LEADER

LV 7770 MULTI RASTERIZER

LV 7770 OP70	16CH DIGITAL AUDIO ADAPTER
LV 5770SER03A	TRI SYNC / COMPOSITE
LV 5770SER08	SDI INPUT
LV 5770SER09(A)	SDI INPUT / EYE
LV 5770SER42	ANALOG AUDIO

INSTRUCTION MANUAL

LEADER
ELECTRONIC MEASURING INSTRUMENTS

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GENERAL SAFETY SUMMARY

■ Read This before Using the Instrument

This instrument should only be used by persons with sufficient knowledge of electronics who thoroughly understand the contents of this manual.

This instrument is not designed or manufactured for households or ordinary consumers.
If unqualified personnel are to use the instrument, be sure the instrument is handled under the supervision of qualified personnel (those who have electrical knowledge). This is to prevent the possibility of personal injury or damage to the instrument.

■ Note about Reading This Manual

The contents of this manual contain specialized terminology and may be difficult to understand. If you have any questions about the contents of this manual, please contact your local LEADER agent.

■ Symbols and Terms

The following symbols and terms are used in this instruction manual and on the instrument to indicate important warnings and notes.

<Symbol> 	This symbol appears in this instruction manual and on the instrument to indicate an area where improper handling could result in personal injury, damage to the instrument, or malfunction of the instrument or devices connected to it. When you encounter this symbol on the instrument, be sure to refer to the information in this instruction manual that corresponds to the area that the symbol marks.
<Term> 	Ignoring the precautions that this term indicates could lead to death or serious injury.
<Term> 	Ignoring the precautions that this term indicates could lead to personal injury or damage to the instrument.

GENERAL SAFETY SUMMARY

Read the warnings and information below thoroughly to avoid death, personal injury, and damage and deterioration of the instrument.

■ Warnings Concerning the Case and Panels

Do not remove the instrument's case or panels for any reason. Touching the internal components of the instrument could lead to fire or electric shock.
Also, do not allow foreign materials, such as liquids, combustible matter, and metal, to enter the instrument. Turning the instrument on when such materials are inside it could lead to fire, electric shock, damage to the instrument, or some other accident.

■ Installation Environment

• Operating Temperature Range

Use this instrument in a 0 to 40 °C environment. Using the instrument with its vents blocked or in a high temperature environment could lead to fire.
Drastic changes in temperature, such as might be caused by moving the instrument between two rooms with different temperatures, can damage the instrument by causing condensation to form within it. If there is a possibility that the instrument has condensation within it, wait for approximately 30 minutes before turning on the power.

• Operating Humidity Range

Use this instrument in an environment whose relative humidity is 85 % or less where there is no threat of condensation forming.
Also, do not operate this instrument with wet hands. Doing so could lead to electric shock or fire.

• Do Not Operate in an Explosive Atmosphere

Using this instrument in an environment where flammable gasses, explosive gasses, or steam is emitted or stored could lead to an explosion or fire. Do not use the instrument in such an environment.

• Do Not Insert Foreign Materials

If foreign materials, such as metal, flammable objects, or liquid are allowed into the instrument (through the vents for example), fire, electric shock, damage to the instrument, or some other accident may result.

■ If You Notice Something Wrong during Operation

If you notice smoke, fire, a strange smell, or something else that is wrong with the instrument while you are operating it, stop operation immediately. Failing to do so could lead to fire.Turn off the power switch, and remove the power cord from the outlet. After making sure that fire has not spread anywhere, contact your local LEADER agent.

GENERAL SAFETY SUMMARY

WARNING

■ Warnings Concerning the Power Source

Do not use a power source with a voltage other than the rated power source voltage for the instrument. Doing so could lead to fire.
Confirm the voltage of the power source before you connect the power cord to it.
Only use a power source whose frequency is 50/60 Hz.

Use a power cord that is appropriate for the voltage of the power source. Also, use a power cord that meets the safety standards of the country that you are using it in.
Using a power cord that does not meet the standards could lead to fire. If the power cord is damaged, stop using it, and contact your local LEADER agent. Using a damaged power cord could lead to electrical shock or fire.
When removing the plug from the power outlet, do not pull on the cord. Pull from the plug.

■ Warnings Concerning Grounding

The instrument has a ground terminal to protect the user and the instrument from electric shock. Ensure that the instrument is properly grounded for safe operation.

■ Warnings Concerning the Panel

Do not apply a strong shock to the panel, cut it with sharp metal, or damage it in any similar manner.

CAUTION

■ Cautions Concerning the Input and Output Connectors

To avoid damaging the instrument, only apply signals to the input connectors that conform to the specifications in this instruction manual. Do not short or apply external voltage to the output connectors. Doing so could damage the instrument.

■ Cautions Concerning the Ethernet Port

When you are connecting the instrument to the communication provider's equipment, connect to the Ethernet port through a hub that is authorized for use in the country that you are using the instrument in.

GENERAL SAFETY SUMMARY

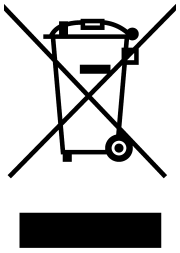
■ Calibration and Repairs

This instrument has been carefully examined at the factory to ensure that its performance is in accordance with the standards. However, because of factors such as parts wearing out over time, the performance of the instrument may degrade. To ensure stable performance, we recommend that you have the instrument calibrated regularly. Also, if the instrument malfunctions, repairs are necessary. For repairs and calibration, contact your local LEADER agent.

■ Routine Maintenance

When you clean the instrument, remove the power plug from the outlet.
Do not use thinner or benzene when you clean the instrument's case, panels, or knobs. Doing so could lead to paint chipping and the corrosion of plastic components. To clean the case, panels, and knobs, use a soft cloth with mild detergent, and wipe gently. While cleaning, make sure that foreign materials, such as water and detergent, do not enter the instrument. If liquid or a metal object enters into the instrument, fire or electric shock may result.

■ About the European WEEE Directive



This instrument and its accessories are subject to the European WEEE Directive.
Follow the applicable regulations of your country or region when discarding this instrument or its accessories. Follow the EU Battery Directive when discarding the batteries that you removed from this instrument.
(WEEE stands for Waste Electrical and Electronic Equipment.)

Follow the warnings and precautions that have been listed in this section to use the instrument correctly and safely. Precautions are also contained in various other sections of this instruction manual. To use the instrument correctly, be sure to follow those precautions as well.

If you have any questions or comments about this instruction manual, please contact your local LEADER agent.

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1. INTRODUCTION

Thank you for purchasing this LEADER instrument. To use this instrument safely, read this instruction manual thoroughly, and make sure that you know how to use the instrument properly.

If some point about the operation of this instrument is still unclear after you have read this instruction manual, refer to the contact information on the back cover of the manual to contact LEADER, or contact your local LEADER agent.
After you have finished reading this manual, keep it in a convenient place so that you can refer to it when necessary.

1.1 Scope of Warranty

This LEADER instrument has been manufactured under the strictest quality control guidelines.

LEADER shall not be obligated to furnish the following free services during the warranty period.

1. Repair of malfunction or damages resulting from fire, natural calamity, or improper voltage applied by the user.
2. Repair of an instrument that has been improperly repaired, adjusted, or modified by personnel other than a factory-trained LEADER representative.
3. Repair of malfunctions or damages resulting from improper use.
4. Repair of malfunctions caused by devices other than this instrument.
5. Repair of malfunctions or damages without the presentation of a proof of purchase or receipt bill for the instrument.

1.2 Operating Precautions

1.2.1 Maximum Allowable Input Voltage

The maximum signal voltage that can be applied to the input connectors is indicated below. Do not apply excessive voltage to the connectors. Doing so may damage the device or lead to injury.

Table 1-1 Maximum allowable input voltage

Input Connector		Maximum Allowable Input Voltage
LV 7770	REMOTE	0 to +5 V
LV 7770	EXT REF	±5 V (DC + peak AC)
LV 7770 LV 7770 OP70	DIGITAL AUDIO IN	±5 V (DC + peak AC)
LV 5770SER03A	TRI SYNC/COMPOSITE INPUT	±5 V (DC + peak AC)
LV 5770SER08 LV 5770SER09	SDI INPUT	±2 V (DC + peak AC)
LV 5770SER09A	SDI INPUT	0 to +12V (DC) ±1V (AC)
LV 5770SER42	ANALOG AUDIO	+24 dBu

1.2.2 About Standby Mode

CAUTION

Even if you press the power switch to turn off this instrument, the instrument remains in standby mode as long as the power cord is connected to the outlet. In standby mode, some of the internal circuits operate and may generate heat. Unless necessary, keep the power cord disconnected from the outlet.

1.2.3 Mechanical Shock

This instrument contains sensitive components, so it may be damaged if it is dropped or otherwise exposed to a strong shock.

1.2.4 Electrostatic Damage

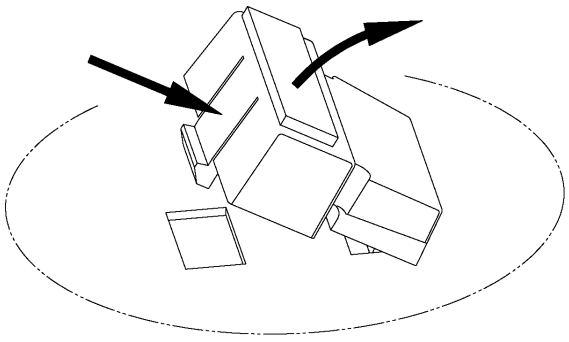
Electronic components can be damaged by static discharge. Static electricity can build up in the core wire of a coaxial cable. Before connecting a coaxial cable to the instrument, short the core wire of the cable with the external conductor.

1.2.5 Rack Mounting

This instrument can be mounted on an EIA 19-inch rack.

If you are mounting this instrument on a rack, be sure to provide additional support for the instrument. If you only use the flanges on the front panel to mount the instrument, the instrument case may be deformed, or the instrument may fall.

Before mounting, remove the four feet from the bottom of the instrument.
You can remove the feet by pressing the tab and pulling the feet out.



1.2.6 Warming Up

To ensure more accurate measurements, turn on the instrument approximately 30 minutes before you intend to use it to allow its internal temperature to stabilize.

1.2.7 Backup Battery

This instrument has a last-memory feature. When you turn the power on, the instrument starts with the panel settings that were in use the last time that it was turned off. If the backup battery is out of power, the message “The last memory feature is disabled.” will be displayed, and this feature will no longer work.

To continually use the last-memory feature, we recommend that you replace the backup battery with a new one every five years after you purchase the instrument. You cannot replace the backup battery yourself. Contact your local LEADER agent.

1.3 About Trademarks and Licenses

- The company and product names in this document are trademarks or registered trademarks of their respective holders.
- The MD5 algorithm, which is used by this instrument, was developed by RSA Security Inc. in the United States. This algorithm is available on a license-free and patent-free basis.

1.4 Differences between the LV 5770SER09A and LV 5770SER09

The LV 5770SER09A has the following additional features that are not available on the LV 5770SER09.

• Equivalent cable length measurement
• DC offset measurement

This manual explains the LV 5770SER09A. Note that if you are using the LV 5770SER09, some of the information in this manual will not apply.

1.5 About Terminology Used in this Manual

- **Single Input Mode**

  This refers to the mode in which the SIM key is off. Press the A and B keys to switch between measuring the signal that is being applied to SDI INPUT A and the signal that is being applied to SDI INPUT B, respectively.

- **Simul Mode**

  This refers to the mode in which the SIM key is on. The signals that are being applied to SDI INPUT A and SDI INPUT B are measured simultaneously.

- **1-Screen Display**

  This refers to the mode in which the MULTI key is off. Only the area that you select by pressing keys 1 to 4 is displayed.

- **Multi-Screen Display (2-screen multi display and 4-screen multi display)**

  This refers to the mode in which the MULTI key is on. You can set the number of screens that are displayed (two or four) in the system settings.
  On the 2-screen multi display, you can display areas 1 and 2 or areas 3 and 4.
  On the 4-screen multi display, you can display areas 1 to 4.

- **About the Input Format**

  With some exceptions, the input formats are written in this manual as shown below.

  Table 1-2 Input format

Name	Description
HD	HD-SDI
SD	SD-SDI
HD dual link	HD-SDI dual link
3G-A	3G-SDI level A
3G-B	3G-SDI level B
3G-B (2map)	3G-SDI level B 2mapping
3G	General term representing 3G-A, 3G-B, and 3G-B (2map)

- **Underline (_)**

  Underlined options indicate the default values.

2. SPECIFICATIONS

2.1 General

The LV 7770 is a rasterizer that supports 3G-SDI, HD dual link, HD-SDI, and SD-SDI signals. It has a variety of features, including simultaneous monitoring of two SDI input signals, frame capturing, lip sync measurement, and ANC data analysis.

A variety of optional units are available, and installing combinations of these units in the instrument enables the various features.

LV 5770SER03A	(TRI SYNC/COMPOSITE):	Tri-level sync and composite input
LV 5770SER08	(SDI INPUT):	SDI input (*1)
LV 5770SER09A	(SDI INPUT/EYE):	SDI input with eye pattern display feature (*1)
LV 5770SER42	(ANALOG AUDIO):	Analog audio I/O (*2)
LV 7770 OP70	(16CH DIGITAL AUDIO ADAPTER):	16CH DIGITAL AUDIO I/O (*2)

*1 The LV 5770SER08 and LV 5770SER09A cannot be installed in the instrument at the same time.

*2 The LV 5770SER42 and LV 7770 OP70 cannot be installed in the instrument at the same time.

* In addition to the above, a Dolby option can be installed that enables the measurement of Dolby E and Dolby Digital signals.

2.2 Features

- **3G-SDI Compatible 2-Channel Simultaneous Display (LV 5770SER08 and LV 5770SER09A)**

  The LV 7770 is equipped with a pair of SDI input connectors that support 3G-SDI, HD dual link, HD-SDI, and SD-SDI signals. The two input signals can be displayed simultaneously. Even when one of the input signals is not being displayed, the LV 7770 still monitors the undisplayed signal for errors. In addition, the LV 7770 is equipped with SDI output connectors that can generate serial reclocked SDI signals from the input SDI signals. The A/B output connector generates the reclocked signal of the SDI signal applied to channel A or channel B. The output that is generated from this connector is switched between the two channels whenever an input key (A or B) is pressed.

- **Rich Assortment of Display Features**

  Not only does the LV 7770 have essential displays for video signal quality monitoring, such as a video signal waveform display and a vector display, it also has a rich assortment of other display features such as a picture display, 5-bar display, and status display. (LV 5770SER03A, LV 5770SER08, and LV 5770SER09A)
  The audio display includes a loudness display feature that is based on ITU standards. In addition, a loudness chart, level meters of each channel, and peak values can be displayed simultaneously. Simultaneous loudness measurement of two audio sources is also possible.

- **Wide Variety of Display Formats (LV 5770SER08 and LV 5770SER09A)**

  In the video signal waveform display, vector display, and picture display, the LV 7770 can display up to two input SDI signals on top of each other or side by side. This makes it suitable for adjusting the gain and black balance values of two video signals. In the video signal waveform and vector displays, the LV 7770 can make different input channels easier to see by displaying them using different colors.

- **Extremely Flexible Display Layouts**

  The 1-screen display feature can be used to show each of the different displays on a single screen, or the 4-screen multi display feature can be used to divide the screen into four areas with a different display shown in each area. The video signal waveform display, picture display, audio level meter display, and histogram display can be shown as a thumbnail display on the 1-screen display.

- **Capture Feature**

  A screen capture feature that captures the screen as still images, a frame capture feature that captures single frames of SDI signals, and an error capture feature that automatically detects and captures error frames are available.
  Not only can captured data be displayed by the LV 7770, but it can also be compared with an input signal or saved to a USB memory device. It is easy to view the saved data on a PC.

- **XGA Resolution DVI-I Output**

  The measurement display has XGA resolution (an effective resolution of 1024 × 768) and can be output from the DVI-I connector, which supports single-link TMDS. The aspect ratio can be switched between 4:3, 16:9, and 16:10. (The display must have a resolution conversion feature.)

- **Picture Monitor Output (LV 5770SER08 and LV 5770SER09A)**

  The input SDI signal can be generated as an 8-bit signal. Regardless of the SDI input signal, the output format can be set to YC_BC_R 4:2:2, YC_BC_R 4:4:4, or RGB 4:4:4.

- **3D Assist Display (LV 5770SER08 and LV 5770SER09A)**

  3D video signals can be evaluated by applying the video signal for the left eye to channel A and the video signal for the right eye to channel B. The available picture display formats are anaglyph, convergence, overlay, wipe, checker, and flicker.

- **CINELITE (LV 5770SER08 and LV 5770SER09A)**

  You can use the cursor to select any 3 points and display their luminance information using f-Stop numbers, percentage values, or level values. You can choose to analyze a single pixel or a small area by setting the size of the measured area to 1 pixel or to the average value for 9 or 81 pixels.
  Furthermore, the CINELITE Advanced feature makes it possible to synchronize measurements with the video signal waveform display and vector display.

- **CINEZONE (LV 5770SER08 and LV 5770SER09A)**

  You can display the luminance levels in the picture with different colors. This allows you to quickly determine the overall luminance distribution in the picture, and it makes it easy to spot overexposure, underexposure, and different luminance levels in dark areas.

- **SDI Signal Data Analysis Feature (LV 5770SER08 and LV 5770SER09A)**

  On the status display, SDI signal transmission errors and various errors related to the embedded audio signal and ancillary data can be detected. In addition, the LV 7770 has event log, data dump, and external sync signal and SDI signal phase difference display features for analyzing SDI signals. Ancillary data is displayed along with the embedded line numbers and numbers of the corresponding standards in a list. This makes it possible to display detailed analyses.

- **Timecode Display (LV 5770SER08 and LV 5770SER09A)**

  The LTC and VITC that are embedded in an SDI signal and the D-VITC that is embedded in an SD-SDI signal can be displayed. The timecode can also be used for time stamps in the event log.

- **Superimposing of English Closed Captions (LV 5770SER08 and LV 5770SER09A)**

  The English closed captions (EIA-608, EIA-708, or VBI) that are embedded in an SDI signal can be superimposed over the image on the picture screen.

- **External Control Connectors**

  The LV 7770 has two external control connectors: an Ethernet port and a remote control connector.
  By connecting the Ethernet interface to a PC, you can control the LV 7770 remotely over TELNET, transfer files over FTP, control the LV 7770 remotely and detect errors over SNMP, and control the LV 7770 over HTTP. You can also connect to the separately-sold LV 7770-01 (REMOTECONTROLLER). (You cannot use TELNET and the LV 7770-01 at the same time.)
  The remote control connector can be used to load presets, switch the input signal, and transmit errors.

- **Eye Pattern Display (LV 5770SER09A)**

  When the eye pattern display option is installed in the LV 7770, the LV 7770 can display the eye pattern waveforms and jitter waveforms of 3G-SDI, HD dual link, HD-SDI, and SD-SDI signals. (Channel A or B, whichever is selected, is displayed.)
  An eye pattern's amplitude, rise time, fall time, DC offset, timing jitter, current jitter, rising edge overshoot, and falling edge overshoot can be measured automatically.

- **Digital Audio I/O**

  An external digital audio signal can be displayed in addition to the embedded audio. The eight I/O channels of the four connectors can be switched between input and output. Therefore, the LV 7770 can also be used to extract and transmit the embedded audio's digital audio. Also, when the 16-channel digital audio I/O option (LV 7770 OP70) is installed in the LV 7770, the number of I/O connectors can be expanded to 8 connectors with 16 channels.
  (To measure embedded audio, the LV 7770 must have the LV 5770SER08 or LV 5770SER09A installed.)

- **Analog Audio I/O (LV 5770SER42)**

  The addition of the analog audio I/O option enables the LV 7770 to display analog audio. In addition, the option is equipped with output pins, which can be used to generate the analog audio that corresponds to the audio signal displayed on the screen. The functionality of the option can be switched between input and output through settings.

- **Dolby Option**

  The addition of the Dolby option enables the LV 7770 to decode and display the Dolby E or Dolby Digital signals that are compressed in embedded audio or digital audio signals.

- **Analog Composite Input (LV 5770SER03A)**

  The addition of the analog composite input option enables the LV 7770 to display the video signal waveforms of NTSC, PAL, and HD tri-level sync signals, display vectors (NTSC and PAL only), measure SCH (NTSC and PAL only), and measure phase differences against external signals.
  (For phase difference measurement, an external sync signal that is synchronized and of the same format as the input signal is necessary.)

- **Remote Controller (LV 7770-01; sold separately)**

  Because the remote controller panel is the same as the LV 7770 panel, you can think of it as an extension of the LV 7770 panel when you use it to remotely control the LV 7770. (You cannot use TELNET while you are using the LV 7770-01.)

2.3 Specifications

2.3.1 SDI Video Signal Formats and Standards (LV 5770SER08 and LV 5770SER09A)

Bit Rate

3G-SDI	2.970 Gbps or 2.970/1.001 Gbps
HD-SDI	1.485 Gbps or 1.485/1.001 Gbps
SD-SDI	270 Mbps

Table 2-1 SD-SDI video signal formats and standards

Color System	Quantization	Scanning	Frame (Field) Rates	Compliant Standard
YC_BC_R 4:2:2	10 bits	525i	59.94	SMPTE ST 259
		625i	50	

Table 2-2 HD-SDI video signal formats and standards

Color System	Quantization	Scanning	Frame (Field) Rates	Compliant Standard
YC_BC_R 4:2:2	10 bits	1080i	60/59.94/50	SMPTE ST 274 SMPTE ST 292
		1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		720p	60/59.94/50/30/29.97/25/24/23.98	SMPTE ST 296 SMPTE ST 292

Table 2-3 HD dual link video signal formats and standards

Color System	Quantization	Scanning	Frame (Field) Rates	Compliant Standard
YC_BC_R 4:2:2	10 bits	1080p	60/59.94/50	SMPTE ST 372 (1920 × 1080)
	12 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
YC_BC_R 4:4:4	10 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
	12 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
RGB 4:4:4	10 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
	12 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
		1080p	24/23.98	(2048 × 1080)
		1080PsF	24/23.98	

* When these signals are displayed, phase differences of up to 100 clocks (approx. 1.4 µs) between links A and B are automatically corrected.
1080p/60, 1080p/59.94, and 1080p/50 signals can not be used in external sync mode.

Table 2-4 3G-SDI level A video signal formats and standards

Color System	Quantization	Scanning	Frame (Field) Rates	Compliant Standard
YC_BC_R 4:2:2	10 bits	1080p	60/59.94/50	SMPTE ST 424 SMPTE ST 425
	12 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
YC_BC_R 4:4:4	10 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
		720p	60/59.94/50/30/29.97/25/24/23.98	
	12 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
RGB 4:4:4	10 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
		720p	60/59.94/50/30/29.97/25/24/23.98	
	12 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
		1080p	24/23.98	(2048×1080)
		1080PsF	24/23.98	

* 720p/30, 720p/29.97, 720p/25, and 720p/24 signals can not be used in external sync mode. In addition, 2H display on the video signal waveform display is not possible for 1080p/60, 1080p/59.94, and 1080p/50 signals.

Table 2-5 3G-SDI level B video signal formats and standards

Color System	Quantization	Scanning	Frame (Field) Rates	Compliant Standard
YC_BC_R 4:2:2	10 bits	1080p	60/59.94/50	SMPTE ST 424
	12 bits	1080p	30/29.97/25/24/23.98	SMPTE ST 425
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
YC_BC_R 4:4:4	10 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
	12 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
RGB 4:4:4	10 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
	12 bits	1080p	30/29.97/25/24/23.98	
		1080PsF	30/29.97/25/24/23.98	
		1080i	60/59.94/50	
		1080p	24/23.98	(2048×1080)
		1080PsF	24/23.98	

* 2H display on the video signal waveform display is not possible for 1080p/60, 1080p/59.94, and 1080p/50 signals.

Table 2-6 3G-SDI level B (2map) video signal formats and standards

Color System	Quantization	Scanning	Frame (Field) Rates	Compliant Standard
YC_BC_R 4:2:2	10 bits	1080i	60/59.94/50	SMPTE ST 424
		1080p	30/29.97/25/24/23.98	SMPTE ST 425
		1080PsF	30/29.97/25/24/23.98	
		720p	60/59.94/50/30/29.97/25/24/23.98	

* 720p/30, 720p/29.97, 720p/25, 720p/24, and 720p/23.98 signals can not be used in external sync mode.

Ancillary Data Standard SMPTE ST 291

Format Setting Automatic and manual

Automatic

3G-SDI and HD Dual Link The LV 7770 detects the format information within the payload ID (SMPTE ST 352) and automatically sets the format.

HD-SDI and SD-SDI The LV 7770 determines the format from the input signal's synchronization information and automatically sets the format.

Manual The video signal format is set manually.

2.3.2 Embedded Audio Playback Format (LV 5770SER08 and LV 5770SER09A)

Compliant Standards	
3G-SDI, HD-SDI, and HD Dual Link	SMPTE ST 299
SD-SDI	SMPTE ST 272
Format	LPCM, Dolby-E (option), Dolby Digital (option)
Quantization	24 bits
Clock Generation	Generated from the video clock
Synchronization	All audio channels must be synchronized with the video clock. In simul mode, channels A and B must be synchronized.
Channel Separation	2 groups—8 channels (channels A and B can be mixed), 4 groups—16 channels

2.3.3 Analog Composite Signal Formats and Standards (LV 5770SER03A)

Input Signal	NTSC/PAL composite video signal HD tri-level sync signal
Compliant Standards	
Composite Signal	SMPTE ST 170, ITU-R BT.470
HD Tri-level Sync Signal	SMPTE ST 274
HD Tri-Level Sync Signal Format (*1)	1080i/60, 1080i/59.94, 1080i/50, 1080p/30, 1080p/29.97, 1080p/25, 1080p/24, 1080p/23.98, 1080PsF/30, 1080PsF/29.97, 1080PsF/25, 1080PsF/24, 1080PsF/23.98

*1 If a 1035i (not supported) signal is applied, it is detected as a 1080i signal.
If a 1080PsF/30, 1080PsF/29.97, or 1080PsF/25 signal is applied, it is detected as a 1080i/60, 1080i/59.94, or 1080i/50 signal (respectively).

2.3.4 SDI I/O Connectors (LV 5770SER08 and LV 5770SER09A)

SDI Input	
Input Connectors	Two BNC connectors
3G-SDI, HD-SDI, and SD-SDI	2 inputs (channels A and B)
HD Dual Link	1 input (link channel A or B)
Input Impedance	75 Ω
Input Return Loss	
5 MHz to 1.485 GHz	15 dB or more
1.485 to 2.97 GHz	10 dB or more
Maximum Input Voltage	
LV 5770SER08/LV 5770SER09	±2 V (DC + peak AC)
LV 5770SER09A	0 to +12V (DC), ±1V (AC)

SDI Output

Output Connectors	Two BNC connectors
Output Signal	Serial reclocked input SDI signal
3G-SDI, HD-SDI, and SD-SDI	
	1 output (switchable between channels A and B)
	1 output (fixed to channel B)
HD Dual Link	1 output (link channel A or B)
Output Impedance	75 Ω
Output Voltage	800 mVp-p ± 10 % (into 75 Ω)
Output Return Loss	
5 MHz to 1.485 GHz	15 dB or more
1.485 to 2.97 GHz	10 dB or more

2.3.5 Analog Video I/O Connectors (LV 5770SER03A)

Analog Composite Input Connectors

Input Connectors	Two BNC connectors (switchable between channels A and B)
Input Impedance	75 Ω
Input Return Loss	
6 MHz or less	30 dB or more
6 to 20 MHz	18 dB or more
Maximum Input Voltage	±5 V (DC + peak AC)

Analog Composite Output Conector

Output Connector	One BNC connector
Output Signal	Generates the selected analog composite input channel (A or B) (active output)
Output Impedance	75 Ω
Output Voltage	1 Vp-p ± 5 % (into 75 Ω)
Frequency Response	
25 Hz to 5 MHz	±5 %
5 to 15 MHz	-10 to +5 %
15 to 20 MHz	±10%

2.3.6 External Sync Signal Input Connectors (LV 5770SER03A, LV 5770SER08, and LV 5770SER09A)

Input Connectors	1 pair of BNC connectors
Input Signal	Tri-level sync or NTSC/PAL black burst signal
Input Impedance	15 kΩ passive loop-through
Input Return Loss	30 dB or more (50 kHz to 30 MHz into 75 Ω)
Maximum Input Voltage	±5 V (DC + peak AC)

* If the video signal waveform is displayed using an external sync signal as the reference, inserting or removing an SDI signal or restarting the device may cause the waveform phase to be off by one clock.

* The following formats can not be used in external sync mode.
- HD dual link's 1080p/60, 1080p/59.94, and 1080p/50
- 3G's 720p/30, 720p/29.97, 720p/25, 720p/24, and 720p/23.98

2.3.7 Audio I/O Connectors (LV 5770SER42 and LV 7770 OP70)

I/O connectors of the digital audio

I/O Connector	BNC connector
Group A	4 connectors, 8 channels
Group B (LV 7770 OP70)	4 connectors, 8 channels
I/O Switching	Switching between the connections (4 connectors, 8 channels)
I/O Impedance	75 Ω
Maximum Input Voltage	±5 V (DC + peak AC)
Output Voltage	1.0 Vp-p ± 10 % (into 75 Ω)
Compliant Standard	AES-3id
Supported Format	L-PCM, Dolby-E (option), Dolby Digital (option)
Sampling Frequency	48 kHz
Output Signal	Channels 1 to 8 for SDI embedded audio Channels 9 to 16 for SDI embedded audio (LV 7770 OP70) 8 channels of audio are displayed on the screen. (Dolby signals are decoded and generated.)

I/O connector of the analog audio (LV 5770SER42)

I/O Connector	37-pin D-sub (female)
Locking screws	Inch screws (No.4-40UNC)
Input Signal Format	DC-coupled balanced input
Number of Input Channels	8 channels
Input Impedance	20 kΩ or more
Maximum Input Voltage	24 dBu
Output Signal Format	DC-coupled balanced output
Number of Output Channels	8 channels
Output Impedance	50 Ω (nominal)
Output Signal	Eight channels of audio signals displayed on the screen (Dolby signals are decoded and generated as analog signals.)
Maximum Output Level	
With a Load of 100 kΩ or More	24 dBu
With a Load of 600 Ω or More	4 dBu

Headphone Output

Output Connector	One stereo jack
Output Signal	2 channels from the audio signals that are being displayed on the screen (downmixed LT and RT are also possible)
Sampling Frequency	Only 48 kHz
Volume Adjustment	Adjusted from the menu
Power Output	Maximum 100 mW (into 8 Ω load resistance)

* The LV 5770SER08 or LV 5770SER09A is required to generate embedded audio signals.

2.3.8 Video Output Connectors

DVI-I Output Connector

Output Connector	One DVI-I connector
Output Signal	The measurement display is output as a digital signal
Resolution	XGA (1024 × 768)
Aspect Ratio (*1)	4:3, 16:9, 16:10
Signal Format	Single link TMDS, analog RGB
DDC	Not supported
HOT PLUG Detection	Not supported

Picture Monitor Output Connector (LV 5770SER08 and LV 5770SER09A)(*2)

Output Connector	1
Output Signal	Monitor output of the selected SDI input signal (channel A or B)
Signal Format	Single link TMDS
Color Space Conversion	YC_BC_R 4:2:2, YC_BC_R 4:4:4, RGB 4:4:4 (convertible between color spaces)
Quantization Conversion	8 bits, 10 bits, 12 bits
Audio (*3)	SDI embedded audio channels 1 to 8 embedded in the output signal (LPCM only)

*1 The display must have a resolution conversion feature.

*2 The following signals are not supported.
720p/24, 23.98
1080PsF/30, 29.97, 25, 24, 23.98
1080p/24, 23.98 (2048 × 1080)
1080PsF/24, 23.98 (2048 × 1080)

*3 The audio channel mapping is fixed.

2.3.9 Control Connectors

USB Port

Specification	USB 2.0
Supported Media	USB memory device
Function	Used to save captured data, event logs, preset data, data dumps, and loudness logs.

Ethernet Port (*1)

Compliant Standard	IEEE802.3
Supported Protocol	TELNET, FTP, SNMP, HTTP, SNTP
I/O Connectors	RJ-45
Function	Remote control from an external PC or the LV 7770-01
Type	10Base-T, 100Base-TX

Remote Control Connector

Function	Used to load preset settings, switch input channels, transmit the alarm signal, and start, stop, and clear the loudness measurement.
Control Signal	LV-TTL level (low active)
Input Voltage Range	0 to 5 VDC
Control Connector	15-pin D-sub (female)
Locking screws	Inch screws (No.4-40UNC)

*1 You cannot use TELNET and the LV 7770-01 at the same time.

2.3.10 Screen Capture

Function	Captures the display
Display	Displays only the captured image or overlays the captured image over the input signal
Media	Internal memory (RAM) and USB memory You can only record one screen capture to the internal memory.
Data Output	Screen captures can be saved as bitmap files to USB memory, or they can be saved in a file format that the LV 7770 can load.
Data Input	Data saved to USB memory can be loaded and displayed on the LV 7770.

2.3.11 Frame Capture (LV 5770SER08 and LV 5770SER09A)

Function	Captures frame data
Display	Displays the captured frame data or superimposes the captured frame data over the input signal
Media	Internal memory (RAM) and USB memory You can only record one frame of data to the internal memory
Data Output	Frame captures can be saved to USB memory as .dpx files, .tif files, or in a file format that the instrument can load
Data Input	Data saved to USB memory can be loaded and displayed on the instrument (*1)
Capture Timing	Manual and automatic (error capture)
Error Capturing	Automatically captures frame data when an error occurs

*1 An input signal in the same format as the frame data is required.

2.3.12 Presets

Presets(*1)	Saves the panel settings
Number of Presets	60
Preset Loading Method	Front panel, remote control connector (*2), or ethernet
Copying	All preset data can be copied from the LV 7770 to a USB memory device or from a USB memory device to the LV 7770.

*1 Settings related to whether the instrument is on or off, the ethernet connector, the remote control connector, the date, and the time are not saved.

*2 The number of presets loaded from the remote control connector can be 8 (6 when loudness measurement is being controlled) or 60.

2.3.13 Main Display Features

Input	SDI (LV 5770SER08 and LV 5770SER09A) and Composite (LV 5770SER03A)
Input Mode	Single input mode, simul mode, and 3G-SDI 2mapping (Only single input mode is available for HD dual link signals and composite input signals.)
Single Input Mode	Displays a single input signal
Simul Mode	Displays up to two input signals simultaneously
3G-SDI 2mapping Mode	Splits a 3G-SDI signal into two HD-SDI signals and displays them simultaneously
Simul Mode and 3G-SDI 2 Mapping Mode Display Format	Mixed, tiled, aligned (differs depending on the displayed contents)
Display Sizes	1-screen display, 2-screen multi display, and 4-screen multi display
1-Screen Display	Displays a single, large screen (the thumbnail display can be turned on and off)
2-Screen Multi Display	Splits the display into two screens (left and right)
4-Screen Multi Display	Splits the display into four screens

2.3.14 SDI Signal Video Waveform Display (LV 5770SER08 and LV 5770SER09A)

Simul Mode Display Format	Mix, aligned
Waveform Operations	
Display Mode	
Overlay	Overlays component signals
Parade	Displays component signals side by side
Blanking Interval	H and V blanking periods can be masked.
RGB Conversion	Converts a Y,C_B,C_R signal into an RGB signal and displays the result
Channel Mapping	GBR or RGB order
Pseudo-Composite Display	Artificially converts component signals into composite signals and displays the result
Line Select	Selected line display
Sweep Modes	H, V

Display Colors	Seven colors to choose from; a different color for each input channel
Vertical Axis	
Gain	×1, ×5
Variable Gain	×0.2 to ×2
Amplitude Accuracy	
×1	±0.5 %
×5	±0.2 %
3G-SDI, HD Dual Link (1080p/60, 1080p/59.94, 1080p/50)	
Y Signal	±0.5 % for 1 to 60 MHz
C_BC_R Signal	±0.5 % for 0.5 to 30 MHz
Low-Pass Attenuation	20 dB or more (at 40 MHz)
3G-SDI, HD-SDI, HD Dual Link (excluding 1080p/60, 1080p/59.94, 1080p/50)	
Y Signal	±0.5 % for 1 to 30 MHz
C_BC_R Signal	±0.5 % for 0.5 to 15 MHz
Low-Pass Attenuation	20 dB or more (at 20 MHz)
SD-SDI	
Y Signal	±0.5 % for 1 to 5.75 MHz
C_BC_R Signal	±0.5 % for 0.5 to 2.75 MHz
Low-Pass Attenuation	20 dB or more (at 3.8 MHz)
Horizontal Axis	
Line Display	×1, ×10, ×20, ACTIVE, BLANK
Field Display	×1, ×20, ×40
Cursor Measurement	
Composition	
Horizontal Cursors	2 (REF and DELTA)
Vertical Cursors	2 (REF and DELTA)
Amplitude Measurement	mV, %, R%, DEC, HEX
Time Measurement	Second display
Frequency Display	Computes and displays the frequency with the length of one period set to the time between two cursors
Scale	
Types	% scale, V scale, decimal scale, hexadecimal scale
Display Color	Seven colors to choose from
Thumbnail Display	Picture, audio level meter, histogram

2.3.15 Analog Composite Signal Video Waveform Display (LV 5770SER03A)

Waveform Operations	
Line Select	Selected line display
Sweep Mode	H, V
Display Color	Seven colors to choose from
Vertical Axis	
Scale	
Composite Signal	
NTSC	-40 to 100 IRE
PAL	-0.3 to 0.7 V
HD Tri-level Sync Signal	-0.3 to 0.7 V, -43 to 100 % (the unit is switchable between V and %)
Gain	×1, ×5
Variable Gain	×0.2 to ×2
Amplitude Accuracy	±1 %
Frequency Response	
Composite Signal	
25 Hz to 5 MHz	±2 %
5 to 5.6 MHz	-7 to +3 %
HD Tri-level Sync Signal	
25 Hz to 15 MHz	±5 %
15 to 20 MHz	±10 %
Step Response	(for 1 V full scale, flat, 2T pulse, and 2T bar)(when a composite video signal is applied)
Overshoot	±2 %
Preshoot	±1 %
Ringing	±2 %
Pulse/Bar Ratio	±1 %
Vertical Tilt	±1 %
Filter	Luminance filter
DC Restorer	Clamp to the back porch
Horizontal Axis	
Operation Mode	Displays a single waveform
Display Format	
Line Display	1H, 2H
Line Magnification	×1, ×10, ×20
Field Display	1V, 2V
Field Magnification	×1, ×20, ×40
Time Base Accuracy	±1 %
Cursor Measurement	
Horizontal Cursors	2 (REF and DELTA)
Time Measurement	Second display
Frequency Display	Computes and displays the frequency with the length of one period set to the time between two cursors
Vertical Cursors	2 (REF and DELTA)
Amplitude Measurement	mV, %, R%
Thumbnail Display	Picture, audio level meter, histogram

2.3.16 SDI Signal Vector Waveform Display (LV 5770SER08 and LV 5770SER09A)

Simul Mode Display Format	Mixed, tiled
Display Colors	Seven colors to choose from; a different color for each input channel
Blanking Interval(*1)	Masked
Pseudo-Composite Display	Artificially converts component signals into composite signals and displays the result
Line Select	Selected line display
Gain	×1, ×5, IQ-MAG
Variable Gain	×0.2 to ×2
Amplitude Accuracy	±0.5 %
Scale	
Type	ITU-R BT.601, ITU-R BT.709, AUTO
Color Bar Saturation	75 %, 100 %
IQ Axis	Show, hide
Display Colors	Seven colors to choose from
Thumbnail Display	Picture, audio level meter, histogram

*1 On the multi-screen display, this depends on the video signal waveform display's blanking display settings.

2.3.17 Analog Composite Signal Vector Waveform Display (LV 5770SER03A)

Line Select	Selected line display
Gain	×1, ×5, IQ-MAG
Variable Gain	×0.2 to ×2
Amplitude Accuracy	±3 %
Phase Accuracy	±2°
Phase Adjustment Range Display	360°
Scale	
Color Bar Saturation	75 %, 100 %
IQ Axis	Show, hide
Display Colors	Seven colors to choose from
Setup (NTSC)	0 % or 7.5 %
NTSC Display (PAL)	NTSC or PAL display
SCH Display	Displays the SCH value numerically
Thumbnail Display	Picture, audio level meter, histogram

* The vectorscope display is only available when a composite video signal is applied.

2.3.18 SDI Signal 5-Bar Display (LV 5770SER08 and LV 5770SER09A)

Simul Mode Display Format	Tiled only
Function	Converts an SDI signal into Y, R, G, B, and composite values and then displays the five peak levels
Channel Assignment	RGB, GBR
Scale	mV, %
Error Level	Based on the gamut error, composite gamut error, and luminance error thresholds
Line Select	Selected line display
Low-Pass Filter	The same as gamut errors Removes transient errors
Thumbnail Display	Picture, audio level meter, histogram

2.3.19 SDI Signal Picture Display (LV 5770SER08 and LV 5770SER09A)

Simul Mode Display Format	Mixed, tiled
Quantization	8 bits
Display Sizes	Fit, full frame, real, ×2
Frame Rate	The frame rate is converted and displayed using the internal sync signal.
Aspect Marker	
HD-SDI	4:3, 13:9, 14:9, 2.39:1, AFD
SD-SDI	13:9, 14:9, 16:9, AFD
Aspect Marker Format	Line, shadow (99 levels), black
Safety Marker Size	ARIB TR-B4, SMPTE RP-218, user-defined
Line Select	Marks the selected line
AFD Display	Displays abbreviations for SMPTE 2016-1-2007 standard AFD codes
Gamut Error Display	The positions of gamut errors are displayed on the picture (this is the logical sum of gamut, composite gamut, and luminance errors)
Superimpose(*1)	Displays English closed captions over the picture
Compliant Standards	
EIA-708	SMPTE ST 334
EIA/CEA-608-B (EIA-708-B)	SMPTE ST 334
EIA/CEA-608-B (EIA/CEA-608-B)	SMPTE ST 334
VBI (EIA/CEA-608-B Line21)	CIA/EIA-608-B
CINELITE Display	Displays the luminance information on the picture screen
Features	f Stop display, percentage display, and level display
f Stop Display	Displays the f value relative to the reference point
f Stop Gamma Correction	
Reference Gamma	0.45 (ITU-R BT709)
User-Defined Correction Tables	3
External Correction Tables	5 (read from USB memory)

Percentage Display	Displays luminance or RGB components as percentages
Level Display	Displays RGB components with 256 levels (8 bits)
Measured points	3
Measurement sizes	1 pixel, 3 × 3 pixels, or 9 × 9 pixels
CINELITE Advanced Display	
Features	Synchronized marker display, vector marker display
Synchronized Marker Display	Synchronizes the markers on the vector display or waveform display to the measurement points of the CINELITE display's f Stop display or % display
Vector Marker Display	Displays numerically the specified position on the vector display
Number of Markers	
Synchronized Marker	Up to 4
Vector Marker	1
Vector Numeric Display	Displays numerically the active marker position
Cb	Displays the C_B position as a percentage
Cr	Displays the C_R position as a percentage
deg	Displays the hue in degrees
d	Displays the distance from the center as a percentage
CINEZONE Display	
Description	Displays the luminance levels in the picture using different colors
Color	
Gradation	1024 colors
Step	12 colors
Search	Monochrome + 3 colors
Gradation and Step Displays	
Upper Limit Setting	-6.3 to 109.4 % (Values above the upper limit are displayed using white)
Lower Limit Setting	-7.3 to 108.4 % (Values below the lower limit are displayed using black)
Search Display	
Description	Displays a specified luminance level ±0.5 % using green on an otherwise monochrome picture display
Luminance Level Setting	-7.3 to 109.4 %
Upper Limit Setting	-6.3 to 109.4 % (Values above the upper limit are displayed using red)
Lower Limit Setting	-7.3 to 108.4 % (Values below the lower limit are displayed using blue)
Thumbnail Display	Video signal waveform, audio level meter, histogram

*1 This is not supported when the input signal is 3G-SDI or HD dual link.

2.3.20 Analog Composite Signal Picture Display (LV 5770SER03A)

Quantization	8 bits
Display Sizes	Fit, full frame, real, ×2
Frame Rate	The frame rate is converted and displayed using the internal sync signal
Aspect Marker Display	16:9, 14:9, 13:9
Aspect Marker Format	Line, shadow (99 levels), black
Safety Marker Size	SMPTE RP-218, user-defined
Line Select	Marks the selected line
Thumbnail Display	Video signal waveform, audio level meter, histogram

* The picture display is only available when a composite video signal is applied.

2.3.21 SDI Signal 3D-Assist Display (LV 5770SER08 and LV 5770SER09A)

Input Connectors	
Video Signal for the Left Eye	Channel A or stream 1 of 3G-B (2map)
Video Signal for the Right Eye	Channel B or stream 2 of 3G-B (2map)
Picture Display	
Anaglyph Display (Color)	Green and blue are masked from the video signal for the left eye, and red is masked from the video signal for the right eye. These signals are then combined
Anaglyph Display (Monochrome)	Green and blue are masked from the monochrome video signal for the left eye, and red is masked from the monochrome video signal for the right eye. These signals are then combined
Convergence Display	A 50 % offset is added to the difference between the monochrome video signal for the left eye and the monochrome video signal for the right eye
Overlay Display	The levels of the video signal for the left eye and the video signal for the right eye are halved. These signals are then combined
Checker Display	Displays the video signal for the left eye and the video signal for the right eye in a checkerboard pattern
Boundary Lines	Can be moved up, down, left, and right
Wipe Display	The video signal for the left eye and the video signal for the right eye are divided by boundary lines and displayed
Boundary Lines	The boundary lines can be moved up and down and left and right separately Show, hide
Left-Right Boundary Line	The part to the left of the boundary line is the video signal for the left eye. The part to the right of the boundary line is the video signal for the right eye
Top-Bottom Boundary Line	The part above the boundary line is the video signal for the left eye. The part below the boundary line is the video signal for the right eye
Flicker Display	Displays the video signal for the left eye and the video

	signal for the right eye on a time sharing display
Inverted Display	
Horizontal Inversion	Inverts the picture and video signal waveform (*1)
Vertical Inversion	Inverts the picture
Inverted Channel	Inverts video signal for the left eye and video signal for the right eye separately
Grid Display	
Description	Displays grid lines on the picture
Grid Type	Disparity, horizontal, both
Disparity Grid Width	6 to 192 pix (0.3 to 10.0 %) (*2)
Horizontal Grid Width	6 to 108 line (0.6 to 10.0 %) (*2)
Grid Movement	The disparity and horizontal grid lines can be moved separately
Video Signal Waveform Display	
Display Format	Side by side, overlayed
Wipe Feature	L/R wipe
Disparity Measurement Feature	
Description	Position the cursor at a point in the picture to measure the disparity and luminance level at that point
Alarm	If the upper limit is exceeded, “NG” (no good) is displayed
Measurable Items	Screen disparity (dots, cm, %), perceived depth (m), angle of vergence (°)

*1 Horizontal inversion of the video signal waveform occurs only during the video period.

*2 The pixel and line ranges vary depending on the input signal. The values shown here are for a 1080i/59.94 input signal.

