FPGA2 : --. --	
SOFT : --. --	

Menu button

STATUS
OTHER

Parameter	Default	Setting range (Steps)	Description
NAME	-	-	Displays the name of the optional device that is installed in OPTION SLOT B. Displays "NONE" if no device is installed.
FPGA1	-	-	Displays the FPGA1 version information in OPTION SLOT B. Displays "--. --" if the version is not supported.
FPGA2	-	-	Displays the FPGA2 version information in OPTION SLOT B. Displays "--. --" if the version is not supported.
SOFT	-	-	Displays the version information of SOFT in OPTION SLOT B. Displays "--. --" if the version is not supported.

◆ Display when FA-95DACBL is installed

OPTION B Ver.	202
NAME : FA-95DACBL	
FPGA1 : --. --	
FPGA2 : --. --	
SOFT : --. --	

7-9. OTHER OPTION

OTHER OPTION		204
FA-95PS	:	INSTALLED

Menu button

STATUS
OTHER

Parameter	Default	Setting range	Description
FA-95PS	-	-	INSTALLED: FA-95PS option is installed. NONE: FA-95PS option is not installed.

7-10. SOFT OPTION1

SOFT OPTION1		205
FA-95AVO	:	NONE
FA-95SCNV	:	INSTALLED
FA-95-3G	:	NONE

Menu button

STATUS
OTHER

Parameter	Default	Setting range	Description
FA-95AVO *	-	-	INSTALLED: FA-95AVO is installed. NONE: FA-95AVO is not installed.
FA-95SCNV	-	-	INSTALLED: FA-95SCNV option is installed. NONE: FA-95SCNV option is not installed.
FA-95-3G	-	-	INSTALLED: FA-95-3G option is installed. NONE: FA-95-3G option is not installed.
FA-95FRC	-	-	INSTALLED: FA-95FRC option is installed. NONE: FA-95FRC option is not installed.

* FA-95AVO comes standard (optional in Japan).

7-11. SOFT OPTION2

SOFT OPTION2		203
FA-95LG	:	NONE
FA-95CO	:	INSTALLED

Menu button

STATUS
OTHER

Parameter	Default	Setting range (Steps)	Description
FA-95LG	-	-	INSTALLED: Logo Generator is installed. NONE: Logo Generator is not installed.
FA-95CO	-	-	INSTALLED: FA-95CO option is installed. NONE: FA-95CO option is not installed.

8. Event Memory

The FA-9500 can store 100 event memories, as well as sets of settings, each of which are stored for each format.

Every press of the EVENT button alternates the menus: EVENT LOAD (lit green), EVENT SAVE (lit red), and EVENT SETUP (lit orange). To go to the desired page, press the EVENT button a few times, or press the EVENT button once and the up or down single arrow button to move between EVENT pages.

8-1. EVENT LOAD

EVENT LOAD	191
NO.: VIDEO FORMAT	
LOAD START F2 UNITY	
FORMAT: 1080/59i	

Menu button

EVENT

Parameter	Default	Setting range	Description
NO.	VIDEO FORMAT	VIDEO FORMAT ^{*2} DEFAULT ^{*1} EVENT1 - EVENT100	Selects the number of an event you want to load.
LOAD START F2 UNITY	-	-	Loads the event that is selected under NO. when the F2 UNITY button is pressed.
-	-	-	Displays the signal format if NO. is set to VIDEO FORMAT.

*1 DEFAULT loads the default settings.

*2 VIDEO FORMAT loads the settings that are stored for the respective video formats the FA-9500 uses. The current video format is displayed on the third row.

The EVENT LOAD menu is disabled and appears as shown below if AUTO LOAD is set to ENABLE in the EVENT SETUP menu (8-3).

To enable the EVENT LOAD menu, set AUTO LOAD to DISABLE.

EVENT LOAD	191
NO.: - - - -	
AUTO LOAD ENABLE!	

8-2. EVENT SAVE

EVENT SAVE	1 9 2
NO.: VIDEO FORMAT LOAD START F2 UNITY FORMAT: 1080/59i	

Menu button

EVENT

Parameter	Default	Setting range	Description
NO.	VIDEO FORMAT	VIDEO FORMAT ^{*1} EVENT1 - EVENT100	Selects the number of an event you want to save.
LOAD START F2 UNITY	-	-	Saves the event that is selected under NO. when the F2 UNITY button is pressed.
-	-	-	Displays the signal format if NO. is set to VIDEO FORMAT.

*1 VIDEO FORMAT saves settings to memory for the respective video formats the FA-9500 uses. The current video format is displayed on the third row.

The EVENT SAVE menu is disabled and appears as shown below if AUTO LOAD is set to ENABLE in the EVENT SETUP menu (8-3). To enable the EVENT SAVE menu, set AUTO LOAD to DISABLE.

EVENT SAVE	1 9 2
NO.: - - - - AUTO LOAD ENABLE!	

8-3. EVENT SETUP

EVENT SETUP	1 9 3
START: LAST SETTING AUTO LOAD: DISABLE	

Menu button

EVENT

Parameter	Default	Setting range	Description
START	LAST SETTING	LAST SETTING VIDEO FORMAT DEFAULT EVENT1 - EVENT100	Selects an event you want to load at startup. LAST SETTING: Loads the last settings that are used before startup. VIDEO FORMAT: Loads the settings that are stored in event memory for the last format that is detected before startup. DEFAULT: Resets all settings to the default settings at startup. EVENT1 - 100: Loads the selected event memory among event memory settings 1 through 100.
AUTO LOAD	DISABLE	DISABLE ENABLE	ENABLE: Loads the respective video format settings. If the video input is changed to a different format, the settings of the changed format will be loaded.

NOTE

Events 1 through 100 can be renamed. See Set Event Name in section 9-6-1 "Event Control" for details.

8-4. Parameters That Are Not Stored in Event Memories

The following parameters are not stored in event memories.

DISABLE/ENABLE settings of CHANGEOVER in the VIDEO INPUT SET menu (5-7-1).

ON/OFF settings of FREEZE in the FREEZE SET menu (5-10-2).

ON/OFF settings of MASTER MUTE in the MASTER OUT GAIN Settings (MASTER) menu (6-4).

All settings in the EVENT SETUP menu (8-3).

All settings in the Other Settings & Information (OTHER) menu (7).

All settings in the Various Signal Status Display (STATUS) menu (5-13).

Unit Name setting in the Event Control menu (9-6-1).

All settings in the Network Settings menu (9-8).

All settings in the LOUDNESS MEASUREMENT menu (6-9-3-1).

ON/OFF settings of CONTROL in the LOUDNESS CONTROL ENABLE menu (6-9-3-2).

8-5. Note on Event Memory Operation

Do not power off the unit while saving an event. The event may not be properly stored.

Also, the FA-9500 regularly updates the setting data. Do not turn off the unit for at least 5 seconds after changing settings. It is recommended to save important data into a backup file.

See sections 9-6-2 “Backup Parameter” and 9-6-4 “Backup Event Data” for details on how to save setting data into a backup file.

9. Control via WEB Browser

This section describes how to control the FA-9500 from a computer via a web browser. See section 3-5 “Connecting a Computer” for details on connecting with a computer. Do not open pop-up setting dialogs at the same time. Doing so may disable operation.

9-1. Connecting via a WEB Browser

Open a web browser on your computer, and enter the address as `http://192.168.0.10/` (factory default setting) in the address bar.

Press the [Enter] key to connect to the FA-9500.

The login page is displayed.



Click **Login**.

The authentication dialog appears.



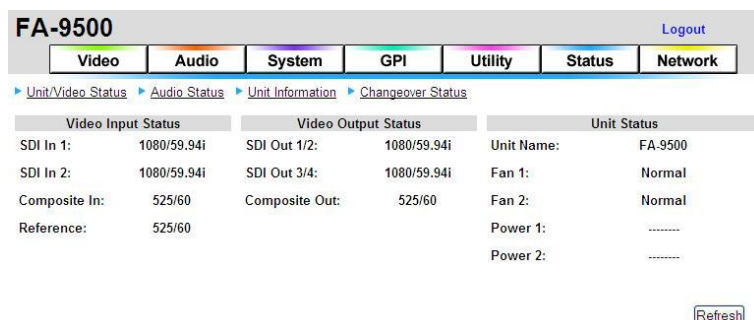
Enter your user name and password. (The default user name and password are set at the factory.)

User name: fa9500

Password: foranetwork

Click **OK**. The Status page is displayed.

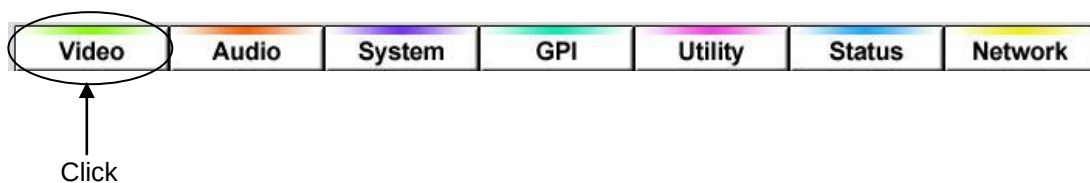
If the user name and password are not set in the USER SETTING page (see section 9-8-5), the Status page will be displayed without displaying the Login page or authentication dialog.



Click **Logout** to return to the Login page.

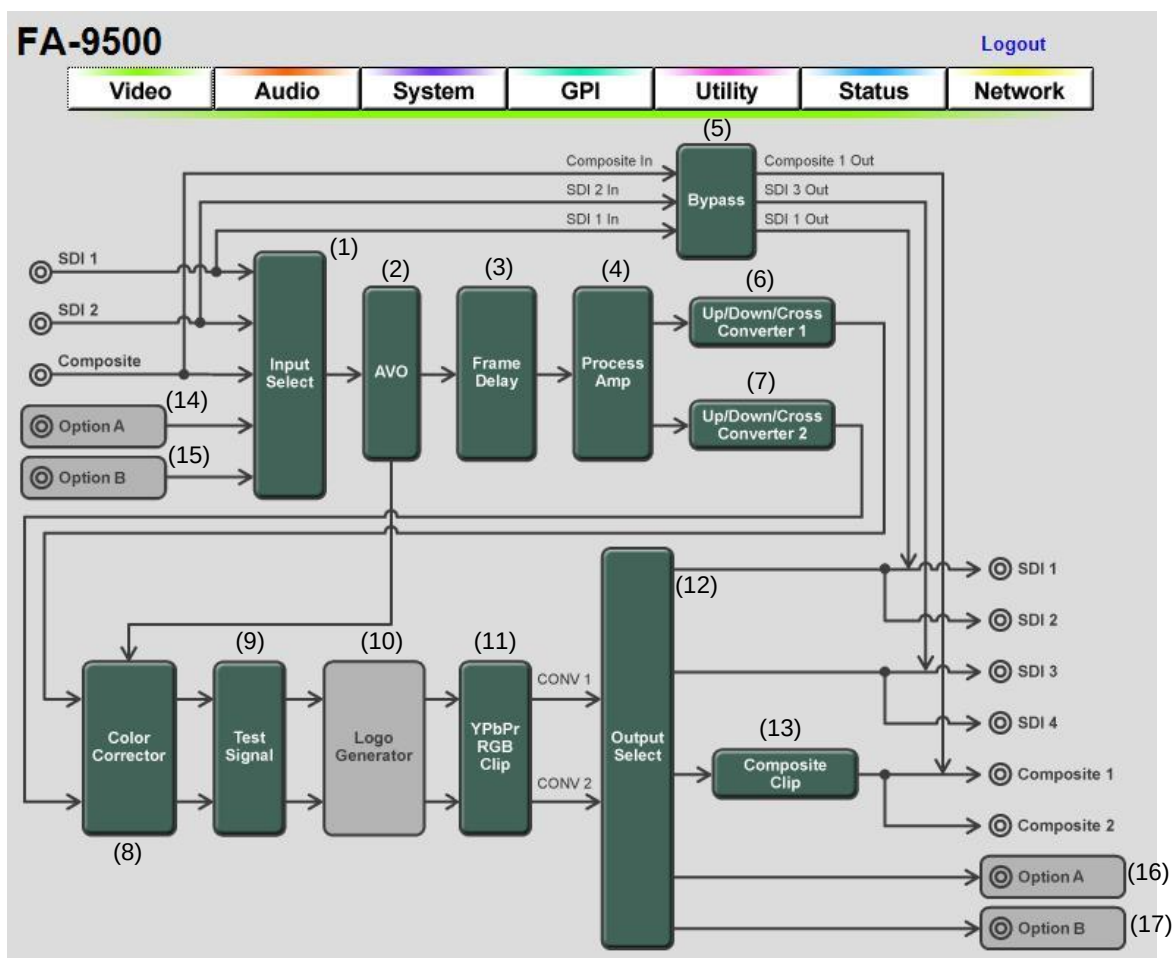
If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

9-2. VIDEO Settings



Click the Video tab at the top of the page. The video block diagram will be displayed. Each block in the diagram lets you to go to the corresponding windows or dialog boxes that allow you to change various settings.

Video Block Diagram



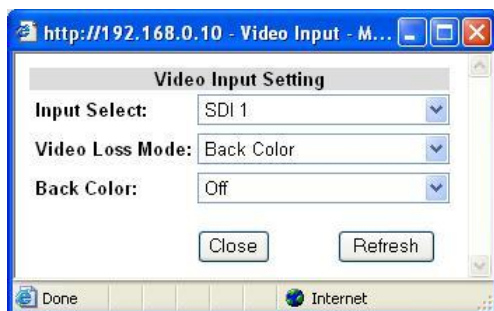
* No setting options for (10), (14) through (17).

* (14) through (17) are displayed as "FA-95AIO" if the FA-95AIO is installed.

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

9-2-1. Input Select

Clicking block (1) on the Video block diagram opens the Video Input setting dialog box.



Select setting values for parameters in the respective pull-down menus.

After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

◆ Video Input Setting

Parameter	Default	Setting range	Description
Input Select	SDI1	SDI1 SDI2 Composite YPbPr SMPTE *2 YPbPr BETACAM *2 RGB *2 Y/C *2	Selects an input signal.
Video Loss Mode	Back Color	Back Color Auto Freeze *1 Color Bar Output Disable	Selects an operation for the time the signal input selected under Input Select is lost.
Back Color	Black	Off Black Blue Red Magenta Green Cyan Yellow	Select a background color.

*1 If Synchro Mode under FS Mode in section 9-4-1 “Video System” is set to Line, AVDL, or Input Lock, the selected Auto Freeze functions the same as Back Color. In such case, the “Auto Freeze” display will be grayed out.

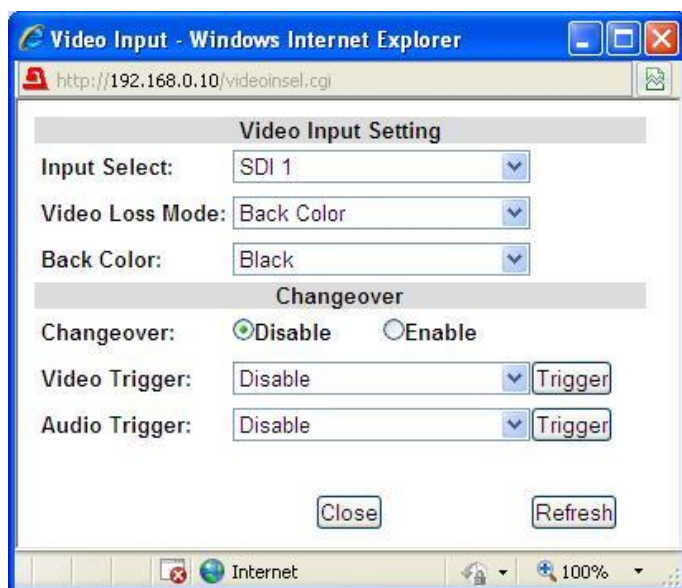
*2 Selectable only if FA-95AIO option is installed.

<Video Loss Mode>

Video Loss Mode allows you to select what to output when the input signal selected under Input Select is lost.

- Back Color
Displays a screen in a color selected under Back Color.
- Auto Freeze
Freezes the last image before loss of signal.
Freezes progressive signals such as 720p in frame freeze mode and other signals in field freeze mode.
- Color Bar
Outputs SMPTE color bars.
- Output Disable

No outputs from SDI OUT1/2, 3/4, or COMPOSITE OUT1/2.
Clicking block (1) on the Video block diagram when the FA-95CO option is installed opens the Video Input Setting dialog box as shown below.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ Video Input Setting

If Changeover is disabled, settings are the same as described in the previous page.
If Changeover is enabled, the Input Select setting cannot be changed.
To change the input selection, disable Changeover.

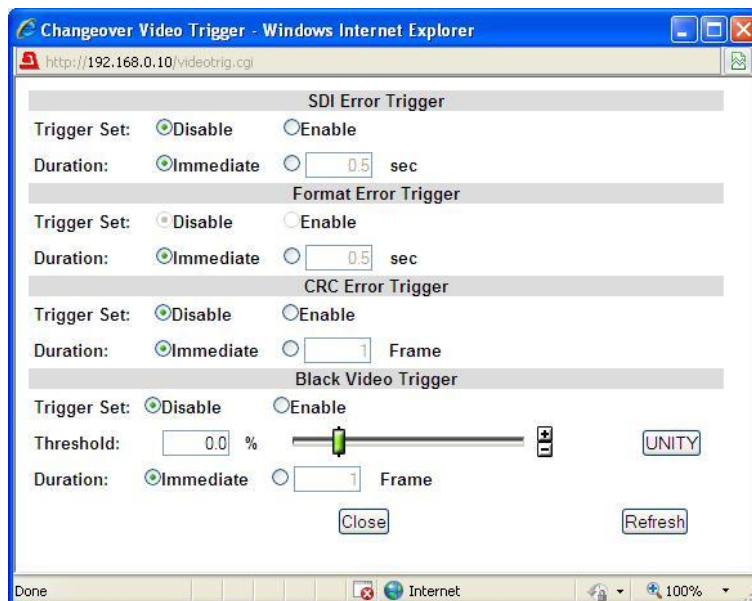
◆ Changeover

Parameter	Default	Setting range	Description
Changeover	Disable	Disable Enable	Disables or enables changeover. * Changeover cannot be enabled unless Input Select is set to SDI 1.
Video Trigger	Disable	Disable Enable	Selects changeover trigger mode for below 4 video triggers: SDI Error Trigger Format Error Trigger CRC Error Trigger Black Video Trigger Disable: Disables auto changeover by the video trigger. Enable: Performs a changeover if any video trigger is activated.
Audio Trigger	Disable	Disable Enable	Selects changeover trigger mode for below 3 audio triggers: Audio Loss Trigger Audio Error Trigger Silence Error Trigger Disable: Disables auto changeover by the audio trigger. Enable: Performs a changeover if any audio trigger is activated.

◆ Video Trigger

Video Trigger: Disable Trigger Click here

The Video Trigger setting dialog box for detailed settings opens.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ SDI Error Trigger

Parameter	Default	Setting range	Description
Trigger Set	Disable	Disable Enable	Enables or disables auto changeover for SDI signal loss, an unsupported video format, or TRS error.
Duration	Immediate	Immediate 0.5 to 5.0 sec.	Sets the duration of SDI signal loss, unsupported video format or TRS error detection (in the active picture area) required to trigger a changeover.

◆ Format Error Trigger

Parameter	Default	Setting range	Description
Trigger Set	Disable	Disable Enable	Enables or disables auto changeover for SDI input and system format mismatches. ^{*1}
Duration	Immediate	Immediate 0.5 to 5.0 sec.	Sets the duration of the detected format mismatch required to trigger a changeover.

- * Trigger Set cannot be enabled if System Format is set to Auto Detect. To enable the trigger, set System Format to a video format other than Auto Detect in section 9-4-1 "FS Mode".
- * A changeover will not be performed if Changeover is disabled or Video Trigger is disabled even though Format Error Trigger is enabled.
- * Format Error Trigger also triggers a changeover for SDI input signal loss. If Format Error Trigger is enabled and the SDI signal input is lost, a changeover will be performed, even though SDI Error Trigger is disabled, based on the Format Error Trigger Duration setting.

◆ CRC Error Trigger

Parameter	Default	Setting range	Description
Trigger Set	Disable	Disable Enable	Enables or disables auto changeover for SDI video CRC error.
Duration	Immediate	Immediate 1 to 100 Frames	Sets the detected video CRC error duration required to trigger a changeover. * To avoid an unexpected changeover triggered by a switchover of input signals via router, set Duration to longer than 2 frames.

- * A changeover will not be performed if Changeover is disabled or Video Trigger is disabled even though CRC Error Trigger is enable.
- * CRC Error Trigger also triggers a changeover for SDI input signal loss. If CRC Error Trigger is enabled and the SDI signal input is lost, a changeover will be performed, even though SDI Error Trigger is disabled, based on the CRC Error Trigger Duration setting.
- * CRC Error Trigger also detects TRS errors in blanking intervals as well as in the active picture area, while SDI Error Trigger detects them only in the active picture area. A changeover according to a TRS error in a blanking interval can only be triggered by CRC Error Trigger.

◆ Black Video Trigger

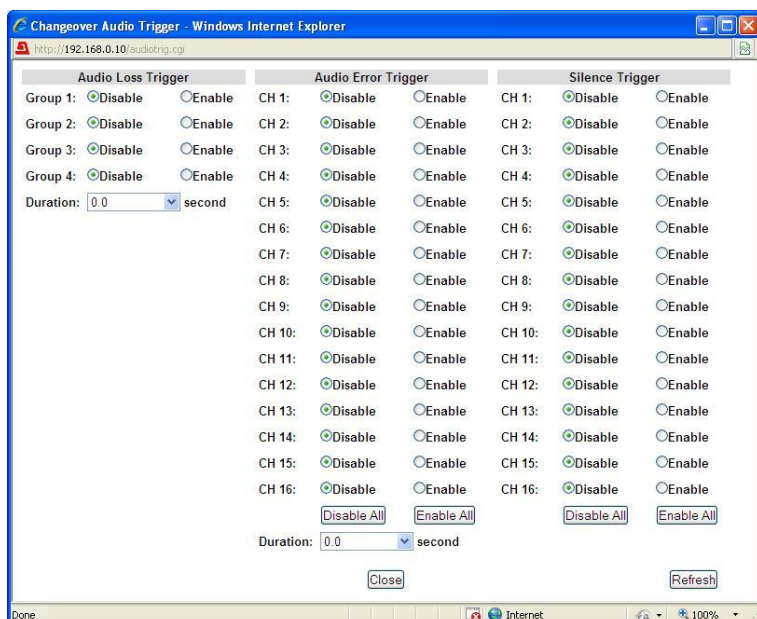
Parameter	Default	Setting range	Description
Trigger Set	Disable	Disable Enable	Enables or disables auto changeover for SDI black signal.
Threshold	0.0%	-7.5 to 30.0%	Sets the threshold of average luminance of one field (of interlaced or segment frame video) or one frame (of progressive video) to determine a black signal.
Duration	Immediate	Immediate 1 to 100 Frames	Sets the detected black signal input duration required to trigger a changeover.

- * A changeover will not be performed if Changeover is disabled or Video Trigger is disabled even though Black Video Trigger is enable.

◆ Audio Trigger

Audio Trigger: Click here

The Changeover Audio Trigger dialog box for detailed settings opens.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ Audio Loss Trigger

Parameter	Default	Setting range (Steps)	Description
Group1 to 4	Disable	Disable Enable	Enables or disables auto changeover for signal loss of SDI embedded audio.
Duration	0.0sec	0.0 to 1.0sec (0.1sec)	Sets the detected SDI embedded audio signal loss duration required to trigger a changeover. This setting will be shared by all 4 audio groups.

A changeover will not be performed if Changeover is disabled or Audio Trigger is disabled even though Audio Loss Trigger is enable.

◆ Audio Error Trigger

Parameter	Default	Setting range (Steps)	Description
CH1 to CH16	Disable	Disable Enable	Enables or disables auto changeover for errors listed below. - DBN (Data Block Number) discontinuity - Channel status discontinuity - HD audio clock data error or change
Duration	0.0sec	0.0 to 1.0sec (0.1sec)	Sets the detected audio error duration required to trigger a changeover. This setting will be shared by all 16 channels. * To avoid an unexpected changeover triggered by a switchover of input signals via router, set Duration to longer than 0.2 sec..

A changeover will not be performed if Changeover is disabled or Audio Trigger is disabled even though Audio Error Trigger is enable.

The **Disable All** button allows you to disable triggers for all channels 1 through 16.

The **Enable All** button allows you to enable triggers for all channels 1 through 16.

Audio Error Trigger also triggers a changeover for SDI input signal loss. If Audio Error Trigger is enabled and the SDI signal input is lost, a changeover will be performed, even though Audio Loss Trigger is disabled, based on the Audio Error Trigger Duration setting.

◆ Silence Trigger

Parameter	Default	Setting range (Steps)	Description
CH1 to CH16	Disable	Disable Enable	Enables or disables auto changeover for audio silence in the embedded audio channel.

A changeover will not be performed if Changeover is disabled or Audio Trigger is disabled even though Silence Trigger is enable.

The duration to determine SDI embedded audio is silent depends on the duration set in the 9-4-2 Audio System menu.

The **Disable All** button allows you to disable triggers for all channels 1 through 16.

The **Enable All** button allows you to enable triggers for all channels 1 through 16.

9-2-1-1. About Changeover (Web)

The changeover function is supported for the main input, SDI 1. If the SDI 1 input encounters a problem, Changeover switches the input to input SDI 2. However, if SDI 2 also encounters the same problem, a changeover will not occur. Conditions to determine problem occurrence can be selected in the previously described menus Video Trigger through Silence Trigger. Input selection under Input Select cannot be changed while Changeover is enabled. Input Select must be set to SDI 1 to enable Changeover. Whether a changeover has been performed can be checked in the 9-7-5 Changeover Status menu, which allows you to know what caused the changeover. To reset the Changeover Status menu, set Changeover to Disable.

9-2-1-2. Changeover and Loss Operation (Web)

Changeover has priority over Loss operation conducted by Video Loss Mode. However, if neither a SDI 1 or SDI 2 input signal exists, the FA-9500 performs LOSS according to the selection made under LOSS in the 9-2-1 Input Select menu. If both SDI 1 and 2 inputs encounter the same problem and the problem is not signal loss, the FA-9500 will output the SDI 1 input signal.

9-2-1-3. Changeover and Input Switchover Using a Router (Web)

An SDI 1 input signal switchover conducted via router will be detected as an error by the CRC Error Trigger and Audio Error Trigger in section 9-2-1 Input Select. If either trigger has been enabled for a short duration, a changeover will occur. To avoid such input switchover-triggered changeovers, set DURATION under CRC Error Trigger to longer than 2 frames, and DURATION under Audio Error Trigger to longer than 0.2 sec..

9-2-1-4. How to Reset to SDI 1 (Main Input) (Web)

This section describes how to reset input to SDI 1 after a Changeover.

- 1) Check the 9-7-5 Changeover Status menu to verify what caused the changeover.
- 2) Resolve the issue(s).
- 3) Check that the issue(s) is/are resolved using a waveform monitor.
- 4) Disable Changeover. (The status menu will be reset.)
- 5) Select SDI 1 under Input Select.
- 6) Enable Changeover again.

9-2-2. Auto Video Optimizer (AVO)

Clicking block (2) on the video block diagram opens the Auto Video Optimizer dialog box.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ AVO Control

Parameter	Default	Setting range	Description
Mode	Off	Off Auto ^{*1} Hold ^{*2}	Auto : Enables automatic level adjustment. Hold : Stops auto level adjustment. When MODE selection is changed from AUTO to HOLD, the signal levels stop and remain as they are. Off : Disables automatic level adjustment. When MODE selection is changed from AUTO to Off, the signal levels return to their state before auto level adjustment is applied. When set to Off, the signal levels can be manually adjusted. See section 9-2-8 "Color Corrector" for details.
Level (Adjustment level)	Standard	Darker Dark Standard Bright Brighter User1 User2 User3 User4 User5	Selects a type of signal level adjustment. 10 options are available: Five fixed options and five custom options. Darker < Dark < Standard < Bright < Brighter User1 - User5 : Customizable Clicking Set User opens the USER1 - 5 LEVEL SET dialog box. See section 9-2-2-2 "User 1 - 5 LEVEL SET" for details.
Sample Area	Full Screen	Full Screen, - Bottom Right User Area1 User Area2	Sets the sample area to calculate the adjustment. 10 options are available: Eight fixed areas and two custom areas. ● Fixed areas Full Screen, Letter Box, Pillar Box, Center, Top-Left, Top-Right, Bottom Left, Bottom Right ● Custom areas Clicking Set Area opens the User Area1, 2 setting dialog box. See section 9-2-2-3 "User Area 1, 2" for details.
Area Display (Marker display)	Off	Off On	Sets sample area display On/Off. If set to On, the sample area appears as a semi-transparent white rectangle on all output videos. It is set to Off at startup. Also, if Mode is set to Off, Area Display is automatically set to Off.

^{*1} Selecting Auto disables the Color Corrector menu (9-2-8).

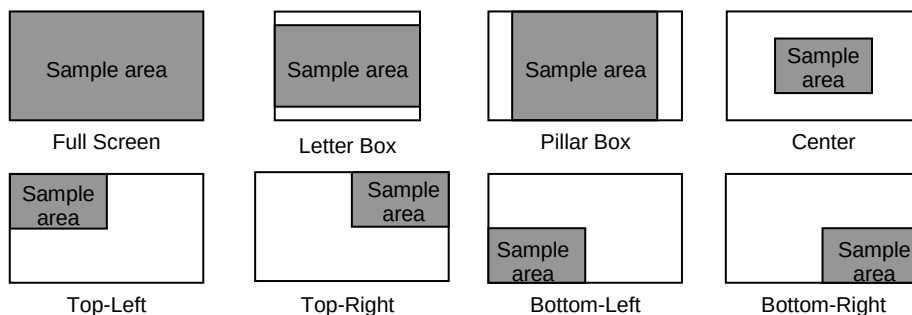
^{*2} Selecting Hold disables the Correction Mode and Gamma Curve settings in the Color Corrector (9-2-8).

IMPORTANT

Auto Level Adjustment will provide optimal results in many cases, but not always. Sample Area determines the area where the data is sampled and the level adjustments are applied to whole images.

◆ Sample Area (Fixed area)

Eight available sample areas are as shown below. Data is continuously sampled within each area. (See section 9-2-2-3 “User Area 1, 2” for USER AREA 1, and 2.)



◆ AVO Setup

Parameter	Default	Setting range	Description
Response (Filtering strength)	Level 3	Level 1 - Level 5	Sets the filtering strength for calculating the mean distances that are applied to histograms created using the sample data. The larger the value, the more gradually filtering is performed, with a more stable image but slower response. The smaller the value, the less stable the image, but with a faster response.
Scene Cut Det (Scene cut detection)	Off	Off, On	When set to On, the cut transitions are detected and images are properly adjusted even if there are sharp luminance changes.
Gamma Mode (Gamma correction)	On	Off, On	When set to On, signal levels are adjusted using the Gamma Level settings.

*1 The following delay will be produced when performing scene cut detection depending on the input signal format.

Interlaced formats:

2 fields (1 frame) + some lines

Progressive and PsF formats:

2 frames + some lines

Scene cut detection images will be properly adjusted and output when enough frame delay is set. If the amount of frame delay is insufficient, Scene cut detection will not be properly processed. To perform AVO scene cut detection properly, set enough delay using the FRAME DELAY function. The output delay varies depending on the SYNCRO MODE, input signal format, FRAME DELAY setting, and video signal H/V phase difference. FRAME DELAY settings are described on the next page.

9-2-2-1. About Scene Cut Detection and Frame Delay Settings

To properly perform AVO scene cut detection and adjustment, Frame Delay must be set in the setting range according to the menu settings (9-2-3 “Frame Delay” menu) as shown in the table below.

FRAME DELAY Setting Range Chart

*1 SYNCHRO	*2 Setting Range per Input Video Format	
	525/60i 625/50i 1080/59i 1080/50i	720/59p/50p 1080/59p,50p 1080/23PsF, 24PsF
FRAME	1 to 8 FRAME	2 to 8 FRAME
LINE/AVDL	Cannot be set	Cannot be set
INPUT	2 to 8 FRAME	3 to 8 FRAME

*1 Synchro Mode settings in section 9-4-1 “Video System”

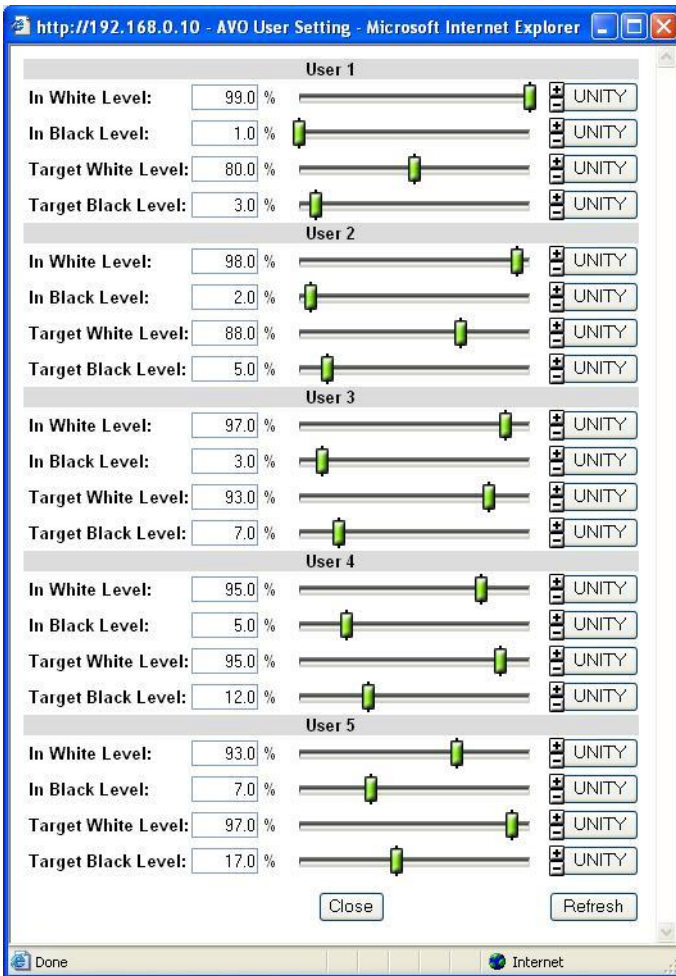
*2 The current input video format can be verified in the Unit/Video Status menu (Sec. 9-7-1) for each input selected in the Video Input Setting menu (Sec. 9-2-1).

IMPORTANT

Adjust the audio delay as required in the Audio Output Delay menu (Sec. 9-3-5) to account for any additional video signal delay produced by changing Frame Delay settings in the Frame Delay menu (Sec. 9-2-3).

9-2-2-2. User 1 - 5 LEVEL SET

Clicking **Set User** on the Auto Video Optimizer dialog box opens the User1 - 5 setting dialog box.



After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

Click **Unity** to reset to the default settings.

Click **+** to increase the value by the smallest steps.

Click **-** to decrease the value by the smallest steps.

The Level drop-down menu in the AVO dialog box has five options of user settings, User 1 through 5. Each User1 – 5 is composed of four level settings such as In White Level, In Black Level, Target White Level, and Target Black Level. The default settings of user settings User 1 through 5 are the same as those for Darker, Dark, Standard, Bright, and Brighter respectively. The desirable level settings are easily obtained by adjusting values from the default values.

◆ USER1 – 5 Default Settings

Parameter	SELECT LEVEL (Adjustment level)				
(Custom levels)	User 1 Default	User 2 Default	User 3 Default	User 4 Default	User 5 Default
(Fixed levels)	Darker	Dark	Standard	Bright	Brighter
In White Level	99.0%	98.0%	97.0%	95.0%	93.0%
In Black Level	1.0%	2.0%	3.0%	5.0%	7.0%
Target White Level	80.0%	88.0%	93.0%	95.0%	97.0%
Target Black Level	3.0%	5.0%	7.0%	12.0%	17.0%

◆ **In White Level and In Black Level**

These two parameters determine the highest and lowest levels of luminance in the input signal.

Parameter	Setting range (step)	Description
In White Level	80.0 - 99.0% (0.5%)	The maximum value of luminance in the sample data is defined as 100%. Based on this reference value, this determines the highest level of luminance for level control. If the value is too large, some noise may be picked up, causing the results to become unstable. If the value is too small, it increases contrast, but it may cause the images to be overexposed.
In Black Level	1.0 - 20.0% (0.5%)	The minimum value of luminance in the sample data is defined as 0%. Based on this reference value, this determines the lowest level of luminance for level control. If the value is too small, some noise may be picked up causing the results to become unstable. If the value is too large, it increases contrast, but it may cause the images to be underexposed.

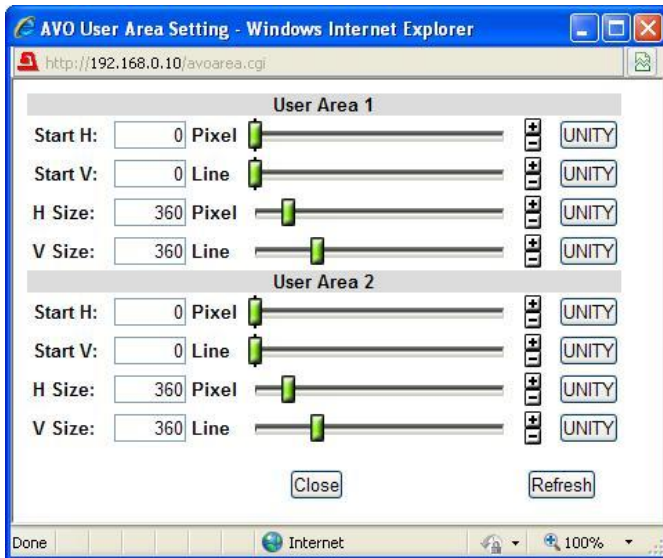
◆ **Target White Level and Target Black Level**

These two parameters determine the highest and lowest levels of luminance for target images (outputs).

Parameter	Setting range (step)	Description
Target White Level	60.0 - 100.0% (0.5%)	Determines the maximum value of luminance for outputs. The maximum luminance value of the image after correction should approximate this value. The larger the value, the brighter the image, which may however cause the image to be overexposed. The smaller the value, the brighter tones are kept. However, the overall obtained image may be dark.
Target Black Level	0 - 40.0% (0.5%)	Determines the minimum value of luminance for outputs. The minimum luminance value of the image after correction should approximate this value. The larger the value, the dark area in pictures will appear brighter, which may however lower the contrast and the noise will become apparent. The smaller the value, the higher the contrast, which may however cause the image to be underexposed

9-2-2-3. User Area 1, 2

Clicking **Set Area** of Sample Area on the AVO setting dialog box opens the User Area 1, 2 Setting dialog box.



After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

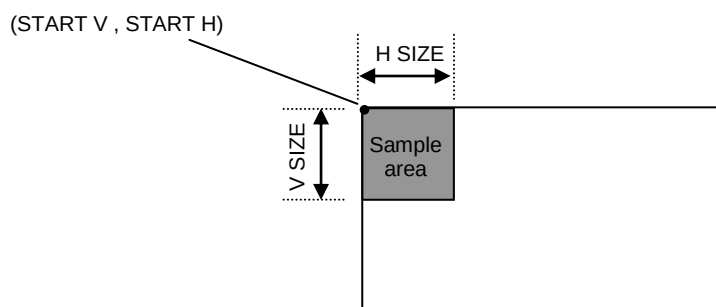
Click **Unity** to reset to the default settings.

Click **+** to increase the value by the smallest steps.

Click **-** to decrease the value by the smallest steps.

To set the sample area, set the start point and the size.

Parameter	Default	Setting range	Description
Start H	0 Pixel	Variable (2Pixel)	Specifies the horizontal start point.
Start V	0 Line	Variable (2Line)	Specifies the vertical start point.
H Size	360	Variable (2Pixel)	Specifies the horizontal size (distance) from the start point.
V Size	360	Variable (2Line)	Specifies the vertical size (distance) from the start point.



Default setting of sample area
in 1080/59.94i.

IMPORTANT

The sample area should be set within the effective lines and pixels. Otherwise, the sample area will automatically revert to their default values. Be particularly careful in the following cases.

- When the video format is changed to SDTV after the sample area has been set.
- When the sample area settings are changed by loading an event.

9-2-3. Frame Delay

Clicking block (3) in the Video block diagram opens the Frame Delay setting dialog box.



After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

Click **Unity** to reset to the default settings.

Click **+** to increase the value by the smallest steps.

Click **-** to decrease the value by the smallest steps.

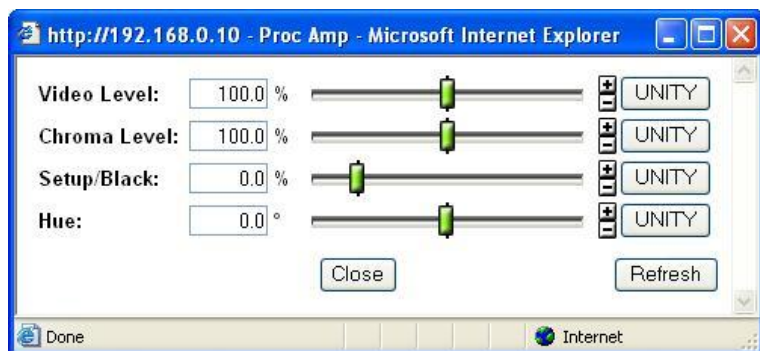
Parameter	Default	Setting range	Description
Frame Delay	0	0 - 8Frame	Sets the amount of frame delay.

Selecting Odd/Even for Forced Field, Synchro Mode to Frame Sync under FS Mode in 9-4-1 Video System, while 9-2-1 Input Select is set to Composite, and Frame Delay to 0 frame, Frame Delay will always reset to 1 frame. Set Frame Delay between 1 and 8 frames.

Also, Frame Delay cannot be set if Synchro Mode is set to Line Sync or AVDL under FS Mode in section 9-4-1 "Video System".

9-2-4. Proc Amp

Clicking block (4) on the video block diagram opens the Proc Amp setting diagram.



After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

Click **Unity** to reset to the default settings.

Click **+** to increase the value by the smallest steps.

Click **-** to decrease the value by the smallest steps.

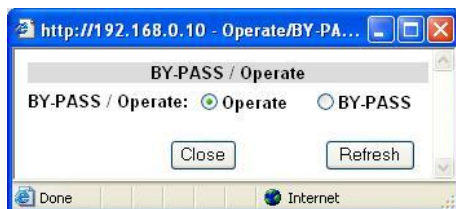
Parameter	Default	Setting range (Steps)	Description
Video Level	100.0%	0.0 - 200.0% (0.1%)	Adjusts the video level.
Chroma Level	100.0%	0.0 - 200.0% (0.1%)	Adjusts the chrominance level.
Setup/Black	0.0%	-20.0 - 100.0% (0.1%)	Adjusts the black level.
Hue	0.0°	-179.8 - 180.0° (0.2°)	Adjusts the color phase.

IMPORTANT

If Correction Mode is set to Sepia in the Color Corrector menu (9-2-8), the Chroma Level and Hue settings cannot be changed.

9-2-5. BY-PASS / Operate

Clicking block (5) on the video block diagram opens the BY-PASS / Operate setting dialog box.



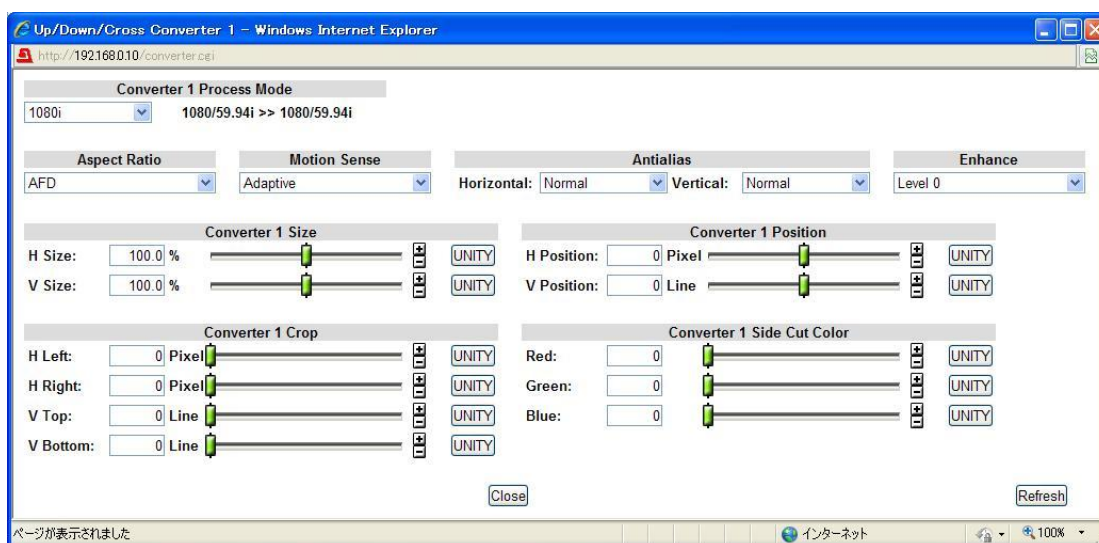
After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

Parameter	Default	Setting range	Description
BY-PASS/ Operate	Operate	BY-PASS Operate	BY-PASS: Connects input signals directly to the output connector. Input video signals are output without processing. See section 2-2 "Rear Panel" items number 2, 4, and 6.

9-2-6. Converter1

Clicking block (6) on the video block diagram opens the Converter1 setting dialog box.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ Converter1 Process Mode

Parameter	Default	Setting range (Steps)	Description
Mode	BY-PASS	BY-PASS SD 1080i 720p 1080PsF 1080p(3G)	Selects a mode for UP/DOWN Converter1 to convert the input signal in the CONV1 connector. BY-PASS : Outputs the signal without converting. SD : Converts signals to a standard definition format. 1080i : Converts signals to a 1080i format. 720p : Converts CONV 1 input signals to a 720p format. 1080PsF : Converts CONV 1 input signals to a 1080PsF format. 1080P(3G) : Converts signals to a 3G-SDI 1080p format. Auto Mode : Displayed if Video Output Mode is set to Auto in the 9-2-11 Output Select menu. The CONV1 mode cannot be manually changed. To change the mode, set Video Output Mode to Fix.
-	-	-	Displays the format of the input signal to CONV1 and the format the signal will be converted to in CONV1.

See section 5-3-2 "CONV1 Conversion Table" for details on conversions.