2.3.22 Digital Audio Display

Simul Mode Display Format	Tiled only (the audio of channels A and B is synchronized)
Input Signal	SDI embedded audio input (requires the LV 5770SER08 or LV 5770SER09A), digital audio input
Displayed Channels	Up to 16 channels
Channel Selection	
SDI Embedded Audio	Any two groups from groups 1, 2, 3, and 4, all groups 1, 2, 3, and 4
Digital Audio	Group A, group B (LV 7770 OP 70), group A + group B (set to the input connectors)
Display Type	Level meter, Lissajous and correlation meter, surround, status, loudness
Level Meter Display	
Displayed Channels	2, 8, 16
Dynamic Range	-60 dBFS, -90 dBFS, reference level ± 3dB
Meter Response Model	TRUE PEAK, PPM type I, PPM type II, VU
Peak Hold Response Model	TRUE PEAK, PPM type I, PPM type II
Peak Hold Time	0.0 to 5.0 s (in 0.5 s steps), HOLD
Level Setting	-40.0 to 0.0 dBFS (standard level, warning level, over

	level)
Non-PCM Detection (Option)	Displays non-PCM audio channels with cyan flags
Lissajous Display	
Displayed Channels	2 (single), 8 (multi), 16 (multi)
Display Mode	X-Y, MATRIX
Correlation Meter	Displays the correlation between two channels as a value from -1 to 1
Indicator Display (Option)	Displays Dolby-E frame locations with indicators
Surround Display	
Function	Displays a graphical representation of a sound field
Surround Format	5.1
Mapping Channels	L, R, C, LFE, Ls (S), Rs, LL, RR
Center Channel Format	Normal, phantom center
Gain	×1, AUTO
Correlation Display	Detects the case of the channel being 180 ° out of phase with its adjacent channels
Status Display	
Level	Audio levels are displayed using numbers (dBFS).
Error Detection	Counts the number of errors that occur for each channel
Level Over	Counts the number of times that the level of the input signal exceeds the set value
Detection Setting	-40.0 to 0.0 dBFS
Clipping	Counts the number of times that a received signal exceeds the maximum signal value for the specified number of consecutive samples
Detection Setting	1 to 100 samples
Mute	Counts the number of times that the length of a received mute signal exceeds the specified period
Detection Setting	1 to 5000 ms
Parity Error	Counts the number of times that the input signal's parity bit and the parity bit recalculated by the LV 7770 differ
Validity Error	Counts the number of times that the input signal's validity bit is 1
CRC Error	Counts the number of times that the CRC of the channel status bits and the calculated CRC are different
Code Violation	Counts the number of times that the state of the input signal's biphase modulation is abnormal
Elapsed Time	Displays the amount of time that has elapsed since the instrument was reset
Channel Status Bits	Dump display, text display
User Data Bits	Dump display
Dolby-E Metadata	Text display (option)
Dolby Digital Metadata	Text display (option)

Loudness Display

Function	Loudness chart display, numeric display, log, level meter display, peak value display
Compliant Standard	ITU-R BS.1770, ARIB TR-B32, EBU R128, ATSC A/85
Measurement Channel	Simultaneous measurement of two audio sources
Mode (Main)	Monaural, stereo, 5.1, user specified channel
Mode (Sub)	Off, monaural, stereo
Channel Selection	User-defined assignment of eight channels
LFE Gain	0 to 10 times
Measurement Trigger	Manual (panel), remote, timecode (requires the LV 5770SER08 or LV 5770SER09A), mute
Measurement Mode	BS1770-2, ARIB, EBU, ATSC
Target Level	
BS1770-2	-24.0 LKFS
ARIB	-24.0 LKFS (±1 LK)
EBU	-23.0 LUFS (±1 LU)
ATSC	-24.0 LKFS (±2 LK)
Average Time	
Momentary Loudness	200 to 10000 ms
Short-term Loudness	200 to 10000 ms
Chart Display	
1 During Audio Measurement	Graph display of integrated loudness and momentary or short-term loudness
2 During Audio Measurement	Graph display of integrated, momentary, or short-term loudness
Measurement Time	
Standard Model	2min, 10min, 30min, 1hour, 2hour
Option	6hour, 12hour, 24hour, 32hour
MAG	Zoomed display of the target level from -18 to +9 (LK/LU)
Numeric Display	Absolute value and relative value displays of integrated loudness and momentary or short-term loudness
Integrated Loudness	Displayed in red when the target level range is exceeded
Momentary, Short-term Loudness	Displayed in red when the target level is exceeded
Log	
Log Time	Up to 2 hours (up to 32 hours with an option)
File	
Log	Saved in CSV format
Summary	Saves settings in text format
Level Meter Display	Displays level meters for eight channels
Peak Value Display	Displays peak values of a measurement channel numerically

2.3.23 Analog Audio Display (LV 5770SER42)

Input Signal	Analog audio input
Displayed Channels	Up to 8 channels
Display Type	Level meter, Lissajous, surround, status, loudness
Level Meter Display	The specifications other than those listed here are the same as the digital audio specifications
Scale Reference Level	Scales 4 dBu to -20 dBFS
Level Accuracy	±0.3 dB (-50 to 0 dBFS, 1 kHz, signal source impedance of 40 Ω or less)
Frequency Response	
30Hz to 20kHz	±0.4 dB (4 dBu, 1 kHz reference, TRUE PEAK response)
20Hz to 20kHz	+0.4 dB, -0.6 dB (4 dBu, 1 kHz reference, TRUE PEAK response)
Lissajous Display	The same as digital audio
Surround Display	The same as digital audio
Status Display	Displays only level values and level-over indications
Loudness Display	The same as digital audio

2.3.24 SDI Signal Status Display (LV 5770SER08 and LV 5770SER09A)

Signal Detection	Detects the presence of an SDI signal
Format Display	Displays the video signal format
Error Count	Up to 999,999 errors for each error type
Count Period	1 second, 1 field (frame)
Equivalent Cable Length Measurement (LV 5770SER09A)	Displays SDI signal attenuation in terms of cable length
Supported Cables	
3G-SDI, HD-SDI	LS-5CFB, 1694A
SD-SDI	L-5C2V, 8281
Display Range	
3G-SDI	< 10 m, 10 to 105 m, > 105 m
HD-SDI	< 5 m, 5 to 130 m, > 130 m
SD-SDI	< 50 m, 50 to 300 m, > 300 m
Resolution	5 m
Accuracy	±20 m
Embedded Audio Channel Display(*1)	Displays the embedded audio channel numbers
SDI Signal Error Detection	
CRC Error	Detects 3G-SDI, HD-SDI, and HD dual link signal transmission errors
EDH Error	Detects SD-SDI signal transmission errors
TRS Position Error	Detects TRS embedding position errors
TRS Code Error	Detects TRS protection bit errors
Line Number Error	Detects errors with the line numbers embedded in 3G-SDI, HD-SDI, and HD dual link signals
Illegal Code Error	Detects data within the range of 000h to 003h and 3FCh to 3FFh in locations other than TRS and ADF
Dual Link Phase Difference Error	

	Detects errors when the phase difference between links A and B is 100 clocks or more
Cable Length Measurement Error (LV 5770SER09A)	
	Displays an error if the specified cable length is exceeded
3G-SDI	10 to 105 m, 5 m steps
HD-SDI	5 to 130 m, 5 m steps
SD-SDI	50 to 300 m, 5 m steps
Ancillary Data Packet Error Detection	
Checksum Error	Detects ancillary data transmission errors
Parity Error	Detects ancillary data header parity errors
Embedded Audio Packet Error Detection(*1)	
BCH Error	Detects audio packet transmission errors
DBN Error	Detects audio packet continuity errors
Parity Error	Detects audio packet parity errors
Embedded Position Error	Detects the presence of audio in lines where it should not be embedded
Sample Counter Error	Detects asynchronous audio by measuring the number of audio samples
Image Quality Error Detection	
Gamut Error	Detects gamut errors
Detection Range	
Upper Limit	90.8 to 109.4 %
Lower Limit	-7.2 to 6.1 %
Low-Pass Filter	
HD-SDI	Approx. 1 MHz LPF (IEEE STD 205), approx. 2.8 MHz LPF, OFF
SD-SDI	Approx. 1 MHz LPF (EBU R103-2000), OFF
Area Specification	0.0 to 5.0 %
Time Specification	1 to 60 frames
Composite Gamut Error	Detects level errors that occur when component signals are converted to composite signals
Detection Range	
Upper Limit	90.0 to 135.0 %
Lower Limit	-40.0 to 20.0 %
Low-Pass Filter	The same as the gamut error
Area Specification	0.0 to 5.0 %
Time Specification	1 to 60 frames
Freeze Error(*2)	Detects freezing of video within the specified time range
Detection Method	Video interval checksum
Time Specification	2 to 300 frames

Black Error(*2)	Detects video blackouts
Black Level Specification	0 to 100 %
Area Specification	1 to 100 %
Time Specification	1 to 300 frames
Level Error(*2)	Detects YC_BC_R level errors
Upper Y Limit	-51 to 766 mV
Lower Y Limit	-51 to 766 mV
Upper C_BC_R Limit	-400 to 399 mV
Lower C_BC_R Limit	-400 to 399 mV
Low-Pass Filter	The same as the gamut error

*1 If the input signal is 3G-SDI level B, only stream 1 is supported. If the input signal is HD dual link, only link A is supported.

*2 This is not supported when the input signal is 3G-SDI or HD dual link.

2.3.25 Analog Composite Signal Status Display (LV 5770SER03A)

Phase Difference Display

Function	Displays the phase difference between a reference signal and an input signal both numerically and graphically
Reference Signal	NTSC/PAL black burst signal HD tri-level sync signal (The same format as the input signal)
Display Range	
Vertical	1 frame
Horizontal	±1 line

2.3.26 Event Log

Function	Records detected errors, events—such as the LV 7770 switching between input signals, and time stamps.
Recording Capacity	Up to 1000 events
Operation	Records all events from start to finish
Data Output	Data can be saved as text files to USB memory or over an Ethernet

2.3.27 SDI Analysis Features (LV 5770SER08 and LV 5770SER09A)

Data Dump Display

HD-SDI and SD-SDI Display Format	Displays data separated by serial data sequence or by channel
3G-SDI Display Format	Stream 1, stream 2, stream A and B simultaneously
HD Dual Link Display Format	Link A, link B, link A and B simultaneously
Line Select	Selected line display
Sample Select	Displays from the selected sample
Jump Feature	Jumps to an EAV or SAV
Data Output	Data can be saved as text files to USB memory or over an Ethernet

Phase Difference Display

Function	Displays the phase difference between a reference signal and an SDI video signal both numerically and graphically
Reference Signal	
3G-SDI, HD-SDI, SD-SDI	External sync signal, channel A of the SDI signal
HD Dual Link	External sync signal, link A
Display Range	
Vertical	1 frame
Horizontal	±1 line

Audio Control Packet

Display Details	Displays audio control packet analysis
HD Dual Link	Link A
3G-SDI Level B	Stream 1
3G-SDI Level B (2map)	Stream 1, stream 2
Display Format	Text, hexadecimal, binary
Group Select	Select one group from four available groups.

EDH Display (Only for SD-SDI)

Compliant Standard	SMPTE RP-165
Display Details	Analyzes and displays EDH packets and displays received CRC errors
Display Format	Text, hexadecimal, binary

Payload ID Display

Compliant Standard	SMPTE ST 352
Display Details	Analyzes and displays payload information
Display Format	Text and binary

Closed Caption Analysis Display (*1)

Compliant Standards	ARIB STD-B37, EIA-708-B, EIA/CEA-608-B
Display Details	Analyzes and displays the closed caption signal
Display Format	Text, hexadecimal, binary

Inter-Stationary Control Signal (NET-Q) Display (*1)	
Compliant Standard	ARIB STD-B39
Display Details	Analyzes and displays inter-stationary control signals
Display Format	Text, hexadecimal, binary
Logging Feature	Q-signal logging
Format ID Display Feature	Analyzes and displays the format ID
Data Broadcast Trigger Signal (*1)	
Compliant Standard	ARIB STD-B35
Display Format	Text, hexadecimal, binary
V-ANC User Data Display (*1)	
Compliant Standard	ARIB TR-B23
Display Format	Hexadecimal, binary
User-Defined ANC Packet Display	
ANC Specification Method:	DID, SDID
Display Details	
HD-SDI, 3G-SDI	Y, C
HD Dual Link	Y, C
	Link A, link B
3G-SDI Level B, 3G-SDI Level B (2map)	
	Y, C
	Stream 1, stream 2
Display Format	Hexadecimal, binary
AFD Packet Display (*1)	
Compliant Standard	SMPTE 2016-1-2007
Display Format	Text, hexadecimal, binary

*1 This is not supported when the input signal is 3G-SDI or HD dual link.

2.3.28 SDI Ancillary Data List Display (LV 5770SER08 and LV 5770SER09A)

List Display Details	Presence or absence of each ancillary data type, embedded line number, and number of packets per frame
Dump Display	The selected ancillary data is displayed in hexadecimal or binary.

* This is not supported when the input signal is 3G-SDI or HD dual link.

2.3.29 Lip Sync Measurement (LV 5770SER08 and LV 5770SER09A)

Function	Measures the time difference between the SDI signal and digital audio signal and displays the results numerically and graphically
Reference Signal	A Leader TSG that supports lip syncing
Measurement Method	Measures the time difference when the luminance level of the video signal exceeds the specified value and when the audio level signal exceeds the specified value
Video Signal Luminance Level	25 to 100 %
Audio Signal Level	-30 to 0 dBFS
Supported Audio Signals	Embedded audio signal, digital audio signal

Measurement Range (Bar Display)
±50 ms, ±100 ms, ±500 ms, ±1.0 s, ±2.5 s
Measurement Range (Numeric Display)
±3999 ms
Measurement Resolution 1 ms
Thumbnail Display Picture, audio level meter

2.3.30 SDI Closed Caption Packet Display (LV 5770SER08 and LV 5770SER09A)

Table 2-7 SD-SDI video signal formats and standards

Feature	Compliant Standard	DID	SDID
EIA-708 CC decode feature	SMPTE ST 334	161h	101h
EIA/CEA-608-B CC decode feature (EIA-708-B)	SMPTE ST 334	161h	101h
EIA/CEA-608-B CC decode feature (EIA/CEA-608-B)	SMPTE ST 334	161h	102h
VBI (EIA/CEA-608-B line 21) CC decode feature	CIA/EIA-608-B		

CDP Packet Display Details
CDP packet header information
• Frame rate
• Presence or absence of timecode packet
• Presence or absence of closed caption packet and validity of this packet
• Presence or absence of closed caption service packet and validity of this packet
• Presence or absence of the FUTURE data packet
• Timecode (when the timecode packet is present)
• Closed caption data (when the closed caption packet is present and valid)
Presence or absence of the CC1 to CC4 packets, the TEXT1 to TEXT4 packets, and the XDS packet

XDS Packet Display Details
Contents adviser information
Copy management information

ProgramDescription Packet Display Details
Stuffing Descriptor
AC3 Audio Descriptor
Caption Service Descriptor
Content Advisory Descriptor
Extended Channel Name Descriptor
Service Location Descriptor
Time-Shifted Service Descriptor
Component Name Descriptor
DCC Departing Request Descriptor
DCC Arriving Request Descriptor
Redistribution Control Descriptor

2.3.31 Eye Pattern Display (LV 5770SER09A)

Display	Displays the input SDI waveform before equalizing
3G-SDI, HD-SDI, SD-SDI	Displays channel A or B, whichever is selected
HD Dual Link	Displays link A or B, whichever is selected
Method	Equivalent time sampling
Frequency Response	7 GHZ -3dB (converted from the rise time)
Amplitude Accuracy	800 mV ± 5 % (for 800 mV input)
Time Axis	
2 UI Display	
3G-SDI	50 ps/div
HD-SDI	100 ps/div
SD-SDI	550 ps/div
4 UI Display	
3G-SDI	100 ps/div
HD-SDI	200 ps/div
SD-SDI	1100 ps/div
16 UI Display	
3G-SDI	400 ps/div
HD-SDI	800 ps/div
SD-SDI	4400 ps/div
Time Axis Accuracy	±3 %
Jitter Filter	
10 Hz	HPF 10 Hz
100 Hz	HPF 100 Hz
1 kHz	HPF 1 kHz
100 kHz	HPF 100 kHz
Timing	HPF 10 Hz
Alignment	
3G-SDI, HD-SDI	HPF 100 kHz
SD-SDI	HPF 1 kHz
Cursor Measurement	Amplitude measurement using Y cursors Time measurement using X cursors Rise time and fall time measurement using the TrTf cursor
Automatic Measurement Items	Eye pattern's amplitude Rise time (the time for the signal to rise from 20 to 80 % of its amplitude) Fall time (the time for the signal to fall from 80 to 20 % of its amplitude) DC offset Timing jitter Current jitter Rising edge overshoot Falling edge overshoot
DC Offset Accuracy	(Displayed value ± 5 %) ± 20 mV

2.3.32 Jitter Display (LV 5770SER09A)

Display	Displays the jitter component of an SDI signal
3G-SDI, HD-SDI, SD-SDI	Displays channel A or B, whichever is selected
HD Dual Link	Displays link A or B, whichever is selected
Method	Phase detection method
Gain	×8, ×2, ×1
Measurement Range	
×8	0.00 to 1.20 UI
×2	1.20 to 4.80 UI
×1	4.80 to 9.60 UI
Frequency Response	
SD-SDI	600 kHz or more (with 0.2 UI input)
HD-SDI	2 MHz or more (with 0.2 UI input)
3G-SDI	2 MHz or more (with 0.3 UI input)
Time Axis	1 H, 2 H, 1 V, 2 V
Time Axis Accuracy	±3 %
Jitter Filter	
10 Hz	HPF 10 Hz
100 Hz	HPF 100 Hz
1 kHz	HPF 1 kHz
100 kHz	HPF 100 kHz
Timing	HPF 10 Hz
Alignment	
3G-SDI, HD-SDI	HPF 100 kHz
SD-SDI	HPF 1 kHz
Cursor Measurement	Jitter value measurement through the use of cursors
Automatic Measurement Display Feature	Displays the jitter value in seconds (sec) and unit intervals (UI)
Automatic Measurement Items	Timing jitter, current jitter
Accuracy	Input jitter frequency: 1 kHz. Filter setting: 10 Hz, within measurement range
0 UI < automatic measurement value ≤ 1 UI	±10 % + 0.05 UI
1 UI < automatic measurement value ≤ 7 UI	±10 %

2.3.33 Eye Pattern and Jitter Detection (LV 5770SER09A)

Error Detection	On or off per item
Error Threshold Settings	Can be set individually for 3G-SDI, HD-SDI, and SD-SDI signals
Event Log	Stores eye patterns and jitter errors
Threshold Values	100 % of the values in the SMPTE standard
Eye-Pattern Amplitude	
Upper Limit	80 to 140 % (640 to 1120 mV)
Lower Limit	40 to 100 % (320 to 800 mV)
Rise Time	
3G-SDI	40 to 140 % (54.0 to 189.0 ps)
HD-SDI	40 to 140 % (108.0 to 378.0 ps)
SD-SDI	40 to 140 % (0.60 to 2.10 ns)
Fall Time	
3G-SDI	40 to 140 % (54.0 to 189.0 ps)
HD-SDI	40 to 140 % (108.0 to 378.0 ps)
SD-SDI	40 to 140 % (0.60 to 2.10 ns)
Difference between the Rise and Fall Times	
3G-SDI	40 to 140 % (20 to 70 ps)
HD-SDI	40 to 140 % (40 to 140 ps)
SD-SDI	40 to 140 % (0.20 to 0.70 ns)
Timing Jitter	
3G-SDI	10 to 200 % (0.20 to 4.00 UI, 67.4 to 1348.0 ps)
HD-SDI	10 to 200 % (0.10 to 2.00 UI, 67.4 to 1348.0 ps)
SD-SDI	10 to 200 % (0.02 to 0.40 UI, 0.07 to 1.48 ns)
Current Jitter	
3G-SDI	10 to 200 % (0.03 to 0.60 UI, 10.1 to 202.5 ps)
HD-SDI	10 to 200 % (0.02 to 0.40 UI, 13.5 to 270.0 ps)
SD-SDI	10 to 200 % (0.02 to 0.40 UI, 0.07 to 1.48 ns)
Rising Edge Overshoot	0 to 200 % (0.0 to 20.0 %)
Falling Edge Overshoot	0 to 200 % (0.0 to 20.0 %)
DC Offset	
Upper Limit	0 to 100 % (0 to 500 mV)
Lower Limit	0 to 100 % (0 to -500 mV)

2.3.34 Time Display Feature

Time Display	Current time, timecode (LV 5770SER08 and LV 5770SER09A)
Current Time Display	The time based on the internal clock
Timecode	LTC, VITC, D-VITC (SD-SDI only)
Compliant Standards	
LTC, VITC	SMPTE ST 12-2
D-VITC	SMPTE ST 266

2.3.35 Alarm Output Feature

Display Indication	When an error occurs or the fan stops rotating, an alarm is displayed.
Remote Control Connector Output	Each time that an error occurs or the fan stops rotating, a signal is transmitted from the remote control connector to indicate this occurrence.

2.3.36 Front Panel

Key LEDs	All the keys are dimly back-lit, and the selected key is lit more brightly
Power Switch	Stores whether the instrument is on or off
Last-Memory Feature	Backs up the panel settings to memory

2.3.37 General Specifications

Environmental Conditions	
Operating Temperature Range	0 to 40 °C
Operating Humidity Range	85 %RH or less (no condensation)
Optimal Temperature	10 to 30 °C
Operating Environment	Indoors
Elevation	Up to 2,000 m
Overvoltage Category	II
Pollution Degree	2
Power Requirements	
Voltage	90 to 250 VAC
Frequency	50/60 Hz
Power Consumption	90 W max.
Dimensions	426 (W) × 44 (H) × 460 (D) mm (excluding protrusions)
Weight	Approx. 5 kg (excluding options and accessories)
Accessories	Power cord 1
	Cover/inlet stopper 1
	15-pin D-sub connector 1
	15-pin D-sub connector cover 1
	37-pin D-sub connector (LV 5770SER42) 1
	37-pin D-sub connector cover (LV 5770SER42)..... 1
	Instruction manual 1

3. PANEL DESCRIPTION

3.1 Front Panel

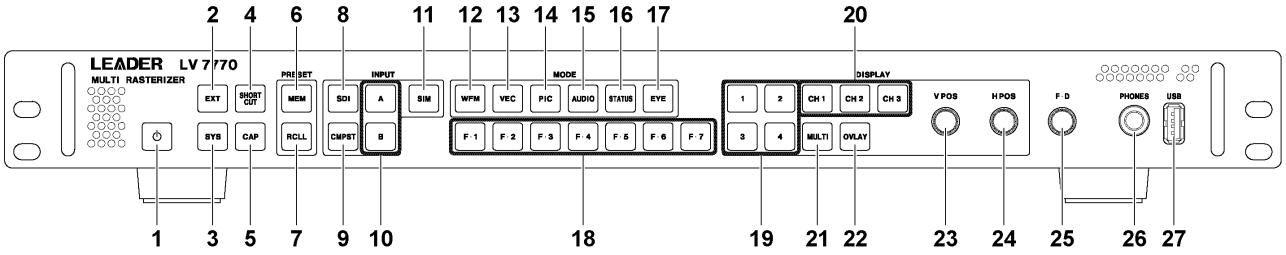


Figure 3-1 Front panel

Table 3-1 Front panel description

No.	Name	Description
1	Power switch	Press this switch to turn the instrument on. Hold this switch down to turn the instrument off. See section 4.3, “Turning the Instrument On and Off.”
2	EXT	Switches the SDI signal sync signal. When the internal sync signal is being used, this key's LED turns off. When the external sync signal is being used, this key's LED lights. See section 4.5.4, “External Sync Signal Input (LV 5770SER08 and LV 5770SER09A).”
3	SYS	Configure settings for the instrument and the installed optional units. See chapter 7, “SYSTEM SETTINGS.”
4	SHORTCUT	Loads panel settings, adjusts the volume, saves a screen capture to the USB memory device, or adjusts the intensity. See sections 4.7.5, “Operating the Shortcut Key” and 7.4, “Setting the Shortcut Key.”
5	CAP	Captures the screen or frame data. See chapter 8, “CAPTURE FEATURE.”
6	MEM	Registers or deletes a single preset, or copies all presets. See chapter 9, “PRESET FEATURE.”
7	RCLL	Loads a preset. See chapter 9, “PRESET FEATURE.”
8	SDI	Measures the SDI signal being applied to the LV 5770SER08 or LV 5770SER09A.
9	CMPST	Measures the composite signal or HD tri-level sync signal being applied to the LV 5770SER03A.
10	A/B	Select the input channel of the SDI signal. See section 5.4, “Selecting the Input Channel.”
11	SIM	Switches the SDI signal input mode. In single input mode, this key's LED turns off. In simul mode, this key's LED lights. See section 5.4, “Selecting the Input Channel.”
12	WFM	Shows the video signal waveform display. This requires the LV 5770SER03A, LV 5770SER08, or LV 5770SER09A. See section 5.5, “Selecting the Display Mode”
13	VEC	Shows the vector display. This requires the LV 5770SER03A, LV 5770SER08, or LV 5770SER09A.

No.	Name	Description
		See section 5.5, “Selecting the Display Mode”
14	PIC	Shows the picture display. This requires the LV 5770SER03A, LV 5770SER08, or LV 5770SER09A. See section 5.5, “Selecting the Display Mode”
15	AUDIO	Shows the audio display. See section 5.5, “Selecting the Display Mode”
16	STATUS	Shows the status display. This requires the LV 5770SER03A, LV 5770SER08, or LV 5770SER09A. See section 5.5, “Selecting the Display Mode”
17	EYE	Shows the eye pattern display. This requires the LV 5770SER09A. See section 5.5, “Selecting the Display Mode”
18	F•1 to F•7	Carries out the corresponding function menu operation. See section 4.7.2, “Function Menu Operations.”
19	1 to 4	Select the display area. See section 5.2, “Selecting the Display Area.”
20	CH 1 to CH 3	Turn each channel of the video signal waveform on and off. When a channel is displaying a signal, the corresponding key's LED lights.
21	MULTI	Switches the display format. When the multi-screen display (2- or 4-screen) is in use, this key's LED lights. When the 1-screen display is in use, this key's LED turns off. See section 5.1, “Selecting the Display Format”
22	OVLAY	Switches the video signal waveform display format. When the overlay display (video signal waveforms are displayed on top of each other) is in use, this key's LED lights. When the parade display (video signal waveforms are displayed side by side) is in use, this key's LED turns off.
23	V POS	Adjusts the vertical position of the video signal waveform or eye pattern waveform. Press this key to return the position to the reference position.
24	H POS	Adjusts the horizontal position of the video signal waveform or eye pattern waveform. Press this key to return the position to the reference position.
25	F•D	This knob is used to specify a numeric value or to move cursors. In most cases, pressing this knob will return the value you are adjusting to its default setting.
26	PHONES	This is a standard-plug headphone jack. When a pair of headphones are connected to this jack, the LV 7770 transmits the audio that is embedded in an SDI signal or the audio that is applied to the DIGITAL AUDIO IN/OUT.
27	USB port	This USB port is used to save and load various kinds of data.

3.2 Rear Panel

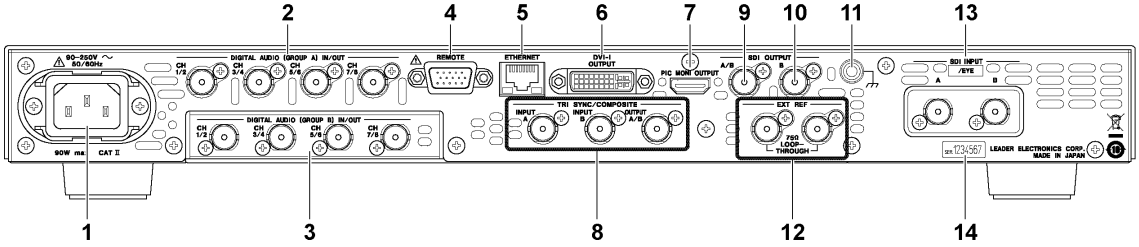


Figure 3-2 Rear panel (when OP70 is installed)

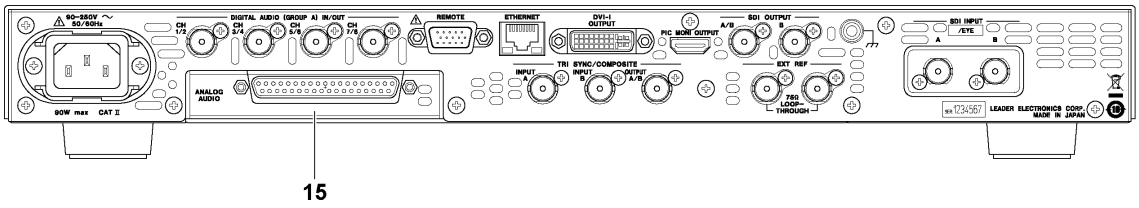


Figure 3-3 Rear panel (when LV 5770SER42 is installed)

Table 3-2 Rear panel description

No.	Name	Description
1	AC inlet	Attach the included cover/inlet stopper to the AC inlet. See section 4.1, “Cover/Inlet Stopper.”
2	DIGITAL AUDIO (GROUP A) IN/OUT	These are used to receive and transmit digital audio signals. See section 4.5.6, “Digital Audio Signal I/O.”
3	DIGITAL AUDIO (GROUP B) IN/OUT	These are LV 7770 OP70 I/O connectors. These are used to receive and transmit digital audio signals. See section 4.5.6, “Digital Audio Signal I/O.”
4	REMOTE	This is a D-sub, 15-pin remote control connector. This can be used to execute actions such as loading presets. See chapter 10, “REMOTE CONTROL.”
5	ETHERNET	This is the Ethernet port. See chapter 11, “ETHERNET REMOTE CONTROL.”
6	DVI-I OUTPUT	This is the DVI-I output connector. It outputs the measurement display. See section 4.2, “Connecting to a Display.”
7	PIC MONI OUTPUT	This is used to transmit a TMDS signal that has been converted from an SDI signal applied to an SDI INPUT connector. See section 4.5.3, “Picture Monitor Output (LV 5770SER08 and LV 5770SER09A).”
8	TRI SYNC/ COMPOSITE	These are LV 5770SER03A I/O connectors. These are used to receive and transmit composite signals and HD tri-level sync signals. See section 4.5.5, “Composite Signal I/O (LV 5770SER03A).”
9	SDI OUTPUT A/B	This generates the reclocked signal of the SDI signal received through an SDI INPUT connector. There are two modes: a mode that generates the signal from the currently selected channel and a mode that is fixed to generating the signal

No.	Name	Description
		from channel A. See section 4.5.2, “SDI Signal Output (LV 5770SER08 and LV 5770SER09A).”
10	SDI OUTPUT B	This generates the reclocked signal of the SDI signal received through the SDI INPUT B connector. See section 4.5.2, “SDI Signal Output (LV 5770SER08 and LV 5770SER09A).”
11	Ground terminal	This is used to connect the instrument to an external ground.
12	EXT REF	These are loop-through external sync signal input connectors. See section 4.5.4, “External Sync Signal Input (LV 5770SER08 and LV 5770SER09A).”
13	SDI INPUT	These are LV 5770SER08 or LV 5770SER09A input connectors. These are used to receive SDI signals. “/EYE” is displayed on the LV 5770SER09A. See section 4.5.1, “SDI Signal Input (LV 5770SER08 and LV 5770SER09A).”
14	Serial number label	The instrument's serial number is printed on this label.
15	ANALOG AUDIO	This is the LV 5770SER42 I/O connector. This is used to receive and transmit audio signals. See section 4.5.7, “Analog Audio Signal I/O (LV 5770SER42).”

4. BEFORE YOU BEGIN MEASURING

4.1 Cover/Inlet Stopper

A cover/inlet stopper is included with the instrument. Use this device to prevent the power cord from being pulled free of the AC inlet.

4.1.1 Attaching the Cover/Inlet Stopper

1. **Cover the power cord with the cover/inlet stopper.**

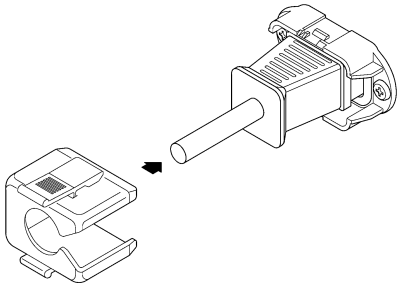


Figure 4-1 Attaching the cover/inlet stopper; step 1

2. **Push the cover/inlet stopper, until you hear a click, to attach it to the AC inlet.**

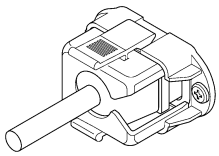


Figure 4-2 Attaching the cover/inlet stopper; step 2

3. **Check that the cover/inlet stopper is securely attached to the AC inlet.**

4.1.2 Removing the Cover/Inlet Stopper

1. **Release the lock by using two fingers to press the cover/inlet stopper levers.**

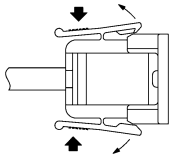


Figure 4-3 Removing the cover/inlet stopper; step 1

2. **Pull the cover/inlet stopper away from the AC inlet.**

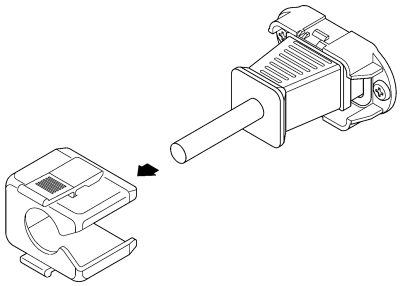


Figure 4-4 Removing the cover/inlet stopper; step 2

4.2 Connecting to a Display

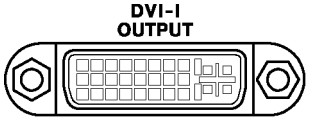


Figure 4-5 DVI-I output connector

By connecting a display to the DVI-I output connector, you can display a variety of screens. Using a commercially available DVI-I cable, connect the LV 7770 to an XGA (1024 × 768) display.
The default value of the aspect ratio is 4:3, but you can use the system settings to change it to 16:9 or 16:10. (The display must have a resolution conversion feature.)
See section 7.1.2, “Rear Panel Settings” and 7.6, "Selecting the Aspect Ratio."

4.3 Turning the Instrument On and Off

To turn on the power, press the power switch. The power switch LED lights, and the instrument turns on. When you turn on the power, the LV 7770 starts with the same panel settings that were being used when it was last turned off.

To turn off the power, hold down the power switch for one second or more. The power switch LED and the instrument turn off.

4.4 Optional Units

You can add measurement features to the LV 7770 by installing separately-sold optional units.

You can include units as factory options. Contact your local LEADER agent. You cannot install or uninstall units. Do not remove the instrument's case or panels for any reason.

Table 4-1 Unit types

Unit	Name	Main Function
LV 7770 OP70	16CH DIGITAL AUDIO ADAPTER	Addition of digital audio I/O connectors
LV 5770SER03A	TRI SYNC/COMPOSITE	Composite signal and HD tri-level sync signal measurement
LV 5770SER08	SDI INPUT	SDI signal measurement
LV 5770SER09A	SDI INPUT/EYE	SDI signal measurement and eye pattern display
LV 5770SER42	ANALOG AUDIO	Analog audio signal measurement Analog audio signal output

4.5 Signal I/O

4.5.1 SDI Signal Input (LV 5770SER08 and LV 5770SER09A)

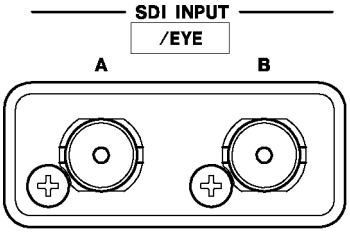


Figure 4-6 SDI input connectors

* "/EYE" is displayed on the LV 5770SER09A.

- **Input Format**

  This instrument supports 3G, HD, HD dual link, and SD signals. Apply signals that this unit supports to its SDI input connectors.
  If you are measuring embedded audio in simul mode, apply signals synchronized to channels A and B.
  See section 2.3.1, "SDI Video Signal Formats and Standards (LV 5770SER08 and LV 5770SER09A)."

- **Terminators**

  The SDI input connectors are terminated internally at 75 Ω, so there is no need to connect terminators to them. Connect cables with a characteristic impedance of 75 Ω to the input connectors.

- **Measurement Channels**

  To switch to a measurement channel, press A or B. Also, when the SIM key's LED is lit, you can measure the signal applied to SDI INPUT A and the signal applied to SDI INPUT B simultaneously (excluding when the status display or the eye pattern display is in use).
  See section 5.4, "Selecting the Input Channel."

- **Cables**

  It has been confirmed for each channel that errors do not occur when the LV 7770 receives an 800 mVp-p stress pattern through the following cables.
  3G: LS-5CFB cable, 70 m
  HD: LS-5CFB cable, 110 m
  SD: L-5C2V cable, 260 m

- **Eye Pattern Measurement (LV 5770SER09A)**

  Use a color bar signal to measure the amplitude of an eye pattern and jitter values.

  Because measured values are influenced greatly by the cable that is used, we recommend that you use a high-quality, low-loss 5C-FB or Belden 1694A measurement cable. Before connecting the cables, check that the cable connectors are not dirty, deformed, or otherwise damaged.
  Especially if you are measuring the amplitude of eye patterns, rise time, fall time, rising edge overshoot, or falling edge overshoot of relay instruments, use one of the cables described above (1 meter in length).

Static electricity build-up in the cables can cause damage to the input circuit. Discharge any built-up static electricity before you connect the cables.

4.5.2 SDI Signal Output (LV 5770SER08 and LV 5770SER09A)

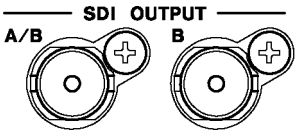


Figure 4-7 SDI output connectors

A reclocked signal of the signal applied to SDI INPUT A or SDI INPUT B is generated from SDI OUTPUT A/B. You can switch between the two input signals by pressing A or B. In single input mode, channel A or B—whichever channel's corresponding key is lit— is generated. In simul mode, the channel that has been selected with the ■ on the screen is generated. (In a HD dual link signal, this is fixed to link A.) You can also configure the system settings so that the signal generated from this connector is fixed to the reclocked signal of the signal applied to SDI INPUT A.
SDI OUTPUT B generates the reclocked signal of the signal applied to SDI INPUT B.
Regardless of the types of signals that are transmitted, connect the signals to SDI compatible picture monitors or other devices.
See section 7.1.2, “Rear Panel Settings.”

4.5.3 Picture Monitor Output (LV 5770SER08 and LV 5770SER09A)

Figure 4-8 Picture monitor output connector

This is used to transmit a TMDS signal that has been converted from an SDI signal applied to SDI INPUT A or SDI INPUT B. Use a commercially available HDMI cable to connect the LV 7770 to an LCD monitor.

Press A or B to select the output channel. For HD dual link signals, a signal consisting of the combination of links A and B is generated. For 3G-B (2map) signals, the selected stream (1 or 2) is generated.
The output signal’s format, quantization, and stream can be selected in section 7.1.2, “Rear Panel Settings.”

The following input signals are not supported.
• 720p/24, 23.98
• 1080PsF/30, 29.97, 25, 24, 23.98
• 1080p/24, 23.98 (2048 × 1080)
• 1080PsF/24, 23.98 (2048 × 1080)

The output audio signal channel mapping is fixed as shown below.

Ch 8	Ch 7	Ch 6	Ch 5	Ch 4	Ch 3	Ch 2	Ch 1
RRC	RLC	RR	RL	FC	LFE	FR	FL

4.5.4 External Sync Signal Input (LV 5770SER03A, LV 5770SER08, and LV 5770SER09A)

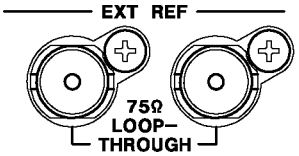


Figure 4-9 External sync signal input connectors

You can apply an external signal to show the video signal waveform display, vector display, and status display (phase difference display). (*1)
Apply an external sync signal to an external sync signal input connector, and then press EXT. The LV 7770 determines the sync signal format automatically.

As shown in the figure below, the external sync signal input connectors are loop-through. Apply the input signal to one of the two connectors, and terminate the other connector at 75 Ω, or connect it to another 75 Ω device. If you connect to another device, be sure to terminate the device at the end of the chain at 75 Ω. Connect cables with a characteristic impedance of 75 Ω to the input connectors.

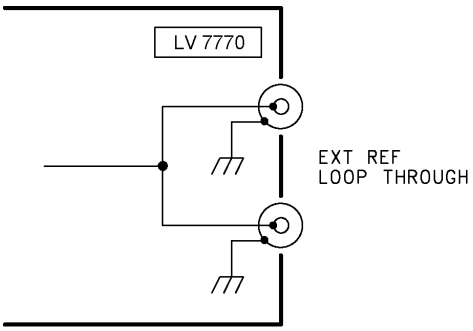


Figure 4-10 Loop-through

*1 The following formats can not be used in external sync mode.
- HD dual link's1080p/60, 1080p/59.94, and 1080p/50
- 3G's 720p/30, 720p/29.97, 720p/25, 720p/24, and 720p/23.98

External sync signals that are compatible with each input signal are indicated with a check mark in the following table.

Table 4-2 External sync signal formats (SD, HD, and HD dual link)

External Sync Signal Format	Input Signal Format: SD		HD: HD dual link													HD							
	525i/59.94	625i/50	1080i/60	1080i/59.94	1080i/50	1080PsF/30	1080PsF/29.97	1080PsF/25	1080PsF/24	1080PsF/23.98	1080p/30	1080p/29.97	1080p/25	1080p/24	1080p/23.98	720p/60	720p/59.94	720p/50	720p/30	720p/29.97	720p/25	720p/24	720p/23.98
NTSC with 10 field ID (59.94 Hz)(*1)	✓			✓			✓			✓		✓			✓		✓			✓			✓
NTSC (59.94 Hz)	✓			✓			✓					✓					✓			✓			
PAL (50 Hz)		✓			✓			✓					✓					✓			✓		
1080i/60			✓			✓																	
1080i/59.94				✓			✓																
1080i/50					✓			✓															
1080PsF/30						✓																	
1080PsF/29.97							✓																
1080PsF/25								✓															
1080PsF/24									✓														
1080PsF/23.98										✓													
1080p/30											✓												
1080p/29.97												✓											
1080p/25													✓										
1080p/24														✓									
1080p/23.98															✓								
720p/60																✓							
720p/59.94																	✓						
720p/50																		✓					
720p/30																			✓				
720p/29.97																				✓			
720p/25																					✓		
720p/24																						✓	
720p/23.98																							✓

*1 If the input signal is 1080PsF/23.98 or 1080p/23.98, the 10 field ID is automatically detected.

* In the phase difference measurement of the LV 5770SER03A, apply an external sync signal whose format is the same as the input signal.

Table 4-3 External sync signal formats (3G)

		Input Signal Format																	
		3G-A																	
		3G-B																	
					3G-B (2map)														
		1080p/60	1080p/59.94	1080p/50	1080i/60	1080i/59.94	1080i/50	1080PsF/30	1080PsF/29.97	1080PsF/25	1080PsF/24	1080PsF/23.98	1080p/30	1080p/29.97	1080p/25	1080p/24	1080p/23.98	720p/60	720p/59.94	720p/50
External Sync Signal Format	NTSC with 10 field ID (59.94 Hz)(*1)		✓			✓			✓			✓		✓			✓		✓	
	NTSC (59.94 Hz)		✓			✓			✓					✓					✓	
	PAL (50 Hz)			✓			✓			✓					✓					✓
	1080i/60	✓			✓			✓												
	1080i/59.94		✓			✓			✓											
	1080i/50			✓			✓			✓										
	1080PsF/30							✓												
	1080PsF/29.97								✓											
	1080PsF/25									✓										
	1080PsF/24										✓									
	1080PsF/23.98											✓								
	1080p/30												✓							
	1080p/29.97													✓						
	1080p/25														✓					
	1080p/24															✓				
	1080p/23.98																✓			
	720p/60																	✓		
	720p/59.94																		✓	
	720p/50																			✓

*1 If the input signal is 1080PsF/23.98 or 1080p/23.98, the 10 field ID is automatically detected.

4.5.5 Composite Signal I/O (LV 5770SER03A)

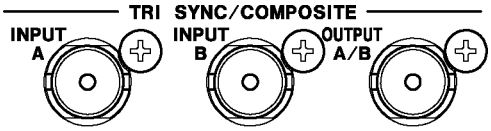


Figure 4-11 Composite I/O connectors

- **Signal Input**

  Apply an NTSC/PAL composite signal or an HD tri-level sync signal to INPUT A or INPUT B.
  To switch the measurement channel, press A or B. Note that pressing the SIM key has no effect. You cannot measure the signals that are being applied to INPUT A and INPUT B simultaneously.

- **Signal Output**

  Press A or B to switch between the signals that are being applied to INPUT A and INPUT B. The selected signal is generated.
  Connect the signals to composite-signal compatible picture monitors or other devices.

4.5.6 Digital Audio Signal I/O

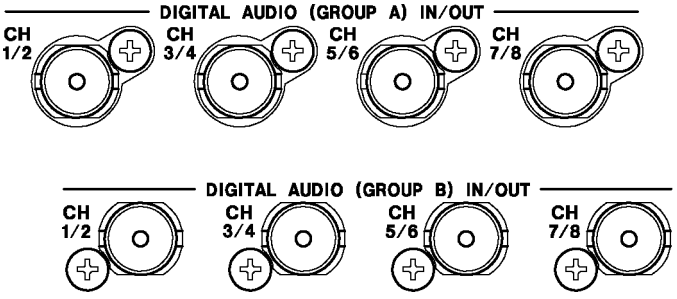


Figure 4-12 Digital audio I/O connectors

* GROUP B is optional (OP70).

Use the system settings to set the function of the audio I/O connectors to input or output. Before you apply signals, check that the function of the connectors has been set to input. Failing to do so could damage the instrument.
Use the output signal for monitoring purposes.

See section 7.1.2, “Rear Panel Settings.”

4.5.7 Analog Audio Signal I/O (LV 5770SER42)

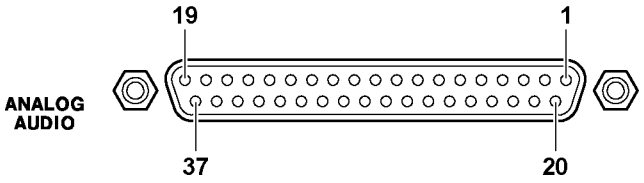


Figure 4-13 Analog audio I/O connector (female, inch screws)

Table 4-4 Analog audio I/O connector pinout example

Pin No.	Name	Pin No.	Name	I/O	Function
37	INPUT1+	19	INPUT1-	I	Analog audio input 1
36	INPUT2+	18	INPUT2-	I	Analog audio input 2
35	INPUT3+	17	INPUT3-	I	Analog audio input 3
-	-	16	GND	-	Ground
34	INPUT4+	15	INPUT4-	I	Analog audio input 4
33	INPUT5+	14	INPUT5-	I	Analog audio input 5
32	INPUT6+	13	INPUT6-	I	Analog audio input 6
31	GND	-	-	-	Ground
30	INPUT7+	12	INPUT7-	I	Analog audio input 7
29	INPUT8+	11	INPUT8-	I	Analog audio input 8
-	-	10	GND	-	Ground
28	OUTPUT1+	9	OUTPUT1-	O	Analog audio output 1
27	OUTPUT2+	8	OUTPUT2-	O	Analog audio output 2
26	OUTPUT3+	7	OUTPUT3-	O	Analog audio output 3
25	OUTPUT4+	6	OUTPUT4-	O	Analog audio output 4
24	OUTPUT5+	5	OUTPUT5-	O	Analog audio output 5
23	OUTPUT6+	4	OUTPUT6-	O	Analog audio output 6
22	OUTPUT7+	3	OUTPUT7-	O	Analog audio output 7
21	OUTPUT8+	2	OUTPUT8-	O	Analog audio output 8
20	GND	1	GND	-	Ground

- **Signal Input**

  You can measure up to eight channels of analog audio signals.
  In the system settings, set ANALOG AUDIO to INPUT. If it is set to OUTPUT, you cannot perform measurements.
  For information on the ANALOG AUDIO setting, see section 7.1.2, “Rear Panel Settings.”

- **Signal Output**

  You can perform a D/A conversion on and generate up to eight channels of embedded audio signals or external digital audio signals. (You cannot generate the applied analog audio signal.) Use the output signal for monitoring purposes.
  In the system settings, set ANALOG AUDIO to OUTPUT. If it is set to INPUT, you cannot generate output.

  The nominal output impedance of the connectors is 50 Ω. In addition, the output level is optimized for a load impedance of 100 kΩ.

- **About the Unit**

  LV 7770 audio signals are displayed in units of dBFS with 4 dBu scaled to -20 dBFS. A conversion table between dBu and dBFS is shown below.

  Table 4-5 dBu, dBFS conversion table

dBu	dBFS
+ 24	0
+ 18	- 6
+ 4	- 20
0	- 24
- 16	- 40
- 36	- 60
- 66	- 90

4.6 General Display Explanation

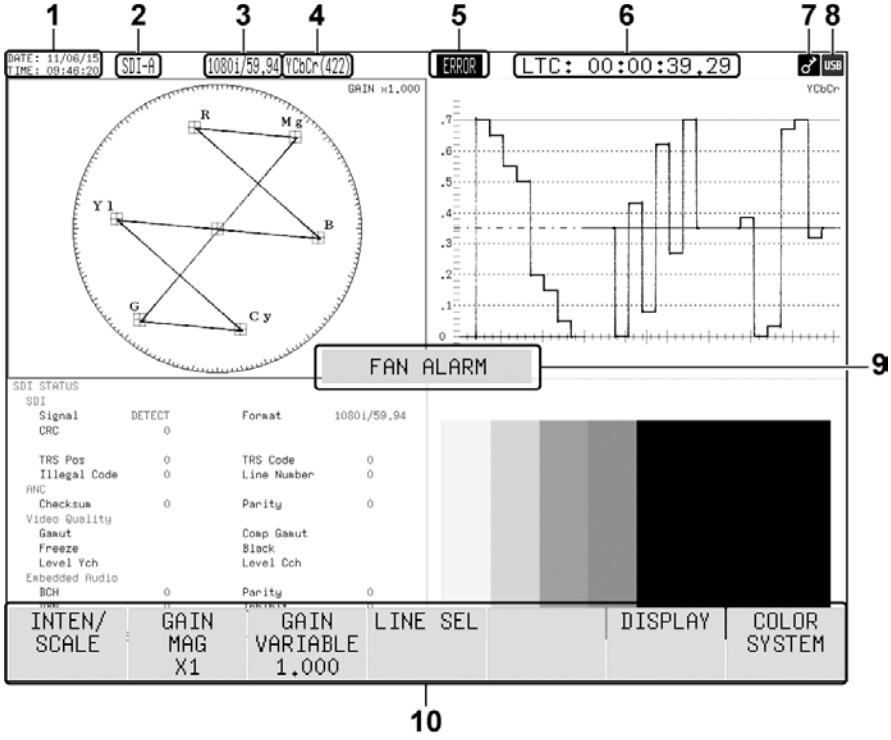


Figure 4-14 General display explanation

Table 4-6 General display explanation

No.	Name	Description
1	Date and time	The date and time are displayed here. See sections 7.2.1, “General Settings” and 7.2.4, “Setting the Date and Time.”
2	Input signal (LV 5770SER03A, LV 5770SER08, and LV 5770SER09A)	The input signal (SDI or CMP) and the measurement channel are displayed here. See section 7.2.1, “General Settings.”
3	Format (LV 5770SER03A, LV 5770SER08, and LV 5770SER09A)	The input signal format is displayed here. See section 7.2.1, “General Settings.”
4	Color system (LV 5770SER08 and LV 5770SER09A)	The SDI signal color system is displayed here. See section 7.2.1, “General Settings.”
5	Error indication (LV 5770SER08 and LV 5770SER09A)	This is displayed when an input signal error has occurred. Switching input signals or input channels may cause errors to be displayed.
6	Timecode (LV 5770SER08 and LV 5770SER09A)	The SDI signal timecode is displayed here. See section 7.2.1, “General Settings.”

No.	Name	Description
7	Key lock indication	This symbol appears when the key lock is enabled. See section 4.7.4, “Enabling and Releasing the Key Lock.”
8	USB memory indication	This appears when a USB memory device is connected to the LV 7770. This indicator is normally green, but it changes to red when the USB memory device is being accessed. Do not turn the power off or remove the USB memory device when the indicator is red.
9	Alarm indication	This displays various alarms. If either of the following alarms is displayed, contact your local LEADER agent. FAN ALARM: This appears when there is a problem with the fan. OVER HEAT: This appears when the internal temperature has risen to an abnormal level.
10	Function menu	This displays menus for specifying a variety of settings. See section 4.7.2, “Function Menu Operations.”

4.7 Panel Operation Basics

4.7.1 Displaying the Function Menu

The function menu is used to specify a variety of settings. If you do not perform any operations for 5 seconds, the function menu will automatically disappear. (You can change the length of time before the menu disappears or prevent it from disappearing in the system settings.)
Some menus, such as the system menu, do not automatically disappear.
See section 7.2.1, “General Settings.”

If the menu disappears, carry out one of the following operations to display it again. Note that if you carry out one of these operations when the menu is displayed, the menu will disappear.

- **Press a Display Mode Key**

  Press the display mode key (WFM, VEC, PIC, AUDIO, STATUS, or EYE) that corresponds to the currently selected display mode to display the menu. When you perform this operation, the top-level menu is displayed.

- **Press a Function Key**

  Press a function key, the function dial (F•D), or the display area key (1 to 4) that corresponds to the currently selected display area to display the menu. When you perform this operation, the menu is displayed at the level that was displayed before it disappeared.