◆ Aspect Ratio

Parameter	Default	Setting range (Steps)	Description
Aspect Ratio	AFD(4:3)	AFD(4:3) AFD-ALT(4:3) AFD(16:9) AFD-ALT(16:9) 4:3 L 16:9 T 4:3 L 14:9 T 4:3 L>16:9 4:3 F 4:3 4:3 L 16:9PRTD 4:3 L 14:9 4:3 F ALT14:9 4:3 L ALT14:9 *1 4:3 L ALT 4:3 *1 16:9 L>16:9 16:9 F 16:9 *1 16:9 P 4:3 16:9 F PRTD *1 16:9 P 14:9 *1 16:9 P ALT 14:9 *1 16:9 F ALT14:9 *1 16:9 F ALT4:3 *1	Selects the aspect ratio for the output from Converter1. Selectable aspect ratio settings when CONV1 is set to SD. AFD(4:3), AFD-ALT(4:3), AFD(16:9), AFD-ALT(16:9) automatically select an aspect ratio according to the AFD data in the input signal. If no AFD data is found in the input signal, the aspect ratio will be determined according to the setting made under 5-10-18 ANC LOSS SET . To output video signals in 4:3, select either ratio with (4:3). To output in 16:9, select either ratio with (16:9). Other options will output video signals in the specified aspect ratio. See section 20 "About AFD" for details. Options (4:3 L 16:9 T to 16:9 F ALT 4:3) other than the above four require the input signal aspect ratio to be specified in 5-7-2 SD INPUT ASPECT if the input signal is an SD signal.
	AFD	AFD AFD-ALT 16:9 L>16:9 16:9 F 16:9 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9 P ALT14:9 16:9 F ALT14:9 16:9 F ALT4:3	Selectable aspect ratios when CONV1 is set to 1080i, 720p, 1080PsF, or 1080(3G). AFD and AFD-ALT automatically select an aspect ratio according to the AFD data in the input signal. If no AFD data is found in the input signal, the aspect ratio will be determined according to the setting made under 5-10-18 ANC LOSS SET . Options other than the above two output in the specific aspect ratio. See section 20 "About AFD" for details on conversions according to AFD data.

The Aspect Ratio setting cannot be changed if Converter1 Process Mode is set to BY-PASS.

*1 BT1119 WSS will be embedded according to the ANC Settings settings WSS AFD Error (Sec. 9-4-3) for non-WSS aspect ratio conversions.

◆ Motion Sense

Parameter	Default	Setting range (Steps)	Description
Motion Sense	Adaptive	Field Adaptive Frame(Odd 1st) Frame(Even 1st)	Field: Generates a progressive scan image from one field of an interlaced scan image. The created image has no motion artifacts, but vertical resolution will be reduced. Adaptive: Detects whether there is motion or no motion in the scene, and generates an optimal progressive scan image. Frame(Odd 1st): Generates a progressive scan image from two fields (odd/even) of an interlaced scan image. Suitable for the progressive segment frame input of progressive scan signals. Frame(Even 1st): Generates a progressive scan image from two fields (even/odd) of an interlaced scan image.

IMPORTANT

The Motion Sense setting is common for Converters 1 and 2.

Setting Motion Sense to Frame (Odd 1st) or Frame (Even 1st) for input signals other than progressive segment frame inputs cause motion artifacts. In such case, change Motion Sense setting to Field or Adaptive.

◆ Antialias

Parameter	Default	Setting range (Steps)	Description
Horizontal	Normal	Weak 8-1 Normal Strong1-8	Performs horizontal anti-aliasing for the output video image. Weak 8 to Strong 8 (low to high) This setting cannot be changed if the conversion is set to the formats indicated as (BYPASS) in the CONV1 Conversion Table in section 5-3-2.
Vertical	Normal	Weak 8-1 Normal Strong1-8	Performs vertical anti-aliasing for the output video image. Weak 8 to Strong 8 (low to high) This setting cannot be changed if the conversion is set to the formats indicated as (BYPASS) in the CONV1 Conversion Table in section 5-3-2.

The Antialias setting cannot be changed if Converter1 Process Mode is set to BY-PASS, or if the conversion is set to the formats indicated as (BY-PASS) in the CONV1 Conversion Table (5-3-2).

◆ Enhance

Parameter	Default	Setting range (Steps)	Description
Enhance	Level 0	Level 0-8	Sharpens the output video image. Level 0 to 8 (low to high)

The Enhance setting cannot be changed if Converter1 Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV1 Conversion Table (5-3-2).

◆ Converter1 Size

Parameter	Default	Setting range(Steps)	Description
H Size (Horizontal Size)	100.0%	50.0 - 150.0% (0.1%)	Adjusts the width of the video displayed on the monitor.
V Size (Vertical Size)	100.0%	50.0 - 150.0% (0.1%)	Adjusts the height of the video displayed on the monitor.

The Converter1 Size setting cannot be changed if Converter1 Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV1 Conversion Table (5-3-2).

◆ Converter1 Position

Parameter	Default	Setting range (Steps)	Description
H Position (Horizontal Position)	0 Pixel	Variable ^{*1} (2 Pixel)	Adjusts the horizontal position of the video displayed on the monitor.
V Position (Vertical Position)	0 Line	Variable ^{*1} (1 Line)	Adjusts the vertical position of the video displayed on the monitor.

The Converter1 Position setting cannot be changed if Converter1 Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV1 Conversion Table (5-3-2).

^{*1} The Converter1 Position setting range varies depending on Converter1 Process Mode, and Sync Format settings in FS Mode (9-4-1 Video System).

◆ Converter1 Crop

Parameter	Default	Setting range (Steps)	Description
H Left	0 Pixel	Variable ^{*1} (2 Pixel)	Crops the left side of the video.
H Right	0 Pixel	Variable ^{*1} (2 Pixel)	Crops the right side of the video.
V Top	0 Line	Variable ^{*1} (1 Line)	Crops the top of the video.
V Bottom	0 Line	Variable ^{*1} (1 Line)	Crops the bottom of the video.

The Converter1 Crop setting cannot be changed if Converter1 Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV1 Conversion Table (5-3-2).

*1 The Converter1 Crop setting range varies depending on the Sync Format settings in FS Mode (9-4-1 Video System).

IMPORTANT
The cropping setting range resets itself if the video input changes. If the set value exceeds the setting range due to an input change, the set value will automatically reset itself to the default value. If the set value exceeds the horizontal range, the H Left and H Right settings will reset to their default values. If the value exceeds the vertical range, the V Top and V Bottom settings will also reset accordingly.

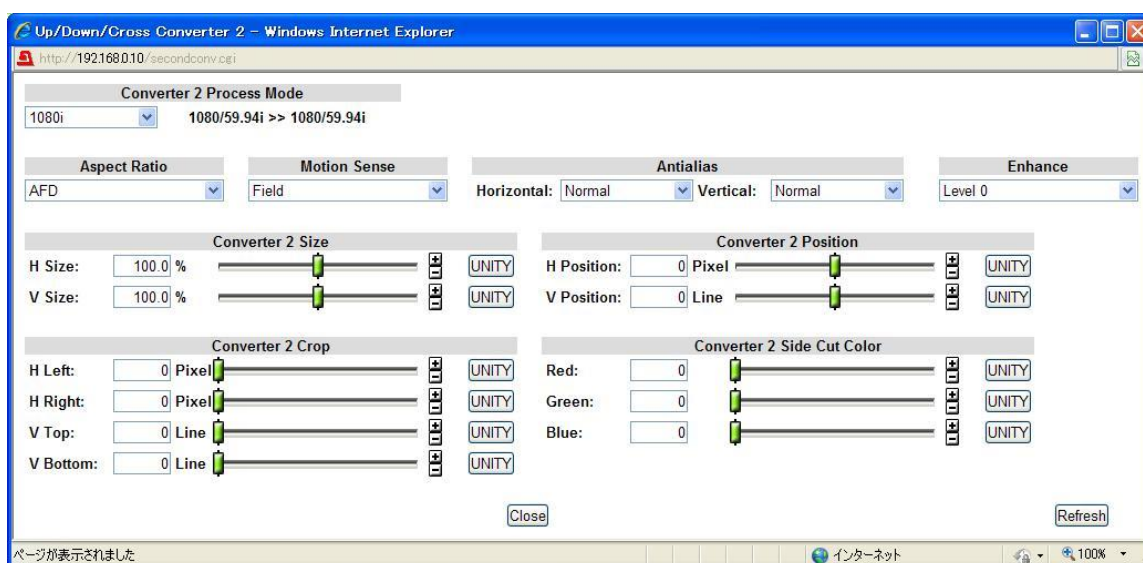
◆ Converter1 Side Cut Color

Parameter	Default	Setting range	Description
Red, Green, Blue	0	0 - 255	Sets background color that will be visible if the converted image is set smaller than the original under Converter1 Size (5-3-3). R, G, and B components can be adjusted separately. Control knob F4 allows you to adjust R, G, and B at the same time.

The Converter1 Side Cut Color setting cannot be changed if Converter1 Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV1 Conversion Table (5-3-2).

9-2-7. Converter2 (Up/Down/Cross)

Clicking block (7) on the video block diagram opens the Converter2 setting dialog box.



After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

Click **Unity** to reset to the default settings.

Click **+** to increase the value by the smallest steps.

Click **-** to decrease the value by the smallest steps.

◆ Converter 2 Process Mode

Parameter	Default	Setting range (Steps)	Description
Mode	BY-PASS	BY-PASS SD 1080i/SD 720p/SD 1080PsF/SD 1080p(3G)/SD	Selects a mode for the Converter2 to convert the input signal in CONV2. BY-PASS : Outputs the signal without converting. SD : Converts the input HD signal to a standard definition format. 1080i/SD : Converts progressive scan signals to a 1080 interlaced video format. SD signals are output without converting. 720p/SD : Converts interlaced signals to a 720 progressive video format. Converts interlaced signals to a 720p progressive video format. SD signals are output without converting. 1080PsF/SD : Converts interlaced signals to a 1080PsF progressive video format. SD signals are output without converting. 1080p(3G)/SD : Converts interlaced signals to a 1080p(3G) progressive video format. SD signals are output without converting.
-	-	-	Displays the format of the input signal to Converter 2 and the format the signal will be converted to in Converter 2.

See section 5-4-2 "CONV2 Conversion Table" for the possible conversions performed by Converter 2.

◆ Aspect Ratio

Parameter	Default	Setting range	Description
Aspect Ratio	AFD(4:3)	AFD(4:3) AFD-ALT(4:3) AFD(16:9) AFD-ALT(16:9) 4:3 L 16:9 T 4:3 L 14:9 T 4:3 L>16:9 4:3 F 4:3 4:3 L 16:9PRTD 4:3 L 14:9 4:3 F ALT14:9 ^{*1} 4:3 L ALT14:9 ^{*1} 4:3 L ALT 4:3 ^{*1} 16:9 L>16:9 ^{*1} 16:9 F 16:9 ^{*1} 16:9 P 4:3 ^{*1} 16:9 F PRTD ^{*1} 16:9 P 14:9 ^{*1} 16:9 P ALT14:9 ^{*1} 16:9 F ALT14:9 ^{*1} 16:9 F ALT4:3 ^{*1}	Selects the aspect ratio for the output from Converter2. Selectable aspect ratio settings when Converter 2 is set to SD. AFD(4:3), AFD-ALT(4:3), AFD(16:9), AFD-ALT(16:9) automatically select an aspect ratio according to the AFD data in the input signal. If no AFD data is found in the input signal, the aspect ratio will be determined according to the setting made under 5-10-18 ANC LOSS SET . To output video signals in 4:3, select either ratio with (4:3). To output in 16:9, select either ratio with (16:9). Other options will output video signals in the specified aspect ratio. See section 20 "About AFD" for details. Options (4:3 L 16:9 T to 16:9 F ALT 4:3) other than the above four require the input signal aspect ratio to be specified in SD INPUT ASPECT (5-7-2) if the input signal is an SD signal.
	AFD	AFD AFD-ALT 16:9 L>16:9 16:9 F 16:9 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9 P ALT14:9 16:9 F ALT14:9 16:9 F ALT4:3	Selectable aspect ratios when Converter 2 is set to 1080i, 720p, 1080PsF, or 1080(3G). AFD and AFD-ALT automatically select an aspect ratio according to the AFD data in the input signal. If no AFD data is found in the input signal, the aspect ratio will be determined according to the setting made under ANC LOSS SET (Sec. 5-10-18). Options other than the above two output in the specific aspect ratio. See section 20 "About AFD" for details on conversions according to AFD data.

The Aspect Ratio setting cannot be changed if Converter2 Process Mode is set to BY-PASS.

*1 BT1119 WSS will be embedded according to the ANC Settings settings WSS AFD Error (Sec. 9-4-3) for the non-WSS aspect ratio conversions.

◆ Motion Sense

Parameter	Default	Setting range (Steps)	Description
Motion ₁ Sense	Adaptive	Field Adaptive Frame(Odd 1st) Frame(Even 1st)	Field: Generates a progressive scan image from one field of an interlaced scan image. The created image has no motion artifacts, but vertical resolution will be reduced. Adaptive: Detects whether there is motion or no motion in the scene, and generate an optimal progressive scan image. Frame(Odd 1st): Generates a progressive scan image from two fields (odd/even) of an interlaced scan image. Suitable for the progressive segment frame input of progressive scan signals. Frame(Even 1st): Generates a progressive scan image from two fields (even/odd) of interlaced scan image.

IMPORTANT

*1 The Motion Sense setting is common for Converters 1 and 2. Setting Motion Sense to Frame (Odd 1st) or Frame (Even 1st) for input signals other than progressive segment frame inputs causes motion artifacts to appear. In such case, change the Motion Sense setting to Field or Adaptive.

◆ Antialias

Parameter	Default	Setting range	Description
Horizontal	Normal	Weak 8-1 Normal Strong 1-8	Performs horizontal anti-aliasing for the output video image. Weak 8 to Strong 8 (low to high) This setting cannot be changed if the conversion is set to the formats indicated as (DOWN) in the CONV2 Conversion Table in section 5-4-2.
Vertical	Normal	Weak 8-1 Normal Strong 1-8	Performs vertical anti-aliasing for the output video image. Weak 8 to Strong 8 (low to high) This setting cannot be changed if the conversion is set to the formats indicated as (DOWN) in the CONV2 Conversion Table in section 5-4-2.

The Antialias setting cannot be changed if Converter2 Process Mode is set to BY-PASS, or if the conversion is set to the formats indicated as (BY-PASS) in the CONV2 Conversion Table (5-4-2).

◆ Enhance

Parameter	Default	Setting range (Steps)	Description
Enhance	Level 0	Level 0-8	Sharpen the output video image. Level 0 to 8 (low to high)

The Enhance setting cannot be changed if Converter2 Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV2 Conversion Table (5-4-2).

◆ Converter2 Size

Parameter	Default	Setting range (Steps)	Description
H Size (Horizontal Size)	100.0%	50.0 - 150.0% (0.1%)	Adjusts the width of the video displayed on the monitor.
V Size (Vertical Size)	100.0%	50.0 - 150.0% (0.1%)	Adjusts the height of the video displayed on the monitor.

The Converter2 Size setting cannot be changed if Converter2 Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV2 Conversion Table (5-4-2).

◆ Converter2 Position

Parameter	Default	Setting range (Steps)	Description
H Position (Horizontal Position)	0 Pixel	Variable *1 (2 Pixel)	Adjusts the horizontal position of the video displayed on the monitor.
V Position (Vertical Position)	0 Line	Variable *1 (1 Line)	Adjusts the vertical position of the video displayed on the monitor.

The Converter2 Position setting cannot be changed if Converter2 Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV2 Conversion Table (5-4-2).

*1 These Position setting ranges vary depending on the Converter2 Process Mode, and Sync Format settings in FS Mode (9-4-1 Video System).

◆ Converter2 Crop

Parameter	Default	Setting range (Steps)	Description
H Left	0 Pixel	Variable* ¹ (2 Pixel)	Crops the left side of the video.
H Right	0 Pixel	Variable* ¹ (2 Pixel)	Crops the right side of the video.
V Top	0 Line	Variable* ¹ (1 Line)	Crops the top of the video.
V Bottom	0 Line	Variable* ¹ (1 Line)	Crops the bottom of the video.

The Converter2 Crop setting cannot be changed if Converter2 Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats indicated as (BY-PASS) in the CONV2 Conversion Table (5-4-2).

*1 The Converter2 Crop setting range varies depending on the Converter2 Size, Converter2 Position, and Sync Format settings in FS Mode (9-4-1 Video System).

IMPORTANT	
The cropping setting range resets itself if the video input changes. If the set value exceeds the setting range due to an input change, the set value will automatically reset itself to the default value. If the set value exceeds the horizontal range, the H Left and H Right settings will reset to their default values. If the value exceeds the vertical range, the V Top and V Bottom settings will also reset accordingly.	

◆ Converter2 Side Cut Color

Parameter	Default	Setting range	Description
Red, Green, Blue	0	0 - 255	Sets background color that will be visible if the converted image is set smaller than the original under Converter2 Size (5-4-3). R, G, and B components can be adjusted separately.

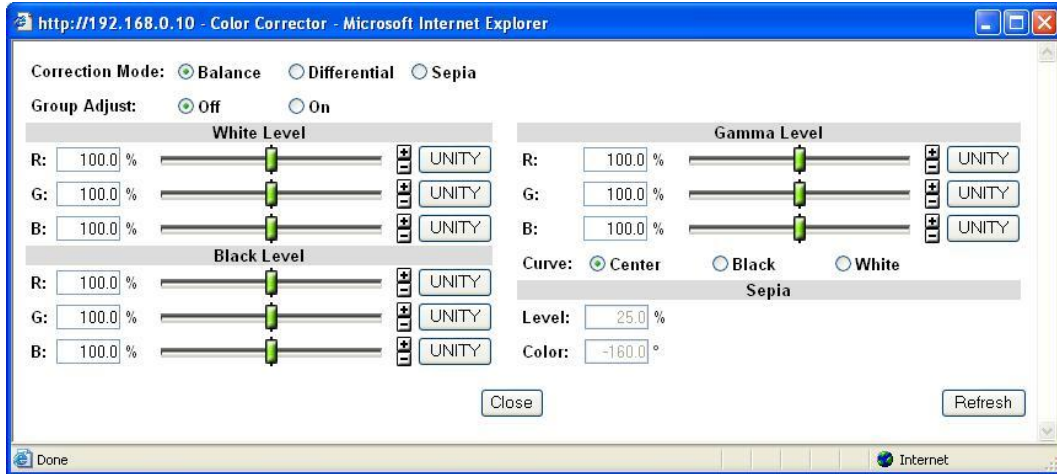
The Converter2 Side Cut Color setting cannot be changed if Converter2 Process Mode is set to BY-PASS. Also, it cannot be changed if the conversion is set to the formats that are indicated as (BY-PASS) in the CONV2 Conversion Table (5-4-2).

9-2-8. Color Corrector

Clicking block (8) on the video block diagram opens the Color Corrector dialog box.

See section 5-2-4 “COLOR CORRECTOR (C.C.)” for details.

Auto Video Optimizer (AVO) and Color Corrector use the same circuit. The color corrector settings are not fully changeable when AVO mode (9-2-2 “Auto Video Optimizer (AVO)”) is set to Auto. See section 5-2-5 “Color Corrector and AVO Modes” for the available menu settings.



After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

Click **Unity** to reset to the default settings.

Click **+** to increase the value by the smallest steps.

Click **-** to decrease the value by the smallest steps.

◆ Correction Mode

Parameter	Default	Setting range (Steps)	Description
Correction Mode	Balance	Balance Differential Sepia ^{*1}	Selects a correction mode from Balance (RGB), Differential (YPbPr), or Sepia. Balance: RGB signal correction mode Allows you to adjust the white balance. Gray scale can be changed by adjusting R, G and B levels. Differential: Color difference signal mode Allows you to adjust contrast without changing white balance. R, G and B levels can be changed without affecting gray scale. This adjustment is effective for images with different color saturation levels. Sepia: Sepia mode Useful for creating black and white images.

^{*1} If Correction Mode is set to Sepia, the White Level, Black Level, or Gamma Level R, B setting cannot be changed. Also, it cannot be changed if AVO Control is set to Auto or Hold in the Auto Video Optimizer (AVO) menu (9-2-2).

◆ White Level

Parameter	Default	Setting range (Steps)	Description
R, G, B (RGB White Level)	100.0%	0.0 - 200.0% (0.5%)	Adjusts the white level of R, G, and B components separately.
Group Adjust (Group Adjustment)	Off	On Off	Adjusts the white level of R, G, and B components separately, then turns this Group Adjust on. Changing any R, G, or B value will change the values of the three components accordingly while retaining the proportion.

^{*1} If AVO Control is set to Auto in the Auto Video Optimizer (AVO) menu (9-2-2), the White Level setting cannot be changed.

◆ **Black Level**

Parameter	Default	Setting range (Steps)	Description
R, G, B (RGB Black Level)	100.0%	0.0 - 200.0% (0.5%)	Adjusts the black level of R, G, and B components separately.
Group Adjust (Group Adjustment)	Off	On Off	Adjusts the black level of R, G, and B components separately, then turns this Group Adjust on. Changing any R, G, or B value will change the values of the three components accordingly while retaining the proportion.

*1 If AVO Control is set to Auto in the Auto Video Optimizer (AVO) menu (9-2-2), the Black Level setting cannot be changed.

◆ **Gamma Level**

Parameter	Default	Setting range (Steps)	Description
R, G, B (RGB Gamma level)	100.0%	0 - 200% (0.5%)	Adjusts the gamma level of R, G, and B components separately.
Group Adjust (Group Adjustment)	Off	On Off	Adjusts the gamma level of R, G, and B components separately, then turns this Group Adjust on. Changing any R, G, or B value will change the values of the three components accordingly while retaining the proportion.
Curve (Gamma Curve)	Center	Center Black White	Selects a gamma curve type.

*1 If AVO Control is set to Auto in the Auto Video Optimizer (AVO) menu (9-2-2), the all Gamma Level/Curve settings cannot be changed. Also, if AVO Control is set to Hold, the Curve setting cannot be changed.

◆ **Sepia**

The Sepia Level and Color settings can be changed if Correction Mode is set to Sepia.

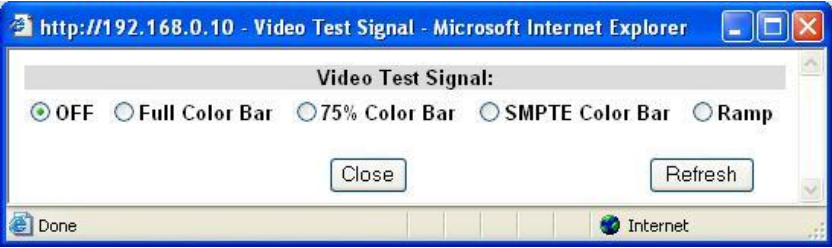
Parameter	Default	Setting range (Steps)	Description
Level	25.0%	0 - 100% (0.1%)	Adjusts the color level in SEPIA mode.
Color	-160.0°	--179.8° - 180.0° (0.2°)	Adjusts the color in SEPIA mode.

If AVO Control is set to Auto or Hold in the Auto Video Optimizer (AVO) menu (9-2-2), the Sepia settings cannot be changed.

IMPORTANT	
Differential or Sepia mode settings under Correction Mode will automatically change to Balance mode whenever AVO is enabled.	
While AVO is being used, the color corrector performs correction as if Correction Mode is in Balance mode and the gamma curve type is Black curve.	
Color correction enabled by setting AVO Control to Hold is also performed in the above state.	

9-2-9. Video Test Signal

Clicking block (9) on the video block diagram opens the Video Test Signal setting dialog box.

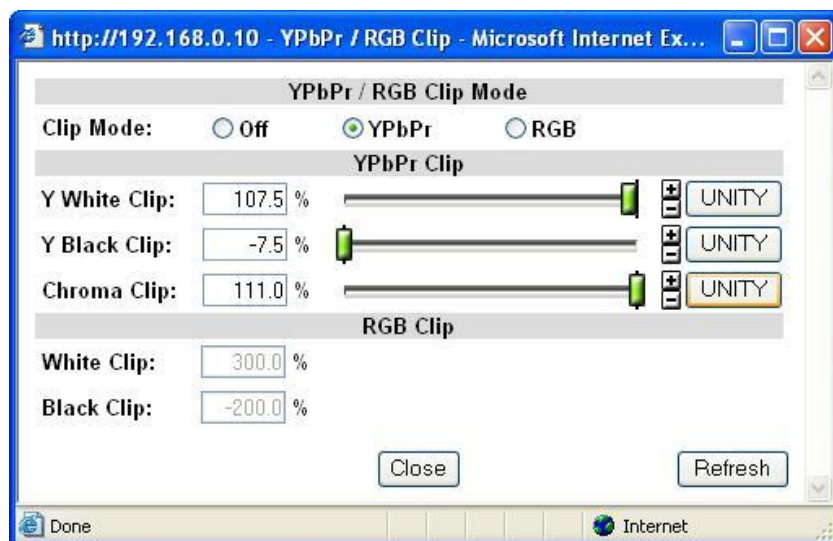


After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

Parameter	Default	Setting range	Description
Video Test Signal	Off	Off Full Color Bar 75% Color Bar SMPTE Color Bar Ramp	Outputs an internal video test signal.

9-2-10. YPbPr/RGB Clip

Clicking block (11) on the video block diagram opens the YPbPr/RGB setting dialog box. See section 5-6-3 “VIDEO CLIPSetting range” for details.



◆ YPbPr / RGB Clip Mode

Parameter	Default	Setting range	Description
Clip Mode	Off	Off YPbPr RGB	Selects a mode whether to clip signals in the YPbPr or RGB color space.

◆ YPbPr Clip

Parameter	Default	Setting range (Steps)	Description
Y White Clip (Y White Clip)	109.0%	50.0 - 109.0% (0.5%)	Sets the Y signal upper threshold.
Y Black Clip (Y Black Clip)	-7.5%	-7.5 - 50.0% (0.5%)	Sets the Y signal lower threshold.
Chroma Clip (PbPr Chroma Clip)	111.0%	50.0 - 111.0% (0.5%)	Sets both the upper and lower thresholds of PbPr signals.

Selectable when Clip Mode is set to YPbPr.

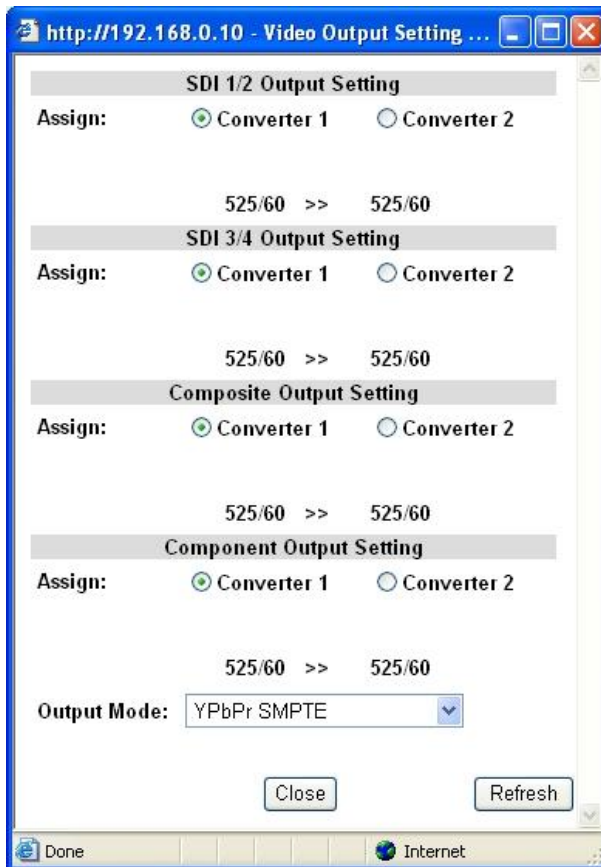
◆ RGB Clip

Parameter	Default	Setting range (Steps)	Description
White Clip (RGB White Clip)	300.0%	50 - 300% (0.5%)	Sets the upper RGB color space threshold.
Black Clip (RGB Black Clip)	-200.0%	-200 - 50% (0.5%)	Sets the lower RGB color space threshold.

Selectable when Clip Mode is set to RGB.

9-2-11. Output Select

Clicking block (12) on the video block diagram opens the Video Output Setting dialog box. Display of the Video Output Setting dialog varies depending on the Video Output Mode setting.



◆ SDI1/2 Output Setting

Allows you to assign video signals to output from video output connectors SDI1 and 2.

Parameter	Default	Setting range (Steps)	Description
Assign	Converter1	Converter1 Converter2	Selects whether to output a Converter1 or 2 signal from SDI1 and 2 connectors.

The input and output signal formats are displayed; e.g. 625/50>> 1080/50i.

◆ SDI3/4 Output Setting

Allows you to assign video signals to output from video output connectors SDI3 and 4.

Parameter	Default	Setting range (Steps)	Description
Assign	Converter1	Converter1 Converter2	Selects whether to output a Converter1 or 2 signal from SDI3 and 4 connectors.

The input and output signal formats are displayed; e.g., 625/50>> 1080/50i.

◆ Composite Output Setting

Allows you to assign video signals to output from the Composite output connectors.

Parameter	Default	Setting range (Steps)	Description
Assign	Converter1	Converter1 Converter2	Selects whether to output a Converter1 or 2 signal from COMPOSITE OUT connectors.

The input and output signal formats are displayed; e.g., 625/50>> 1080/50i.

◆ Component Output Setting

This menu appears only if the FA-95AIO option is installed.

Allows you to assign video signals to video output pins to output to the FA-95AIO Component I/O connector.

Parameter	Default	Setting range (Steps)	Description
Assign	Converter1	Converter1 Converter2	Selects whether to output a Converter1 or 2 signal from the ANALOG COMPONENT I/O connector.

Displays formats of input signals to the converter and converted output signal from the converter as 625/50>> 1080/50i.

Output Mode

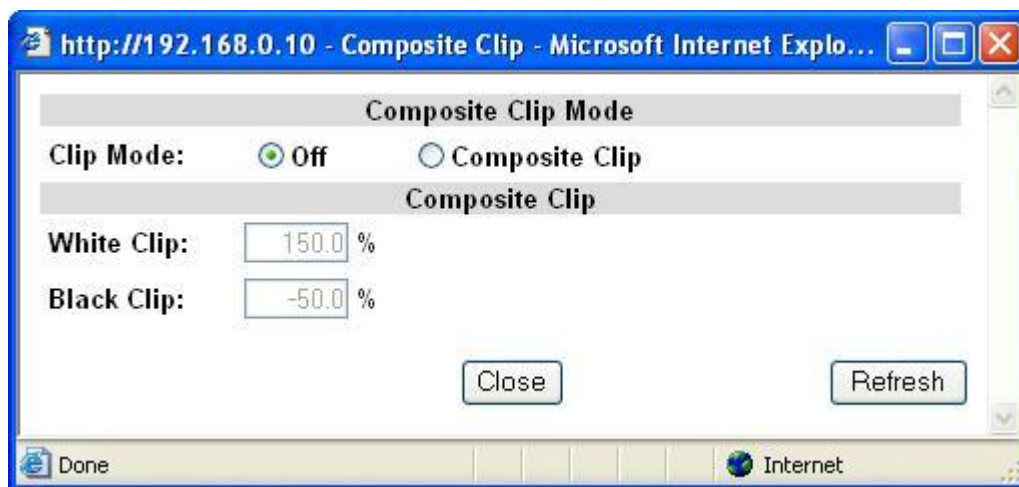
Parameter	Default	Setting range (Steps)	Description
Output Mode	YPbPr SMPTE	YPbPr SMPTE YPbPr BETACAM RGB Y/C	Selects an output mode for ANALOG COMPONENT(FA-95AIO) signals. SMPTE and BETACAM are SD-SDI output formats.

* Outputs black signals if the output signal/s from CONV1 and CONV2 is/are 1080p, and FA-95AIO output is set to YPbPr or RGB. See the YPbPr/RGB Output Format table in section 5-8-4 "COMPONENT SET".

* Outputs black signals if the output signal/s from CONV1 and CONV2 is/are HD-SDI, and FA-95AIO output is set to Y/C. See the YPbPr/RGB Output Format table in section 5-8-4 "COMPONENT SET".

9-2-12. Composite Clip

Clicking block (13) on the video block diagram opens the Composite Clip dialog box. See section 5-6-3 “VIDEO CLIP Setting Ranges” for details.



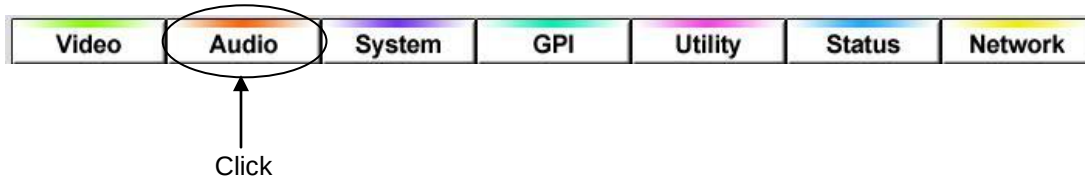
Parameter	Default	Setting range (Steps)	Description
Clip Mode	Off	Off, Composite Clip	Composite Clip enables clipping on the composite output signals.
White Clip	150.0%	50 - 150% (0.5%)	Sets the upper threshold of analog composite color space.
Black Clip	-50.0%	-50 - 50% (0.5%)	Sets the lower threshold of analog composite color space.

The COMPOSITE CLIP settings are effective only on the analog composite outputs.

The settings are not effective on the SDI1/2 and SDI3/4 outputs.

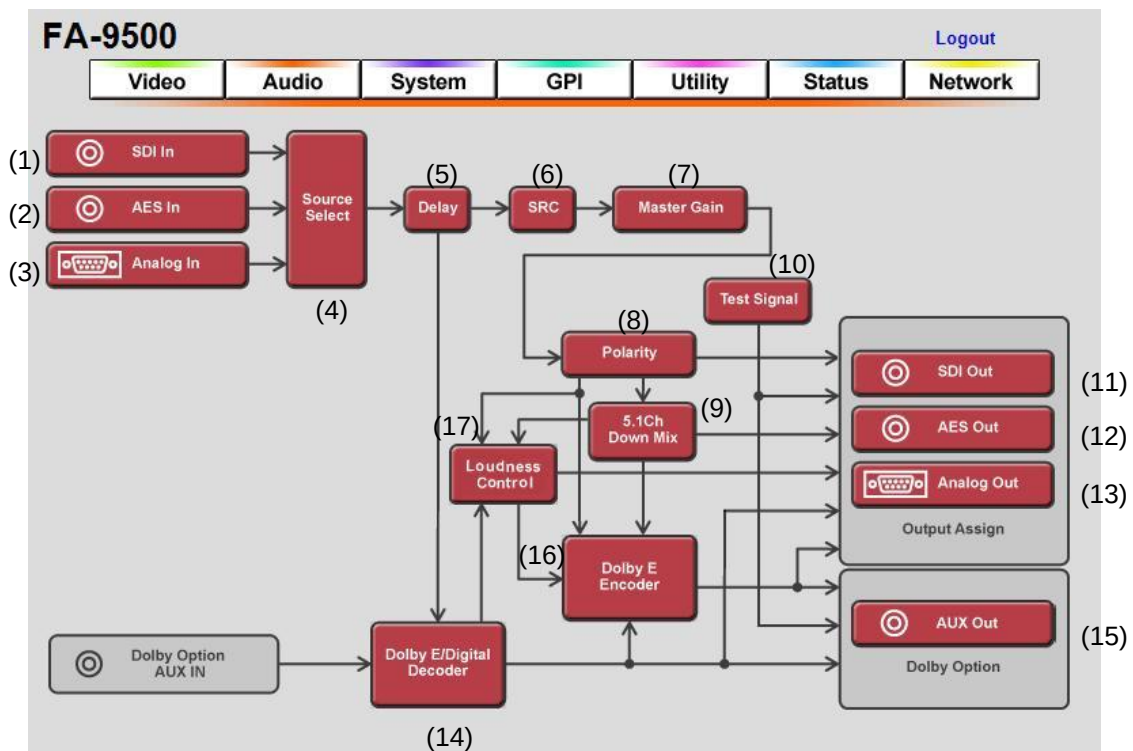
To enable the Composite Clip menu, set Clip Mode to Off in the YPbPr/RGB Clip menu (9-2-10).

9-3. AUDIO Settings



Click the Audio tab at the top of the page. The audio block diagram will be displayed. Each block in the diagram lets you to go to the corresponding windows or dialog boxes that allows you to change various settings.

Audio Block Diagram

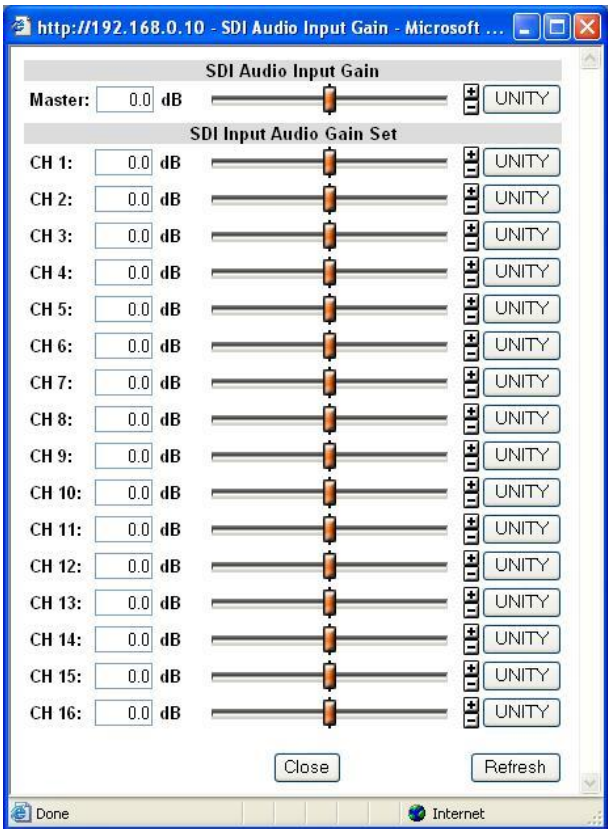


- * (4) and (15) are effective when the FA-95D-D or FA-95DE-E option is installed.
- * (16) is effective when the FA-95DE-E option is installed.
- * (17) is effective when the FA-95ALA option is installed.

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

9-3-1. SDI Input Gain

Clicking block (1) on the audio block diagram opens the SDI Audio Input Gain dialog box.



After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

Click **Unity** to reset to the default settings.

Click **+** to increase the value by the smallest steps.

Click **-** to decrease the value by the smallest steps.

◆ **SDI Audio Input Gain**

Parameter	Default	Setting range (Steps)	Description
Master	0.0dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the input gain for all channels CH1 to CH16.

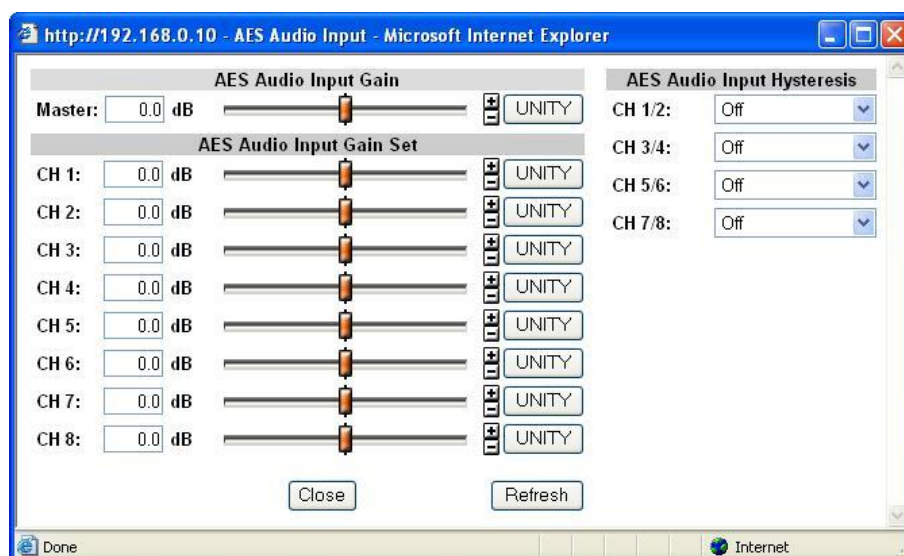
◆ **SDI Input Audio Gain Set (Settings)**

Parameter	Default	Setting range (Steps)	Description
CH1-CH16	0.0dB	-20.0 - +20.0 dB ^{*1} (0.1 dB)	Sets the input gain for the individual SDI embedded audio channel.

^{*1} Master and individual channel values cannot exceed the setting range as a total. The setting value will stop at the end of the range.

9-3-2. AES Audio Input Settings

Clicking block (2) on the audio block diagram opens the AES Audio Input dialog box.



After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

Click **Unity** to reset to the default settings.

Click **+** to increase the value by the smallest steps.

Click **-** to decrease the value by the smallest steps.

◆ AES Audio Input Gain

Parameter	Default	Setting range (Steps)	Description
Master	0.0dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the input gain for all channels CH1 to 8 of AES inputs.

◆ AES Audio Input Gain Set (Settings)

Parameter	Default	Setting range (Steps)	Description
CH1 - CH8	0.0 dB	-20.0 - +20.0 dB ^{*1} (0.1 dB)	Sets the input gain for the individual AES channel

^{*1} The total value of Master and individual channel cannot exceed the setting range. The setting value will stop at the end of the range.

AES Audio Input Hysteresis

Parameter	Default	Setting range (Steps)	Description
CH1/2 – CH7/8	Off	Off Group A Group B	Synchronizes the AES input signals in group A or B per group. This setting is effective when using AES audio signals to output multi-channel audio signals such as surround sound.

The channel pair with the smallest channel numbers within a group is used as the reference pair and other channel pairs are synchronized to it. If there is no audio signal in the channel pair, the next channel pair will be the reference. Audio signals with a phase difference relative to the reference within ± 0.25 of a sample period can be synchronized.

Setting Examples:

◆ **When setting all channel pairs CH 1/2 to 7/8 to Group A**

CH 1/2 will be the reference. Other channel pairs will be synchronized to the word clock of CH1/2.

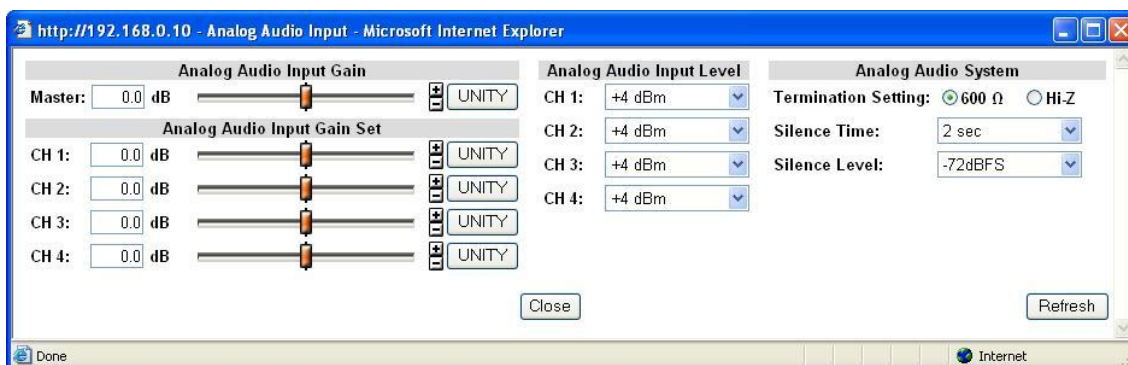
◆ **When setting channels CH1/2 to 3/4 to Group A, and channels CH5/6 to 7/8 to Group B**

CH 1/2 will be the reference pair for Group A, and CH 5/6 the reference pair for Group B.

IMPORTANT
Channel pairs in an audio group must be synchronous and must have the same sampling rate. Changing the audio assignment of the reference channel pair may cause noise on other channel pairs in the same audio group. Also, changing the assignment may affect the phase alignment of the reference channel pair and other channel pairs. If the alignment is turned off, set Master Mute (see section 9-3-7 “Audio Master Setting”) to on and off, or turn the unit power off and on to regain the alignment.

9-3-3. Analog Input Gain/Level

Clicking block (3) on the audio block diagram opens the Analog Audio Input Gain/Level dialog box.



After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

Click **Unity** to reset to the default settings.

Click **+** to increase the value by the smallest steps.

Click **-** to decrease the value by the smallest steps.

◆ Analog Audio Input Gain

Parameter	Default	Setting range (Steps)	Description
Master	0.0dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the input gain for all analog audio channels CH1 to CH4.

◆ Analog Audio Input Gain Set (Settings)

Parameter	Default	Setting range (Steps)	Description
CH1 – CH4	0.0 dB	-20.0 - +20.0 dB ^{*1} (0.1 dB)	Sets the input gain for the individual Analog Audio channel.

^{*1} The total value of Master and individual channel cannot exceed the setting range. The setting value will stop at the end of the range.

◆ Analog Audio Input Level

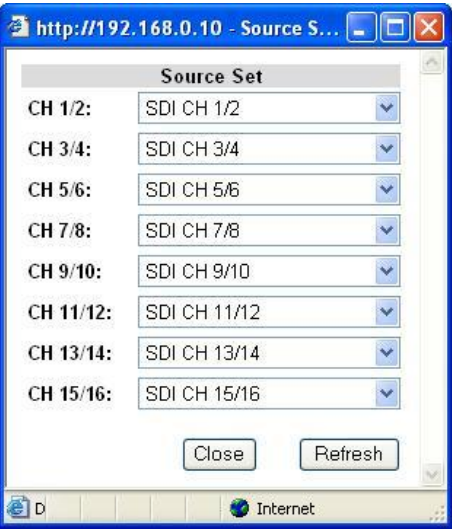
Parameter	Default	Setting range (Steps)	Description
CH1-4	+4dBm	-10 dBm 0 dBm +4 dBm +8 dBm	Sets the signal level for the individual Analog Audio channel.

◆ Analog Audio System

Parameter	Default	Setting range (Steps)	Description
Termination Setting	600Ω	600Ω Hi-Z	Selects how to terminate the analog inputs 1/2 and 3/4. 600Ω : 600Ω termination Hi-Z : High-impedance
Silence Time	2sec	1 – 10 sec (1 sec)	Sets the duration to determine whether the input analog audio is silent.
Silence Level	-72dBFS	-72 - -48 dBFS (6dBFS)	Sets the audio level to determine whether the input analog audio is silent.

9-3-4. Source Select

Clicking block (4) on the audio block diagram opens the Source Select dialog box.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ **Source Set**

Parameter	Default	Setting range (Steps)	Description
CH1/2-15/16	SDI channels corresponding to the channel numbers of source channels	SDI CH 1/2 - 15/16 ^{*1} AES CH 1/2 - 7/8 ^{*2} Analog CH 1/2 - 3/4	Selects channel pairs to use for 16-channel audio SOURCES.

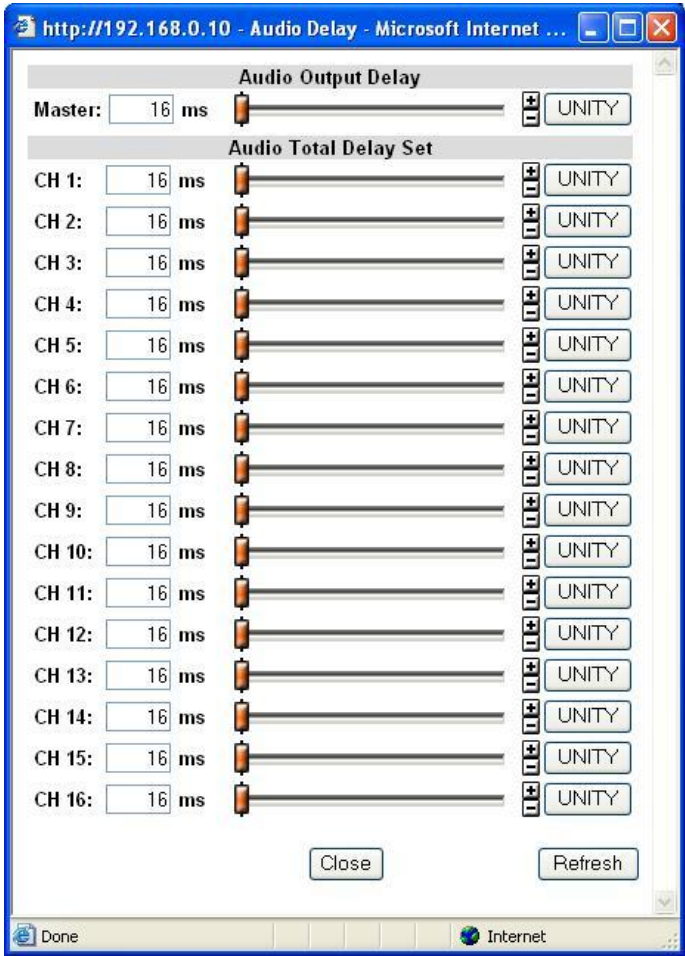
*1 If Input Select in section 9-2-1 “Input Select” is set to SDI 1 or SDI 2, the embedded audio signals of either selected SDI 1 or SDI 2 will be assigned to SDI 1/2 – 15/16. If Input Select is set to other than SDI 1 and SDI2 such as Composite, the embedded audio signals of SDI 1 input video will be assigned.

*2 To use the AES audio signals 1/2 through 7/8 for Source, the AES connector must be set to be used for input. See AES 1/2-3/4 IO Setting and AES5/6-7/8 IO Setting in section 9-4-2 “Audio System” for details.

NOTE
Any of the 16 audio channel signals selected under Source Select can be output as audio output or embedded to SDI video signals. See section 9-3-11 SDI Audio Output Settings for details on embedding.

9-3-5. Audio Output Delay

Clicking block (5) on the audio block diagram opens the Audio Delay dialog box.



After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

Click **Unity** to reset to the default settings.

Click **+** to increase the value by the smallest steps.

Click **-** to decrease the value by the smallest steps.

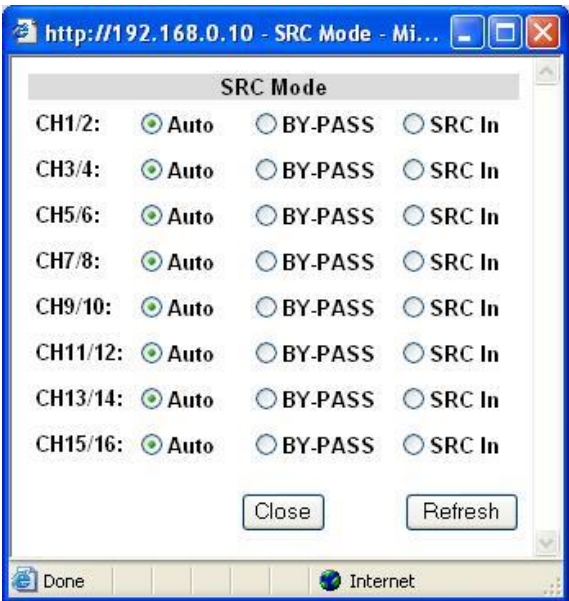
Parameter	Default	Setting range		Description
Audio Output Delay	4 msec	Master	4 - 1000msec	Sets the delay for SOURCE channels.
		CH1-16	4 - 1000msec ^{*1}	

^{*1} The total value of Master and individual channel cannot exceed the setting range. The setting value will stop at the end of the range.

Enabling Delay Adjust under Video Sub in the 9-4-1 “Video System” while CONV1 or CONV2 is in use adds a delay equivalent to 1 frame (2 frames for progressive signals) of the input video signal to the set value. The maximum delay in such cases will be {1,000msec + 1 frame (2frames for progressive signals) of the input video signal}.

9-3-6. SRC Mode

Clicking block (6) on the audio block diagram opens the SRC Mode dialog box.



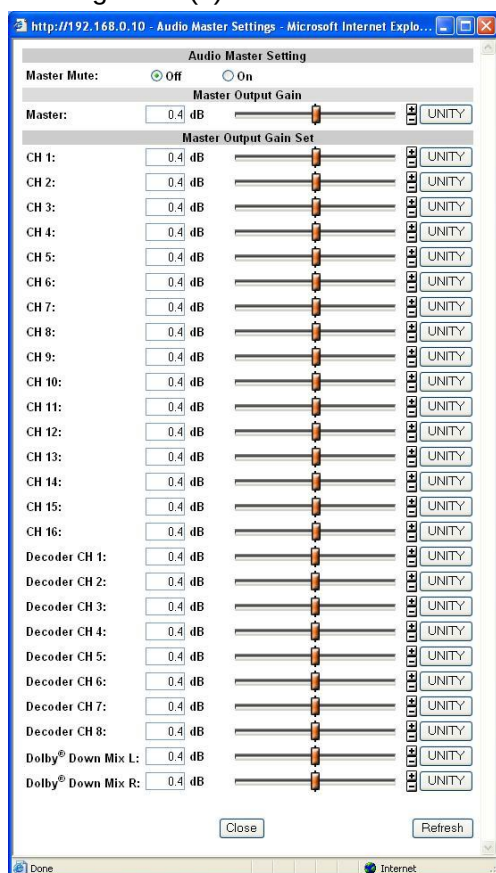
After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

SRC Mode

Parameter	Default	Setting range	Description
SRC Mode	SRC In	Auto BY-PASS SRC In	Sets the SRC circuit to pass or by-pass audio signals per channel pair. Auto: Sets the SRC circuit to pass signals. However, non-PCM audio signals will be by-passed. BY-PASS: Sets the SRC circuit to by-pass signals. Set to By-pass to output asynchronous audio signals. An audio clock must be selected under 9-3-11 “SDI Audio Output Setting” for the respective audio groups to embed audio signals to SDI output video signals. SRC In: Sets the SRC circuit to pass both PCM or NON-PCM signals. Useful for the irregular PCM signal with the NON-PCM audio channel status indication. However, real NON-PCM signals cannot be output properly.

9-3-7. Audio Master Settings

Clicking block (7) on the audio block diagram opens the Audio Master Setting dialog box.



After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

Click **Unity** to reset to the default settings.

Click **+** to increase the value by the smallest steps.

Click **-** to decrease the value by the smallest steps.

◆ Audio Master Settings

Parameter	Default	Setting range	Description
Master Mute	Off	Off On	ON: Mutes all audio channels that will be internally processed.

◆ Master Output Gain

Parameter	Default	Setting range (Steps)	Description
Master	0.0dB	-20.0 - +20.0 dB (0.1 dB)	Sets the offset to the audio gain for all audio channels CH1 through 16.

* Master Mute is not effective on NON-PCM outputs. NON-PCM output signals pass through.

◆ Audio Output Gain Set (Settings)

Parameter	Default	Setting range (Steps)	Description
CH1-CH16 Decoder CH1-CH8 ^{*2} Dolby Down Mix L/R ^{*2}	0.0dB	-20.0 - +20.0 dB ^{*1} (0.1 dB)	Sets audio gain for the Dolby decoder and CH1 through CH16 that are selected under Source Select.

*1 The total value of Master and individual channel cannot exceed the setting range. The setting value will stop at the end of the range.

*2 Selectable only if FA-95D-D option is installed.

9-3-8. Audio Test Signal

Clicking block (10) on the audio block diagram opens the Audio Test Signal dialog box.

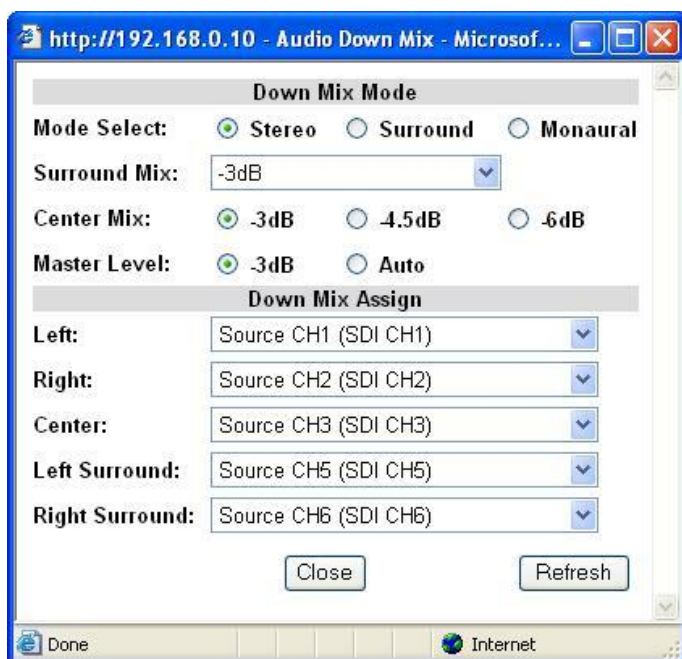


After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

Parameter	Default	Setting range	Description
Audio Test Signal	Off	Off 1kHz Tone	Outputs an internal audio test signal

9-3-9. 5.1Ch Down Mix

Clicking block (9) on the audio block diagram opens the Audio Down Mix dialog box.



See section 6-7 “DOWN MIX SET” for details.

◆ Down Mix Mode

Parameter	Default	Setting range (Steps)	Description
Mode Select	Stereo	Stereo Surround Monaural	Selects a mode to downmix audio signals.
Surround Mix	-3dB	-3dB -6dB -9dB 0	Sets the Ls/Rs (surround channels) level. 0 : ($-\infty$ dB) Excludes surround channels from the downmix.
Center Mix	-3dB	-3dB -4.5 dB -6dB	Sets the C (center channel) level. -3dB : The output level after the downmix retains the original center channel level. -4.5dB, -6dB : Used to reduce the audio level in case it becomes too loud due to the center channel audio mixing to both the right and left channels.
Master Level	-3dB	-3dB Auto	Sets the level for the downmixed audio signals as a whole. If set to Auto , Down MIX Master Level changes according to the Downmix Mode and Surround Mix level selections. ^{*1}

*1 If Master Level is set to Auto, Master Level changes as shown in the below table.

Surround Mix Level Down Mix Mode	-3dB	-6dB	-9dB	0 ($-\infty$ dB)
Stereo	approx.-7.7dB	approx.-6.9dB	approx.-6.3dB	approx.-4.6dB
Surround	approx.-9.9dB	approx.-8.7dB	approx.-7.7dB	approx.-4.6dB
Monaural	approx.-12.9dB	approx.-12.0dB	approx.-11.4dB	approx.-9.5dB

◆ **Down Mix Assign**

Parameter	Default	Setting range	Description
Left Right Center Left Surround Right Surround	Left: Source CH1 Right: Source CH2 Center: Source CH3 Left Surround: Source CH5 Right Surround: Source CH6	Source CH 1-16	Selects audio signals that are selected for SOURCE channels 1 through 16 in the Source Select menu (9-3-4) for the channels to be downmixed. Which input audio signal is used for the SOURCE channel is displayed as (SDI CH1).

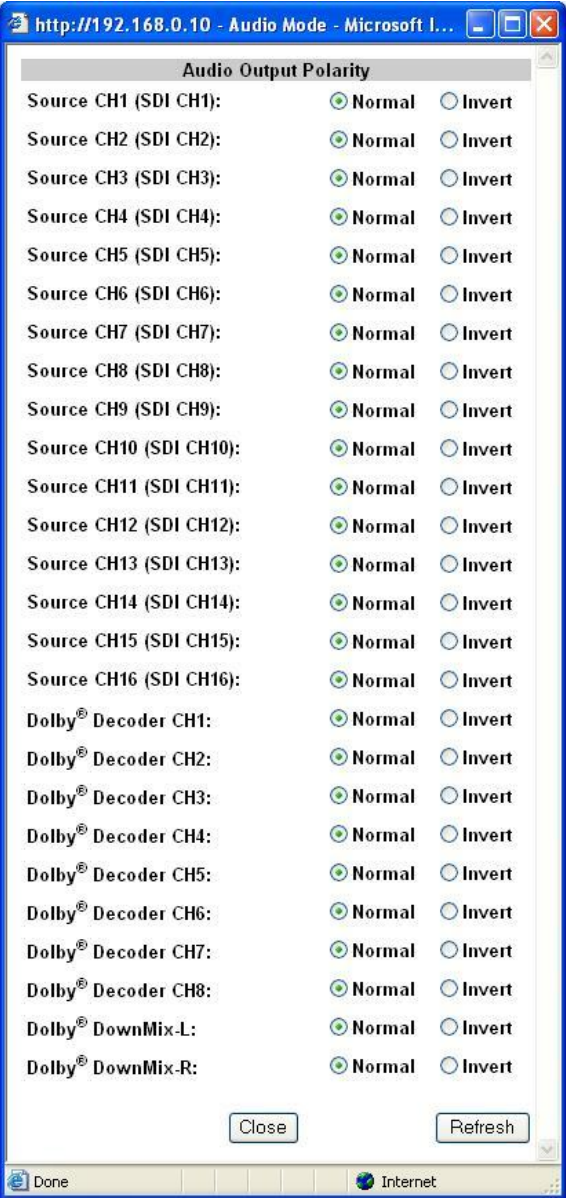
* If the same SOURCE channel is selected for multiple channels among the above, or NON-PCM signal is assigned to a Source channel, Down MIX-L and Down MIX-R will be muted.

* The downmixed audio signals are output as Down Mix-L, and R.

NOTE
To embed downmixed audio signals, Down Mix -L and R, see section 9-3-11 "SDI Audio Output Setting". To output downmixed audio signal from AES connectors, see section 9-3-12 "AES Audio Output Setting". To output from the analog audio output connectors, see section 9-3-13 "Analog Audio Output Setting". To change the Source signal assignments, see section 9-3-4 "Source Select".

9-3-10. Audio Output Polarity

Clicking block (8) on the audio block diagram opens the Audio Output Polarity setting dialog box.



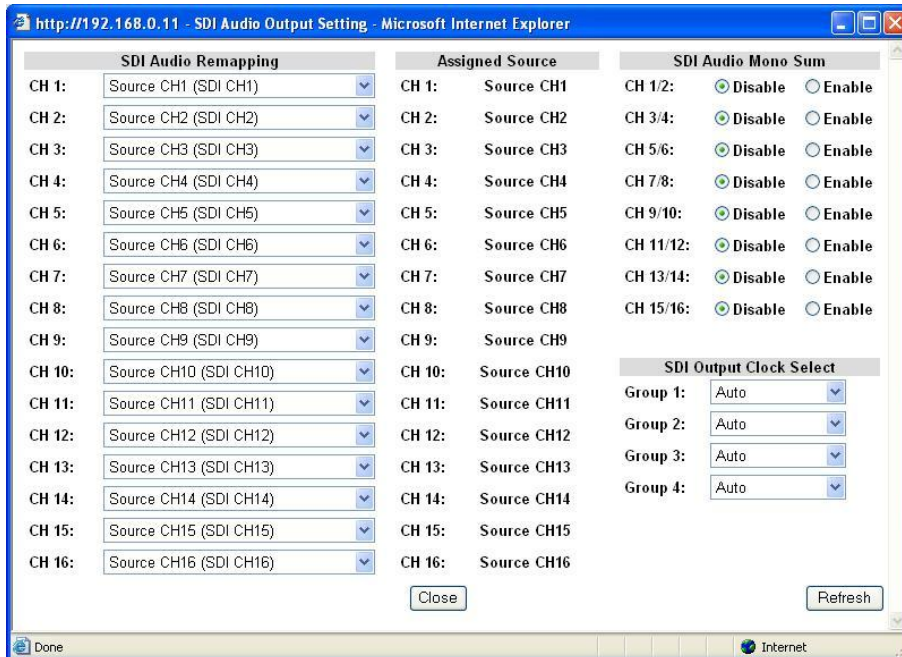
After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

Parameter	Default	Setting range	Description
Source CH1-16 Dolby Decoder CH 1-8 ^{*1} Dolby Decoder L-R ^{*1}	Normal	Normal Invert	Sets the polarity for Source channels CH1 through 16 and the Dolby decoder. Invert: Reverses the polarity. Which input audio signal is used for the SOURCE channel is displayed as (SDI CH1).

^{*1} Selectable only if the FA-95D-D option is installed.

9-3-11. SDI Audio Output Settings

Clicking block (11) on the audio block diagram opens the SDI Audio Output Setting dialog box.



After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

◆ SDI Audio Remapping

Parameter	Default	Setting range		Description
CH1-16	Source channel of the same channel number with the parameter	Source CH 1-16 ^{*1} 500Hz 1kHz Silence Down Mix-L ^{*2} Down Mix-R ^{*2} Dolby Decoder 1-8 ^{*3 *6} Dolby Down Mix L ^{*4 *6} Dolby Down Mix R ^{*4 *6} Dolby Encoder 1-2 ^{*5 *7}		Selects source audio signals to assign to SDI embedded audio channels. Source CH 1-16: Signals assigned to SOURCE channels 500Hz/1kHz: Test signal Silence: Mute signal Down Mix-L/R: Downmixed signal generated from SOURCE channels. Dolby Decoder 1-8: Dolby decoded PCM signals Dolby Down Mix L/R: Downmixed signal generated from Dolby decoded PCM signals. Dolby Encoder 1-2: Encoded Dolby E signal of selected signals of SOURCE channels. Loudness 1/2 Left: Loudness 1/2 Right: Loudness 1/2 Center: Loudness 1/2 LFE: Loudness 1/2 Ls: Loudness 1/2 Rs: Audio signals processed in FA-95ALA Loudness1/2 channels.
		Loudness 1 ^{*8} Loudness 2 ^{*8}	Left Right Center LFE Ls Rs	

^{*1} See section 9-3-4. "Source Select" for details on Source settings.

^{*2} See section 9-3-9. "5.1Ch Down Mix" for details on Down Mix settings.

^{*3} See section 9-3-14. "Dolby E/Digital Decoder" for details on Dolby Decoder settings.

^{*4} See section 9-3-14. "Dolby E/Digital Decoder" for details on Dolby Down Mix settings.

^{*5} See section 9-3-16. "Dolby E Encoder" for details on Dolby Encoder settings.

^{*6} Shown only if the FA-95D-D option is installed.

^{*7} Shown only if the FA-95DE-E option is installed.

^{*8} Shown only if the FA-95ALA option is installed.

See section 9-3-17. "Automatic Loudness Adjustment (FA-95ALA)" for details.

◆ Auto Channel Pairing for non-PCM Audio Inputs

The FA-9500 recognizes non-PCM audio input signals in L/R channel pair units, and adjusts assignments according to the signal selected for the L channel.

Source channels that are assigned after such adjustments are shown as Assigned Sources.

L/R channel pairs are Source 1/2, Source 3/4.....Source 15/16.

The channel assignments that are changed by the adjustment will be shown with “*” as “CH1: * Source2”.

Auto channel pairing example (on non-PCM inputs):

Conditions:

non-PCM inputs in Source 1 and 2

PCM inputs in Source 3 through 16

Entered value in SDI Audio Remapping	Assigned Source display	Auto channel pairing
CH1: Source1 CH2: Source2	CH1: Source1 CH2: Source2	CH1: Source1 CH2: Source2 Unchanged. The selected L/R channels are a correct non-PCM channel pair.
CH1: Source3 CH2: Source5	CH1: Source3 CH2: Source5	CH1: Source3 CH2: Source5 Unchanged. The selected L/R channels are PCM audio signals.
CH1: Source1 CH2: Source1	CH1: Source1 CH2: * Source2	CH1: Source1 CH2: Source2 Changed to make a proper pair including the assigned L channel signal. The selected L/R channels are the same channel of a non-PCM channel pair.
CH1: Source2 CH2: Source2	CH1: * Source1 CH2: Source2	CH1: Source1 CH2: Source2 Changed to make a proper pair including the assigned L channel signal. The selected L/R channels are the same channel of a non-PCM channel pair.
CH1: Source4 CH2: Source2	CH1: * Source3 CH2: * Source4	CH1: Source3 CH2: Source4 Changed to make a proper pair including the assigned L channel signal. PCM and non-PCM signals are selected for L/R channels.
CH1: Silence CH2: Source2	CH1: Silence CH2: * Silence	CH1: Silence CH2: Silence Changed to make a proper pair including the assigned L channel signal. SILENCE and non-PCM signals are selected for L/R channels.
CH1: 500Hz CH2: Source2	CH1: 500Hz CH2: * 500Hz	CH1: 500Hz CH2: 500Hz Changed to make a proper pair including the assigned L channel signal. 500Hz and non-PCM signals are selected for L/R channels. (1kHz signal will be processed the same.)
CH1: Down Mix-L CH2: Source3	CH1: Down Mix-L CH2: Source3	CH1: Down Mix-L CH2: Source3 Unchanged. Down Mix-L and PCM signals are selected for L/R channels.
CH1: Down Mix-L CH2: Source2	CH1: Down Mix-L CH2: * Down Mix-R	CH1: Down Mix-L CH2: Down Mix-R Changed to make a proper pair including the assigned L channel signal. Down Mix-L and non-PCM signals are selected for L/R channels.

Entered value in SDI Audio Remapping	Assigned Source display	Auto channel pairing
CH1:Dolby Encoder 1 CH2:1KHz	CH1:Dolby Encoder 1 CH2: * Dolby Encoder 2	CH1: Dolby Encoder 1 CH2: Dolby Encoder 2 Changed to make a proper pair including the assigned L channel signal. NON-PCM and 1KHz signals are selected for L/R channels.

◆ **SDI Audio Mono Sum**

Parameter	Default	Setting range	Description
CH1/2-CH15/16	Disable	Disable Enable	Enable: Outputs the stereo pair channels as a mono sum.

◆ **SDI Output Clock Select**

Parameter	Default	Setting range	Description
Group 1	Reference	Auto Reference CH 1/2 CH 3/4	Selects an audio clock per group for SDI embedded audio output. Auto: Automatically selects audio clock input in the NON-PCM signal channel, if an input NON-PCM signal is in the selected SDI embedded audio group. Automatically selects audio clock signal in the smallest numbered channel, if all signals in the audio group are NON-PCM. Automatically selects audio clock signal synchronized to the output video signal, if all signals in the audio group are PCM. Reference: Audio clock synchronize with the output video signal. (Used to synchronize audio with the video signals processed in the SRC.) CH 1/2 to 15/16: An input audio clock in Source channels CH 1/2 to 15/16. To output asynchronous audio signals, select one input channel pair for each group. For SD-SDI outputs, Reference is automatically selected regardless of the setting.
Group 2	Reference	Auto Reference CH 5/6 CH 7/8	
Group 3	Reference	Auto Reference CH 9/10 CH 11/12	
Group 4	Reference	Auto Reference CH 13/14 CH 15/16	

*1 Embedded audio signals are divided into 4 groups. Each group consists of 4 audio channels; Group 1 (CH 1 to 4), Group 2 (CH 5 to 8), Group 3 (CH 9 to 12), Group 4 (CH 13 to 16). The audio signals in the same group are transmitted together using the same audio clock (48kHz).

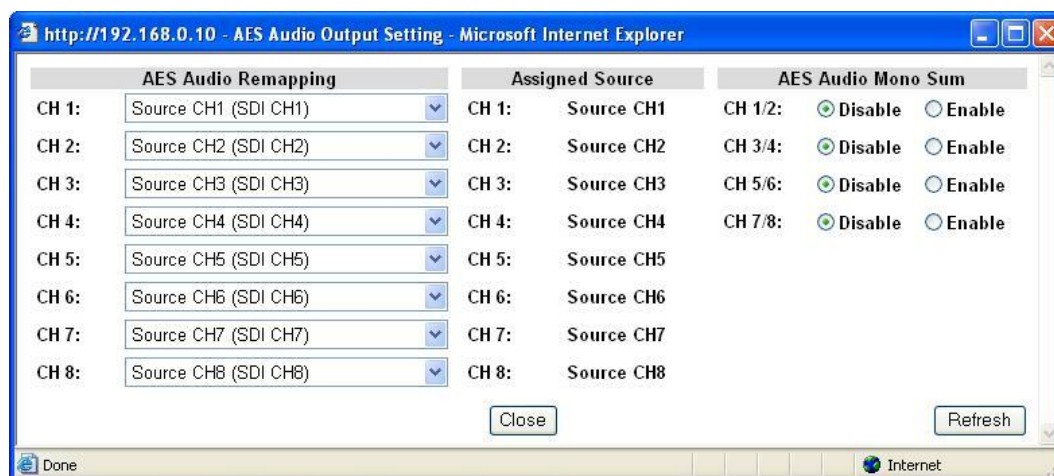
PCM audio signals will be synchronized to a genlock signal in the SRC (sampling rate converter) so as to synchronize with the output video signal. Non-PCM audio signals (compressed audio data such as AC-3) do not go into SRC. If the non-PCM audio input signal is asynchronous with the output video signal, the non-PCM audio output signal will be asynchronous. The asynchronous non-PCM audio signals can be embedded to SDI video signals by selecting an audio clock for each audio group. To do so, all 4 channels in the respective audio groups must be synchronous. Assign 4 synchronous audio signals to channels in a group. (See section 9-3-11. "SDI Audio Output Settings" for details.) Then the asynchronous audio signal will be properly embedded to the video signal.

*2 See section 9-3-4 "Source Select" for details on SOURCE settings.

NOTE
To change the Source signal assignments, see section 9-3-4 "Source Select". For details on how to set down mix, see section 9-3-9 "5.1Ch Down Mix".

9-3-12. AES Audio Output Settings

Clicking block (12) on the audio block diagram opens the AES Audio Output Setting dialog box.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ AES Audio Remapping

Parameter	Default	Setting range (Steps)		Description
CH1-8	Source channel of the same channel number with the parameter	Source CH 1 – 16 ^{*1} 500Hz 1kHz Silence Down Mix-L ^{*2} DownMix-R ^{*2} Dolby Decoder 1- 8 ^{*3 *6} Dolby Down Mix L ^{*4 *6} Dolby Down Mix R ^{*4 *6} Dolby Encoder 1 – 2 ^{*5 *7}		Selects source audio signals to assign to the AES output channels. Source CH 1-16: Signals assigned to SOURCE channels 500Hz/1kHz: Test signal Silence: Mute signal Down Mix-L/R: Downmixed signal generated from SOURCE channels. Dolby Decoder 1-8: Dolby decoded PCM signals Dolby Down Mix L/R: Downmixed signal generated from Dolby decoded PCM signals. Dolby Encoder 1-2: Encoded Dolby E signal of selected signals of SOURCE channels. Loudness 1/2 Left: Loudness 1/2 Right: Loudness 1/2 Center: Loudness 1/2 LFE: Loudness 1/2 Ls: Loudness 1/2 Rs: Audio signals processed in FA-95ALA Loudness1/2 channels.
		Loudness 1 ^{*8} Loudness 2 ^{*8}	Left Right Center LFE Ls Rs	

^{*1} See section 9-3-4. "Source Select" for details on Source settings.

^{*2} See section 9-3-9. "5.1Ch Down Mix" for details on Down Mix settings.

^{*3} See section 9-3-14. "Dolby E/Digital Decoder" for details on Dolby Decoder settings.

^{*4} See section 9-3-14. "Dolby E/Digital Decoder" for details on Dolby Down Mix settings.

^{*5} See section 9-3-16. "Dolby E Encoder" for details on Dolby Encoder settings.

^{*6} Shown only if FA-95D-D option is installed.

^{*7} Shown only if FA-95DE-E option is installed.

^{*8} Shown only if FA-95ALA option is installed. See section 9-3-17. "Automatic Loudness Adjustment (FA-95ALA)" for details on Loudness 1/2 settings.

◆ **Auto Channel Pairing for non-PCM Audio Inputs**

The FA-9500 recognizes non-PCM audio input signals in L/R channel pair units, and adjusts assignments according to the signal selected for the L channel.

Source channels that are assigned after such adjustments are shown as Assigned Sources.

L/R channel pairs are Source 1/2, Source 3/4.....Source 15/16.

The channel assignments that are changed by the adjustment will be shown with “*” as “CH1: * Source2”.

Auto channel pairing example (on non-PCM inputs):

Conditions:

non-PCM inputs in Source 1 and 2

PCM inputs in Source 3 through 16

Entered value in AES Audio Remapping	Assigned Source display	Auto channel pairing
CH1: Source1 CH2: Source2	CH1: Source1 CH2: Source2	CH1: Source1 CH2: Source2 Unchanged. The selected L/R channels are a correct non-PCM channel pair.
CH1: Source3 CH2: Source5	CH1: Source3 CH2: Source5	CH1: Source3 CH2: Source5 Unchanged. The selected L/R channels are PCM audio signals.
CH1: Source1 CH2: Source1	CH1: Source1 CH2: * Source2	CH1: Source1 CH2: Source2 Changed to make a proper pair including the assigned L channel signal. The selected L/R channels are the same channel of a non-PCM channel pair.
CH1: Source2 CH2: Source2	CH1: * Source1 CH2: Source2	CH1: Source1 CH2: Source2 Changed to make a proper pair including the assigned L channel signal. The selected L/R channels are the same channel of a non-PCM channel pair.
CH1: Source4 CH2: Source2	CH1: * Source3 CH2: * Source4	CH1: Source3 CH2: Source4 Changed to make a proper pair including the assigned L channel signal. PCM and non-PCM signals are selected for L/R channels.
CH1: Silence CH2: Source2	CH1: Silence CH2: * Silence	CH1: Silence CH2: Silence Changed to make a proper pair including the assigned L channel signal. SILENCE and non-PCM signals are selected for L/R channels.
CH1: 500Hz CH2: Source2	CH1: 500Hz CH2: * 500Hz	CH1: 500Hz CH2: 500Hz Changed to make a proper pair including the assigned L channel signal. 500Hz and non-PCM signals are selected for L/R channels. (1KHz signal will be processed the same.)
CH1: Down Mix-L CH2: Source3	CH1: Down Mix-L CH2: Source3	CH1: Down Mix-L CH2: Source3 Unchanged. Down Mix-L and PCM signals are selected for L/R channels.
CH1: Down Mix-L CH2: Source2	CH1: Down Mix-L CH2: * Down Mix-R	CH1: Down Mix-L CH2: Down Mix-R Changed to make a proper pair including the assigned L channel signal. Down Mix-L and non-PCM signals are selected for L/R channels.

Entered value in AES Audio Remapping	Assigned Source display	Auto channel pairing
CH1:Dolby Encoder 1 CH2:1KHz	CH1:Dolby Encoder 1 CH2: * Dolby Encoder 2	CH1: Dolby Encoder1 CH2: Dolby Encoder2 Changed to make a proper pair including the assigned L channel signal. NON-PCM and 1KHz signals are selected for L/R channels.

◆ **AES Audio Mono Sum**

Parameter	Default	Setting range (Steps)	Description
CH 1/2-CH 7/8	Disable	Disable Enable	Enable: Outputs the stereo pair channels as a mono sum.

NOTE

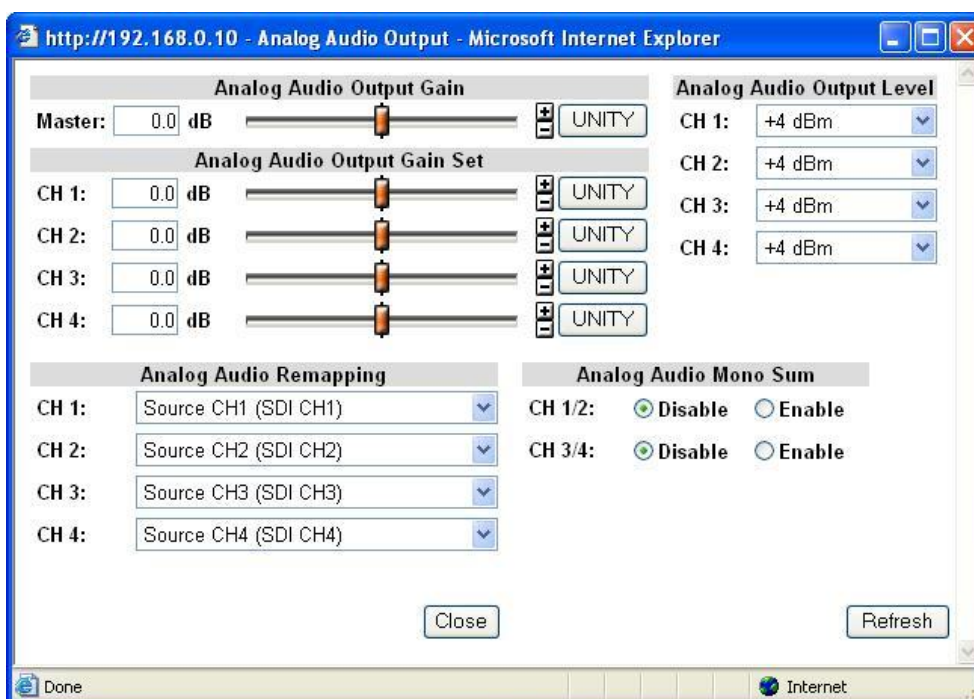
To change the Source signal assignments, see section 9-3-4 "Source Select". For details on how to set downmix, see section 9-3-9 "5.1Ch Down Mix".

IMPORTANT

To use AES audio signals 1/2 through 7/8 for Source, the AES connector must be set to be used for input. See AES 1/2-3/4 IO Setting and AES5/6-7/8 IO Setting in section 9-4-2 "Audio System" for details.

9-3-13. Analog Audio Output Settings

Clicking block (13) on the audio block diagram opens the Analog Audio Output dialog box.



After completing the settings, click **Close** to close the dialog box.

Click **Refresh** to update the settings.

Click **Unity** to reset to the default settings.

Click **+** to increase the value by the smallest steps.

Click **-** to decrease the value by the smallest steps.

◆ Analog Audio Output Gain

Parameter	Default	Setting range (Steps)	Description
Master	0.0dB	-20.0 - +20.0 dB (0.1 dB)	Sets the output gain for all analog audio output channels.

◆ Analog Audio Output Gain Set (Settings)

Parameter	Default	Setting range (Steps)	Description
CH 1-CH 4	0.0dB	-20.0 - +20.0 dB (0.1 dB)	Sets output gain per analog audio output channels.

◆ Analog Audio Output Level

Parameter	Default	Setting range (Steps)	Description
CH 1-CH 4	+4dBm	-10dBm 0dBm +4dBm +8dBm	Sets the output signal level for analog audio output channels.

◆ Analog Audio Remapping

Parameter	Default	Setting range	Description
CH 1-CH 4	Each Source	Source CH 1-16 ^{*1} 500Hz 1kHz Silence Down Mix-L ^{*2} Down Mix-R ^{*2} Dolby Decoder 1 – 8 ^{*3 *5} Dolby Down Mix L ^{*4 *5} Dolby Down Mix R ^{*4 *5}	Selects source audio signals to assign to analog audio output channels. Source CH 1-16: Signals assigned to SOURCE channels 500Hz/1kHz: Test signal Silence: Mute signal Down Mix-L/R: Downmixed signal generated from SOURCE channels. Dolby Decoder 1-8: Dolby decoded PCM signals Dolby Down Mix L/R: Downmixed signal generated from Dolby decoded PCM signals. Loudness 1/2 Left: Loudness 1/2 Right Loudness 1/2 Center: Loudness 1/2 LFE: Loudness 1/2 Ls: Loudness 1/2 Rs: Audio signals processed in FA-95ALA Loudness1/2 channels.
		Loudness 1 ^{*6} Loudness 2 ^{*6} Left Right Center LFE Ls Rs	

*1 See section 9-3-4. "Source Select" for details on Source settings.

*2 See section 9-3-9. "5.1Ch Down Mix" for details on Down Mix settings.

*3 See section 9-3-14. "Dolby E/Digital Decoder" for details on Dolby Decoder settings.

*4 See section 9-3-14. "Dolby E/Digital Decoder" for details on Dolby Down Mix settings.

*5 Shown only if FA-95D-D option is installed.

*6 Shown only if the FA-95ALA option is installed. See section 9-3-17. "Automatic Loudness Adjustment (FA-95ALA)" for details on Loudness 1/2 settings.

◆ Analog Audio Mono Sum

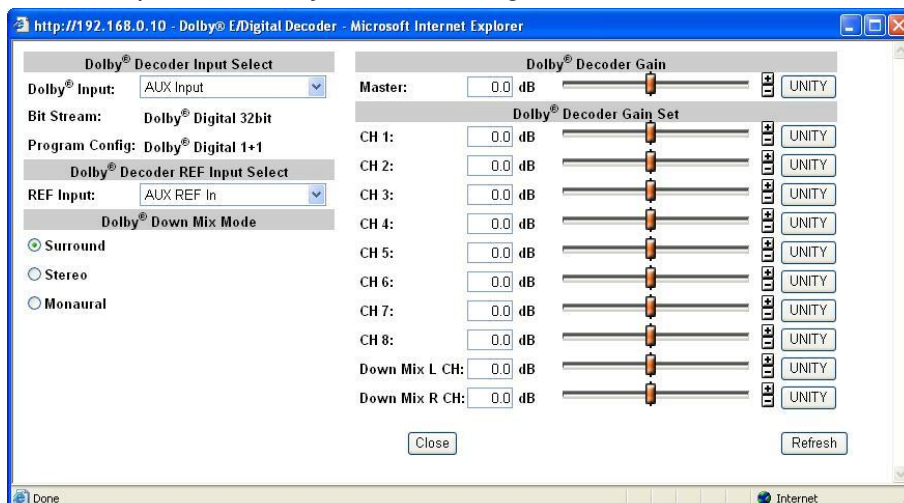
Parameter	Default	Setting range	Description
CH 1/2 CH 3/4	Disable	Disable Enable	Enable: Outputs the stereo pair channels as a mono sum.

NOTE

To change the Source signal assignments, see section 9-3-4 "Source Select". For details on how to set downmix, see section 9-3-9 "5.1Ch Down Mix".

9-3-14. Dolby E/Digital Decoder

Clicking block (14) on the audio block diagram when FA-95D-D or FA-95DE-E option is installed opens the Dolby Decoder dialog box.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ **Dolby Decoder Input Select**

Parameter	Default	Setting range	Description
Dolby Input	AUX Input	AUX Input Source 1/2 -15/16	Selects source audio signals to input to the Dolby decoder. AUX Input: Input signal in optional Dolby input connector (Dolby IN). Source 1/2 – 15/16: SOURCE signals selected in the9-3-4 “Source Select” menu.
Bit Stream	-	Dolby Digital 32bit Dolby Digital 16bit 1CH Dolby Digital 16bit 2CH Dolby Digital 16bit 1/2CH Dolby E 24bit Dolby E 20bit Dolby E 16bit PCM Loss Error	Displays signal type and bit width of signal selected under INPUT. PCM: Normal audio signal Loss: No signal Error: Unidentifiable
Program Config	-	Dolby E 5.1+2 Dolby E 5.1+2x1 Dolby E 4+4 Dolby E 4+2x2 Dolby E 4+2+2x1 Dolby E 4+4x1 Dolby E 4x2 Dolby E 3x2+2x1 Dolby E 2x2+4x1 Dolby E 2+6x1 Dolby E 8x1 Dolby E 5.1 Dolby E 4+2 Dolby E 4+2x1 Dolby E 3x2 Dolby E 2x2+2x1 Dolby E 2+4x1 Dolby E 6x1 Dolby E 4 Dolby E 2+2 Dolby E 2+2x1 Dolby E 4x1 Dolby E 7.1 Dolby E 7.1Screen NON-Dolby E	Displays Dolby E program configuration (Coding mode) or status of signal selected under INPUT. See Dolby E/Digital Decoder Output Channel Assignment table in section 13 “Dolby E Decoder/Encoder Channel Assignment Table” for channel assignments of respective configurations.
		Dolby Digital 1+1 Dolby Digital 1/0 Dolby Digital 2/0 Dolby Digital 3/0 Dolby Digital 2/1 Dolby Digital 3/1 Dolby Digital 2/2 Dolby Digital 3/2 Dolby Digital 3/0L Dolby Digital 2/1L Dolby Digital 3/1L Dolby Digital 2/2L Dolby Digital 3/2L	
		Loss Invalid	

◆ Dolby Decoder REF Input Select

Parameter	Default	Setting range	Description
REF Input	AUX REF IN	Output Video AUX REF In Input Video	Selects a reference signal to be used in the Dolby decoder. PCM signal output from the Dolby decoder will be synchronized to the selected reference signal. Output Video: Uses the output video signal. AUX REF In: Uses the input signal in the optional Dolby reference input connector (REF IN). If no signal is in the REF IN connector, the PCM signal output will be in free-run mode. Input Video: Uses the input video signal as a reference signal.

◆ Dolby Down Mix Mode

Parameter	Default	Setting range	Description
Mode	Surround	Surround Stereo Monaural	Selects a downmix mode for the Dolby decoder.

◆ Dolby Decoder Gain

Parameter	Default	Setting range (Steps)	Description
Master	0.0 dB	-20.0 - +20.0 dB (0.1 dB)	Sets offset for all Dolby-decoded signals.

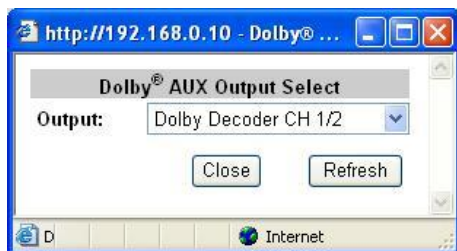
◆ Dolby Decoder Gain Set

Parameter	Default	Setting range (Steps)	Description
CH 1-8 Down Mix L CH Down Mix R CH	0.0 dB	-20.0 - +20.0 dB*1 (0.1 dB)	Sets gain for each Dolby decoder channel.

*1 The total Master and individual channel gain setting value cannot exceed the above setting range.

9-3-15. Dolby AUX OUTPUT Select

Clicking block (15) on the audio block diagram when FA-95D-D or FA-95DE-E option is installed opens the Dolby AUX Output Select dialog box.



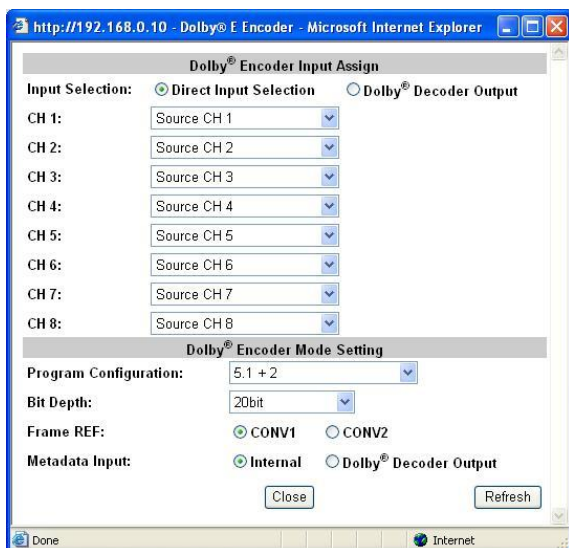
After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

Parameter	Default	Setting range	Description
Output	Dolby Decoder CH 1/2	Dolby Decoder CH 1/2 Dolby Decoder CH 3/4 Dolby Decoder CH 5/6 Dolby Decoder CH 7/8 Dolby Down Mix L/R Dolby Encoder CH 1/2 ^{*1} 500Hz Tone 1kHz Tone Silence None	Selects a signal to be output from the optional Dolby output connector (Dolby OUT). Decoder Output CH 1/2 – CH7/8: Dolby-decoded PCM signals Dolby Down Mix L/R: Downmixed signal generated from Dolby-decoded PCM signals. Dolby Encoder CH 1/2: Encoded Dolby E signal of selected signals of SOURCE channels. 500Hz Tone: 500Hz/1KHz Test signal (TONE) 1kHz Tone: 500Hz/1KHz Test signal (TONE) Silence: Mute signal None: No signal output

^{*1} Shown only if the FA-95DE-E option is installed.

9-3-16. Dolby E Encoder

Clicking block (16) on the audio block diagram when the FA-95DE-E option is installed opens the Dolby E Encoder dialog box.



After completing the settings, click **Close** to close the dialog box.
Click **Refresh** to update the settings.

◆ Dolby Encoder Input Assign

Parameter	Default	Setting range		Description
Input Selection	Direct Input Selection	Direct Input Selection Dolby Decoder Output		Selects a signal to be input to the Dolby encoder. ^{*1} Direct Input Selection: Source channel signals Dolby Decoder Output: Output signal from the Dolby decoder ^{*1}
CH1-8	*2	When Direct Input Selection is selected Source1-16 PCM Down Mix-L PCM Down Mix -R 500Hz TONE 1kHz TONE Silence		When Input Selection is set to Direct Input Selection: Source1-16: SOURCE signal selected in the 6-5 AUDIO MAPPING (MAPPING) menu PCM Down Mix-L/R: Down mixed signal generated from SOURCE channel signals. 500Hz/1kHz TONE: Test signal (TONE) Silence: Mute signal
		Loudness 1 ^{*3} Loudness 2 ^{*3}	Left Right Center LFE Ls Rs	When Input Selection is set to Dolby Decoder Output: Dolby Decoder1-8: PCM signal output from the Dolby decoder DolbyDown Mix-L/R: Down mixed signal generated from Dolby-decoded PCM signal 500Hz/1kHz TONE: Test signal (TONE) Silence: Mute signal
		When Dolby Decoder Output is selected Dolby Decoder 1-8 Dolby Down Mix-L DolbyDown Mix-R 500Hz TONE 1kHz TONE Silence		Loudness 1/2 Left: Loudness 1/2 Right Loudness 1/2 Center: Loudness 1/2 LFE: Loudness 1/2 Ls: Loudness 1/2 Rs: Audio signal processed in FA-95ALA Loudness1/2 channels.

^{*1} Direct Input Selection and Dolby Decoder Output settings are retained until changed.
When these Input Selection settings are switched, CH 1-8 assignments will be changed to

those of the Input Selection setting. Direct Input Selection and Dolby Decoder Output signals cannot be input to the Dolby encoder together. Dolby Digital signal input to the Dolby Decoder Output cannot be re-encoded to a Dolby E signal.

*2 SOURCE channels corresponding to CH1-8 will be the default value.

If Input Selection is set to Direct Input Selection, the settings will be; CH1: Source CH1 - CH8: Source CH8.

If Input Selection is set to Dolby Decoder Output, the settings will be; CH1: Dolby DEC 1 - CH8: Dolby DEC 8.

*3 Shown if FA-95ALA option is installed. See section 9-3-17. "Automatic Loudness Adjustment (FA-95ALA)" for details on Loudness 1/2 settings.