4.7.2 Function Menu Operations

This section explains how to operate the function menu, using the function menu on the vector display as an example.
The function menu items correspond to F•1 to F•7.

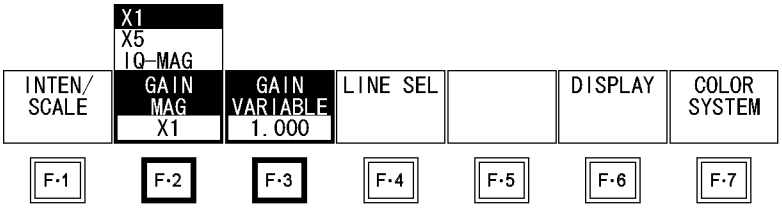


Figure 4-15 Function menu operations

- **Selecting a Setting**

  To select a setting from a list like the one shown in the figure above for F•2 GAIN MAG, press F•2 repeatedly to select the setting you want. The setting changes each time you press F•2. After you stop pressing F•2, the setting is confirmed and the pop-up menu disappears.

- **Changing a Value**

  To set the value of a setting like F•3 GAIN VARIABLE, which is shown in the figure above, press F•3, and then turn the function dial (F•D). You can reset most settings to their default values by pressing the function dial (F•D).

4.7.3 Tab Menu Operations

Normally, the function menus are used to configure the various settings. However, tab menus—such as that shown below—are displayed in some situations.
This section explains how to operate the tab menu, using the GENERAL SETUP tab menu as an example.

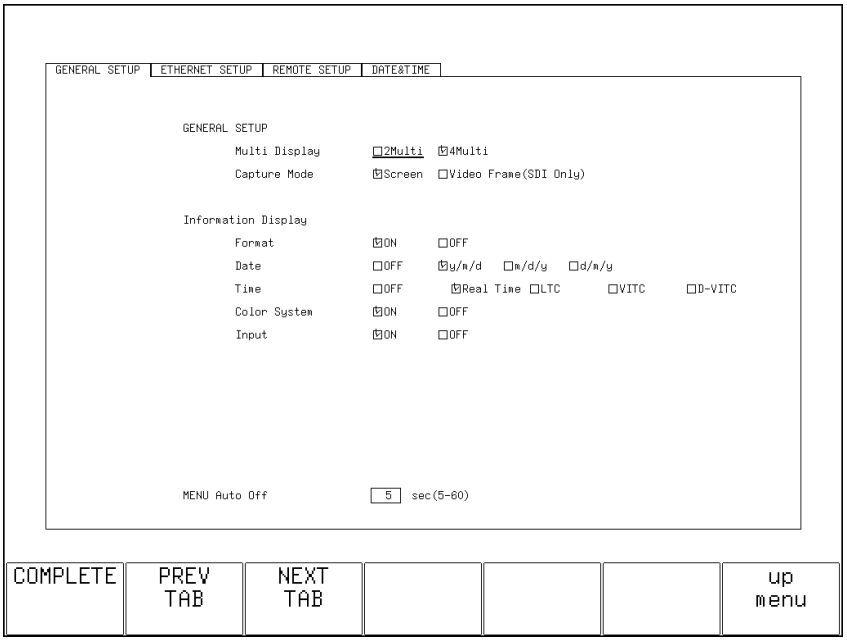


Figure 4-16 Tab menu operations

- **To Move the Cursor**

  To move the cursor, turn the function dial (F•D). Depending on what you are setting, you may not be able to move the cursor.

- **To Change the Tab**

  When there are multiple tabs such as in the figure above, press F•2 PREV TAB and F•3 NEXT TAB to change between tabs. Even if you switch to another tab, the settings are not confirmed until you press F•1 COMPLETE.

- **To Select a Check Box**

  Move the cursor to the check box that you want to select, and press the function dial (F•D).

- **To Enter a Value**

  Move the cursor to the item that you want to enter the value for, and press the function dial (F•D). When you push the function dial (F•D), the color of the cursor changes from blue to yellow, and you can set the value. Turn the function dial (F•D) to set the value. To confirm the value that you have set, press the function dial (F•D) again.

- **To Confirm the Settings**

  Press F•1 COMPLETE to apply the settings from all the tabs and return to the screen that is one level up.

- **To Cancel the Settings**

  Press F•7 CANCEL to cancel the settings from all the tabs and return to the screen that is one level up.

4.7.4 Enabling and Releasing the Key Lock

You can prevent accidental operations on the LV 7770 by enabling the key lock. The key lock disables all LV 7770 keys except for the power switch. (Remote control is still valid even if the key lock is enabled.)

- **Enabling the Key Lock**

  Hold down SYS until the message “KEYLOCK” is displayed on the screen. While the key lock is enabled, a key symbol appears in the upper right of the screen.

- **Releasing the Key Lock**

  Hold down SYS until the message “KEYLOCK Canceled.” is displayed on the screen.

4.7.5 Operating the Shortcut Key

You can press SHORTCUT to perform a feature that you have assigned to the key in the system settings. First, assign the feature to the key by pressing F•4 SHORTCUT KEY on the system menu.

See section 7.4, “Setting the Shortcut Key.”

- **DIRECT**

  The panel settings that are registered to the SHORTCUT key are loaded.

  To register the panel settings, configure the LV 7770 to the settings that you want to register, press MEM, and then press SHORTCUT.

- **VOLUME**

  You can adjust the headphone volume by pressing SHORTCUT and then turning the function dial (F•D). To return to the previous screen, press SHORTCUT again.

- **CAP&WRIT**

  A screen capture is taken and saved to a USB memory device. Set the format of the file that you want to save on the capture menu.

  See section 8.1.3, “Saving to a USB Memory Device.”

- **INTEN**

  You can adjust the waveform intensity by selecting the waveform display, pressing SHORTCUT, and then turning the function dial (F•D). To return to the previous screen, press SHORTCUT again.

- **MENU OFF**

  The menu is cleared. You can select this when Auto Off under GENERAL SETUP in the system settings is set to OFF.

  See section 7.2.1, “General Settings.”

5. BASIC OPERATING PROCEDURES

This chapter explains the basic operating procedures of the LV 7770. We recommend that you follow these basic operations until you fully understand how the LV 7770 is designed to operate.

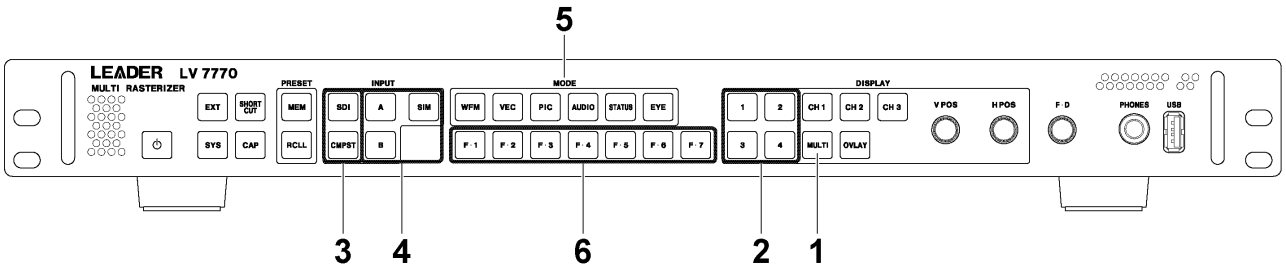


Figure 5-1 Operating procedures

1. Select the display format.

Press MULTI to select the 1-screen display or the multi-screen display.

See section 5.1, “Selecting the Display Format”

2. Select the display area.

Press a key from 1 to 4 to select the display area.

See section 5.2, “Selecting the Display Area.”

3. Select the input signal.

Press SDI or CMPST to select the input signal.

See section 5.3, “Selecting the Input Signal.”

4. Select the input channel.

Press A or B to select the input channel.
Press SIM to measure channel A and channel B simultaneously.

See section 5.3, “Selecting the Input Channel.”

5. Select the display mode.

Press WFM, VEC, PIC, AUDIO, STATUS, or EYE to select the display mode.

See section 5.5, “Selecting the Display Mode”

6. Configure the display mode.

Use the function keys and the related keys to configure the settings.

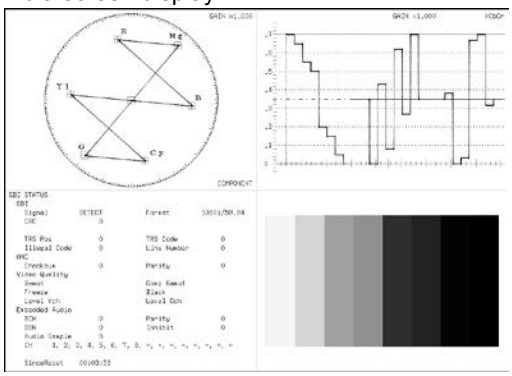
See section 4.7, “Panel Operation Basics.”

7. If you selected the multi-screen display in step 1, repeat steps 2 to 6 to specify the settings for all the areas.

5.1 Selecting the Display Format

The LV 7770 supports both a multi-screen display and a 1-screen display.
Press MULTI to switch between the 1-screen display and the multi-screen display. The key's LED lights when the multi-screen display is active.

Multi-screen display



1-screen display

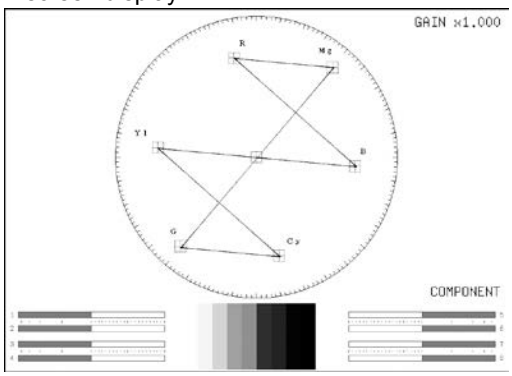
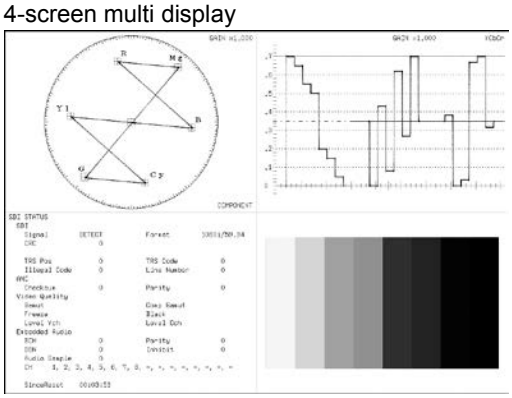


Figure 5-2 Selecting the display format

There are 2-screen and 4-screen multi-screen displays. The default setting is the 4-screen multi display, but you can use the system settings to change to the 2-screen multi display.
See section 7.2.1, “General Settings.”

4-screen multi display



2-screen multi display

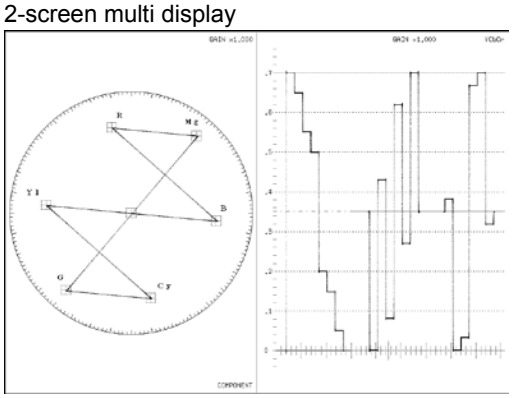


Figure 5-3 Multi-screen displays

5.2 Selecting the Display Area

The LV 7770 is composed of four screens.
Press a key from 1 to 4 to select the area that you want to operate. When the menu is being displayed on the multi-screen display, the selected area is displayed with a blue border.

Keys 1 to 4 are assigned as follows:

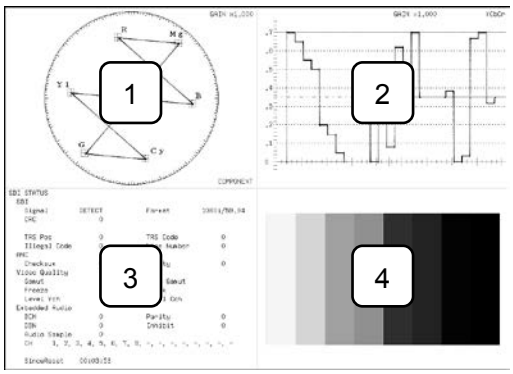


Figure 5-4 4-screen multi display

Additionally, the display area that is selected when you press a key from 1 to 4 is as follows:

- **4-Screen Multi Display**

  All areas are displayed at all times.

- **2-Screen Multi Display**

  If you press 1 or 2, areas 1 and 2 are displayed. If you press 3 or 4, areas 3 and 4 are displayed.

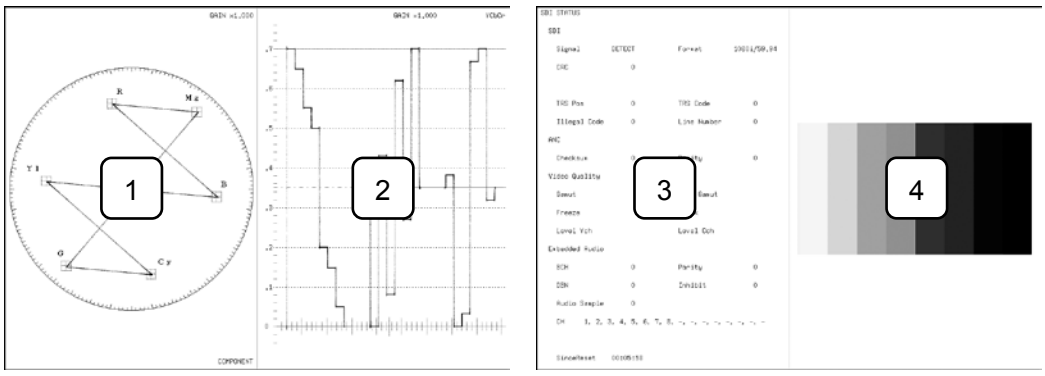


Figure 5-5 2-screen multi display

- **1-Screen Display**

  Only the area that you selected by pressing a key from 1 to 4 is displayed.

5.3 Selecting the Input Signal

Depending on the signal that you want to measure, press SDI or CMPST.
On the audio display, regardless of the signal that you select here, the signal that you selected with INPUT SELECT on the audio menu is measured.
The input signal settings are shared between areas 1 to 4. You cannot configure the settings differently for each area.

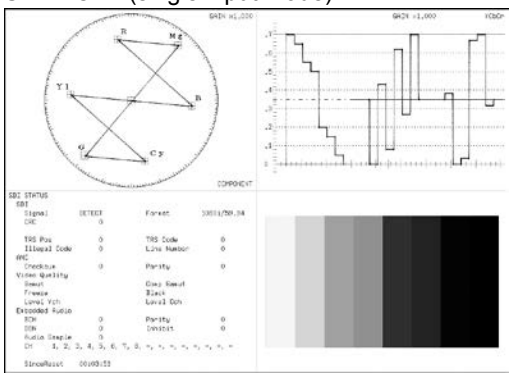
5.4 Selecting the Input Channel

When you are measuring an SDI signal or composite signal, press A or B to select the input channel. Press SIM to measure both channel A and B simultaneously. However, you cannot measure both channels simultaneously:

- When you are measuring SDI signals on the status display or eye pattern display.
- When you are measuring SDI signals with HD dual link or 3G-B(2map) input.
- When you are measuring composite signals.

The input channel setting is shared between areas 1 to 4. You cannot set the setting differently for each area.

SIM = OFF (single input mode)



SIM = ON (simul mode)

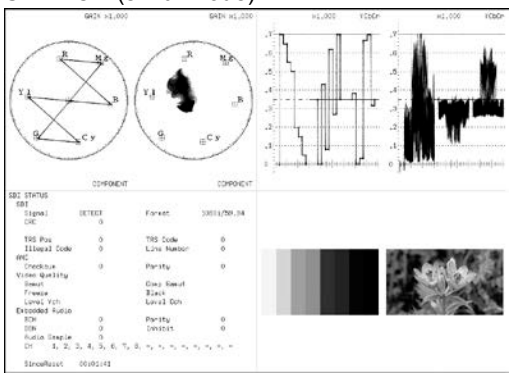


Figure 5-6 Single input mode and simul mode

5.5 Selecting the Display Mode

The LV 7770 has six display modes: WFM (video signal waveform display), VEC (vector display), PIC (picture display), AUDIO (audio display), STATUS (status display), and EYE (eye pattern display). Press MODE on the front panel to select the display mode.

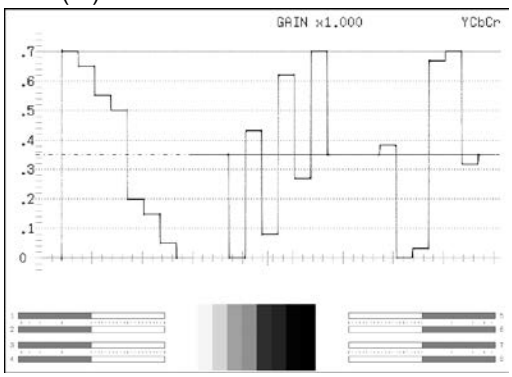
On the multi-screen display, you cannot set different areas to the same display mode. The display mode that you specify last takes effect. However, VEC can be displayed simultaneously in the vector display and 5 bar display.

The optional units that are required for each display mode are shown below.

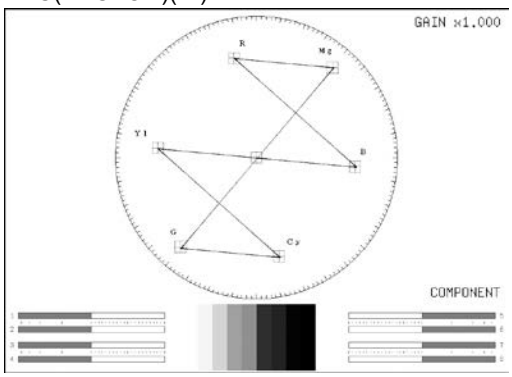
Table 5-1 Optional units required for display modes

Display Mode	Required Optional Unit	Notes
WFM	LV 5770SER03A, LV 5770SER08, or LV 5770SER09A	
VEC	LV 5770SER03A, LV 5770SER08, or LV 5770SER09A	HD tri-level sync signal input is not supported.
PIC	LV 5770SER03A, LV 5770SER08, or LV 5770SER09A	HD tri-level sync signal input is not supported.
AUDIO	None	
STATUS	LV 5770SER03A, LV 5770SER08, or LV 5770SER09A	Simul mode is not supported.
EYE	LV 5770SER09A	Simul mode is not supported.

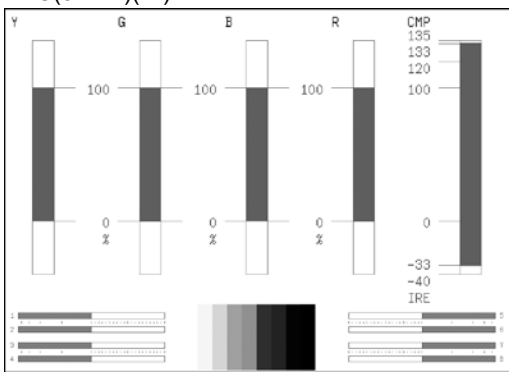
WFM(*1)



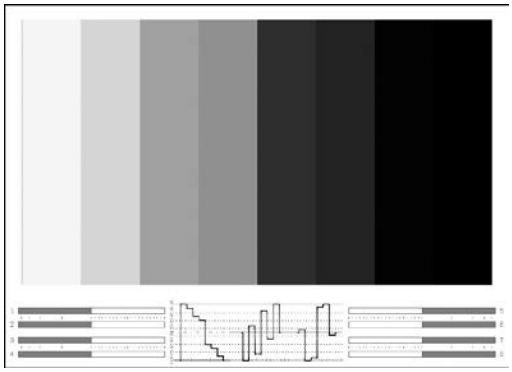
VEC(VECTOR)(*1)



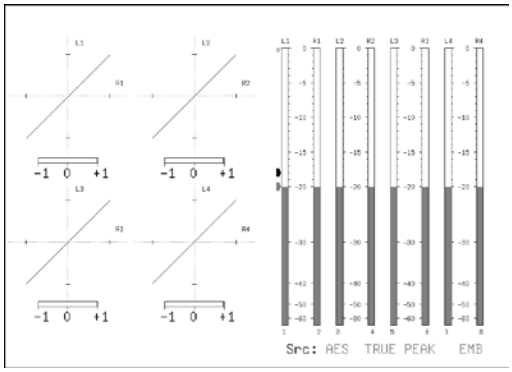
VEC(5BAR)(*1)



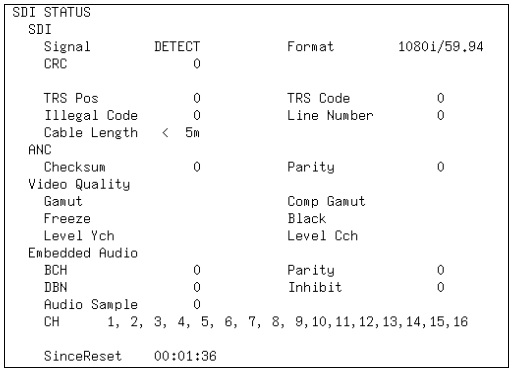
PIC



AUDIO



STATUS



EYE

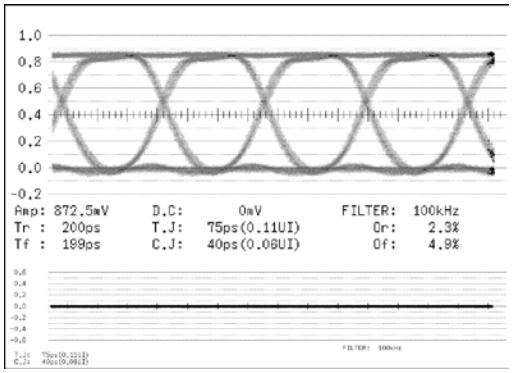


Figure 5-7 Selecting the display mode

6. DETAILED MEASUREMENT EXAMPLES

This chapter explains detailed measurement examples. For the basic operating procedures, see chapter 5, “BASIC OPERATING PROCEDURES.”
Initialize the LV 7770 immediately before you perform the operating procedures shown here.
See section 7.7, “Initializing Settings.”

6.1 SDI Signal Measurement

- **Required Optional Unit**

  LV 5770SER08(SDI INPUT) or LV 5770SER09A(SDI INPUT/EYE)

1. **Apply an SDI signal to SDI INPUT A or SDI INPUT B on the rear panel.**

   The SDI signal is displayed.

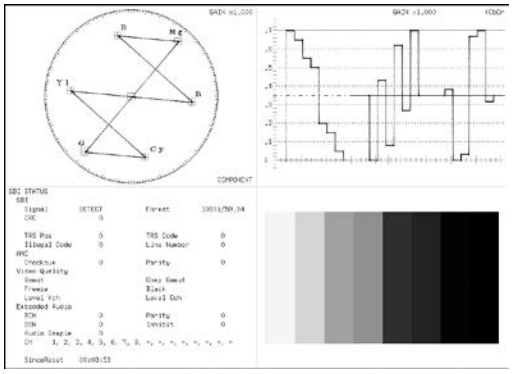


Figure 6-1 SDI signal measurement

6.2 SDI Signal Eye Pattern Measurement

- **Required Optional Unit**

  LV 5770SER09A(SDI INPUT/EYE)

1. **Apply an SDI signal to SDI INPUT A or SDI INPUT B on the rear panel.**
2. **Turn the MULTI key off (optional).**

   The LV 7770 switches to the 1-screen display, which is easier to view. (On the multi-screen display, one of these displays is shown.) This is not supported in simul mode or on the multi-screen display of 3G-B(2map) signals.

3. **Press EYE.**

   The eye pattern and jitter waveforms are displayed. Simul mode is not supported.

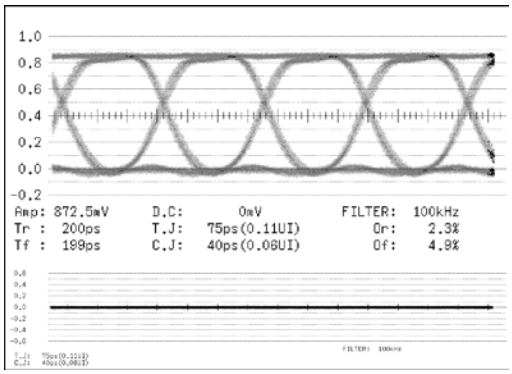


Figure 6-2 SDI signal eye pattern measurement

6.3 Composite Signal Measurement

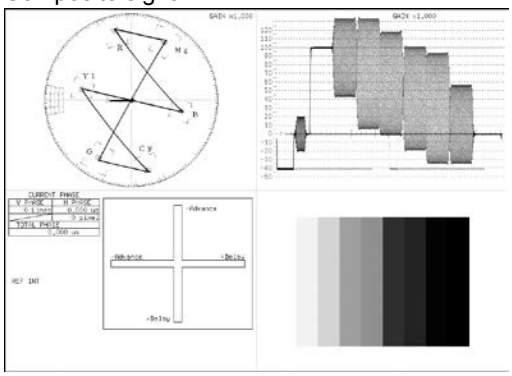
- **Required Optional Unit**

  LV 5770SER03A(TRI SYNC/COMPOSITE)

1. **Apply a composite signal or an HD tri-level sync signal to the TRI SYNC/COMPOSITE INPUT A connector or TRI SYNC/COMPOSITE INPUT B connector on the rear panel.**
2. **Press CMPST.**

   The composite signal or HD tri-level sync signal is displayed. When an HD tri-level sync signal is applied, the vector waveform and picture are not displayed.

Composite signal



HD tri-level sync signal

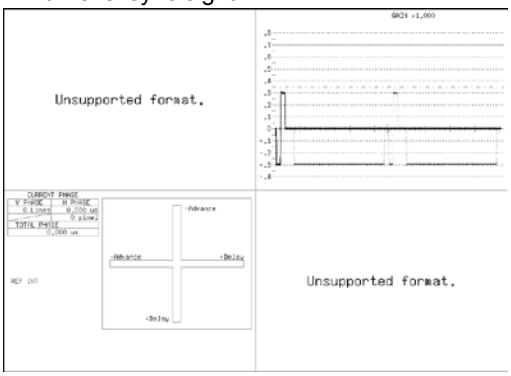


Figure 6-3 Composite signal measurement

6.4 Embedded Audio Signal Measurement

You can measure two of the following groups—for a total of eight channels—of the audio signals embedded in an SDI signal.
(With the LV 5770SER43, you can measure all four groups simultaneously.)

- Group 1 (channels 1 to 4)
- Group 2 (channels 5 to 8)
- Group 3 (channels 9 to 12)
- Group 4 (channels 13 to 16)

- **Required Optional Units**

  • LV 5770SER08(SDI INPUT) or LV 5770SER09A(SDI INPUT/EYE)

1. **Apply an SDI signal to SDI INPUT A or SDI INPUT B on the rear panel.**
2. **Turn the MULTI key off (optional).**

   The LV 7770 switches to the 1-screen display, which is easier to view.
3. **Press AUDIO.**
4. **Press F•1 SOURCE SELECT and then F•2 1ST GRP SELECT or F•3 2ND GRP SELECT to select the measurement group.**

   The embedded audio signals of the selected group are displayed.
   “EMB” is displayed in the lower right of the screen to indicate that embedded audio signals are being measured.

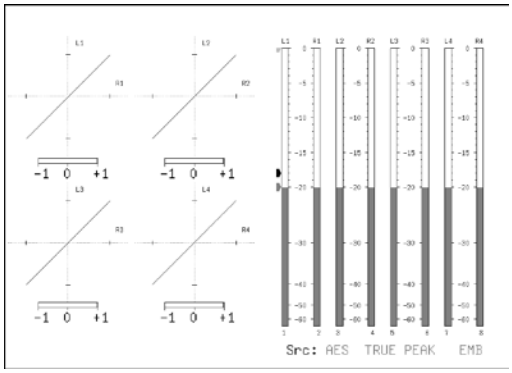


Figure 6-4 Embedded audio signal measurement

6.5 External Digital Audio Signal Measurement

You can measure group A or group B (OP70)—for a total of eight channels—of the audio signals being applied to the rear panel.
(With the LV 5770SER43, you can measure both groups simultaneously.)
Simul mode is not supported. Perform this measurement with the SIM key LED turned off.

1. **Apply digital audio signals to the DIGITAL AUDIO IN/OUT connectors on the rear panel.**

   Check that the Audio BNC settings are set to INPUT on the REAR PANEL SETUP tab in the system settings. These settings are set to INPUT when the LV 7770 is initialized.
   See section 7.1.2, “Rear Panel Settings.”

2. **Turn the MULTI key off (optional).**

   The LV 7770 switches to the 1-screen display, which is easier to view.

3. **Press AUDIO.**

4. **Press F•1 SOURCE SELECT and then F•1 INPUT SELECT to select EXT DIGI.**

5. **Press F•2 CHANNEL SELECT to select the measurement group.**

   The external digital audio signals of the selected group are displayed.
   “AES” is displayed in the lower right of the screen to indicate that external digital audio signals are being measured.

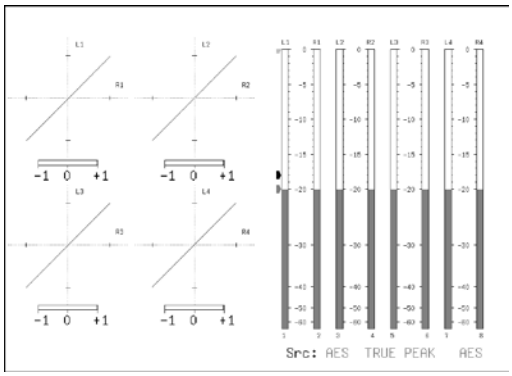


Figure 6-5 External digital audio signal measurement

6.6 Analog Audio Signal Measurement

You can measure the eight channels of analog audio signals that are applied to the rear panel connector.
Simul mode is not supported. Perform this measurement with the SIM key LED turned off.

- **Required Optional Unit**

  • LV 5770SER42(ANALOG AUDIO)

1. **Apply analog audio signals to the ANALOG AUDIO connector on the rear panel.**

   Check that the ANALOG AUDIO setting is set to INPUT on the REAR PANEL SETUP tab in the system settings. This setting is set to INPUT when the LV 7770 is initialized.
   See sections 4.5.7, “Analog Audio Signal I/O (LV 5770SER42)” and 7.1.2, “Rear Panel Settings.”

2. **Turn the MULTI key off (optional).**

   The LV 7770 switches to the 1-screen display, which is easier to view.

3. **Press AUDIO.**

4. **Press F•1 SOURCE SELECT and then F•1 INPUT SELECT to select EXT ANA.**

   The eight channels of audio signals are displayed.
   “ANA” is displayed in the lower right of the screen to indicate that analog audio signals are being measured.

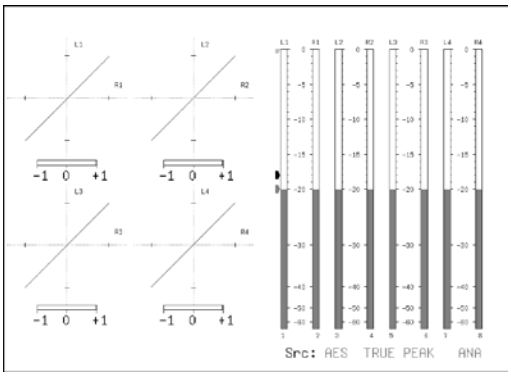


Figure 6-6 Analog audio signal measurement

6.7 Embedded Audio Signal Output

You can generate channels 1 to 16 of an audio signal that is embedded in an SDI signal from the rear panel DIGITAL AUDIO IN/OUT connectors. You can generate 8 channels from group A, and 8 channels from group B (OP70).

- **Required Optional Unit**

  • LV 5770SER08(SDI INPUT) or LV 5770SER09A(SDI INPUT/EYE)

1. **Apply an SDI signal to SDI INPUT A or SDI INPUT B on the rear panel.**
2. **Press SYS.**
3. **Press F•1 FORMAT IN OUT and then F•3 NEXT TAB. Set GROUP A and GROUP B to OUTPUT and GROUP A OUT SEL and GROUP B OUT SEL to SDI.**

   Check that no signals are being applied to the DIGITAL AUDIO IN/OUT connectors on the rear panel.

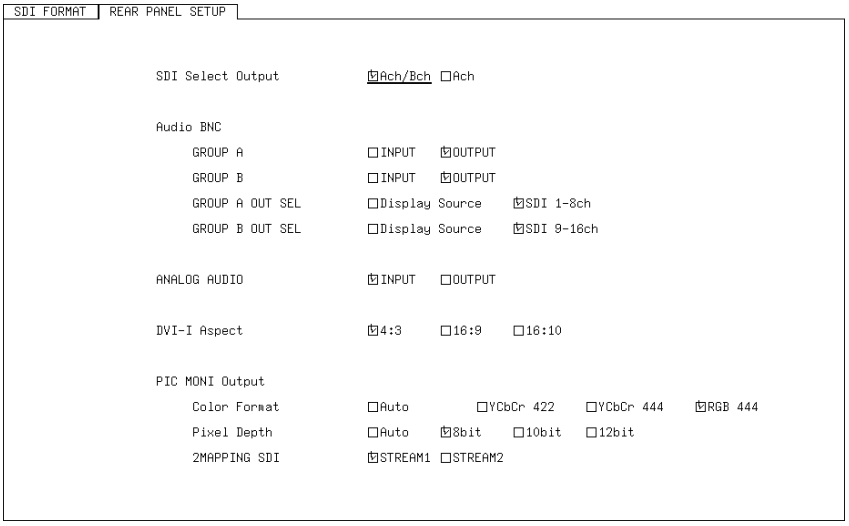


Figure 6-7 REAR PANEL SETUP tab

4. **Press F•1 COMPLETE.**

   Group A generates the embedded audio signal for channels 1 to 8, and group B generates the embedded audio signal for channels 9 to 16.

- **Explanation of “Display Source”**

  If you select Display Source on the REAR PANEL SETUP screen, the eight channels of audio signals that are currently being measured will be generated.
  For details about the output signals during 16-channel measurement, see section 7.1.2, “Rear Panel Settings.”

6.8 Analog Audio Signal Output

You can perform a D/A conversion on and generate up to eight channels of embedded audio signals or external digital audio signals as analog audio signals from the rear panel ANALOG AUDIO connector.
This section will show the procedure for generating embedded audio signals.

- **Required Optional Unit**
  - LV 5770SER42(ANALOG AUDIO)
  - LV 5770SER08(SDI INPUT) or LV 5770SER09A(SDI INPUT/EYE)
    (This is not required if you want to generate external digital audio signals.)

1. **Apply an SDI signal to SDI INPUT A or SDI INPUT B on the rear panel.**
2. **Press SYS.**
3. **Press F•1 FORMAT IN OUT and then F•3 NEXT TAB. Set ANALOG AUDIO to OUTPUT.**

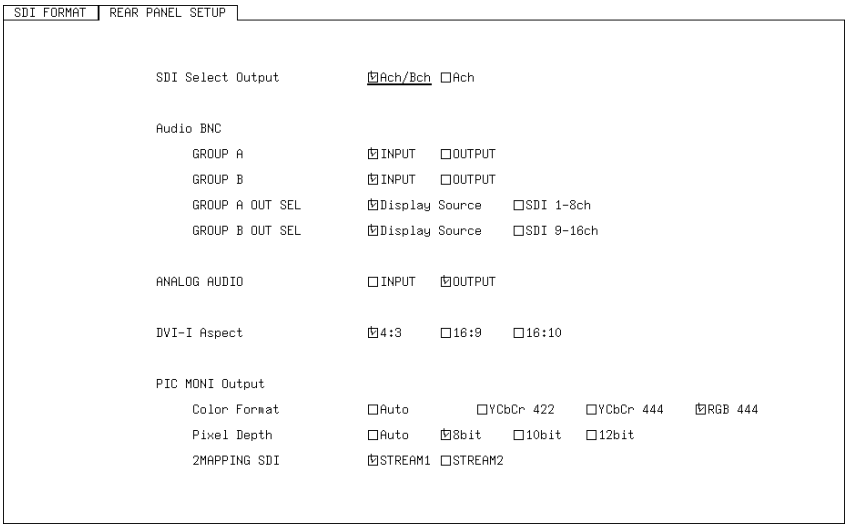


Figure 6-8 REAR PANEL SETUP tab

4. **Press F•1 COMPLETE.**
5. **Press AUDIO.**
6. **Press F•1 SOURCE SELECT and then F•2 1ST GRP SELECT or F•3 2ND GRP SELECT to select the measurement group.**

   For details about the output signals during 16-channel measurement, see section 7.1.2, “Rear Panel Settings.”

7. SYSTEM SETTINGS

You can use the system menu to configure LV 7770 settings and optional unit settings. To display the system menu, press SYS.

SYS →

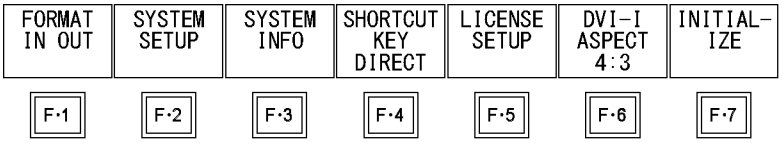


Figure 7-1 System menu

7.1 I/O Settings

To configure the I/O settings, press F•1 FORMAT IN OUT on the system menu. FORMAT IN OUT is a tab menu. For details on how to operate tab menus, see section 4.7.3, “Tab Menu Operations.”

7.1.1 Configuring SDI Input Settings (LV 5770SER08 and LV 5770SER09A)

Use the SDI FORMAT tab to configure the input SDI signal format.

SYS → F•1 FORMAT IN OUT →

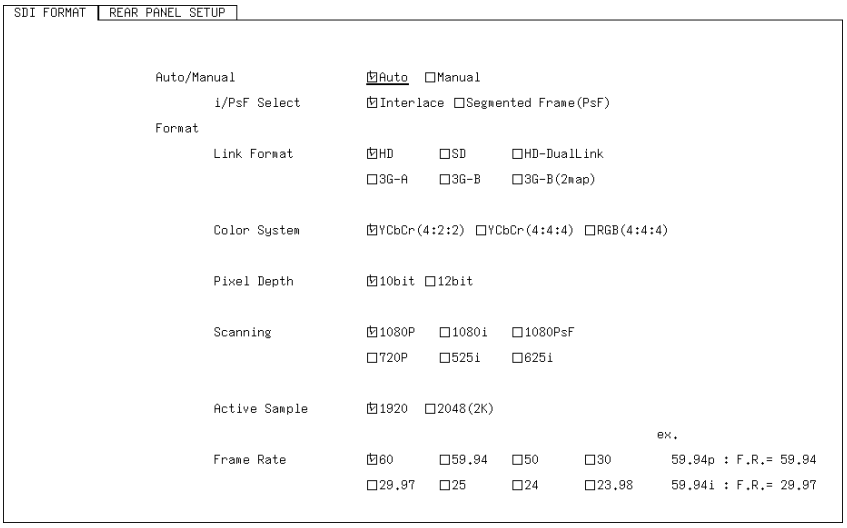


Figure 7-2 SDI FORMAT tab

- **Auto/Manual**

  Select whether the input signal format will be detected automatically.
  If you select Auto, the payload ID packet must be correctly embedded in the input signal for the LV 7770 to detect a 3G or HD dual link signal.

  Auto / Manual

- **i/PsF Select**

  When Auto/Manual is set to Auto, set the display format for the following input formats to interlace or segmented frame.
  • 1080i/60 and 1080PsF/30
  • 1080i/59.94 and 1080PsF/29.97
  • 1080i/50 and 1080PsF/25

  Interlace / Segmented Frame(PsF)

- **Format**

  When Auto/Manual is set to Manual, select the input format.
  The combinations shown below are the formats that you can select. If you specify a format that is not one of the following combinations, “ILLEGAL FORMAT” will be displayed. Specify a correct format.
  It may take the LV 7770 approximately 10 seconds to switch to a different format.

  Table 7-1 Input format settings

Link Format	Color System	Pixel Depth	Scanning	Active Sample	Frame Rate (*1)
HD	YCbCr(4:2:2)	10bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
			720P	1920	60/59.94/50/ 30/29.97/25/24/23.98
SD	YCbCr(4:2:2)	10bit	525i	-	29.97
			625i	-	25
HD-DualLink	YCbCr(4:2:2)	10bit	1080P	1920	60/59.94/50
		12bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
	YCbCr(4:4:4)	10bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
		12bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
	RGB(4:4:4)	10bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
		12bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
			1080P	2048(2K)	24/23.98
			1080PsF	2048(2K)	24/23.98

Link Format	Color System	Pixel Depth	Scanning	Active Sample	Frame Rate (*1)
3G-A	YCbCr(4:2:2)	10bit	1080P	1920	60/59.94/50
		12bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
	YCbCr(4:4:4)	10bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
			720P	1920	60/59.94/50/ 30/29.97/25/24/23.98
		12bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
	RGB(4:4:4)	10bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
			720P	1920	60/59.94/50/ 30/29.97/25/24/23.98
		12bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
			1080P	2048(2K)	24/23.98
			1080PsF	2048(2K)	24/23.98
3G-B	YCbCr(4:2:2)	10bit	1080P	1920	60/59.94/50
		12bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
	YCbCr(4:4:4)	10bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
		12bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
	RGB(4:4:4)	10bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
		12bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
			1080P	2048(2K)	24/23.98
			1080PsF	2048(2K)	24/23.98

Link Format	Color System	Pixel Depth	Scanning	Active Sample	Frame Rate (*1)
3G-B(2map)	YCbCr(4:2:2)	10bit	1080P	1920	30/29.97/25/24/23.98
			1080i	1920	30/29.97/25
			1080PsF	1920	30/29.97/25/24/23.98
			720P	1920	60/59.94/50/ 30/29.97/25/24/23.98

*1 Note that when i/PsF Select is set to Interlace, the frame rate is displayed. For example, if the field rate is 59.94 Hz, set the frame rate to 29.97.

7.1.2 Rear Panel Settings

Use the REAR PANEL SETUP tab to configure the rear panel I/O connector settings.

SYS → F•1 FORMAT IN OUT → F•3 NEXT TAB →

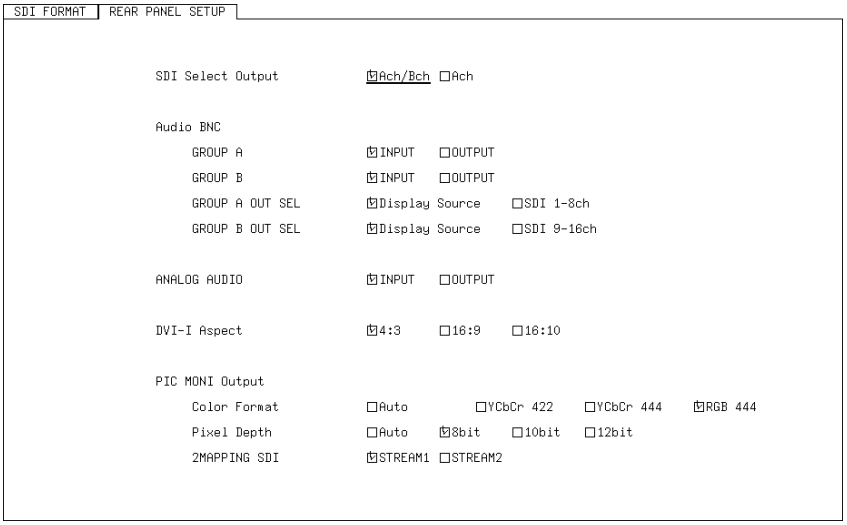


Figure 7-3 REAR PANEL SETUP tab

- **SDI Select Output (LV 5770SER08 and LV 5770SER09A)**

  Select the signal that is generated from SDI OUTPUT A/B. For HD dual link signals, the signal that is generated is fixed to link A, regardless of this setting.

Ach/Bch:	The SDI OUTPUT A/B connector transmits the reclocked version of the signal that has been received by the connector, either SDI INPUT A or SDI INPUT B, that you choose by pressing the A or B key.
Ach:	The SDI OUTPUT A/B connector transmits the reclocked version of the signal that has been received by the SDI INPUT A connector.

- **GROUP A and GROUP B (OP70)**

  Select whether the DIGITAL AUDIO connectors of each group will be used as input connectors or output connectors. When you set a group to function as output connectors, do not apply audio signals to the connectors in the group.

INPUT / OUTPUT

- **GROUP A OUT SEL and GROUP B OUT SEL (OP70)**

  When GROUP A or GROUP B is set to OUTPUT, select the corresponding output signal.
  The LV 5770SER08 or LV 5770SER09A is required to generate embedded audio signals.

Display Source:	The eight channels of audio signals that are currently being measured will be generated.
SDI 1-8ch:	Channels 1 to 8 of the embedded audio will be generated.
SDI 9-16ch:	Channels 9 to 16 of the embedded audio will be generated.

  The output signals when you select Display Source during 16-channel measurement are shown below.

  Table 7-2 Output signals during 16-channel measurement

INPUT SELECT	DECODE MODE	MIX MODE	Group A Output	Group B Output (OP70)
SDI	OFF	-	Channels 1 to 8	Channels 9 to 16
	DOLBY E / DOLBY D	ON	Channels D1 to D8	Channels 1 to 16 (*1)
EXT DIGI	DOLBY E / DOLBY D	ON	Channels D1 to D8	- (INPUT)
			- (INPUT)	Channels D1 to D8

  *1 Outputs the eight channels selected with 1ST GRP PCM and 2ND GRP PCM.

- **ANALOG AUDIO (LV 5770SER42)**

  Select whether to enable the input pins or the output pins of the ANALOG AUDIO connector.
  The pins that you do not select will be disabled.

INPUT:	The input pins are enabled.
OUTPUT:	The output pins are enabled. The eight channels of audio signals that are currently being measured will be generated.

  The output signals when you select Display Source during 16-channel measurement are shown below.

  Table 7-3 Output signals during 16-channel measurement

INPUT SELECT	DECODE MODE	MIX MODE	Analog Output
SDI	OFF	-	Channels 1 to 8
	DOLBY E / DOLBY D	ON	Channels D1 to D8
EXT DIGI	OFF	-	Channels A1 to A8
	DOLBY E / DOLBY D	ON	Channels D1 to D8

- **DVI-I Aspect**

  Select the aspect ratio of the signal that is output from the DVI-I connector.
  You can also configure this setting by following the procedure in section 7.6, “Selecting the Aspect Ratio.”

4:3:	The LV 7770 produces a signal for a 4:3 display.
16:9:	For vectors, pictures, and audio waveforms, the LV 7770 generates a signal for a 16:9 display.
16:10:	For vectors, pictures, and audio waveforms, the LV 7770 generates a signal for a 16:10 display.

- **Color Format (LV 5770SER08 and LV 5770SER09A)**

  Select the picture monitor output format.
  If you select Auto, the signal is generated in the same format as the input signal.

Auto / YCbCr 422 / YCbCr 444 / RGB 444

- **Pixel Depth (LV 5770SER08 and LV 5770SER09A)**

  Select the quantization of picture monitor output.
  If you select Auto, the signal is generated in the same quantization as the input signal.

Auto / 8bit / 10bit / 12bit

- **2MAPPING SDI (LV 5770SER08 and LV 5770SER09A)**

  When the input signal is 3G-B(2map), select the picture monitor output signal.

STREAM1 / STREAM2

7.2 Configuring the LV 7770

To configure the LV 7770, press F•2 SYSTEM SETUP on the system menu. SYSTEM SETUP is a tab menu. For details on how to operate tab menus, see section 4.7.3, “Tab Menu Operations.”

7.2.1 General Settings

Use the GENERAL SETUP tab to configure general LV 7770 settings.

SYS → F•2 SYSTEM SETUP →

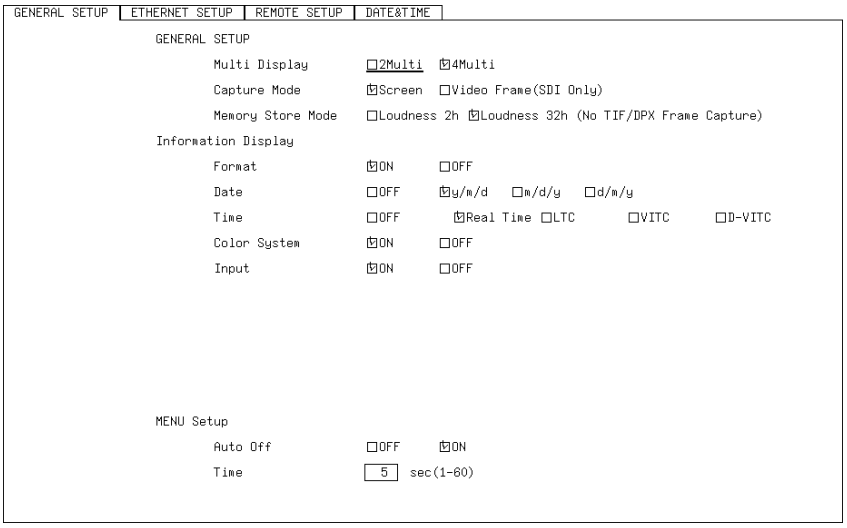


Figure 7-4 GENERAL SETUP tab

- **Multi Display**

  Select the number of screens that are displayed when the MULTI key LED is lit.
  See section 5.1, “Selecting the Display Format”

2Multi / 4Multi

- **Capture Mode (LV 5770SER08 and LV 5770SER09A)**

  Select the capture mode for when you press CAP.
  See chapter 8, “CAPTURE FEATURE”

Screen:	The screen will be captured as still images.
Video Frame(SDI Only):	Single frames of data will be captured. This requires the LV 5770SER08 or LV 5770SER09A.

- **Memory Store Mode (option)**

  This setting appears when you set Capture Mode to Video Frame, and press F•1 COMPLETE and then F•2 SYSTEM SETUP. Set the maximum duration of loudness measurements.

Loudness 2h:	Up to 2 hours of loudness measurements can be performed.
Loudness 32h:	Up to 32 hours of loudness measurements can be performed. Captured frame data cannot be saved in TIF or DPX format.

- **Format (LV 5770SER03A, LV 5770SER08, and LV 5770SER09A)**

  Turn the format indication (for example, 1080i/59.94 or NTSC) that is shown at the top of the screen on or off.

  ON / OFF

- **Date**

  Select the display format for the date that is shown in the upper left of the screen.
  y = the year in the Gregorian calendar, m = the month, d = the day

  OFF / y/m/d / m/d/y / d/m/y

- **Time**

  Select the display format for the time that is shown at the top of the screen.

OFF:	The time is not displayed.
Real Time:	The time that is set on the DATE&TIME tab is displayed.
LTC:	The time that is set on the DATE&TIME tab and an LTC timecode are displayed.
VITC:	The time that is set on the DATE&TIME tab and a VITC timecode are displayed.
D-VITC:	The time that is set on the DATE&TIME tab and a D-VITC timecode (SD) are displayed.

- **Color System (LV 5770SER08 and LV 5770SER09A)**

  Turn the SDI color system indication (for example, YCbCr(422)) that is shown at the top of the screen on or off.

  ON / OFF

- **Input (LV 5770SER03A, LV 5770SER08, and LV 5770SER09A)**

  Turn the input signal indication (for example, SDI-A or DUAL) that is shown at the top of the screen on or off.

  ON / OFF

- **Auto Off**

  Select whether to make the function menu automatically disappear.

OFF:	The menu does not disappear automatically. To clear the menu temporarily, for example in the measurement menu, press a key from 1 to 4, MODE, and then the SHORT key assigned to MENU OFF.
ON:	The menu disappears automatically when the time specified by Time elapses after the last key operation. Some menus, such as the system menu, do not automatically disappear.

- **Time**

  When Auto Off is set to ON, select the length of time that must elapse without any key operations for the menu to disappear automatically.

1 - 5 - 60 sec

7.2.2 Configuring Ethernet Settings

Configure the Ethernet settings on the ETHERNET SETUP tab.
The settings that you specify here will not be initialized even if you initialize the LV 7770. In addition, they are not registered to presets.
See chapter 11, “ETHERNET REMOTE CONTROL.”

SYS → F•2 SYSTEM SETUP → F•3 NEXT TAB →

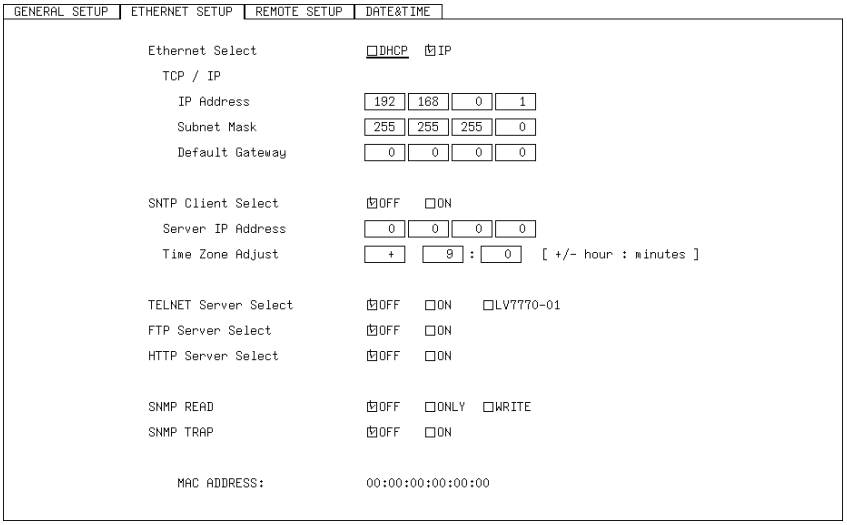


Figure 7-5 ETHERNET SETUP tab

- **Ethernet Select**

  Select how to set the IP address.
  This setting is enabled after you restart the LV 7770.

DHCP:	The IP address, subnet mask, and default gateway are set automatically.
IP:	Set the IP address, subnet mask, and default gateway manually.

- **SNTP Client Select**

  Select whether to enable the SNTP client feature.
  When set to ON, Server IP Address is set to the IP address of the NTP server, and Time Zone Adjust is set to the appropriate clock adjustment value.

OFF / ON

- **TELNET Server Select**

  Select whether to enable the TELNET server feature and the LV 7770-01 (REMOTE CONTROLLER). You cannot use TELNET and the LV 7770-01 at the same time.

  OFF / ON / LV7770-01

- **FTP Server Select**

  Select whether to enable the FTP server feature.

  OFF / ON

- **HTTP Server Select**

  Select whether to enable the HTTP server feature.

  OFF / ON

- **SNMP READ**

  Select the SNMP access mode.

OFF:	SNMP cannot be used.
ONLY:	Settings can be read.
WRITE:	Settings can be read and written.

- **SNMP TRAP**

  Select whether to enable SNMP trap output.

  OFF / ON

- **MAC ADDRESS**

  Displays the MAC address of the LV 7770.

7.2.3 Remote Control Settings

Use the REMOTE SETUP tab to configure remote control settings.
The settings that you specify here will not be initialized even if you initialize the LV 7770. In addition, they are not registered to presets.
See chapter 10, “REMOTE CONTROL.”

SYS → F•2 SYSTEM SETUP → F•3 NEXT TAB → F•3 NEXT TAB →

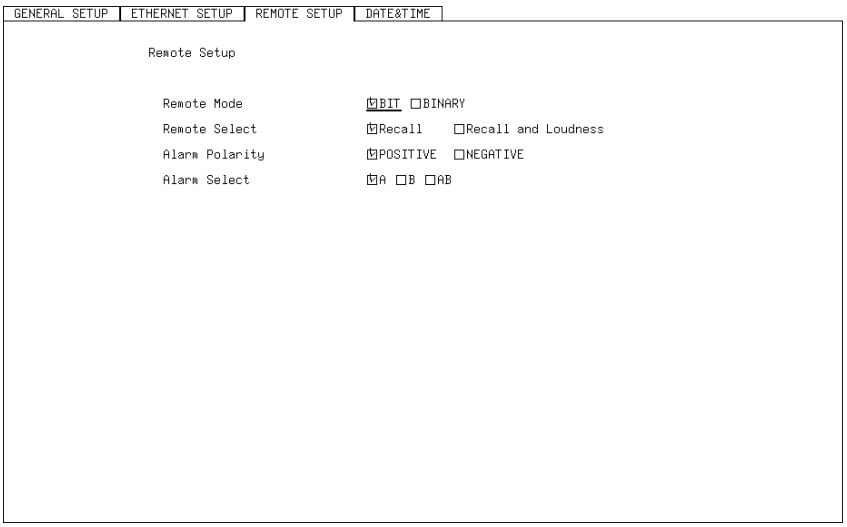


Figure 7-6 REMOTE SETUP tab

- **Remote Mode**

  Select the method for loading presets.

BIT:	Use pin 2 (/P1) to pin 9 (/P8) to load presets 1 to 8. (when Remote Select is set to Recall) Use pin 2 (/P1) to pin 7 (/P6) to load presets 1 to 6. (when Remote Select is set to Recall and Loudness)
BINARY:	Set pin 2 (/P1) as the least significant bit and pin 7 (/P6) as the most significant bit, and use binary code to load presets 1 to 60.

- **Remote Select**

  Select the function to assign to pin 8 (/P7) and pin 9 (/P8) of the remote control connector.

Recall:	Assign preset recalling.
Recall and Loudness:	Assign loudness measurement control.

- **Alarm Polarity**

  Select the alarm output polarity.

POSITIVE:	A high signal is transmitted when an error is detected.
NEGATIVE:	A low signal is transmitted when an error is detected.

- **Alarm Select**

  Select the channel that errors are detected on for transmitting alarms.

  A / B / AB

7.2.4 Setting the Date and Time

Use the DATE&TIME tab to set the date and time.
You cannot set the date and time when SNTP Client Select on the ETHERNET SETUP tab is set to ON. To set the date and time manually, set SNTP Client Select to OFF, and then press F•1 COMPLETE. Then, press F•2 SYSTEM SETUP again.
The settings that you specify here will not be initialized even if you initialize the LV 7770. In addition, they are not registered to presets.

SYS → F•2 SYSTEM SETUP → F•2 PREV TAB →

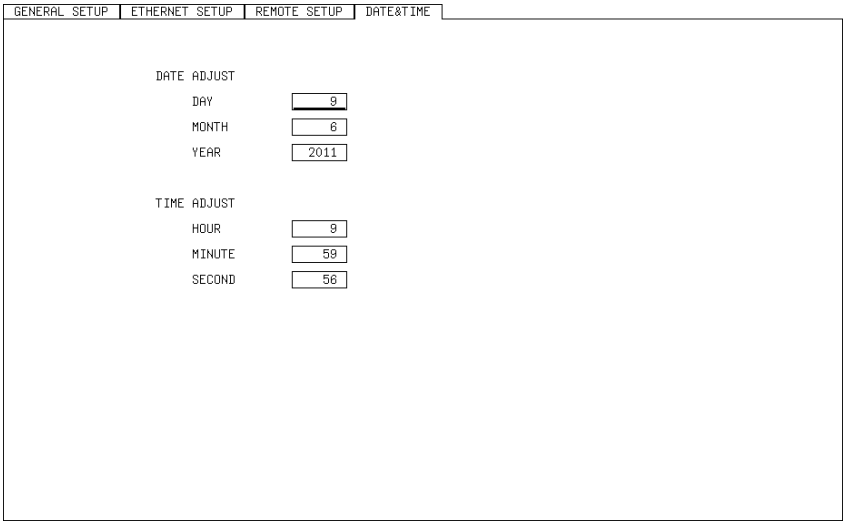


Figure 7-7 DATE&TIME tab

7.3 Displaying System Information

To display the system information, press F•3 SYSTEM INFO on the system menu. You can use this screen to view the LV 7770 firmware version and the types of installed optional units.

SYS → F•3 SYSTEM INFO →

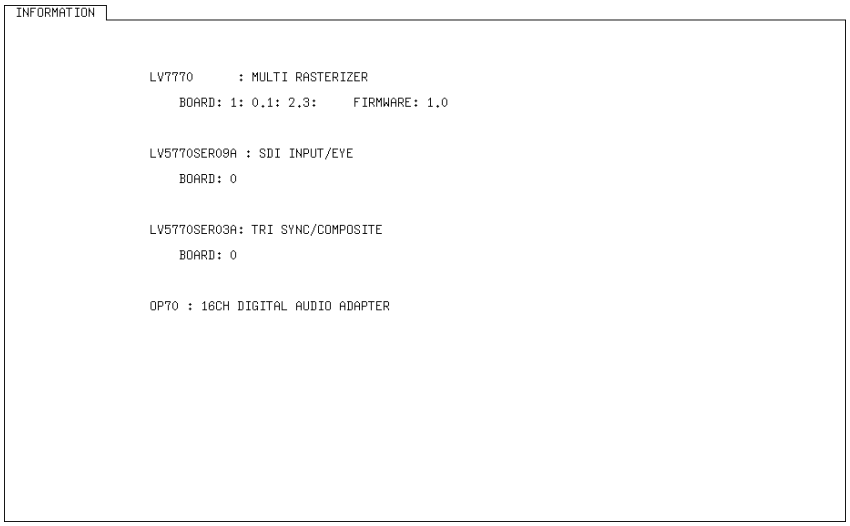


Figure 7-8 INFORMATION display

7.4 Setting the Shortcut Key

To set the shortcut key, press F•4 SHORTCUT KEY on the system menu.
The feature that you assign here will be performed when you press SHORTCUT.
See section 4.7.5, “Operating the Shortcut Key.”

Settings	
DIRECT:	The previously registered panel settings will be loaded. To register the panel settings, configure the LV 7770 to the settings that you want to register, press MEM, and then press SHORTCUT.
VOLUME:	The headphone volume will be adjusted.
CAP&WAIT:	A screen capture will be taken and saved to a USB memory device.
INTEN:	The waveform intensity will be adjusted.
MENU OFF:	The menu is cleared. You can select this when Auto Off under GENERAL SETUP in the system settings is set to OFF.

7.5 Configuring License Settings

To configure the license settings, press F•5 LICENSE SETUP on the system menu.
You can use this screen to view the MAC address and install options. For details on installing options, see the instruction manuals for the options.

SYS → F•5 LICENSE SETUP →

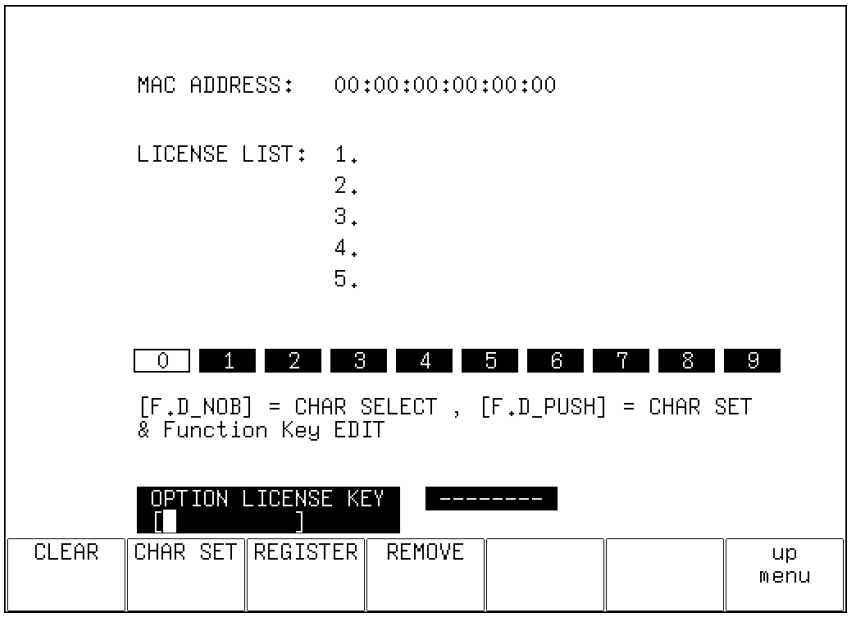


Figure 7-9 LICENSE SETUP display

7.6 Selecting the Aspect Ratio

To select the aspect ratio, press F•6 DVI-I ASPECT on the system menu.
Select the aspect ratio of the signal that is output from the DVI-I connector.
You can also configure this setting by following the procedure in section 7.1.2, “Rear Panel Settings.”

Settings	
4:3:	The LV 7770 produces a signal for a 4:3 display.
16:9:	For vectors, pictures, and audio waveforms, the LV 7770 generates a signal for a 16:9 display.
16:10:	For vectors, pictures, and audio waveforms, the LV 7770 generates a signal for a 16:10 display.

7.7 Initializing Settings

To initialize the settings, press F•7 INITIALIZE on the system menu.
To proceed with the initialization, press F•1 INIT YES. To cancel the initialization, press F•3 INIT NO.

SYS → F•7 INITIALIZE →

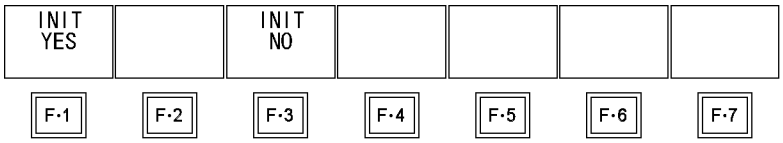


Figure 7-10 INITIALIZE menu

When you initialize the settings, all the settings—excluding those listed below—are initialized. For information about the default values, see chapter 12, “MENU TREES.”
If you want to initialize the following settings as well, see the factory default settings in the following section.

- Ethernet settings (ETHERNET SETUP)
- Remote control settings (REMOTE SETUP)
- Date and time settings (DATE&TIME)
- Preset contents
- The panel settings that are registered to the SHORTCUT key
- The CINELITE user-defined correction tables

● Factory Default Settings

To initialize all items other than the date and time, hold down the V POS and H POS knobs while you turn the power on. Press F•1 YES when the following screen appears.

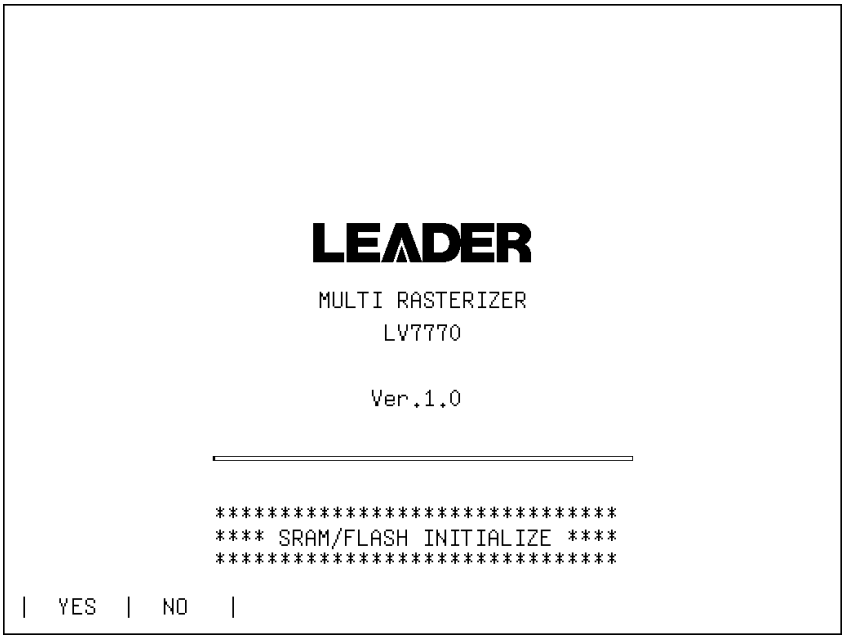


Figure 7-11 Factory default settings

8. CAPTURE FEATURE

The capture feature consists of screen capture and frame capture.
Frame capture requires the LV 5770SER08 or LV 5770SER09A.

● Screen Capture

You can use the screen capture feature to capture still-image data of the screen. You can save the captured data to USB memory or overlay it on the input signal on the LV 7770 display.

● Frame Capture (LV 5770SER08 and LV 5770SER09A)

You can use the frame capture feature to capture single frames of data from the SDI signal. You can save the captured data to USB memory or overlay it on the input signal on the LV 7770 display.

Because data is captured as frame data, the data can be displayed on the LV 7770 in different display modes. The supported display modes are the video signal waveform, vector waveform, picture, and status (data dump) displays. For details on the data dump display, see the LV 5770SER08/LV 5770SER09A instruction manual.

● Switching between Screen Capture and Frame Capture

Change the Capture Mode setting on the GENERAL SETUP display.

SYS → F•2 SYSTEM SETUP →

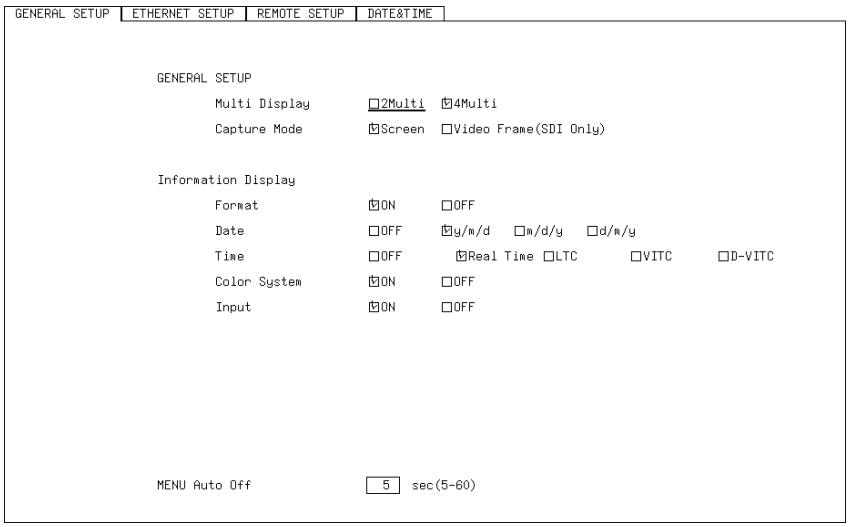


Figure 8-1 GENERAL SETUP tab

8.1 Screen Capture

8.1.1 Taking a Screen Capture of the Display

To take a screen capture of the display, follow the procedure below.
You cannot take screen captures of some screens such as tab menus and file lists.

1. **Configure the LV 7770 so that the display that you want to capture appears on the screen.**
2. **Press CAP.**

   When you press CAP, the LV 7770 stores a screen capture of the display in its internal memory. You can also take screen captures by pressing F•2 REFRESH while the capture menu is displayed.

   Note that if you perform one of the following operations after capturing a display, the captured data will be cleared.
   • Change the display mode.
   • Press SDI, CMPST, SIM, SYS, a key from 1 to 4, MULTI, MEM, or RCLL.
   • Turn off the power.

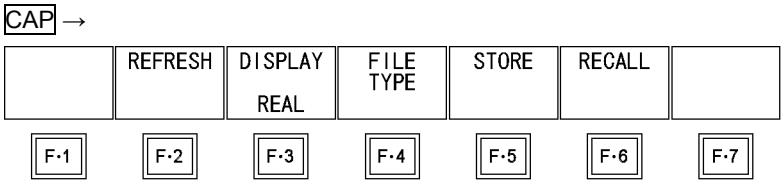


Figure 8-2 Capture menu

8.1.2 Displaying Screen Capture Data

If you press CAP, you can display the acquired screen capture data on the LV 7770 or overlay it on the current input signal.

You can display captured video signal waveform, vector, audio waveform, audio meter, eye pattern waveform, and picture display data on the LV 7770. Other kinds of data (such as status and scale data) cannot be displayed. However, these other kinds of data can be saved to a USB memory device as BMP files.

To select the display mode, follow the procedure below.

Procedure

CAP → F•3 DISPLAY: REAL / HOLD / BOTH

Settings

REAL:	The current input signal is displayed.
HOLD:	The screen capture data is displayed. The waveform is displayed in cyan.
BOTH:	The current input signal and the screen capture data are displayed on top of each other with their intensities halved.

8.1.3 Saving to a USB Memory Device

If you press CAP and perform an operation such as changing the display mode, the acquired screen capture data is deleted. However, by saving the screen capture data to a USB memory device in BSG format, you can display the screen capture data on the LV 7770 even after you restart the instrument.
Also, if you save the screen capture data in BMP format, you can view the captured data on a PC.

1. Press F • 4 FILE TYPE on the capture menu.

The file format selection menu appears.

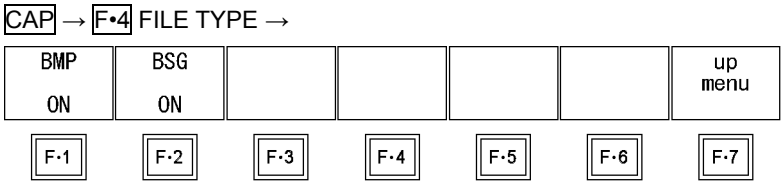


Figure 8-3 File format selection menu

2. Select the file format.

If you set F•1 BMP to ON, the screen capture data will be saved to the USB memory device as .bmp files. You can view the saved files on a PC.
If you set F•2 BSG to ON, the screen capture data will be saved to the USB memory device as .bsg files. You can view the saved files on the LV 7770.
The default setting for both F•1 BMP and F•2 BSG is ON. You cannot set both of these settings to OFF.

3. Press F • 7 up menu.

The capture menu appears.

4. Press F • 5 STORE.

The message “Saving file - Please Wait.” is displayed on the screen, and the screen capture data is saved to the USB memory device.

This menu item appears when a USB memory device has been connected to the LV 7770.

Regardless of the waveform color that you have specified, waveforms in the saved data are white.

It takes approximately 5 seconds to save a file, and the file size is approximately 2.4 MB for both .bmp and .bsg files.

The file is automatically assigned a name that consists of the year, month, day, hour, minute, and second (in that order) that are set in the system settings.
(Example: 20090501100859.bmp)

Screen capture data is saved to the following locations.

USB memory device
└ LV7770_USER
  └ BMP
    ├ yyyymmddhhmmss.bmp
    └ yyyymmddhhmmss.bsg

8.1.4 Displaying Screen Capture Data Saved to a USB Memory Device

To display or overlay on the current input signal the screen capture data that has been saved to USB memory as .bsg files, follow the procedure below.
(Screen capture data that has been saved in BMP format and screen capture data that has been saved in BSG format on a different model cannot be displayed on the LV 7770.)

1. **Press CAP.**

   The capture menu appears.

2. **Press F•6 RECALL.**

   The file list display appears.
   This menu item appears when a USB memory device has been connected to the LV 7770.

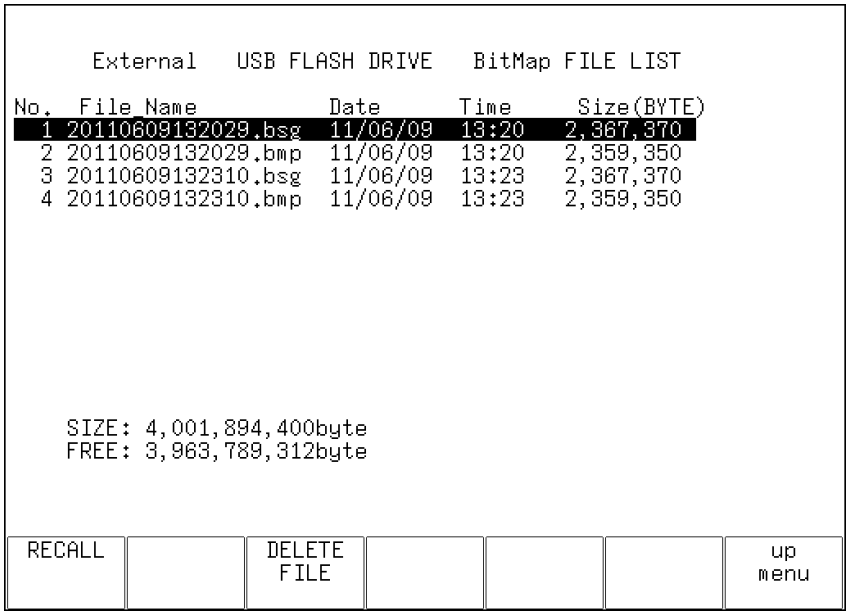


Figure 8-4 File list display

3. **Turn the function dial (F•D) to select the .bsg file that you want to display.**
4. **Press F•1 RECALL.**

   The file list display closes, and the capture menu appears.

5. **Press F•3 DISPLAY to select the display format.**

   After you press F•1 RECALL, the display format is BOTH.

8.1.5 Deleting Screen Capture Data Saved to a USB Memory Device

To delete screen capture data that has been saved to a USB memory device, follow the procedure below.
(You can also use a PC to delete the data.)

1. Press CAP.

The capture menu appears.

2. Press F•6 RECALL.

The file list display appears.
This menu item appears when a USB memory device has been connected to the LV 7770.

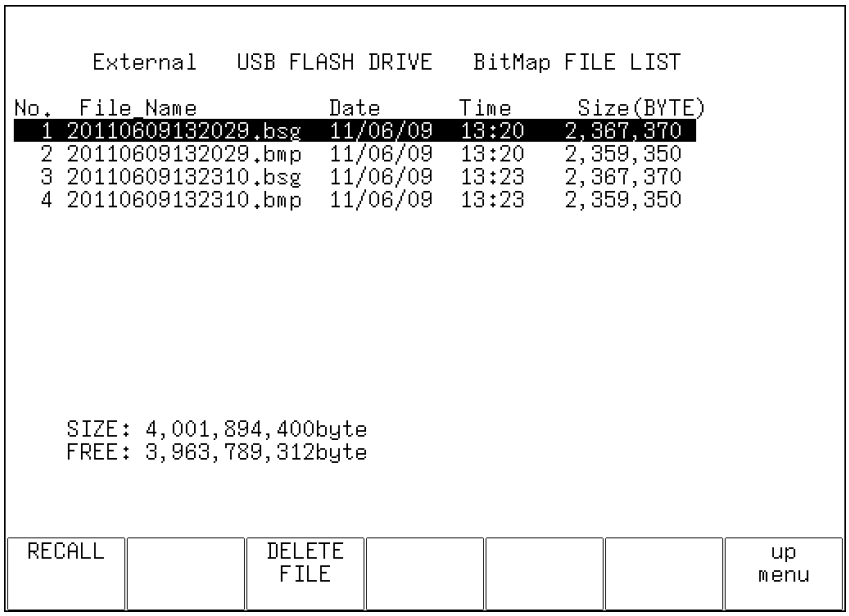


Figure 8-5 File list display

3. Turn the function dial (F•D) to select the file that you want to delete.

4. Press F•3 DELETE FILE.

The deletion confirmation menu appears.

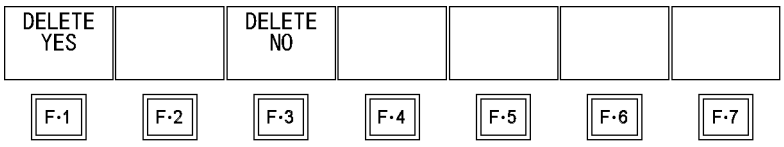


Figure 8-6 Deletion confirmation menu

5. Press F•1 DELETE YES.

To cancel the deletion operation, press F•3 DELETE NO.

8.2 Frame Capture (LV 5770SER08 and LV 5770SER09A)

8.2.1 Capturing Frame Data

There are two ways to capture frame data. One way is to capture frame data manually, and the other is to capture frame data automatically when errors occur (error capture).

1. **Press SDI.**
2. **Press WFM, VEC, or PIC.**

   If you press VEC, press F•6 DISPLAY and then F•1 MODE to select VECTOR. This feature does not support the 5 bar display.

3. **Press CAP.**

   The capture menu appears. If an error message appears, check steps 1 and 2. Unlike screen captures, frame data is not captured when you press CAP.

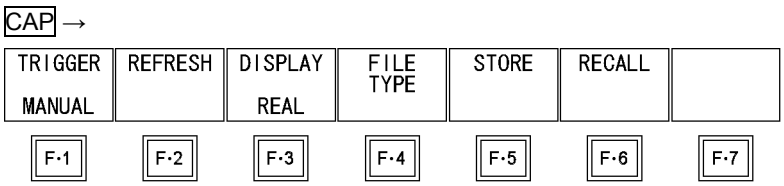


Figure 8-7 Capture menu

● Capturing frame data manually

4. **Press F•1 TRIGGER to select MANUAL.**
5. **Press F•2 REFRESH.**

   One frame of data is captured in the LV 7770. (In simul mode, the data of both channels A and B is captured.)
   The captured frame data is cleared when you change the input channel or other settings.

● Capturing frame data automatically (error capture)

4. Press F•1 TRIGGER to select ERROR.

5. Press F•2 REFRESH.

The LV 7770 switches to error standby mode and displays the message “ERR CAP” at the top of the screen. The standby mode is cleared when you change the input channel or other settings.

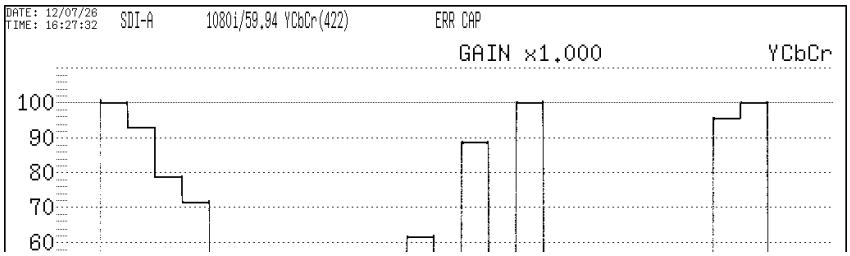


Figure 8-8 Error standby

6. When the message below appears, press any key except for the power key.

If an error occurs during error standby, the LV 7770 captures the frame data at that point and stops the frame capture. (In simul mode, if an error occurs on channel A or channel B, the LV 7770 captures the frame data of the channel in which the error occurred and stops the frame capture.)

The applicable errors are those listed under “Applicable Errors” below whose detection setting has been set to ON through F•6 ERROR SETUP on the status menu.

Table 8-1 Applicable errors for error capturing

	Applicable Errors	Inapplicable Errors
SDI Error	TRS, Line Number, CRC, EDH, Illegal Code	Cable
Ancillary Data Error	Parity, Checksum	-
Embedded Audio Error	BCH, DBN, Parity, Inhibit Line	Sample Count
Video Error	Gamut, Composite Gamut, Level	Freeze, Black

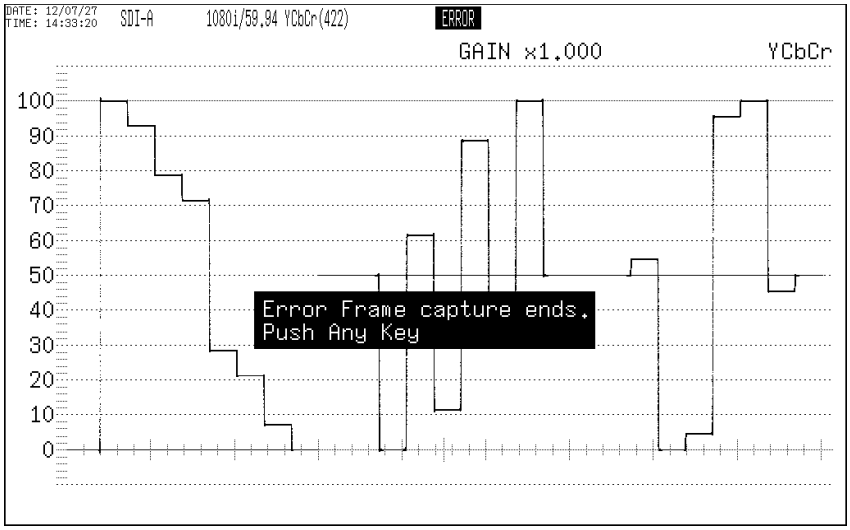


Figure 8-9 Error capture end

8.2.2 Displaying Frame Capture Data

You can display the captured frame data on the LV 7770 or overlay it on the current input signal. You can also display the frame data in different display modes.
To select the display mode, follow the procedure below.

- First, set the display mode to video signal waveform display, vector waveform display (except for the 5 bar display), or picture display.
- To display frame data, the LV 7770 must be receiving a signal whose format is the same as that of the captured data.
- The display may blink when you change the display area or operate the V POS knob, H POS knob, or function dial (F•D).
- The scale and measured values are those of the current signal, not those of the captured data.

Procedure

CAP → F•3 DISPLAY: REAL / HOLD / BOTH

Settings

REAL:	The current input signal is displayed.
HOLD:	The frame capture data is displayed. The waveform is displayed in cyan.
BOTH:	The current input signal and the frame capture data are displayed on top of each other with their intensities halved.

8.2.3 Saving to a USB Memory Device

The frame data captured in the LV 7770 is cleared when the power is turned off. If you want to display it later even after the power is turned off, save the data to USB memory by following the procedure below (save the data in FRM format). You can also view the saved data on your PC.

1. Press F • 4 FILE TYPE on the capture menu.

The file format selection menu appears.

CAP → F•4 FILE TYPE →

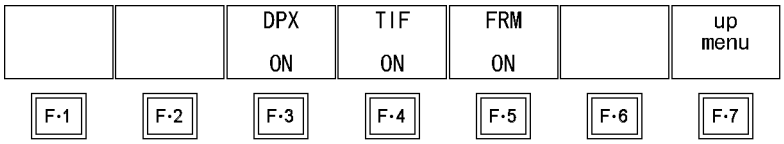


Figure 8-10 File format selection menu

2. Select the file format.

Set the file types for saving the data to ON. By default, all types are set to ON.

F•3 DPX: Only the picture area is saved as 10-bit .dpx files.
Even when the input signal is 12 bits, it is rounded to 10 bits and saved.

F•4 TIF: Only the picture area is saved as .tif files.
This data is DPX converted into TIF.

F•5 FRM: A single frame of data is saved.

3. Press F • 7 up menu.

The capture menu appears.

4. Press F • 5 STORE.

The message “Saving file - Please Wait.” is displayed on the screen, and the frame capture data is saved to the USB memory device.

This menu item does not appear when a USB memory device is not connected, when all the file types that you can select with F•4 FILE TYPE are set to OFF, or when there is no frame data captured in the LV 7770.

When the input signal is 1080i/59.94 and all the file types that you can select with F•4 FILE TYPE are set to ON, it takes about 50 seconds to save the data. The approximate file sizes for saving the data are 8.3 MB for DPX, 12.5 MB for TIF, and 9.9 MB for FRM.

The file is automatically assigned a name that consists of the year, month, day, hour, minute, and second (in that order) that are set in the system settings.
(Example: 20090501100859.bmp)

Frame capture data is saved to the following locations.

USB memory device
└ LV7770_USER
  └ BMP
    ├ yyyymmddhhmmss.dpx
    ├ yyyymmddhhmmss.frm
    └ yyyymmddhhmmss.tif

8.2.4 Displaying Frame Capture Data Saved to a USB Memory Device

To display or overlay on the current input signal the frame capture data that has been saved to USB memory as .frm files, follow the procedure below.
(Frame capture data that has been saved in FRM format on a different model cannot be displayed on the LV 7770.)

1. Press F•6 RECALL on the capture menu.

The file list display appears.
This menu item appears when a USB memory device has been connected to the LV 7770.

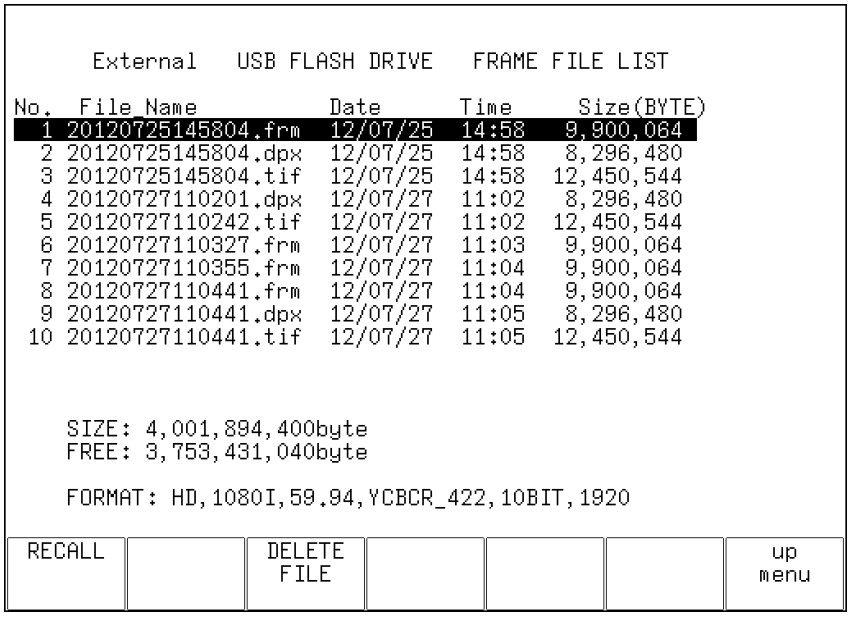


Figure 8-11 File list display

2. Turn the function dial (F•D) to select the .frm file that you want to display.

3. Press F•1 RECALL.

To display frame data, the LV 7770 must be receiving a signal whose format is the same as that of the saved data. The FORMAT item at the bottom of the display shows the format of the saved data. It is displayed in green if the format is the same as the current format or in red if the format is not the same. If the FORMAT item is in red, F•1 RECALL does not appear.

4. Press F•3 DISPLAY to select the display format.

After you press F•1 RECALL, the display format is BOTH.

8.2.5 Deleting Frame Capture Data Saved to a USB Memory Device

To delete frame capture data that has been saved to a USB memory device, follow the procedure below.
(You can also use a PC to delete the data.)

1. Press F•6 RECALL on the capture menu.

The file list display appears.
This menu item appears when a USB memory device has been connected to the LV 7770.

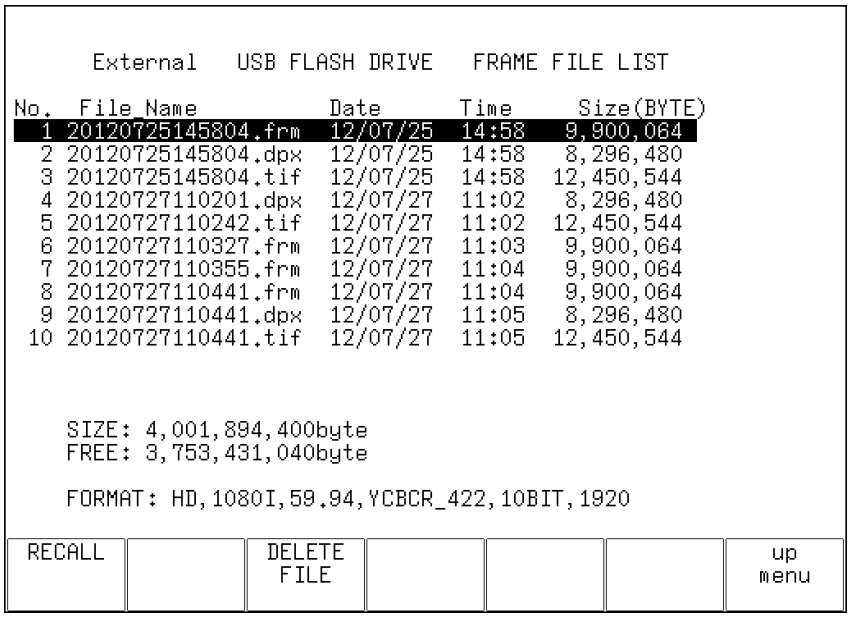


Figure 8-12 File list display

2. Turn the function dial (F•D) to select the file that you want to delete.

3. Press F•3 DELETE FILE.

The deletion confirmation menu appears.

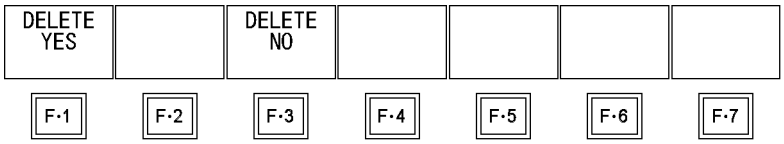


Figure 8-13 Deletion confirmation menu

4. Press F•1 DELETE YES.

To cancel the deletion operation, press F•3 DELETE NO.

9. PRESET FEATURE

You can register up to 60 sets of panel settings to presets. Also, you can use the same settings on multiple LV 7770s by copying presets to a USB memory device.

Preset settings are not deleted even if you initialize the instrument's settings.
You cannot register the following items to presets.
• Ethernet settings (ETHERNET SETUP)
• Remote control settings (REMOTE SETUP)
• Date and time settings (DATE&TIME)

9.1 Registering Presets

To register a preset, follow the procedure below.

1. **Set the LV 7770 to the settings that you want to register.**
2. **Press MEM.**

   The preset registration display appears.

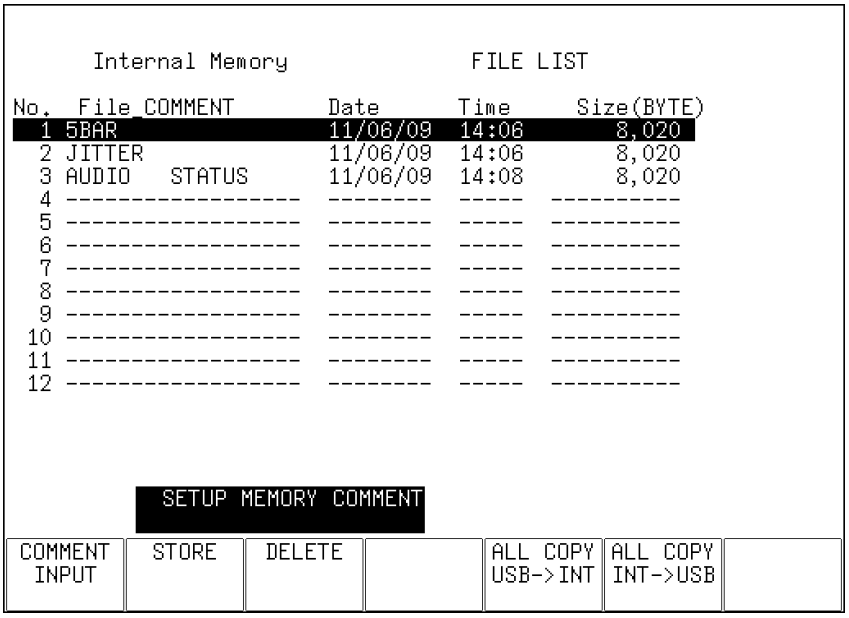


Figure 9-1 Preset registration display

3. Press F•1 COMMENT INPUT.

The comment input display appears.
You can also copy a comment from a preset that already has a comment saved to it. To copy a comment, on the preset registration display, move the cursor to the preset that has the comment that you want to copy, and press the function dial (F•D).

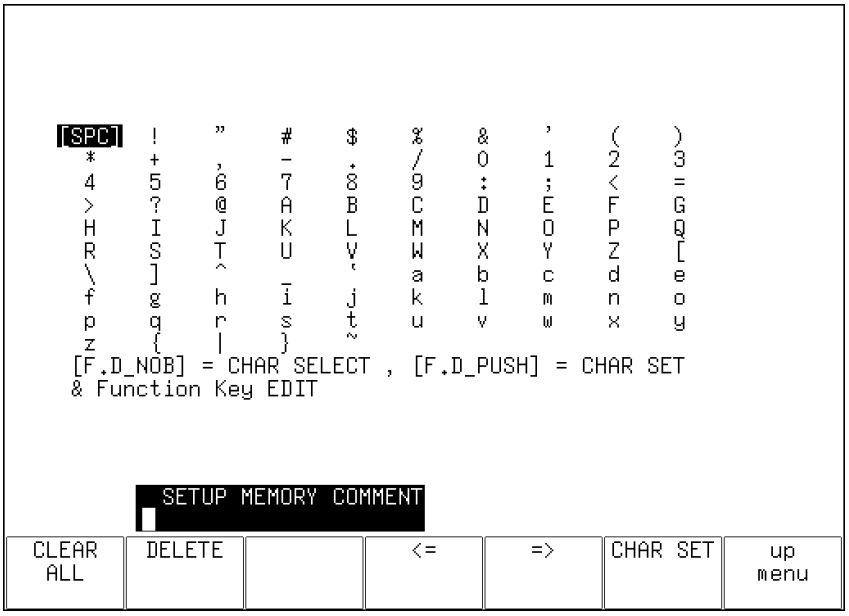


Figure 9-2 Comment input display

4. Enter a comment of up to 16 characters.

You can use the following keys on the comment input display.

F•1 CLEAR ALL:	Deletes all the characters.
F•2 DELETE:	Deletes the character at the cursor position.
F•4 <=:	Moves the cursor to the left.
F•5 =>:	Moves the cursor to the right.
F•6 CHAR SET:	Enters the selected character.
Function dial (F•D):	Turn to select the character. Press to enter the selected character.

5. Press F•7 up menu.

6. Turn the function dial (F•D) to select the number of the preset you want to register.

7. Press F•2 STORE.

When the message “Saving data - Please Wait.” disappears, the preset has been successfully registered.

If a preset has already been stored with the number that you selected, the overwrite confirmation menu appears. If you want to overwrite the existing preset, press F•1 OVER WR YES. Otherwise, press F•3 OVER WR NO.

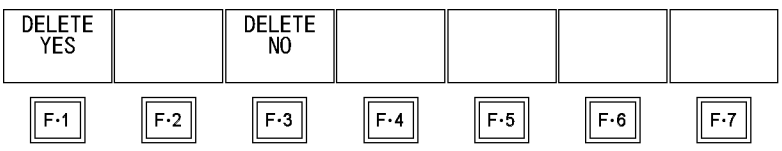


Figure 9-3 Overwrite confirmation menu

9.2 Loading Presets

To load a preset, follow the procedure below.

1. Press RCLL.

The preset load menu appears.

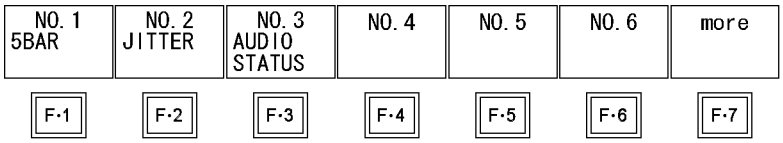


Figure 9-4 Preset load menu

2. Press a key from F•1 NO.1 to F•6 NO.6.

If the preset that you want to load is number 7 or greater, press F•7 more or turn the function dial (F•D).

9.3 Deleting Presets

To delete a preset, follow the procedure below.

1. Press MEM.

The preset registration display appears.

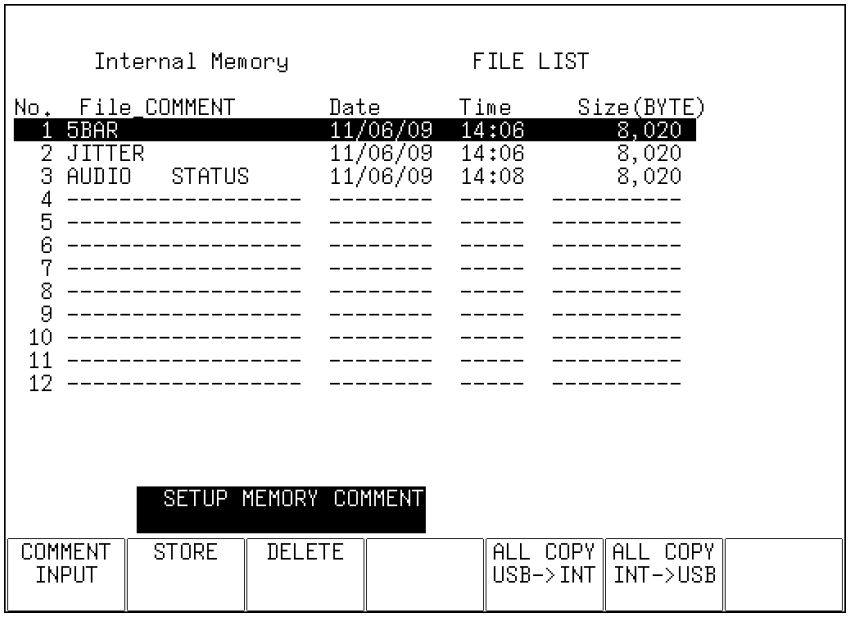


Figure 9-5 Preset registration display

2. Turn the function dial (F•D) to select the file that you want to delete.

3. Press F•3 DELETE.

The deletion confirmation menu appears.

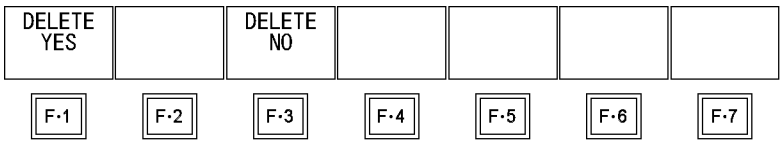


Figure 9-6 Deletion confirmation menu

4. Press F•1 DELETE YES.

To cancel the deletion operation, press F•3 DELETE NO.