◆ Dolby Encoder Mode Setting

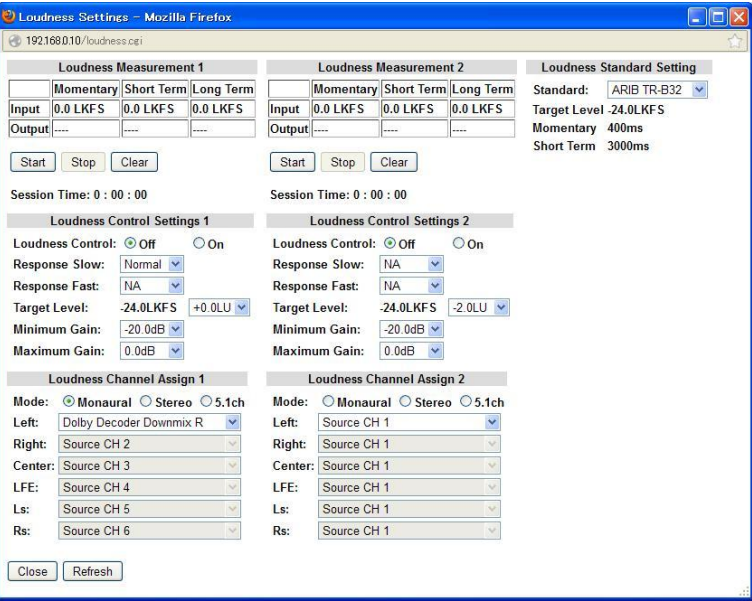
Parameter	Default	Setting range	Description
Program Configuration	5.1+2	5.1+2 ^{*1} 5.1+2x1 ^{*1} 4+4 ^{*1} 4+2x2 ^{*1} 4+2+2x1 ^{*1} 4+4x1 ^{*1} 4x2 ^{*1} 3x2+2x1 ^{*1} 2x2+4x1 ^{*1} 2+6x1 ^{*1} 8x1 ^{*1} 5.1 4+2 4+2x1 3x2 2x2+2x1 2+4x1 6x1 4 2+2 2+2x1 4x1 ^{*1} 7.1 ^{*1} 7.1 Screen ^{*1}	Selects Dolby E ^{*1} encoder program configuration.
Bit Depth	20bit	20bit 16bit	Selects the bit width of the Dolby E encoder output.
Frame REF	CONV1	CONV1 CONV2	Selects a video output to which the Dolby E encoder output is synchronized. ^{*2} (Converter 1 or converter 2)
Meta Data Input	Internal	Internal Dolby Decoder Output	Selects a metadata to be used for Dolby E encoding. Internal: Uses Program Configuration and Bit Depth settings. Other metadata will be reset to default. Dolby Decoder Output: Uses the metadata of the Dolby E signal input to the Dolby decoder. The program configuration and bit depth settings will be ineffective.

1 If Bit Depth is set to 16bit, the "" is displayed and the program functions as 5.1. To set to the above program configurations, set Bit Depth to 20bit.

*2 See section 9-2-6 Converter1 for details on CONV1 and CONV2 settings.

9-3-17. Automatic Loudness Adjustment (FA-95ALA)

Clicking block (17) on the audio block diagram when the FA-95ALA option is installed opens the Automatic Loudness Adjustment dialog box.



◆ **Loudness Measurement1/2**

Input indicates the measured loudness level of the FA-95ALA input audio signal in LKFS. Output indicates the loudness level of the loudness processed signal in LKFS.

Parameter	Default	Setting range	Description
Input	-	-	Displays the measured loudness level of the FA-95ALA input audio signal in LKFS.
Output	-	-	Displays the measured loudness level of the FA-95ALA output audio signal in LKFS. Set Loudness Control to On, then click Start to start loudness adjustment and display the measured loudness level.
Start	-	-	Allows you to start to adjust the audio signal loudness according to Loudness standard selected under Stdard.
Stop	-	-	Allows you to stop loudness measurement and adjustment.
Clear	-	-	Allows you to clear loudness measurement. If clicked while Start is enabled, loudness measurement and adjustment restart after being cleared. Session Time display also resets to 0:00:00.
Session Time			Displays the elapsed time of loudness measurement and adjustment. After counting up to 6:59:59, the display resets to 0:00:00. Loudness measurement and adjustment will also be cleared and restart.

◆ Loudness Control Settings 1/2

Parameter	Default	Setting range	Description
Loudness Control	Off	Off On	Allows you to turn On or Off the Loudness Level Adjustment feature. Set to Off to enable only loudness measurement. The On/Off setting can only be changed while loudness measurement is being stopped.
Response Slow	Normal	NA -4, -3, -2, -1 Normal +1, +2, +3, +4	Allows you to select the loudness level adjustment speed (SLOW) to achieve the target level for long-term loudness level adjustment, allowing gradual leveling. The larger the value, the faster the response allowing greater adjustment. NA: Disables the SLOW adjustment function.
Response Fast	Normal	NA -4, -3, -2, -1 NORMAL +1, +2, +3, +4	Allows you to select the loudness level adjustment speed (FAST) to achieve the target level for instantaneous loudness level adjustment, allowing sudden leveling (leveling down only). The larger the value, the faster the response allowing greater adjustment. NA: Disables the FAST adjustment function.
Target Level	+0.0 LU	-2.0- to +2.0 LU (0.1 LU)	Allows you to set the target loudness level (offset). The target level of the standard selected under Standard is displayed to the left of the setting box.
Minimum Gain	-20.0 dB	-20.0 to 0.0 dB (1.0 dB)	Allows you to set the minimum gain (lower threshold) to limit the attenuation.
Maximum Gain	0.0 dB	0.0 to +5.0 dB (1.0 dB)	Allows you to set the maximum gain (upper threshold) to limit the magnification.

IMPORTANT

Change Response settings according to the audio material characteristics. For materials with a wide audio level range, set each setting to a large value. For materials that prefer minimum loudness adjustment, set each setting to a small value.

◆ Loudness Channel Assign 1/2

Parameter	Default	Setting range	Description
Mode	Stereo	Monaural ^{*4} Stereo 5.1 CH	Allows you to select the audio mode of an audio signal for its loudness level to be measured and adjusted.
Left	Source CH1 ^{*3}	Source CH1-16 ^{*5} Down Mix Left Down Mix Right Dolby Decoder CH 1-8 ^{*6} Dolby Decoder Downmix L ^{*6} Dolby Decoder Downmix R ^{*6}	Allows you to select audio signals to be measured and adjusted. Source 1-16: Source channel audio signal selected under AUDIO MAPPING (MAPPING) (sec. 6-5) Down Mix Left/Right: Internally generated downmixed audio signals. Dolby Decoder CH 1-8: Dolby decoder output audio signals Dolby Decoder Downmix: Dolby decoder downmixed output audio signals
Right ^{*1}	Source CH2 ^{*3}	The same as above	The same as above
Center ^{*2}	Source CH3 ^{*3}	The same as above	The same as above
LFE ^{*2}	Source CH4 ^{*3}	The same as above	The same as above
Ls ^{*2}	Source CH5 ^{*3}	The same as above	The same as above
Rs ^{*2}	Source CH6 ^{*3}	The same as above	The same as above

*1 Selectable if Mode is set to Stereo or 5.1ch.

*2 Selectable if Mode is set to 5.1ch.

*3 Under Loudness Channel Assign 2 menus, values are Source CH9 – 14 respectively.

*4 If MODE is set to Monaural, the output signal for Loudness 1/2 R selected under respective Audio Output Setting menus will be the same as that for Loudness 1/2-L.

*5 Only signals processed in the SRC will be subject to Loudness adjustments. See section 9-3-6. "SRC Mode" for details on SRC settings.

*6 Shown if the FA-95D-D or FA-95DE-E is installed.

* LFE channels are subjected to adjustments, but not to measurement.

◆ Loudness Standards Setting

Parameter	Default	Setting range	Description
Standard	ARIB TR-B32	ARIB TR-B32 ATSC A85 EBU-R128 ITU R BS.1770	Allows you to select according to what standard the loudness measurement and adjustment will be conducted.

Parameter Specification of Standards used in the FA-95ALA

Parameter	ARIB TR-B32	ATSC A/85	EBU-R128	ITU-R BS.1770
Target Level	-24.0 LKFS	-24.0 LKFS	-23.0 LUFS	-24.0 LKFS
Momentary Average Time	400 msec	125 msec	400 msec	400 msec
Short Term Average Time	3000 msec	10000 msec	3000 msec	3000 msec
Absolute Gating	-70.0 LKFS	NONE	-70.0 LUFS	-70.0 LKFS
Relative Gating	-10 LU	NONE	-10 LU	-10 LU
Overlap Size	75%	0%	75%	75%

9-4. SYSTEM Settings



Click

Click the System tab at the top of the page. The System setting window will be displayed. The system setting window consists of Video System and Audio System pages.

Those pages are alternated by **Video System** **Audio System** at the top of the page.

9-4-1. Video System

*1 NTSC Setup On/Off radio buttons will appear under Composite Setting if the FA-95AIO option is not installed, and will appear under Video Sub if the option is installed.

Click **Refresh** to update the settings.

Click **Unity** to reset to the default settings.

Click **+** to increase the value by the smallest steps.

Click **-** to decrease the value by the smallest steps.

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

◆ SD Phase *1

Parameter	Default	Setting range (Steps)	Description
H Phase	0 clk	-864 - 864 clk (1 clk)	Adjusts the horizontal and vertical phases of the system referring to genlock signal. This setting is applied to SD output signals.
V Phase	0 Line ^{*2} (Frame, Input) 1 Line ^{*2} (Line, AVDL)	-313 - 313 Lines (1 Lines)	
SC Phase	0°	-179.8° - 180°	Adjusts the subcarrier phase of composite and Y/C output signals referring to the B.B. genlock signal. Not adjustable with the tri-level genlock signal.

*1 These settings cannot be made if there is no reference signal input.

*2 The default value varies depending on the Synchro Mode setting as shown in the below table. The set value will be reset to its relevant default value whenever the Synchro Mode setting is changed.

SYNCHRO	IN SEL	Default
FRAME	—	0
LINE	SDI1, 2	1
	Composite (525/60)	3
	Composite (625/50)	4
	Component (Y/C)	4
	Component (others)	1
AVDL	SDI1, 2	1
	Composite (525/60)	3
	Composite (625/50)	4
	Component (Y/C)	4
	Component (others)	1
INPUT	SDI1, 2	0
	Composite (525/60)	2
	Composite (625/50)	3
	Component (Y/C)	4
	Component (others)	1

◆ HD Phase ^{*1}

Parameter	Default	Setting range (Steps)	Description
1080 H Phase	0 clk	-1375 - 1375 clk (1 clk)	Adjusts the horizontal and vertical phases of the system referring to genlock signal. This setting is applied to 1080-format output signals.
1080 V Phase	0 Line ^{*1} (Frame, Input) 1 Line ^{*1} (Line, AVDL)	-563 - 563 Lines (1 Lines)	
720 H Phase	0 clk	-2063 - 2063 clk (1 clk)	Adjusts the horizontal and vertical phases of the system referring to genlock signal. This setting is applied to 720-format output signals.
720 V Phase	0 Line ^{*1} (Frame, Input) 1 Line ^{*1} (Line, AVDL)	-375 - 375 Lines (1 Lines)	

*1 These settings cannot be made if there is no reference signal input.

*2 The default value varies depending on the Synchro Mode setting as shown in the below table. The set value will be reset to its relevant default value whenever the Synchro Mode setting is changed.

SYNCHRO	IN SEL	Default
FRAME	—	0
LINE	SDI1, 2	1
	Composite (525/60)	3
	Composite (625/50)	4
	Component (Y/C)	4
	COMPONENT (others)	1
AVDL	SDI1, 2	1
	Composite (525/60)	3
	Composite (625/50)	4
	Component (Y/C)	4
	COMPONENT (others)	1
INPUT	SDI1, 2	0
	Composite (525/60)	2
	Composite (625/50)	3
	Component (Y/C)	4
	Component (others)	1

◆ Video Position

Parameter	Default	Setting range (Steps)	Description
H Position	0 Pixel	525/60i ± 92 625/50 ± 92 1080/59i ± 240 1080/50i ± 240 1080/23PsF ± 240 1080/24PsF ± 240 720/59p ± 160 720/50p ± 160 1080/59p ± 240 1080/50p ± 240 (Pixel)	Adjusts the horizontal/vertical position of output videos.
V Position	0 Line	525/60i ± 30 625/60i ± 36 1080/59i ± 68 1080/50i ± 68 1080/23PsF ± 68 1080/24PsF ± 68 720/59p ± 90 720/50p ± 90 1080/59p ± 135 1080/50p ± 135 (Line)	

◆ Freeze Settings

Parameter	Default	Setting range	Description
Freeze On/Off ^{*1}	Off	Off, On	Sets FREEZE ON/OFF
Freeze Mode ^{*2}	Frame	Frame, Odd, Even	Select an operation mode for FREEZE.
Strobe Freeze	0	0 – 255	Sets the interval to refresh the images by the number of fields for the field or frame freeze. ("0" will not refresh the image.)

^{*1} Changing the FS Mode or Synchro Mode setting while Freeze On/Off is set to On will turn freeze Off. Freeze On/Off cannot be set to On if Synchro mode is set to Line Sync, AVDL, or Input Lock. Freeze is always set to Off at startup. These settings are not stored in the event memory.

^{*2} Freeeeze Mode is automatically set to Frame for progressive and progressive segmented frame input signals and cannot be changed. See the below Freeze Mode Setting Chart for details.

Freeze Mode Setting Chart

Sync Format settings	Input signal									
	525/60	625/50	1080/59i	1080/50i	720/59p	720/50p	1080/23PsF	1080/24PsF	1080/59p	1080/50p
AUTO	OE	OE	OE	OE	F	F	F	F	F	F
525/60	OE	NOE	NOE	NOE	NOE	NOE	NOE	NOE	NOE	NOE
625/50	NOE	OE	NOE	NOE	NOE	NOE	NOE	NOE	NOE	NOE
1080/59i	NOE	NOE	OE	NOE	NOE	NOE	NOE	NOE	NOE	NOE
1080/50i	NOE	NOE	NOE	OE	NOE	NOE	NOE	NOE	NOE	NOE
720/59p	NF	NF	NF	NF	F	NF	NF	NF	NF	NF
720/50p	NF	NF	NF	NF	NF	F	NF	NF	NF	NF
1080/23PsF	NF	NF	NF	NF	NF	NF	F	NF	NF	NF
1080/24PsF	NF	NF	NF	NF	NF	NF	NF	F	NF	NF
1080/59p	NF	NF	NF	NF	NF	NF	NF	NF	F	NF
1080/50p	NF	NF	NF	NF	NF	NF	NF	NF	NF	F

OE: Can be set to Frame, Odd, or Even.

F: Fixed to Frame.

NOE: Can be set to Frame, Odd, or Even, but the image does not appear properly.

NF: Fixed to Frame, and the image does not appear properly.

◆ FS Mode

Parameter	Default	Setting range	Description
Synchro Mode ^{*1} *2 *3 *4 *5 *6	Frame Sync	Frame Sync Line Sync AVDL ^{*7} Input Lock ^{*1}	Frame Sync: Enables horizontal and vertical alignment of video signals to a genlock signal. Effective on both synchronous and asynchronous signals. Line Sync: Locks the video signal of within $\pm 1/2H$ to a genlock signal. Output delay is 1H. Effective only when video signal is synchronous to the genlock signal. AVDL: Locks the video signal to a genlock signal with a 1H delay. Effective only when video signal is synchronous to the genlock signal. Input Lock: Locks the system to an input video signal. The delay can be adjusted by System Phase and/or Frame Delay. However, the minimum delay is 520clk common in all formats. (HD: 74MHz, SD: 27MHz) Does not use a genlock signal.
Sync Format ⁸	Auto Detect	Auto Detect 525/60 625/50 1080/59.94i 1080/50i 720/59.94p 720/50p 1080/23PsF 1080/24PsF 1080/59.94p 1080/50p	Sets a system format for the FA-9500. Auto Detect: Detects and sets the detected input video format to the system format. Other values make the system work in the format.
Forced Field ^{*2 *4}	Off	Off Odd Even	Selects which field to be used twice to compose a frame. (Effective on composite signal inputs.)

- *1 Setting Synchro Mode to Input Lock cannot synchronize the system with an invalid composite signal input. In such case, set Synchro Mode to Frame Sync. Also, when Synchro Mod is set to Input Lock, the horizontal and vertical phases of the system need to be offset by more than 1 line to keep the delay between Converter and BY-PASS outputs to within 1 frame. See 9-2-6 "Converter1", 9-2-7 "Converter 2", and SD Phase and HD Phase in 9-4-1 "Video System" for details.
- *2 Selecting ODD/EVEN for Forced Field, while Input Select(9-2-1) is set to Composite, Synchro Mode to Frame Sync, and Frame Delay(9-2-3) to 0 frame, the Frame Delay setting value will always reset to 1 frame. Set Frame Delay to between 1 and 8 frames.
- *3 Frame Delay (9-2-3) cannot be set if Synchro Mode is set to Line Sync, or AVDL.
- *4 Forced Field cannot be set if Synchro Mode is set to Line Sync, AVDL, or Input Lock.
- *5 The Freeze function via GPI input is disabled if Synchro Mode is set to Line Sync, AVDL, or Input Lock. See section 9-5 "GPI" for details.
- *6 Changing the Synchro Mode setting will reset 1080 V Phase and 720 V Phase settings in HD Phase menu and the V PHASE setting in SD Phase menu to their default values according to the set Synchro Mode.
- 7* Switching input signals with a phase difference using a router or such device may cause shock noise to occur on video or audio signals if the phase difference (compared to the genlock signal) exceeds the range shown in the following table. If the difference is within range, shock noise will not occur.

Video format	Phase difference from genlock signal
SD	-1H (with line differences depending on video format) to +1/2H
HD	-5H (with line differences depending on video format) to +1/2H

Table of Reference signals and Input formats that can lock

Input signal	Reference signal							
	525/60	1080/59i	720/59p	625/50	1080/50i	720/50p	1080/23PsF	1080/24PsF
525/60	✓✓✓	✓✓✓	✓	-	-	-	✓	-
1080/59i	✓✓✓	✓✓✓	✓	-	-	-	✓	-
720/59p	✓✓✓	✓✓✓	✓✓✓	-	-	-	✓	-
1080/59p	✓✓✓	✓✓✓	✓✓✓	-	-	-	✓	-
625/50	-	-	-	✓✓✓	✓✓✓	✓	-	✓
1080/50i	-	-	-	✓✓✓	✓✓✓	✓	-	✓
720/50p	-	-	-	✓✓✓	✓✓✓	✓✓✓	-	✓
1080/50p	-	-	-	✓✓✓	✓✓✓	✓✓✓	-	✓
1080/23PsF	✓	✓	✓	-	-	-	✓✓✓	-
1080/24PsF	-	-	-	✓	✓	✓	-	✓✓✓

✓✓✓: SYNCHRO can be set to FRAME, LINE, or AVDL.

△: SYNCHRO can only be set to FRAME.

-: Unable to synchronize.

*8 This item is disabled if an FA-95CO option is installed and Format Error Trigger in section 9-2-1 "Input Select" is enabled.

◆ Composite Setting

Parameter	Default	Setting range	Description
Comb Filter	Adaptive 2D	Adaptive 3D Adaptive 2D Trap Only	Selects a mode to separate the Y (luminance) and C (chrominance) of composite signals.
NR Level	Off	Off Level 1 - 4	Sets the noise reduction level for the composite signal inputs.
Cross Color	Off	Off Level 1 - 3	Sets the cross color (noise) reduction level.
NTSC Setup	Off	Off On	Selects between 0IRE setup and 7.5IRE setup depending on the analog signal used. Off: 0IRE On: 7.5IRE

*1 NTSC Setup On/Off radio buttons will appear under Video Sub if the FA-95AIO option is installed.

◆ Video Sub

Parameter	Default	Setting range	Description
Black & White	Off	Off On	On: Converts to black and white signals.
VITS	Off	Off On	On: Passes through the Composite signal lines 11 through 21.
Delay Adjust	Off	Off On	Allows you to align unprocessed output video signal phases to those of processed video signals delayed by processing. On: Aligns CONV1 and 2 output video signal phases and adjusts audio delay. See the table in section 5-10-4. "VIDEO SUB" for the delay amounts.
NTSC Setup ^{*1}	Off	Off On	On: Sets NTSC setup for Composite and Component inputs and outputs. Off: Turns NTSC setup off.

*1 NTSC Setup NTSC Setup On/Off radio buttons will appear under Video Sub if the FA-95AIO option is installed.

◆ Converter1 Ancillary Setting

Parameter	Default	Setting range	Description
ANC Mode	H/V ANC	H/V ANC Detail	Selects ancillary data processing mode for the Converter1 output signal. H ANC and V ANC menu settings will become available when H/V ANC is selected. Set to Detail to enable ANC Data Embed settings in 9-4-3. ANC Settings.
H ANC *	Overwrite	Overwrite In Data Blank	Embeds audio signals into horizontal ancillary data of CONV1 output videos. Overwrite: Removes the embedded audio from the input SDI video, then embeds the processed audio data in the video signal. Whether to embed is determined by the Converter1 Audio Group setting. The input SDI data will be embedded in the video signal after audio signals are embedded. In Data: Passes the input SDI horizontal ancillary data without processing. (Processed audio data cannot be embedded.) Blank : Deletes all horizontal ancillary data, and embeds the processed audio data.
V ANC *	Pass	Pass Blank	Embeds audio signals into vertical ancillary data of CONV1 output videos. Pass: Embeds the vertical ancillary data without processing. Blank: Deletes all vertical ancillary data.

* H ANC and V ANC settings are effective if input and output formats are the same. If such formats are different, both H ANC and V ANC will be set to BLANK.

◆ Converter2 Ancillary Setting

Parameter	Default	Setting range	Description
ANC Mode	H/V ANC	H/V ANC Detail	Selects ancillary data processing mode for the Converter2 output signal. H ANC and V ANC menu settings will become available when H/V ANC is selected. Set to Detail to enable ANC Data Embed settings in 9-4-3. ANC Settings.
H ANC *	Overwrite	Overwrite In Data Blank	Embeds audio signals into horizontal ancillary data of CONV2 output videos. Overwrite: Removes the embedded audio signal from the input SDI video signal, then embeds the processed audio data on the video signal. Whether to embed is determined by the Converter2 Audio Group setting. The input SDI data will be embedded on the video signal after audio signals are embedded. In Data: Passes the input SDI horizontal ancillary data without processing. (Processed audio data cannot be embedded.) Blank : Deletes all horizontal ancillary data, and embeds the processed audio data.
V ANC *	Pass	Pass Blank	Embeds audio signals into vertical ancillary data of CONV2 output videos. Pass: Embeds the vertical ancillary data without processing. Blank: Deletes all vertical ancillary data.

* H ANC and V ANC settings are effective if input and output formats are the same. If such formats are different, both H ANC and V ANC will be set to BLANK.

◆ Converter1 Audio Group

Parameter	Default	Setting range	Description
Group1	Enable	Disable Enable *2	Disable: Does not insert GROUP 1-embedded audio. Enable : Inserts GROUP 1-embedded audio.
Group 2	Enable	Disable Enable *2	Disable: Does not insert GROUP 2-embedded audio. Enable : Inserts GROUP 2-embedded audio.
Group 3	Enable	Disable Enable *2	Disable: Does not insert GROUP 3-embedded audio. Enable : Inserts GROUP 3-embedded audio.
Group 4 *1	Enable	Disable Enable *2	Disable: Does not insert GROUP 4-embedded audio. Enable : Inserts GROUP 4-embedded audio.

*1 GROUP4 embedded audio cannot be inserted into SD-SDI output signals regardless of the GROUP4 setting.

*2 The setting is ineffective if the input and output formats are the same, and H ANC is set to In Data under Converter1 Ancillary Setting.

◆ Converter2 Audio Group

Parameter	Default	Setting range	Description
Group1	Enable	Disable Enable *2	Disable: Does not insert GROUP 1-embedded audio. Enable : Inserts GROUP 1-embedded audio.
Group 2	Enable	Disable Enable *2	Disable: Does not insert GROUP 2-embedded audio. Enable : Inserts GROUP 2-embedded audio.
Group 3	Enable	Disable Enable *2	Disable: Does not insert GROUP 3-embedded audio. Enable : Inserts GROUP 3-embedded audio.
Group 4 *1	Enable	Disable Enable *2	Disable: Does not insert GROUP 4-embedded audio. Enable : Inserts GROUP 4-embedded audio.

*1 GROUP4 embedded audio cannot be inserted into SD-SDI output signals regardless of the GROUP4 setting.

*2 The setting is ineffective if the input and output formats are the same, and H ANC is set to In Data under Converter2 Ancillary Setting.

◆ SD Line Mask

Parameter	Default	Setting range	Description
Line6-23	Pass	Pass Blank	Pass: Outputs the line to a composite, Y/C or SD-SDI output signal without processing. Blank: Masks the selected composite, Y/C or SD-SDI output signal line.

◆ PAL-M Mode Set

Parameter	Default	Setting range	Description
PAL-M Mode Set	Disable	Disable Enable	Disable: Allows NTSC signals to be output. Enable: Allows PAL-M signals to be output. *1

*1 This setting is effective on composite and Y/C outputs. NTSC and PAL signals can be input, however, NTSC signal cannot be output. If this mode is enabled, GENLOCK IN recognizes PAL-M signals as 525/60, however, NTSC BB signals become ineffective. (PAL BB signals and tri-level sync signals can be used.)

9-4-2. Audio System

FA-9500
Logout

Video
Audio
System
GPI
Utility
Status
Network

▶ Video System ▶ Audio System ▶ ANC Settings

Fade In / Out
Fade Mode: ☒ Disable ☐ Enable
Fade Time: ☒ 12ms ☐ 24ms
Digital Audio
AES 1/2 - 3/4 I/O Setting: ☒ Input ☐ Output
AES 5/6 - 7/8 I/O Setting: ☒ Input ☐ Output
Reference Level: ☐ -18dBFS ☒ -20dBFS ☐ -24dBFS
Grade: ☒ Professional ☐ Consumer
Resolution: ☒ 24 Bit ☐ 20 Bit ☐ 16 Bit
Digital Audio Silence Setting
Silence Detect Time:
Silence Level:
SDI Input Audio
Alignment: ☐ Disable ☒ Enable
HD-SDI Audio Clock: ☒ Auto ☐ Sync SDI ☐ Audio Clock

Audio Error Sense
Correction: ☐ Disable ☒ Normal ☐ Sensitive
Channel Status Mask
SDI CH1/2: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH3/4: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH5/6: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH7/8: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH9/10: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH11/12: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH13/14: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH15/16: ☒ SRC BY-PASS ☐ PCM ☐ Mute
AES CH1/2: ☒ SRC BY-PASS ☐ PCM ☐ Mute
AES CH3/4: ☒ SRC BY-PASS ☐ PCM ☐ Mute
AES CH5/6: ☒ SRC BY-PASS ☐ PCM ☐ Mute
AES CH7/8: ☒ SRC BY-PASS ☐ PCM ☐ Mute

Validity Bit Mask
SDI CH1/2: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH3/4: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH5/6: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH7/8: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH9/10: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH11/12: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH13/14: ☒ SRC BY-PASS ☐ PCM ☐ Mute
SDI CH15/16: ☒ SRC BY-PASS ☐ PCM ☐ Mute
AES CH1/2: ☒ SRC BY-PASS ☐ PCM ☐ Mute
AES CH3/4: ☒ SRC BY-PASS ☐ PCM ☐ Mute
AES CH5/6: ☒ SRC BY-PASS ☐ PCM ☐ Mute
AES CH7/8: ☒ SRC BY-PASS ☐ PCM ☐ Mute

Refresh

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

Click **Refresh** to update the settings.

◆ Fade In/Out

Parameter	Default	Setting range	Description
Fade Mode	Disable	Disable Enable	Disable: Always outputs input audio signals without adding any effect such as Fade or Mute. Enable: Sets an audio channel to mute with fade out if an audio error is detected and fade in when recovered. ^{*1}
Fade Time	12ms	12ms 24ms	Sets the duration for Fade In and Out transitions.

^{*1} To use this function, the audio delay must be set longer than the total Fade In/Out Time and Silence Detect Time.

Ex.) If Fade Time is set to 12 ms, the audio delay must be longer than 14 msec; i.e. 12+ 2msec (Silence Detect Time).

IMPORTANT

Fade In/Out may not function properly for the switching between AES input signals whose sampling rates are different, or that are asynchronous.

◆ Digital Audio

Parameter	Default	Setting range	Description
AES 1/2-3/4 I/O Setting	Input	Input Output	Input: AES1/2, and 3/4 connectors are set to be input connectors. Output: AES1/2, and 3/4 connectors are set to be output connectors. ^{*1}
AES 5/6-7/8 I/O Setting	Input	Input Output	Input: AES5/6, and 7/8 connectors are set to be input connectors. Output: AES5/6, and 7/8 connectors are set to be output connectors. ^{*1}
Reference Level	-20dBFS	-18dBFS -20dBFS -24dBFS	Selects the reference level for digital audio signals. See section 11 "ANALOG/DIGITAL Audio Input/Output Level" for details.
Grade	Professional	Professional Consumer	Selects an audio application for digital audio channels. Professional: Optimized for professional use Consumer: Optimized for consumer use.
Resolution	24Bit	24Bit 20Bit 16Bit	Selects an audio word length for Digital Audio output signals.

^{*1} All connectors are set to be input connectors and this menu will be disabled if the optional FA-95DACBL is installed.

◆ Digital Audio Silence Setting

Parameter	Default	Setting range	Description
Silence Detect Time	2sec	1 – 10sec	Sets the duration to determine the SDI embedded audio and AES input signals are silent.
Silence Level	-72dBFS	-72dBFS -66dBFS -60dBFS -54dBFS -48dBFS	Sets the audio level to determine the SDI embedded audio and AES input signals are silent.

◆ SDI Input Audio

Parameter	Default	Setting range	Description
Alignment *1	Enable	Disable Enable	Enables or disables automatic phase adjustment for input embedded audio channel groups. Enable: Automatic adjustment (normal setting) Disable: No adjustment
HD-SDI Audio Clock	Auto	Auto Sync SDI Audio Clock	Selects audio clock signal to use for de-embedding and processing audio data in HD-SDI input signal. Auto: De-embeds HD-SDI embedded audio data using the audio clock phase data in the embedded audio. Synchronous and asynchronous embedded audio signals from 4 audio groups ^{*2} can be de-embedded separately. Audio data will be processed as synchronous data if the audio clock phase data is incorrect, or jitter is too great. Sync SDI: All audio data in 4 audio groups are always processed as synchronous data without referring to the respective audio clock phase data. ^{*3} Audio Clock: Always uses audio clock phase data in HD-SDI embedded audio data to de-embed the audio data. ^{*4}

*1 Embedded audio signal groups are automatically phase-adjusted when they are input to the FA-9500. If there is an abnormal audio signal in an audio group, whether the audio group is in use or not, audio streams may be obstructed by the auto phase adjustment. In such cases, audio stream obstruction can be avoided using this Alignment enable/disable function.

*2 Embedded audio signals in SD-SDI video inputs are always processed as synchronous signals.

*3 Embedded audio signals in SD-SDI video inputs are always processed as synchronous signals.

*4 AUD CLK may be effective in the case audio data cannot properly pass through as AUTO or Sync SDI.

IMPORTANT

Use this Alignment enable/disable function only if the audio output has noise or is muted. Do not change the setting for normal audio output.

Note that the audio output will be temporally muted when Alignment is changed from Disable to Enable while audio signal phases are aligning.

◆ Audio Error Sense

Parameter	Default	Setting range	Description
Correction	Normal	Disable Normal Sensitive	FA-9500 can fade^{*1} and mute audio when it detects a change in the audio status due to, e.g., signal switchover. This parameter allows you to select whether to detect changes and how sensitive detection should be to such changes. Disable: Disables mute function when change in audio status is detected. Normally not selected. Normal: Mutes when a change on an SDI signal, ADP (Audio Data Packet), or DBN (Data Block Number) is detected. Normally selected. Sensitive: Mutes when a change on channel status, or EDP (Extended Data Packet) presence (only for SD-SDI), as well as the above items, is detected.

*1 Fade function depends on the Fade Mode setting in the Fade In/Out menu.

◆ Correction

Normally set to **Normal**. Set to **Disable** for a specific program or duration when audio output has noise or is muted.

The FA-9500 fades out audio or resets the delay circuit when a status change (SDI signal input interruption, signal switchover (by a router, etc.) is detected. Faulty ancillary data in normal audio signals may also be detected as status changes.

Audio signals with such faulty ancillary data may lead the FA-9500's automatic correction to improperly process the audio input and produce noise or mute the audio.

Note that disabling the automatic correction can prevent such improper processing, however, the following functions will also be disabled.

- After a signal switchover by router or the recovery of an interrupted SDI signal, delay settings will lose their accuracy to within 1.3 msec max. Audio signal phases among audio groups will not match.

Perform either of the following operations when setting Correction to **Disable**, or changing the setting from **Disable** to **Normal**.

(a) Change the Alignment setting from **Disable** to **Enable** under SDI Input Audio in 9-4-2. "Audio System".

(b) Disconnect and reinput the SDI input signal.

These operations reset the audio circuit and minimize the delay differences and group audio phase differences. Output audio signals will be muted while performing the operations.

◆ Channel Status Mask

Parameter	Default	Setting range	Description
CH1/2-CH15/16	SRC BY-PASS	SRC BY-PASS PCM Mute	Selects audio error sensor mode for each stereo channel pair of SDI and AES input audio signals whose channel status NON-PCM flag is 1.^{*1} SRC BY-PASS: Treats audio signals as NON-PCM. By-passes audio signals through SRC^{*2}, and selects audio clock input in the NON-PCM^{*3} signal channel for SDI AUDIO CLOCK. PCM: Treats audio signals as PCM (standard audio signal). By-passes audio signals through SRC^{*2}, and select REFERENCE for SDI AUDIO CLOCK.^{*3} Mute: Treats audio signals as mute signals.

- *1 Channel status and Validity Bit of input audio channel status can be checked using a wave form monitor.
- *2 Processes the audio signal as described if 9-3-6 SRC Mode is set to Auto.
- *3 Processes the audio signal as described if 9-3-11 SDI Audio Output Settings is set to Auto.

◆ CH STATUS:

FA-9500 determines whether the input audio signal is PCM or NON-PCM by the NON-PCM flag in the Audio Channel Status (ACS). If ACS is incorrect the audio signal may cause improper processing. For such case, this setting may effective processing the audio signal normally.

IMPORTANT

Use this setting only if there is audio noise or the audio is muted. Otherwise, do not change the setting from the default setting.

◆ Validity Bit Mask

Parameter	Default	Setting range	Description
CH1/2-CH15/16	SRC Bypass	SRC BY-PASS PCM Mute	Selects audio error sensor mode for each stereo channel pair of SDI and AES input audio signals whose channel status Validity Bit flag is 1.^{*1} SRC BY-PASS: Treats audio signals as NON-PCM. By-passes audio signals through SRC ^{*2}, and selects audio clock input in the NON-PCM signal channel for SDI AUDIO CLOCK. ^{*3} PCM: Treats audio signals as PCM (standard audio signal). By-passes audio signals through SRC ^{*2}, and select REFERENCE for SDI AUDIO CLOCK. ^{*3} Mute: Treats audio signals as mute signals.

- *1 Channel status and Validity Bit of input audio channel status can be checked using a wave form monitor.
- *2 Processes the audio signal as described if 9-3-6 SRC Mode is set to Auto.
- *3 Processes the audio signal as described if 9-3-11 SDI Audio Output Settings is set to Auto.

Validity:

FA-9500 determines whether the input audio signal is PCM or NON-PCM by Validity Bit (V Bit) in audio signal. If Validity Bit (V Bit) is incorrect the audio signal may cause improper processing. For such case, this setting may effective processing the audio signal normally.

IMPORTANT

Please use this setting only if there is audio noise or the audio is muted. Otherwise, do not change the setting from In Data.

9-4-3. ANC Settings

FA-9500
Logout

Video
Audio
System
GPI
Utility
Status
Network

▶ Video System
▶ Audio System
▶ ANC Settings

ANC Detect Line

Anc: RP186 VI

Format: 525/60

Field 1: 19 Line

Field 2: 282 Line

ANC Data Embed

Anc: CEA608 CC

Format: 525/60

Embed: Converter 1/2

Field 1: 21(284)Line

ANC Loss Mode Settings

Anc: S2016-3 AFD

Format: SD

Mode: Remove

ANC Detect Select

Caption: CEA608 CC

AFD: S2016-3 AFD

WSS AFD Error

Mode: Remove

Refresh

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

Click **Refresh** to update the settings.

◆ ANC Detect Line

For RP186 VI

Parameter	Default	Setting range	Description
ANC	RP186 VI	RP186 VI BT1119 WSS	Selects an ancillary data standard.
Format	525/60	525/60 625/50	Selects the input signal format.
Field 1	14 Line (525/60) 19 Line (625/50)	12–19 Line (525/60) 8–22 Line (625/50)	Selects a line to detect ancillary data in Field 1.
Field 2	277 Line (525/60) 324 Line (625/50)	275–282 Line (525/60) 321–335 Line (625/50)	Selects a line to detect ancillary data in Field 2.

For BT1119 WSS

Parameter	Default	Setting range	Description
ANC	RP186 VI	RP186 VI BT1119 WSS	Selects an ancillary data standard.
Format	625/50	625/50	Selects the input signal format.
Field 1	23 Line	8- 23 Line	Selects a line to detect ancillary data in Field 1.

◆ ANC Detect Select

Parameter	Default	Setting range	Description
Caption ^{*1}	CEA608 CC	CEA608 CC S334-1 CC	CEA608 CC: Detects closed caption data in luminance signal of 525/60 systems. S334-1 CC: Detects closed caption data in 525/60 SDI signal ancillary data space.
AFD	S2016-3 AFD	S2016-3 AFD RP186 VI BT1119 WSS	Selects an ancillary data type to detect in SDTV input signals.

^{*1} Be sure to set to CEA608 CC when processing closed caption data in 525/60 composite signals. Otherwise the caption data will not be detected.

◆ **ANC Data Embed**

Parameter	Default	Setting range	Description
ANC	CEA608 CC	CEA608 CC S334-1 CC SD CEA708 CC HD S2016-3 AFD RP186 VI BT1119 WSS	Selects an ancillary data type to be inserted into SDI signals.
Format		*	Selects a video format compatible with the ancillary data selected under ANC. Only compatible Video formats will be displayed.
Embed	Disable	Disable Converter1 Converter 2 Converter 1/2	Disable: Does not insert the ancillary data selected under ANC. Converter1: Inserts ancillary data selected under ANC into the Converter 1 output signal. Converter2: Inserts ancillary data selected under ANC into the Converter 2 output signal. Converter1/2: Inserts ancillary data selected under ANC into Converter 1 and Converter 2 output signals. This value can be set for each ANC selection (S334-1 CC SD to BT1119 WSS) under ANC respectively.
Line Field 1	-	*	Selects a line in an ancillary data space into which to insert the ancillary data. A line can be selected for different ANC and FORMAT selections separately. If ANC is set to RP186 VI, this parameter allows you to select a line for Field 1 while a line for respective fields can be selected.
Field 2		*	If ANC is set to RP186 VI, this parameter allows you to select a line for Field 2 while a line for respective fields can be selected.

* The setting range varies by ancillary data type and video format.

Ancillary data type	FORMAT	LINE		Default
ANC:CEA 608 CC	525/60	21(284) Line fixed ^{*1}		
ANC:S334-1 CC SD	525/60	12(275) to 19(282) Line ^{*1}		12(275) Line ^{*1}
ANC:CEA708 CC HD	1080i	9 to 20 Line		9 Line
	720p	9 to 25 Line		9 Line
ANC:S2016-3 AFD	525/60	12(275) to 19(282) Line ^{*1}		12(275) Line ^{*1}
	625/50	8(321) to 22(335) Line ^{*1}		8(321) Line ^{*1}
	1080i/PsF	9 to 20 Line		9 Line
	720p	9 to 25 Line		9 Line
ANC:RP186 VI	525/60	Field 1	12 to 19 Line	14 Line
		Field 2	275 to 282 Line	277 Line
	625/50	Field 1	8 to 22 Line	11 Line
		Field 2	321 to 335 Line	324 Line
ANC:BT1119 WSS	625/50	Fields 1	8 to 23 Line	23 Line

*1 Field2 line number will be displayed in the parenthesis.

NOTE
If CEA608 or S334-1 CC closed caption data is detected in the 525/60 input signal, and the CONV1 and/or CONV2 output format/s is/are 1080/59i and/or 720/59p, the detected closed caption data will not be converted to CEA708. The CEA708 closed caption data insertion will be automatically terminated. Meanwhile, if CEA708 closed caption data is detected in the 1080i or 720/59p HD-SDI input signal, it will be converted to S334-1 CC and CEA608CC for 525/60 output signals to output from Converter 1 and/or Converter 2.

IMPORTANT
Closed caption data output in SD-SDI signal ancillary data space will stop when data input is lost. S2016-3 AFD, RP186 VI, and BT1119 WSS ancillary data will output according to the ANC LOSS SET settings when their data input is lost. See section 5-10-18 “ANC LOSS SET” for details.

◆ **Ancillary data combinations that cannot be simultaneously embedded to the same line**

Video format	Ancillary data type	S334-1 CC	S2016-3 AFD	RP186 VI	BT1119 WSS
525/60	S2016-3 CC		Can be set to same line	Unable to set to same line	
	S2016-3 AFD	Can be set to same line		Unable to set to same line	
	RP186 VI	Unable to set to same line	Unable to set to same line		
625/50	S2016-3 AFD			Unable to set to same line	Unable to set to same line
	RP186 VI		Unable to set to same line		Can be set to same line
	BT1119 WSS		Unable to set to same line	Can be set to same line	

If the same line is set for the ancillary data types described as “Unable to set to same line” combination, and both ancillary data types are set to be embedded in the 5-10-16 ANC DATA EMBED menu, the error message “Identical ANC line location settings!” will appear. If the message is displayed, ancillary data will not be properly embedded. The line settings must be properly set. Usually the default value will properly embed the ancillary data. Keep this in mind when changing the value to configure a system with other devices.

◆ **ANC Loss Mode Settings**

Parameter	Default	Setting range	Description
ANC	S2016-3 AFD	S2016-3 AFD RP186 VI BT1119 WSS	Selects an ancillary data type to insert into the SDI signal.
Format	SD	SD HD ^{*1}	Selects a video format compatible with the ancillary data selected under ANC. Only compatible Video formats will be displayed
Mode	Remove	If Format is set to SD Remove Hold 4:3 L 16:9 T ^{*2} 4:3 L14:9 T ^{*2} 4:3 L>16:9 ^{*2} 4:3 F 4:3 ^{*2} 4:3 L16:9PRTD ^{*2} 4:3 L 14:9 ^{*2} 4:3 F ALT14:9 ^{*2} 4:3 L ALT14:9 16:9 L>16:9 16:9 F FRM ^{*2} 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9 P ALT14:9 16:9 F ALT14:9 16:9 F ALT4:3 If Format is set to HD Remove Hold 16:9 L>16:9 16:9 F 16:9 16:9 P 4:3 16:9 F PRTD 16:9 P 14:9 16:9 P ALT14:9 16:9 F ALT14:9 16:9 F ALT4:3	MODE can be set for respective ANC and FORMAT selections. Remove: Does not embed the ancillary data to either CONV1, or 2. Hold: Retains the last ancillary data aspect ratio and outputs video signal in the aspect ratio. Other values operate according to the selected AFD as an input AFD. BT1119 WSS selected under ANC can only select AFD codes indicated by ^{*2}.

*1 HD is selectable only when ANC is set to S2016-3.

◆ **WSS AFD Error**

Parameter	Default	Setting range	Description
Mode	Remove	Remove F 4:3	Remove: Does not embed BT1119 WSS to CONV1 and/or 2. F 4:3: Embeds BT1119 WSS F 4:3 (code 8) to CONV1 and/or 2.

9-5. GPI

FA-9500
[Logout](#)

Video
Audio
System
GPI
Utility
Status
Network

GPI 1

In/Out: ☒ Input ☐ Output

Assign: None

Logo ID:

GPI 5

In/Out: ☒ Input ☐ Output

Assign: None

Logo ID:

GPI 2

In/Out: ☒ Input ☐ Output

Assign: None

Logo ID:

GPI 6

In/Out: ☒ Input ☐ Output

Assign: None

Logo ID:

GPI 3

In/Out: ☒ Input ☐ Output

Assign: CONV1 Load 1

Logo ID: 5

GPI 7

In/Out: ☒ Input ☐ Output

Assign: None

Logo ID:

GPI 4

In/Out: ☒ Input ☐ Output

Assign: None

Logo ID:

Refresh

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

Click **Refresh** to update the settings.

Parameter	Default	Setting range(Steps)	Description
In/Out ^{*1}	Input	Input Output	Selects whether to use GPI pins 1 through 7 each for input or tally output.
Assign ^{*2}	None	In case Input/Output is set to Input None BY-PASS ^{*2} Freeze ^{*2} ^{*6} Full Color Bar ^{*2} 75% Color Bar ^{*2} SMPTE Color Bar ^{*2} Ramp ^{*2} Input SDI1 ^{*2} ^{*4} ^{*7} Input SDI2 ^{*2} ^{*4} ^{*7} Input Composite ^{*2} ^{*7} Input YPbPr SMPTE ^{*9} Input YPbPr BETACAM ^{*9} Input RGB ^{*9} Input Y/C ^{*9} Default Event1 - 100 ^{*2} Changeover Enable ^{*5} Changeover Disable ^{*5} CONV1 Keyer CONV2 Keyer CONV1 Load 1 - 7 CONV2 Load 1 - 7 Loudness1, 2 Start ^{*10} Loudness1, 2 Clear ^{*10}	Assigns a function to GPI pins 1 through 7 according to the selection under In/Out.

Parameter	Default	Setting range(Steps)	Description
Assign ^{*2}	None	In case Input/Output is set to Output None ^{*3} Freeze ^{*3} Video In ^{*3} Audio In ^{*3} REF In ^{*3} FAN Alarm ^{*3} DC Power1 ^{*3} ^{*8} DC Power2 ^{*3} ^{*8} Selected SDI1 ^{*3} Selected SDI2 ^{*3} Selected Composite ^{*3} Selected YPbPr SMPTE ^{*9} Selected YPbPr BETACAM ^{*9} Selected RGB ^{*9} Selected Y/C ^{*9} Changeover ^{*5} Changeover Enable ^{*5} CONV1 Keyer CONV2 Keyer Loudness1, 2 Control ^{*10}	Assigns a function to GPI pins 1 through 7 according to the selection under In/Out.
Logo ID ^{*11}	1-7	1-256	Sets ID (1 through 256) to logos to be inserted for outputs 1 through 7 of converters 1 and 2.

*1 Whenever the In/Out setting is changed, **Assign** is reset to **None**. Reset Assign.

*2 The input functions consist of pulse mode and level mode functions. See the “◆INPUT FUNCTION” in section 7-4 “GPI SETTING” for details.

*3 Details of the output functions are shown in the “◆OUTPUT FUNCTION” in section 7-4 “GPI SETTING”.

*4 Input assignment cannot be changed if FA-95CO is installed with Changeover enabled. To enable input assignments, set **Input Select** (section 9-2-1) to disable.

*5 **Changeover** is selectable only if FA-95CO is installed.

*6 If **FS Mode > Synchro Mode** in section 9-4-1 “Video System” is set to Line Sync, AVDL, or Input Lock, the Freeze setting will not function, but will be displayed as ***Freeze**.

To enable **Freeze** for **Input**, be sure to set **Synchro Mode** in section 9-4-1 “Video System” to Frame Sync.

*7 When the FA-95CO is installed and Changeover is enabled the value will be displayed with an asterisk as ***Input SDI1**, ***Input SDI2**, or ***Input Composite** indicating the input selection cannot be changed. See section 9-2-1 “Input Select” for details.

*8 DC Power 1 and 2 are selectable only if FA-95PS is installed.

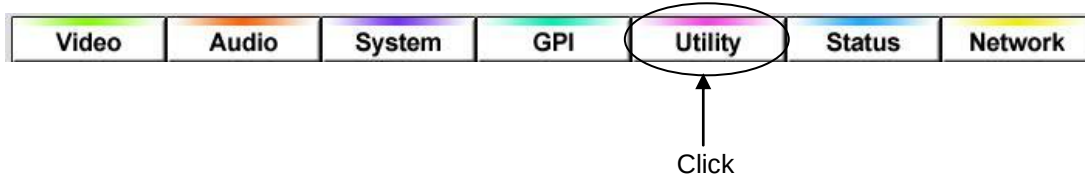
*9 Selectable only if FA-95AIO is installed.