9.4 Copying All Presets

9.4.1 Copying All Presets from the LV 7770 to a USB Memory Device

To copy all the presets from the LV 7770 to a USB memory device, follow the procedure below.

1. Press MEM.

The preset registration display appears.

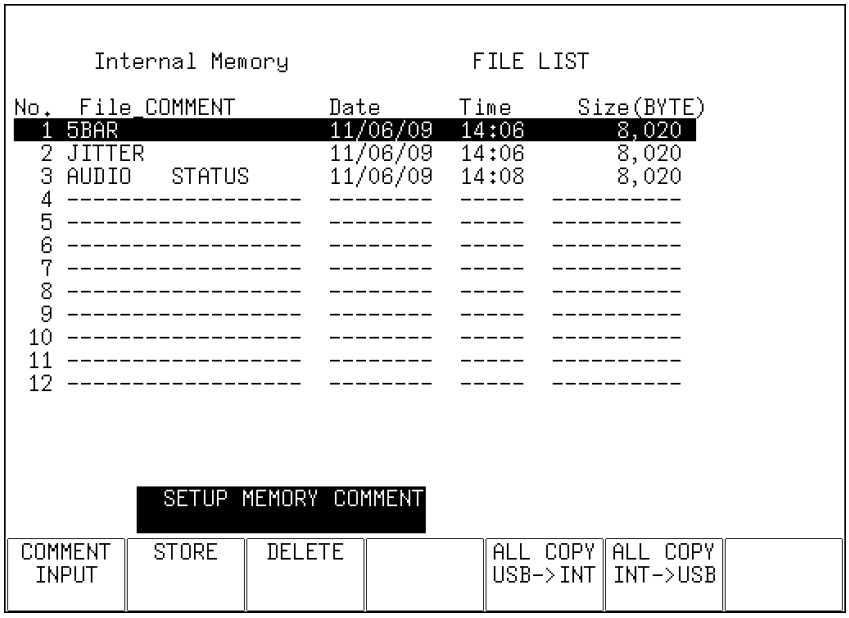


Figure 9-7 Preset registration display

2. Press F•6 ALL COPY INT->USB.

The copy confirmation menu appears.
This menu item appears when a USB memory device has been connected to the LV 7770.

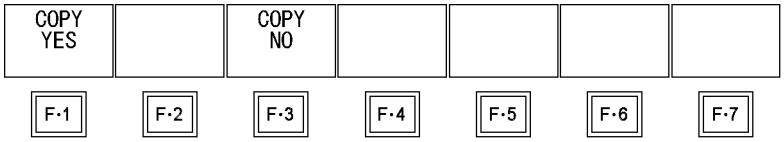


Figure 9-8 Copy confirmation menu

3. Press F•1 COPY YES.

To cancel the copy operation, press F•3 COPY NO. If presets already exist on the USB memory device, they will be overwritten.

Presets are saved to the following location.
Note that the file numbers on the USB memory device are different from the LV 7770 preset numbers by one. If you use a PC to change the names of the files stored on the USB memory device, you will no longer be able to copy the altered presets from the USB memory device to an LV 7770.

USB memory device
└ LV7770_USER
  └ PSET
    └ PRESET_00.PRE (to PRESET_59.PRE) .....Preset number 1 to number 60

9.4.2 Copying All Presets from a USB Memory Device to the LV 7770

To copy all the presets from a USB memory device to the LV 7770, follow the procedure below.

1. Press MEM.

The preset registration display appears.

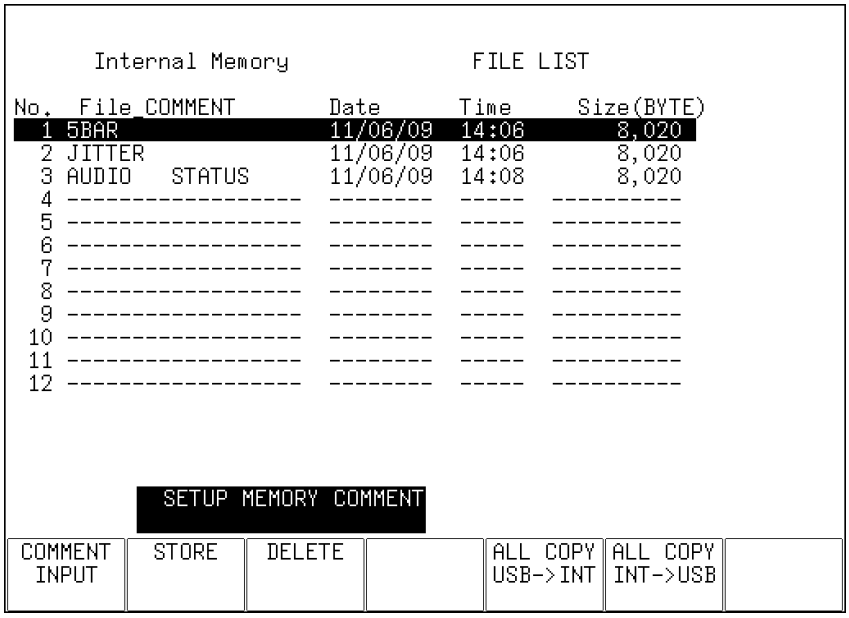


Figure 9-9 Preset registration display

2. Press F•5 ALL COPY USB->INT.

The copy confirmation menu appears.
This menu item appears when a USB memory device has been connected to the LV 7770.

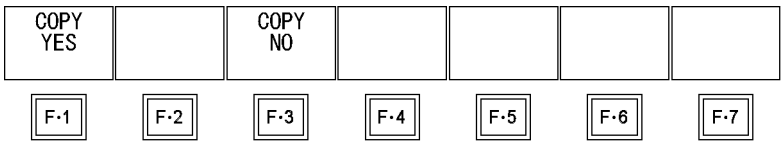


Figure 9-10 Copy confirmation menu

3. Press F•1 COPY YES.

To cancel the copy operation, press F•3 COPY NO. If presets already exist within the LV 7770 internal memory, they will be overwritten.

10. REMOTE CONTROL

You can use the remote control connector on the rear panel to load presets, transmit alarm signals, and perform other operations. Use the supplied 15-pin D-sub connector to control the LV 7770.

- **Pinout Example**

  This section contains a diagram of the remote control connector, displayed as it appears on the rear panel, and a table that describes the connector's pinout.

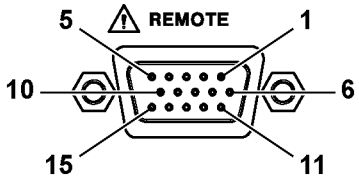


Figure 10-1 Remote control connector (female, inch screws)

Table 10-1 Remote control connector pinout example

Pin No.	Name	I/O	Function
1	GND	-	Ground
2	/P1	I	Loads preset 1
3	/P2	I	Loads preset 2
4	/P3	I	Loads preset 3
5	/P4	I	Loads preset 4
6	/P5	I	Loads preset 5
7	/P6	I	Loads preset 6
8	/P7	I	Loads preset 7 / clear the loudness measurement (*1)
9	/P8	I	Loads preset 8 / start/stop the loudness measurement (*1)
10	/ACH	I	Selects channel A
11	/BCH	I	Selects channel B
12	RESERVE	-	Reserved
13	RESERVE	-	Reserved
14	ALARM	O	Transmits alarms
15	GND	-	Ground

*1 When Remote Select is set to Recall, preset recalling is enabled. When it is set to Recall and Loudness, loudness measurement control is enabled.

- **Configuring the LV 7770**

  To set the remote control connector, use the system settings. For details, see section 7.2.3, “Remote Control Settings.”

SYS → F•2 SYSTEM SETUP → F•3 NEXT TAB → F•3 NEXT TAB →

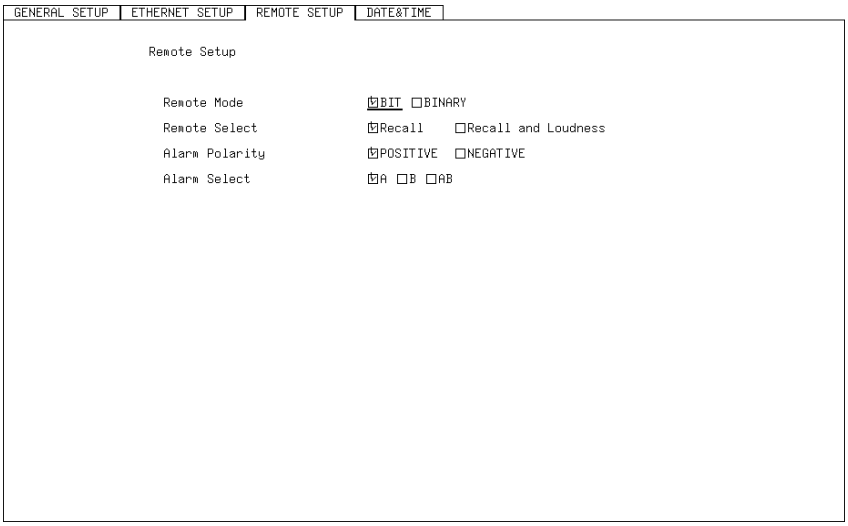


Figure 10-2 REMOTE SETUP tab

- **Remote Control**

  The input connectors respond to active-low signals. Do not apply negative voltages or voltages that exceed +5 V. After you make a setting, a period of time of 350 ms or more in which the electrical potential is stable is required, so wait at least 1 second before you make the subsequent setting.

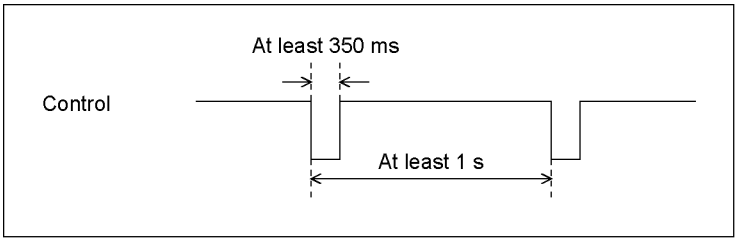


Figure 10-3 Remote control timing 1

After a setting is made, it may take about 3 seconds for the operation to finish. If you configure subsequent settings before the initial operation finishes, only the last setting will take effect. All settings in between will be discarded. (In the following example, remote control 2 will be discarded.)

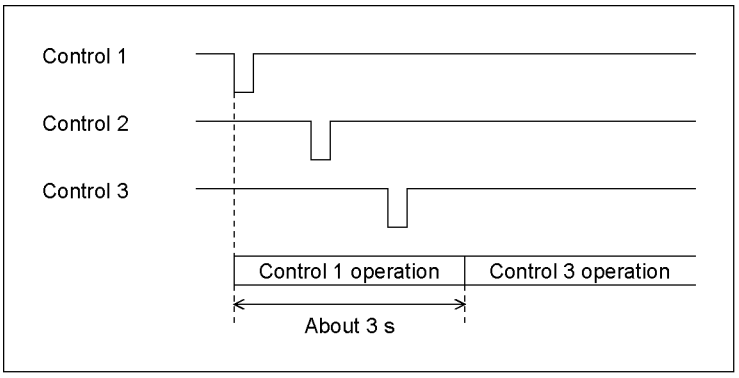


Figure 10-4 Remote control timing 2

- **Loading Presets**

The control table when Remote Mode is set to BIT is shown below.
When Remote Select is set to Recall and Loudness, preset No. 7 and 8 cannot be recalled.

Table 10-2 Loading presets (BIT)

Preset No.	9p /P8	8p /P7	7p /P6	6p /P5	5p /P4	4p /P3	3p /P2	2p /P1
1	H	H	H	H	H	H	H	L
2	H	H	H	H	H	H	L	H
3	H	H	H	H	H	L	H	H
4	H	H	H	H	L	H	H	H
5	H	H	H	L	H	H	H	H
6	H	H	L	H	H	H	H	H
7	H	L	H	H	H	H	H	H
8	L	H	H	H	H	H	H	H

The control table when Remote Mode is set to BINARY is shown below.

Table 10-3 Loading presets (BINARY)

Preset No.	7p /P6	6p /P5	5p /P4	4p /P3	3p /P2	2p /P1
1	H	H	H	H	H	L
2	H	H	H	H	L	H
3	H	H	H	H	L	L
4	H	H	H	L	H	H
5	H	H	H	L	H	L
6	H	H	H	L	L	H
7	H	H	H	L	L	L
8	H	H	L	H	H	H
9	H	H	L	H	H	L
10	H	H	L	H	L	H
11	H	H	L	H	L	L
12	H	H	L	L	H	H
13	H	H	L	L	H	L
14	H	H	L	L	L	H
15	H	H	L	L	L	L
16	H	L	H	H	H	H
17	H	L	H	H	H	L
18	H	L	H	H	L	H
19	H	L	H	H	L	L
20	H	L	H	L	H	H
21	H	L	H	L	H	L
22	H	L	H	L	L	H
23	H	L	H	L	L	L
24	H	L	L	H	H	H
25	H	L	L	H	H	L
26	H	L	L	H	L	H
27	H	L	L	H	L	L
28	H	L	L	L	H	H
29	H	L	L	L	H	L
30	H	L	L	L	L	H
31	H	L	L	L	L	L
32	L	H	H	H	H	H
33	L	H	H	H	H	L
34	L	H	H	H	L	H
35	L	H	H	H	L	L
36	L	H	H	L	H	H
37	L	H	H	L	H	L
38	L	H	H	L	L	H
39	L	H	H	L	L	L
40	L	H	L	H	H	H
41	L	H	L	H	H	L

Preset No.	7p /P6	6p /P5	5p /P4	4p /P3	3p /P2	2p /P1
42	L	H	L	H	L	H
43	L	H	L	H	L	L
44	L	H	L	L	H	H
45	L	H	L	L	H	L
46	L	H	L	L	L	H
47	L	H	L	L	L	L
48	L	L	H	H	H	H
49	L	L	H	H	H	L
50	L	L	H	H	L	H
51	L	L	H	H	L	L
52	L	L	H	L	H	H
53	L	L	H	L	H	L
54	L	L	H	L	L	H
55	L	L	H	L	L	L
56	L	L	L	H	H	H
57	L	L	L	H	H	L
58	L	L	L	H	L	H
59	L	L	L	H	L	L
60	L	L	L	L	H	H

- **Controlling the Loudness Measurement**

  The control table when Remote Select is set to Recall and Loudness is shown below.

  Table 10-4 Controlling the loudness measurement

	9p (/P8)	8p (/P7)
Clear the loudness measurement	-	L
Start the loudness measurement	L	-
Stop the loudness measurement	H	-

11. ETHERNET REMOTE CONTROL

The LV 7770 can be remotely controlled through its Ethernet port on the rear panel. Controlling an LV 7770 remotely through its Ethernet interface has only been confirmed to work in a local network environment. LEADER does not guarantee that this feature will work in any network environment.

11.1 TELNET

From a PC connected to the same network as the LV 7770, most of the operations that you can perform from the front panel can be controlled remotely.

11.1.1 Procedure

1. Configure the Ethernet settings on the LV 7770's ETHERNET SETUP tab.

Set the IP Address, and set TELNET Server Select to ON.
You cannot use the LV 7770-01 (REMOTE CONTROLLER) while you are using TELNET. Conversely, if you set LV7770-01 to ON, you cannot use TELNET.

Reference 7.2.2, "Configuring Ethernet Settings"

SYS → F•2 SYSTEM SETUP → F•3 NEXT TAB →

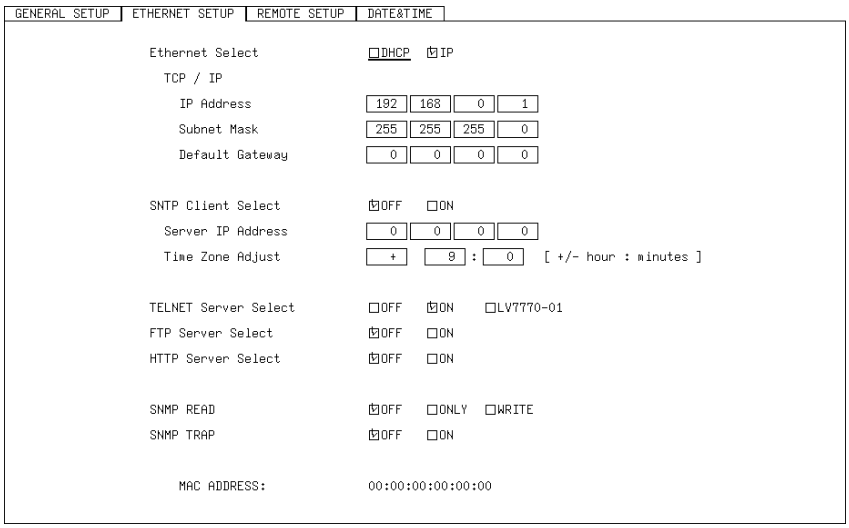


Figure 11-1 ETHERNET SETUP tab

2. Press F • 1 COMPLETE.

The message "Saving data - Please Wait" is displayed.

3. If you changed the IP address, after the message disappears, restart the LV 7770.

The new IP address will take effect.

4. Connect the LV 7770's Ethernet port to the network.

Use a UTP cable (category 5).

5. On the PC, start a TELNET client.

On Windows 7, on the taskbar, click Start, and then click Run. Type "TELNET " and the IP address that you set in step 1. Then, click OK.
(To use TELNET, open Control Panel, click Turn Windows features on or off under Program and Features, and select the Telnet Client check box.)

6. Type the login name and password.

The login name and password are "LV7770". Use uppercase for all characters.
When the login name and password are entered correctly, "LV7770>" appears.

```
login: LV7770
Password: ******
LV7770>
```

7. Enter TELNET commands.

Enter commands while referring to sections 11.1.2, "How to Enter Commands," and 11.1.3, "TELNET Commands."
To end a TELNET session, type “bye” in lowercase letters.

```
LV7770> bye
```

11.1.2 How to Enter Commands

The command syntax is explained below. (Some commands do not have parameters.)
To query a current setting, use a question mark as the parameter.

```
LV7770> [Command] + [Space] + [Parameter]
```

Examples of how to enter commands are shown below. With the factory default settings, return values are returned only for queries. If you want the LV 7770 to output return values for all commands, send a "REMOTE:REPLY" with the parameter set to ON.

```
LV7770> STATUS:ERROR:CLEAR ..... Reset the error on the status screen.
OK ..... Return value
LV7770> WFM:GAIN:MAG X5..... Set the gain of the video signal waveform to 5x.
OK ..... Return value
LV7770> VECTOR:INTEN:SCALE ? ..... Query the vector scale intensity.
4..... Return value
LV7770>
```

* You can enter commands using uppercase or lowercase letters.
* Commands that begin with "WFM," "VECTOR," "PICTURE," "STATUS," "EYE," or "AUDIO" only apply to the area (1 to 4) that is specified by the DISPLAY command. Commands for a mode that is different from the current display mode are invalid.
* When using TELNET, enable flow control.
  If your Telnet client does not support flow control, the LV 7770 may not operate properly when commands are transferred at a high speed. In this situation, wait approximately 1 second between commands, or send the "REMOTE:REPLY" command to enable return values and perform software handshaking.

11.1.3 TELNET Commands

TELNET commands follow the LV 7770 or the unit menu structure. For explanations of each item, see the LV 7770 or the unit instruction manual. Depending on the current settings, some of the items that are described in this manual may be invalid.

Table 11-1 LV 7770 commands

Command	Parameter
INPUT:UNIT	SDI / CMP / ?
INPUT:CH	A / B / AB / ?
INPUT:SIMUL	ON / OFF / ?
INPUT:STREAM	1 / 2 / ?
EXT	INT / EXT / ?
DISPLAY	1 / 2 / 3 / 4 / ?
MULTI	ON / OFF / ?
MODE	WFM / VECTOR / PICTURE / AUDIO / STATUS / EYE / ?
RCLL	1 to 60
CAP:TRIGGER	MANUAL / ERROR / ?
SYS:FORMAT:MANUAL_SELECT	AUTO / MANUAL / ?
SYS:FORMAT:I_PSF	INTERLACE / SEGMENTED_FRAME / ?
SYS:FORMAT:LINK_FORMAT	HD / SD / HD_DUAL / 3GA / 3GB / 3GB_2MAP / ?
SYS:FORMAT:COLOR_SYSTEM	YCBCR_422 / YCBCR_444 / RGB_444 / ?
SYS:FORMAT:PIXEL_DEPTH	10BIT / 12BIT / ?
SYS:FORMAT:SCANNING	1080P / 1080I / 1080PSF / 720P / 525I / 625I / ?
SYS:FORMAT:ACTIVE_SAMPLE	1920 / 2048 / ?
SYS:FORMAT:FRAME_RATE	60 / 59.94 / 50 / 30 / 29.97 / 25 / 24 / 23.98 / ?
SYS:FORMAT:INPUT:A	? (Return value: Link Format / Scanning / Frame Rate / Color System / Pixel Depth / Active Sample / NO_SIGNAL / UNKNOWN) * When Scanning is set to I, Frame Rate is converted to field frequency. * When Scanning is set to 720P, 525I, or 625I, return values for Pixel Depth and later items are not output. * When the input signal is COMPOSITE, Link Format is set to NTSC or PAL, and the return values for Color System and later items are not output.
SYS:FORMAT:INPUT:B	? (Return value: same as above)
SYS:REAR:SDI_OUTPUT	A_B / A / ?
SYS:REAR:AUDIO_BNC:GRP_A	INPUT / OUTPUT / ?
SYS:REAR:AUDIO_BNC:GRP_B	INPUT / OUTPUT / ?
SYS:REAR:AUDIO_BNC:GRP_A:OUT_SEL	DISP_SRC / SDI_1_8 / ?
SYS:REAR:AUDIO_BNC:GRP_B:OUT_SEL	DISP_SRC / SDI_9_16 / ?
SYS:REAR:ANALOG_AUDIO	INPUT / OUTPUT
SYS:REAR:DVI_I:ASPECT	4_3 / 16_9 / 16_10 / ?
SYS:REAR:PIC_MONI_OUT:COLOR	AUTO / YCBCR_422 / YCBCR_444 / RGB_444 / ?

Command	Parameter
SYS:REAR:PIC_MONI_OUT:PIXEL_DEPTH	AUTO / 8BIT / 10BIT / 12BIT / ?
SYS:REAR:PIC_MONI_OUT:2MAPPING	STREAM1 / STREAM2 / ?
SYS:GENERAL:MULTI_DISPLAY	2MULTI / 4MULTI / ?
SYS:GENERAL:CAPTURE_MODE	SCREEN / VIDEO_FRAME / ?
SYS:GENERAL:MEM_STR_MODE	LOUD2H / LOUD32H / ?
SYS:GENERAL:INFO:FORMAT	ON / OFF / ?
SYS:GENERAL:INFO:DATE	OFF / YMD / MDY / DMY / ?
SYS:GENERAL:INFO:TIME	OFF / REAL / LTC / VITC / D_VITC / ?
SYS:GENERAL:INFO:COLOR_SYSTEM	ON / OFF / ?
SYS:GENERAL:INFO:INPUT	ON / OFF / ?
SYS:GENERAL:MENU:AUTO_OFF_CTR	OFF / ON / ?
SYS:GENERAL:MENU:AUTO_OFF	1 to 60 / ?
SYS:ETHERNET:SELECT	? (Return value: DHCP / IP)
SYS:ETHERNET:ADDRESS	? (Return value: IP Address)
SYS:ETHERNET:SUBNET	? (Return value: Subnet Mask)
SYS:ETHERNET:GATEWAY	? (Return value: Default Gateway)
SYS:ETHERNET:SNTP:SELECT	OFF / ON / ?
SYS:ETHERNET:SNTP:ADR:1	0 to 255 / ? (aaa of aaa.bbb.ccc.ddd)
SYS:ETHERNET:SNTP:ADR:2	0 to 255 / ? (bbb of aaa.bbb.ccc.ddd)
SYS:ETHERNET:SNTP:ADR:3	0 to 255 / ? (ccc of aaa.bbb.ccc.ddd)
SYS:ETHERNET:SNTP:ADR:4	0 to 255 / ? (ddd of aaa.bbb.ccc.ddd)
SYS:ETHERNET:SNTP:ADDRESS	? (Return value: Server IP Address)
SYS:ETHERNET:SNTP:TZ:POLE	+ / - / ?
SYS:ETHERNET:SNTP:TZ:HOUR	0 to 23 / ?
SYS:ETHERNET:SNTP:TZ:MINUTE	0 to 59 / ?
SYS:ETHERNET:SNTP:TIMEZONE	? (Return value: ±0:0 to ±23:59)
SYS:ETHERNET:SNTP:SET	None (SNTP reconfiguration)
SYS:ETHERNET:FTP:SELECT	OFF / ON / ?
SYS:ETHERNET:HTTP:SELECT	OFF / ON / ?
SYS:ETHERNET:MAC	? (Return value: MAC ADDRESS)
SYS:REMOTE:MODE	BIT / BINARY / ?
SYS:REMOTE:SELECT	RECALL / RECALL_LOUDNESS / ?
SYS:REMOTE:ALARM:POLARITY	POSITIVE / NEGATIVE / ?
SYS:REMOTE:ALARM:SELECT	A / B / AB / ?
SYS:DATE:YEAR	1970 to 2099 / ?
SYS:DATE:MONTH	1 to 12 / ?
SYS:DATE:DAY	1 to 31 / ?
SYS:TIME:HOUR	0 to 23 / ?
SYS:TIME:MINUTE	0 to 59 / ?
SYS:TIME:SECOND	0 to 59 / ?
SYS:DATE_TIME:SET	None (date and time reconfiguration)
SYS:DATE_TIME	? (Return value: YYYY/MM/DD hh:mm:ss)
SYS:INFO:FIRMWARE	? (Return value: FIRMWARE)
SYS:INFO:BOARD:SDI_INPUT	? (Return value: 0 (not installed) / 1 (installed))
SYS:INFO:BOARD:EYE_PATTERN	? (Return value: 0 (not installed) / 1 (installed))

Command	Parameter
SYS:INFO:BOARD:COMPOSITE_VIDEO	? (Return value: 0 (not installed) / 1 (installed))
SYS:INFO:BOARD:AUDIO_ANALOG	? (Return value: 0 (not installed) / 1 (installed))
SYS:INFO:BOARD:AUDIO_OP70	? (Return value: 0 (not installed) / 1 (installed))
SYS:SHORTCUT	DIRECT / VOLUME / CAP&WRIT / INTEN / MENU_OFF / ?
SYS:INIT	None
SYS:KEYLOCK	OFF / ON / ?
REMOTE:REPLY	OFF / ON / ? (return value on or off. The factory default setting is off.) * When set to ON, the following return values are output. OK: The command was processed properly. ERR1: The value of a parameter was outside of its acceptable range. ERR2: The command is invalid in the current condition.

Table 11-2 LV 5770SER08 and LV 5770SER09A commands

Command	Parameter
WFM	None
WFM:CH1	ON / OFF / ?
WFM:CH2	ON / OFF / ?
WFM:CH3	ON / OFF / ?
WFM:OVLAY	ON / OFF / ?
WFM:INTEN:WFM	-128 to 127 / ?
WFM:COLOR	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / MULTI / ?
WFM:COLOR:2MAP_S1	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / MULTI / ?
WFM:COLOR:2MAP_S2	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / MULTI / ?
WFM:INTEN:SCALE	-8 to 7 / ?
WFM:SCALE:COLOR	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / ?
WFM:SCALE:UNIT	HDV_SDP / HDV_SDV / HDP_SDP / 150P / 1023 / 3FF / 1023_255 / ?
WFM:SCALE:COLOR75P	ON / OFF / ?
WFM:GAIN:VAR	CAL / VAR / ?
WFM:GAIN:VAL	0.200 to 10.000 / ?
WFM:GAIN:MAG	X1 / X5 / ?
WFM:FILTER:NORMAL	FLAT / LOWPASS / ?
WFM:FILTER:COMPOSITE	FLAT / LUM / FLAT_LUM / LUM_CRMA / ?
WFM:SWEEP:SWEEP	H / V / ?
WFM:SWEEP:H_SWEEP	1H / 2H / ?
WFM:SWEEP:V_SWEEP	1V / 2V / ?

Command	Parameter
WFM:SWEEP:H_MAG	X1 / X10 / X20 / ACTIVE / BLANK / ?
WFM:SWEEP:V_MAG	X1 / X20 / X40 / ?
WFM:SWEEP:FIELD	FIELD1 / FIELD2 / ?
WFM:BLANKING:NORMAL	REMOVE / H_VIEW / V_VIEW / ALL_VIEW / ?
WFM:BLANKING:COMPOSITE	REMOVE / V_VIEW / ?
WFM:LINE_SELECT	ON / ACH / BCH / BOTH / 2MAP_S1 / 2MAP_S2 / OFF / CINELITE / ?
WFM:LINE_SELECT:FIELD	FIELD1 / FIELD2 / FRAME / ?
WFM:LINE_NUMBER	1 to 1125 / ?
WFM:DISPLAY:SIMUL	MIX / ALIGN / ?
WFM:DISPLAY:2MAP	STREAM1 / STREAM2 / MIX / ALIGN / ?
WFM:DISPLAY:THUMBNAIL:AUDIO	ON / OFF / ?
WFM:DISPLAY:THUMBNAIL:PICTURE	ON / OFF / ?
WFM:DISPLAY:THUMBNAIL:HISTO	ON / OFF / ?
WFM:DISPLAY:THUMBNAIL:HISTO:FORM	LUMA / ALIGN / MIX / ?
WFM:DISPLAY:THUMBNAIL:HISTO:Y	ON / OFF / ?
WFM:DISPLAY:THUMBNAIL:HISTO:R	ON / OFF / ?
WFM:DISPLAY:THUMBNAIL:HISTO:G	ON / OFF / ?
WFM:DISPLAY:THUMBNAIL:HISTO:B	ON / OFF / ?
WFM:MATRIX	YCBCR / GBR / RGB / COMPOSITE / ?
WFM:MATRIX:YGBR	ON / OFF / ?
WFM:MATRIX:YRGB	ON / OFF / ?
WFM:MATRIX:COMPOSITE:FORMAT	AUTO / NTSC / PAL / ?
WFM:MATRIX:SETUP	0P / 7.5P / ?
VECTOR	None
VECTOR:INTEN:VECTOR	-128 to 127 / ?
VECTOR:COLOR	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / ?
VECTOR:COLOR:2MAP_S1	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / ?
VECTOR:COLOR:2MAP_S2	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / ?
VECTOR:INTEN:SCALE	-8 to 7 / ?
VECTOR:SCALE:COLOR	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / ?
VECTOR:SCALE:IQ	ON / OFF / ?
VECTOR:SCALE:VEC	AUTO / BT_601 / BT_709 / ?
VECTOR:GAIN:MAG	X1 / X5 / IQ / ?
VECTOR:GAIN:VAL	0.200 to 10.000 / ?
VECTOR:GAIN:VAR	CAL / VAR / ?
VECTOR:LINE_SELECT	ON / ACH / BCH / BOTH / 2MAP_S1 / 2MAP_S2 / OFF / CINELITE / ?
VECTOR:LINE_SELECT:FIELD	FIELD1 / FIELD2 / FRAME / ?
VECTOR:LINE_NUMBER	1 to 1125 / ?
VECTOR:MARKER	ON / OFF / ?

Command	Parameter
VECTOR:MODE	VECTOR / 5BAR / ?
VECTOR:5BAR:SCALE	P / MV / ?
VECTOR:5BAR:SEQUENCE	GBR / RGB / ?
VECTOR:5BAR:Y:DATA	? (Return value: maximum Y value, minimum Y value) * For 3G-B (2map), use the "INPUT:STREAM" command to select the stream.
VECTOR:5BAR:G:DATA	? (Return value: maximum G value, minimum G value) * For 3G-B (2map), use the "INPUT:STREAM" command to select the stream.
VECTOR:5BAR:B:DATA	? (Return value: maximum B value, minimum B value) * For 3G-B (2map), use the "INPUT:STREAM" command to select the stream.
VECTOR:5BAR:R:DATA	? (Return value: maximum R value, minimum R value) * For 3G-B (2map), use the "INPUT:STREAM" command to select the stream.
VECTOR:5BAR:CMP:DATA	? (Return value: maximum CMP value, minimum CMP value) * For 3G-B (2map), use the "INPUT:STREAM" command to select the stream.
VECTOR:DISPLAY:SIMUL	MIX / TILE / ?
VECTOR:DISPLAY:2MAP	STREAM1 / STREAM2 / MIX / TILE / ?
VECTOR:DISPLAY:THUMBNAIL:AUDIO	ON / OFF / ?
VECTOR:DISPLAY:THUMBNAIL:PICTURE	ON / OFF / ?
VECTOR:DISPLAY:THUMBNAIL:HISTO	ON / OFF / ?
VECTOR:DISPLAY:THUMBNAIL:HISTO:FORM	LUMA / ALIGN / MIX / ?
VECTOR:DISPLAY:THUMBNAIL:HISTO:Y	ON / OFF / ?
VECTOR:DISPLAY:THUMBNAIL:HISTO:R	ON / OFF / ?
VECTOR:DISPLAY:THUMBNAIL:HISTO:G	ON / OFF / ?
VECTOR:DISPLAY:THUMBNAIL:HISTO:B	ON / OFF / ?
VECTOR:MATRIX	COMPONENT / COMPOSITE / ?
VECTOR:MATRIX:COMPOSITE:FORMAT	AUTO / NTSC / PAL / ?
VECTOR:MATRIX:COMPOSITE:SETUP	0P / 7.5P / ?
VECTOR:MATRIX:COLORBAR	100P / 75P / ?
PICTURE	None
PICTURE:MONO_COLOR	MONO / COLOR / ?
PICTURE:CHROMA_UP	NORMAL / UP / ?
PICTURE:BRIGHTNESS	-50.0 to 50.0 / ?
PICTURE:CONTRAST	0.0 to 200.0 / ?
PICTURE:GAIN:R	0.0 to 200.0 / ?
PICTURE:GAIN:G	0.0 to 200.0 / ?
PICTURE:GAIN:B	0.0 to 200.0 / ?

Command	Parameter
PICTURE:GAIN:CHROMA	0.0 to 200.0 / ?
PICTURE:BIAS:R	-50.0 to 50.0 / ?
PICTURE:BIAS:G	-50.0 to 50.0 / ?
PICTURE:BIAS:B	-50.0 to 50.0 / ?
PICTURE:MARKER:FRAME	ON / OFF / ?
PICTURE:MARKER:CENTER	ON / OFF / ?
PICTURE:MARKER:ASPECT	OFF / 14_9 / 13_9 / 16_9 / 4_3 / 2.39_1 / AFD / ?
PICTURE:MARKER:ASPECT:SHADOW	0 to 100 / ?
PICTURE:MARKER:SAFETY:ACTION	ARIB / SMPTE / USER1 / OFF / ?
PICTURE:MARKER:SAFETY:TITLE	ARIB / SMPTE / USER2 / OFF / ?
PICTURE:MARKER:SAFETY:USER1_W	0 to 100 / ?
PICTURE:MARKER:SAFETY:USER1_H	0 to 100 / ?
PICTURE:MARKER:SAFETY:USER2_W	0 to 100 / ?
PICTURE:MARKER:SAFETY:USER2_H	0 to 100 / ?
PICTURE:LINE_SELECT	ON / ACH / BCH / BOTH / 2MAP_S1 / 2MAP_S2 / OFF / ?
PICTURE:LINE_SELECT:FIELD	FIELD1 / FIELD2 / FRAME / ?
PICTURE:LINE_NUMBER	1 to 1125 / ?
PICTURE:CINELITE:MODE	OFF / FSTOP / PERCENT / CINEZONE
PICTURE:CINELITE:FD_FUNC	LINE / SAMPLE / ?
PICTURE:CINELITE:MEAS_POS	P1 / P2 / P3 / ?
PICTURE:CINELITE:MEAS_SIZE	1X1 / 3X3 / 9X9 / ?
PICTURE:CINELITE:LINE	1 to 1125 / ?
PICTURE:CINELITE:SAMPLE	0 to 2749 / ?
PICTURE:CINELITE:FSTOP:18P_REFSET	None
PICTURE:CINELITE:FSTOP:GAMMA_SEL	0.45 / USER1 / USER2 / USER3 / USER_A / USER_B / USER_C / USER_D / USER_E / ?
PICTURE:CINELITE:PERCENT:UNIT	Y_P / RGB_P / RGB_255 / ?
PICTURE:CINELITE:DATA	? (Return value: data at the current position)
PICTURE:CINELITE:CINEZONE:FORM	GRADATE / STEP / SEARCH / ?
PICTURE:CINELITE:CINEZONE:UPPER	-6.3 to 109.4 / ?
PICTURE:CINELITE:CINEZONE:LOWER	-7.3 to 108.4 / ?
PICTURE:CINELITE:CINEZONE:LEVEL	-7.3 to 109.4 / ?
PICTURE:CINELITE:ADVANCE	OFF / P_V / P_W / P_V_W / ?
PICTURE:DISPLAY:SIZE	FIT / REAL / X2 / FULL_FRM / ?
PICTURE:DISPLAY:GAMUT_ERR	OFF / WHITE / RED / MESH / ?
PICTURE:DISPLAY:MODE	2D / 3D_ASIST / ?
PICTURE:DISPLAY:SIMUL_DISP	MIX / TILE / ?
PICTURE:DISPLAY:2MAP_DISP	STREAM1 / STREAM2 / MIX / TILE / ?
PICTURE:DISPLAY:THUMBNAIL:AUDIO	ON / OFF / ?
PICTURE:DISPLAY:THUMBNAIL:WFM	ON / OFF / ?
PICTURE:DISPLAY:THUMBNAIL:HISTO	ON / OFF / ?
PICTURE:DISPLAY:THUMBNAIL:HISTO:FORM	LUMA / ALIGN / MIX / ?
PICTURE:DISPLAY:THUMBNAIL:HISTO:Y	ON / OFF / ?
PICTURE:DISPLAY:THUMBNAIL:HISTO:R	ON / OFF / ?

Command	Parameter
PICTURE:DISPLAY:THUMBNAIL:HISTO:G	ON / OFF / ?
PICTURE:DISPLAY:THUMBNAIL:HISTO:B	ON / OFF / ?
PICTURE:DISPLAY:SD	4_3 / 16_9 / ?
PICTURE:S_IMPOSE:SMPTE	ON / OFF / ?
PICTURE:S_IMPOSE:FORMAT	FMT_608_708 / FMT_608_608 / FMT_VBI / FMT_708 / ?
PICTURE:S_IMPOSE:LANGUAGE_608	CC1 / CC2 / CC3 / CC4 / TEXT1 / TEXT2 / TEXT3 / TEXT4 / ?
PICTURE:S_IMPOSE:SERVICE_708	1 to 63 / ?
STATUS	None
STATUS:SIGNAL:DATA	? (Return value: DETECT / NO_SIGNAL)
STATUS:LINK:DATA	? (Return value: HD / SD / HD_DUAL / 3GA / 3GB / 3GB_2MAP / -)
STATUS:FORMAT:DATA	? (Return value: format / -)
STATUS:EMB_CH:DATA	? (Return value: audio channel / -) * For 3G-B (2map), use the "INPUT:STREAM" command to select the stream.
STATUS:LOG	None
STATUS:LOG:LOG	START / STOP / ?
STATUS:LOG:CLEAR	None
STATUS:LOG:LOG_MODE	OVER_WR / STOP / ?
STATUS:DUMP	None
STATUS:DUMP:MODE	RUN / HOLD / ?
STATUS:DUMP:DISPLAY	SERIAL / COMPONENT / BINARY / LINK_A / LINK_B / LINK_AB / S1_SERIAL / S1_COMPONENT / S1_BINARY / S2_SERIAL / S2_COMPONENT / S2_BINARY / ?
STATUS:DUMP:JUMP	EAV / SAV / ?
STATUS:DUMP:LINE_NUMBER	1 to 1125 / ?
STATUS:DUMP:SAMPLE	0 to 2749 / ?
STATUS:EXT_REF	None
STATUS:EXT_REF:USER_REF	None
STATUS:EXT_REF:DEFAULT	None
STATUS:EXT_REF:SELECT	EXT / CH_A / LINK_A / ?
STATUS:EXT_REF:REF:DATA	? (Return value: USER_REF / DEFAULT)
STATUS:EXT_REF:STAT:DATA	? (Return value: INT / ACH / LINK_A / HD / BB / NO_SIGNAL)
STATUS:EXT_REF:H_TIME:DATA	? (Return value: H PHASE[us])
STATUS:EXT_REF:H_PIX:DATA	? (Return value: H PHASE[pixel/dot])
STATUS:EXT_REF:V_LINE:DATA	? (Return value: V PHASE)
STATUS:EXT_REF:TOTAL:DATA	? (Return value: TOTAL PHASE)
STATUS:AV_PHASE	None
STATUS:AV_PHASE:SCALE	50 / 100 / 500 / 1000 / 2500 / ?
STATUS:AV_PHASE:CH1:DATA	? (Return value: data / MISSING / UNLOCK / NO_SIGNAL / -)

Command	Parameter
STATUS:AV_PHASE:CH2:DATA	? (Return value: data / MISSING / UNLOCK / NO_SIGNAL / -)
STATUS:AV_PHASE:CH3:DATA	? (Return value: data / MISSING / UNLOCK / NO_SIGNAL / -)
STATUS:AV_PHASE:CH4:DATA	? (Return value: data / MISSING / UNLOCK / NO_SIGNAL / -)
STATUS:AV_PHASE:CH5:DATA	? (Return value: data / MISSING / UNLOCK / NO_SIGNAL / -)
STATUS:AV_PHASE:CH6:DATA	? (Return value: data / MISSING / UNLOCK / NO_SIGNAL / -)
STATUS:AV_PHASE:CH7:DATA	? (Return value: data / MISSING / UNLOCK / NO_SIGNAL / -)
STATUS:AV_PHASE:CH8:DATA	? (Return value: data / MISSING / UNLOCK / NO_SIGNAL / -)
STATUS:AV_PHASE:THUMB:AUDIO	ON / OFF / ?
STATUS:AV_PHASE:THUMB:PICTURE	ON / OFF / ?
STATUS:AV_PHASE:LINE	0 to 100 / ?
STATUS:AV_PHASE:LEFT	0 to 99 / ?
STATUS:AV_PHASE:RIGHT	0 to 99 / ?
STATUS:AV_PHASE:VIDEO	25 to 100 / ?
STATUS:AV_PHASE:AUDIO	-30 to 0 / ?
STATUS:AV_PHASE:MES:GATE	OFF / ON / ?
STATUS:AV_PHASE:MES:GATE:TIME	100 to 1500 / ?
STATUS:ANC_PACKET	None
STATUS:ANC_PACKET:AUDIO_CTRL:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:EDH:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:LTC:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:VITC:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:PAYLOAD1:DATA	? (Return value: DETECT / MISSING / -) * During HD dual link, the command applies to LINK A. During 3G-B(2map), the command applies to STREAM 1.
STATUS:ANC_PACKET:PAYLOAD2:DATA	? (Return value: DETECT / MISSING / -) * During HD dual link, the command applies to LINK B. During 3G-B(2map), the command applies to STREAM 2.
STATUS:ANC_PACKET:EIA708_708:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:EIA708_608:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:EIA608:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:PROGRAM:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:DATA_BROADCAST:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:VBI:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:AFD:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:JPN_CC1:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:JPN_CC2:DATA	? (Return value: DETECT / MISSING / -)

Command	Parameter
STATUS:ANC_PACKET:JPN_CC3:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:NET_Q:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:TRIGGER:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:USER1:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC_PACKET:USER2:DATA	? (Return value: DETECT / MISSING / -)
STATUS:ANC:PKT:PAYLOAD_ID	None
STATUS:ANC:PKT:PAYLOAD_ID:STREAM	STRERAM1 / STREAM2 / ?
STATUS:ANC:PKT:PAYLOAD_ID:LINK	LINK_A / LINK_B / ?
STATUS:ANC:PKT:PAYLOAD_ID:DATA	? (Return value: 4-byte hexadecimal data / --,--,--,--)
STATUS:ANC:PKT:AUDIO_CTRL	None
STATUS:ANC:PKT:AUDIO_CTRL:DISPLAY	TEXT / DUMP / ?
STATUS:ANC:PKT:AUDIO_CTRL:MODE	HEX / BINARY / ?
STATUS:ANC:PKT:AUDIO_CTRL:GROUP	1 / 2 / 3 / 4 / ?
STATUS:ANC:PKT:AUDIO_CTRL:STREAM	STRERAM1 / STREAM2 / ?
STATUS:ANC:PKT:ARIB:NETQ	None
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q1	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q2	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q3	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q4	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q5	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q6	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q7	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q8	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q9	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q10	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q11	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q12	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q13	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q14	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q15	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q16	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q17	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q18	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q19	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q20	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q21	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q22	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q23	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q24	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q25	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q26	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q27	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q28	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q29	ON / OFF / ?

Command	Parameter
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q30	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q31	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:Q32	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S1	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S2	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S3	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S4	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S5	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S6	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S7	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S8	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S9	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S10	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S11	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S12	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S13	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S14	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S15	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:BIT:S16	ON / OFF / ?
STATUS:ANC:PKT:ARIB:NETQ:STATION:DATA	? (Return value: STATION CODE / -)
STATUS:ANC:PKT:ARIB:NETQ:V_CURR:DATA	? (Return value: VIDEO CURRENT / -)
STATUS:ANC:PKT:ARIB:NETQ:V_NEXT:DATA	? (Return value: VIDEO NEXT / -)
STATUS:ANC:PKT:ARIB:NETQ:A_CURR:DATA	? (Return value: AUDIO CURRENT / -)
STATUS:ANC:PKT:ARIB:NETQ:A_NEXT:DATA	? (Return value: AUDIO NEXT / -)
STATUS:ANC:PKT:ARIB:NETQ:D_CURR:DATA	? (Return value: DOWN MIX CURRENT / -)
STATUS:ANC:PKT:ARIB:NETQ:D_NEXT:DATA	? (Return value: DOWN MIX NEXT / -)
STATUS:ANC:PKT:SMPTE:AFD	None
STATUS:ANC:PKT:SMPTE:AFD:CODE:DATA	? (Return value: AFD CODE / -)
STATUS:ANC:PKT:SMPTE:AFD:FRAME:DATA	? (Return value: CODED FRAME / -)
STATUS:ANC:PKT:SMPTE:AFD:BAR_FLG:DATA	? (Return value: BAR DATA FLAGS / -)
STATUS:ANC:PKT:SMPTE:AFD:BAR_VAL1:DATA	? (Return value: BAR DATA VALUE1 / -)
STATUS:ANC:PKT:SMPTE:AFD:BAR_VAL2:DATA	? (Return value: BAR DATA VALUE2 / -)
STATUS:ERROR:SDI:COUNTER	SEC / FIELD / ?
STATUS:ERROR:SDI:TRS	ON / OFF / ?
STATUS:ERROR:SDI:HD_LINE	ON / OFF / ?
STATUS:ERROR:SDI:HD_CRC	ON / OFF / ?
STATUS:ERROR:SDI:SD_EDH	ON / OFF / ?
STATUS:ERROR:SDI:ILLEGAL_CODE	ON / OFF / ?
STATUS:ERROR:ANC:PARITY	ON / OFF / ?
STATUS:ERROR:ANC:CHECKSUM	ON / OFF / ?
STATUS:ERROR:AUDIO:BCH	ON / OFF / ?
STATUS:ERROR:AUDIO:DBN	ON / OFF / ?
STATUS:ERROR:AUDIO:PARITY	ON / OFF / ?
STATUS:ERROR:AUDIO:INHIBIT	ON / OFF / ?
STATUS:ERROR:AUDIO:SAMPLE	ON / OFF / ?

Command	Parameter
STATUS:ERROR:GAMUT:LPF	HD1M_SD1M / HD2.8M_SD1M / OFF / ?
STATUS:ERROR:GAMUT	ON / OFF / ?
STATUS:ERROR:GAMUT:UPPER	90.8 to 109.4 / ?
STATUS:ERROR:GAMUT:LOWER	-7.2 to 6.1 / ?
STATUS:ERROR:GAMUT:AREA	0.0 to 5.0 / ?
STATUS:ERROR:GAMUT:DURATION	1 to 60 / ?
STATUS:ERROR:C_GAMUT	ON / OFF / ?
STATUS:ERROR:C_GAMUT:SETUP	0% / 7.5% / ?
STATUS:ERROR:C_GAMUT:UPPER	90.0 to 135.0 / ?
STATUS:ERROR:C_GAMUT:LOWER	-40.0 to 20.0 / ?
STATUS:ERROR:C_GAMUT:AREA	0.0 to 5.0 / ?
STATUS:ERROR:C_GAMUT:DURATION	1 to 60 / ?
STATUS:ERROR:FREEZE	ON / OFF / ?
STATUS:ERROR:FREEZE:UPPER	0 to 100 / ?
STATUS:ERROR:FREEZE:LOWER	0 to 100 / ?
STATUS:ERROR:FREEZE:LEFT	0 to 100 / ?
STATUS:ERROR:FREEZE:RIGHT	0 to 100 / ?
STATUS:ERROR:FREEZE:DURATION	2 to 300 / ?
STATUS:ERROR:BLACK	ON / OFF / ?
STATUS:ERROR:BLACK:LEVEL	0 to 100 / ?
STATUS:ERROR:BLACK:AREA	1 to 100 / ?
STATUS:ERROR:BLACK:DURATION	1 to 300 / ?
STATUS:ERROR:LEVEL	ON / OFF / ?
STATUS:ERROR:LEVEL:RUMA:UPPER	-51 to 766 / ?
STATUS:ERROR:LEVEL:RUMA:LOWER	-51 to 766 / ?
STATUS:ERROR:LEVEL:CHROMA:UPPER	-400 to 399 / ?
STATUS:ERROR:LEVEL:CHROMA:LOWER	-400 to 399 / ?
STATUS:ERROR:CLEAR	None

Table 11-3 LV 5770SER09A commands

Command	Parameter
STATUS:ERROR:SDI:CABLE	ON / OFF / ?
STATUS:ERROR:SDI:CABLE_3G	LS-5CFB / 1694A / ?
STATUS:ERROR:SDI:CABLE_HD	LS-5CFB / 1694A / ?
STATUS:ERROR:SDI:CABLE_SD	L-5C2V / 8281 / ?
STATUS:ERROR:SDI:CABLE_ERR_3G	10 to 105 / ?
STATUS:ERROR:SDI:CABLE_WAR_3G	10 to 105 / ?
STATUS:ERROR:SDI:CABLE_ERR_HD	5 to 130 / ?
STATUS:ERROR:SDI:CABLE_WAR_HD	5 to 130 / ?
STATUS:ERROR:SDI:CABLE_ERR_SD	50 to 300 / ?
STATUS:ERROR:SDI:CABLE_WAR_SD	50 to 300 / ?
EYE	None
EYE:MODE	EYE / JITTER / ?
EYE:INTEN:EYE	-128 to 127 / ?
EYE:INTEN:SCALE	-8 to 7 / ?

Command	Parameter
EYE:COLOR:EYE	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / ?
EYE:COLOR:SCALE	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / ?
EYE:GAIN:VAR	CAL / VARIABLE / ?
EYE:GAIN:VAL	0.50 to 2.00 / ?
EYE:SWEEP:SWEEP	2UI / 4UI / 16UI / ?
EYE:FILTER	100KHZ / 1KHZ / 100HZ / 10HZ / TIMING / ALIGNMENT / ?
EYE:SUB_ITEM	JITTER / OFF / ?
EYE:LINK_SELECT	LINK_A / LINK_B / ?
EYE:JITTER:INTEN	-8 to 7 / ?
EYE:JITTER:INTEN:SCALE	-8 to 7 / ?
EYE:JITTER:COLOR	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / ?
EYE:JITTER:COLOR:SCALE	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / ?
EYE:JITTER:GAIN	X1 / X2 / X8 / ?
EYE:JITTER:SWEEP	1H / 2H / 1V / 2V / ?
EYE:JITTER:FILTER	100KHZ / 1KHZ / 100HZ / 10HZ / TIMING / ALIGNMENT / ?
EYE:JITTER:PEAK_HOLD	ON / OFF / ?
EYE:JITTER:PEAK_HOLD_CLEAR	None
EYE:JITTER:SUB_ITEM	EYE / OFF / ?
EYE:ERROR:3G:AMP	ON / OFF / ?
EYE:ERROR:3G:AMP:UPPER	80 to 140 / ?
EYE:ERROR:3G:AMP:LOWER	40 to 100 / ?
EYE:ERROR:3G:RISE	ON / OFF / ?
EYE:ERROR:3G:RISE:MAX	40 to 140 / ?
EYE:ERROR:3G:FALL	ON / OFF / ?
EYE:ERROR:3G:FALL:MAX	40 to 140 / ?
EYE:ERROR:3G:DELTA	ON / OFF / ?
EYE:ERROR:3G:DELTA:MAX	40 to 140 / ?
EYE:ERROR:3G:TIMING_JIT	ON / OFF / ?
EYE:ERROR:3G:TIMING_JIT:MAX	10 to 200 / ?
EYE:ERROR:3G:CURRENT_JIT	ON / OFF / ?
EYE:ERROR:3G:CURRENT_JIT:MAX	10 to 200 / ?
EYE:ERROR:3G:OVERSHOOT_RISE	ON / OFF / ?
EYE:ERROR:3G:OVERSHOOT_RISE:MAX	0 to 200 / ?
EYE:ERROR:3G:OVERSHOOT_FALL	ON / OFF / ?
EYE:ERROR:3G:OVERSHOOT_FALL:MAX	0 to 200 / ?
EYE:ERROR:HD:AMPLITUDE	ON / OFF / ?
EYE:ERROR:HD:AMPLITUDE:UPPER	80 to 140 / ?
EYE:ERROR:HD:AMPLITUDE:LOWER	40 to 100 / ?
EYE:ERROR:HD:RISETIME	ON / OFF / ?

Command	Parameter
EYE:ERROR:HD:RISETIME:MAX	40 to 140 / ?
EYE:ERROR:HD:FALLTIME	ON / OFF / ?
EYE:ERROR:HD:FALLTIME:MAX	40 to 140 / ?
EYE:ERROR:HD:DELTATIME	ON / OFF / ?
EYE:ERROR:HD:DELTATIME:MAX	40 to 140 / ?
EYE:ERROR:HD:TIMING_JITTER	ON / OFF / ?
EYE:ERROR:HD:TIMING_JITTER:MAX	10 to 200 / ?
EYE:ERROR:HD:CURRENT_JITTER	ON / OFF / ?
EYE:ERROR:HD:CURRENT_JITTER:MAX	10 to 200 / ?
EYE:ERROR:HD:OVERSHOOT:RISE	ON / OFF / ?
EYE:ERROR:HD:OVERSHOOT:RISE:MAX	0 to 200 / ?
EYE:ERROR:HD:OVERSHOOT:FALL	ON / OFF / ?
EYE:ERROR:HD:OVERSHOOT:FALL:MAX	0 to 200 / ?
EYE:ERROR:SD:AMPLITUDE	ON / OFF / ?
EYE:ERROR:SD:AMPLITUDE:UPPER	80 to 140 / ?
EYE:ERROR:SD:AMPLITUDE:LOWER	40 to 100 / ?
EYE:ERROR:SD:RISETIME	ON / OFF / ?
EYE:ERROR:SD:RISETIME:MAX	40 to 140 / ?
EYE:ERROR:SD:FALLTIME	ON / OFF / ?
EYE:ERROR:SD:FALLTIME:MAX	40 to 140 / ?
EYE:ERROR:SD:DELTATIME	ON / OFF / ?
EYE:ERROR:SD:DELTATIME:MAX	40 to 140 / ?
EYE:ERROR:SD:TIMING_JITTER	ON / OFF / ?
EYE:ERROR:SD:TIMING_JITTER:MAX	10 to 200 / ?
EYE:ERROR:SD:CURRENT_JITTER	ON / OFF / ?
EYE:ERROR:SD:CURRENT_JITTER:MAX	10 to 200 / ?
EYE:ERROR:SD:OVERSHOOT:RISE	ON / OFF / ?
EYE:ERROR:SD:OVERSHOOT:RISE:MAX	0 to 200 / ?
EYE:ERROR:SD:OVERSHOOT:FALL	ON / OFF / ?
EYE:ERROR:SD:OVERSHOOT:FALL:MAX	0 to 200 / ?
EYE:DC:OFFSET	ON / OFF / ?
EYE:DC:UPPER	0 to 100 / ?
EYE:DC:LOWER	0 to 100 / ?
EYE:AMP:DATA	? (Return value: Amp)
EYE:TR:DATA	? (Return value: Tr)
EYE:TF:DATA	? (Return value: Tf)
EYE:TJ:DATA	? (Return value: T.J)
EYE:CJ:DATA	? (Return value: C.J)
EYE:OR:DATA	? (Return value: Or)
EYE:OF:DATA	? (Return value: Of)

Table 11-4 LV 5770SER03A commands

Command	Parameter
WFM	None
WFM:INTEN:WFM	-128 to 127 / ?

Command	Parameter
WFM:COLOR	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / MULTI / ?
WFM:INTEN:SCALE	-8 to 7 / ?
WFM:SCALE:COLOR	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / ?
WFM:GAIN:VAR	CAL / VAR / ?
WFM:GAIN:VAL	0.200 to 2.000 / ?
WFM:GAIN:MAG	X1 / X5 / ?
WFM:FILTER	FLAT / LOWPASS / ?
WFM:SWEEP:SWEEP	H / V / ?
WFM:SWEEP:H_SWEEP	1H / 2H / ?
WFM:SWEEP:V_SWEEP	1V / 2V / ?
WFM:SWEEP:H_MAG	X1 / X10 / X20 / ?
WFM:SWEEP:V_MAG	X1 / X20 / X40 / ?
WFM:SWEEP:FIELD	FIELD1 / FIELD2 / ?
WFM:LINE_SELECT	ON / OFF / ?
WFM:LINE_SELECT:FIELD	FIELD1 / FIELD2 / FRAME / ?
WFM:LINE_NUMBER	1 to 1125 / ?
WFM:DISPLAY:THUMBNAIL:AUDIO	ON / OFF / ?
WFM:DISPLAY:THUMBNAIL:PICTURE	ON / OFF / ?
WFM:DISPLAY:THUMBNAIL:HISTO	ON / OFF / ?
WFM:DISPLAY:THUMBNAIL:HISTO:FORM	LUMA / ALIGN / MIX / ?
WFM:DISPLAY:THUMBNAIL:HISTO:Y	ON / OFF / ?
WFM:DISPLAY:THUMBNAIL:HISTO:R	ON / OFF / ?
WFM:DISPLAY:THUMBNAIL:HISTO:G	ON / OFF / ?
WFM:DISPLAY:THUMBNAIL:HISTO:B	ON / OFF / ?
VECTOR	None
VECTOR:INTEN:VECTOR	-128 to 127 / ?
VECTOR:COLOR	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / ?
VECTOR:INTEN:SCALE	-8 to 7 / ?
VECTOR:SCALE:COLOR	WHITE / YELLOW / CYAN / GREEN / MAGENTA / RED / BLUE / ?
VECTOR:SCALE:IQ	ON / OFF / ?
VECTOR:GAIN:MAG	X1 / X5 / IQ / ?
VECTOR:GAIN:VAL	0.200 to 10.000 / ?
VECTOR:GAIN:VAR	CAL / VAR / ?
VECTOR:LINE_SELECT	ON / OFF / ?
VECTOR:LINE_SELECT:FIELD	FIELD1 / FIELD2 / FRAME / ?
VECTOR:LINE_NUMBER	1 to 625 / ?
VECTOR:DISPLAY:SCH	ON / OFF / ?
VECTOR:DISPLAY:SCH:DATA	? (Return value: SCH)
VECTOR:DISPLAY:THUMBNAIL:AUDIO	ON / OFF / ?
VECTOR:DISPLAY:THUMBNAIL:PICTURE	ON / OFF / ?
VECTOR:DISPLAY:THUMBNAIL:HISTO	ON / OFF / ?

Command	Parameter
VECTOR:DISPLAY:THUMBNAIL:HISTO:FORM	LUMA / ALIGN / MIX / ?
VECTOR:DISPLAY:THUMBNAIL:HISTO:Y	ON / OFF / ?
VECTOR:DISPLAY:THUMBNAIL:HISTO:R	ON / OFF / ?
VECTOR:DISPLAY:THUMBNAIL:HISTO:G	ON / OFF / ?
VECTOR:DISPLAY:THUMBNAIL:HISTO:B	ON / OFF / ?
VECTOR:MATRIX:SETUP	0P / 7.5P / ?
VECTOR:MATRIX:COLORBAR	100P / 75P / ?
VECTOR:MATRIX:NTSC_DISP	ON / OFF / ?
VECTOR:PHASE	0.0 to 359.9
VECTOR:POS:H	-130 to +130
VECTOR:POS:V	-130 to +130
PICTURE	None
PICTURE:MONO_COLOR	MONO / COLOR / ?
PICTURE:CHROMA_UP	NORMAL / UP / ?
PICTURE:BRIGHTNESS	-50.0 to 50.0 / ?
PICTURE:CONTRAST	0.0 to 200.0 / ?
PICTURE:GAIN:R	0.0 to 200.0 / ?
PICTURE:GAIN:G	0.0 to 200.0 / ?
PICTURE:GAIN:B	0.0 to 200.0 / ?
PICTURE:GAIN:CHROMA	0.0 to 200.0 / ?
PICTURE:BIAS:R	-50.0 to 50.0 / ?
PICTURE:BIAS:G	-50.0 to 50.0 / ?
PICTURE:BIAS:B	-50.0 to 50.0 / ?
PICTURE:MARKER:FRAME	ON / OFF / ?
PICTURE:MARKER:CENTER	ON / OFF / ?
PICTURE:MARKER:ASPECT	OFF / 16_9 / 14_9 / 13_9 / ?
PICTURE:MARKER:ASPECT:SHADOW	0 to 100 / ?
PICTURE:MARKER:SAFETY:ACTION	SMPTE / USER1 / OFF / ?
PICTURE:MARKER:SAFETY:TITLE	SMPTE / USER2 / OFF / ?
PICTURE:MARKER:SAFETY:USER1_W	0 to 100 / ?
PICTURE:MARKER:SAFETY:USER1_H	0 to 100 / ?
PICTURE:MARKER:SAFETY:USER2_W	0 to 100 / ?
PICTURE:MARKER:SAFETY:USER2_H	0 to 100 / ?
PICTURE:LINE_SELECT	ON / OFF / ?
PICTURE:LINE_SELECT:FIELD	FIELD1 / FIELD2 / FRAME / ?
PICTURE:LINE_NUMBER	1 to 625 / ?
PICTURE:DISPLAY:SIZE	FIT / REAL / X2 / FULL_FRM / ?
PICTURE:DISPLAY:THUMBNAIL:AUDIO	ON / OFF / ?
PICTURE:DISPLAY:THUMBNAIL:WFM	ON / OFF / ?
PICTURE:DISPLAY:THUMBNAIL:HISTO	ON / OFF / ?
PICTURE:DISPLAY:THUMBNAIL:HISTO:FORM	LUMA / ALIGN / MIX / ?
PICTURE:DISPLAY:THUMBNAIL:HISTO:Y	ON / OFF / ?
PICTURE:DISPLAY:THUMBNAIL:HISTO:R	ON / OFF / ?
PICTURE:DISPLAY:THUMBNAIL:HISTO:G	ON / OFF / ?
PICTURE:DISPLAY:THUMBNAIL:HISTO:B	ON / OFF / ?

Command	Parameter
STATUS	None
STATUS:EXT_REF	None
STATUS:EXT_REF:USER_REF	None
STATUS:EXT_REF:DEFAULT	None
STATUS:EXT_REF:REF:DATA	? (Return value: USER_REF / DEFAULT)
STATUS:EXT_REF:STAT:DATA	? (Return value: INT / HD / BB / NO_SIGNAL)
STATUS:EXT_REF:H_TIME:DATA	? (Return value: H PHASE[us])
STATUS:EXT_REF:H_PIX:DATA	? (Return value: H PHASE[pixel])
STATUS:EXT_REF:V_LINE:DATA	? (Return value: V PHASE)
STATUS:EXT_REF:TOTAL:DATA	? (Return value: TOTAL PHASE)

Table 11-5　LV 7770 (audio unit), LV 7770 OP70, and LV 5770SER42 commands

Command	Parameter
AUDIO:SOURCE:INPUT	SDI / EXT_DIGI / EXT_ANA / ?
AUDIO:SOURCE:SDI:1ST_GRP	1 / 2 / 3 / 4 / ?
AUDIO:SOURCE:SDI:2ND_GRP	1 / 2 / 3 / 4 / ?
AUDIO:SOURCE:EXT_DIGI:CH_SEL	GRP_A / GRP_B / ?
AUDIO:NUMBER	8CH / 16CH / ?
AUDIO:DISPLAY_MODE	LISSAJOU / METER / SURROUND / STATUS / LOUDNESS / ?
AUDIO:METER:D_RANGE	M60DBFS / M90DBFS / MAG / ?
AUDIO:METER:RESPONSE	TRUE_PEAK / PPM / VU / ?
AUDIO:METER:RESPONSE:PPM	PPM1 / PPM2 / ?
AUDIO:METER:RESPONSE:VU	TRUE / PPM1 / PPM2 / ?
AUDIO:METER:PEAK_HOLD	0.5 / 1.0 / 1.5 / 2.0 / 2.5 / 3.0 / 3.5 / 4.0 / 4.5 / 5.0 / HOLD / ?
AUDIO:METER:OVER_LEVEL	-40.0 to 0.0 / ?
AUDIO:METER:WARNING_LEVEL	-40.0 to 0.0 / ?
AUDIO:METER:REF_LEVEL	-40.0 to 0.0 / ?
AUDIO:LISSAJOU:INTEN:LISSAJOU	-8 to 7 / ?
AUDIO:LISSAJOU:INTEN:SCALE	-8 to 7 / ?
AUDIO:LISSAJOU:DISPLAY	MULTI / SINGLE / ?
AUDIO:LISSAJOU:FORM	X-Y / MATRIX / ?
AUDIO:LISSAJOU:AUTO_GAIN	ON / OFF / ?
AUDIO:LISSAJOU:MAP:SINGLE:L	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / LT / ?
AUDIO:LISSAJOU:MAP:SINGLE:R	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / RT / ?
AUDIO:LISSAJOU:MAP:SINGLE_16_L	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / LT / ?
AUDIO:LISSAJOU:MAP:SINGLE_16_R	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15

Command	Parameter
	/ CH16 / RT / ?
AUDIO:LISSAJOU:MAP:SINGLE_MIX_L	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / LT / D1 / D2 / D3 / D4 / D5 / D6 / D7 / D8 / ?
AUDIO:LISSAJOU:MAP:SINGLE_MIX_R	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / RT / D1 / D2 / D3 / D4 / D5 / D6 / D7 / D8 / ?
AUDIO:LISSAJOU:MAP:MULTI:L1	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI:R1	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI:L2	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI:R2	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI:L3	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI:R3	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI:L4	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI:R4	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_L1	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_R1	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_L2	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_R2	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_L3	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_R3	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15

Command	Parameter
	/ CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_L4	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_R4	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_L5	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_R5	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_L6	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_R6	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_L7	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_R7	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_L8	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:MULTI16_R8	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LISSAJOU:MAP:DOLBY:MIX_L5	D1 / D2 / D3 / D4 / D5 / D6 / D7 / D8 / ?
AUDIO:LISSAJOU:MAP:DOLBY:MIX_R5	D1 / D2 / D3 / D4 / D5 / D6 / D7 / D8 / ?
AUDIO:LISSAJOU:MAP:DOLBY:MIX_L6	D1 / D2 / D3 / D4 / D5 / D6 / D7 / D8 / ?
AUDIO:LISSAJOU:MAP:DOLBY:MIX_R6	D1 / D2 / D3 / D4 / D5 / D6 / D7 / D8 / ?
AUDIO:LISSAJOU:MAP:DOLBY:MIX_L7	D1 / D2 / D3 / D4 / D5 / D6 / D7 / D8 / ?
AUDIO:LISSAJOU:MAP:DOLBY:MIX_R7	D1 / D2 / D3 / D4 / D5 / D6 / D7 / D8 / ?
AUDIO:LISSAJOU:MAP:DOLBY:MIX_L8	D1 / D2 / D3 / D4 / D5 / D6 / D7 / D8 / ?
AUDIO:LISSAJOU:MAP:DOLBY:MIX_R8	D1 / D2 / D3 / D4 / D5 / D6 / D7 / D8 / ?
AUDIO:SURROUND:INTEN:SURROUND	-8 to 7 / ?
AUDIO:SURROUND:INTEN:SCALE	-8 to 7 / ?
AUDIO:SURROUND:5.1	NORMAL / PHANTOM / ?
AUDIO:SURROUND:AUTO_GAIN	ON / OFF / ?
AUDIO:SURROUND:MAP:L	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15

Command	Parameter
	/ CH16 / ?
AUDIO:SURROUND:MAP:R	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:SURROUND:MAP:C	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:SURROUND:MAP:LFE	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:SURROUND:MAP:LS	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:SURROUND:MAP:RS	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:SURROUND:MAP:LL	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:SURROUND:MAP:RR	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:STATUS:LOG	None
AUDIO:STATUS:LOG:LOG	START / STOP / ?
AUDIO:STATUS:LOG:CLEAR	None
AUDIO:STATUS:LOG:LOG_MODE	OVER_WR / STOP / ?
AUDIO:STATUS:DISPLAY:CH_STATUS	None
AUDIO:STATUS:CH_STATUS	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / A1 / A2 / A3 / A4 / A5 / A6 / A7 / A8 / A9 / A10 / A11 / A12 / A13 / A14 / A15 / A16 / B1 / B2 / B3 / B4 / B5 / B6 / B7 / B8 / B9 / B10 / B11 / B12 / B13 / B14 / B15 / B16 / ?
AUDIO:STATUS:CH_STATUS:ALIGN	LSB / MSB / ?
AUDIO:STATUS:DISPLAY:USER_BIT	None
AUDIO:STATUS:USER_BIT	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / A1 / A2 / A3 / A4 / A5 / A6 / A7 / A8 / A9 / A10 / A11 / A12 / A13 / A14 / A15 / A16 / B1 / B2 / B3 / B4 / B5 / B6 / B7 / B8 / B9 / B10 / B11 / B12 / B13 / B14 / B15 / B16 / ?
AUDIO:STATUS:USER_BIT:ALIGN	LSB / MSB / ?
AUDIO:STATUS:ERROR:LEVEL_OVER	ON / OFF / ?
AUDIO:STATUS:ERROR:CLIP	ON / OFF / ?

Command	Parameter
AUDIO:STATUS:ERROR:CLIP:DURATION	1 to 100 / ?
AUDIO:STATUS:ERROR:MUTE	ON / OFF / ?
AUDIO:STATUS:ERROR:MUTE:DURATION	1 to 5000 / ?
AUDIO:STATUS:ERROR:PARITY	ON / OFF / ?
AUDIO:STATUS:ERROR:VALIDITY	ON / OFF / ?
AUDIO:STATUS:ERROR:CRC	ON / OFF / ?
AUDIO:STATUS:ERROR:CODE_VIOLATION	ON / OFF / ?
AUDIO:STATUS:ERROR_RESET	None
AUDIO:STATUS:LEVEL:CH1:DATA	? (Return value: level / -) * Levels of channels that are not displayed are not output.
AUDIO:STATUS:LEVEL:CH2:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH3:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH4:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH5:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH6:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH7:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH8:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH9:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH10:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH11:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH12:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH13:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH14:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH15:DATA	? (Return value: level / -)
AUDIO:STATUS:LEVEL:CH16:DATA	? (Return value: level / -)
AUDIO:STATUS:DOLBY:LOCATION_H:DATA	? (Return value: EMB Frame Location H)
AUDIO:STATUS:DOLBY:LOCATION_V:DATA	? (Return value: EMB Frame Location V)
AUDIO:STATUS:DOLBY:LOCATION_MODE:DATA	? (Return value: EMB Frame Location mode)
AUDIO:STATUS:DOLBY:LOCATION_E:DATA	? (Return value: AES Frame Location V)
AUDIO:LOUD:PERIOD	2MIN / 10MIN / 30MIN / 1HOUR / 2HOUR / 6HOUR / 12HOUR / 24HOUR / 32HOUR / ?
AUDIO:LOUD:CHART_CLEAR	None
AUDIO:LOUD:MEASURE	START / STOP / ?
AUDIO:LOUD:MAG	OFF / ON / ?
AUDIO:LOUD:INTEG:MODE	BS1770_2 / ARIB / EBU / ATSC / ?
AUDIO:LOUD:INTEG:LEVEL	? (Return value: TARGET LV)
AUDIO:LOUD:INTEG:BLK_SIZE	? (Return value: Block Size)
AUDIO:LOUD:INTEG:ABS_GATE	? (Return value: Abs Gating)
AUDIO:LOUD:INTEG:OVLP_SIZE	? (Return value: Overlap Size)
AUDIO:LOUD:INTEG:REL_GATE	? (Return value: Rel Gating)
AUDIO:LOUD:INTEG:LFE_GAIN	ON / OFF / ?
AUDIO:LOUD:INTEG:LFE_GAIN:VALUE	0 to 10 / ?
AUDIO:LOUD:SHORT:AVRG_TIME	200 to 10000 / ? (100 ms steps)
AUDIO:LOUD:MOMENT:AVRG_TIME	200 to 10000 / ? (100 ms steps)

Command	Parameter
AUDIO:LOUD:RESPONSE	SHORTTERM / MOMENTARY / ?
AUDIO:LOUD:CHART	INTEGRATED / SHORTTERM / MOMENTARY / ?
AUDIO:LOUD:AUTO:TRIGGER	OFF / REMOTE / TIMECODE / MUTE / ?
AUDIO:LOUD:AUTO_START:H	0 to 23 / ?
AUDIO:LOUD:AUTO_START:M	0 to 59 / ?
AUDIO:LOUD:AUTO_START:S	0 to 59 / ?
AUDIO:LOUD:AUTO_END:H	0 to 23 / ?
AUDIO:LOUD:AUTO_END:M	0 to 59 / ?
AUDIO:LOUD:AUTO_END:S	0 to 59 / ?
AUDIO:LOUD:OVER	ON / OFF / ?
AUDIO:LOUD:RELATIVE	ON / OFF / ?
AUDIO:LOUD:MAP:MODE	MONO / STEREO / 5_1 / CUSTOM / ?
AUDIO:LOUD:MAP:MONO:L_R	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LOUD:MAP:STEREO:L	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LOUD:MAP:STEREO:R	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LOUD:MAP:5_1:L	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LOUD:MAP:5_1:R	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LOUD:MAP:5_1:C	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LOUD:MAP:5_1:LFE	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LOUD:MAP:5_1:LS	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LOUD:MAP:5_1:RS	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LOUD:MAP:CUSTOM:L	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / NC / ?
AUDIO:LOUD:MAP:CUSTOM:R	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / NC / ?

Command	Parameter
AUDIO:LOUD:MAP:CUSTOM:C	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / NC / ?
AUDIO:LOUD:MAP:CUSTOM:LFE	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / NC / ?
AUDIO:LOUD:MAP:CUSTOM:LS	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / NC / ?
AUDIO:LOUD:MAP:CUSTOM:RS	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / NC / ?
AUDIO:LOUD:SHORTTERM:DATA:MAIN	? (Return value: SHORTTERM / -)
AUDIO:LOUD:INTEGRATED:DATA:MAIN	? (Return value: INTEGRATED / -)
AUDIO:LOUD:MOMENTARY:DATA:MAIN	? (Return value: MOMENTARY / -)
AUDIO:LOUD:SHORTTERM:DATA:SUB	? (Return value: SHORTTERM / -)
AUDIO:LOUD:INTEGRATED:DATA:SUB	? (Return value: INTEGRATED / -)
AUDIO:LOUD:MOMENTARY:DATA:SUB	? (Return value: MOMENTARY / -)
AUDIO:LOUD:MAP:SUB:MODE	OFF / MONO / STEREO / ?
AUDIO:LOUD:MAP:SUB:MONO:L_R	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LOUD:MAP:SUB:STEREO:L	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LOUD:MAP:SUB:STEREO:R	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / ?
AUDIO:LOUD:PEAKHOLD:DATA:L	? (Return value: PEAK L / -)
AUDIO:LOUD:PEAKHOLD:DATA:R	? (Return value: PEAK R / -)
AUDIO:LOUD:PEAKHOLD:DATA:C	? (Return value: PEAK C / -)
AUDIO:LOUD:PEAKHOLD:DATA:LFE	? (Return value: PEAK LFE / -)
AUDIO:LOUD:PEAKHOLD:DATA:LS	? (Return value: PEAK Ls / -)
AUDIO:LOUD:PEAKHOLD:DATA:RS	? (Return value: PEAK Rs / -)
AUDIO:LOUD:PEAKHOLD:DATA:SL	? (Return value: PEAK S-L/ -)
AUDIO:LOUD:PEAKHOLD:DATA:SR	? (Return value: PEAK S-R / -)
AUDIO:DOLBY	OFF / E / D / ?
AUDIO:DOLBY:GROUP	CH_1_2 / CH_3_4 / CH_5_6 / CH_7_8 / CH_9_10 / CH11_12 / CH13_14 / CH15_16 / ?
AUDIO:DOLBY:E_DIALNORM	ON / OFF / ?
AUDIO:DOLBY:E_PULLDOWN	ON / OFF / ?
AUDIO:DOLBY:E_META_PRM	PRM1 / PRM2 / PRM3 / PRM4 / PRM5 / PRM6 / PRM7 / PRM8 / ?
AUDIO:DOLBY:EBI_META_PRM	PRM1 / PRM2 / PRM3 / PRM4 / PRM5 / PRM6 / PRM7 / PRM8 / ?

Command	Parameter
AUDIO:DOLBY:D_LISTENING	FULL / EX / 3STEREO / PHANTOM / STEREO / MONO / ?
AUDIO:DOLBY:D_PROLOGIC	ON / OFF / ?
AUDIO:DOLBY:D_DRC	BYPASS / LINE / RF / ?
AUDIO:DOLBYMIX	OFF / ON / ?
AUDIO:PHONES:VOLUME	0 to 63 / ?
AUDIO:PHONES:L_CH	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / A1 / A2 / A3 / A4 / A5 / A6 / A7 / A8 / A9 / A10 / A11 / A12 / A13 / A14 / A15 / A16 / B1 / B2 / B3 / B4 / B5 / B6 / B7 / B8 / B9 / B10 / B11 / B12 / B13 / B14 / B15 / B16 / LT / DAUX / ?
AUDIO:PHONES:R_CH	CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11 / CH12 / CH13 / CH14 / CH15 / CH16 / A1 / A2 / A3 / A4 / A5 / A6 / A7 / A8 / A9 / A10 / A11 / A12 / A13 / A14 / A15 / A16 / B1 / B2 / B3 / B4 / B5 / B6 / B7 / B8 / B9 / B10 / B11 / B12 / B13 / B14 / B15 / B16 / RT / DAUX / ?
AUDIO:PHONES:DOLBY:DAUX:CH	LTRT / LORO / MONO / MUTE / ?
AUDIO:PHONES:DOLBY:DAUX:DRC	LINE / RF / ?

Table 11-6 File generation commands

Command	Parameter
MAKE	LOG / DUMP / CAPTURE / CAP_FRM / CAP_DPX / CAP_TIF / CAP_FRM_B / CAP_DPX_B / CAP_TIF_B / CAP_FRM_S2 / CAP_DPX_S2 / CAP_TIF_S2 / LOUDNESS * Retrieve generated files using FTP. * DUMP is valid only when the data dump display is showing. * CAPTURE is valid only for screen captures. * CAP_*** is valid only for frame captures. * CAP_***_B generates channel B of simul mode. * CAP_***_S2 generates stream 2 of 3G-B (2map). * LOUDNESS generates two files: csv and txt. If measurement is in progress, measurement stops.

11.2 FTP

The files that are generated by the LV 7770 can be transferred to a PC connected to the same network.

11.2.1 Procedure

1. **Configure the Ethernet settings on the LV 7770's ETHERNET SETUP tab.**

   Set the IP Address, and set FTP Server Select to ON.

   Reference 7.2.2, "Configuring Ethernet Settings"

   SYS → F•2 SYSTEM SETUP → F•3 NEXT TAB →

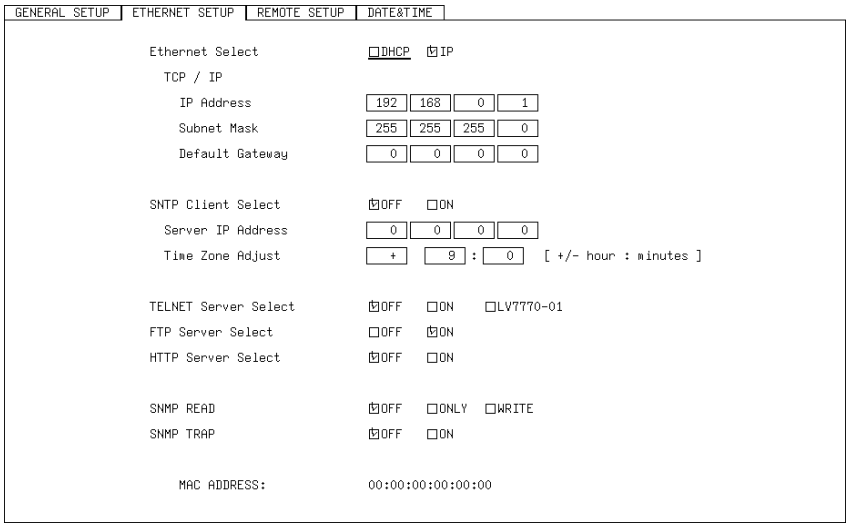


Figure 11-2 ETHERNET SETUP tab

2. **Press F•1 COMPLETE.**

   The message "Saving data - Please Wait" is displayed.

3. **If you changed the IP address, after the message disappears, restart the LV 7770.**

   The new IP address will take effect.

4. **Connect the LV 7770's Ethernet port to the network.**

   Use a UTP cable (category 5).

5. **On the PC, start an FTP client.**

   On Windows 7, on the taskbar, click Start, and then click Run. Type "FTP" and the IP address that you set in step 1. Then, click OK.

6. Type the user name and password.

The user name and password are "LV7770". Use uppercase for all characters. When the user name and password are entered correctly, "ftp>" appears.

```
Connected to ***.***.***.***.
220 FTP Server ready
User (***.***.***.***:(none)): LV7770 ..... user name
331 Password required
Password: LV7770 ..... password (The password is not actually displayed.)
230 Logged in
ftp>
```

7. Enter FTP commands.

Enter commands while referring to sections 11.2.2, "How to Enter Commands," and 11.2.3, "FTP Commands." You must generate files using the TELNET "MAKE" command before you use FTP commands.
To end an FTP session, type “bye.”

```
ftp> bye
```

11.2.2 How to Enter Commands

The command syntax is explained below.

```
ftp> [Command] + [Space] + [Parameter 1] + [Space] + [Parameter 2]
```

Examples of how to enter commands are shown below.

```
ftp> GET LOG.TXT D:¥LOG.TXT ..... Transfer the event log file to the PC.
200 PORT Command successful..... Return value
…
ftp>
```

11.2.3 FTP Commands

Table 11-7 FTP commands

Command	Parameter 1	Parameter 2
GET	LOG.TXT	Storage location on the PC and file name (example: D:¥LOG.TXT)
	DUMP.TXT	Storage location on the PC and file name (example: D:¥DUMP.TXT)
	CAPTURE.BMP	Storage location on the PC and file name (example: D:¥CAPTURE.BMP)
	CAP_***.FRM	Storage location on the PC and file name (example: D:¥CAP_FRM.FRM)
	CAP_***.DPX	Storage location on the PC and file name (example: D:¥CAP_DPX.DPX)
	CAP_***.TIF	Storage location on the PC and file name (example: D:¥CAP_TIF.TIF)
	LOUDNESS.CSV	Storage location on the PC and file name (example: D:¥LOUDNESS.CSV)
	LOUDNESS.TXT	Storage location on the PC and file name (example: D:¥LOUDNESS.TXT)

11.3 SNMP

By using SNMP (Simple Network Management Protocol), you can control an LV 7770 from SNMP managers. Additionally, you can notify the SNMP managers of errors that the LV 7770 generates.
The LV 7770 supports SNMPv1.

11.3.1 SMI Definitions

```
IMPORTS
MODULE-IDENTITY, OBJECT-TYPE, NOTIFICATION-TYPE, enterprises
FROM SNMPv2-SMI
DisplayString
FROM SNMPv2-TC
OBJECT-GROUP, MODULE-COMPLIANCE
FROM SNMPv2-CONF;
```

11.3.2 Procedure

1. **Configure the Ethernet settings on the LV 7770's ETHERNET SETUP tab.**

   Set the IP Address, and set SNMP READ to WRITE and SNMP TRAP to ON.

   Reference 7.2.2, "Configuring Ethernet Settings"

   SYS → F•2 SYSTEM SETUP → F•3 NEXT TAB →

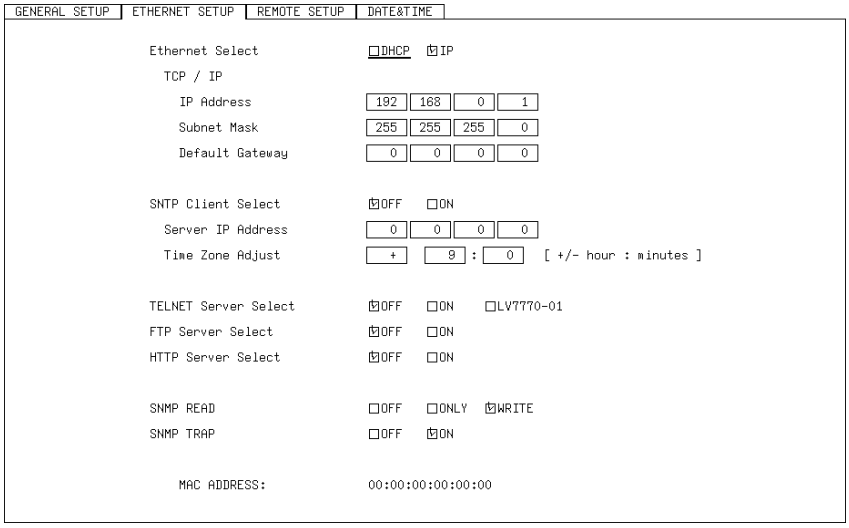


Figure 11-3 ETHERNET SETUP tab

2. **Press F • 1 COMPLETE.**

   The message "Saving data - Please Wait" is displayed.

3. **If you changed the IP address, after the message disappears, restart the LV 7770.**

   The new IP address will take effect.

4. **Connect the LV 7770's Ethernet port to the network.**

   Use a UTP cable (category 5).

5. **On the PC, start an SNMP manager.**

   You must provide the SNMP manager yourself.
   The community name is shown below.

   Read community: LDRUser
   Write community: LDRAdm
   TRAP community: LDRUser

6. **Check that the SNMP managers can perform GET and SET operations.**

7. **From the SNMP manager, set the following MIB items to the SNMP managers' IP addresses.**

   Up to four locations can be set.

   [IP address of TRAP transmission destination 1]
   1.3.6.1.4.1.leader(20111).lv7770(26).lv7770ST1(1).l26trapTBL(9).l26trapIpTBL(2).l26trapIp1TBL(1).l26trapManagerIp1(1).0

   [IP address of TRAP transmission destination 2]
   1.3.6.1.4.1.leader(20111).lv7770(26).lv7770ST1(1).l26trapTBL(9).l26trapIpTBL(2).l26trapIp2TBL(2).l26trapManagerIp2(1).0

   [IP address of TRAP transmission destination 3]
   1.3.6.1.4.1.leader(20111).lv7770(26).lv7770ST1(1).l26trapTBL(9).l26trapIpTBL(2).l26trapIp3TBL(3).l26trapManagerIp3(1).0

   [IP address of TRAP transmission destination 4]
   1.3.6.1.4.1.leader(20111).lv7770(26).lv7770ST1(1).l26trapTBL(9).l26trapIpTBL(2).l26trapIp4TBL(4).l26trapManagerIp4(1).0

8. **Enable the TRAP transmission destinations.**

   To alleviate communication load, disable the transmission destinations that you are not using. The factory default setting is disabled.

   [Enable (1) or disable (2) TRAP transmission destination 1]
   1.3.6.1.4.1.leader(20111).lv7770(26).lv7770ST1(1).l26trapTBL(9).l26trapIpTBL(2).l26trapIp1TBL(1).l26trapManagerIp1Act(2).0

   [Enable (2) or disable (2) TRAP transmission destination 1]
   1.3.6.1.4.1.leader(20111).lv7770(26).lv7770ST1(1).l26trapTBL(9).l26trapIpTBL(2).l26trapIp2TBL(2).l26trapManagerIp2Act(2).0

   [Enable (3) or disable (2) TRAP transmission destination 1]
   1.3.6.1.4.1.leader(20111).lv7770(26).lv7770ST1(1).l26trapTBL(9).l26trapIpTBL(2).l26trapIp3TBL(3).l26trapManagerIp3Act(2).0

   [Enable (4) or disable (2) TRAP transmission destination 1]
   1.3.6.1.4.1.leader(20111).lv7770(26).lv7770ST1(1).l26trapTBL(9).l26trapIpTBL(2).l26trapIp4TBL(4).l26trapManagerIp4Act(2).0

9. **Restart the LV 7770.**

10. **When the LV 7770 starts, it transmits the standard TRAP "coldStart(0)." Check that this is received by the SNMP managers.**

11.3.3 Standard MIB

The LV 7770 uses the following standard MIBs:
• RFC1213 (MIB-II)
• RFC1354 (IP Forwarding Table MIB)

In the tables, "ACCESS" and "SUPPORT" indicate the following:

	Indication	Description
ACCESS	R/O	Information that can be read from the SNMP managers.
	R/W	Information that can be read and written from the SNMP managers.
SUPPORT	○	Supports the MIB object as defined by the standard.
	△	Reading and writing are possible according to the standard, but the LV 7770 only supports reading.
	×	Not supported.

Table 11-8 system group

MIB	OID	SYNTAX	ACCESS	SUPPORT
sysDescr	system.1	DisplayString	R/O	○
sysObjectID	system.2	ObjectID	R/O	○
sysUpTime	system.3	TimeTicks	R/O	○
sysContact (*1)	system.4	DisplayString	R/W	○
sysName (*1)	system.5	DisplayString	R/W	○
sysLocation (*1)	system.6	DisplayString	R/W	○
sysServices	system.7	INTEGER	R/O	○

*1 Set using up to 40 bytes.

Table 11-9 interface group

MIB	OID	SYNTAX	ACCESS	SUPPORT
ifNumber	interfaces.1	INTEGER	R/O	○
ifTable	interfaces.2	Aggregate	-	○
ifEntry	ifTable.1	Aggregate	-	○
ifIndex	ifEntry.1	INTEGER	R/O	○
ifDescr	ifEntry.2	DisplayString	R/O	○
ifType	ifEntry.3	INTEGER	R/O	○
ifMtu	ifEntry.4	INTEGER	R/O	○
ifSpeed	ifEntry.5	Gauge	R/O	○
ifPhysAddress	ifEntry.6	DisplayString	R/O	○
ifAdminStatus	ifEntry.7	INTEGER	R/O	△
ifOperStatus	ifEntry.8	INTEGER	R/O	△
ifLastChange	ifEntry.9	TimeTicks	R/O	○
ifInOctets	ifEntry.10	Counter	R/O	○
ifInUcastPkts	ifEntry.11	Counter	R/O	○
ifInNUcastPkts	ifEntry.12	Counter	R/O	○
ifInDiscards	ifEntry.13	Counter	R/O	○
ifInErrors	ifEntry.14	Counter	R/O	○

ifInUnknownProtos	ifEntry.15	Counter	R/O	○
ifOutOctets	ifEntry.16	Counter	R/O	○
ifOutUcastPkts	ifEntry.17	Counter	R/O	○
ifOutNUcastPkts	ifEntry.18	Counter	R/O	○
ifOutDiscards	ifEntry.19	Counter	R/O	○
ifOutErrors	ifEntry.20	Counter	R/O	○
ifOutQLen	ifEntry.21	Gauge	R/O	○
ifSpecific	ifEntry.22	ObjectID	R/O	○

Table 11-10 ip group

MIB	OID	SYNTAX	ACCESS	SUPPORT
ipForwarding	ip.1	INTEGER	R/O	○
ipDefaultTTL	ip.2	INTEGER	R/O	○
ipInReceives	ip.3	Counter	R/O	○
ipInHdrErrors	ip.4	Counter	R/O	○
ipInAddrErrors	ip.5	Counter	R/O	○
ipForwDatagrams	ip.6	Counter	R/O	○
ipInUnknownProtos	ip.7	Counter	R/O	○
ipInDiscards	ip.8	Counter	R/O	○
ipInDelivers	ip.9	Counter	R/O	○
ipOutRequests	ip.10	Counter	R/O	○
ipOutDiscards	ip.11	Counter	R/O	○
ipOutNoRoutes	ip.12	Counter	R/O	○
ipReasmTimeout	ip.13	INTEGER	R/O	○
ipReasmReqds	ip.14	Counter	R/O	○
ipReasmOKs	ip.15	Counter	R/O	○
ipReasmFails	ip.16	Counter	R/O	○
ipFragOKs	ip.17	Counter	R/O	○
ipFragFails	ip.18	Counter	R/O	○
ipFragCreates	ip.19	Counter	R/O	○
ipAddrTable	ip.20	Aggregate	-	○
ipAddrEntry	ipAddrTable.1	Aggregate	-	○
ipAdEntAddr	ipAddrEntry.1	IpAddress	R/O	○
ipAdEntIfIndex	ipAddrEntry.2	INTEGER	R/O	○
ipAdEntNetMask	ipAddrEntry.3	IpAddress	R/O	○
ipAdEntBcastAddr	ipAddrEntry.4	INTEGER	R/O	○
ipAdEntReasmMaxSize	ipAddrEntry.5	INTEGER	R/O	○
ipNetToMediaTable	ip.22	Aggregate	-	○
ipNetToMediaEntry	ipNetToMediaTable.1	Aggregate	-	○
ipNetToMediaIfIndex	ipNetToMediaEntry.1	INTEGER	R/O	△
ipNetToMediaPhysAddress	ipNetToMediaEntry.2	DisplayString	R/O	△
ipNetToMediaNetAddress	ipNetToMediaEntry.3	IpAddress	R/O	△
ipNetToMediaType	ipNetToMediaEntry.4	INTEGER	R/O	△
ipRoutingDiscards	ip.23	Counter	R/O	○
ipForward	ip.24	Aggregate	-	○
ipForwardNumber	ipForward .1	Gauge	R/O	○

ipForwardTable	ipForward .2	Aggregate	-	○
ipForwardDest	ipForwardTable.1	IpAddress	R/O	○
ipForwardMask	ipForwardTable.1	IpAddress	R/O	○
ipForwardPolicy	ipForwardTable.1	INTEGER	R/O	×
ipForwardNextHop	ipForwardTable.1	IpAddress	R/O	○
ipForwardIfIndex	ipForwardTable.1	INTEGER	R/O	○
ipForwardType	ipForwardTable.1	INTEGER	R/O	×
ipForwardProto	ipForwardTable.1	INTEGER	R/O	×
ipForwardAge	ipForwardTable.1	INTEGER	R/O	×
ipForwardInfo	ipForwardTable.1	ObjectID	R/O	×
ipForwardNextHopAS	ipForwardTable.1	INTEGER	R/O	×
ipForwardMetric1	ipForwardTable.1	INTEGER	R/O	×
ipForwardMetric2	ipForwardTable.1	INTEGER	R/O	×
ipForwardMetric3	ipForwardTable.1	INTEGER	R/O	×
ipForwardMetric4	ipForwardTable.1	INTEGER	R/O	×
ipForwardMetric5	ipForwardTable.1	INTEGER	R/O	×

Table 11-11 icmp group

MIB	OID	SYNTAX	ACCESS	SUPPORT
icmpInMsgs	icmp.1	Counter	R/O	○
icmpInErrors	icmp.2	Counter	R/O	○
icmpInDestUnreachs	icmp.3	Counter	R/O	○
icmpInTimeExcds	icmp.4	Counter	R/O	○
icmpInParmProbs	icmp.5	Counter	R/O	○
icmpInSrcQuenchs	icmp.6	Counter	R/O	○
icmpInRedirects	icmp.7	Counter	R/O	○
icmpInEchos	icmp.8	Counter	R/O	○
icmpInEchoReps	icmp.9	Counter	R/O	○
icmpInTimestamps	icmp.10	Counter	R/O	○
icmpInTimestampReps	icmp.11	Counter	R/O	○
icmpInAddrMasks	icmp.12	Counter	R/O	○
icmpInAddrMaskReps	icmp.13	Counter	R/O	○
icmpOutMsgs	icmp.14	Counter	R/O	○
icmpOutErrors	icmp.15	Counter	R/O	○
icmpOutDestUnreachs	icmp.16	Counter	R/O	○
icmpOutTimeExcds	icmp.17	Counter	R/O	○
icmpOutParmProbs	icmp.18	Counter	R/O	○
icmpOutSrcQuenchs	icmp.19	Counter	R/O	○
icmpOutRedirects	icmp.20	Counter	R/O	○
icmpOutEchos	icmp.21	Counter	R/O	○
icmpOutEchoReps	icmp.22	Counter	R/O	○
icmpOutTimestamps	icmp.23	Counter	R/O	○
icmpOutTimestampReps	icmp.24	Counter	R/O	○
icmpOutAddrMasks	icmp.25	Counter	R/O	○
icmpOutAddrMaskReps	icmp.26	Counter	R/O	○

Table 11-12 tcp group

MIB	OID	SYNTAX	ACCESS	SUPPORT
tcpRtoAlgorithm	tcp.1	INTEGER	R/O	○
tcpRtoMin	tcp.2	INTEGER	R/O	○
tcpRtoMax	tcp.3	INTEGER	R/O	○
tcpMaxConn	tcp.4	INTEGER	R/O	○
tcpActiveOpens	tcp.5	Counter	R/O	○
tcpPassiveOpens	tcp.6	Counter	R/O	○
tcpAttemptFails	tcp.7	Counter	R/O	○
tcpEstabResets	tcp.8	Counter	R/O	○
tcpCurrEstab	tcp.9	Gauge	R/O	○
tcpInSegs	tcp.10	Counter	R/O	○
tcpOutSegs	tcp.11	Counter	R/O	○
tcpRetransSegs	tcp.12	Counter	R/O	○
tcpConnTable	tcp.13	Aggregate	-	○
tcpConnEntry	tcpConnTable.1	Aggregate	-	○
tcpConnState	tcpConnEntry.1	INTEGER	R/O	△
tcpConnLocalAddress	tcpConnEntry.2	IpAddress	R/O	○
tcpConnLocalPort	tcpConnEntry.3	INTEGER	R/O	○
tcpConnRemAddress	tcpConnEntry.4	IpAddress	R/O	○
tcpConnRemPort	tcpConnEntry.5	INTEGER	R/O	○
tcpInErrs	tcp.14	Counter	R/O	○
tcpOutRsts	tcp.15	Counter	R/O	○

Table 11-13 udp group

MIB	OID	SYNTAX	ACCESS	SUPPORT
udpInDatagrams	udp.1	Counter	R/O	○
udpNoPorts	udp.2	Counter	R/O	○
udpInErrors	udp.3	Counter	R/O	○
udpOutDatagrams	udp.4	Counter	R/O	○
udpTable	udp.5	Aggregate	-	○
udpEntry	udpTable.1	Aggregate	-	○
udpLocalAddress	udpEntry.1	IpAddress	R/O	○
udpLocalPort	udpEntry.2	INTEGER	R/O	○

Table 11-14 snmp group

MIB	OID	SYNTAX	ACCESS	SUPPORT
snmpInPkts	snmp.1	Counter	R/O	○
snmpOutPkts	snmp.2	Counter	R/O	○
snmpInBadVersions	snmp.3	Counter	R/O	○
snmpInBadCommunityNames	snmp.4	Counter	R/O	○
snmpInBadCommunityUses	snmp.5	Counter	R/O	○
snmpInASNParseErrs	snmp.6	Counter	R/O	○
snmpInTooBigs	snmp.8	Counter	R/O	○
snmpInNoSuchNames	snmp.9	Counter	R/O	○

snmpInBadValues	snmp.10	Counter	R/O	○
snmpInReadOnlys	snmp.11	Counter	R/O	○
snmpInGenErrs	snmp.12	Counter	R/O	○
snmpInTotalReqVars	snmp.13	Counter	R/O	○
snmpInTotalSetVars	snmp.14	Counter	R/O	○
snmpInGetRequests	snmp.15	Counter	R/O	○
snmpInGetNexts	snmp.16	Counter	R/O	○
snmpInSetRequests	snmp.17	Counter	R/O	○
snmpInGetResponses	snmp.18	Counter	R/O	○
snmpInTraps	snmp.19	Counter	R/O	○
snmpOutTooBigs	snmp.20	Counter	R/O	○
snmpOutNoSuchNames	snmp.21	Counter	R/O	○
snmpOutBadValues	snmp.22	Counter	R/O	○
snmpOutGenErrs	snmp.24	Counter	R/O	○
snmpOutGetRequests	snmp.25	Counter	R/O	○
snmpOutGetNexts	snmp.26	Counter	R/O	○
snmpOutSetRequests	snmp.27	Counter	R/O	○
snmpOutGetResponses	snmp.28	Counter	R/O	○
snmpOutTraps	snmp.29	Counter	R/O	○
snmpEnableAuthenTraps	snmp.30	IpAddress	R/W	○

11.3.4 Enterprise MIB

- **Enterprise Number**

  The Enterprise Number of LEADER ELECTRONICS CORP. is 20111.
  iso(1).org(3).dod(6).internet(1).private(4).enterprises(1).leader(20111)

- **Enterprise MIB File**

  Download the enterprise MIB file using FTP.
  The file name is "lv7770.my."
  (Example: GET LV7770.MY D:¥LV7770.MY)

- **Enterprise MIB Structure**

  The enterprise MIB structure is shown below. On products that do not have units installed, the MIBs for the units cannot be controlled.

```
leader      OBJECT IDENTIFIER ::= { enterprises 20111 }
lv7770      OBJECT IDENTIFIER ::= { leader 26 }
lv7770ST1 OBJECT IDENTIFIER ::= { lv7770 1 }
basic       OBJECT IDENTIFIER ::= { lv7770ST1 1 }    <-- Basic operation
system      OBJECT IDENTIFIER ::= { lv7770ST1 2 }    <-- SYSTEM menu
wfm         OBJECT IDENTIFIER ::= { lv7770ST1 3 }    <-- WFM menu
vector      OBJECT IDENTIFIER ::= { lv7770ST1 4 }    <-- VECTOR menu
picture     OBJECT IDENTIFIER ::= { lv7770ST1 5 }    <-- PICTURE menu
status      OBJECT IDENTIFIER ::= { lv7770ST1 6 }    <-- STATUS menu
eye         OBJECT IDENTIFIER ::= { lv7770ST1 7 }    <-- EYE menu
audio       OBJECT IDENTIFIER ::= { lv7770ST1 8 }    <-- AUDIO menu
trap        OBJECT IDENTIFIER ::= { lv7770ST1 9 }    <-- Trap information
```

- **ACCESS**

  In the tables, "ACCESS" indicates the following:

	Indication	Description
ACCESS	R/O	Information that can be read from the SNMP managers.
	R/W	Information that can be read and written from the SNMP managers.
	R/WO	Information that can be read and written from the SNMP managers. (However, the retrieved data consists of meaningless fixed values.)