*10 Shown only if the FA-95ALA option is installed.

*11 The Logo ID setting box will be displayed when In/Out is set to Input, and Assign is set to any of CONV1 Load 1 – 7 or CONV2 Load 1 – 7. In the following cases, the logo will not be inserted to the converter output signals, although data will be loaded to the FA-9500.

- No logo is registered under the selected Logo ID.
- The registered logo format and converter output video format do not match.
- The keyer of the relevant converter is turned off.

9-6. Utility Settings



Click the Utility tab at the top of the page. The Utility setting window will be displayed.

FA-9500Logout

Video **Audio** **System** **GPI** **Utility** **Status** **Network**

Event Control

Start Up Event Load:

Auto Event Load: ☒ Disable ☐ Enable

Event Load:

Event Save:

Set Event Name:

Backup Parameter

Save File:

Restore:

Apply Settings Below

☐ Network Setting

☐ SNMP Setting

☐ Parameters

☐ Event Name

Download MIB File

[Download](#)

Backup Event Data

Save File:

Restore:

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

Click **Refresh** to update the settings.

9-6-1. Event Control

Parameter	Default	Setting range (Steps)	Description
Start Up Event Load	Last Setting	Last Setting ^{*1} Video Format ^{*2} Default ^{*2} Event1 to Event100	Selects an event you want to load at startup.
Auto Event Load	Disable	Disable Enable	Enable: Loads the settings of the respective video formats. If the video input is changed to a different format, the settings of the changed format will be loaded.
Event Load	Default	Video Format ^{*1} Default ^{*2} Event1 to EVENT100	Selects the number of an event you want to load. Click Submit to load.
Event Save	Video Format	Video Format ^{*1} Event1 to Event100	Selects the number of an event you want to save. Click Submit to save.

*1 Video Format selects an event that is stored for each video format.

*2 Default recalls the default settings.

◆ Set Event Name

Click **Set** next to Set Event Name. A window that allows you to name the FA-9500 and events 1 though 100 as shown below opens.

● Unit Name

Enter a name for the FA-9500 within 15 characters. The name will be displayed on the front panel under NAME in the NETWORK INFO menu (7-5). The factory default is FA-9500.

● Event Name

Enter a name in the setting box next to respective events within 15 characters.

Select which events to be displayed by clicking on the event groups in section (1) at the top of the page. Events are displayed by groups of 20.

After completing the settings, click Submit.

The factory default values are EVENT 1 to 100.

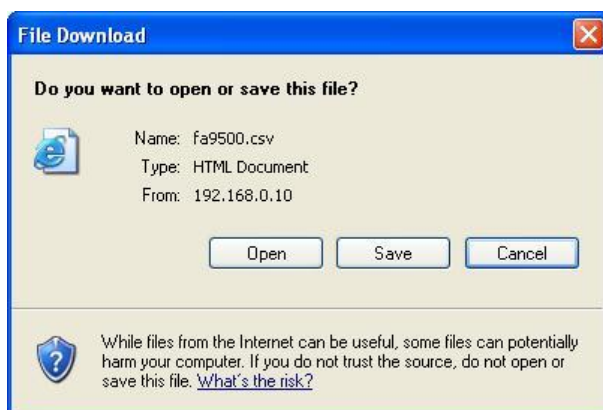
The entered event names will be displayed when performing Event Load or Event Save. They will also be displayed on the front panel menu display while opening menus described in section 8 “Event Memory”.

9-6-2. Backup Parameter

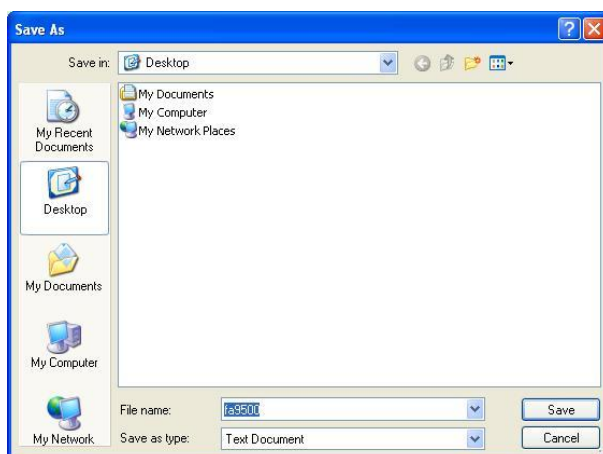
The FA-9500 settings can be saved to a file, and the saved settings in a file can be loaded.

◆ Saving the FA-9500 Settings to a File

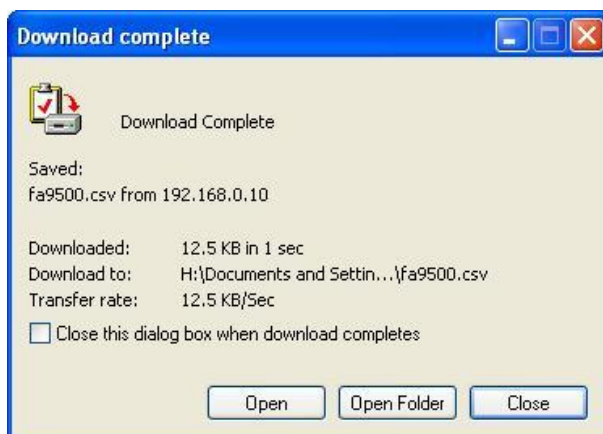
Click **Save**. The **File Download** dialog appears.



The **Save As** dialog appears. Specify the destination directory.



Once the data is saved, the **Download complete** dialog appears.



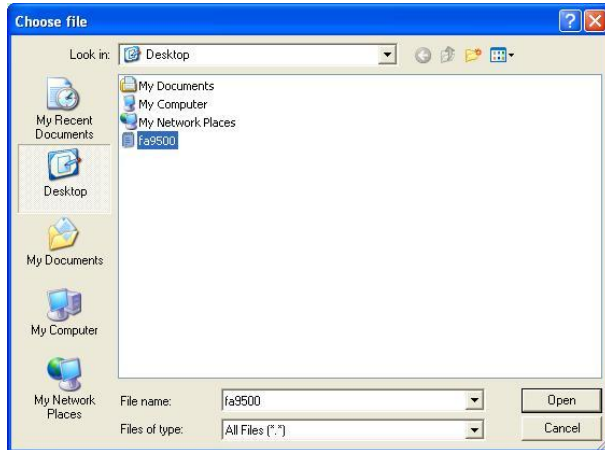
Click **Close**.

IMPORTANT

Some versions of Internet Explorer may not save data having a long file name properly. In such case, save data in Internet Explorer using a short file name, then rename the file in Windows Explorer. A data file can also be saved under its default file name in any version of Internet Explorer.

◆ Loading the Data Saved in a File

In Apply Setting Below, select the checkboxes of the items you wish to load the data. If no checkbox is selected, no settings are loaded. See section 9-8-2. "NETWORK SETTING" for details on the checkboxes in Network Setting. See section 9-8-3. "SNMP SETTING" for details on the checkboxes in SNMP Setting. Selecting the Parameter checkbox loads all parameters except for Event Memory. Selecting the Event Name checkbox loads the event memory names. See Set Event Name in section 9-6-1 "Event Control" for details. After selecting the items to be loaded and clicking **Browse**, the Choose file dialog appears.



Specify the destination directory and click **Open**.

Click **Load**. A confirmation message appears.



Click **OK** to start transferring the file to the FA-9500. To stop transferring the file, click **Cancel**.

IMPORTANT

BY-PASS On/Off and Freeze On/Off settings cannot be saved.

IMPORTANT

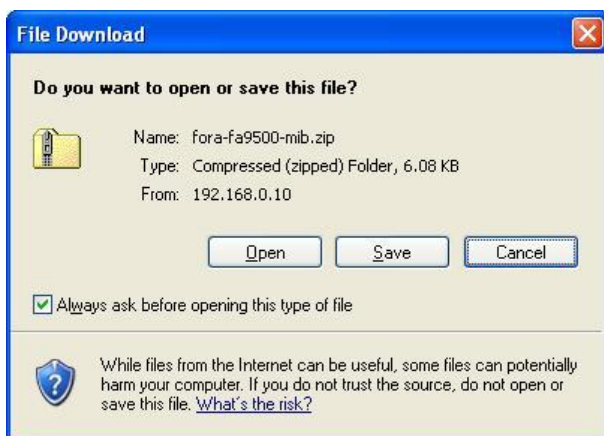
The FA-9500 uses the CSV file format to backup the configuration data which enables commercially available spreadsheet software to edit the data. However, Unit ID or event names that consist only of numbers may be recognized as numeric values by such software and appear differently after being recalled to the FA-95RU. It is recommended that alphabetical values be included in names to enable editing using such software.

9-6-3. Downloading a MIB File

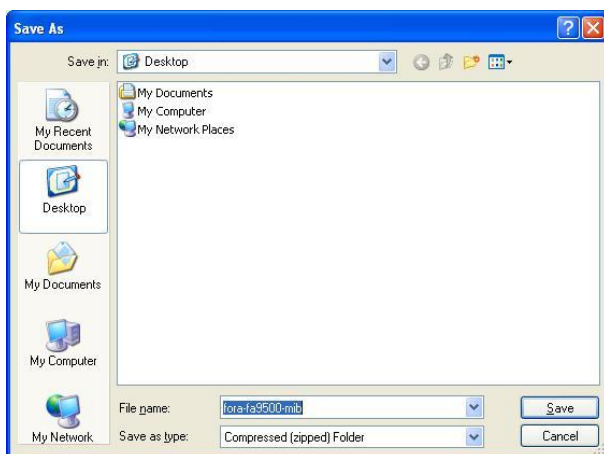
The MIB file used when the FA-9500 is monitored and operated through the external SNMP manager can be downloaded from the FA-9500. The downloaded file is in zip format and so you will need to unzip the file before its use.

◆ Download MIB File

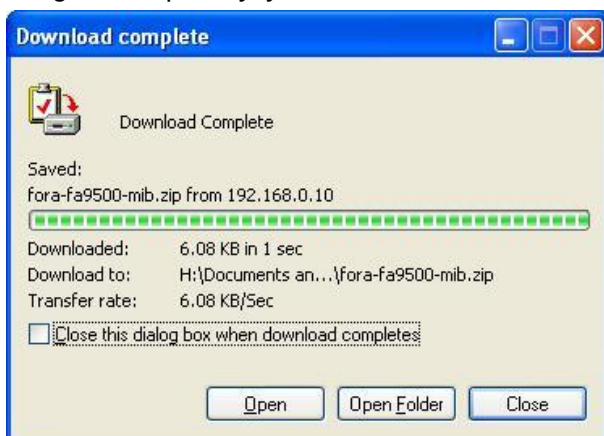
Click Download under **Download MIB File** on the **Utility** page. The File Download dialog appears.



Click **Save**. Specify the destination directory.



Once the download is completed, the **Download complete** dialog box appears. The file "for a-fa9500-mib.zip" will be downloaded to the destination directory. After unzipping the file using an unzip utility, you will have the file "for a-fa9500-mib.mib".



IMPORTANT

Some version of Internet Explorer may not download MIB files having a long file name properly. In such case, download data in Internet Explorer using a short file name, then rename the file in Windows Explorer. A data file can also be downloaded under its default file name in any version of Internet Explorer.

NOTE

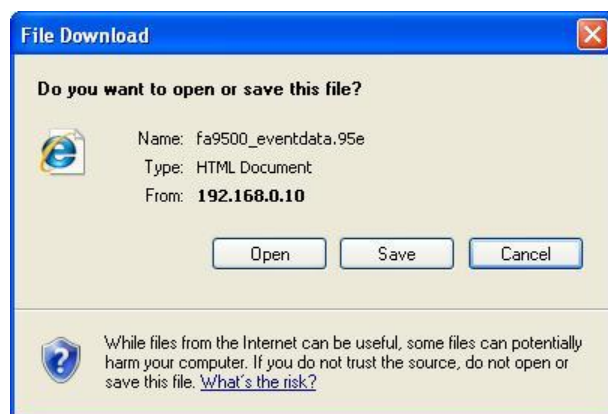
See section 18. “About SNMP (Simple Network Management Protocol)” for details on MIB.

9-6-4. Backup Event Data

The Event Memory data (Events1 through 100 and the event data for each video format) can be saved in a file on the computer as a backup. You can also move the data to another FA-9500.

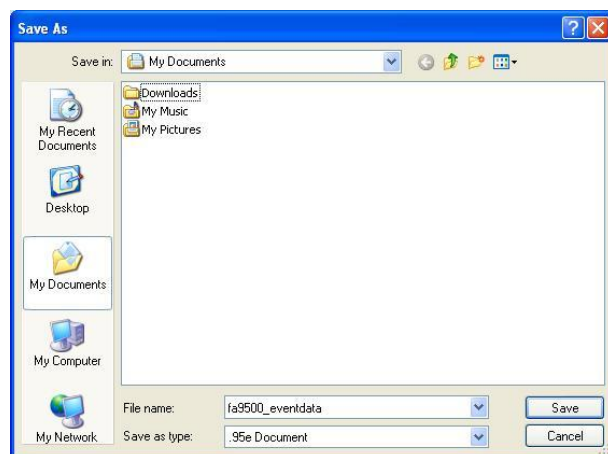
◆ Save File

Click **Save**.



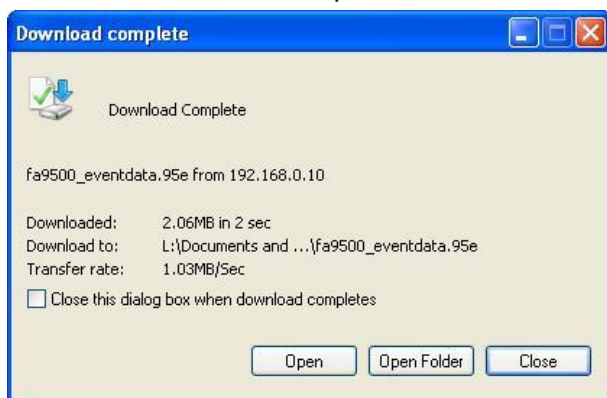
Click **Save**.

The **Save As** dialog appears. Specify the destination directory and the file name.

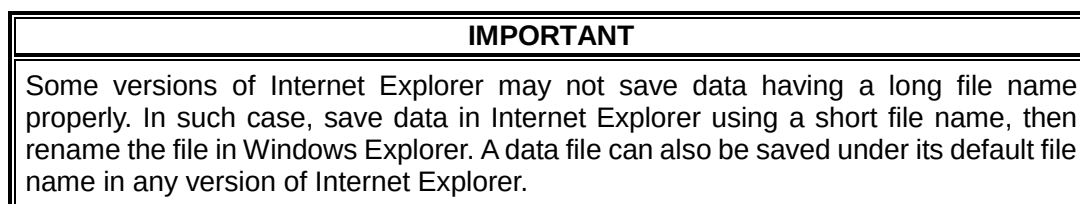


Click **Save**. Once the data is saved, click **Close**.

Once the download is completed, the **Download complete** dialog box appears.

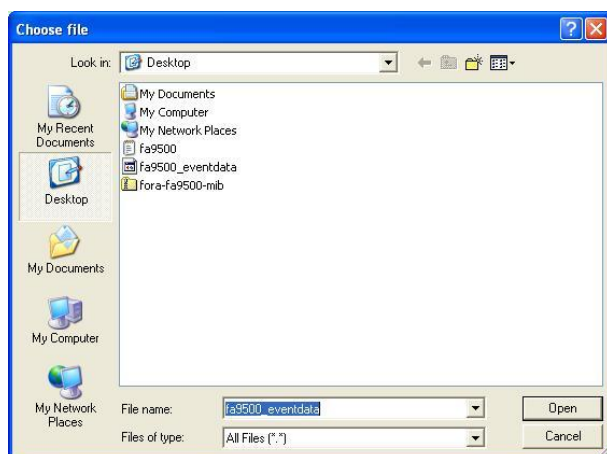


Click **Close**.



◆ Restore

To load the backup file on the computer, click **Browse**. The Choose file dialog appears.



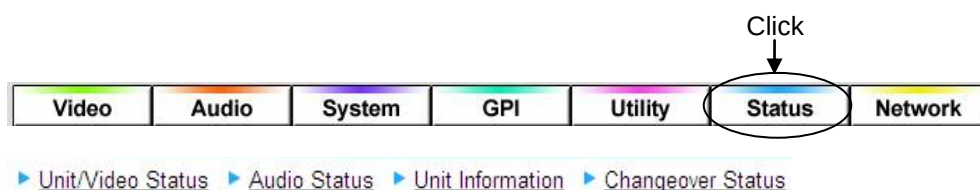
Specify the directory and the file name and click **Open**. The destination path will be displayed on the screen.

Click **Load**. The confirmation dialog appears.



Click **OK** to start loading the data. To cancel loading the data, click **Cancel**.

9-7. Status Display



Click the **Status** tab at the top of the page. The Unit/Video Status page will be displayed. To go to the Audio Status page, click **Audio Status** at the top left of the page. In the same way, click **Unit/Video Status** to go to the Unit/Video Status page, and click **Unit Information** to go to the Unit Information page. Click **Changeover Status** to go to the Changeover Status page. The Changeover Status page will open only if the FA-95CO option is installed.

9-7-1. Unit/Video Status

The video and unit statuses are shown on the Unit/Video Status page.

FA-9500 [Logout](#)

Video Audio System GPI Utility **Status** Network

▶ [Unit/Video Status](#) ▶ [Audio Status](#) ▶ [Unit Information](#) ▶ [ANC Status](#) ▶ [Changeover Status](#)

Video Input Status		Video Output Status		Unit Status	
SDI In 1:	1080/59.94i	SDI Out 1/2:	1080/59.94i	Unit Name:	FA-9500
SDI In 2:	1080/59.94i	SDI Out 3/4:	1080/59.94i	Fan 1:	Normal
Composite In:	Loss	Composite Out:	525/60	Fan 2:	Normal
Reference:	Loss	Component Out:	1080/59.94i	Power 1:	-----
Component In:	Loss			Power 2:	-----

Refresh

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown. Click **Refresh** to refresh the page.

◆ Video Input Status

Item	Display	Description
SDI1 In	Loss 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF 1080/59p 1080/50p BY-PASS Unknown	Displays the video format of the SDI1 input signal. Displays "Loss" if there is no input signal. Displays "Unknown" if there is an unsupported input signal. Displays "BY-PASS" if the function is enabled.
SDI2 In	Loss 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF 1080/59p *1 1080/50p *1 BY-PASS Unknown -----	Displays the video format of the SDI2 input signal. Displays "Loss" if there is no input signal. Displays "Unknown" if there is an unsupported input signal. Displays "BY-PASS" if the function is enabled. Displays "-----" indicating no SDI2 input detection if 9-2-1 Input Select is set to YPbPr SMPTE, YPbPr BETACAM, RGB, or Y/C.
Composite In	Loss 525/60 625/50 BY-PASS Unknown	Displays the video format of the COMPOSITE input signal. Displays "Loss" if there is no input signal. Displays "Unknown" if there is an unsupported input signal. Displays "BY-PASS" if the function is enabled.
Reference	Loss 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF PAL-M *1 Unknown	Displays the video format of the genlock input signal. Displays "Loss" if there is no input signal. Displays "Unknown" if there is an unsupported input signal.
Component In *2	Loss 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF BY-PASS Unknown	Displays the video format of the Component input signal. Displays "Loss" if there is no input signal. Displays "Unknown" if there is an unsupported input signal. Displays "BY-PASS" if the function is enabled.

*1 Shown when PAL-M Mode Set in the 9-4-1 Video System is set to Enable, or an input signal in GENLOCK IN connector is 525/60 or PAL-M signal.

*2 Shown if FA-95AIO is installed.

◆ Video Output Status

Item	Display	Description
SDI Out 1/2	525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF 1080/59p 1080/50p BY-PASS Disable	Displays the video format of the SDI1 output signal. Displays "BY-PASS" if the function is enabled. Displays "Disable" if there is no signal output.
SDI Out 3/4	Same as above	Displays the video format of the SDI2 output signal. Displays "BY-PASS" if the function is enabled. Displays "Disable" if there is no signal output.
Composite Out	525/60 625/50 BY-PASS Disable PAL-M	Displays the video format of the COMPOSITE output signal. Displays "Disable" if there is no signal output. Displays "PAL-M" if 9-4-1 PAL-M Mode Set is enabled, and the format setting for the converted output video signal under Composite Output Setting in the 9-2-11 Output Select menu is 525/60.
Component Out ^{*1}	Loss 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF PAL-M BY-PASS Disable	Displays the video format of the Component output signal. Displays "BY-PASS" if the function is enabled. Displays "Disable" if there is no signal output. Output signal format will be 525/60, 625/50, or PAL-M if the Component output is set to Y/C mode.

*1 Shown if the FA-95AIO option is installed.

◆ Unit Status

Item	Display	Description
Unit Name	FA-9500	Displays the unit name. The default setting is "FA-9500". To change the unit name, see Unit Name in section 9-6-1 "Event Control"
FAN1	Normal Stopped	Displays the status of FAN1. Normal : Operating normally. Stopped : FAN1 has stopped. Turn the unit power off, and contact your dealer if a replacement is needed.
FAN2	Normal Stopped	Displays the status of FAN2. Normal : Operating normally. Stopped : FAN2 has stopped. Turn the unit power off, and contact your dealer if a replacement is needed.
Power1 ^{*1}	Normal Abnormal	Displays the status of DC POWER1. Normal : The power supply is normal. Abnormal : DC POWER1 has failed. A power failure has occurred. Although the unit is working properly, It is recommended that the power supply unit be replaced. Contact your dealer if a replacement is necessary.
Power2 ^{*1}	Normal Abnormal	Displays the status of DC POWER2. Normal : The power supply is normal. Abnormal : DC POWER2 has failed A power failure has occurred. Although the unit is working properly, It is recommended that the power supply unit be replaced. Contact your dealer if a replacement is necessary.

*1 : Displays "-----" if the optional FA-95PS is not installed.

9-7-2. Audio Status

The audio statuses are shown on the Audio Status page.

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Source Audio		SDI 1 Input Audio		SDI 2 Input Audio		AES Input Audio		Analog Input Audio		Dolby® AUX Status	
CH 1:	Loss	CH 1:	Loss	CH 1:	Loss	CH 1:	Loss	CH 1:	Loss	Input:	Loss
CH 2:	Loss	CH 2:	Loss	CH 2:	Loss	CH 2:	Loss	CH 2:	Loss	Output:	PCM
CH 3:	Loss	CH 3:	Loss	CH 3:	Loss	CH 3:	Loss	CH 3:	Loss	Reference:	Loss
CH 4:	Loss	CH 4:	Loss	CH 4:	Loss	CH 4:	Loss	CH 4:	Loss		
CH 5:	Loss	CH 5:	Loss	CH 5:	Loss	CH 5:	Loss				
CH 6:	Loss	CH 6:	Loss	CH 6:	Loss	CH 6:	Loss				
CH 7:	Loss	CH 7:	Loss	CH 7:	Loss	CH 7:	Loss				
CH 8:	Loss	CH 8:	Loss	CH 8:	Loss	CH 8:	Loss				
CH 9:	Loss	CH 9:	Loss	CH 9:	Loss						
CH 10:	Loss	CH 10:	Loss	CH 10:	Loss						
CH 11:	Loss	CH 11:	Loss	CH 11:	Loss						
CH 12:	Loss	CH 12:	Loss	CH 12:	Loss						
CH 13:	Loss	CH 13:	Loss	CH 13:	Loss						
CH 14:	Loss	CH 14:	Loss	CH 14:	Loss						
CH 15:	Loss	CH 15:	Loss	CH 15:	Loss						
CH 16:	Loss	CH 16:	Loss	CH 16:	Loss						

SDI 1/2 Output Audio		SDI 3/4 Output Audio		AES Output Audio		Analog Output Audio	
CH 1:	Silence	CH 1:	Silence	CH 1:	Input Setting	CH 1:	Silence
CH 2:	Silence	CH 2:	Silence	CH 2:	Input Setting	CH 2:	Silence
CH 3:	Silence	CH 3:	Silence	CH 3:	Input Setting	CH 3:	Silence
CH 4:	Silence	CH 4:	Silence	CH 4:	Input Setting	CH 4:	Silence
CH 5:	Silence	CH 5:	Silence	CH 5:	Input Setting		
CH 6:	Silence	CH 6:	Silence	CH 6:	Input Setting		
CH 7:	Silence	CH 7:	Silence	CH 7:	Input Setting		
CH 8:	Silence	CH 8:	Silence	CH 8:	Input Setting		
CH 9:	Silence	CH 9:	Silence				
CH 10:	Silence	CH 10:	Silence				
CH 11:	Silence	CH 11:	Silence				
CH 12:	Silence	CH 12:	Silence				
CH 13:	Silence	CH 13:	Silence				
CH 14:	Silence	CH 14:	Silence				
CH 15:	Silence	CH 15:	Silence				
CH 16:	Silence	CH 16:	Silence				

Refresh

Refresh

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

Click **Refresh** to refresh the page.

◆ Source Audio

Item	Display	Description
CH1 - CH16	Loss PCM PCM 48kHz PCM 44.1kHz PCM 32kHz PCM Other Silence Silence 48kHz Silence 44.1kHz Silence 32kHz Silence Other Non-PCM PCM(Async) Silence (Async) Non-PCM(Async) In(Analog) Unknown	Displays the status of audio sources CH1 through CH16 that are selected in the Audio Source Select menu. LOSS: No audio signals PCM: Normal audio signal (SDI input) PCM 48kHz: Normal audio signal (AES input approx. 48kHz) PCM 44.1kHz: Normal audio signal (AES input approx. 44.1kHz) PCM 32kHz: Normal audio signal (AES input approx. 32kHz) PCM Other: Normal audio signal (Other AES input) Silence: Mute signal (SDI input) Silence 48kHz: Mute signal (AES input approx. 48kHz) Silence 44.1kHz: Mute signal (AES input approx. 44.1kHz) Silence 32kHz: Mute signal (AES input approx. 32kHz) Silence Other: Mute signal (Other AES input) Non-PCM: Compressed audio data such as AC3 PCM(Async) : Normal audio signal (Asynchronous SDI input) Silence (Async) : Mute signal (Asynchronous SDI input) Non-PCM(Async) : Compressed audio data such as AC3 (Asynchronous SDI input) In(Analog) : Analog audio signal Unknown: Unidentifiable

◆ SDI1 Input Audio

Item	Display	Description
CH1 - CH16	Loss PCM Silence Non-PCM PCM(Async) Silence (Async) Non-PCM(Async) Unknown	Displays the status of audio signal channels CH1 - CH16 of the SDI1 input signal. Loss: No audio signals PCM: Normal audio signal Silence: Mute signal Non-PCM: Compressed audio data such as AC3 PCM (Async): Normal audio signal (asynchronous) Silence (Async) : Mute signal (asynchronous) Non-PCM (Async) : Compressed audio data such as AC3 (asynchronous) Unknown: Unidentifiable

◆ SDI2 Input Audio

Item	Display	Description
CH1 - CH16	Loss PCM Silence Non-PCM PCM(Async) Silence (Async) Non-PCM(Async) Unknown	Displays the status of audio signal channels CH1 - CH16 of the SDI2 input signal. Loss: No audio signals PCM: Normal audio signal Silence: Mute signal Non-PCM: Compressed audio data such as AC3 PCM (Async): Normal audio signal (asynchronous) Silence (Async) : Mute signal (asynchronous) Non-PCM (Async) : Compressed audio data such as AC3 (asynchronous) Unknown: Unidentifiable

◆ SDI1/2 Output Audio

Item	Display	Description
CH1 - CH16	PCM Silence Non-PCM Unknown Blank BY-PASS	Displays the status of audio signal channels CH1 through CH16 of the SDI 1/2 output. PCM: Normal audio signal Silence: Mute signal Non-PCM: Compressed audio data such as AC3 Unknown: Unidentifiable Blank: No audio signal embedding BY-PASS: By-passed through

◆ SDI3/4 Output Audio

Item	Display	Description
CH1 - CH16	PCM Silence Non-PCM Unknown Blank BY-PASS	Displays the status of audio signal channels CH1 through CH16 of the SDI 3/4 output. PCM: Normal audio signal Silence: Mute signal Non-PCM: Compressed audio data such as AC3 Unknown: Unidentifiable Blank: No audio signal embedding BY-PASS: By-passed through

◆ AES Input Audio

Item	Display	Description
CH1 - CH8	Loss PCM 48kHz PCM 44.1kHz PCM 32kHz PCM Other Silence 48kHz Silence 44.1kHz Silence 32kHz Silence Other Non-PCM Output Setting	Displays the status of the audio signal input to the DIGITAL AUDIO IO connectors. Loss: No audio signals PCM 48kHz: Normal audio signal (approx. 48kHz) PCM 44.1kHz: Normal audio signal (approx. 44.1kHz) PCM 32kHz: Normal audio signal (approx. 32kHz) PCM Other: Normal audio signal (Other AES) Silence 48kHz: Mute signal (approx. 48kHz) Silence 44.1kHz: Mute signal (approx. 44.1kHz) Silence 32kHz: Mute signal (approx. 32kHz) Silence Other: Mute signal (Other AES) Non-PCM: Compressed audio data such as AC3 Output Setting: Connector is set to Output

◆ AES Output Audio

Item	Display	Description
CH1 - CH8	PCM Silence Non-PCM Unknown Input Setting	Displays the status of the audio signal output from the DIGITAL AUDIO IO connectors. PCM: Normal audio signal Silence: Mute signal Non-PCM: Compressed audio data such as AC3 Unknown: Unidentifiable Input Setting: Connector is set to input

◆ Dolby AUX Status

Item	Display	Description
Input	Loss PCM NON-PCM Unknown	Displays status or type of signal input to the optional Dolby input connector (Dolby IN). Loss: No audio signal PCM: Standard audio signal NON-PCM: Compressed audio data such as Dolby E encoded data UNKNOWN: Unknown signal.
Output	PCM NON-PCM None	Displays status or type of signal output to the optional Dolby output connectors (Dolby OUT). PCM: Standard audio signal NON-PCM: Compressed audio data such as Dolby E encoded data NONE: No signal
Reference	Loss 525/60 625/50 1080/59i 1080/50i 720/59p 720/50p 1080/23PsF 1080/24PsF Unknown	Displays signal format of reference signal input to the optional Dolby REF IN connector. LOSS: No signal UNKNOWN: Unknown signal format

◆ Analog Input Audio

Item	Display	Description
CH1 - CH4	Loss In	Displays status of the input audio signal in the ANALOG AUDIO connector. Loss: No audio signals In: Input signal is present

◆ Analog Output Audio

Item	Display	Description
CH1 - CH4	Silence Out	Displays status of the output audio signal from the ANALOG AUDIO connector. Silence: Mute signal Out: Output signal is present

9-7-3. Unit Information

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Unit Version		Option A Information		Option B Information		Option Information	
Serial No:	13710401	Name:	None	Name:	None	FA-95PS:	None
FPGA 1:	3.16	FPGA 1:	---	FPGA 1:	---	FA-95AVO:	Installed
FPGA 2:	5.11	FPGA 2:	---	FPGA 2:	---	FA-95SCNV:	Installed
FPGA 3:	1.02	SOFT:	---	SOFT:	---	FA-95-3G:	Installed
SOFT:	8.00					FA-95LG:	Installed
						FA-95CO:	Installed

Refresh

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.
Click **Refresh** to update the settings.

◆ **Unit Version**

Item	Description
Serial No:	Displays the serial number of the FA-9500.
FPGA1	Displays the FPGA1 version.
FPGA2	Displays the FPGA2 version.
FPGA3	Displays the FPGA3 version.
SOFT	Displays the SOFT version.

◆ **Option A Information**

Displays the information of the optional installed expansion card in SLOT A. If no card is installed, “None” will be shown.

◆ **Option B Information**

Displays the information of the optional installed expansion card in SLOT B. If no card is installed, “None” will be shown.

◆ **Option Information**

Displays the installation status and information on options other than the expansion cards installed into SLOT A and SLOT B.

9-7-4. ANC Status

▶ Unit/Video Status ▶ Audio Status ▶ Unit Information ▶ ANC Status ▶ Changeover Status

Ancillary Input Status			CONV1 Ancillary Output Status			CONV2 Ancillary Output Status		
1: CEA-608 CC :	Absent	Line: ---	1: CEA-608 CC :	Absent	Line: ---	1: CEA-608 CC :	Absent	Line: ---
2: BT.1119-2 WSS :	Present	Line: 23	2: BT.1119-2 WSS :	Present	Line: 23	2: BT.1119-2 WSS :	Present	Line: 23
3: RP186 VI :	Present	Line: 11/324	3: RP186 VI :	Present	Line: 11/324	3: RP186 VI :	Present	Line: 11/324
AFD Input Status			CONV1 S2016-3 Output Status			CONV2 S2016-3 Output Status		
Detected: S2016-3 AFD&Bar			Status: Present			Status: Present		
AFD: 1011(BNR) AR: 4:3 Letterbox 14:9 image, vertically centered in the coded frame			AFD: 1111(BNR) AR: 4:3 Letterbox 16:9 image, with alternative 4:3 center			AFD: 1101(BNR) AR: 4:3 Full frame 4:3 image, with alternative 14:9 center		
Data: 58 00 00 00 00 00 00 00 (HEX)			Data: 78 00 00 00 00 00 00 00 (HEX)			Data: 68 00 00 00 00 00 00 00 (HEX)		
Ancillary Data Packet Input Status			CONV1 VI Output Status			CONV2 VI Output Status		
1: RP165EDH	Line: 5		Status: Present			Status: Present		
2: S2016-3 AFD-Bar	Line: 8		AFD: 1111(BNR) Scan: 625/50/4x3			AFD: 1101(BNR) Scan: 625/50/4x3		
3: RP165EDH	Line: 318		16:9(with shoot and protecte 4:3 center)			4:3(with shoot and protecte 14:9 center)		
4: S2016-3 AFD-Bar	Line: 321		Data1: 7A(HEX) Data2: 02(HEX) Data3: 02(HEX)			Data1: 6A(HEX) Data2: 02(HEX) Data3: 02(HEX)		
5: ---	Line: ---		CONV1 WSS Output Status			CONV2 WSS Output Status		
6: ---	Line: ---		Status: Present			Status: Present		
7: ---	Line: ---		AFD: 1011(BNR)			AFD: 1110(BNR)		
8: ---	Line: ---		box 16:9 centre			full format 14:9 centre shoot and protect 14:9		
			Bit 13 - 0: 00 0B (HEX)			Bit 13 - 0: 00 0E (HEX)		
CONV1 Ancillary Data Packet Output Status			CONV2 Ancillary Data Packet Output Status					
1: S2016-3 AFD-Bar	Line: 8		1: S2016-3 AFD-Bar	Line: 8				
2: ---	Line: ---		2: ---	Line: ---				
3: ---	Line: ---		3: ---	Line: ---				
4: ---	Line: ---		4: ---	Line: ---				

Refresh

Click **Refresh** to update the settings.

◆ Ancillary Input Stats

Displays the status of CEA608, WSS, and VI ancillary data detection.
The line number in which the ancillary data is in is displayed.

◆ AFD Input Status

Displays the status of AFD detection in the input signal.

<When detecting AFD in input S2016-3 >

AFD Input Status	
Detected: S2016-3 AFD&Bar	
AFD: 1011(BNR) AR: 4:3 Letterbox 14:9 image, vertically centered in the coded frame	
Data: 58 00 00 00 00 00 00 00 (HEX)	

Detected: Displays as S2016-3 AFD& BAR.

AFD: Displays Active Format Description code in binary format.

AR: Displays the aspect ratio as 4:3 or 16:9.

The detected AFD type is shown

Data: Displays the detected 8-byte data in hexadecimal format.

<When detecting AFD in input RP186 VI>

AFD Input Status

Detected: RP186 VI

AFD: 1011(BNR) Scan: 625/50/4x3
14:9(center)

Data1: 5A(HEX) Data2: 02(HEX) Data3: 02(HEX)

Detected: Displays as RP186VI.

AFD: Displays Active Format Description code in binary format.

Scan: Displays the Scanning System.

The detected AFD type is shown on the third row.

Data1-3: Displays the detected Data in hexadecimal format.

<When detecting AFD in input BT.1119-2 WSS >

AFD Input Status

Detected: BT.1119-2 WSS

AFD: 0001(BNR)
box 14:9 centre

Bit13-0: 00 01(HEX)

Detected: Displays as BT.1119-2 WSS.

AFD: Displays Active Format Description code in binary format.

The detected AFD type is shown on the third row.

Bit13-0: Displays detected Bits 13 – 0 in hexadecimal format.

◆ **Ancillary Data Packet Input Status**

Displays the status of ancillary data packets in an input SDI signal.

Displays the detected DID and SDID of the ancillary data in hexadecimal format, such as DID/SDID: 05/30, if they are different from that of supported formats.

Displays the ancillary data name, such as S334-1CDP(708), if the DID and SDID of the ancillary data match that of supported formats.

See section 19. “FA-9500 Ancillary Data Packet Name List” for details on ancillary data names, and DID and SDID of formats.

The status of up to 8 ancillary data can be displayed.

◆ **CONV1/2 Ancillary Output Status**

Displays the status of CEA608 CC, BT. 1119-2 WSS, and RP186 VI ancillary data in the output luminance signals of Converters 1 and 2, and the line number where the data is inserted.

Status: Displays **Present** if ancillary data is inserted. Displays **Absent** if no ancillary data is inserted. If ANC Mode under Converter1 Ancillary Setting in the Video System menu (Sec. 9-4-1) is set to H/V ANC, the state of the V ANC setting (Pass or Blank) will be displayed. In such case, the line number display appears as “Line: ---”. (See section 9-4-1 Video System for details on ANC Mode and V ANC setting.)

◆ CONV1/2 S2016-3 Output Status

Displays the status of S2016-3 in Converter 1 and 2 output signals.

Status: Displays **Present** if ancillary data is inserted. Displays **Absent** if no ancillary data is inserted. If ANC Mode under Converter1 Ancillary Setting in the Video System menu (Sec. 9-4-1) is set to H/V ANC, the state of the V ANC setting (Pass or Blank) will be displayed.

AFD: Displays Active Format Description code in binary format.

AR: Displays the aspect ratio as 4:3 or 16:9 and the inserted AFD type.

Data: Displays the detected 8-byte data in hexadecimal format.

◆ CONV1/2 VI Output Status

Displays the status of RP186 VI in Converters 1 and 2 output signals.

Status: Displays Present if ancillary data is inserted. Displays Absent if no ancillary data is inserted. If ANC Mode under Converter1 Ancillary Setting in the Video System menu (Sec. 9-4-1) is set to H/V ANC, the state of the V ANC setting (Pass or Blank) will be displayed.

AFD: Displays Active Format Description code in binary format.

Scan: Displays the Scanning System and the inserted AFD type.

Data1-3: Displays the detected data in hexadecimal format.

◆ CONV1/2 WSS Output Status

Displays the status of BT1119-2 WSS in Converters 1 and 2 output signals.

Status: Displays Present if ancillary data is inserted. Displays Absent if no ancillary data is inserted. If ANC Mode under Converter1 Ancillary Setting in the Video System menu (Sec. 9-4-1) is set to H/V ANC, the state of the V ANC setting (Pass or Blank) will be displayed.

AFD: Displays Active Format Description code in hexadecimal format and the AFD type.

Bit 13-0: Displays the inserted Bit13 to Bit0 in hexadecimal format.

◆ CONV1/2 Ancillary Data Packet Output Status

Displays the content, names and inserted lines of the 4 total ancillary data packets inserted into Converter 1 and 2 output signals.

See section 19. "FA-9500 Ancillary Data Packet Name List" for details on ancillary data names, and DID and SDID of formats.

Displays "----" if no ancillary data is inserted.

9-7-5. Changeover Status

The Changeover Status page is displayed only if FA-95CO option is installed.

FA-9500
Logout

Video
Audio
System
GPI
Utility
Status
Network

▶ Unit/Video Status ▶ Audio Status ▶ Unit Information ▶ ANC Status ▶ Changeover Status

Changeover Settings		Changeover Status		Changeover Video Status		Changeover Audio Status	
Changeover:	Disable	Video:	Disable	SDI Error:	Disable	Audio Loss:	Disable
Video Trigger:	Disable	Audio:	Disable	Format Error:	Disable	Audio Error:	Disable
Audio Trigger:	Disable	Video In:	SDI1	CRC Error:	Disable	Silence:	Disable
				Black Video:	Disable		

Audio Loss Status		Audio Error Status		Silence Status	
Group 1:	Disable	CH 1:	Disable	CH 9:	Disable
Group 2:	Disable	CH 2:	Disable	CH 10:	Disable
Group 3:	Disable	CH 3:	Disable	CH 11:	Disable
Group 4:	Disable	CH 4:	Disable	CH 12:	Disable
		CH 5:	Disable	CH 13:	Disable
		CH 6:	Disable	CH 14:	Disable
		CH 7:	Disable	CH 15:	Disable
		CH 8:	Disable	CH 16:	Disable

Refresh

If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

Click **Refresh** to update the settings.

◆ Changeover Setting

The current Changeover settings are displayed.

Item	Display	Description
Changeover	Disable Enable	Displays whether Changeover is disabled or enabled. See section 9-2-1. Input Select for details.
Video Trigger	Disable Enable	Displays whether Video Trigger is disabled or enabled. See section 9-2-1. Input Select for details.
Audio Trigger	Disable Enable	Displays whether Audio Trigger is disabled or enabled. See section 9-2-1. Input Select for details.

◆ Changeover Status

The current Changeover status is displayed.

Item	Description
Video	Disable: Video-related triggers are disabled. Non-Trigger: Video-related triggers are enabled, but not activated. Trigger: Video-related triggers are enabled, and a changeover is performed.
Audio	Disable: Audio-related triggers are disabled. Non-Trigger: Audio-related triggers are enabled, but not activated. Trigger: Audio-related triggers are enabled, and a changeover is performed.
Video In	SDI1: The current active input is SDI1. SDI1→SDI2: The input signal is switched to SDI2 from SDI1 by a changeover. SDI2: The current active input is SDI2. Composite: The current input signal is a composite video signal. YPbPr SMPTE^{*1}: The current input signal is a component video signal. (SD-SDI signals are in SMPTE level.) YPbPr BETA^{*1}: The current input signal is a component video signal. (SD-SDI signals are in BETACAM level.) RGB^{*1}: The current input signal is an RGB video signal. Y/C^{*1}: The current input signal is a Y/C video signal.

^{*1} Shown only if the FA-95AIO option is installed.

◆ Changeover Video Status

Displays the status of video-related triggers at the time a changeover is performed.

Item	Description
SDI Error	Disable: This trigger is disabled. Non-Trigger: This trigger is enabled, but has not triggered a changeover. Trigger: This trigger is enabled, and has triggered a changeover.
Format Error	Disable: This trigger is disabled. Non-Trigger: This trigger is enabled, but has not triggered a changeover. Trigger: This trigger is enabled, and has triggered a changeover.
CRC Error	Disable: This trigger is disabled. Non-Trigger: This trigger is enabled, but has not triggered a changeover. Trigger: This trigger is enabled, and has triggered a changeover.
Black Video	Disable: This trigger is disabled. Non-Trigger: This trigger is enabled, but has not triggered a changeover. Trigger: This trigger is enabled, and has triggered a changeover.

◆ Changeover Audio Status

Displays the status of audio-related triggers at the time a changeover is performed.

Item	Description
Audio Loss	Disable: This trigger is disabled. Non-Trigger: This trigger is enabled, but has not triggered a changeover. Trigger: This trigger is enabled, and has triggered a changeover.
Audio Error	Disable: This trigger is disabled. Non-Trigger: This trigger is enabled, but has not triggered a changeover. Trigger: This trigger is enabled, and has triggered a changeover.
Silence	Disable: This trigger is disabled. Non-Trigger: This trigger is enabled, but has not triggered a changeover. Trigger: This trigger is enabled, and has triggered a changeover.

◆ Audio Loss Status

Displays status details of audio-related triggers at the time a changeover is performed.

Item	Description
Group 1 to 4	Disable: This trigger is disabled for audio groups 1 to 4 respectively. Non-Trigger: This trigger is enabled, but has not triggered a changeover for audio groups 1 to 4 respectively. Trigger: This trigger is enabled, and has triggered a changeover for audio groups 1 to 4 respectively.

◆ Audio Error Status

Displays Audio Error trigger status details at the time a changeover is performed.

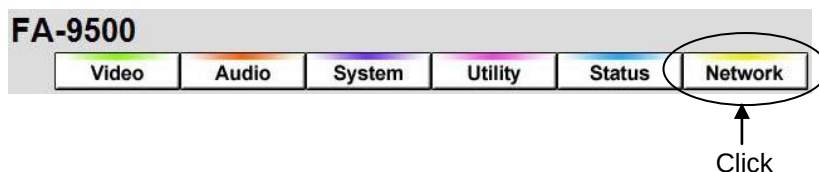
Item	Description
CH1 1 to 16	Disable: Audio Error trigger is disabled for audio channels 1 to 16 respectively. Non-Trigger: Audio Error trigger is enabled, but has not triggered a changeover for audio channels 1 to 16 respectively. Trigger: Audio Error trigger is enabled, and has triggered a changeover for audio channels 1 to 16 respectively.

◆ Silence Status

Displays Silence trigger status details at the time a changeover is performed.

Item	Description
CH1 1 to 16	Disable: Silence trigger is disabled for audio channels 1 to 16 respectively. Non-Trigger: Silence trigger is enabled, but has not triggered a changeover for audio channels 1 to 16 respectively. Trigger: Silence trigger is enabled, and has triggered a changeover for channels 1 to 16 respectively.

9-8. Network Settings



If the user name and password are not set in the USER SETTING page (see section 9-8-5), the **Logout** is not shown.

Click the Network page at the top of the page. The Network page will be displayed. Click NETWORK SETTING in INFORMATION NETWORK SETTING SNMP SETTING USER SETTING NETWORK RESTART at the top left to go to the NETWORK SETTING screen. In the same way, click SNMP SETTING, USER SETTING, or NETWORK RESTART to go to the respective page.

9-8-1. Network Information

INFORMATION **NETWORK SETTING** SNMP SETTING TRAP SETTING USER SETTING RESTART FA-9500

Network Information (LAN 1)

IP Address: 192.168.0.10

Subnet Mask: 255.255.255.0

Default Gateway: Unused

MAC Address: 00-10-B1-06-A0-3C

Remote Port Number: 50010

Logo Port Number: 50020

Displays the network settings of the LAN1 port on the rear panel.

9-8-2. NETWORK SETTING

INFORMATION **NETWORK SETTING** SNMP SETTING TRAP SETTING USER SETTING RESTART FA-9500

LAN 1 Port Setting

IP Address:

Subnet Mask:

Default Gateway:

Remote Port Number:

Logo Port Number:

Refresh Time: second (1 - 65535)

IMPORTANT
The web page may not be properly displayed if your PC does not have sufficient capacity (CPU, memory, etc.). In such case, set Refresh Time to a value larger than 30.

The LAN1 port network settings screen will be displayed.