Table 11-15 l26basicTBL(1) group

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26basInputTBL	l26basicTBL.1	Aggregate	-	-
l26basInputUnit	l26basInputTBL.1	INTEGER	R/W	1 = Sdi 2 = Analog Composite
l26basInputCh	l26basInputTBL.2	INTEGER	R/W	1 = A 2 = B 3 = AB
l26basInputSimul	l26basInputTBL.3	INTEGER	R/W	1 = Off 2 = On
l26basInputStream	l26basInputTBL.4	INTEGER	R/W	1 = Stream1 2 = Stream2
l26basExt	l26basicTBL.2	INTEGER	R/W	1 = Ext 2 = Int
l26basDisplay	l26basicTBL.3	INTEGER	R/W	1 = Display1 2 = Display2 3 = Display3 4 = Display4
l26basMulti	l26basicTBL.4	INTEGER	R/W	1 = Off 2 = On
l26basMode	l26basicTBL.5	INTEGER	R/W	1 = WFM 2 = Vector 3 = Picture 4 = Audio 5 = Status 6 = Eye
l26basRecall	l26basicTBL.6	INTEGER	R/WO	1 to 60
l26basFileTBL	l26basicTBL.7	Aggregate	-	-
l26basFileMakeLog	l26basFileTBL.1	INTEGER	R/WO	1 = Meke Log
l26basFileMakeDump	l26basFileTBL.2	INTEGER	R/WO	1 = Make Dump
l26basFileMakeCapture	l26basFileTBL.3	INTEGER	R/WO	1 = Make Capture
l26basFileMakeCapFrm	l26basFileTBL.4	INTEGER	R/WO	1 = Make Cap Frm
l26basFileMakeCapDpx	l26basFileTBL.5	INTEGER	R/WO	1 = Make Cap DPX
l26basFileMakeCapTif	l26basFileTBL.6	INTEGER	R/WO	1 = Make Cap TIF
l26basFileMakeCapFrmB	l26basFileTBL.7	INTEGER	R/WO	1 = Make Cap Frm SIMUL-B
l26basFileMakeCapDpxB	l26basFileTBL.8	INTEGER	R/WO	1 = Make Cap DPX SIMUL-B
l26basFileMakeCapTifB	l26basFileTBL.9	INTEGER	R/WO	1 = Make Cap TIF SIMUL-B
l26basFileMakeCapDpxS2	l26basFileTBL.10	INTEGER	R/WO	1 = Make Cap DPX STREAM-2
l26basFileMakeCapTifS2	l26basFileTBL.11	INTEGER	R/WO	1 = Make Cap TIF STREAM-2
l21basFileMakeLoudness	l21basFileTBL.12	INTEGER	R/WO	1 = Make Loudness Log
l26basCaptureTBL	l26basicTBL.8	Aggregate	-	-
l26basCaptureTrigger	l26basCaptureTBL.1	INTEGER	R/W	1 = Manual 2 = Error

Table 11-16 l26systemTBL(2) group

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26sysFormatTBL	l26systemTBL.1	Aggregate	-	-
l26sysFormatManualSelect	l26sysFormatTBL.1	INTEGER	R/W	1 = Auto 2 = Manual
l26sysFormatIPSF	l26sysFormatTBL.2	INTEGER	R/W	1 = Interlace 2 = Segmented Frame
l26sysFormatLinkFormat	l26sysFormatTBL.3	INTEGER	R/W	1 = HD 2 = SD 3 = HD-Dual 4 = 3G-A 5 = 3G-B 6 = 3G-B 2Mapping
l26sysFormatColorSystem	l26sysFormatTBL.4	INTEGER	R/W	1 = YCbCr-422 2 = YCbCr-444 3 = RGB-444
l26sysFormatPixelDepth	l26sysFormatTBL.5	INTEGER	R/W	1 = 10Bit 2 = 12Bit
l26sysFormatScanning	l26sysFormatTBL.6	INTEGER	R/W	1 = 1080p 2 = 1080i 3 = 1080psf 4 = 720p 5 = 525i 6 = 625i
l26sysFormatActiveSample	l26sysFormatTBL.7	INTEGER	R/W	1 = 1920 2 = 2048
l26sysFormatFrameRate	l26sysFormatTBL.8	INTEGER	R/W	1 = 60Hz 2 = 59.94Hz 3 = 50Hz 4 = 30Hz 5 = 29.97Hz 6 = 25Hz 7 = 24Hz 8 = 23.98Hz
l26sysFormatInputA	l26sysFormatTBL.9	INTEGER	R/O	Input A Format
l26sysFormatInputB	l26sysFormatTBL.10	INTEGER	R/O	Input B Format
l26sysRearTBL	l26systemTBL.2	Aggregate	-	-
l26sysRearSdiOutput	l26sysRearTBL.1	INTEGER	R/W	1 = AB 2 = A
l26sysRearAudioBncGrpA	l26sysRearTBL.2	INTEGER	R/W	1 = Input 2 = Output
l26sysRearAudioBncGrpB	l26sysRearTBL.3	INTEGER	R/W	1 = Input 2 = Output
l26sysRearAudioBncGrpAOutSel	l26sysRearTBL.4	INTEGER	R/W	1 = Display Source 2 = SDI 1-8
l26sysRearAudioBncGrpBOutSel	l26sysRearTBL.5	INTEGER	R/W	1 = Display Source

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				2 = SDI 9-16
I26sysRearAnalogAudio	I26sysRearTBL.6	INTEGER	R/W	1 = Input 2 = Output
I26sysRearDvi_IAspect	I26sysRearTBL.7	INTEGER	R/W	1 = 4:3 2 = 16:9 3 = 16:10
I26sysRearPicMoniOutColor	I26sysRearTBL.8	INTEGER	R/W	1 = Auto 2 = YCbCr-422 3 = YCbCr-444 4 = RGB-444
I26sysRearPicMoniOutPixelDepth	I26sysRearTBL.9	INTEGER	R/W	1 = Auto 2 = 8Bit 3 = 10Bit 4 = 12Bit
I26sysRearPicMoniOut2Mapping	I26sysRearTBL.10	INTEGER	R/W	1 = Stream1 2 = Stream2
I26sysGeneralTBL	I26systemTBL.3	Aggregate	-	-
I26sysGeneralMultiDisplay	I26sysGeneralTBL.1	INTEGER	R/W	1 = 2Multi 2 = 4Multi
I26sysGeneralCaptureMode	I26sysGeneralTBL.2	INTEGER	R/W	1 = Screen 2 = Video-Frame
I26sysGeneralInfoFormat	I26sysGeneralTBL.3	INTEGER	R/W	1 = On 2 = Off
I26sysGeneralInfoDate	I26sysGeneralTBL.4	INTEGER	R/W	1 = Off 2 = YMD 3 = MDY 4 = DMY
I26sysGeneralInfoTime	I26sysGeneralTBL.5	INTEGER	R/W	1 = Off 2 = Real 3 = LTC 4 = VITC 5 = D-VITC
I26sysGeneralInfoColorSystem	I26sysGeneralTBL.6	INTEGER	R/W	1 = On 2 = Off
I26sysGeneralInfoInput	I26sysGeneralTBL.7	INTEGER	R/W	1 = On 2 = Off
I26sysGeneralReserved1	I26sysGeneralTBL.8	-	-	-
I26sysGeneralReserved2	I26sysGeneralTBL.9	-	-	-
I26sysGeneralMenuAutoOff	I26sysGeneralTBL.10	DisplayString	R/W	1 to 60
I26sysGeneralMenuAutoOffCtr	I26sysGeneralTBL.11	INTEGER	R/W	1 = Off 2 = On
I26sysGeneralMemStrMode	I26sysGeneralTBL.13	INTEGER	R/W	1 = Loudness 2Hour 2 = Loudness 32Hour
I26sysEthernetTBL	I26systemTBL.4	Aggregate	-	-
I26sysEthernetSelect	I26sysEthernetTBL.1	INTEGER	R/O	1 = DHCP 2 = IP

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26sysEthernetAddress	l26sysEthernetTBL.2	DisplayString	R/O	IP Address
l26sysEthernetSubnet	l26sysEthernetTBL.3	DisplayString	R/O	Subnet Mask
l26sysEthernetGateway	l26sysEthernetTBL.4	DisplayString	R/O	Default Gateway
l26sysEthernetSntpSelect	l26sysEthernetTBL.5	INTEGER	R/W	1 = Off 2 = On
l26sysEthernetSntpAdr1	l26sysEthernetTBL.6	INTEGER	R/W	0 to 255 (1st Seg.)
l26sysEthernetSntpAdr2	l26sysEthernetTBL.7	INTEGER	R/W	0 to 255 (2nd Seg.)
l26sysEthernetSntpAdr3	l26sysEthernetTBL.8	INTEGER	R/W	0 to 255 (3rd Srg.)
l26sysEthernetSntpAdr4	l26sysEthernetTBL.9	INTEGER	R/W	0 to 255 (4th Seg.)
l26sysEthernetSntpAddress	l26sysEthernetTBL.10	DisplayString	R/O	SNTP Server Address
l26sysEthernetSntpTzPole	l26sysEthernetTBL.11	INTEGER	R/W	1 = - 2 = +
l26sysEthernetSntpTzHour	l26sysEthernetTBL.12	INTEGER	R/W	0 to 23
l26sysEthernetSntpTzMinute	l26sysEthernetTBL.13	INTEGER	R/W	0 to 59
l26sysEthernetSntpTimezone	l26sysEthernetTBL.14	DisplayString	R/O	SNTP TimeZone Adjust
l26sysEthernetSntpSet	l26sysEthernetTBL.15	INTEGER	R/WO	1 = SNTP Reset
l26sysEthernetTelnetSelect	l26sysEthernetTBL.16	INTEGER	R/W	1 = Off 2 = On 3 = LV7770-01
l26sysEthernetFtpSelect	l26sysEthernetTBL.17	INTEGER	R/W	1 = Off 2 = On
l26sysEthernetHttpSelect	l26sysEthernetTBL.18	INTEGER	R/W	1 = Off 2 = On
l26sysEthernetMac	l26sysEthernetTBL.19	DisplayString	R/O	MAC Address
l26sysRemoteTBL	l26systemTBL.5	Aggregate	-	-
l26sysRemoteMode	l26sysRemoteTBL.1	INTEGER	R/W	1 = Bit 2 = Binary
l26sysRemoteSelect	l26sysRemoteTBL.2	INTEGER	R/W	1 = Recall 2 = Recall/Loudness
l26sysRemoteAlarmPolarity	l26sysRemoteTBL.3	INTEGER	R/W	1 = Positive 2 = Negative
l26sysRemoteAlarmSelect	l26sysRemoteTBL.4	INTEGER	R/W	1 = A 2 = B 3 = AB
l26sysOtherTBL	l26systemTBL.6	Aggregate	-	-
l26sysOtherDateYear	l26sysOtherTBL.1	INTEGER	R/W	1970 to 2099
l26sysOtherDateMonth	l26sysOtherTBL.2	INTEGER	R/W	1 to 12
l26sysOtherDateDate	l26sysOtherTBL.3	INTEGER	R/W	1 to 31
l26sysOtherDateHour	l26sysOtherTBL.4	INTEGER	R/W	0 to 23
l26sysOtherDateMinute	l26sysOtherTBL.5	INTEGER	R/W	0 to 59
l26sysOtherDateSecond	l26sysOtherTBL.6	INTEGER	R/W	0 to 59
l26sysOtherDateTimeSet	l26sysOtherTBL.7	INTEGER	R/WO	1 = Date & Time Set
l26sysOtherDateTime	l26sysOtherTBL.8	DisplayString	R/O	Date & Time
l26sysOtherInfoFirmware	l26sysOtherTBL.9	DisplayString	R/O	Firmware Version
l26sysOtherInfoBoardSdi	l26sysOtherTBL.10	INTEGER	R/O	1 = Not installed

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				2 = Installed
l26sysOtherInfoBoardEye	l26sysOtherTBL.11	INTEGER	R/O	1 = Not installed 2 = Installed
l26sysOtherInfoBoardCmp	l26sysOtherTBL.12	INTEGER	R/O	1 = Not installed 2 = Installed
l26sysOtherReserved1	l26sysOtherTBL.13	-	-	-
l26sysOtherInfoBoardAudAna	l26sysOtherTBL.14	INTEGER	R/O	1 = Not installed 2 = Installed
l26sysOtherInfoBoardOp70	l26sysOtherTBL.15	INTEGER	R/O	1 = Not installed 2 = Installed
l26sysOtherShortcut	l26sysOtherTBL.16	INTEGER	R/W	1 = Direct 2 = Volume 3 = Capture & Write 4 = Inten 5 = Menu Off
l26sysOtherReserved2	l26sysOtherTBL.17	-	-	-
l26sysOtherReserved3	l26sysOtherTBL.18	-	-	-
l26sysOtherInit	l26sysOtherTBL.19	INTEGER	R/WO	1 = Initialize
l26sysOtherKeylock	l26sysOtherTBL.20	INTEGER	R/W	1 = Off 2 = On
l26sysOtherReply	l26sysOtherTBL.21	INTEGER	R/W	1 = Off 2 = On

Table 11-17 l26wfmTBL(3) group

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26wfmDispTBL	l26wfmTBL.1	Aggregate	-	-
l26wfmDispCh1	l26wfmDispTBL.1	INTEGER	R/W	1 = On 2 = Off
l26wfmDispCh2	l26wfmDispTBL.2	INTEGER	R/W	1 = On 2 = Off
l26wfmDispCh3	l26wfmDispTBL.3	INTEGER	R/W	1 = On 2 = Off
l26wfmDispOvlay	l26wfmDispTBL.4	INTEGER	R/W	1 = On 2 = Off
l26wfmIntenTBL	l26wfmTBL.2	Aggregate	-	-
l26wfmIntenWfm	l26wfmIntenTBL.1	INTEGER	R/W	-128 to 127
l26wfmColor	l26wfmIntenTBL.2	INTEGER	R/W	1 = White 2 = Yellow 3 = Cyan 4 = Green 5 = Magenta 6 = Red 7 = Blue 8 = Multi
l26wfmColor2MapS1	l26wfmIntenTBL.3	INTEGER	R/W	1 = White

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				2 = Yellow 3 = Cyan 4 = Green 5 = Magenta 6 = Red 7 = Blue 8 = Multi
l26wfmColor2MapS2	l26wfmIntenTBL.4	INTEGER	R/W	1 = White 2 = Yellow 3 = Cyan 4 = Green 5 = Magenta 6 = Red 7 = Blue 8 = Multi
l26wfmIntenScale	l26wfmIntenTBL.5	INTEGER	R/W	-8 to 7
l26wfmScaleTBL	l26wfmTBL.3	Aggregate	-	-
l26wfmScaleColor	l26wfmScaleTBL.1	INTEGER	R/W	1 = White 2 = Yellow 3 = Cyan 4 = Green 5 = Magenta 6 = Red 7 = Blue
l26wfmScaleUnit	l26wfmScaleTBL.2	INTEGER	R/W	1 = HDV-SDP 2 = HDV-SDV 3 = HDP-SDP 4 = 150% 5 = 1023 6 = 3FF 7 = 1023_255
l26wfmScaleColor75per	l26wfmScaleTBL.3	INTEGER	R/W	1 = On 2 = Off
l26wfmGainTBL	l26wfmTBL.4	Aggregate	-	-
l26wfmGainVar	l26wfmGainTBL.1	INTEGER	R/W	1 = Cal 2 = Var
l26wfmGainVal	l26wfmGainTBL.2	DisplayString	R/W	0.200 to 2.000
l26wfmGainMag	l26wfmGainTBL.3	INTEGER	R/W	1 = X1 2 = X5
l26wfmFilterTBL	l26wfmTBL.5	Aggregate	-	-
l26wfmFilterNormal	l26wfmFilterTBL.1	INTEGER	R/W	1 = Flat 2 = Lowpass
l26wfmFilterComposite	l26wfmFilterTBL.2	INTEGER	R/W	1 = Flat 2 = Lum 2 = Flat-Lum 3 = Lum-Chroma

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26wfmSweepTBL	l26wfmTBL.6	Aggregate	-	-
l26wfmSweepSweep	l26wfmSweepTBL.1	INTEGER	R/W	1 = H 2 = V
l26wfmSweepHSweep	l26wfmSweepTBL.2	INTEGER	R/W	1 = 1H 2 = 2H
l26wfmSweepVSweep	l26wfmSweepTBL.3	INTEGER	R/W	1 = 1V 2 = 2V
l26wfmSweepHMag	l26wfmSweepTBL.4	INTEGER	R/W	1 = X1 2 = X10 3 = X20 4 = Active 5 = Blank
l26wfmSweepVMag	l26wfmSweepTBL.5	INTEGER	R/W	1 = X1 2 = X20 3 = X40
l26wfmSweepField	l26wfmSweepTBL.6	INTEGER	R/W	1 = Field1 2 = Field2
l26wfmBlankingTBL	l26wfmTBL.7	Aggregate	-	-
l26wfmBlankingNormal	l26wfmBlankingTBL.1	INTEGER	R/W	1 = Remove 2 = H-View 3 = V-View 4 = ALL-View
l26wfmBlankingComposite	l26wfmBlankingTBL.2	INTEGER	R/W	1 = Remove 2 = V-View
l26wfmLineSelTBL	l26wfmTBL.8	Aggregate	-	-
l26wfmLineSelect	l26wfmLineSelTBL.1	INTEGER	R/W	1 = On 2 = A-Ch 3 = B-Ch 4 = Both 5 = 3G-B 2Map Stream1 6 = 3G-B 2Map Stream2 7 = Off 8 = CINELITE
l26wfmLineField	l26wfmLineSelTBL.2	INTEGER	R/W	1 = Field1 2 = Field2 3 = Frame
l26wfmLineNumber	l26wfmLineSelTBL.3	INTEGER	R/W	1 to 1125
l26wfmDisplayTBL	l26wfmTBL.9	Aggregate	-	-
l26wfmDisplaySimul	l26wfmDisplayTBL.1	INTEGER	R/W	1 = Mix 2 = Align
l26wfmDisplay2Map	l26wfmDisplayTBL.2	INTEGER	R/W	1 = Stream1 2 = Stream2 3 = Mix 4 = Align
l26wfmDisplayThumbnailAudio	l26wfmDisplayTBL.3	INTEGER	R/W	1 = Off 2 = On

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26wfmDisplayThumbnailPicture	l26wfmDisplayTBL.4	INTEGER	R/W	1 = Off 2 = On
l26wfmDisplayThumbHisto	l26wfmDisplayTBL.5	INTEGER	R/W	1 = Off 2 = On
l26wfmDisplayThumbHistoForm	l26wfmDisplayTBL.6	INTEGER	R/W	1 = Luma 2 = Align 3 = Mix
l26wfmDisplayThumbHistoMixY	l26wfmDisplayTBL.7	INTEGER	R/W	1 = Off 2 = On
l26wfmDisplayThumbHistoMixR	l26wfmDisplayTBL.8	INTEGER	R/W	1 = Off 2 = On
l26wfmDisplayThumbHistoMixG	l26wfmDisplayTBL.9	INTEGER	R/W	1 = Off 2 = On
l26wfmDisplayThumbHistoMixB	l26wfmDisplayTBL.10	INTEGER	R/W	1 = Off 2 = On
l26wfmMatrixTBL	l26wfmTBL.10	Aggregate	--	--
l26wfmMatrix	l26wfmMatrixTBL.1	INTEGER	R/W	1 = YCbCr 2 = GBR 3 = RGB 4 = Composite
l26wfmMatrixYgbr	l26wfmMatrixTBL.2	INTEGER	R/W	1 = On 2 = Off
l26wfmMatrixYrgb	l26wfmMatrixTBL.3	INTEGER	R/W	1 = On 2 = Off
l26wfmMatrixCompositeFormat	l26wfmMatrixTBL.4	INTEGER	R/W	1 = Auto 2 = NTSC 3 = PAL
l26wfmMatrixSetup	l26wfmMatrixTBL.5	INTEGER	R/W	1 = 0% 2 = 7.5%

Table 11-18 l26vectorTBL(4) group

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26vecIntenTBL	l26vectorTBL.1	Aggregate	-	-
l26vecIntenVector	l26vecIntenTBL.1	INTEGER	R/W	-128 to 127
l26vecColor	l26vecIntenTBL.2	INTEGER	R/W	1 = White 2 = Yellow 3 = Cyan 4 = Green 5 = Magenta 6 = Red 7 = Blue
l26vecColor2MapS1	l26vecIntenTBL.3	INTEGER	R/W	1 = White 2 = Yellow 3 = Cyan 4 = Green

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				5 = Magenta 6 = Red 7 = Blue
l26vecColor2MapS2	l26vecIntenTBL.4	INTEGER	R/W	1 = White 2 = Yellow 3 = Cyan 4 = Green 5 = Magenta 6 = Red 7 = Blue
l26vecIntenScale	l26vecIntenTBL.5	INTEGER	R/W	-8 to 7
l26vecScaleTBL	l26vectorTBL.2	Aggregate	-	-
l26vecScaleColor	l26vecScaleTBL.1	INTEGER	R/W	1 = White 2 = Yellow 3 = Cyan 4 = Green 5 = Magenta 6 = Red 7 = Blue
l26vecScaleIq	l26vecScaleTBL.2	INTEGER	R/W	1 = On 2 = Off
l26vecScaleVec	l26vecScaleTBL.3	INTEGER	R/W	1 = Auto 2 = BT-601 3 = BT-709
l26vecGainTBL	l26vectorTBL.3	Aggregate	-	-
l26vecGainMag	l26vecGainTBL.1	INTEGER	R/W	1 = X1 2 = X5 3 = IQ
l26vecGainVal	l26vecGainTBL.2	DisplayString	R/W	0.200 to 2.000
l26vecGainVar	l26vecGainTBL.3	INTEGER	R/W	1 = CAL 2 = VAR
l26vecLineSelTBL	l26vectorTBL.4	Aggregate	-	-
l26vecLineSelect	l26vecLineSelTBL.1	INTEGER	R/W	1 = On 2 = A-Ch 3 = B-Ch 4 = Both 5 = 3G-B 2Map Stream1 6 = 3G-B 2Map Stream2 7 = Off 8 = CINELITE
l26vecLineField	l26vecLineSelTBL.2	INTEGER INTEGER	R/W	1 = Field1 2 = Field2 3 = Frame
l26vecLineNumber	l26vecLineSelTBL.3	INTEGER	R/W	1 to 1125
l26vecMode	l26vectorTBL.5	INTEGER	R/W	1 = Vector 2 = 5Bar

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26vec5BarTBL	l26vectorTBL.6	Aggregate	-	-
l26vec5BarScale	l26vec5BarTBL.1	INTEGER	R/W	1 = % 2 = mV
l26vec5BarSeaquence	l26vec5BarTBL.2	INTEGER	R/W	1 = GBR 2 = RGB
l26vec5BarYData	l26vec5BarTBL.3	DisplayString	R/O	Maximum Y value, minimum Y value
l26vec5BarGData	l26vec5BarTBL.4	DisplayString	R/O	Maximum G value, minimum G value
l26vec5BarBData	l26vec5BarTBL.5	DisplayString	R/O	Maximum B value, minimum B value
l26vec5BarRData	l26vec5BarTBL.6	DisplayString	R/O	Maximum R value, minimum R value
l26vec5BarCmpData	l26vec5BarTBL.7	DisplayString	R/O	Maximum CMP value, minimum CMP value
l26vecDisplayTBL	l26vectorTBL.7	Aggregate	-	-
l26vecDisplaySimul	l26vecDisplayTBL.1	INTEGER	R/W	1 = Mix 2 = Tile
l26vecDisplay2Map	l26vecDisplayTBL.2	INTEGER	R/W	1 = Stream1 2 = Stream2 3 = Mix 4 = Tile
l26vecDisplayThumbAudio	l26vecDisplayTBL.3	INTEGER	R/W	1 = Off 2 = On
l26vecDisplayThumbPicture	l26vecDisplayTBL.4	INTEGER	R/W	1 = Off 2 = On
l26vecDisplayThumbHisto	l26vecDisplayTBL.5	INTEGER	R/W	1 = Off 2 = On
l26vecDisplayThumbHistoForm	l26vecDisplayTBL.6	INTEGER	R/W	1 = Luma 2 = Align 3 = Mix
l26vecDisplayThumbHistoMixY	l26vecDisplayTBL.7	INTEGER	R/W	1 = Off 2 = On
l26vecDisplayThumbHistoMixR	l26vecDisplayTBL.8	INTEGER	R/W	1 = Off 2 = On
l26vecDisplayThumbHistoMixG	l26vecDisplayTBL.9	INTEGER	R/W	1 = Off 2 = On
l26vecDisplayThumbHistoMixB	l26vecDisplayTBL.10	INTEGER	R/W	1 = Off 2 = On
l26vecMatixTBL	l26vectorTBL.8	Aggregate	-	-
l26vecMatrix	l26vecMatixTBL.1	INTEGER	R/W	1 = Component 2 = Composite
l26vecMatrixCompositeFormat	l26vecMatixTBL.2	INTEGER	R/W	1 = Auto 2 = NTSC 3 = PAL

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26vecMatrixCompositeSetup	l26vecMatixTBL.3	INTEGER	R/W	1 = 0% 2 = 7.5%
l26vecMatrixColorbar	l26vecMatixTBL.4	INTEGER	R/W	1 = 100% 2 = 75%
l26vecAnalogTBL	l26vectorTBL.9	Aggregate	-	-
l26vecAnalogPhase	l26vecAnalogTBL.1	DisplayString	R/W	0.0 to 359.9
l26vecAnalogNtscDisplay	l26vecAnalogTBL.2	INTEGER	R/W	1 = On 2 = Off
l26vecSch	l26vecAnalogTBL.3	INTEGER	R/W	1 = On 2 = Off
l26vecSchData	l26vecAnalogTBL.4	DisplayString	R/O	SCH
l26vecPosH	l26vecAnalogTBL.5	INTEGER	R/W	-130 to +130
l26vecPosV	l26vecAnalogTBL.6	INTEGER	R/W	-130 to +130
l21vecMarkerTBL	l21vectorTBL.10	Aggregate	-	-
l21vecMarker	l21vecMarkerTBL.1	INTEGER	R/W	1 = On 2 = Off

Table 11-19 l26pitureTBL(5) group

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26picMonoColor	l26pictureTBL.1	INTEGER	R/W	1 = Mono 2 = Color
l26picChromaUp	l26pictureTBL.2	INTEGER	R/W	1 = Normal 2 = Up
l26picBrightness	l26pictureTBL.3	DisplayString	R/W	-50.0 to 50.0
l26picContrast	l26pictureTBL.4	DisplayString	R/W	0.0 to 200.0
l26picGainTBL	l26pictureTBL.5	Aggregate	-	-
l26picGainRed	l26picGainTBL.1	DisplayString	R/W	0.0 to 200.0
l26picGainGreen	l26picGainTBL.2	DisplayString	R/W	0.0 to 200.0
l26picGainBlue	l26picGainTBL.3	DisplayString	R/W	0.0 to 200.0
l26picGainChroma	l26picGainTBL.4	DisplayString	R/W	0.0 to 200.0
l26picBiasTBL	l26pictureTBL.6	Aggregate	-	-
l26picBiasRed	l26picBiasTBL.1	DisplayString	R/W	-50.0 to 50.0
l26picBiasGreen	l26picBiasTBL.2	DisplayString	R/W	-50.0 to 50.0
l26picBiasBlue	l26picBiasTBL.3	DisplayString	R/W	-50.0 to 50.0
l26picMarkerTBL	l26pictureTBL.7	Aggregate	-	-
l26picMarkerFrame	l26picMarkerTBL.1	INTEGER	R/W	1 = On 2 = Off
l26picMarkerCenter	l26picMarkerTBL.2	INTEGER	R/W	1 = On 2 = Off
l26picMarkerAspect	l26picMarkerTBL.3	INTEGER	R/W	1 = Off 2 = 14:9 3 = 13:9 4 = 16:9 5 = 4:3 6 = 2.39:1

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				7 = AFD
l26picMarkerAspectShadow	l26picMarkerTBL.4	INTEGER	R/W	0 to 100
l26picMarkerSafetyAction	l26picMarkerTBL.5	INTEGER	R/W	1 = ARIB 2 = SMPTE 3 = User1 4 = Off
l26picMarkerSafetyTitle	l26picMarkerTBL.6	INTEGER	R/W	1 = ARIB 2 = SMPTE 3 = User2 4 = Off
l26picMarkerSafetyUser1W	l26picMarkerTBL.7	INTEGER	R/W	0 to 100
l26picMarkerSafetyUser1H	l26picMarkerTBL.8	INTEGER	R/W	0 to 100
l26picMarkerSafetyUser2W	l26picMarkerTBL.9	INTEGER	R/W	0 to 100
l26picMarkerSafetyUser2H	l26picMarkerTBL.10	INTEGER	R/W	0 to 100
l26picLineSelTBL	l26pictureTBL.8	Aggregate	-	-
l26picLineSelect	l26picLineSelTBL.1	INTEGER	R/W	1 = On 2 = A-Ch 3 = B-Ch 4 = Both 5 = 3G-B 2Map Sream1 6 = 3G-B 2Map Stream2 7= Off
l26picLineField	l26picLineSelTBL.2	INTEGER	R/W	1 = Field1 2 = Field2 3 = Frame
l26picLineNumber	l26picLineSelTBL.3	INTEGER	R/W	1 to 1125
l26picCineliteTBL	l26pictureTBL.9	Aggregate	-	-
l26picCineliteMode	l26picCineliteTBL.1	INTEGER	R/W	1 = Off 2 = fSTOP 3 = % 4 = CINEZONE
l26picCineliteFdFunc	l26picCineliteTBL.2	INTEGER	R/W	1 = Line 2 = Sample
l26picCineliteMeasPos	l26picCineliteTBL.3	INTEGER	R/W	1 = p1 2 = p2 3 = p3
l26picCineliteMeasSize	l26picCineliteTBL.4	INTEGER	R/W	1 = 1x1 2 = 3x3 3 = 9x9
l26picCineliteLine	l26picCineliteTBL.5	INTEGER	R/W	1 to 1125
l26picCineliteSample	l26picCineliteTBL.6	INTEGER	R/W	0 to 2749
l26picCineliteFstop18pRefset	l26picCineliteTBL.7	INTEGER	R/WO	1 = Set
l26picCineliteFstopGammaSel	l26picCineliteTBL.8	INTEGER	R/W	1 = 0.45 2 = User1 3 = User2 4 = User3

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				5 = User-A 6 = User-B 7 = User-C 8 = User-D 9 = User-E
l26picCinelitePercentUnit	l26picCineliteTBL.9	INTEGER	R/W	1 = Y% 2 = RGB% 3 = RGB255
l26picCineliteData	l26picCineliteTBL.10	DisplayString	R/O	CINELITE Data
l26picCineliteCinezoneForm	l26picCineliteTBL.11	INTEGER	R/W	1 = Gradate 2 = Step 3 = Search
l26picCineliteCinezoneUpper	l26picCineliteTBL.12	DisplayString	R/W	-6.3 to 109.4
l26picCineliteCinezoneLower	l26picCineliteTBL.13	DisplayString	R/W	-7.3 to 108.4
l26picCineliteCinezoneLevel	l26picCineliteTBL.14	DisplayString	R/W	-7.3 to 109.4
l21picCineliteAdvance	l21picCineliteTBL.15	INTEGER	R/W	1 = OFF 2 = P-V 3 = P-W 4 = P-V-W
l26picDisplayTBL	l26pictureTBL.10	Aggregate	-	-
l26picDisplaySize	l26picDisplayTBL.1	INTEGER	R/W	1 = Fit 2 = Real 3 = X2 4 = Full Frame
l26picDisplayGamutErr	l26picDisplayTBL.2	INTEGER	R/W	1 = Off 2 = White 3 = Red 4 = Mesh
l26picDisplayMode	l26picDisplayTBL.3	INTEGER	R/W	1 = 2D 2 = 3D Assist
l26picDisplaySimulDisp	l26picDisplayTBL.4	INTEGER	R/W	1 = Mix 2 = Tile
l26picDisplay2MapDisp	l26picDisplayTBL.5	INTEGER	R/W	1 = Stream1 2 = Stream2 3 = Mix 4 = Tile
l26picDisplayThumbAudio	l26picDisplayTBL.6	INTEGER	R/W	1 = Off 2 = On
l26picDisplayThumbWfm	l26picDisplayTBL.7	INTEGER	R/W	1 = Off 2 = On
l26picDisplayThumbHisto	l26picDisplayTBL.8	INTEGER	R/W	1 = Off 2 = On
l26picDisplayThumbHistoForm	l26picDisplayTBL.9	INTEGER	R/W	1 = Luma 2 = Align 3 = Mix
l26picDisplayThumbHistoMixY	l26picDisplayTBL.10	INTEGER	R/W	1 = Off

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				2 = On
l26picDisplayThumbHistoMixR	l26picDisplayTBL.11	INTEGER	R/W	1 = Off 2 = On
l26picDisplayThumbHistoMixG	l26picDisplayTBL.12	INTEGER	R/W	1 = Off 2 = On
l26picDisplayThumbHistoMixB	l26picDisplayTBL.13	INTEGER	R/W	1 = Off 2 = On
l26picDisplaySd	l26picDisplayTBL.14	INTEGER	R/W	1 = 4-3 2 = 16-9
l26picSImpsTBL	l26pictureTBL.11	Aggregate	-	-
l26picSImpsSmpte	l26picSImpsTBL.1	INTEGER	R/W	1 = Off 2 = On
l26picSImpsFormat	l26picSImpsTBL.2	INTEGER	R/W	1 = FMT-608-708 2 = FMT-608-608 3 = FMT-VBI 4 = FMT-708
l26picSImpsLanguage608	l26picSImpsTBL.3	INTEGER	R/W	1 = CC1 2 = CC2 3 = CC3 4 = CC4 5 = Text1 6 = Text2 7 = Text3 8 = Text4
l26picSImpsService708	l26picSImpsTBL.4	INTEGER	R/W	1 to 63

Table 11-20 l26statusTBL(6) group

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26status	l26statusTBL.1	INTEGER	R/WO	1 = Error Display
l26staDataTBL	l26statusTBL.2	Aggregate	-	-
l26staSignalData	l26staDataTBL.1	INTEGER	R/O	Signal Data
l26staLinkData	l26staDataTBL.2	INTEGER	R/O	Link Data
l26staFormatData	l26staDataTBL.3	DisplayString	R/O	Format Data
l26staEmbChData	l26staDataTBL.4	DisplayString	R/O	Audio Data
l26staLogTBL	l26statusTBL.3	Aggregate	-	-
l26staLog	l26staLogTBL.1	INTEGER	R/WO	1 = Log Display
l26staLogLog	l26staLogTBL.2	INTEGER	R/W	1 = Start 2 = Stop
l26staLogClear	l26staLogTBL.3	INTEGER	R/WO	1 = Log Clear
l26staLogMode	l26staLogTBL.4	INTEGER	R/W	1 = Over-Write 2 = Stop
l26staDumpTBL	l26statusTBL.4	Aggregate	-	-
l26staDump	l26staDumpTBL.1	INTEGER	R/WO	1 = Dump Display
l26staDumpMode	l26staDumpTBL.2	INTEGER	R/W	1 = Run 2 = Hold

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26staDumpDisplay	l26staDumpTBL.3	INTEGER	R/W	1 = Serial 2 = Component 3 = Binary 4 = Link-A 5 = Link-B 6 = Link-AB 7 = Stream1 8 = Stream2 9 = Stream12 10 = S1 Serial 11 = S1 Component 12 = S1 Binary 13 = S2 Serial 14 = S2 Component 15 = S2 Binary
l26staDumpJump	l26staDumpTBL.4	INTEGER	R/W	1 = EAV 2 = SAV
l26staDumpLineNumber	l26staDumpTBL.5	INTEGER	R/W	1 to 1125
l26staDumpSample	l26staDumpTBL.6	INTEGER	R/W	0 to 2749
l26staExtrefTBL	l26statusTBL.5	Aggregate	-	-
l26staExtref	l26staExtrefTBL.1	INTEGER	R/WO	1 = ExtRef Display
l26staExtrefUserref	l26staExtrefTBL.2	INTEGER	R/W0	1 = UserRef
l26staExtrefDefault	l26staExtrefTBL.3	INTEGER	R/WO	1 = Default
l26staExtrefSelect	l26staExtrefTBL.4	INTEGER	R/W	1 = Ext 2 = Ch-A 3 = Link-A
l26staExtrefRefData	l26staExtrefTBL.5	INTEGER	R/O	1 = UserRef 2 = Default
l26staExtrefStatData	l26staExtrefTBL.6	INTEGER	R/O	1 = Int 2 = Ch-A 3 = Link-A 4 = HD 5 = BB 6 = No Signal
l26staExtrefHTimeData	l26staExtrefTBL.7	DisplayString	R/O	H Phase [us]
l26staExtrefHPixData	l26staExtrefTBL.8	DisplayString	R/O	H Phase [pixel/dot]
l26staExtrefVLinetData	l26staExtrefTBL.9	DisplayString	R/O	V Phase
l26staExtrefTotalData	l26staExtrefTBL.10	DisplayString	R/O	Total Phase
l26staAvPhaseTBL	l26statusTBL.6	Aggregate	-	-
l26staAvPhase	l26staAvPhaseTBL.1	INTEGER	R/WO	1 = AV Phase Display
l26staAvPhaseScale	l26staAvPhaseTBL.2	INTEGER	R/W	1 = 50ms 2 = 100ms 3 = 500ms

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				4 = 1000ms 5 = 2500ms
I26staAvPhaseCh1Data	I26staAvPhaseTBL.3	DisplayString	R/O	Ch1 Data
I26staAvPhaseCh2Data	I26staAvPhaseTBL.4	DisplayString	R/O	Ch2 Data
I26staAvPhaseCh3Data	I26staAvPhaseTBL.5	DisplayString	R/O	Ch3 Data
I26staAvPhaseCh4Data	I26staAvPhaseTBL.6	DisplayString	R/O	Ch4 Data
I26staAvPhaseCh5Data	I26staAvPhaseTBL.7	DisplayString	R/O	Ch5 Data
I26staAvPhaseCh6Data	I26staAvPhaseTBL.8	DisplayString	R/O	Ch6 Data
I26staAvPhaseCh7Data	I26staAvPhaseTBL.9	DisplayString	R/O	Ch7 Data
I26staAvPhaseCh8Data	I26staAvPhaseTBL.10	DisplayString	R/O	Ch8 Data
I26staAvPhaseThumbnailAudio	I26staAvPhaseTBL.11	INTEGER	R/W	1 = Off 2 = On
I26staAvPhaseThumbnailPicture	I26staAvPhaseTBL.12	INTEGER	R/W	1 = Off 2 = On
I26staAvPhaseLine	I26staAvPhaseTBL.14	DisplayString	R/W	0 to 100
I26staAvPhaseLeft	I26staAvPhaseTBL.15	DisplayString	R/W	0 to 99
I26staAvPhaseRight	I26staAvPhaseTBL.16	DisplayString	R/W	0 to 99
I26staAvPhaseVideo	I26staAvPhaseTBL.17	DisplayString	R/W	25 to 100
I26staAvPhaseAudio	I26staAvPhaseTBL.18	DisplayString	R/W	-30 to 0
I26staAvPhaseMesGate	I26staAvPhaseTBL.20	INTEGER	R/W	1 = ON 2 = OFF
I26staAvPhaseMesGateTime	I26staAvPhaseTBL.21	DisplayString	R/W	100 to 1500
I26staAncpacketTBL	I26statusTBL.7	Aggregate	-	-
I26staAncpacket	I26staAncpacketTBL.1	INTEGER	R/WO	1 = ANC Packet Display
I26staAncpacketAudioCtrlData	I26staAncpacketTBL.2	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
I26staAncpacketEdhData	I26staAncpacketTBL.3	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
I26staAncpacketLtcData	I26staAncpacketTBL.4	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
I26staAncpacketVitcData	I26staAncpacketTBL.5	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
I26staAncpacketPayload1Data	I26staAncpacketTBL.6	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
I26staAncpacketPayload2Data	I26staAncpacketTBL.7	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
I26staAncpacketEia708_708Data	I26staAncpacketTBL.8	INTEGER	R/O	1 = Detect 2 = Missing

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				3 = Unmeasurable
l26staAncpacketEia708_608Data	l26staAncpacketTBL.9	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
l26staAncpacketEia608Data	l26staAncpacketTBL.10	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
l26staAncpacketProgramData	l26staAncpacketTBL.11	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
l26staAncpacketDataBroadcastData	l26staAncpacketTBL.12	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
l26staAncpacketVbiData	l26staAncpacketTBL.13	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
l26staAncpacketAfdData	l26staAncpacketTBL.14	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
l26staAncpacketJpnCc1Data	l26staAncpacketTBL.15	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
l26staAncpacketJpnCc2Data	l26staAncpacketTBL.16	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
l26staAncpacketJpnCc3Data	l26staAncpacketTBL.17	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
l26staAncpacketNetQData	l26staAncpacketTBL.18	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
l26staAncpacketTriggerData	l26staAncpacketTBL.19	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
l26staAncpacketUser1Data	l26staAncpacketTBL.20	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
l26staAncpacketUser2Data	l26staAncpacketTBL.21	INTEGER	R/O	1 = Detect 2 = Missing 3 = Unmeasurable
l26staAncPktTBL	l26statusTBL.8	Aggregate	-	-
l26staAncPktPayloadId	l26staAncPktTBL.1	INTEGER	R/WO	1 = ANC Payload ID Display
l26staAncPktPayloadIdStream	l26staAncPktTBL.2	INTEGER	R/W	1 = Stream1 2 = Stream2
l26staAncPktPayloadIdLink	l26staAncPktTBL.3	INTEGER	R/W	1 = Link-A

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				2 = Link-B
l26staAncPktPayloadIdData	l26staAncPktTBL.4	DisplayString	R/O	Payload ID
l26staAncPktAudioCtrl	l26staAncPktTBL.5	INTEGER	R/WO	1 = ANC Audio Ctrl Display
l26staAncPktAudioCtrlDisplay	l26staAncPktTBL.6	INTEGER	R/W	1 = Text 2 = Dump
l26staAncPktAudioCtrlMode	l26staAncPktTBL.7	INTEGER	R/W	1 = Hex 2 = Binary
l26staAncPktAudioCtrlGroup	l26staAncPktTBL.8	INTEGER	R/W	1 to 4
l26staAncPktAudioCtrlStream	l26staAncPktTBL.9	INTEGER	R/W	1 = Stream1 2 = Stream2
l26staAncPktAribNetq	l26staAncPktTBL.10	INTEGER	R/WO	1 = ANC Net-Q Display
l26staAncPktAribNetqBitQ1	l26staAncPktTBL.11	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ2	l26staAncPktTBL.12	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ3	l26staAncPktTBL.13	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ4	l26staAncPktTBL.14	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ5	l26staAncPktTBL.15	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ6	l26staAncPktTBL.16	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ7	l26staAncPktTBL.17	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ8	l26staAncPktTBL.18	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ9	l26staAncPktTBL.19	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ10	l26staAncPktTBL.20	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ11	l26staAncPktTBL.21	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ12	l26staAncPktTBL.22	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ13	l26staAncPktTBL.23	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ14	l26staAncPktTBL.24	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ15	l26staAncPktTBL.25	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ16	l26staAncPktTBL.26	INTEGER	R/W	1 = On

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				2 = Off
l26staAncPktAribNetqBitQ17	l26staAncPktTBL.27	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ18	l26staAncPktTBL.28	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ19	l26staAncPktTBL.29	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ20	l26staAncPktTBL.30	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ21	l26staAncPktTBL.31	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ22	l26staAncPktTBL.32	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ23	l26staAncPktTBL.33	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ24	l26staAncPktTBL.34	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ25	l26staAncPktTBL.35	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ26	l26staAncPktTBL.36	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ27	l26staAncPktTBL.37	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ28	l26staAncPktTBL.38	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ29	l26staAncPktTBL.39	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ30	l26staAncPktTBL.40	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ31	l26staAncPktTBL.41	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitQ32	l26staAncPktTBL.42	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS1	l26staAncPktTBL.43	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS2	l26staAncPktTBL.44	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS3	l26staAncPktTBL.45	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS4	l26staAncPktTBL.46	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS5	l26staAncPktTBL.47	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS6	l26staAncPktTBL.48	INTEGER	R/W	1 = On 2 = Off

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26staAncPktAribNetqBitS7	l26staAncPktTBL.49	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS8	l26staAncPktTBL.50	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS9	l26staAncPktTBL.51	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS10	l26staAncPktTBL.52	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS11	l26staAncPktTBL.53	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS12	l26staAncPktTBL.54	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS13	l26staAncPktTBL.55	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS14	l26staAncPktTBL.56	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS15	l26staAncPktTBL.57	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqBitS16	l26staAncPktTBL.58	INTEGER	R/W	1 = On 2 = Off
l26staAncPktAribNetqStationData	l26staAncPktTBL.59	DisplayString	R/O	Station Code
l26staAncPktAribNetqVCurrData	l26staAncPktTBL.60	DisplayString	R/O	Video Current
l26staAncPktAribNetqVNextData	l26staAncPktTBL.61	DisplayString	R/O	Video Next
l26staAncPktAribNetqACurrData	l26staAncPktTBL.62	DisplayString	R/O	Audio Current
l26staAncPktAribNetqANextData	l26staAncPktTBL.63	DisplayString	R/O	Audio Next
l26staAncPktAribNetqDCurrData	l26staAncPktTBL.64	DisplayString	R/O	Down Mix Current
l26staAncPktAribNetqDNextData	l26staAncPktTBL.65	DisplayString	R/O	Down Mix Next
l26staAncPktSmpteAfd	l26staAncPktTBL.66	INTEGER	R/WO	1 = ANC AFD Display
l26staAncPktSmpteAfdCodeData	l26staAncPktTBL.67	DisplayString	R/O	AFD Code
l26staAncPktSmpteAfdFrameData	l26staAncPktTBL.68	DisplayString	R/O	Coded Frame
l26staAncPktSmpteAfdBarFlgData	l26staAncPktTBL.69	DisplayString	R/O	Bar Data Flags
l26staAncPktSmpteAfdBarVal1Data	l26staAncPktTBL.70	DisplayString	R/O	Bar Data Value1
l26staAncPktSmpteAfdBarVal2Data	l26staAncPktTBL.71	DisplayString	R/O	Bar Data Value2
l26staErrorSdiTBL	l26statusTBL.9	Aggregate	-	-
l26staErrorSdiCounterMode	l26staErrorSdiTBL.1	INTEGER	R/W	1 = Sec. 2 = Field
l26staErrorSdiTrs	l26staErrorSdiTBL.2	INTEGER	R/W	1 = On 2 = Off
l26staErrorSdiHdLine	l26staErrorSdiTBL.3	INTEGER	R/W	1 = On 2 = Off
l26staErrorSdiHdCrc	l26staErrorSdiTBL.4	INTEGER	R/W	1 = On 2 = Off
l26staErrorSdiSdEdh	l26staErrorSdiTBL.5	INTEGER	R/W	1 = On 2 = Off