Item	Default	Description
IP Address	192.168.0.10	Allows you to set the LAN1 port IP address. A period "." is used to separate each octet.
Subnet Mask	255.255.255.0	Allows you to set the LAN1 port subnet mask. A period "." is used to separate each octet.
Default Gateway	0.0.0.0	Allows you to set the gateway. A period "." is used to separate each octet.
Remote Port Number	50010	Allows you to set the TCP port number for the FA-95RU connection. ^{*1}
Logo Port Number	50020	Allows you to set the TCP port number for the FA-95LG GUI connection. ^{*2}
Refresh Time	10	Allows you to set the time (seconds) for refreshing the web screen.

After you are sure that all settings are appropriate, click **Submit**. After clicking **Submit**, restart the FA-9500 through the NETWORK RESTART page. Otherwise, the settings will not be applied.

*1 The Remote Port Number must match that of the FA-95RU.

*2 Logo Port Number settings in the FA-9500 and the FA-95LG GUI must match.

9-8-3. SNMP SETTING

This page allows you to set the SNMP settings. After you are sure that all settings are appropriate, click **Submit**. After clicking **Submit**, restart the FA-9500 through the NETWORK RESTART page. Otherwise, the settings will not be applied.

INFORMATION
NETWORK SETTING
SNMP SETTING
USER SETTING
NETWORK RESTART

SNMP System

sysName : (31 Max char)

sysLocation : (31 Max char)

sysContact : (31 Max char)

☐ Enable Authen Trap

Access Community

Read Only 1 : (19 Max char)

Read Only 2 : (19 Max char)

Read/Write 1 : (19 Max char)

Read/Write 2 : (19 Max char)

Trap Setting

AddressCommunity

Trap 1 : 192.168.0.200 trap (19 Max char)

Trap 2 : (19 Max char)

Trap 3 : (19 Max char)

Submit

◆ SNMP System

Item	Setting Range (Alphanumeric and symbolic characters)	Description
sysName	31 char max	Allows you to set the device name.
sysLocation	31 char max	Allows you to enter comments regarding the device location.
sysContact	31 char max	Allows you to enter comments regarding the person in charge of the device.

If authentication has failed while the Enable Authen Trap checkbox is selected, a trap will be generated.

◆ Access Community

Item	Setting Range (Alphanumeric and symbolic characters)	Description
Read Only1	19 char max	Read only SNMP community name
Read Only2	19 char max	Read only SNMP community name
Read/Write1	19 char max	Read/Write SNMP community name
Read/Write2	19 char max	Read/Write SNMP community name

◆ **Trap Setting**

Item	Setting Range (Alphanumeric and symbolic characters)	Description
Trap1 Address	---	The SNMP manager's IP address to which a trap is sent.
Trap2 Address	---	The SNMP manager's IP address to which a trap is sent.
Trap3 Address	---	The SNMP manager's IP address to which a trap is sent.
Trap1 Community	19 char max	The community name that sends a trap to Trap1 Address.
Trap2 Community	19 char max	The community name that sends a trap to Trap2 Address.
Trap3 Community	19 char max	The community name that sends a trap to Trap3 Address.

9-8-4. TRAP SETTINGS

Allows you to control SNMP trap transmission. Check the check box of a trap to be sent, then click Submit. Uncheck to stop sending. See the TRAP List in section 18 “About SNMP (Simple Network Management Protocol)” for details.

FA-9500

Logout

Video

Audio

System

GPI

Utility

Status

Network

INFORMATION

NETWORK SETTING

SNMP SETTING

TRAP SETTING

USER SETTING

RESTART FA-9500

Unit Trap

Video Trap

Audio Trap

☒ Fan 1
 ☒ Fan 2

☐ SDI In 1
☐ SDI In 2
☐ Composite In
☐ Reference
☐ SDI Out 1/2
☐ SDI Out 3/4
☐ Composite Out
☐ Changeover
☐ Component In
☐ Component Out

☐ Source CH 1
☐ Source CH 2
☐ Source CH 3
☐ Source CH 4
☐ Source CH 5
☐ Source CH 6
☐ Source CH 7
☐ Source CH 8
☐ Source CH 9
☐ Source CH 10
☐ Source CH 11
☐ Source CH 12
☐ Source CH 13
☐ Source CH 14
☐ Source CH 15
☐ Source CH 16
☐ Dolby®

Submit

◆ Unit Trap

Allows you to select whether to send fan and power unit alarm traps. Default is to send.

Item	Description
Fan1	Check to send an alarm trap for Fan1.
Fan2	Check to send an alarm trap for Fan2.
Power1 ^{*1}	Check to send an alarm trap for Power1.
Power2 ^{*1}	Check to send an alarm trap for Power2.

^{*1} Not shown if the FA-95PS option is not installed.

◆ Video Trap

Allows you to select whether to send traps for Input/output video signal changes. Default is not to send.

Item	Description
SDI In 1	Check to send a trap for SDI In 1.
SDI In 2	Check to send a trap for SDI In 2.
Composite In	Check to send a trap for Composite In.
Reference	Check to send a trap for Reference.
SDI Out 1/2	Check to send a trap for SDI Out 1/2.
SDI Out 3/4	Check to send a trap for SDI Out 3/4.
Composite Out	Check to send a trap for Composite Out.
Changeover ^{*1}	Check to send a trap for Changeover.
Component In ^{*2}	Check to send a trap for Component In
Component Out ^{*2}	Check to send a trap for Component Out.

^{*1} Not shown if the FA-95CO option is not installed.

^{*2} Not shown if the FA-95AIO option is not installed.

◆ Audio Trap

Allows you to select whether to send traps for changes in selected audio Source 1 – 16 signals or a signal in the Dolby E IN connector. Default is not to send traps.

Item	Description
Source CH1-16 ^{*1}	Check to send a trap for respective channels Source CH1 - 16.
Dolby ^{*2}	Check to send a trap for the Dolby E IN input signal.

*1 See section 9-3-4 “Source Select” for details on Source CH1-16.

*2 Shown only if the FA-95D-D option is installed.

9-8-5. USER SETTING

This page allows you to set the user name and password for accessing the FA-9500.

The default settings are:

User Name: fa9500

Password: foranetwork

INFORMATION	NETWORK SETTING	SNMP SETTING	TRAP SETTING	USER SETTING	NETWORK RESTART
-------------	-----------------	--------------	--------------	--------------	-----------------

User Account Setting	
User Name:	fa9500 (15 Max char)
Password:	•••••••• (15 Max char)
Re-enter Password:	(15 Max char)

Submit

Item	Setting Range (Alphanumeric and symbolic characters)	Description
User Name	15 char max	Allows you to set the user name.
Password	15 char max	Allows you to set the password.
Re-enter Password	15 char max	Allows you to confirm the password.

The authentication dialog box will not appear at the next login if the User Name and Password setting boxes are left empty.

Changes will be applied after rebooting or 9-8-6 “Restart” is performed.

9-8-6. Restart

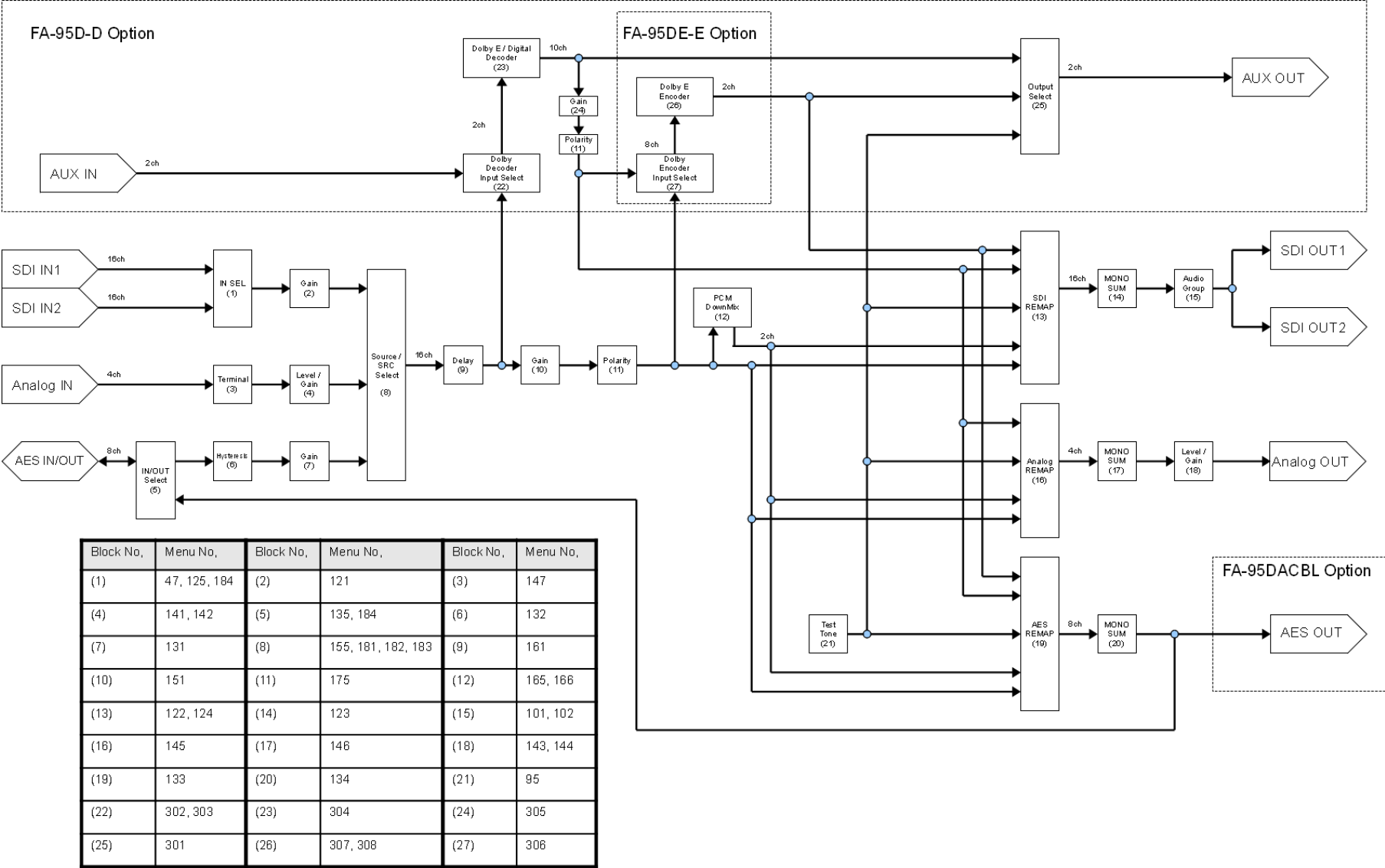
Click **Restart** to reboot the FA-9500. The FA-9500 performs the same operation as when it is on. Note that the video and audio signals will be distorted while rebooting the FA-9500.

INFORMATION	NETWORK SETTING	SNMP SETTING	TRAP SETTING	USER SETTING	NETWORK RESTART
-------------	-----------------	--------------	--------------	--------------	-----------------

System Restart

Restart

10. System Block Diagram (Audio)



11. ANALOG/DIGITAL Audio Input/Output Level

11-1. Analog Output Level Relative to the Digital Input Level

◆ Digital Reference Level: -18dBFS

Digital audio input level	ANALOG OUT LEVEL setting			
	-10 dBm	0 dBm	4 dBm	8 dBm
-24 dBFS	-16 dBm	-6 dBm	-2 dBm	+2 dBm
-20 dBFS	-12 dBm	-2 dBm	+2 dBm	+6 dBm
-18 dBFS	-10 dBm	0 dBm	+4 dBm	+8 dBm
0 dBFS	+8 dBm	+18 dBm	+22 dBm	CLIP

◆ Digital Reference Level: -20dBFS

Digital audio input level	ANALOG OUT LEVEL setting			
	-10 dBm	0 dBm	4 dBm	8 dBm
-24 dBFS	-14 dBm	-4 dBm	0 dBm	+4 dBm
-20 dBFS	-10 dBm	0 dBm	+4 dBm	+8 dBm
-18 dBFS	-8 dBm	+2 dBm	+6 dBm	+10 dBm
0 dBFS	+10 dBm	+20 dBm	+24 dBm	CLIP

◆ Digital Reference Level: -24dBFS

Digital audio input level	ANALOG OUT LEVEL setting			
	-10 dBm	0 dBm	4 dBm	8 dBm
-24 dBFS	-10 dBm	+0 dBm	+4 dBm	+8 dBm
-20 dBFS	-6 dBm	+4 dBm	+8 dBm	+12 dBm
-18 dBFS	-4 dBm	+6 dBm	+10 dBm	+14 dBm
0 dBFS	+14 dBm	+24 dBm	CLIP	CLIP



See REF LEVEL in section 6-10-2. "DIGITAL AUDIO" for details on the Digital Reference Level setting.

See section 6-3-3. "ANALOG OUT LEVEL" for details on the ANALOG OUT LEVEL setting.

11-2. Digital Output Level Relative to the Analog Input Level

Digital Reference Level: -18dBFS

Analog audio input level	ANALOG IN LEVEL setting			
	-10 dBm	0 dBm	4 dBm	8 dBm
-20 dBm	-28 dBFS	-38 dBFS	-42 dBFS	-46 dBFS
-10 dBm	-18 dBFS	-28 dBFS	-32 dBFS	-36 dBFS
-4 dBm	-12 dBFS	-22 dBFS	-26 dBFS	-30 dBFS
0 dBm	-8 dBFS	-18 dBFS	-22 dBFS	-26 dBFS
4 dBm	-4 dBFS	-14 dBFS	-18 dBFS	-22 dBFS
8 dBm	0 dBFS	-10 dBFS	-14 dBFS	-18 dBFS
10 dBm	CLIP	-8 dBFS	-12 dBFS	-16 dBFS

Digital Reference Level: -20dBFS

Analog audio input level	ANALOG IN LEVEL setting			
	-10 dBm	0 dBm	4 dBm	8 dBm
-20 dBm	-30 dBFS	-40 dBFS	-44 dBFS	-48 dBFS
-10 dBm	-20 dBFS	-30 dBFS	-34 dBFS	-38 dBFS
-4 dBm	-14 dBFS	-24 dBFS	-28 dBFS	-32 dBFS
0 dBm	-10 dBFS	-20 dBFS	-24 dBFS	-28 dBFS
4 dBm	-6 dBFS	-16 dBFS	-20 dBFS	-24 dBFS
8 dBm	-2 dBFS	-12 dBFS	-16 dBFS	-20 dBFS
10 dBm	0 dBFS	-10 dBFS	-14 dBFS	-18 dBFS

Digital Reference Level: -24dBFS

Analog audio input level	ANALOG IN LEVEL setting			
	-10 dBm	0 dBm	4 dBm	8dBm
-20 dBm	-34 dBFS	-44 dBFS	-48 dBFS	-52 dBFS
-10 dBm	-24 dBFS	-34 dBFS	-38 dBFS	-42 dBFS
-4 dBm	-18 dBFS	-28 dBFS	-32 dBFS	-36 dBFS
0 dBm	-14 dBFS	-24 dBFS	-28 dBFS	-32 dBFS
4 dBm	-10 dBFS	-20 dBFS	-24 dBFS	-28 dBFS
8 dBm	-6 dBFS	-16 dBFS	-20 dBFS	-24 dBFS
10 dBm	-4 dBFS	-14 dBFS	-18 dBFS	-22 dBFS



See REF LEVEL in section 6-10-2. "DIGITAL AUDIO" for details on the Digital Reference Level settings.

See section 6-3-1. "ANALOG IN LEVEL" for details on the ANALOG IN LEVEL settings.

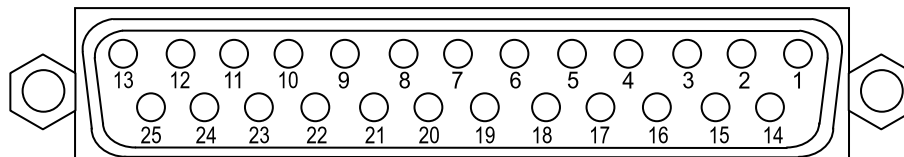
12. Analog Audio Connection

For balanced input and output, connect the hot and cold wires of an analog audio signal to plus and minus pins respectively.

For unbalanced input, connect the analog audio signal line to the plus pin and route the ground line to the minus pin and COM pin.

For unbalanced output, connect the analog audio signal line to the plus pin and the ground line to the COM pin.

◆ Analog Audio IN/OUT Connector (25-pin D-sub, female, inch screws)



◆ Pin Assignments

Pin No.	Setting
1	CH4 OUT+
2	CH4 OUT COM
3	CH3 OUT-
4	CH2 OUT+
5	CH2 OUT COM
6	CH1 OUT-
7	CH4 IN+
8	CH4 IN COM
9	CH3 IN-
10	CH2 IN+
11	CH2 IN COM
12	CH1 IN-
13	NC
14	CH4 OUT-
15	CH3 OUT+
16	CH3 OUT COM
17	CH2 OUT-
18	CH1 OUT+
19	CH1 OUT COM
20	CH4 IN-
21	CH3 IN+
22	CH3 IN COM
23	CH2 IN-
24	CH1 IN+
25	CH1 IN COM

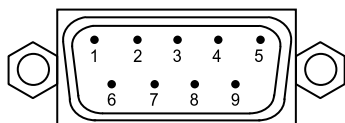
13. Dolby E Decoder/Encoder Channel Assignment Table

Dolby E Decoder Output / Encoder Input Channel Assignment									
Program Configuration		Out/In Ch1	Out/In Ch2	Out/In Ch3	Out/In Ch4	Out/In Ch5	Out/In Ch6	Out/In Ch7	Out/In Ch8
Dolby E	5.1+2	1L	1R	1C	1LFE	1Ls	1Rs	2L	2R
	5.1+2×1	1L	1R	1C	1LFE	1Ls	1Rs	2C	3C
	4+4	1L	1R	1C	1S	2C	2S	2L	2R
	4+2×2	1L	1R	1C	1S	3L	3R	2L	2R
	4+2+2×1	1L	1R	1C	1S	3C	4C	2L	2R
	4+4×1	1L	1R	1C	1S	4C	5C	2C	3C
	4×2	1L	1R	3L	3R	4L	4R	2L	2R
	3×2+2×1	1L	1R	3L	3R	4C	5C	2L	2R
	2×2+4×1	1L	1R	3C	4C	5C	6C	2L	2R
	2+6×1	1L	1R	4C	5C	6C	7C	2C	3C
	8×1	1C	2C	3C	4C	5C	6C	7C	8C
	5.1	1L	1R	1C	1LEF	1Ls	1Rs	None	None
	4+2	1L	1R	1C	1S	None	None	2L	2R
	4+2×1	1L	1R	1C	1S	None	None	2S	3C
	3×2	1L	1R	3L	3R	None	None	2L	2R
	2×2+2×1	1L	1R	3C	4C	None	None	2L	2R
	2+4×1	1L	1R	4C	5C	None	None	2C	3C
	6×1	1C	2C	3C	4C	5C	6C	None	None
	4	1L	1R	1C	1S	None	None	None	None
	2+2	1L	1R	None	None	None	None	2L	2R
	2+2×1	1L	1R	None	None	None	None	2C	3C
	4×1	1C	2C	3C	4C	None	None	None	None
	7.1	1L	1R	1C	1LFE	1Ls	1Rs	1Bsl	1Bsr
	7.1screen	1L	1R	1C	1LFE	1Ls	1Rs	1Le	1Re

Dolby Digital Decoder Output Channel Assignment									
Coding Mode		Out Ch1	Out Ch2	Out Ch3	Out Ch4	Out Ch5	Out Ch6	Out Ch7	Out Ch8
Dolby Digital	3/2L	1L	1R	1C	1LFE	1Ls	1Rs	None	None
	3/2	1L	1R	1C	None	1Ls	1Rs	None	None
	2/2L	1L	1R	None	1LFE	1Ls	1Rs	None	None
	2/2	1L	1R	None	None	1Ls	1Rs	None	None
	3/1L	1L	1R	1C	1LFE	1S	1S	None	None
	3/1	1L	1R	1C	None	1S	1S	None	None
	2/1L	1L	1R	None	1LFE	1S	1S	None	None
	2/1	1L	1R	None	None	1S	1S	None	None
	3/0L	1L	1R	1C	1LFE	None	None	None	None
	3/0	1L	1R	1C	None	None	None	None	None
	2/0	1L	1R	None	None	None	None	None	None
	1/0	None	None	1C	None	None	None	None	None
	1+1	1C	2C	None	None	None	None	None	None
PCM		1L	1R	None	None	None	None	None	None

14. REMOTE

14-1. REMOTE Connector



The pin assignments of the REMOTE (GPI) connector are as shown in the table below. The connector has seven ports. Although the pin assignments below cannot be changed, the input and output are selectable and the functions for GPI1 to GPI7 can also be selected.

◆ REMOTE (GPI) Pin Assignments (9pin D-sub, male, inch screws)

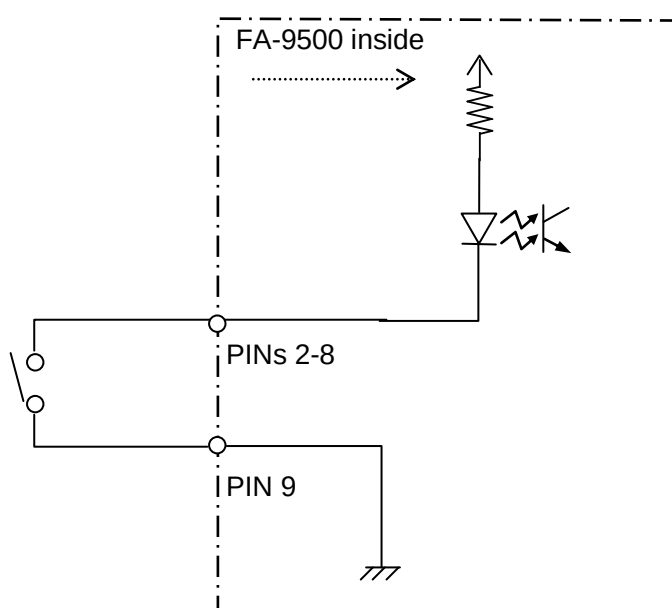
Pin No.	Setting
1	DC OUT (Up to 200mA output current is available at 5.4V.)
2	GPI 1 (input/output)
3	GPI 2 (input/output)
4	GPI 3 (input/output)
5	GPI 4 (input/output)
6	GPI 5 (input/output)
7	GPI 6 (input/output)
8	GPI 7 (input/output)
9	GND (ground)



See section 7-4. "GPI SETTING" for the function assignments for GPI1-GPI7.

For GPI inputs, the function is ON when a pin is shorted to ground and OFF when open.

14-2. GPI Input Circuit



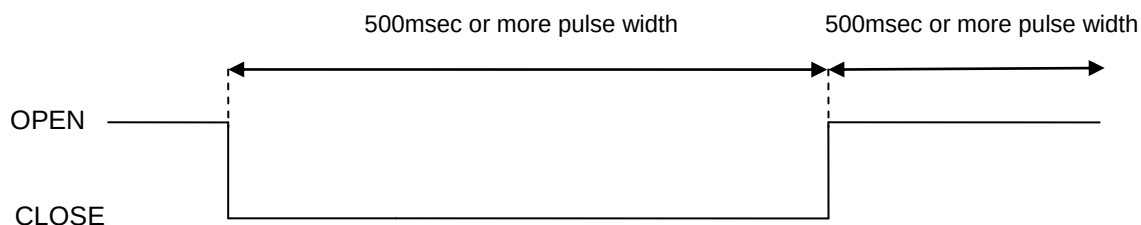
14-3. GPI Input Control

◆ Level Control

The pin assigned function is enabled or disabled by the pulse level.

Trigger (state of pin)

OPEN: Function is **OFF**
CLOSE: Function is **ON**



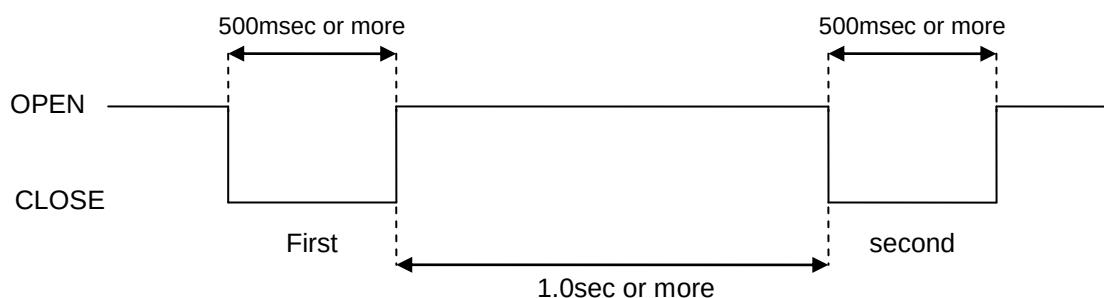
◆ Pulse Control

The assigned pin function is triggered by changing the pin state between OPEN and CLOSE.

Trigger (state change of pin)

OPEN to CLOSE: Function is **ON**

◆ Normal Pulse Control

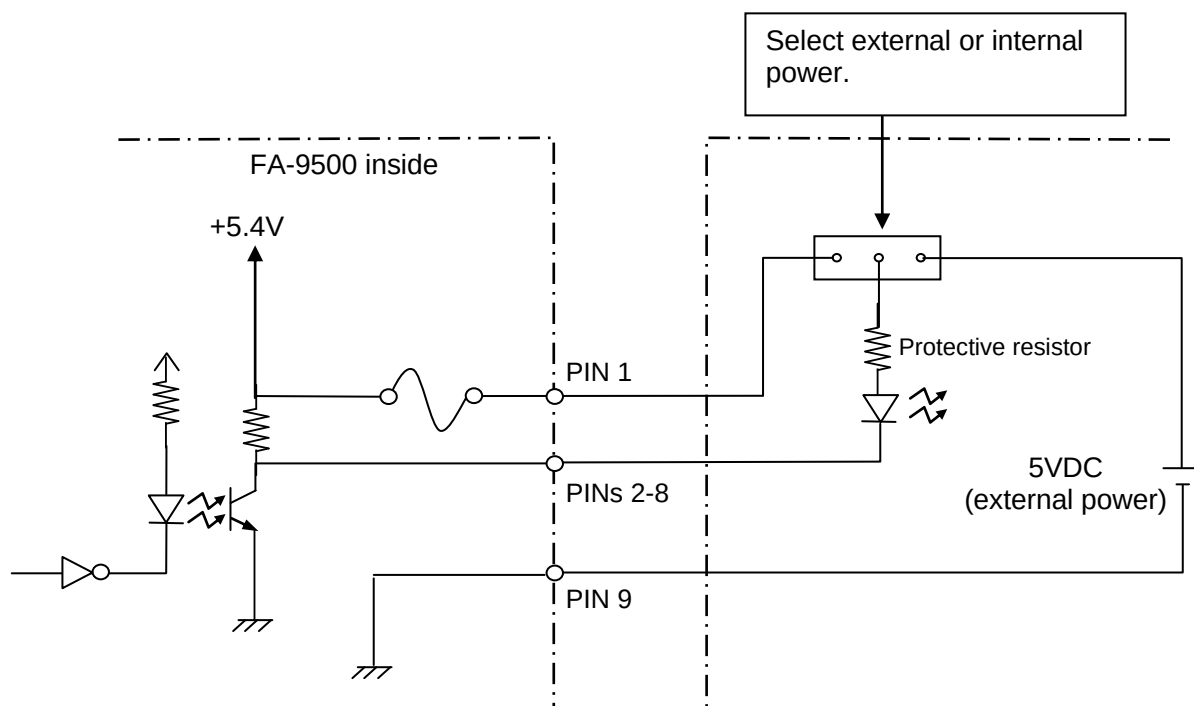


IMPORTANT

Use the specified pulse width and duration. Otherwise the GPI inputs may not function properly.

Do not simultaneously close circuits for more than 1 pulse to prevent the GPI inputs from malfunctioning.

14-4. GPI Output Circuit



IMPORTANT

Note that the allowed current for each GPI output circuit is **10mA** and the external power supply should be **5VDC**.

15. How to Install the FA-95DACBL

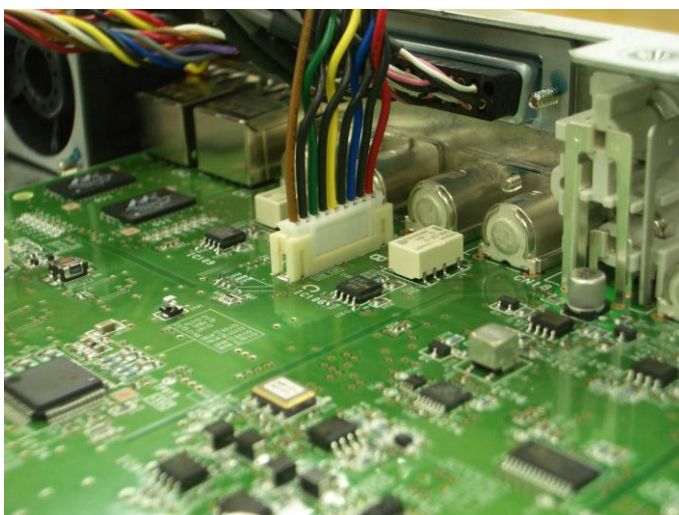
This section describes how to install the optional FA-95DACBL. If you have purchased the FA-95DACBL with the FA-9500, this procedure is unnecessary since the FA-95DACBL has been factory installed.

15-1. Procedure

1. Turn off the power of the FA-9500 and disconnect the power cord.
2. Remove the 3 screws from the top panel, and 4 screws each from the right and left sides of the unit. Remove the top panel. (See the below picture.)



3. Remove the 2 screws from the blank panel on OPTION SLOT B. Keep these screws in a safe place to use later to secure the FA-95DACBL. (To install the FA-95DACBL in slot A, remove the screws from the blank panel on OPTION SLOT A.)
4. Connect the white connector of the FA-95DACBL to CN34. (See the below picture.)



5. Install the BNC connector panel of the FA-95DACBL into the slot from inside the unit. Secure the connector panel with the screws that were removed from the blank panel. (See the below picture.)



6. If you have install the FA-95DACBL in slot A, set switch 5 in the S2 DIP switch to OFF. If you have installed it into slot B, set switch 5 in the S2 DIP switch to ON.
7. Return and secure the top panel onto the unit with the 3 screws on top, and 4 screws each on the right and left sides of the unit.

15-2. Installation Confirmation

Confirm the status of the FA-95DACBL on the front panel menu. See sections 7-7 "OPTION A Ver." and 7-8 "OPTION B Ver.".

The menu appears as shown below, if the FA-95DACBL is installed;

in SLOT A

OPTION A Ver.	199
NAME : FA - 9 5 D A C B L	
F P G A 1 : - - . - -	
F P G A 2 : - - . - -	
S O F T : - - . - -	

Menu button

STATUS
OTHER

in SLOT B

OPTION B Ver.	200
NAME : FA - 9 5 D A C B L	
F P G A 1 : - - . - -	
F P G A 2 : - - . - -	
S O F T : - - . - -	

Menu button

STATUS
OTHER

IMPORTANT

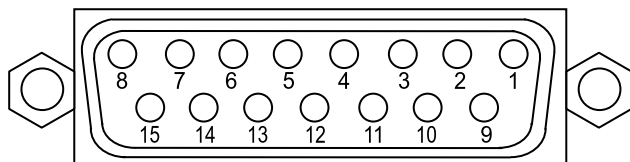
Four connectors of the FA-95DACBL digital audio expansion option can be used for outputs. If the FA-95DACBL option is installed, the DIGITAL AUDIO IO connectors can only be used for inputs and the AES I/O SETUP menu (section 6-2-5) is not accessible.

16. FA-95AIO Option

16-1. FA-95AIO Pin Assignments

Be sure to use the supplied FA-95AIO connection cable.

FA-95AIO Connector (15-pin D-sub female inch screws)

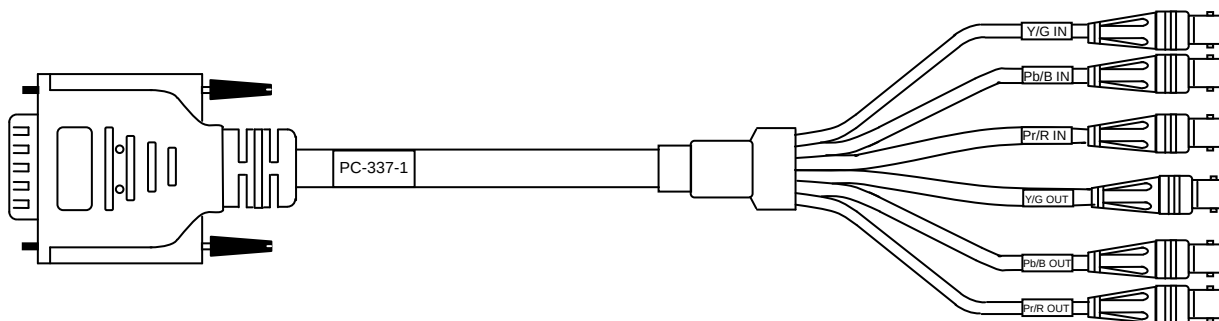


Pin Assignment (15-pin D-sub female)

Pin No.	Connector	Signal
1	Y/G IN	Y/G IN
2	Pb/B IN	Pb/B/C IN
3	Pr/R IN	Pr/R IN
4		GND
5		GND
6	Y/G OUT	Y/G OUT
7	Pb/B OUT	Pb/B/C OUT
8	Pr/R OUT	Pr/R OUT
9		GND
10		GND
11		GND
12		GND
13		GND
14		GND
15		GND

When BY-PASS is enabled, Y/G IN - Y/G OUT, Pb/B IN - Pb/B OUT, and Pr/R IN - Pr/R OUT are connected.

FA-95AIO connection cable PC-3307-1



16-2. FA-95AIO Switch Settings

IMPORTANT

Note that internal switch settings should not be changed from factory defaults. If you have accidentally changed the setting, refer to the Dipswitch S1 settings below to return to the factory default setting.

Futher note that adjustments and maintenance should only be performed by qualified technical personnel familiar with FOR-A equipment.

WARNING

Do not access MU internal cards or make connections with unit power ON. Always power OFF the main unit prior to accessing the interior.

Do not touch other components on the card to avoid damage from static electricity.

Dipswitch S1 settings

Pin No.	Default	Description
1	OFF	Do not change
2	OFF	Do not change
3	OFF	Do not change
4	OFF	Do not change
5	OFF	Do not change
6	OFF	Do not change
7	OFF	Do not change
8	OFF	Do not change

17. System Requirements

To use with the FA-9500, your computer must meet the following requirements.

OS	Windows® XP operating system SP2 or later Professional (32bit)	Windows Vista® operating system Business (32bit)	Windows® 7 operating system Professional (32bit/64bit)
Browser	Firefox®21.0	Firefox®21.0	Windows® Internet Explorer 10, Firefox®21.0
CPU	Pentium® 4 processor 2.8GHz or higher	Intel® Core™2 Duo processor 2GHz or higher	Intel® Core™2 Duo processor 2GHz or higher
Memory	512MB or more	2GB or more	2GB or more
Display	1280×1024 pixels or more resolution, 24-bit full-color		
Network	Ethernet (100BASE-TX/1000BASE-T), 1 port or more		
Network cable	Enhanced Category 5 or higher		
Network protocol	SNMPv2c, HTTP		

IMPORTANT

When using Internet Explorer 8, Windows Updates after 6/13/2011 must be downloaded for proper performance. It is highly recommended to keep your computer updated with the latest Windows Updates.

PCs that do not meet the above system requirements may not properly display web pages.

We recommend the use of a Firefox web browser.

18. About SNMP (Simple Network Management Protocol)

The FA-9500 can be remotely monitored and some of its settings can be remotely changed using the SNMPv2C protocol. Some menu items can also be set via the network. MIB (Management Information Base) is required for the monitoring and can be downloaded (see section 9-6-3 "Downloading a MIB File"). See section 9-8-3 "SNMP SETTING" for details about the SNMP network settings.

◆ SET/GET List

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Read (Get)	Write (Set)
OID: 1.3.6.1.4.1.20175.1.301.1. (Unit infor)								
Unit Info		Product Name	Model name	fa95ProductName	1	OCTET STRING	○	○
		Product Code	Product code	fa95ProductCode	2	INTEGER	○	○
		UnitName	Unit name	fa95UnitName	3	OCTET STRING	○	○
		Serial No.	Serial number	fa95SerialNumber	4	INTEGER	○	○
	Unit Ver.	Soft	Software version	fa95SoftVersion	11	OCTET STRING(513)	○	○
		FPGA1 Ver	FPGA1 version	fa95FPGA1Version	12	OCTET STRING(513)	○	○
		FPGA2 Ver	FPGA2 version	fa95FPGA2Version	13	OCTET STRING(513)	○	○
FPGA3 Ver		FPGA3 version	fa95FPGA3Version	14	OCTET STRING(513)	○	○	
OID: 1.3.6.1.4.1.20175.1.301.1.100. (Software option)								
Soft Option	SOFT OPTION1/2	FA-95SCNV	0: not installed 1: installed	fa95ScnvOption	1	INTEGER	○	○
		FA-95AVO	0: not installed 1: installed	fa95AvoOption	2	INTEGER	○	○
		FA-95-3G	0: not installed 1: installed	fa95-3GOption	3	INTEGER	○	○
		FA-95CO	0: not installed 1: installed	fa95CoOption	4	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.301.1.200.1 (Option SlotA)								
OPTION Slot A	OPTION A Ver	Name	0: not installed 1: FA-95AIO 4: FA-95DE-E 5: FA-95D-D 11: FA-95DACBL 99: Unknown	fa95SlotTypeA	1	INTEGER	○	○
		FPGA1 Ver	SlotA FPGA1 version	fa95FPGA1VerSlotA	2	OCTET STRING(513)	○	○
		FPGA2 Ver	SlotA FPGA2 version	fa95FPGA2VerSlotA	3	OCTET STRING(513)	○	○
		SOFT Ver	SlotA Software version	fa95CPUVerSlotA	4	OCTET STRING(513)	○	○
OID: 1.3.6.1.4.1.20175.1.301.1.200.2 (Option SlotB)								
OPTION Slot B	OPTION B Ver	Name	0: not installed 1: FA-95AIO 4: FA-95DE-E 5: FA-95D-D 11: FA-95DACBL 99: Unknown	fa95SlotTypeB	1	INTEGER	○	○
		FPGA1 Ver	SlotA FPGA1 version	fa95FPGA1VerSlotB	2	OCTET STRING(513)	○	○
		FPGA2 Ver	SlotA FPGA2 version	fa95FPGA2VerSlotB	3	OCTET STRING(513)	○	○
		SOFT Ver	SlotA Software version	fa95CPUVerSlotB	4	OCTET STRING(513)	○	○
OID: 1.3.6.1.4.1.20175.1.301.2.2. (Input video signal selection)								
INPUT SEL	VIDEO IN SETTING	Input Select	0: SDI1 1: SDI2 2: Composite 3: YPbPr SMPTE 4: YPbPr BETACAM 5: component RGB 6: component Y/C	fa95VideoInputSelect	1	INTEGER	○	○
		Video Loss Mode	If no signal is present 0: Back Color 1: Auto Freeze 2: Color Bar 3: Output Disable	fa95VideoLossMode	2	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.301.2.3 (Output video signal selection)								
OUT SEL	VIDEO OUT MODE (Inaccessible)	Mode	0: Fix 1: Auto	fa95VideoOutMode	1	INTEGER	-	-
		SD→UP HD Format	0: 1080i 1: 720p 3: 1080PsF 4: 1080p(3G)	fa95UpConvertSDto	2	INTEGER	-	-
	SDI 1/2 OUT SET	Assign(Fix)	0: Converter 1 1: Converter 2	fa95OutSDI1-2FixedSel	11	INTEGER	○	○
		Assign(Auto) (Inaccessible)	0: HD 1: SD	fa95OutSDI1-2AutoSel	12	INTEGER	-	-
	SDI 3/4 OUT SET	Assign(Fix)	0: Converter 1 1: Converter 2	fa95OutSDI3-4FixedSel	21	INTEGER	○	○
		Assign(Auto) (Inaccessible)	0: HD 1: SD	fa95OutSDI3-4AutoSel	22	INTEGER	-	-
	COMPOSITE SET	Assign(Fix)	0: Converter 1 1: Converter 2	fa95OutVBSFixedSel	31	INTEGER	○	○
	COMPONENT SET	Assign(Fix)	0: Converter 1 1: Converter 2	fa95OutComponentFixedSel	41	INTEGER	○	○
		Assign(Auto) (Inaccessible)	0: HD 1: SD	fa95OutComponentAutoSel	42	INTEGER	-	-
		Mode	0: YPbPr-SMPTE 1: YPbPr-BETACAM 2: RGB 3: Y/C	fa95OutComponentOutMode	43	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.301.2.4.1 (FS MODE)								
VIDEO SYSTEM	FS Mode	SYNCHRO MODE	0: FRAME 1: LINE 2: INPUT 3: AVDL	fa95VideoSyncMode	1	INTEGER	○	○
		System Format	0: Auto 1: 525/60 2: 625/50 3: 1080/59.94i 4: 1080/50i 5: 720/59.94p 6: 720/50p 7: 1080/23PsF 8: 1080/24PsF 19: 1080/59p 20: 1080/50p	fa95VideoSystemFormat	2	INTEGER	○	○

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Read (Get)	Write (Set)
OID: 1.3.6.1.4.1.20175.1.301.2.4.2. (FREEZE)								
FREEZE	FREEZE SETTING	FREEZE On/Off	FREEZE On/Off 0: Off 1: On	fa95FreezeEnable	1	INTEGER	☐	☐
		FREEZE Mode	0: Frame 1: Odd 2: Even	fa95FreezeMode	2	INTEGER	☐	☐
OID: 1.3.6.1.4.1.20175.1.301.2.4.3. (Composite settings)								
COMPOSITE	Composite Setting	3D COMB	0: Adaptive 3D 1: Adaptive 2D 2: Trap Only	fa95VbsCombFilter	1	INTEGER	☐	☐
		NR Level	0-4: Off Level1-4	fa95VbsNRFilter	2	INTEGER	☐	☐
		Cross Color	0-3: Off Level1-3	fa95VbsCrossColorFilter	3	INTEGER	☐	☐
OID: 1.3.6.1.4.1.20175.1.301.2.6 (Converter 1)								
Converter 1	CONV1 U/D MODE	Convert Mode	0: Bypass 1: Aspect (Inaccessible) 2: SD 3: 1080i 4: 720p 6: 1080PsF 7: 1080p(3G)	fa95Conv1Mode	1	INTEGER	☐	☐
		Aspect (Inaccessible)	0: 4: 3 1: 13: 9 2: 14: 9 3: 16: 9 4: Squeeze	fa95Conv1Aspect	2	INTEGER		
		AspectSD	0: AFD(4:3) 1: AFD-ALT(4:3) 2: AFD(16:9) 3: AFD-ALT(16:9) 4: Letterbox 16:9 top 5: Letterbox 14:9 top 6: Letterbox>16:9(4:3) 7: Fullframe 4:3 8: Letterbox 16:9 9: Letterbox 14:9 10: Fullframe 4:3 Alt 14:9 11: Letterbox 16:9 Alt 14:9 12: Letterbox 16:9 Alt 4:3 13: Letterbox>16:9(16:9) 14: Fullframe 16:9 15: Pillarbox 4:3 16: Fullframe 16:9 Protected 17: Pillarbox 14:9 18: Pillarbox 4:3 Alt 14:9 19: Fullframe 16:9 Alt 14:9 20: Fullframe 16:9 alt 4:3	fa95Conv1AspectSD	3	INTEGER	☐	☐
		AspectHD	0: AFD 1: AFD-ALT 2: Letterbox>16:9 3: Fullframe 16:9 4: Pillarbox 4:3 5: Fullframe 16:9 Protected 6: Pillarbox 14:9 7: Pillarbox 4:3 Alt 4:9 8: Fullframe 16:9 Alt 14:9 9: Fullframe 16:9 alt 4:3	fa95Conv1AspectHD	4	INTEGER	☐	☐
	CONV1 IMPROVE	Motion Sense	1: Field 2: Frame(Odd 1st) 3: Frame(Even 1st) 4: Adaptive	fa95Conv1MotionSense	31	INTEGER	☐	☐
		Enhance	0 to 8	fa95Conv1Enhance	42	INTEGER	☐	☐
		Anti-Alias H	-8 to 0 to +8	fa95Conv1AntiAliasH	43	INTEGER	☐	☐
		Anti-Alias V	-8 to 0 to +8	fa95Conv1AntiAliasV	44	INTEGER	☐	☐
OID: 1.3.6.1.4.1.20175.1.301.2.7 (Converter 2)								
Converter 2	CONV2 U/D MODE	Convert Mode	0: Bypass 1: SD 2: 1080i 3: 720p 5: 1080PsF 6: 1080p(3G)	fa95Conv2Mode	1	INTEGER	☐	☐
		AspectSD	0: AFD(4:3) 1: AFD-ALT(4:3) 2: AFD(16:9) 3: AFD(16:9) 4: Letterbox 16:9 top 5: Letterbox 14:9 top 6: Letterbox>16:9(4:3) 7: Fullframe 4:3 8: Letterbox 16:9 9: Letterbox 14:9 10: Fullframe 4:3 Alt 14:9 11: Letterbox 16:9 Alt 14:9 12: Letterbox 16:9 Alt 4:3 13: Letterbox>16:9(16:9) 14: Fullframe 16:9 15: Pillarbox 4:3 16: Fullframe 16:9 Protected 17: Pillarbox 14:9 18: Pillarbox 4:3 Alt 14:9 19: Fullframe 16:9 Alt 14:9 20: Fullframe 16:9 alt 4:3	fa95Conv2AspectSD	3	INTEGER	☐	☐
		AspectHD	0: AFD 1: AFD-ALT 2: Letterbox>16:9 3: Fullframe 16:9 4: Pillarbox 4:3 5: Fullframe 16:9 Protected 6: Pillarbox 14:9 7: Pillarbox 4:3 Alt 4:9 8: Fullframe 16:9 Alt 14:9 9: Fullframe 16:9 alt 4:3	fa95Conv2AspectHD	4	INTEGER	☐	☐
		Enhance	0 to 8	fa95Conv2Enhance	42	INTEGER	☐	☐
	CONV2 IMPROVE	Anti-Alias H	-8 to 0 to +8	fa95Conv2AntiAliasH	43	INTEGER	☐	☐
		Anti-Alias V	-8 to 0 to +8	fa95Conv2AntiAliasV	44	INTEGER	☐	☐
OID: 1.3.6.1.4.1.20175.1.301.2.8 (AVO)								
AVO	AVO SETTING	Operation Mode	0: Off 1: Auto 2: Hold	fa95AvoMode	1	INTEGER	☐	☐
OID: 1.3.6.1.4.1.20175.1.301.2.9 (FA-95CO)								
FA-95CO	VIDEO INPUT SET	CHANGEOVER	0: disable 1: enable	fa95CoMode	1	INTEGER	☐	☐

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Read (Get)	Write (Set)
FA-95CO	CHGOV MODE SET	VIDEO TRG	0: disable 1: enable	fa95CoVideoTriggerMode	11	INTEGER	☐	☐
		AUDIO TRG	0: disable 1: enable	fa95CoAudioTriggerMode	12	INTEGER	☐	☐
	CHGOV VID/AUD STATUS	SDI ERROR FORMAT ERROR CRC ERROR BLACK VIDEO AUDIO LOSS AUDIO ERR SILENCE	bit 0: sdiError *From MSB bit 1: formatError bit 2: crcError bit 3: blackVideo bit 4: audioLoss bit 5: audioError bit 6: silence	fa95CoTriggerStatus	101	BITS		
OID: 1.3.6.1.4.1.20175.1.301.1.2.9 (FA-95LG)								
FA-95LG	VIDEO OPTION	ASSIGNN(Conv1)	ID:1 to 256	fa95LgConv1Assign	1	INTEGER	☐	☐
		Keyer(Conv1)	0:OFF 1:ON	fa95LgConv1Keyer	2	INTEGER	☐	☐
		ASSIGN(Conv2)	ID:1 to 256	fa95LgConv2Assign	3	INTEGER	☐	☐
		Keyer(Conv1)	0:OFF 1:ON	fa95LgConv2Keyer	4	INTEGER	☐	☐
FA-95AIO	VIDEO IN STATUS	COMPONENT IN	(Same as SDI IN 1)	fa95IncComponent	101	INTEGER	☐	☐
	VIDEO OUT STATUS	COMPONENT OUT	(Same as SDI IN 1/2)	fa95outComponent	102	INTEGER	☐	☐
OID: 1.3.6.1.4.1.20175.1.301.3.1.2. (SDI Embedded audio remapping)								
	SDI REMAPPING	Assign Signal CH1	0-15: Source Ch1-16 16: 500Hz 17: 1kHz 18: Silence 19: Downmix-L 20: Downmix -R 21-28: Dolby Dec 1-8 29: Dolby Dec Donmix-L 30: Dolby Dec Donmix-R 31: Dolby-E Enc 1 32: Dolby-E Enc 2	fa95AudioSdiOutAssignCh1	1	INTEGER	☐	☐
		Assign Signal CH2		fa95AudioSdiOutAssignCh2	2	INTEGER	☐	☐
		Assign Signal CH3		fa95AudioSdiOutAssignCh3	3	INTEGER	☐	☐
		Assign Signal CH4		fa95AudioSdiOutAssignCh4	4	INTEGER	☐	☐
		Assign Signal CH5		fa95AudioSdiOutAssignCh5	5	INTEGER	☐	☐
		Assign Signal CH6		fa95AudioSdiOutAssignCh6	6	INTEGER	☐	☐
		Assign Signal CH7		fa95AudioSdiOutAssignCh7	7	INTEGER	☐	☐
		Assign Signal CH8		fa95AudioSdiOutAssignCh8	8	INTEGER	☐	☐
		Assign Signal CH9		fa95AudioSdiOutAssignCh9	9	INTEGER	☐	☐
		Assign Signal CH10		fa95AudioSdiOutAssignCh10	10	INTEGER	☐	☐
		Assign Signal CH11		fa95AudioSdiOutAssignCh11	11	INTEGER	☐	☐
		Assign Signal CH12		fa95AudioSdiOutAssignCh12	12	INTEGER	☐	☐
		Assign Signal CH13		fa95AudioSdiOutAssignCh13	13	INTEGER	☐	☐
		Assign Signal CH14		fa95AudioSdiOutAssignCh14	14	INTEGER	☐	☐
		Assign Signal CH15		fa95AudioSdiOutAssignCh15	15	INTEGER	☐	☐
		Assign Signal CH16		fa95AudioSdiOutAssignCh16	16	INTEGER	☐	☐
OID: 1.3.6.1.4.1.20175.1.301.3.2.3. (AES audio remapping)								
	AES REMAPPING	Assign Signal CH1	0-15: Source Ch1-16 16: 500Hz 17: 1kHz 18: Silence 19: Downmix-L 20: Downmix -R 21-28: Dolby Dec 1-8 29: Dolby Dec Donmix-L 30: Dolby Dec Donmix-R 31: Dolby-E Enc 1 32: Dolby-E Enc 2	fa95AudioAesOutAssignCh	1	INTEGER	☐	☐
		Assign Signal CH2		fa95AudioAesOutAssignCh2	2	INTEGER	☐	☐
		Assign Signal CH3		fa95AudioAesOutAssignCh3	3	INTEGER	☐	☐
		Assign Signal CH4		fa95AudioAesOutAssignCh4	4	INTEGER	☐	☐
		Assign Signal CH5		fa95AudioAesOutAssignCh5	5	INTEGER	☐	☐
		Assign Signal CH6		fa95AudioAesOutAssignCh6	6	INTEGER	☐	☐
		Assign Signal CH7		fa95AudioAesOutAssignCh7	7	INTEGER	☐	☐
		Assign Signal CH8		fa95AudioAesOutAssignCh8	8	INTEGER	☐	☐
OID: 1.3.6.1.4.1.20175.1.301.3.3.3. (Analog audio remapping)								
	ANALOG REMAPPING	Assign Signal CH1	0-15: Source Ch1-16 16: 500Hz 17: 1kHz 18: Silence 19: DOWNMIX-L 20: DOWNMIX-R 21-28: Dolby Dec 1-8 29: Dolby Dec Donmix-L 30: Dolby Dec Donmix-R	fa95AudioAnalogOutAssignCh1	1	INTEGER	☐	☐
		Assign Signal CH2		fa95AudioAnalogOutAssignCh2	2	INTEGER	☐	☐
		Assign Signal CH3		fa95AudioAnalogOutAssignCh3	3	INTEGER	☐	☐
		Assign Signal CH4		fa95AudioAnalogOutAssignCh4	4	INTEGER	☐	☐
OID: 1.3.6.1.4.1.20175.1.301.3.4. (Mute)								
	Master Mute	Master Mute	0: OFF 1: ON	fa95AudioMasterMute	2	INTEGER	☐	☐
oid: 1.3.6.1.4.1.20175.1.301.3.5.1. (Audio source remapping)								
AUDIO MAPPING	Source/SRC Set	Audio Source CH1/2	0-7: SDI 1/2-15/16 8-11: AES 1/2-15/16 16-17: Analog 1/2-3/4	fa95AudioMappingSourcePair1-2	1	INTEGER	☐	☐
		Audio Source CH3/4		fa95AudioMappingSourcePair3-4	2	INTEGER	☐	☐
		Audio Source CH5/6		fa95AudioMappingSourcePair5-6	3	INTEGER	☐	☐
		Audio Source CH7/8		fa95AudioMappingSourcePair7-8	4	INTEGER	☐	☐
		Audio Source CH9/10		fa95AudioMappingSourcePair9-10	5	INTEGER	☐	☐
		Audio Source CH11/12		fa95AudioMappingSourcePair11-12	6	INTEGER	☐	☐
		Audio Source CH113/14		fa95AudioMappingSourcePair13-14	7	INTEGER	☐	☐
		Audio Source CH115/16		fa95AudioMappingSourcePair15-16	8	INTEGER	☐	☐
oid: 1.3.6.1.4.1.20175.1.301.3.10. (Loudness)								
Loudness	Loudness Meas1	Loudness1 Control	0: OFF 1: ON	fa95Loudness1-Control	1	INTEGER	☐	☐
		Loudness1 Mesure	0:Stop 1:Start	fa95Loudness1-Mesure	2	INTEGER	☐	☐
		Loudness1 Mesure Clear	1:Clear	fa95Loudness1-MesureClear	3	INTEGER	☐	☐
	Loudness Meas2	Loudness2 Control	0: OFF 1: ON	fa95Loudness2-Control	11	INTEGER	☐	☐
		Loudness2 Mesure	0:Stop 1:Start	fa95Loudness2-Mesure	12	INTEGER	☐	☐
		Loudness2 Mesure Clear	1:Clear	fa95Loudness2-MesureClear	13	INTEGER	☐	☐
OID: 1.3.6.1.4.1.20175.1.301.4. (VIDEO SYSTEM)								
BY-PASS	BY-PASS	BY-PASS/OPERATE	0: disable 1: enable	fa95BypassOut	1	INTEGER	☐	☐
Test signal	TEST SIGNAL	VIDEO TEST SIGNAL	0: OFF 1: Full CB 2: 75% CB 3: SMPTE CB 4: RAMP	fa95VideoTestSignal	2	INTEGER	☐	☐
		AUDIO TEST SIGNAL	0: Off 1: 1KH z Tone	fa95AudioTestSignal	3	INTEGER	☐	☐
OID: 1.3.6.1.4.1.20175.1.301.5.1.(Unit alarm)								
UNIT	UNIT ALARM	FAN1	0: Normal 1: Stopped	fa95Fan1Status	1	INTEGER	☐	
		FAN2	0: Normal 1: Stopped	fa95Fan2Status	2	INTEGER	☐	
		Power1	0: Normal 1: Ab normal	fa95Power1Status	11	INTEGER	☐	
		Power2	-1: Not Install 0: Normal 1: Ab normal	fa95Power2Status	12	INTEGER	☐	

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Read (Get)	Write (Set)
OID: 1.3.6.1.4.1.20175.1.301.5.2.(Input/Output video signal format)								
	VIDEO IN STATUS	SDI 1 IN	00: Loss 01: 525/60i 02: 625/50i 04: 1080/59i 05: 1080/50i 09: 1080/24PsF 10: 1080/23.98PsF 12: 1080/59p 13: 1080/50p 20: 720/59p 21: 720/50p 29: Unknown 30 : BY-PASS 31 : Disable	fa95InSDI1	1	INTEGER	☐	
		SDI 2 IN	Ditto	fa95InSDI2	2	INTEGER	☐	
		Composite IN	0: LOSS 1: 525/60 3: 625/50 30: BY-PASS	fa95InComposite	3	INTEGER	☐	
		Ref Status	00: Loss 01: 525/60i 02: 625/50i 03: 1080/60i 04: 1080/59i 05: 1080/50i 06: 1080/30PsF 07: 1080/29.97PsF 08: 1080/25PsF 09: 1080/24PsF 10: 1080/23.98PsF 11: 1080/60p 12: 1080/59p 13: 1080/50p 14: 1080/30p 15: 1080/29.97p 16: 1080/25p 17: 1080/24p 18: 1080/23.98p 19: 720/60p 20: 720/59.94p 21: 720/50p 22: 720/30p 23: 720/29.97p 24: 720/25p 25: 720/24p 26: 720/23.98p 27: 1035/60i 28: 1035/59.94i 29: Unknown	fa95InReference(11)	11	INTEGER	☐	
		Component IN	Ditto				☐	
VIDEO OUTPUT	VIDEO OUT STATUS	SDI OUT 1/2	00: Loss 01: 525/60i 02: 625/50i 03: 1080/60i 04: 1080/59i 05: 1080/50i 06: 1080/30PsF 07: 1080/29.97PsF 08: 1080/25PsF 09: 1080/24PsF 10: 1080/23.98PsF 11: 1080/60p 12: 1080/59p 13: 1080/50p 14: 1080/30p 15: 1080/29.97p 16: 1080/25	fa95OutSDI1-2	21	INTEGER	☐	
		SDI OUT 3/4	Ditto	fa95OutSDI3-4	22	INTEGER	☐	
		Composite OUT	0: Loss 1: 525/60 2: 625/50 30: BY-PASS 31: Disable	fa95OutComposite	23	INTEGER	☐	
		Component OUT	00: Loss 01: 525/60i 02: 625/50i 03: 1080/60i 04: 1080/59i 05: 1080/50i 06: 1080/30PsF 07: 1080/29.97PsF 08: 1080/25PsF 09: 1080/24PsF 10: 1080/23.98PsF 11: 1080/60p 12: 1080/59p 13: 1080/50p 14: 1080/30p 15: 1080/29.97p 16: 1080/25	fa95outComponent	24	INTEGER	☐	
OID: 1.3.6.1.4.1.20175.1.301.5.3.1.(SDI1 input audio status)								
AUDIO INPUT	SDI 1 IN AUDIO	CH1		fa95StatusSdiEmbln1Ch1	1	INTEGER	☐	
		CH2		fa95StatusSdiEmbln1Ch2	2	INTEGER	☐	
		CH3		fa95StatusSdiEmbln1Ch3	3	INTEGER	☐	
		CH4		fa95StatusSdiEmbln1Ch4	4	INTEGER	☐	
		CH5	0: Loss	fa95StatusSdiEmbln1Ch5	5	INTEGER	☐	
		CH6	1: PCM	fa95StatusSdiEmbln1Ch6	6	INTEGER	☐	
		CH7	2: Silence	fa95StatusSdiEmbln1Ch7	7	INTEGER	☐	
		CH8	3: Non-PCM	fa95StatusSdiEmbln1Ch8	8	INTEGER	☐	
		CH9	4: PCM(Async)	fa95StatusSdiEmbln1Ch9	9	INTEGER	☐	
		CH10	5: Silence(Async)	fa95StatusSdiEmbln1Ch10	10	INTEGER	☐	
		CH11	6: Non-PCM(Async)	fa95StatusSdiEmbln1Ch11	11	INTEGER	☐	
		CH12	7: Unknown	fa95StatusSdiEmbln1Ch12	12	INTEGER	☐	
		CH13		fa95StatusSdiEmbln1Ch13	13	INTEGER	☐	
		CH14		fa95StatusSdiEmbln1Ch14	14	INTEGER	☐	
		CH15		fa95StatusSdiEmbln1Ch15	15	INTEGER	☐	
		CH16		fa95StatusSdiEmbln1Ch16	16	INTEGER	☐	

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Read (Get)	Write (Set)
OID: 1.3.6.1.4.1.20175.1.301.5.3.2.(SDI2 input audio signal status)								
AUDIO INPUT	SDI 2 IN AUDIO	CH1		fa95StatusSdiEmbln2Ch1	1	INTEGER	○	○
		CH2		fa95StatusSdiEmbln2Ch2	2	INTEGER	○	○
		CH3		fa95StatusSdiEmbln2Ch3	3	INTEGER	○	○
		CH4		fa95StatusSdiEmbln2Ch4	4	INTEGER	○	○
		CH5	0: Loss	fa95StatusSdiEmbln2Ch5	5	INTEGER	○	○
		CH6	1: PCM	fa95StatusSdiEmbln2Ch6	6	INTEGER	○	○
		CH7	2: Silence	fa95StatusSdiEmbln2Ch7	7	INTEGER	○	○
		CH8	3: Non-PCM	fa95StatusSdiEmbln2Ch8	8	INTEGER	○	○
		CH9	4: PCM(Async)	fa95StatusSdiEmbln2Ch9	9	INTEGER	○	○
		CH10	5: Silence(Async)	fa95StatusSdiEmbln2Ch10	10	INTEGER	○	○
		CH11	6: Non-PCM(Async)	fa95StatusSdiEmbln2Ch11	11	INTEGER	○	○
		CH12	7: Unknown	fa95StatusSdiEmbln2Ch12	12	INTEGER	○	○
		CH13		fa95StatusSdiEmbln2Ch13	13	INTEGER	○	○
		CH14		fa95StatusSdiEmbln2Ch14	14	INTEGER	○	○
		CH15		fa95StatusSdiEmbln2Ch15	15	INTEGER	○	○
		CH16		fa95StatusSdiEmbln2Ch16	16	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.301.5.3.3.(AES input audio signal status)								
AUDIO INPUT	AES IN AUDIO	CH1	0: Loss	fa95StatusAesInCh1	1	INTEGER	○	○
		CH2	1: PCM 48kHz	fa95StatusAesInCh2	2	INTEGER	○	○
		CH3	2: PCM 44.1kHz	fa95StatusAesInCh3	3	INTEGER	○	○
		CH4	3: PCM 32kHz	fa95StatusAesInCh4	4	INTEGER	○	○
		CH5	4: PCM Other	fa95StatusAesInCh5	5	INTEGER	○	○
		CH6	5: Silence 48kHz	fa95StatusAesInCh6	6	INTEGER	○	○
		CH7	6: Silence 44.1kHz	fa95StatusAesInCh7	7	INTEGER	○	○
		CH8	7: Silence 32kHz	fa95StatusAesInCh8	8	INTEGER	○	○
		CH8	8: Silence Other					
		CH8	9: Non-PCM					
CH8	10: Unknown							
CH8	11: Output Setting							
OID: 1.3.6.1.4.1.20175.1.301.5.3.4.(ANALOG input audio signal status)								
AUDIO INPUT	ANALOG IN AUDIO	CH1		fa95StatusAnalogInCh1	1	INTEGER	○	○
		CH2	0: Loss	fa95StatusAnalogInCh2	2	INTEGER	○	○
		CH3	1: IN	fa95StatusAnalogInCh3	3	INTEGER	○	○
		CH4		fa95StatusAnalogInCh4	4	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.301.5.3.11.(Audio source signal status)								
SOURCE AUDIO	SOURCE AUDIO	CH1	0: Loss	fa95StatusAudioSourceCh1	1	INTEGER	○	○
		CH2	1: PCM	fa95StatusAudioSourceCh2	2	INTEGER	○	○
		CH3	2: PCM 48kHz	fa95StatusAudioSourceCh3	3	INTEGER	○	○
		CH4	3: PCM 44.1kHz	fa95StatusAudioSourceCh4	4	INTEGER	○	○
		CH5	4: PCM 32kHz	fa95StatusAudioSourceCh5	5	INTEGER	○	○
		CH6	5: PCM Other	fa95StatusAudioSourceCh6	6	INTEGER	○	○
		CH7	6: Silence	fa95StatusAudioSourceCh7	7	INTEGER	○	○
		CH8	7: Silence 48kHz	fa95StatusAudioSourceCh8	8	INTEGER	○	○
		CH9	8: Silence 44.1kHz	fa95StatusAudioSourceCh9	9	INTEGER	○	○
		CH10	9: Silence 32kHz	fa95StatusAudioSourceCh10	10	INTEGER	○	○
		CH11	10: Silence Other	fa95StatusAudioSourceCh11	11	INTEGER	○	○
		CH12	11: Non-PCM	fa95StatusAudioSourceCh12	12	INTEGER	○	○
		CH13	12: PCM(Async)	fa95StatusAudioSourceCh13	13	INTEGER	○	○
		CH14	13: Silence(Async)	fa95StatusAudioSourceCh14	14	INTEGER	○	○
		CH15	14: Non-PCM(Async)	fa95StatusAudioSourceCh15	15	INTEGER	○	○
		CH16	15: IN (Analog)	fa95StatusAudioSourceCh16	16	INTEGER	○	○
CH16	16: Unkn	fa95StatusAudioSourceCh16	16	INTEGER	○	○		
OID: 1.3.6.1.4.1.20175.1.301.5.3.21.(SDI1/2 output audio signal status)								
AUDIO OUTPUT	SDI1/2 OUT AUDIO	CH1		fa95StatusSdiEmbOut1-2Ch1	1	INTEGER	○	○
		CH2		fa95StatusSdiEmbOut1-2Ch2	2	INTEGER	○	○
		CH3		fa95StatusSdiEmbOut1-2Ch3	3	INTEGER	○	○
		CH4		fa95StatusSdiEmbOut1-2Ch4	4	INTEGER	○	○
		CH5	0: Loss	fa95StatusSdiEmbOut1-2Ch5	5	INTEGER	○	○
		CH6	1: PCM	fa95StatusSdiEmbOut1-2Ch6	6	INTEGER	○	○
		CH7	2: Silence	fa95StatusSdiEmbOut1-2Ch7	7	INTEGER	○	○
		CH8	3: Non-PCM	fa95StatusSdiEmbOut1-2Ch8	8	INTEGER	○	○
		CH9	4: PCM(Async)	fa95StatusSdiEmbOut1-2Ch9	9	INTEGER	○	○
		CH10	5: Silence(Async)	fa95StatusSdiEmbOut1-2Ch10	10	INTEGER	○	○
		CH11	6: Non-PCM(Async)	fa95StatusSdiEmbOut1-2Ch11	11	INTEGER	○	○
		CH12	7: Unknown	fa95StatusSdiEmbOut1-2Ch12	12	INTEGER	○	○
		CH13	8: BY-PASS	fa95StatusSdiEmbOut1-2Ch13	13	INTEGER	○	○
		CH14	9: Blank	fa95StatusSdiEmbOut1-2Ch14	14	INTEGER	○	○
		CH15		fa95StatusSdiEmbOut1-2Ch15	15	INTEGER	○	○
		CH16		fa95StatusSdiEmbOut1-2Ch16	16	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.301.5.3.22.(SDI3/4 output audio signal status)								
AUDIO OUTPUT	SDI3/4 OUT AUDIO	CH1		fa95StatusSdiEmbOut3-4Ch1	1	INTEGER	○	○
		CH2		fa95StatusSdiEmbOut3-4Ch2	2	INTEGER	○	○
		CH3		fa95StatusSdiEmbOut3-4Ch3	3	INTEGER	○	○
		CH4		fa95StatusSdiEmbOut3-4Ch4	4	INTEGER	○	○
		CH5	0: Loss	fa95StatusSdiEmbOut3-4Ch5	5	INTEGER	○	○
		CH6	1: PCM	fa95StatusSdiEmbOut3-4Ch6	6	INTEGER	○	○
		CH7	2: Silence	fa95StatusSdiEmbOut3-4Ch7	7	INTEGER	○	○
		CH8	3: Non-PCM	fa95StatusSdiEmbOut3-4Ch8	8	INTEGER	○	○
		CH9	4: PCM(Async)	fa95StatusSdiEmbOut3-4Ch9	9	INTEGER	○	○
		CH10	5: Silence(Async)	fa95StatusSdiEmbOut3-4Ch10	10	INTEGER	○	○
		CH11	6: Non-PCM(Async)	fa95StatusSdiEmbOut3-4Ch11	11	INTEGER	○	○
		CH12	7: Unknown	fa95StatusSdiEmbOut3-4Ch12	12	INTEGER	○	○
		CH13	8: BY-PASS	fa95StatusSdiEmbOut3-4Ch13	13	INTEGER	○	○
		CH14	9: Blank	fa95StatusSdiEmbOut3-4Ch14	14	INTEGER	○	○
		CH15		fa95StatusSdiEmbOut3-4Ch15	15	INTEGER	○	○
		CH16		fa95StatusSdiEmbOut3-4Ch16	16	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.301.5.3.23.(AES output audio signal status)								
AUDIO OUTPUT	AES OUT AUDIO	CH1	0: Loss	fa95StatusAesOutCh1	1	INTEGER	○	○
		CH2	1: PCM	fa95StatusAesOutCh2	2	INTEGER	○	○
		CH3	2: silence	fa95StatusAesOutCh3	3	INTEGER	○	○
		CH4	3: Non-PCM	fa95StatusAesOutCh4	4	INTEGER	○	○
		CH5	4: PCM(Async)	fa95StatusAesOutCh5	5	INTEGER	○	○
		CH6	5: Silence(Async)	fa95StatusAesOutCh6	6	INTEGER	○	○
		CH7	6: Non-PCM(Async)	fa95StatusAesOutCh7	7	INTEGER	○	○
		CH8	7: Unknown / 8: Input Setting	fa95StatusAesOutCh8	8	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.301.5.3.24.(Analog output audio signal status)								
AUDIO OUTPUT	ANALOG Out AUDIO	CH1		fa95StatusAnalogOutCh1	1	INTEGER	○	○
		CH2	0: Silence	fa95StatusAnalogOutCh2	2	INTEGER	○	○
		CH3	1: Out	fa95StatusAnalogOutCh3	3	INTEGER	○	○
		CH4		fa95StatusAnalogOutCh4	4	INTEGER	○	○
OID: 1.3.6.1.4.1.20175.1.301..5.3.50.(Option A loudness status)								
Loudness Option A	LOUD MEASURE 1A	Momentary IN	-99.9 to 0	fa952StatusLoudness1InMomentary	1	INTEGER	-	○
		Short Term IN	-99.9 to 0	fa952StatusLoudness1InShort	2	INTEGER	-	○
		Long Term IN	-99.9 to 0	fa952StatusLoudness1InLong	3	INTEGER	-	○
		Momentary OUT	-99.9 to 0	fa952StatusLoudness1OutMomentary	4	INTEGER	-	○
		Short Term OUT	-99.9 to 0	fa952StatusLoudness1OutShort	5	INTEGER	-	○
		Long Term OUT	-99.9 to 0	fa952StatusLoudness1OutLong	6	INTEGER	-	○
		Session Time	Elapsed time	fa952StatusLoudness1SessionTime	7	INTEGER	-	○

Object group	Front TITLE	Item name	Settings	Object name in MIB file	OID	Type	Read (Get)	Write (Set)
Loudness Option A	LOUD MEASURE 2A	Momentary IN	-99.9 to 0	fa952StatusLoudness2InMomentary	11	INTEGER	-	○
		Short Term IN	-99.9 to 0	fa952StatusLoudness2InShort	12	INTEGER	-	○
		Long Term IN	-99.9 to 0	fa952StatusLoudness2InLong	13	INTEGER	-	○
	LOUD MEASURE 2A	Momentary OUT	-99.9 to 0	fa952StatusLoudness2OutMomentary	14	INTEGER	-	○
		Short Term OUT	-99.9 to 0	fa952StatusLoudness2OutShort	15	INTEGER	-	○
		Long Term OUT	-99.9 to 0	fa952StatusLoudness2OutLong	16	INTEGER	-	○
		Session Time	Elapsed time	fa952StatusLoudness2SessionTime	17	INTEGER	-	○
OID: 1.3.6.1.4.1.20175.1.307..5.3.51 (Option B loudness status)								
Loudness Option B	LOUD MEASURE 1A	Momentary IN	-99.9 to 0	fa952StatusLoudness1InMomentary	1	INTEGER	-	○
		Short Term IN	-99.9 to 0	fa952StatusLoudness1InShort	2	INTEGER	-	○
		Long Term IN	-99.9 to 0	fa952StatusLoudness1InLong	3	INTEGER	-	○
			99.9 to 0	fa952StatusLoudness1OutMomentary	4	INTEGER	-	○
		Short Term OUT	-99.9 to 0	fa952StatusLoudness1OutShort	5	INTEGER	-	○
		Long Term OUT	-99.9 to 0	fa952StatusLoudness1OutLong	6	INTEGER	-	○
		Session Time	Elapsed time	fa952StatusLoudness1SessionTime	7	INTEGER	-	○
	LOUD MEASURE 2A	Momentary IN	-99.9 to 0	fa952StatusLoudness2InMomentary	11	INTEGER	-	○
		Short Term IN	-99.9 to 0	fa952StatusLoudness2InShort	12	INTEGER	-	○
		Long Term IN	-99.9 to 0	fa952StatusLoudness2InLong	13	INTEGER	-	○
		Momentary OUT	-99.9 to 0	fa952StatusLoudness2OutMomentary	14	INTEGER	-	○
		Short Term OUT	-99.9 to 0	fa952StatusLoudness2OutShort	15	INTEGER	-	○
		Long Term OUT	-99.9 to 0	fa952StatusLoudness2OutLong	16	INTEGER	-	○
	Session Time	Elapsed time	fa952StatusLoudness2SessionTime	17	INTEGER	-	○	
OID: 1.3.6.1.4.1.20175.1.301.5.3.100 (Dolby option AUX input/output signal status)								
Dolby Option	Dolby AUX STATUS	AUX Input	0: Loss 1: PCM 2: Non PCM 3: Unknown	fa95StatusDolbyAuxIn	1	INTEGER	○	
		AUX Output	0: PCM 1: Non PCM 3: None	fa95StatusDolbyAuxOut	2	INTEGER	○	
Dolby オプション系	Dolby AUX STATUS	Reference Input	00: Loss	fa95StatusDolbyRefIn	3	INTEGER	○	
			01: 525/60i					
			02: 625/50i					
			03: 1080/60i					
			04: 1080/59i					
			05: 1080/50i					
			06: 1080/30PsF					
			07: 1080/29.97PsF					
			08: 1080/25PsF					
			09: 1080/24PsF					
			10: 1080/23.98PsF					
			11: 1080/60p					
			12: 1080/59p					
			13: 1080/50p					
			14: 1080/30p					
			15: 1080/29.97p					
			16: 1080/25p					
			17: 1080/24p					
			18: 1080/23.98p					
			19: 720/60p					
			20: 720/59.94p					
			21: 720/50p					
			22: 720/30p					
			23: 720/29.97p					
			24: 720/25p					
			25: 720/24p					
			26: 720/23.98p					
			27: 1035/60i					
			28: 1035/59.94i					
			29: Unknown					

◆ TRAP List

Traps can be sent or not be sent by settings. See section 9-8-4 “TRAP SETTINGS” for details.

Object	Settings	Object name in MIB file	OID	Type	Trap Event(value)
OID:1.3.6.1.4.1.20175.1.301.6.1.(UNIT TRAP)					
FAN1	0:Normal 1:Stoppend	fa95Fan1ChangedTrap	1	NOTIFICATION TYPE	Change
FAN2	0: Normal 1: Stoppend	fa95Fan2ChangedTrap	2	NOTIFICATION TYPE	Change
Power1	0: Normal 1: Abnormal	fa95Power1ChangedTrap	11	NOTIFICATION TYPE	Change
Power2	-1: Not Install 0: Normal 1: Abnormal	fa95Power2ChangedTrap	12	NOTIFICATION TYPE	Change
OID:1.3.6.1.4.1.20175.1.301.6.2.(VIDEO TRAP)					
SDI 1 IN	00: Loss 01: 525/60i 02: 625/50i 04: 1080/59i 05: 1080/50i 09: 1080/24PsF 10: 1080/23.98PsF 12: 1080/59p 13: 1080/50p 20: 720/59p 21: 720/50p 29: Unknown 30: BY-PASS	fa95InSDI1ChangeTrap	1	NOTIFICATION TYPE	Change
SDI 2 IN	Ditto	fa95InSDI2ChangeTrap	2	NOTIFICATION TYPE	Change
Composite IN	0 : LOSS 1 : 525/60 2 : 625/50 29: Unknown 30: BY-PASS	fa95InCompositeChangeTrap	3	NOTIFICATION TYPE	Change
Ref Status	00: Loss 01: 525/60i 02: 625/50i 03: 1080/60i 04: 1080/59i 05: 1080/50i 06: 1080/30PsF 07: 1080/29.97PsF 08: 1080/25PsF 09: 1080/24PsF 10: 1080/23.98PsF 11: 1080/60p 12: 1080/59p 13: 1080/50p 14: 1080/30p 15: 1080/29.97p 16: 1080/25p 17: 1080/24p 18: 1080/23.98p 19: 720/60p 20: 720/59.94p 21: 720/50p 22: 720/30p 23: 720/29.97p 24: 720/25p 25: 720/24p 26: 720/23.98p 27: 1035/60i 28: 1035/59.94i 29: Unknown	fa95InRefChangeTrap	11	NOTIFICATION TYPE	Change
SDI OUT 1/2	00: Loss 01: 525/60i 02: 625/50i 04: 1080/59i 05: 1080/50i 09: 1080/24PsF 10: 1080/23.98PsF 12: 1080/59p 13: 1080/50p 20: 720/59p 21: 720/50p 27: Unknown	fa95OutSDI1-2ChangeTrap	21	NOTIFICATION TYPE	Change
SDI OUT 3/4	Ditto	fa95OutSDI3-4ChangeTrap	22	NOTIFICATION TYPE	Change
Composite OUT	0 : LOSS 1 : 525/60 2 : 625/50 30: BY-PASS	fa95OutCompositeChangeTrap	23	NOTIFICATION TYPE	Change
OID:1.3.6.1.4.1.20175.1.301.6.3.(AUDIO TRAP)					
SOURCE CH1	0: Loss 1: PCM 2: PCM 48kHz 3: PCM 44.1kHz 4: PCM 32kHz 5: PCM Other 6: Silence 7: Silence 48kHz 8: Silence 44.1kHz 9: Silence 32kHz 10: Silence Other 11: Non-PCM 12: PCM(Async) 13: Silence(Async) 14: Non-PCM(Async) 15: IN 16: Unknown	fa95AudioSourceCh1StatusChangeTrap	1	NOTIFICATION TYPE	Change
SOURCE CH2		fa95AudioSourceCh2StatusChangeTrap	2	NOTIFICATION TYPE	Change
SOURCE CH3		fa95AudioSourceCh3StatusChangeTrap	3	NOTIFICATION TYPE	Change
SOURCE CH4		fa95AudioSourceCh4StatusChangeTrap	4	NOTIFICATION TYPE	Change
SOURCE CH5		fa95AudioSourceCh5StatusChangeTrap	5	NOTIFICATION TYPE	Change
SOURCE CH6		fa95AudioSourceCh6StatusChangeTrap	6	NOTIFICATION TYPE	Change
SOURCE CH7		fa95AudioSourceCh7StatusChangeTrap	7	NOTIFICATION TYPE	Change
SOURCE CH8		fa95AudioSourceCh8StatusChangeTrap	8	NOTIFICATION TYPE	Change
SOURCE CH9		fa95AudioSourceCh9StatusChangeTrap	9	NOTIFICATION TYPE	Change
SOURCE CH10		fa95AudioSourceCh10StatusChangeTrap	10	NOTIFICATION TYPE	Change

SOURCE CH11	0: Loss 1: PCM	fa95AudioSourceCh11StatusChangeTrap	11	NOTIFICATION TYPE	Change
SOURCE CH12	2: PCM 48kHz 3: PCM 44.1kHz 4: PCM 32kHz		12	NOTIFICATION TYPE	Change
SOURCE CH13	5: PCM Other 6: Silence 7: Silence 48kHz		13	NOTIFICATION TYPE	Change
SOURCE CH14	8: Silence 44.1kHz 9: Silence 32kHz 10: Silence Other		14	NOTIFICATION TYPE	Change
SOURCE CH15	11: Non-PCM 12: PCM(Async)		15	NOTIFICATION TYPE	Change
SOURCE CH16	13: Silence(Async) 14: Non-PCM(Async) 15: IN 16: Unknown		16	NOTIFICATION TYPE	Change
OID: 1.3.6.1.4.1.20175.1.301.6.4 (FA-95CO Traps)					
Change Over	0: SDI 1	fa95ChangeoverOccurredTrap	1	NOTIFICATION TYPE	Changeover trigger
	1: SDI 2				
	2: Composite				
	bit 0: sdiError				
	bit 1: formatError				
	bit 2: crcError				
	bit 3: blackVideo				
	bit 4: audioLoss				
bit 5: audioError					
bit 6: silence					
OID: 1.3.6.1.4.1.20175.1.301.6.5 (FA-95D-D/DE-E TRAP)					
AUX IN	0: Loss 1: PCM 2: Non PCM 3: Unknown	fa95DolbyAuxInputChangedTrap	1	NOTIFICATION TYPE	Change
REF IN	00: Loss 01: 525/60i 02: 625/50i 03: 1080/60i 04: 1080/59i 05: 1080/50i 06: 1080/30PsF 07: 1080/29.97PsF 08: 1080/25PsF 09: 1080/24PsF 10: 1080/23.98PsF 11: 1080/60p 12: 1080/59p 13: 1080/50p 14: 1080/30p 15: 1080/29.97p 16: 1080/25p 17: 1080/24p 18: 1080/23.98p 19: 720/60p 20: 720/59.94p 21: 720/50p 22: 720/30p 23: 720/29.97p 24: 720/25p 25: 720/24p 26: 720/23.98p 27: 1035/60i 28: 1035/59.94i 29: Unknown	fa95DolbyRefInInputChangedTrap	2	NOTIFICATION TYPE	Change
OID: 1.3.6.1.4.1.20175.1.301.6.6 (FA-95AIO TRAP)					
FA-95AIO IN	(Same as SDI1 IN)	fa95AioInputFormatChangedTrap	1	NOTIFICATION TYPE	Change
FA-95AIO OUT	(Same as SDI OUT1/2)	fa95AioOutputFormatChangedTrap	2	NOTIFICATION TYPE	Change

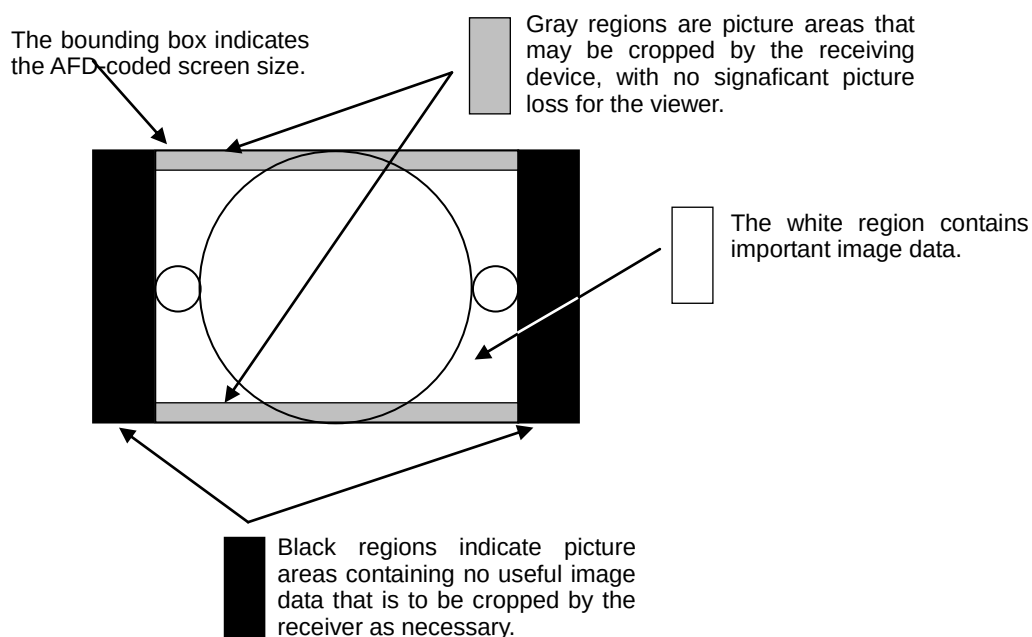
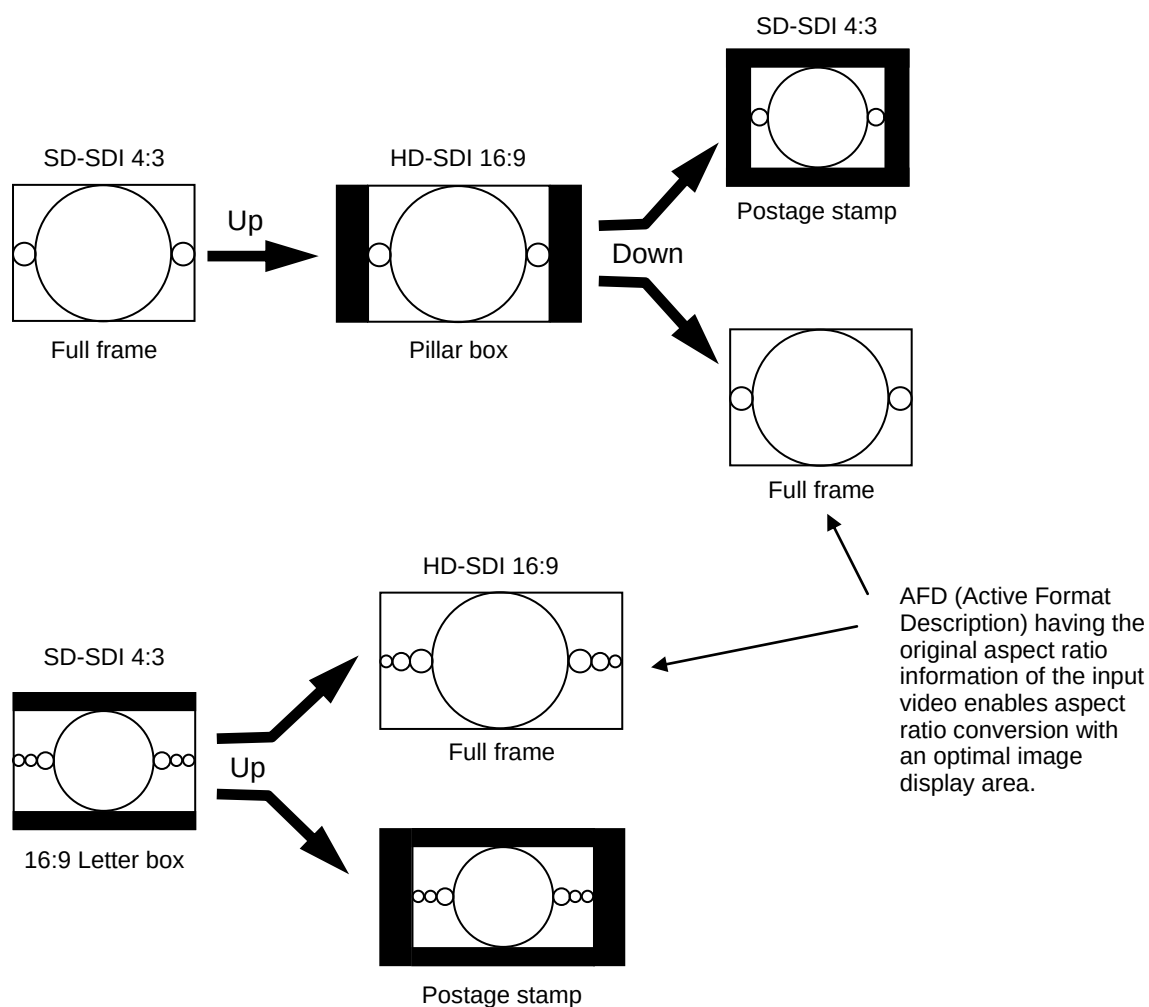
19. FA-9500 Ancillary Data Packet Name List

FA-9500 Indication	DID/SDID (hexadecimal)	Description
S353MMPEG(V)	08/08	MPEG recoding data, VANC space (Picture rate information)
S353M MPEG(H)	08/0C	MPEG recoding data, HANC space (Other part of recording data set)
S305M SD-SDTI	40/01	ARIB STD-B17 Serial Data Transport Interface for Television
S305M HD-SDTI	40/02	ITU-R BT.1557, SMPTE 348M for HD-SDTI
S427 Lk Enc 1	40/04	SMPTE 427 Link Encryption Message 1
S427 Lk Enc 2	40/05	SMPTE 427 Link Encryption Message 2
S427 Lk Meta	40/06	SMPTE 427 Link Encryption Metadata
S352M VPID	41/01	BTA S-004C Video Payload Identification for Digital Interfaces
S2016-3 AFD-Bar	41/05	SMPTE 2016-3 AFD and Bar Data
S2016-4 PanScan	41/06	SMPTE 2016-3 Pan-Scan Data
RP2010 SCTE 104	41/07	SMPTE 2010 ANSI/SCTE 104 messages
S2031 SCTE VBI	41/08	SMPTE 2010 DVB/SCTE VBI data
ITU-R BT.1685	43/01	ITU-R BT.1685 Inter-station control data packets
RDD8 OP47(SDP)	43/02	SMPTE RDD 8 Subtitling Distribution packet(SDP)
RDD8 OP47(Mult)	43/03	SMPTE RDD 8 Transport of ANC packet in an ANC Multipacket
S346M	43/13	Time Division Multiplexing Video Signals and Generic Data over HD-SDI
RP214 KLV(V)	44/04	SMPTE RP 214 KLV Metadata transport in VANC space
RP214 KLV(H)	44/14	SMPTE RP 214 KLV Metadata transport in HANC space
RP223 UMID	44/44	SMPTE RP 223 Packing UMID and Program Identification Label Data into SMPTE 291M Ancillary Data Packets
S2020 Aud	45/01	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr1/2	45/02	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr3/4	45/03	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr5/6	45/04	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr7/8	45/05	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr9/10	45/06	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr11/12	45/07	SMPTE 2020-1 Compressed Audio Metadata
S2020AudPr13/14	45/08	SMPTE 2020-1 Compressed Audio Metadata
S2020 AudP15/16	45/09	SMPTE 2020-1 Compressed Audio Metadata
RP215 Film Xfer	51/01	RP215 Film Codes in VANC space
ARIB TRB.18	5F/CF	Color information packets standardized in ARIB TR-B18 "Color Frame Information for Component Interface of 525/60 Television System"
ARIB B.37	1D0 · · 2DB	Closed caption data packets (for expansion) standardized in ARIB STD-B37 "Structure and Operation of Closed Caption Data Conveyed by Ancillary Data Packets"
ARIB B.37 Mob	5F/DC	Caption format used in digital television broadcasting for mobile receivers standardized in ARIB STD-B37 "Structure and Operation of Closed Caption Data Conveyed by Ancillary Data Packets"
ARIB B.37 Ana	5F/DD	Analog signal closed caption data packets standardized in ARIB STD-B37 "Structure and Operation of Closed Caption Data Conveyed by Ancillary Data Packets"
ARIB B.37 SD	5F/DE	SD signal closed caption data packets standardized in ARIB STD-B37 "Structure and Operation of Closed Caption Data Conveyed by Ancillary Data Packets"
ARIB B.37 HD	5F/DF	HD signal closed caption data packets standardized in ARIB STD-B37 "Structure and Operation of Closed Caption Data Conveyed by Ancillary Data Packets"
ARIB TR-B.22	5F/E0	HD ancillary data packet for transmission standardized in ARIB TR-B22 "Operational Guidelines for Transport of the Ancillary Data for HDTV Contribution"
ARIB TRB23(1)	5F/FA	Dummy packet standardized in ARIB TR-B23 "Operational Guidelines for Ancillary Data in Inter-Stationary Information Exchange"
ARIB TRB23(2)	5F/FB	User data 2 in user data packets standardized in ARIB TR-B23 "Operational Guidelines for Ancillary Data in Inter-Stationary Information Exchange"

FA-9500 Indication	DID/SDID (hexadecimal)	Description
ARIB TRB23(1)	5F/FC	User data 1 in user data packets standardized in ARIB TR-B23 "Operational Guidelines for Ancillary Data in Inter-Stationary Information Exchange"
ARIBB.35ProgEx	5F/FD	Trigger signal packets for data broadcasting standardized in ARIB STD-B35 "SD Data Program Exchange Specification for Digital Broadcasting"
ARIB B.39	5F/FE	Control signal packets for inter-studio transmission standardized in ARIB STD-B39 "Structure of Inter-Stationary Control Data Conveyed by Ancillary Data Packets"
ARIB B.15	5F/FF	Resource ID packets standardized in ARIB STD-B15 "Resource Identification Conveyed by Ancillary Data Packets for 52/60 and 1125/60 Television Systems"
SMPTE 12-2	60/60	ARIB STD-B41 for time code
S334-1CDP(708)	61/01	ITU-R BT.1619, SMPTE 334-1 closed captioning (EIA-708-B)
S334-1 CEA608	61/02	ITU-R BT.1619, SMPTE 334-1 EIA-608 data
S334-1 Teletxt	61/03	World System Teletext Description Packet
S334 SDE	61/04	Subtitling Data Essence (SDE)
334/207	62/01	ITU-R BT.1619, SMPTE RP207 DTV program description
S334-1 Future	62/02	ITU-R BT.1619, SMPTE 334-1 DTV data broadcasting
S334/RP208	62/03	ITU-R BT.1619, SMPTE RP208 VBI data
RP196/LTC	64/64	Time code
RP196/VITC	64/7F	Time code
RP165EDH	1F4	SMPTE error detection indication

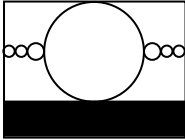
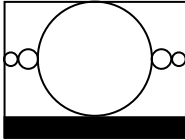
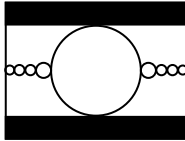
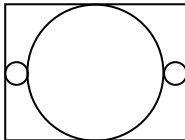
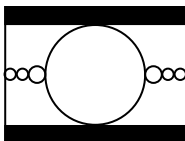
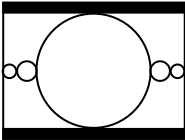
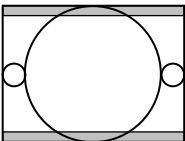
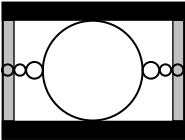
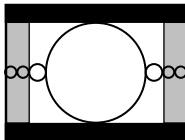
20. About AFD (Active Format Description)

The FA-9500 can provide aspect ratio conversion according to S2016-3, RP186 VI (Video Index), or BT1119-2 WSS (Wide Screen Signalling) AFD code data in the ancillary data of input video signals. The below figure depicts example aspect ratio conversions using AFD code data.

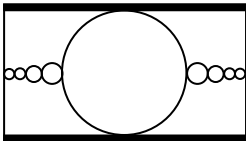
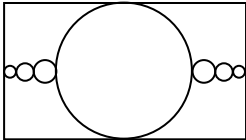
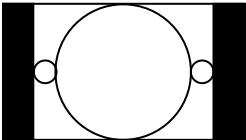
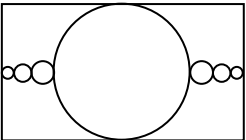
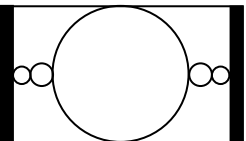
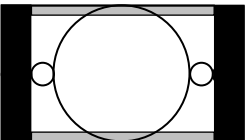
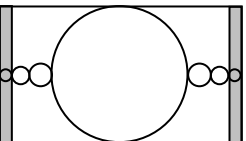
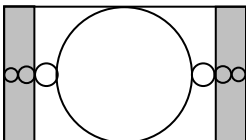


20-1. AFD Codes

◆ AFD 4:3 code

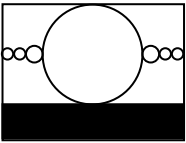
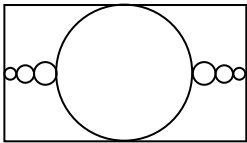
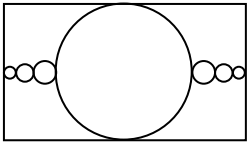
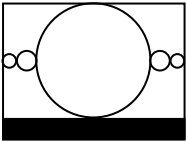
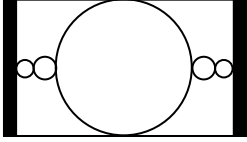
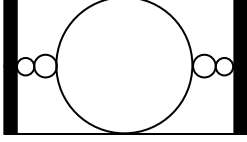
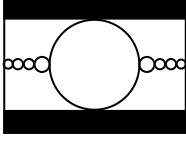
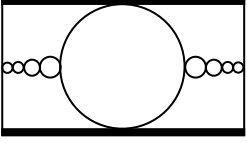
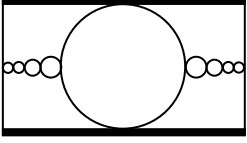
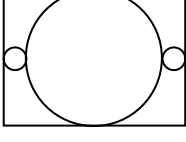
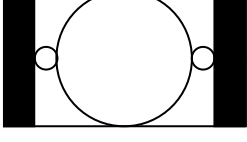
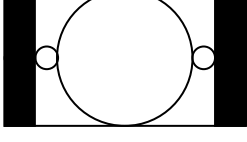
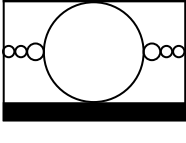
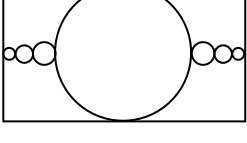
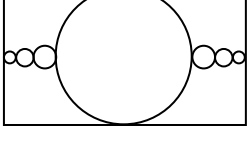
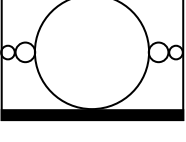
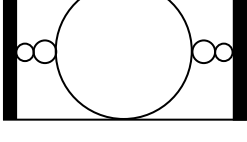
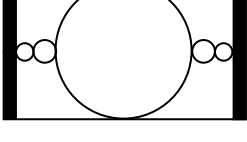
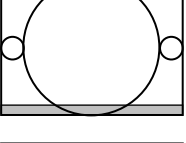
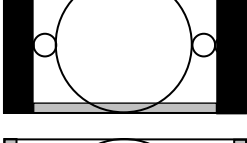
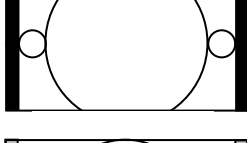
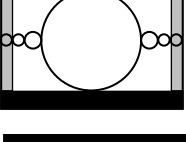
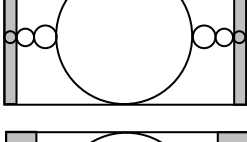
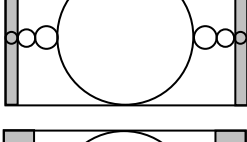
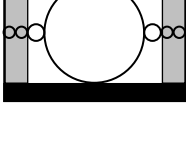
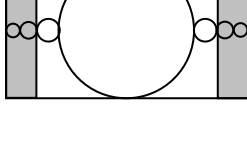
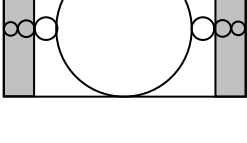
WSS name	FA-9500-specified name (VI, S2016)	illustration in a 4:3 coded frame	Description
BOX 16:9 TOP	4:3 L 16:9 T		Image with a 16:9 aspect ratio as a letterbox on top of a 4:3 coded frame.
BOX 14:9 TOP	4:3 L 14:9 T		Image with a 14:9 aspect ratio as a letterbox on top of a 4:3 coded frame.
BOX 16:9 CTR	4:3 L > 16:9		Image with an aspect ratio greater than 16:9 as a vertically centered letterbox in a 4:3 coded frame.
F 4:3	4:3 F 4:3		Image is full frame, with an aspect ratio the same as that of the 4:3 coded frame.
BOX 16:9 CTR	4:3L16:9PRTD		Image with a 16:9 aspect ratio as a vertically centered letterbox in a 4:3 coded frame.
BOX 14:9 CTR	4:3 L 14:9		Image with a 14:9 aspect ratio as a vertically centered letterbox in a 4:3 coded frame.
F 14:9 CTR PRTD	4:3 F ALT14:9		Image with a 4:3 aspect ratio and with an alternative 14:9 center in a 4:3 coded frame.
None	4:3 L ALT 14:9		Image with a 16:9 aspect ratio and alternative 14:9 center as a vertically centered letterbox in a 4:3 coded frame.
None	4:3 L ALT 4:3		Image with a 16:9 aspect ratio and alternative 4:3 center as a vertically centered letterbox in a 4:3 coded frame.

◆ **AFD 16:9 code**

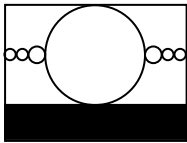
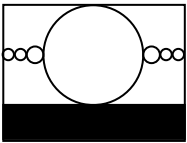
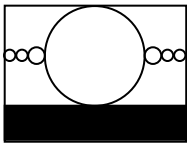
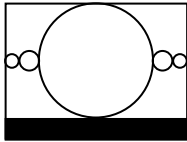
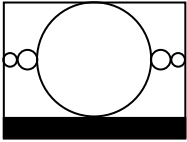
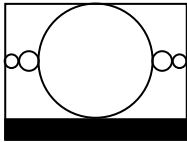
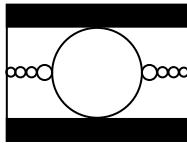
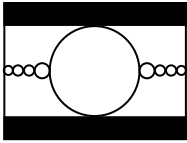
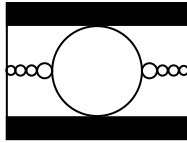
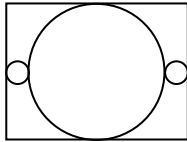
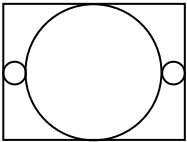
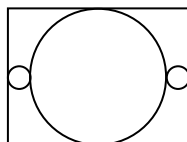
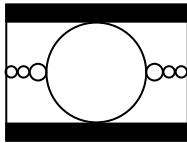
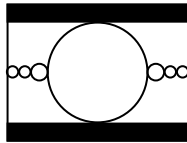
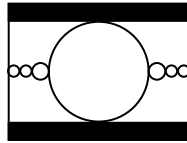
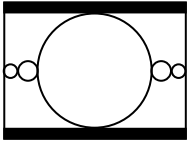
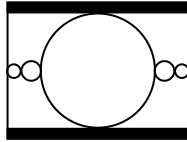
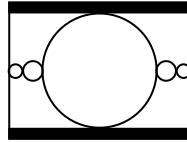
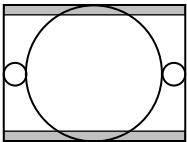
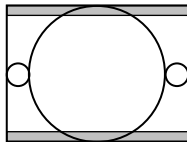
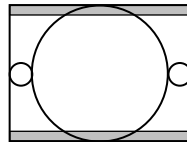
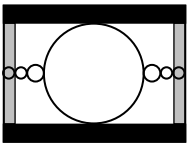
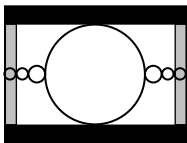
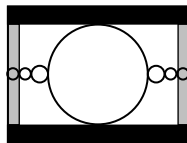
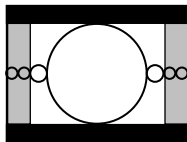
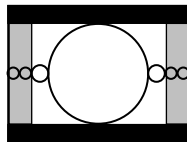
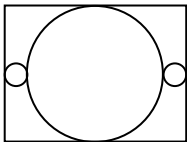
WSS name	FA-9500-specified name (VI, S2016)	Illustration in a 16:9 coded frame	Description
None	16:9 L>16:9		Image with an aspect ratio greater than 16:9 as a vertically centered letterbox in a 16:9 coded frame.
F 16:9 AMRPH	16:9 F 16:9		Image is full frame, with an aspect ratio the same as that of the 16:9 coded frame.
None	16:9 P 4:3		Image with a 4:3 aspect ratio as a horizontally centered pillarbox image in a 16:9 coded frame.
None	16:9 F PRTD		Image is full frame, with a 16:9 aspect ratio and all image areas protected.
None	16:9 P 14:9		Image with a 14:9 aspect ratio as a horizontally centered pillarbox image in a 16:9 coded frame.
None	16:9PALT14:9		Image with a 4:3 aspect ratio and alternative 14:9 centered pillarbox image in a 16:9 coded frame.
None	16:9FALT14:9		Image with a 16:9 aspect ratio and alternative 14:9 center in a 16:9 coded frame.
None	16:9 F ALT4:3		Image with a 16:9 aspect ratio and alternative 4:3 center in a 16:9 coded frame.

20-2. Aspect Ratio Conversion with AFD

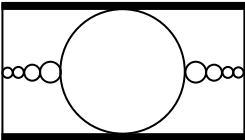
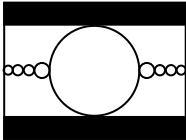
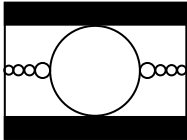
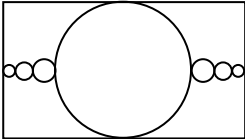
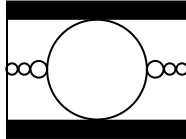
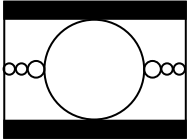
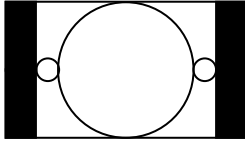
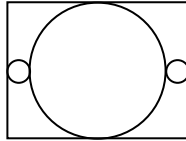
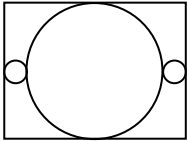
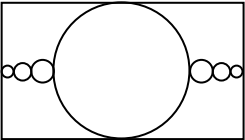
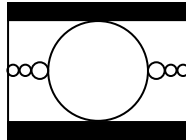
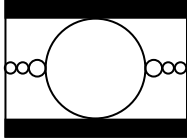
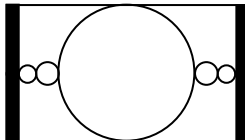
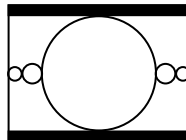
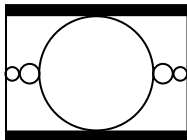
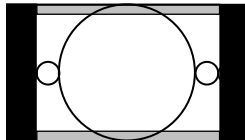
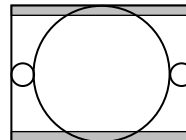
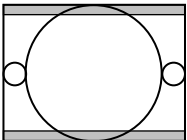
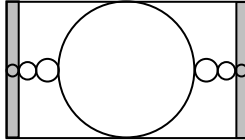
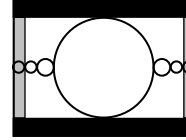
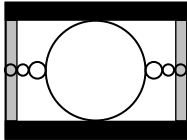
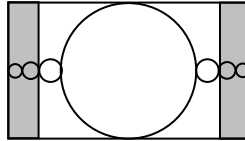
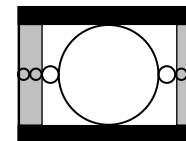
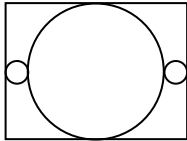
◆ 4:3 to 16:9 conversion

Input AFD (WSS)	Input AFD (VI, S2016)	Illustration in a 4:3 coded frame	SD: AFD (16:9) conv. HD: AFD conversion	SD: AFD-ALT(16:9) conv. HD: AFD-ALT conversion
BOX 16:9 TOP	4:3 L 16:9 T			
BOX 14:9 TOP	4:3 L 14:9 T			
BOX 16:9 CTR	4:3 L > 16:9			
F 4:3	4:3 F 4:3			
BOX 16:9 CTR	4:3 L 16:9 PRTD			
BOX 14:9 CTR	4:3 L 14:9			
F 14:9 CTR PRTD	4:3 F ALT 14:9			
None	4:3 L ALT 14:9			
None	4:3 L ALT 4:3			

◆ 4:3 to 4:3 conversion

Input AFD (WSS)	Input AFD (VI, S2016)	Illustration in a 4:3 coded frame	AFD (4:3) conversion	AFD-ALT (4:3) conversion
BOX 16:9 TOP	4:3 L 16:9 T			
BOX 14:9 TOP	4:3 L 14:9 T			
BOX 16:9 CTR	4:3 L> 16:9			
F 4:3	4:3 F 4:3			
BOX 16:9 CTR	4:3L16:9PRTD			
BOX 14:9 CTR	4:3 L 14:9			
F 14:9 CTR PRTD	4:3 F ALT14:9			
None	4:3 L ALT 14:9			
None	4:3 L ALT 4:3			

◆ 16:9 to 4:3 conversion

Input AFD (WSS)	Input AFD (VI, S2016)	Illustration in a 16:9 coded frame	AFD (4:3) conversion	AFD-ALT (4:3) conversion
None	16:9 L>16:9			
F 16:9 AMRPH	16:9 F 16:9			
None	16:9 P 4:3			
None	16:9 F PRTD			
None	16:9 P 14:9			
None	16:9PALT14:9			
None	16:9FALT14:9			
None	16:9 F ALT4:3			

◆ 16:9 to 16:9 conversion

Input AFD (WSS)	Input AFD (VI, S2016)	Illustration in a 16:9 coded frame	SD: AFD (16:9) conv. HD: AFD conversion	SD: AFD-ALT(16:9) conv. HD: AFD-ALT conversion
None	16:9 L>16:9			
F 16:9 AMRPH	16:9 F 16:9			
None	16:9 P 4:3			
None	16:9 F PRTD			
None	16:9 P 14:9			
None	16:9PALT14:9			
None	16:9FALT14:9			
None	16:9 F ALT4:3			

20-3. AFD Supported Video Formats

FA-9500 supports aspect ratio conversions according to SMPTE S2016-3, SMPTE RP186-2008VI (Video Index), and ITU-R BT1119.2 WSS(Wide-Screen Signalling) standards. AFD formats and their supported video formats are as shown in the table below.

Video Formats and AFD Support

Input video format	S2016-3	RP186-2008 VI	BT1119.2 WSS
525/60	✓	✓	
625/50	✓	✓	✓
1080/59.94i	✓		
1080/50i	✓		
1080/23.98PsF	✓		
1080/24PsF	✓		
720/59.94p	✓		
720/50p	✓		
1080/59.94p	✓		
1080/50p	✓		

20-4. AFD Based Auto Aspect Conversion Settings

◆ AFD system settings

To convert aspect ratios according to AFD codes, set basic operational settings in the VIDEO SYSTEM menus as follows.

- Set ANC MODE to DETAIL in CONV1 ANC SET (Sec. 5-10-9).
- Set ANC MODE to DETAIL also in CONV2 ANC SET (Sec. 5-10-10).
- Specify the line to detect RP186VI or BT1119 WSS in ANC DETELCT LINE (Sec. 5-10-14). The line must be correctly set for RP186VI and BT1119 WSS detection. S2016-3 data is automatically obtained from input signals. AFD data in S2016-3 is automatically obtained from the input HD-SDI signals,.
- Select an AFD type to detect for SD-SDI input signals under AFD in ANC DETECT SEL (Sec. 5-10-15).
- Select the AFD data to insert, and which output to insert the data in ANC DATA EMBED (Sec. 5-10-16). These settings are necessary when inserting AFD data into video signals to be output from CONV1 and/or 2.
- To enable devices that receive signals from FA-9500 to detect ancillary data, select the ancillary data type, output video format/s for CONV1 and/or 2 output/s, and line number into which the data is to be inserted in the ANC EMBED LINE menu (Sec. 5-10-17). The default setting should be set to the line number usually used.
- Select the operation mode when AFD input is lost in ANC LOSS SET (Sec. 5-10-18).

◆ AFD verification

Auto aspect ratio conversion according to AFD data cannot be performed if there is no AFD data present in the input signal. Whether the AFD data is detected can be verified in AFD IN STATUS (Sec. 5-13-16), ANC IN STATUS (Sec. 5-14), and ANC IN STATUS1-2 (Sec. 5-15). P186VI and BT1119 WSS states that appear as **ABSENT** indicate the absence of AFD data that allows for auto conversion. For auto conversions using S2016-3, the data packet must be detected in the ANC IN STATUS1-2 menu. If no AFD data is detected, reset AFD system settings. Also, check if any AFD data is being inserted using a waveform monitor.

◆ **CONV1 and CONV2 operation mode settings**

- Set the AFD auto-conversion mode for CONV 1 in CONV1 U/D MODE (Sec. 5-3-5).
- Set the AFD auto-conversion mode for CONV 2 in CONV1 U/D MODE (Sec. 5-3-5).

◆ **AFD output verification**

AFD data status in CONV1 and CONV2 output video signals can be verified as follows:

- The CONV1 ANC OUT menu (Sec. 5-16) allows you to verify whether and in which line the VI and WSS data has been inserted into CONV1 output video signals.
- VI and WSS output data details can be seen in CONV1 VI OUT (5-16-2), and CONV2 WSS OUT (5-16-3).
- S2016-3 output data details can be seen in CONV1 S2016 OUT (Sec. 5-16-1).
- Into which line S2016-3 is inserted can be seen in CONV1 ANC OUT1 (Sec. 5-17).

AFD data status in CONV2 output video signals can be verified in CONV2 ANC OUT (Sec. 5-18) and CONV2 ANC OUT1 (Sec. 5-19) in the same manner.

20-5. How to Insert AFD Data to Output Video Signals

FA-9500 can insert AFD data into input video signals that have no AFD data inserted.

◆ **AFD system settings**

To insert AFD data into output video signals, set basic operational settings in the VIDEO SYTEM menus as follows.

- Set ANC MODE to DETAIL in CONV1 ANC SET (Sec. 5-10-9).
- Set ANC MODE to DETAIL also in CONV2 ANC SET (Sec. 5-10-10).
- Select the AFD data to insert, and which output to insert the data in ANC DATA EMBED (Sec. 5-10-16). These settings are necessary when inserting AFD data into video signals to be output from CONV1 and/or 2.
- To enable devices that receive signals from FA-9500 to detect ancillary data, select the ancillary data type, output video format/s for CONV1 and/or 2 output/s, and line number into which the data is to be inserted in ANC EMBED LINE (Sec. 5-10-17). The default setting should be set to the line number usually used.

◆ **CONV1 and CONV2 operation mode settings**

- Set the converter operation mode for CONV1 in CONV1 U/D MODE (Sec. 5-3-5).
- Set the specific aspect ratio under ASPECT in CONV1 U/D MODE (Sec. 5-3-5). Select an aspect ratio from among 4:3 L 16:9 T to 16:9F ALT4:3 for SD-SDI output video signals from CONV1. Select from among 16:9 L>16:9 to 16:9F ALT4:3 for HD-SDI output video signals from CONV1.

Set the aspect ratio for CONV2 in the same manner as above in CONV2 U/D MODE (Sec. 5-4-1).

◆ **AFD output verification**

AFD data status in CONV1 and CONV2 output video signals can be verified as follows:

- The CONV1 ANC OUT menu (Sec. 5-16) allows you to verify whether and in which line the VI and WSS data has been inserted into CONV1 output video signals.
- VI and WSS output data details can be seen in CONV1 VI OUT (5-16-2), and CONV2 WSS OUT (5-16-3)..
- S2016-3 output data details can be seen in CONV1 S2016 OUT (Sec. 5-16-1).
- Into which line S2016-3 is inserted can be seen in CONV1 ANC OUT1 (Sec. 5-17).

AFD data status in CONV2 output video signals can be verified in CONV2 ANC OUT (Sec. 5-18) and CONV2 ANC OUT1 (Sec. 5-19) menus in the same manner.

20-6. AFD Code Abbreviations

◆ SMPTE S2016-3 AFD aspect ratio table

In a 4:3 coded frame		In a 16:9 coded frame		AFD Code
UNDEFINED	Undefined	UNDEFINED	Undefined	0000
RESERVED	Reserved	RESERVED	Reserved	0001
4:3 L 16:9 T	Letterbox 16:9 image, at top of the coded frame	16:9 F 16:9	Full frame 16:9 image, the same as the coded frame	0010
4:3 L14:9 T	Letterbox 14:9 image, at top of the coded frame	16:9 P 14:9	Pillarbox 14:9 image, horizontally centered in the coded frame	0011
4:3 L>16:9	Letterbox image with an aspect ratio greater than 16:9, vertically centered in the coded frame	16:9 L>16:9	Letterbox image with an aspect ratio greater than 16:9, vertically centered in the coded frame	0100
RESERVED	Reserved	RESERVED	Reserved	0101
RESERVED	Reserved	RESERVED	Reserved	0110
RESERVED	Reserved	RESERVED	Reserved	0111
4:3 F 4:3	Full frame 4:3 image, the same as the coded frame	16:9 F 16:9	Full frame 16:9 image, the same as the coded frame	1000
4:3 F 4:3	Full frame 4:3 image, the same as the coded frame	16:9 P 4:3	Pillarbox 4:3 image, horizontally centered in the coded frame	1001
4:3 L16:9PRTD	Letterbox 16:9 image, vertically centered in the coded frame with all image areas protected	16:9 F PRTD	Full frame 16:9 image, with all image areas protected	1010
4:3 L 14:9	Letterbox 14:9 image, vertically centered in the coded frame	16:9 P 14:9	Pillarbox 14:9 image, horizontally centered in the coded frame	1011
RESERVED	Reserved	RESERVED	Reserved	1100
4:3 F ALT14:9	Full frame 4:3 image, with alternative 14:9 center	16:9P ALT14:9	Pillarbox 4:3 image, with alternative 14:9 center	1101
4:3 L ALT14:9	Letterbox 16:9 image, with alternative 14:9 center	16:9F ALT14:9	Full frame 16:9 image, with alternative 14:9 center	1110
4:3 L ALT 4:3	Letterbox 16:9 image, with alternative 4:3 center	16:9 F ALT4:3	Full frame 16:9 image, with alternative 4:3 center	1111

◆ **SMPTE RP186-2008 VI AFD aspect ratio table**

Description		AFD Code
RESERVED	Reserved	0000
RESERVED	Reserved	0001
BOX 16:9 TOP	Box 16:9 (top)	0010
BOX 14:9 TOP	Box 14:9 (top)	0011
BOX>16:9 CTR	Box > 16:9 (center)	0100
RESERVED	Reserved	0101
RESERVED	Reserved	0110
RESERVED	Reserved	0111
AS THE CD FRM	Active format is the same as coded frame	1000
4:3 CTR	4:3 (center)	1001
16:9 CTR	16:9 (center)	1010
14:9 CTR	14:9 (center)	1011
RESERVED	Reserved	1100
4:3 WITH 14:9 PRTD	4:3 (with shoot and protect 14:9 center)	1101
16:9 WITH 14:9 PRTD	16:9 (with shoot and protect 14:9 center)	1110
16:9 WITH 4:3 PRTD	16:9 (with shoot and protect 4:3 center)	1111

◆ **ITU-R BT.1119-2 WSS aspect ratio table**

Description		AFD Code
F 4:3	full format 4:3	1000
BOX 14:9 CTR	box 14:9 centre	0001
BOX 14:9 TOP	box 14:9 top	0010
BOX 16:9 CTR	box 16:9 centre	1011
BOX 16:9 TOP	box 16:9 top	0100
BOX>16:9 CTR	box > 16:9 centre	1101
F 14:9 CTR PRTD	full format 14:9 centre shoot and protect 14:9	1110
F 16:9 AMRPH	full format 16:9 anamorphic	0111

20-7. Conversion Setting Version Differences

Conversion settings in the FA-9500 ver. 6.00 and higher have been changed, due to added S2016-3 AFD support, as shown in the table below.

Former version settings		Later version settings	
		SD INPUT ASPECT ^{*1}	ASPECT settings ^{*2}
Up conversion	4:3	4:3	16:9 P 14:9
	14:9	4:3	16:9 P 14:9
	16:9	4:3	16:9 F 16:9 16:9 F PRTD
	SQUEEZE	16:9	16:9 F 16:9 16:9 F PRTD
Down conversion	4:3	/	4:3 F 4:3
	14:9		4:3 L 14:9
	16:9		4:3 L16:9PRTD
	SQUEEZE		16:9 F 16:9 16:9 F PRTD

*1 See section 5-7-2 SD INPUT ASPECT for details.

*2 See section 5-3-1 CONV1 U/D MODE for details.

21. About Colosed Captioning

The FA-9500 supports 3 closed caption standards; CEA608 CC, S334-1 CC SD, and CEA708 CC HD.

◆ Outline of each standard

CEA608 CC

Closed captioning for 525/60 video signals. Closed caption data is carried in line 21 in luminance level signals. Originally used for analog composite signals. The FA-9500 can detect CEA608CC data in alanog composite and SD-SDI signals. Detection in analog Y/C, and YPbPr signals is not supported.

In the same manner, insertion into analog composite and SD-SDI signals is supported. Insertion into analog Y/C and YPbPr signals is not supported.

S334-1 CC SD

Data packet closed caption standard for SD-SDI, as defined by DID and SDID, in ancillary data. The FA-9500 can detect and inset the data into 525/60 video signals.

CEA708 CC HD

Data packet closed caption standard for HD-SDI, as defined by DID and SDID, in ancillary data. The FA-9500 can detect and inset the data into 1080/59i and 720/59p video signals. Refer to SMPTE standard documents for details.

21-1. Closed Captioning Setting Procedure

- Select an input signal type under IN SEL in the VIDEO INPUT SET menu (see Sec. 5-7-1).
- If 525/60 SD-SDI signal is selected under IN SEL, specify the closed caption data type to detect in ANC DETECT SEL (Sec. 5-10-15). If the selected input signal is 1080/59i or 720/59p, closed caption data will be automatically detected in CEA708 CC HD data.
- The status of CEA608 CC closed caption data detection in input signals can be verified in the ANC IN STATUS menu (see Sec. 5-14). The status of S334-1 CC SD or CEA708 CC HD can be verified in the ANC IN STATUS1-2 menu (see Sec. 5-15).
- To insert closed caption data into output video signals, enter the following settings, which can be separately set for converters 1 and 2.
Set ANC MODE to DETAIL in CONV1 ANC SET (Sec. 5-10-9) and CONV2 ANC SET (Sec. 5-10-10).
Select the converter output signal to which the data is to be inserted under EMBED in ANC DATA EMBED (Sec. 5-10-16).
- Whether closed caption data has been inserted can be verified in CONV1 ANC OUT (Sec. 5-16) and/or CONV2 ANC OUT (Sec. 5-18) for CEA608 CC, CONV1 ANC OUT1 (Sec. 5-17) and/or CONV2 ANC OUT1 (Sec. 5-19) for S334-1 CC SD and CEA708 CC HD.
- Closed caption data auto conversion
If CEA608 and S334-1 CC closed caption data is detected in SD-SDI input video signals, and the CONV1 and/or Conv2 output format is 1080/59i and/or 720/59p, the detected closed caption data will not be converted to CEA708 CC HD. The CEA708 closed caption data insertion will be automatically terminated. Meanwhile, if CEA708 closed caption data is detected in the 1080/59i or 720/59p input signal, it will be converted to CEA608 and S334-1 CC. The converted closed caption data will be inserted into output video signals selected under EMBED from among CONV1, CONV2, and CONV1/2 in ANC DATA EMBED (Sec. 5-10-16).

22. Loading Older Version Data from FA-9500

Event data created by an earlier version of software than 6.00 and files saved by the backup parameter function of the former version FA-9500 may not recall images as saved before, since software version 6.0 has been enhanced to include up/down/cross conversion in the second converter. Make sure to reset the settings shown below when loading events or files created by earlier version software.

However, Event data files created on software earlier than version 6.00 and that created on versions 6.00 and later cannot be shared due to a file format difference.

If the software of your FA-9500 is newer than version 6.00, the below resets are not required.

Do not load event data and/or files created by software of versions later than 6.00 to FA-9500 units having software versions earlier than 6.00.

See section 9-6-2 Backup Parameter for details on the backup parameter function.

See section 8 Event Memory or 9-6-1 Event Control for details on event data creation.

Settings need to be reset

- All settings in CONV1 U/D MODE (Sec. 5-3-1)
- All settings in CONV2 U/D MODE (Sec. 5-4-1)
- ANTIALIAS H/V settings in CONV1 IMPROVE (Sec. 5-3-5)
- ANTIALIAS H/V settings in CONV2 IMPROVE (Sec. 5-4-5)
- All settings in CONV1 ANC SET (Sec. 5-10-9)
- All settings in CONV2 ANC SET (Sec. 5-10-10)
- All settings in ANC DETECT LINE (Sec. 5-10-14)
- All settings in ANC DETECT SEL (Sec. 5-10-15)
- All settings in ANC DATA EMBED (Sec. 5-10-16)
- All settings in ANC EMBED LINE (Sec. 5-10-17)
- All settings in ANC LOSS SET (Sec. 5-10-18)
- All settings in WSS AFD ERROR (Sec. 5-10-19)

The above resets are required for each piece of event data.

Older version event data saved in the FA-95RU also need their settings to be reset.

23. Regarding Option Card Removal

An alarm message described in section 23-1 Alert may appear when turning the FA-9500 on after removing or changing the location of the FA-95D-D, FA-95DE-E, FA-95AIO, or FA-95ALA option. Press the F1 UNITY button to return to the normal menu display.

The alarm message indicates settings, set while the FA-95D-D, FA-95DE-E, FA-95AIO, or FA-95ALA option is being installed into option slots A and B, have not be retained due to the removal or change of the option or options. In such case, the settings that are only available with those options will be reset to default. See section 23-2 “Verification After Dolby Option Removal/Replacement” and correct any necessary settings, if you have removed the FA-95D-D or FA-95DE-E. See section 23-3 “Verification After FA-95AIO Removal/Replacement” and correct the necessary settings, if you have removed the FA-95AIO. See section 23-4. “Verification After FA-95ALA Removal/Replacement” and correct the necessary settings, if you have removed the FA-95ALA.

The alarm message appears only once when starting the FA-9500 after removing or changing the location of the FA-95D-D, FA-95DE-E, FA-95AIO, or FA-95ALA option.

23-1. Alert

S	L	O	T		O	P	T		C	H	A	N	G	E	D		9	0	4
-	-	-	-	-	W	A	R	N	I	N	G	!	-	-	-	-	-	-	-
O	P	T	I	O	N		C	A	R	D		M	I	S	S	I	N	G	!
C	H	E	C	K		S	E	T	T	I	N	G	S						
P	U	S	H		F	1		T	O		C	O	N	T	I	N	U	E	

23-2. Verification After Dolby Option Removal/Replacement

Reset the following menu items if the FA-95D-D option card is removed or moved.

- ASSIGN settings for CH 1 – CH 16 in the SDI REMAPPING menu (Sec. 6-1-2)
- ASSIGN settings for CH 1 – CH 8 in the AES REMAPPING menu (Sec. 6-2-3)
- ASSIGN settings for CH 1 – CH 4 in the ANALOG REMAPPING menu (Sec. 6-3-5)

Reset the following menu items if the FA-95DE-E option is removed.

- ASSIGN settings for CH 1 – CH 16 in the SDI REMAPPING menu (Sec. 6-1-2)
- ASSIGN settings for CH 1 – CH 8 in the AES REMAPPING menu (Sec. 6-2-3)
- OUTPUT settings in the Dolby AUX OUTPUT menu (Sec. 6-9-1-1)

23-3. Verification After FA-95AIO Removal/Replacement

Reset the following menu items if the FA-95AIO option card is removed or moved.

- IN SEL settings in the VIDEO INPUT SET menu (Sec. 5-7-1)
- INPUT settings in the GPI SETTING menu (Sec. 7-4)

23-4. Verification After FA-95ALA Removal/Replacement

Reset the following menu items if the FA-95ALA option card is removed or moved.

- ASSIGN settings for CH 1 – CH 16 in the SDI REMAPPING menu (Sec. 6-1-2)
- ASSIGN settings for CH 1 – CH 8 in the AES REMAPPING menu (Sec. 6-2-3)
- ASSIGN settings for CH 1 – CH 4 in the ANALOG REMAPPING menu (Sec. 6-3-5)
- ASSIGN settings for CH 1 – CH 8 in the Dolby ENCODER INPUT menu (Sec. 6-9-2-1)

24. Expansion Slots A / B Alert

OPT BUS CHECK				220
SLOT	A:	FAILED		
SLOT	B:	STATUS OK		

The above alert that appears after turning on the FA-9500 indicates an alarm or alarms for an option card or cards installed in the expansion slot A and/or B.

This indication appears only after powering on the FA-9500.

Indicates failure of the option card installed in the slot indicated as "FAILED".

If this indication appears, turn the power of the unit off immediately, and contact your service agency or distributor.

25. Specifications and Dimensions

25-1. Unit Specifications

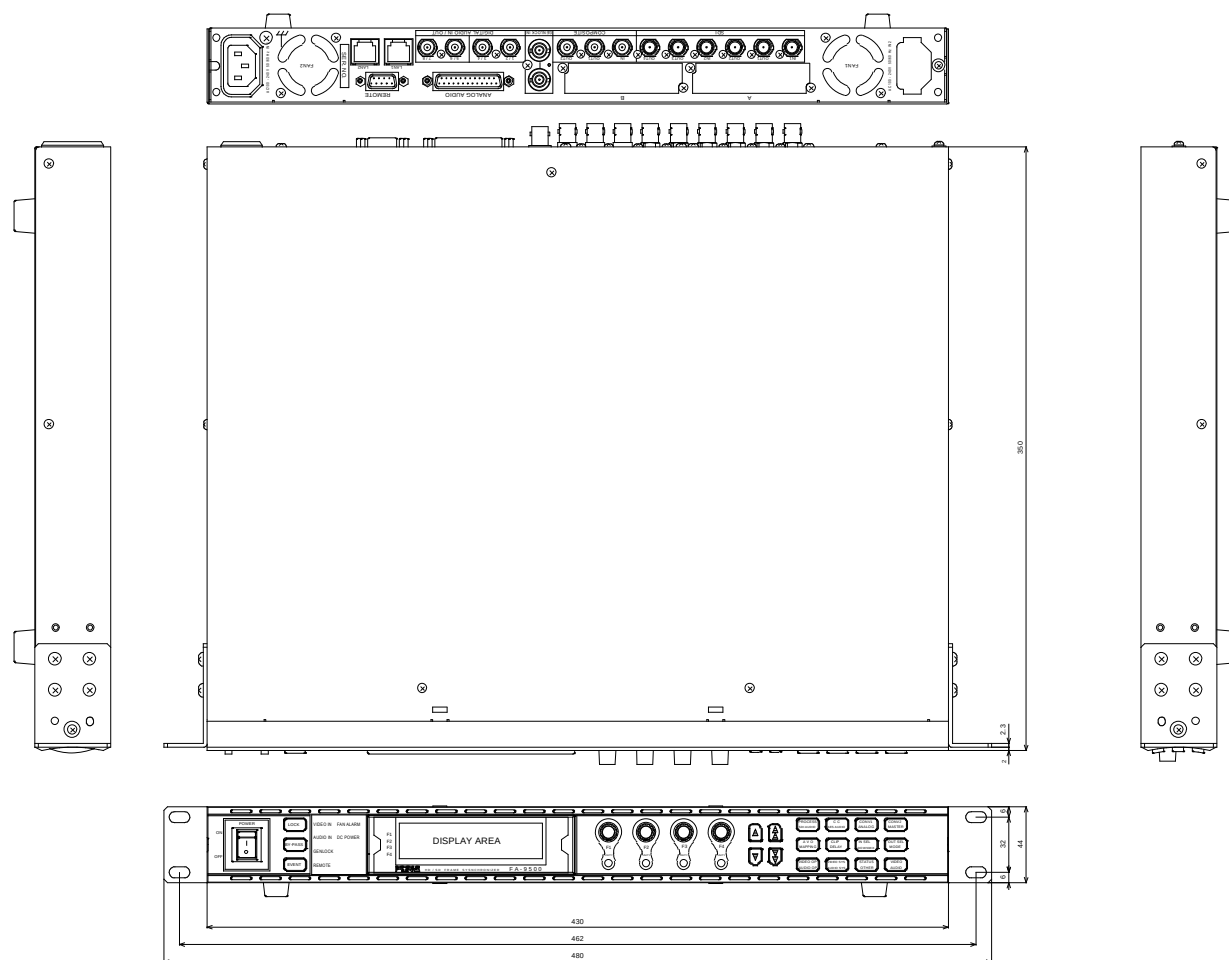
Input Video Formats	1080/59.94p, 1080/50p (Level-A), 1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p, 525/60 (NTSC), 625/50 (PAL)
Output Video Formats	1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p, 525/60 (NTSC), 625/50 (PAL), PAL-M
Video Input	3G-SDI: 3 Gbps, HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 75Ω, BNC x 2 Analog Composite: 1.0 Vp-p, 75Ω, BNC x 1
Video Input (FA-95AIO option)	SDTV YPbPr: 75Ω, BNC (Y, Pb and Pr 1ea.) Y: 1.0 Vp-p Pb, Pr: 0.525 Vp-p (SMPTE level) 0.757 Vp-p (BETACAM level) SMPTE and BETACAM menu selectable Analog RGB: 1.0 Vp-p 75Ω, BNC (R, G, and B 1 ea.) Y/C: 1.0Vp-p 75Ω, BNC (Y and C 1 ea.) HDTV YPbPr: 75Ω, BNC (Y, Pb and Pr 1ea.) Y: 1.0 Vp-p Pb, Pr: 0.525 Vp-p Analog RGB: 1.0 Vp-p 75Ω, BNC (R, G, and B 1 ea.)
Video Output	3G-SDI: 3 Gbps or HD-SDI: 1.5 Gbps or SD-SDI: 270Mbps, 75Ω, BNC x 4 (2 x 2 outputs) Analog Composite: 1.0Vp-p, 75Ω, BNC x 2
Video Output (FA-95AIO option)	SDTV YPbPr: 75Ω, BNC (Y, Pb and Pr 1ea.) Y: 1.0 Vp-p Pb, Pr: 0.525 Vp-p (SMPTE level) 0.757 Vp-p (BETACAM level) SMPTE and BETACAM menu selectable Analog RGB: 1.0 Vp-p 75Ω, BNC (R, G, and B 1 ea.) Y/C: 1.0Vp-p 75Ω, BNC (Y and C 1 ea.) HDTV YPbPr: 75Ω, BNC (Y, Pb and Pr 1ea.) Y: 1.0 Vp-p Pb, Pr: 0.525 Vp-p Analog RGB: 1.0 Vp-p 75Ω, BNC (R, G, and B 1 ea.)
Video I/O Process	3 inputs (standard) or 4 inputs (maximum input) > 1 processing < 2 x 2 outputs
Video Processing	4:2:2 Digital Component
Quantization	3G/HD/SD-SDI: 10-bit Analog Composite: 12-bit
Frequency Response	
NTSC	100 kHz to 4.2 MHz: -0.5 dB to +0.5 dB, 4.2 MHz to 5.0 MHz: -1.0 dB to +1.0 dB, roll off above 5.0 MHz (NTSC, composite)
PAL	100 kHz to 4.2 MHz: -0.5 dB to +0.5 dB, 4.2 MHz to 5.5 MHz: -1.0 dB to +1.0 dB, roll off above 5.5 MHz (PAL, composite)
DG/DP	1% / 1° (composite)
S/N Ratio	60 dB (without quantization noise, composite)
Genlock Input	BB: NTSC: 0.429 Vp-p / PAL: 0.45 Vp-p; or Tri-level Sync: 0.6 Vp-p, 75Ω BNC x 1, loop-through (Terminate with 75Ω terminator, if unused.)

Synchronizer mode	Frame Sync mode, Line Sync mode, AVDL mode, Input Sync mode (minimum delay)
System Phase Control	
Frame Sync mode	H phase: -1/2 H to +1/2 H V phase: -1/2 frame to +1/2 frame Maximum delay: 1 frame + 1H, Minimum delay: 1H
Line Sync mode	H phase: -1/2 H to +1/2 H V phase: -1/2 frame to +1/2 frame Maximum delay: 1H +1/2 H, Minimum delay: 1/2 H
AVDL mode	H phase: -1/2 H to +1/2 H V phase: -1/2 frame to +1/2 frame Maximum delay: 5 H +1/2 H, Minimum delay: 1/2 H (HD) Maximum delay: 1 H +1/2 H, Minimum delay: 1/2 H (SD)
Input Sync mode	H phase: -1/2 H to +1/2 H V phase: -1/2 frame to +1/2 frame Maximum delay: 1 frame, Minimum delay: +520 clk
Video Delay	Maximum 8 frames (Frame Sync or Input Sync)
Video Processing Functions	Up/Down/Cross converter Aspect ratio converter Proc Amp Color Corrector Automatic video optimizer (AVO) Second converter (Down/Cross/Aspect ratio)
Proc Amp	Video level: 0.0% to 200.0% Chroma level: 0.0% to 200.0% Black level: -20.0% to 100.0% HUE: -179.8° to +180°
Video Clip	YP _B P _R mode RGB mode Composite mode
Color Correction	Balance mode Differential mode Sepia mode
Audio Input	
Embedded Audio	3G/HD: 16 channels (Group 1 to 4), 48 kHz, 16-bit to 24-bit, synchronous/asynchronous SD: 16 channels (Group 1 to 4), 48 kHz, 16-bit to 24-bit, synchronous only
AES/EBU	Unbalanced, 1.0 Vp-p, 75Ω, BNC x 4 for AES/EBU input/output, Maximum 4 pairs of stereo channels, 32/44.1/48 kHz, 16-bit to 24-bit
Analog Audio	Balanced or unbalanced, 4 inputs (2 stereo channels), 25-pin D-sub (female) x 1 for analog audio input/output, 600Ω or High impedance, 48 kHz, 24-bit
Audio Output	
Embedded Audio	3G/HD: 16 channels (Group 1 to 4), 48 kHz, 16/20/24-bit, synchronous/asynchronous SD: 12 channels (Group 1 to 3), 48 kHz, 16/20/24-bit, synchronous only
AES/EBU	Unbalanced, 1.0 Vp-p, 75Ω, BNC x 4 for AES/EBU input/output, Maximum 4 pairs of stereo channels, 48 kHz, 16-bit to 24-bit
Analog Audio	Balanced or unbalanced, 4 outputs (2 stereo channels), 25-pin D-sub (female) x 1 for analog audio input/output, less than 100Ω, 48 kHz, 24-bit
Audio Delay	2 ms - 1,000 ms (adjustable in 1 ms steps)

Audio Processing Functions (Set per channel)	Sampling rate converter (SRC) Gain control Down mix Channel re-mapping Channel mute
Interfaces	
Ethernet	10 Base-T / 100 Base-TX / 1000 Base-T, RJ-45 x 2
Remote (GPI)	9-pin D-sub (male) (7 terminals) x 1, IN: TTL negative logic level signal or Make contact OUT: Rated current 10mA (each terminal), Absolute maximum current 40mA
FA-95D-D/FA-95DE-E Option	
Audio Input	AES/EBU Unbalanced, 1.0 Vp-p, 75Ω, BNC x 1, 48 kHz, 16-bit to 24-bit
Audio Output	AES/EBU Unbalanced, 1.0 Vp-p, 75Ω, BNC x 1, 48 kHz, 16/20/24-bit
Reference Input	BB: NTSC: 0.429 Vp-p / PAL: 0.45 Vp-p; or Tri-level Sync: 0.6 Vp-p, 75Ω, BNC x 1 (Internally 75Ω terminated)
FA-95AIO (Analog Component I/O) Option	
Input Video Formats	1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p 525/60 (NTSC), 625/50 (PAL)
Output Video Formats	1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p 525/60 (NTSC), 625/50 (PAL), PAL-M
FA-95ALA (Automatic Loudness Adjustment) Option	
Supported standard	ARIB TR-B32, ATSC A/85, EBU-R128, ITU-R BS.1770
Temperature	0°C to 40°C
Humidity	30% to 90% (no condensation)
Power	100 VAC - 240 VAC ±10%, 50/60 Hz
Power Consumption	FA-9500: 50 VA (47 W) (at 100 - 120 VAC) 64 VA (52 W) (at 220 - 240 VAC) with FA-95PS: 60 VA (55 W) (at 100 - 120 VAC) 73 VA (56 W) (at 220 - 240 VAC) Add the amount of power consumption of options installed: FA-95D-D/DE-E: 4 VA (4 W) (at 100 - 120 VAC) 5 VA (5 W) (at 220 - 240 VAC) FA-95D-D/DE-E: 6 VA (6 W) (at 100 - 120 VAC) 7 VA (7 W) (at 220 - 240 VAC) FA-95AIO: 8 VA (9 W) (at 100 - 120 VAC) 9 VA (9 W) (at 220 - 240 VAC) FA-95ALA: 8 VA (9 W) (at 100 - 120 VAC) 9 VA (9 W) (at 220 - 240 VAC)
Dimensions	430 (W) x 350 (D) x 44 (H) mm
Weight	3.0 kg (without options) FA-95D-D/DE-E: 0.3 kg FA-95AIO: 0.3 kg (with a connection cable PC-3307-1) FA-95ALA: 0.2 kg
Consumables	(Recommended replacement timespans) Power unit (within 5 years) Cooling fan: P-1437 (FAN 1 and FAN 2) (within 6 years)
Accessories	Operation manual, AC cord, rack mount brackets
Options	◇FA-95PS: Redundant power supply unit ◇FA-95DACBL: Digital audio expansion connector cable ◇FA-95CO: Changeover function ◇FA-95RU: Remote control unit ◇FA-95D-D: Dolby E/Dolby Digital decoder ◇FA-95DE-E: Dolby E encoder ◇FA-95AIO: Analog component I/O card ◇FA-95ALA: : Automatic Loudness Adjustment

25-2. External Dimensions

(All dimensions in mm)



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Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.



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*The contents of this manual are subject to change without notice.