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26staErrorSdiIllegalCode	l26staErrorSdiTBL.6	INTEGER	R/W	1 = On 2 = Off
l26staErrorAncTBL	l26statusTBL.10	Aggregate	-	-
l26staErrorAncParity	l26staErrorAncTBL.1	INTEGER	R/W	1 = On 2 = Off
l26staErrorAncChecksum	l26staErrorAncTBL.2	INTEGER	R/W	1 = On 2 = Off
l26staErrorAudTBL	l26statusTBL.11	Aggregate	-	-
l26staErrorAudioBch	l26staErrorAudTBL.1	INTEGER	R/W	1 = On 2 = Off
l26staErrorAudioDbn	l26staErrorAudTBL.2	INTEGER	R/W	1 = On 2 = Off
l26staErrorAudioParity	l26staErrorAudTBL.3	INTEGER	R/W	1 = On 2 = Off
l26staErrorAudioInhibit	l26staErrorAudTBL.4	INTEGER	R/W	1 = On 2 = Off
l26staErrorAudioSample	l26staErrorAudTBL.5	INTEGER	R/W	1 = On 2 = Off
l26staErrorGamutTBL	l26statusTBL.12	Aggregate	-	-
l26staErrorGamutLpf	l26staErrorGamutTBL.1	INTEGER	R/W	1 = HD1MHz-SD1MHz 2 = HD2.8MHz-SD1MHz 3 = Off
l26staErrorGamut	l26staErrorGamutTBL.2	INTEGER	R/W	1 = On 2 = Off
l26staErrorGamutUpper	l26staErrorGamutTBL.3	DisplayString	R/W	90.8 to 109.4
l26staErrorGamutLower	l26staErrorGamutTBL.4	DisplayString	R/W	-7.2 to 6.1
l26staErrorGamutArea	l26staErrorGamutTBL.5	DisplayString	R/W	0.0 to 5.0
l26staErrorGamutDuration	l26staErrorGamutTBL.6	INTEGER	R/W	1 to 60
l26staErrorCGamut	l26staErrorGamutTBL.7	INTEGER	R/W	1 = On 2 = Off
l26staErrorCGamutSetup	l26staErrorGamutTBL.8	INTEGER	R/W	1 = 0% 2 = 7.5%
l26staErrorCGamutUpper	l26staErrorGamutTBL.9	DisplayString	R/W	90.0 to 135.0
l26staErrorCGamutLower	l26staErrorGamutTBL.10	DisplayString	R/W	-40.0 to 20.0
l26staErrorCGamutArea	l26staErrorGamutTBL.11	DisplayString	R/W	0.0 to 5.0
l26staErrorCGamutDuration	l26staErrorGamutTBL.12	INTEGER	R/W	1 to 60
l26staErrorFreezeTBL	l26statusTBL.13	Aggregate	-	-
l26staErrorFreeze	l26staErrorFreezeTBL.1	INTEGER	R/W	1 = On 2 = Off
l26staErrorFreezeUpper	l26staErrorFreezeTBL.2	INTEGER	R/W	0 to 100
l26staErrorFreezeLower	l26staErrorFreezeTBL.3	INTEGER	R/W	0 to 100
l26staErrorFreezeLeft	l26staErrorFreezeTBL.4	INTEGER	R/W	0 to 100
l26staErrorFreezeRight	l26staErrorFreezeTBL.5	INTEGER	R/W	0 to 100

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26staErrorFreezeDuration	l26staErrorFreezeTBL.6	INTEGER	R/W	2 to 300
l26staErrorBlackTBL	l26statusTBL.14	Aggregate	-	-
l26staErrorBlack	l26staErrorBlackTBL.1	INTEGER	R/W	1 = On 2 = Off
l26staErrorBlackLevel	l26staErrorBlackTBL.2	INTEGER	R/W	0 to 100
l26staErrorBlackArea	l26staErrorBlackTBL.3	INTEGER	R/W	1 to 100
l26staErrorBlackDuration	l26staErrorBlackTBL.4	INTEGER	R/W	1 to 300
l26staErrorLevelTBL	l26statusTBL.15	Aggregate	-	-
l26staErrorLevel	l26staErrorLevelTBL.1	INTEGER	R/W	1 = On 2 = Off
l26staErrorLevelRumaUpper	l26staErrorLevelTBL.2	INTEGER	R/W	-51 to 766
l26staErrorLevelRumaLower	l26staErrorLevelTBL.3	INTEGER	R/W	-51 to 766
l26staErrorLevelChromaUpper	l26staErrorLevelTBL.4	INTEGER	R/W	-400 to 399
l26staErrorLevelChromaLower	l26staErrorLevelTBL.5	INTEGER	R/W	-400 to 399
l26staErrorCableTBL	l26statusTBL.16	Aggregate	-	-
l26staErrorCable	l26staErrorCableTBL.1	INTEGER	R/W	1 = On 2 = Off
l26staErrorCable3g	l26staErrorCableTBL.2	INTEGER	R/W	1 = LS-5CFB 2 = 1694A
l26staErrorCableHd	l26staErrorCableTBL.3	INTEGER	R/W	1 = LS-5CFB 2 = 1694A
l26staErrorCableSd	l26staErrorCableTBL.4	INTEGER	R/W	1 = L-5C2V 2 = 8281
l26staErrorCableErr3g	l26staErrorCableTBL.5	INTEGER	R/W	10 to 105
l26staErrorCableWar3g	l26staErrorCableTBL.6	INTEGER	R/W	10 to 105
l26staErrorCableErrHd	l26staErrorCableTBL.7	INTEGER	R/W	5 to 130
l26staErrorCableWarHd	l26staErrorCableTBL.8	INTEGER	R/W	5 to 130
l26staErrorCableErrSd	l26staErrorCableTBL.9	INTEGER	R/W	50 to 300
l26staErrorCableWarSd	l26staErrorCableTBL.10	INTEGER	R/W	50 to 300

Table 11-21 l26eyeTBL(7) group

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26eyeMode	l26eyeTBL.1	INTEGER	R/W	1 = Eye 2 = Jitter
l26eyeIntenTBL	l26eyeTBL.2	Aggregate	-	-
l26eyeIntenEye	l26eyeIntenTBL.1	INTEGER	R/W	-128 to 127
l26eyeIntenScale	l26eyeIntenTBL.2	INTEGER	R/W	-8 to 7
l26eyeColorTBL	l26eyeTBL.3	Aggregate	-	-
l26eyeColorEye	l26eyeColorTBL.1	INTEGER	R/W	1 = White 2 = Yellow 3 = Cyan 4 = Green 5 = Magenta 6 = Red 7 = Blue

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26eyeColorScale	l26eyeColorTBL.2	INTEGER	R/W	1 = White 2 = Yellow 3 = Cyan 4 = Green 5 = Magenta 6 = Red 7 = Blue
l26eyeGainTBL	l26eyeTBL.4	Aggregate	-	-
l26eyeGainVar	l26eyeGainTBL.1	INTEGER	R/W	1 = Cal 2 = Var
l26eyeGainVal	l26eyeGainTBL.2	DisplayString	R/W	0.50 to 2.00
l26eyeSweepSweep	l26eyeTBL.5	INTEGER	R/W	1 = 2UI 2 = 4UI 3 = 16UI
l26eyeFilter	l26eyeTBL.6	INTEGER	R/W	1 = 100kHz 2 = 1kHz 3 = 100Hz 4 = 10Hz 5 = Timing 6 = Alignment
l26eyeSubItem	l26eyeTBL.7	INTEGER	R/W	1 = Jitter 2 = Off
l26eyeLinkSelect	l26eyeTBL.8	INTEGER	R/W	1 = Link-A 2 = Link-B
l26eyeJitterTBL	l26eyeTBL.9	Aggregate	-	-
l26eyeJitterIntenTBL	l26eyeJitterTBL.1	Aggregate	-	-
l26eyeJitterIntenEye	l26eyeJitterIntenTBL.1	INTEGER	R/W	-128 to 127
l26eyeJitterIntenScale	l26eyeJitterIntenTBL.2	INTEGER	R/W	-8 to 7
l26eyeJitterColorTBL	l26eyeJitterTBL.2	Aggregate	-	-
l26eyeJitterColorEye	l26eyeJitterColorTBL.1	INTEGER	R/W	1 = White 2 = Yellow 3 = Cyan 4 = Green 5 = Magenta 6 = Red 7 = Blue
l26eyeJitterColorScale	l26eyeJitterColorTBL.2	INTEGER	R/W	1 = White 2 = Yellow 3 = Cyan 4 = Green 5 = Magenta 6 = Red 7 = Blue
l26eyeJitterGain	l26eyeJitterTBL.3	INTEGER	R/W	1 = X1 2 = X2 3 = X8

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26eyeJitterSweep	l26eyeJitterTBL.4	INTEGER	R/W	1 = 1H 2 = 2H 3 = 1V 4 = 2V
l26eyeJitterFilter	l26eyeJitterTBL.5	INTEGER	R/W	1 = 100kHz 2 = 1kHz 3 = 100Hz 4 = 10Hz 5 = Timing 6 = Alignment
l26eyeJitterPeakHold	l26eyeJitterTBL.6	INTEGER	R/W	1 = On 2 = Off
l26eyeJitterPeakHoldClear	l26eyeJitterTBL.7	INTEGER	R/WO	1 = Clear
l26eyeJitterSubItem	l26eyeJitterTBL.8	INTEGER	R/W	1 = Eye 2 = Off
l26eyeErrorTBL	l26eyeTBL.10	Aggregate	-	-
l26eyeError3GTBL	l26eyeErrorTBL.1	Aggregate	-	-
l26eyeError3GAmp	l26eyeError3GTBL.1	INTEGER	R/W	1 = On 2 = Off
l26eyeError3GAmpUpper	l26eyeError3GTBL.2	INTEGER	R/W	80 to 140
l26eyeError3GAmpLower	l26eyeError3GTBL.3	INTEGER	R/W	40 to 100
l26eyeError3GRise	l26eyeError3GTBL.4	INTEGER	R/W	1 = On 2 = Off
l26eyeError3GRiseMax	l26eyeError3GTBL.5	INTEGER	R/W	40 to 140
l26eyeError3GFall	l26eyeError3GTBL.6	INTEGER	R/W	1 = On 2 = Off
l26eyeError3GFallMax	l26eyeError3GTBL.7	INTEGER	R/W	40 to 140
l26eyeError3GDelta	l26eyeError3GTBL.8	INTEGER	R/W	1 = On 2 = Off
l26eyeError3GDeltaMax	l26eyeError3GTBL.9	INTEGER	R/W	40 to 140
l26eyeError3GTimingJit	l26eyeError3GTBL.10	INTEGER	R/W	1 = On 2 = Off
l26eyeError3GTimingJitMax	l26eyeError3GTBL.11	INTEGER	R/W	10 to 200
l26eyeError3GCurrentJit	l26eyeError3GTBL.12	INTEGER	R/W	1 = On 2 = Off
l26eyeError3GCurrentJitMax	l26eyeError3GTBL.13	INTEGER	R/W	10 to 200
l26eyeError3GOverShootRise	l26eyeError3GTBL.14	INTEGER	R/W	1 = On 2 = Off
l26eyeError3GOverShootRiseMax	l26eyeError3GTBL.15	INTEGER	R/W	0 to 200
l26eyeError3GOverShootFall	l26eyeError3GTBL.16	INTEGER	R/W	1 = On 2 = Off
l26eyeError3GOverShootFallMax	l26eyeError3GTBL.17	INTEGER	R/W	0 to 200
l26eyeErrorHdTBL	l26eyeErrorTBL.2	Aggregate	-	-
l26eyeErrorHdAmp	l26eyeErrorHdTBL.1	INTEGER	R/W	1 = On 2 = Off

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26eyeErrorHdAmpUpper	l26eyeErrorHdTBL.2	INTEGER	R/W	80 to 140
l26eyeErrorHdAmpLower	l26eyeErrorHdTBL.3	INTEGER	R/W	40 to 100
l26eyeErrorHdRise	l26eyeErrorHdTBL.4	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorHdRiseMax	l26eyeErrorHdTBL.5	INTEGER	R/W	40 to 140
l26eyeErrorHdFall	l26eyeErrorHdTBL.6	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorHdFallMax	l26eyeErrorHdTBL.7	INTEGER	R/W	40 to 140
l26eyeErrorHdDelta	l26eyeErrorHdTBL.8	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorHdDeltaMax	l26eyeErrorHdTBL.9	INTEGER	R/W	40 to 140
l26eyeErrorHdTimingJit	l26eyeErrorHdTBL.10	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorHdTimingJitMax	l26eyeErrorHdTBL.11	INTEGER	R/W	10 to 200
l26eyeErrorHdCurrentJit	l26eyeErrorHdTBL.12	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorHdCurrentJitMax	l26eyeErrorHdTBL.13	INTEGER	R/W	10 to 200
l26eyeErrorHdOverShootRise	l26eyeErrorHdTBL.14	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorHdOverShootRiseMax	l26eyeErrorHdTBL.15	INTEGER	R/W	0 to 200
l26eyeErrorHdOverShootFall	l26eyeErrorHdTBL.16	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorHdOverShootFallMax	l26eyeErrorHdTBL.17	INTEGER	R/W	0 to 200
l26eyeErrorSdTBL	l26eyeErrorTBL.3	Aggregate	-	-
l26eyeErrorSdAmp	l26eyeErrorSdTBL.1	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorSdAmpUpper	l26eyeErrorSdTBL.2	INTEGER	R/W	80 to 140
l26eyeErrorSdAmpLower	l26eyeErrorSdTBL.3	INTEGER	R/W	40 to 100
l26eyeErrorSdRise	l26eyeErrorSdTBL.4	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorSdRiseMax	l26eyeErrorSdTBL.5	INTEGER	R/W	40 to 140
l26eyeErrorSdFall	l26eyeErrorSdTBL.6	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorSdFallMax	l26eyeErrorSdTBL.7	INTEGER	R/W	40 to 140
l26eyeErrorSdDelta	l26eyeErrorSdTBL.8	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorSdDeltaMax	l26eyeErrorSdTBL.9	INTEGER	R/W	40 to 140
l26eyeErrorSdTimingJit	l26eyeErrorSdTBL.10	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorSdTimingJitMax	l26eyeErrorSdTBL.11	INTEGER	R/W	10 to 200
l26eyeErrorSdCurrentJit	l26eyeErrorSdTBL.12	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorSdCurrentJitMax	l26eyeErrorSdTBL.13	INTEGER	R/W	10 to 200
l26eyeErrorSdOverShootRise	l26eyeErrorSdTBL.14	INTEGER	R/W	1 = On 2 = Off

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26eyeErrorSdOverShootRiseMax	l26eyeErrorSdTBL.15	INTEGER	R/W	0 to 200
l26eyeErrorSdOverShootFall	l26eyeErrorSdTBL.16	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorSdOverShootFallMax	l26eyeErrorSdTBL.17	INTEGER	R/W	0 to 200
l26eyeErrorDcTBL	l26eyeErrorTBL.4	Aggregate	-	-
l26eyeErrorDc	l26eyeErrorDcTBL.1	INTEGER	R/W	1 = On 2 = Off
l26eyeErrorDcUpper	l26eyeErrorDcTBL.2	INTEGER	R/W	0 to 100
l26eyeErrorDcLower	l26eyeErrorDcTBL.3	INTEGER	R/W	0 to 100
l26eyeMonTBL	l26eyeTBL.11	Aggregate	-	-
l26eyeAmpData	l26eyeMonTBL.1	DisplayString	R/O	Amp
l26eyeTrData	l26eyeMonTBL.2	DisplayString	R/O	Tr
l26eyeTfData	l26eyeMonTBL.3	DisplayString	R/O	Tf
l26eyeTJData	l26eyeMonTBL.4	DisplayString	R/O	T.J
l26eyeCJData	l26eyeMonTBL.5	DisplayString	R/O	C.J
l26eyeORData	l26eyeMonTBL.6	DisplayString	R/O	Or
l26eyeOFData	l26eyeMonTBL.7	DisplayString	R/O	Of
l26eyeDCData	l26eyeMonTBL.8	DisplayString	R/O	Dc

Table 11-22 l26audioTBL(8) group

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26audSourceTBL	l26audioTBL.1	Aggregate	-	-
l26audSourceInput	l26audSourceTBL.1	INTEGER	R/W	1 = SDI 2 = Ext Digital 3 = Ext Analog
l26audSourceSdi1stGrp	l26audSourceTBL.2	INTEGER	R/W	1 to 4
l26audSourceSdi2ndGrp	l26audSourceTBL.3	INTEGER	R/W	1 to 4
l26audSourceExtDigiChSel	l26audSourceTBL.4	INTEGER	R/W	1 = Group-A 2 = Group-B
l26audDisplayMode	l26audioTBL.2	INTEGER	R/W	1 = Lissajous 2 = Surround 3 = Status 4 = Loudness 5 = Meter
l26audMeterTBL	l26audioTBL.3	Aggregate	-	-
l26audMeterDRange	l26audMeterTBL.1	INTEGER	R/W	1 = -60dBFS 2 = -90dBFS 3 = MAG
l26audMeterResponse	l26audMeterTBL.2	INTEGER	R/W	1 = True Peak 2 = PPM 3 = VU
l26audMeterResponsePPM	l26audMeterTBL.3	INTEGER	R/W	1 = PPM1 2 = PPM2
l26audMeterResponseVU	l26audMeterTBL.4	INTEGER	R/W	1 = TRUE 2 = PPM1

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				3 = PPM2
l26audMetePeakHold	l26audMeterTBL.5	INTEGER	R/W	1 = 0.5Sec. 2 = 1Sec. 3 = 1.5Sec. 4 = 2Sec. 5 = 2.5Sec. 6 = 3Sec. 7 = 3.5Sec. 8 = 4Sec. 9 = 4.5Sec. 10 = 5Sec. 11 = Hold
l26audMeterOverLevel	l26audMeterTBL.6	DisplayString	R/W	-40.0 to 0.0
l26audMeterWarningLevel	l26audMeterTBL.7	DisplayString	R/W	-40.0 to 0.0
l26audMeterRefLevel	l26audMeterTBL.8	DisplayString	R/W	-40.0 to 0.0
l26audLissajouTBL	l26audioTBL.4	Aggregate	-	-
l26audLissajouIntenTBL	l26audLissajouTBL.1	Aggregate	-	-
l26audLissajouIntenLissajou	l26audLissajouIntenTBL.1	INTEGER	R/W	-8 to 7
l26audLissajouIntenScale	l26audLissajouIntenTBL.2	INTEGER	R/W	-8 to 7
l26audLissajouDisplay	l26audLissajouTBL.2	INTEGER	R/W	1 = Multi 2 = Single
l26audLissajouForm	l26audLissajouTBL.3	INTEGER	R/W	1 = X-Y 2 = Matrix
l26audLissajouAutoGain	l26audLissajouTBL.4	INTEGER	R/W	1 = On 2 = Off
l26audLissajouMapTBL	l26audLissajouTBL.5	Aggregate	-	-
l26audlissajouMapSingleL	l26audLissajouMapTBL.1	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16 17 = Lt
l26audlissajouMapSingleR	l26audLissajouMapTBL.2	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16 17 = Rt
l26audlissajouMapMultiL1	l26audLissajouMapTBL.3	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMultiR1	l26audLissajouMapTBL.4	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMultiL2	l26audLissajouMapTBL.5	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMultiR2	l26audLissajouMapTBL.6	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26audlissajouMapMultiL3	l26audLissajouMapTBL.7	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMultiR3	l26audLissajouMapTBL.8	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMultiL4	l26audLissajouMapTBL.9	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMultiR4	l26audLissajouMapTBL.10	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapSingle16L	l26audLissajouMapTBL.11	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16 17 = Lt
l26audlissajouMapSingle16R	l26audLissajouMapTBL.12	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16 17 = Rt
l26audlissajouMapSingleMix16L	l26audLissajouMapTBL.13	INTEGER	R/W	1 = Ch1 (omitted) 8 = Ch8 17 = Lt 18 = D1 (omitted) 25 = D8
l26audlissajouMapSingleMix16R	l26audLissajouMapTBL.14	INTEGER	R/W	1 = Ch1 (omitted) 8 = Ch8 17 = Rt 18 = D1 (omitted) 25 = D8
l26audlissajouMapMulti16L1	l26audLissajouMapTBL.15	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16R1	l26audLissajouMapTBL.16	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16L2	l26audLissajouMapTBL.17	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16R2	l26audLissajouMapTBL.18	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26audlissajouMapMulti16L3	l26audLissajouMapTBL.19	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16R3	l26audLissajouMapTBL.20	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16L4	l26audLissajouMapTBL26	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16R4	l26audLissajouMapTBL.22	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16L5	l26audLissajouMapTBL.23	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16R5	l26audLissajouMapTBL.24	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16L6	l26audLissajouMapTBL.25	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16R6	l26audLissajouMapTBL.26	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16L7	l26audLissajouMapTBL.27	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16R7	l26audLissajouMapTBL.28	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16L8	l26audLissajouMapTBL.29	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMulti16R8	l26audLissajouMapTBL.30	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audlissajouMapMultiD_MixL5	l26audLissajouMapTBL.31	INTEGER	R/W	1 = D1 (omitted) 8 = D8
l26audlissajouMapMultiD_MixR5	l26audLissajouMapTBL.32	INTEGER	R/W	1 = D1 (omitted) 8 = D8
l26audlissajouMapMultiD_MixL6	l26audLissajouMapTBL.33	INTEGER	R/W	1 = D1 (omitted) 8 = D8
l26audlissajouMapMultiD_MixR6	l26audLissajouMapTBL.34	INTEGER	R/W	1 = D1

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				(omitted) 8 = D8
l26audlissajouMapMultiD_MixL7	l26audLissajouMapTBL.35	INTEGER	R/W	1 = D1 (omitted) 8 = D8
l26audlissajouMapMultiD_MixR7	l26audLissajouMapTBL.36	INTEGER	R/W	1 = D1 (omitted) 8 = D8
l26audlissajouMapMultiD_MixL8	l26audLissajouMapTBL.37	INTEGER	R/W	1 = D1 (omitted) 8 = D8
l26audlissajouMapMultiD_MixR8	l26audLissajouMapTBL.38	INTEGER	R/W	1 = D1 (omitted) 8 = D8
l26audSurroundTBL	l26audioTBL.5	Aggregate	-	-
l26audSurroundIntenTBL	l26audSurroundTBL.1	Aggregate	-	-
l26audSurroundIntenSurround	l26audSurroundIntenTBL.1	INTEGER	R/W	-8 to 7
l26audSurroundIntenScale	l26audSurroundIntenTBL.2	INTEGER	R/W	-8 to 7
l26audSurround5_1	l26audSurroundTBL.2	INTEGER	R/W	1 = Normal 2 = Phantom
l26audSurroundAutoGain	l26audSurroundTBL.3	INTEGER	R/W	1 = On 2 = Off
l26audSurroundMapTBL	l26audSurroundTBL.4	Aggregate	-	-
l26audSurroundMapL	l26audSurroundMapTBL.1	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audSurroundMapR	l26audSurroundMapTBL.2	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audSurroundMapC	l26audSurroundMapTBL.3	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audSurroundMapLfe	l26audSurroundMapTBL.4	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audSurroundMapLs	l26audSurroundMapTBL.5	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audSurroundMapRs	l26audSurroundMapTBL.6	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audSurroundMapLl	l26audSurroundMapTBL.7	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audSurroundMapRr	l26audSurroundMapTBL.8	INTEGER	R/W	1 = Ch1 (omitted)

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				16 = Ch16
I26audStatusTBL	I26audioTBL.6	Aggregate	-	-
I26audStatusLog	I26audStatusTBL.1	INTEGER	R/WO	1 = Log Display
I26audStatusLogLog	I26audStatusTBL.2	INTEGER	R/W	1 = Start 2 = Stop
I26audStatusLogClear	I26audStatusTBL.3	INTEGER	R/WO	1 = Clear
I26audStatusLogLogMode	I26audStatusTBL.4	INTEGER	R/W	1 = Over Write 2 = Stop
I26audStatusDisplayChStatus	I26audStatusTBL.5	INTEGER	R/WO	1 = Ch Status Display
I26audStatusChStatus	I26audStatusTBL.6	INTEGER	R/W	1 = Ch1 / A1 2 = Ch2 / A2 3 = Ch3 / A3 4 = Ch4 / A4 5 = Ch5 / A5 6 = Ch6 / A6 7 = Ch7 / A7 8 = Ch8 / A8 9 = Ch9 / A9 10 = Ch10 / A10 11 = Ch11 / A11 12 = Ch12 / A12 13 = Ch13 / A13 14 = Ch14 / A14 15 = Ch15 / A15 16 = Ch16 / A16 17 = B1 18 = B2 19 = B3 20 = B4 21 = B5 22 = B6 23 = B7 24 = B8 25 = B9 26 = B10 27 = B11 28 = B12 29 = B13 30 = B14 31 = B15 32 = B16
I26audStatusChStatusAlign	I26audStatusTBL.7	INTEGER	R/W	1 = LSB 1st 2 = MSB 1st
I26audStatusDisplayUserBit	I26audStatusTBL.8	INTEGER	R/WO	1 = User Bit Display

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26audStatusUserBit	l26audStatusTBL.9	INTEGER	R/W	1 = Ch1 / A1 2 = Ch2 / A2 3 = Ch3 / A3 4 = Ch4 / A4 5 = Ch5 / A5 6 = Ch6 / A6 7 = Ch7 / A7 8 = Ch8 / A8 9 = Ch9 / A9 10 = Ch10 / A10 11 = Ch11 / A11 12 = Ch12 / A12 13 = Ch13 / A13 14 = Ch14 / A14 15 = Ch15 / A15 16 = Ch16 / A16 17 = B1 18 = B2 19 = B3 20 = B4 21 = B5 22 = B6 23 = B7 24 = B8 25 = B9 26 = B10 27 = B11 28 = B12 29 = B13 30 = B14 31 = B15 32 = B16
l26audStatusUserBitAlign	l26audStatusTBL.10	INTEGER	R/W	1 = LSB 1st 2 = MSB 1st
l26audStatusErrorLevelOver	l26audStatusTBL.11	INTEGER	R/W	1 = On 2 = Off
l26audStatusErrorClip	l26audStatusTBL.12	INTEGER	R/W	1 = On 2 = Off
l26audStatusErrorClipDuration	l26audStatusTBL.13	INTEGER	R/W	1 to 100
l26audStatusErrorMute	l26audStatusTBL.14	INTEGER	R/W	1 = On 2 = Off
l26audStatusErrorMuteDuration	l26audStatusTBL.15	INTEGER	R/W	1 to 5000
l26audStatusErrorParity	l26audStatusTBL.16	INTEGER	R/W	1 = On 2 = Off
l26audStatusErrorValidity	l26audStatusTBL.17	INTEGER	R/W	1 = On 2 = Off

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26audStatusErrorCrc	l26audStatusTBL.18	INTEGER	R/W	1 = On 2 = Off
l26audStatusErrorCode	l26audStatusTBL.19	INTEGER	R/W	1 = On 2 = Off
l26audStatusErrorReset	l26audStatusTBL.20	INTEGER	R/WO	1 = Error Reset
l26audStatusLevelCh1Data	l26audStatusTBL.21	DisplayString	R/O	Ch1 Level
l26audStatusLevelCh2Data	l26audStatusTBL.22	DisplayString	R/O	Ch2 Level
l26audStatusLevelCh3Data	l26audStatusTBL.23	DisplayString	R/O	Ch3 Level
l26audStatusLevelCh4Data	l26audStatusTBL.24	DisplayString	R/O	Ch4 Level
l26audStatusLevelCh5Data	l26audStatusTBL.25	DisplayString	R/O	Ch5 Level
l26audStatusLevelCh6Data	l26audStatusTBL.26	DisplayString	R/O	Ch6 Level
l26audStatusLevelCh7Data	l26audStatusTBL.27	DisplayString	R/O	Ch7 Level
l26audStatusLevelCh8Data	l26audStatusTBL.28	DisplayString	R/O	Ch8 Level
l26audStatusLevelCh9Data	l26audStatusTBL.29	DisplayString	R/O	Ch9 Level
l26audStatusLevelCh10Data	l26audStatusTBL.30	DisplayString	R/O	Ch10 Level
l26audStatusLevelCh11Data	l26audStatusTBL.31	DisplayString	R/O	Ch11 Level
l26audStatusLevelCh12Data	l26audStatusTBL.32	DisplayString	R/O	Ch12 Level
l26audStatusLevelCh13Data	l26audStatusTBL.33	DisplayString	R/O	Ch13 Level
l26audStatusLevelCh14Data	l26audStatusTBL.34	DisplayString	R/O	Ch14 Level
l26audStatusLevelCh15Data	l26audStatusTBL.35	DisplayString	R/O	Ch15 Level
l26audStatusLevelCh16Data	l26audStatusTBL.36	DisplayString	R/O	Ch16 Level
l26audStatusDolbyLocationHData	l26audStatusTBL.37	DisplayString	R/O	EMB Frame Location H
l26audStatusDolbyLocationVData	l26audStatusTBL.38	DisplayString	R/O	EMB Frame Location V
l26audStatusDolbyLocationModeData	l26audStatusTBL.39	DisplayString	R/O	EMB Mode
l26audStatusDolbyLocationEData	l26audStatusTBL.40	DisplayString	R/O	AES Frame Location V
l26audLoudnessTBL	l26audioTBL.7	Aggregate	-	-
l26audLoudPeriod	l26audLoudnessTBL.1	INTEGER	R/W	1 = 2Min. 2 = 10Min. 3 = 30Min. 4 = 1Hour 5 = 2Hour 6 = 6Hour 7 = 12Hour 8 = 24Hour 9 = 32Hour
l26audLoudChartClear	l26audLoudnessTBL.2	INTEGER	R/WO	1 = Clear
l26audLoudMeasure	l26audLoudnessTBL.3	INTEGER	R/W	1 = Start 2 = Stop
l26audLoudMag	l26audLoudnessTBL.4	INTEGER	R/W	1 = Off 2 = On
l26audLoudIntegMode	l26audLoudnessTBL.5	INTEGER	R/W	1 = BS1770-2 2 = ARIB

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				3 = EBU 4 = ATSC
l26audLoudIntegLevel	l26audLoudnessTBL.6	DisplayString	R/O	Target Level
l26audLoudIntegBlkSize	l26audLoudnessTBL.7	DisplayString	R/O	Block Size
l26audLoudIntegAbsGate	l26audLoudnessTBL.8	DisplayString	R/O	Absolute Gating
l26audLoudIntegOvlpSize	l26audLoudnessTBL.9	DisplayString	R/O	Overlap Size
l26audLoudIntegRelGate	l26audLoudnessTBL.10	DisplayString	R/O	Relative Gating
l26audLoudIntegLfeGain	l26audLoudnessTBL.11	INTEGER	R/W	1 = On 2 = Off
l26audLoudIntegLfeGainValue	l26audLoudnessTBL.12	INTEGER	R/W	0 to 10
l26audLoudShortAvrgTime	l26audLoudnessTBL.13	INTEGER	R/W	200 to 10000
l26audLoudMomentAvrgTime	l26audLoudnessTBL.14	INTEGER	R/W	200 to 10000
l26audLoudResponse	l26audLoudnessTBL.15	INTEGER	R/W	1 = ShortTerm 2 = Momentary
l26audLoudAutoTrigger	l26audLoudnessTBL.16	INTEGER	R/W	1 = Off 2 = Remote 3 = TimeCode
l26audLoudAutoStartH	l26audLoudnessTBL.17	INTEGER	R/W	0 to 23
l26audLoudAutoStartM	l26audLoudnessTBL.18	INTEGER	R/W	0 to 59
l26audLoudAutoStartS	l26audLoudnessTBL.19	INTEGER	R/W	0 to 59
l26audLoudAutoEndH	l26audLoudnessTBL.20	INTEGER	R/W	0 to 23
l26audLoudAutoEndM	l26audLoudnessTBL.21	INTEGER	R/W	0 to 59
l26audLoudAutoEndS	l26audLoudnessTBL.22	INTEGER	R/W	0 to 59
l26audLoudMapMode	l26audLoudnessTBL.23	INTEGER	R/W	1 = Mono 2 = Stereo 3 = 5.1 4 = Custom
l26audLoudMapMonoLR	l26audLoudnessTBL.24	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audLoudMapStereoL	l26audLoudnessTBL.25	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audLoudMapStereoR	l26audLoudnessTBL.26	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audLoudMap51L	l26audLoudnessTBL.27	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audLoudMap51R	l26audLoudnessTBL.28	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audLoudMap51C	l26audLoudnessTBL.29	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26audLoudMap51LFE	l26audLoudnessTBL.30	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audLoudMap51LS	l26audLoudnessTBL.31	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audLoudMap51RS	l26audLoudnessTBL.32	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audLoudMapCustomL	l26audLoudnessTBL.33	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16 17 = NC
l26audLoudMapCustomR	l26audLoudnessTBL.34	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16 17 = NC
l26audLoudMapCustomC	l26audLoudnessTBL.35	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16 17 = NC
l26audLoudMapCustomLFE	l26audLoudnessTBL.36	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16 17 = NC
l26audLoudMapCustomLS	l26audLoudnessTBL.37	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16 17 = NC
l26audLoudMapCustomRs	l26audLoudnessTBL.38	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16 17 = NC
l26audLoudShorttermDataMain	l26audLoudnessTBL.39	DisplayString	R/O	Shortterm Main
l26audLoudIntegratedDataMain	l26audLoudnessTBL.40	DisplayString	R/O	Integrated Main
l26audLoudMomentaryDataMain	l26audLoudnessTBL.41	DisplayString	R/O	Momentary Main
l26audLoudShorttermDataSub	l26audLoudnessTBL.42	DisplayString	R/O	Shortterm Sub
l26audLoudIntegratedDataSub	l26audLoudnessTBL.43	DisplayString	R/O	Integrated Sub
l26audLoudMomentaryDataSub	l26audLoudnessTBL.44	DisplayString	R/O	Momentary Sub
l26audLoudMapSubMode	l26audLoudnessTBL.45	INTEGER	R/W	1 = Off 2 = Mono 3 = Stereo
l26audLoudMapSUbMonoLR	l26audLoudnessTBL.46	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26audLoudMapSubStereoL	l26audLoudnessTBL.47	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audLoudMapSubStereoR	l26audLoudnessTBL.48	INTEGER	R/W	1 = Ch1 (omitted) 16 = Ch16
l26audLoudPeakholdDataL	l26audLoudnessTBL.49	DisplayString	R/O	Ch L Peakhold
l26audLoudPeakholdDataR	l26audLoudnessTBL.50	DisplayString	R/O	Ch R Peakhold
l26audLoudPeakholdDataC	l26audLoudnessTBL.51	DisplayString	R/O	Ch C Peakhold
l26audLoudPeakholdDataLFE	l26audLoudnessTBL.52	DisplayString	R/O	Ch LFE Peakhold
l26audLoudPeakholdDataLS	l26audLoudnessTBL.53	DisplayString	R/O	Ch LS Peakhold
l26audLoudPeakholdDataRS	l26audLoudnessTBL.54	DisplayString	R/O	Ch RS Peakhold
l26audLoudPeakholdDataSL	l26audLoudnessTBL.55	DisplayString	R/O	Ch SUB-L Peakhold
l26audLoudPeakholdDataSR	l26audLoudnessTBL.56	DisplayString	R/O	Ch SUB-R Peakhold
l26audLoudChartSetting	l26audLoudnessTBL.57	INTEGER	R/W	1 = integrated 2 = shortterm 3 = momentary
l26audLoudOverMark	l26audLoudnessTBL.58	INTEGER	R/W	1 = on 2 = off
l26audLoudRelativeGating	l26audLoudnessTBL.59	INTEGER	R/W	1 = on 2 = off
l26audDolbyTBL	l26audioTBL.8	Aggregate	-	-
l26audDolby	l26audDolbyTBL.1	INTEGER	R/W	1 = Off 2 = Dolby-E 3 = Dolby-D
l26audDolbyGroup	l26audDolbyTBL.2	INTEGER	R/W	1 = Ch1-2 2 = Ch3-4 3 = Ch5-6 4 = Ch7-8 5 = Ch9-10 6 = Ch11-12 7 = Ch13-14 8 = Ch15-16
l26audDolbyE_Dialnorm	l26audDolbyTBL.3	INTEGER	R/W	1 = On 2 = Off
l26audDolbyE_Pulldown	l26audDolbyTBL.4	INTEGER	R/W	1 = On 2 = Off
l26audDolbyE_MetaPRM	l26audDolbyTBL.5	INTEGER	R/W	1 = PRM1 2 = PRM2 3 = PRM3 4 = PRM4 5 = PRM5

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				6 = PRM6 7 = PRM7 8 = PRM8
l26audDolbyEBI_MetaPRM	l26audDolbyTBL.6	INTEGER	R/W	1 = PRM1 2 = PRM2 3 = PRM3 4 = PRM4 5 = PRM5 6 = PRM6 7 = PRM7 8 = PRM8
l26audDolbyD_Listening	l26audDolbyTBL.7	INTEGER	R/W	1 = Full 2 = EX 3 = 3Stereo 4 = Phantom 5 = Stereo 6 = Mono
l26audDolbyD_Prologic	l26audDolbyTBL.8	INTEGER	R/W	1 = On 2 = Off
l26audDolbyD_DRC	l26audDolbyTBL.9	INTEGER	R/W	1 = Bypass 2 = Line 3 = Rf
l26audPhonesTBL	l26audioTBL.9	Aggregate	-	-
l26audioPhonesVolume	l26audPhonesTBL.1	INTEGER	R/W	0 to 63
l26audPhonesL	l26audPhonesTBL.2	INTEGER	R/W	1 = Ch1 / A1 2 = Ch2 / A2 3 = Ch3 / A3 4 = Ch4 / A4 5 = Ch5 / A5 6 = Ch6 / A6 7 = Ch7 / A7 8 = Ch8 / A8 9 = Ch9 / A9 / DAUX 10 = Ch10 / A10 11 = Ch11 / A11 12 = Ch12 / A12 13 = Ch13 / A13 14 = Ch14 / A14 15 = Ch15 / A15 16 = Ch16 / A16 17 = Lt / B1 18 = B2 19 = B3 20 = B4 21 = B5

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				22 = B6 23 = B7 24 = B8 25 = B9 26 = B10 27 = B11 28 = B12 29 = B13 30 = B14 31 = B15 32 = B16
l26audPhonesR	l26audPhonesTBL.3	INTEGER	R/W	1 = Ch1 / A1 2 = Ch2 / A2 3 = Ch3 / A3 4 = Ch4 / A4 5 = Ch5 / A5 6 = Ch6 / A6 7 = Ch7 / A7 8 = Ch8 / A8 9 = Ch9 / A9 / DAUX 10 = Ch10 / A10 11 = Ch11 / A11 12 = Ch12 / A12 13 = Ch13 / A13 14 = Ch14 / A14 15 = Ch15 / A15 16 = Ch16 / A16 17 = Lt / B1 18 = B2 19 = B3 20 = B4 21 = B5 22 = B6 23 = B7 24 = B8 25 = B9 26 = B10 27 = B11 28 = B12 29 = B13 30 = B14 31 = B15 32 = B16
l26audPhonesDolbyDauxCh	l26audPhonesTBL.4	INTEGER	R/W	1 = LtRt 2 = LoRo

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
				3 = Mono 4 = Mute
l26audPhonesDolbyDauxDRC	l26audPhonesTBL.5	INTEGER	R/W	1 = Line 2 = Rf
l26audSelectTBL	l26audioTBL.10	Aggregate	-	-
l26audNumber	l26audSelectTBL.1	INTEGER	R/W	1 = number8ch 2 = number16ch
l26audDolbyMix	l26audSelectTBL.2	INTEGER	R/W	1 = Off 2 = On

Table 11-23 l26trapTBL(9) group

MIB	OID	SYNTAX	ACCESS	VALUE/RANGE
l26trapStrTBL	l26trapTBL.1	Aggregate	-	- (Variable Binding List)
l26trapIpTBL	l26trapTBL.2	Aggregate	-	-
l26trapIp1TBL	l26trapipTBL.1	Aggregate	-	-
l26trapManagerIp1	l26trapIp1TBL.1	IpAddress	R/W	Trap transmission destination Manager IP address 1
l26trapManagerIp1Act	l26trapIp1TBL.2	INTEGER	R/W	1 = Enable 2 = Disable
l26trapIp2TBL	l26trapipTBL.2	Aggregate	-	-
l26trapManagerIp2	l26trapIp2TBL.1	IpAddress	R/W	Trap transmission destination Manager IP address 2
l26trapManagerIp2Act	l26trapIp2TBL.2	INTEGER	R/W	1 = Enable 2 = Disable
l26trapIp3TBL	l26trapipTBL.3	Aggregate	-	-
l26trapManagerIp3	l26trapIp3TBL.1	IpAddress	R/W	Trap transmission destination Manager IP address 3
l26trapManagerIp3Act	l26trapIp3TBL.2	INTEGER	R/W	1 = Enable 2 = Disable
l26trapIp4TBL	l26trapipTBL.4	Aggregate	-	-
l26trapManagerIp4	l26trapIp4TBL.1	IpAddress	R/W	Trap transmission destination Manager IP address 4
l26trapManagerIp4Act	l26trapIp4TBL.2	INTEGER	R/W	1 = Enable 2 = Disable

11.3.5 Extended TRAP (Variable Binding List)

- **index 1**

  OID: leader(20111).lv7770(26).lv7770ST1(1).trapTBL(9).trapStrTBL(1).1.0
  Syntax: Counter
  Range: 1 to 4294967295 (overflow occurs if this range is exceeded)
  Description: The total number of enterprise traps sent after starting up

- **index 2**

  OID: leader(20111).lv7770(26).lv7770ST1(1).trapTBL(9).trapStrTBL(1).2.0
  Syntax: DisplayString
  Range: Up to 40 characters
  Description: Date and time of error occurrence and line information
  YYYY/MM/DD hh:mm:ss input channel (A/B/-)
  Example: 2007/07/02 11:30:11 A

- **index 3**

  OID: leader(20111).lv7770(26).lv7770ST1(1).trapTBL(9).trapStrTBL(1).3.0
  Syntax: DisplayString
  Range: Up to 40 characters
  Description: Format information
  Example: 1080sF/30

- **index 4**

  OID: leader(20111).lv7770(26).lv7770ST1(1).trapTBL(9).trapStrTBL(1).4.0
  Syntax: DisplayString
  Range: Up to 40 characters
  Description: Error information (see the table below)
  Example: TRS_P_ERR

Table 11-24 Error information

Specific Trap Type	Indication	Description
1	FAN_STOP	Fan stop detection
3	None (displayed in format information)	No signal
6	LINE_ERR	Line number error detection
7	CRC_ERR	CRC error detection
9	CHK_ERR	Checksum error detection
10	A_BCH_ERR	(EMB AUDIO) BCH error detection
11	EDH_ERR	EDH error detection
12	ILLEGAL_ERR	Illegal command error detection
13	PRTY_ERR	Parity error detection
15	TRS_P_ERR	TRS Pos error detection
16	TRS_C_ERR	TRS Code error detection
17	FRZ_ERR	Freeze error detection
18	BLK_ERR	Black error detection
21	SDI_DELAY_ERR	SDI delay error detection
23	GMUT_ERR	Gamut error detection
24	CGMUT_ERR	Composite gamut error detection

Specific Trap Type	Indication	Description
25	LVL_Y_ERR	Luminance level error detection
26	LVL_C_ERR	Chroma level error detection
27	None (displayed in format information)	Unsupported input signal format or an input signal format that is different from the specified format
37	None (displayed in format information)	No error (at error recovery, at startup)
40	A_PRTY_ERR	(EMB AUDIO) PARITY error detection
41	A_DBN_ERR	(EMB AUDIO) DBN error detection
42	A_INH_ERR	(EMB AUDIO) INH error detection
43	A_SMP_ERR	(EMB AUDIO) SAMPLE error detection
44	CABLE_ERR / CABLE_WAR	Cable error or cable warning detection
66	EYE_SD_AMP_ERR	(EYE) SD amplitude error detection
67	EYE_SD_TR_ERR	(EYE) SD Rise Time error detection
68	EYE_SD_TF_ERR	(EYE) SD Fall Time error detection
69	EYE_SD_TR_TF_ERR	(EYE) SD Delta Time error detection
70	EYE_SD_T_JIT_ERR	(EYE) SD Timing jitter error detection
71	EYE_SD_A_JIT_ERR	(EYE) SD Current jitter error detection
81	EYE_SD_OR_ERR	(EYE) SD Overshoot Rising error detection
82	EYE_SD_OF_ERR	(EYE) SD Overshoot Falling error detection
60	EYE_HD_AMP_ERR	(EYE) HD amplitude error detection
61	EYE_HD_TR_ERR	(EYE) HD Rise Time error detection
62	EYE_HD_TF_ERR	(EYE) HD Fall Time error detection
63	EYE_HD_TR_TF_ERR	(EYE) HD Delta Time error detection
64	EYE_HD_T_JIT_ERR	(EYE) HD Timing jitter error detection
65	EYE_HD_A_JIT_ERR	(EYE) HD Current jitter error detection
83	EYE_HD_OR_ERR	(EYE) HD Overshoot Rising error detection
84	EYE_HD_OF_ERR	(EYE) HD Overshoot Falling error detection
85	EYE_3G_AMP_ERR	(EYE) 3G amplitude error detection
86	EYE_3G_TR_ERR	(EYE) 3G Rise Time error detection
87	EYE_3G_TF_ERR	(EYE) 3G Fall Time error detection
88	EYE_3G_TR_TF_ERR	(EYE) 3G Delta Time error detection
89	EYE_3G_T_JIT_ERR	(EYE) 3G Timing jitter error detection
90	EYE_3G_A_JIT_ERR	(EYE) 3G Current jitter error detection
91	EYE_3G_OR_ERR	(EYE) 3G Overshoot Rising error detection
92	EYE_3G_OF_ERR	(EYE) 3G Overshoot Falling error detection
93	EYE_DCOFSET_ERR	(EYE) DC offset error detection
100	AUD_OVER_ERR	(AUDIO) LEVEL error detection
101	AUD_CLIP_ERR	(AUDIO) CLIP error detection
102	AUD_MUTE_ERR	(AUDIO) MUTE error detection
103	AUD_PAR_ERR	(AUDIO) PARITY error detection
104	AUD_VAL_ERR	(AUDIO) VALIDITY error detection
105	AUD_CRC_ERR	(AUDIO) CRC error detection
106	AUD_CODE_ERR	(AUDIO) CODE VIOLATION error detection

11.4 HTTP Server Feature

You can use this feature to control the LV 7770 from a web browser on a PC in the same manner as you would control the LV 7770 from the panel.

11.4.1 Operating Environment

The following web browsers have been confirmed to work.

- Internet Explorer Ver.8.0
- Mozilla Firefox Ver.7.0.1

11.4.2 Precautions

- After you press a key in the web browser interface, wait for the screen to update before you perform the next operation. The screen cannot redraw fast enough to keep up with consecutive key presses. In this situation, a completely gray screen may be displayed temporarily. (After a few seconds the screen will return to normal.)
- When you are using the HTTP server feature, perform as few panel operations on the LV 7770 as possible. The LV 7770's internal processing load increases when it is redrawing the web browser screen, so there is a lag of 1 to 2 seconds from the time that you perform panel operations on the LV 7770 to the time that the operations are actually carried out.
- The HTTP server feature only supports a single connection to a PC at any one time. Multiple simultaneous connections are not supported.

11.4.3 Procedure

1. Configure the Ethernet settings on the LV 7770's ETHERNET SETUP tab.

Set the IP Address, and set HTTP Server Select to ON.

See section 7.2.2, “Configuring Ethernet Settings.”

SYS → F•2 SYSTEM SETUP → F•3 NEXT TAB →

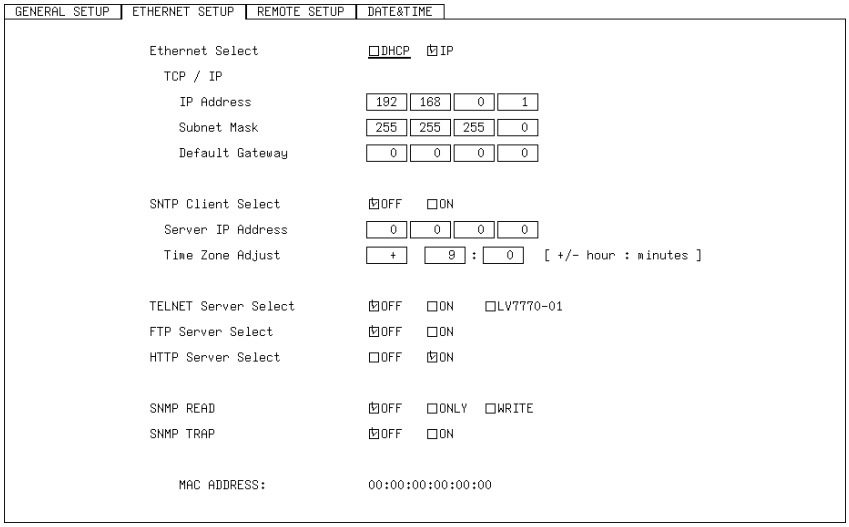


Figure 11-4 ETHERNET SETUP tab

2. **Press F•1 COMPLETE.**

   The message “Saving data - Please Wait” is displayed.

3. **If you changed the IP address, after the message disappears, restart the LV 7770.**

   The IP address value is now valid.

4. **Connect the LV 7770's Ethernet port to the network.**

   Use a UTP cable (category 5).

5. **Start the web browser on your PC.**

   The HTTP server feature uses JavaScript.
   Enable JavaScript in your web browser.

6. **In the address box, enter “http://” and the IP address that you set in step 1.**

Figure 11-5 IP address input

7. **When the Display Size Select screen appears, select Half or Full.**

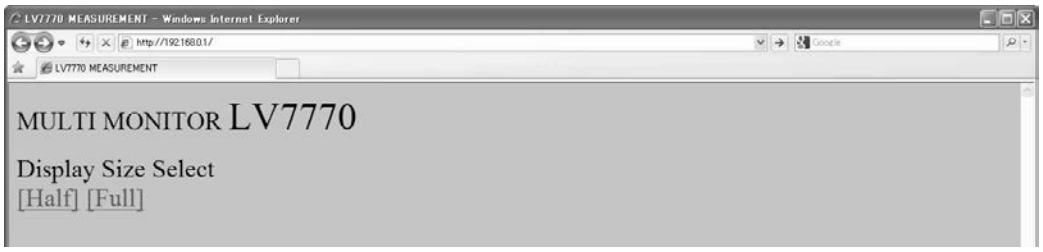


Figure 11-6 Display size selection screen

The operations differ as shown below according to the display size. Select the display size that meets your needs.

Table 11-25 Selecting the display size

	Half	Full
Measurement display area [pixels] (When the aspect ratio is 4:3)	512 x 384	1024 x 768
Operation response time [sec]	Approx. 2 to 5	Approx. 4 to 10
Automatic display update interval [sec]	5	10
Explanation	Because the output display is half that of the LV 7770, some text is difficult to read, but the operation response is fast.	The output display is the same size as that of the LV 7770, but the operation response is slow.

8. After the main screen is displayed, you can click the keys in the web browser to control the LV 7770.

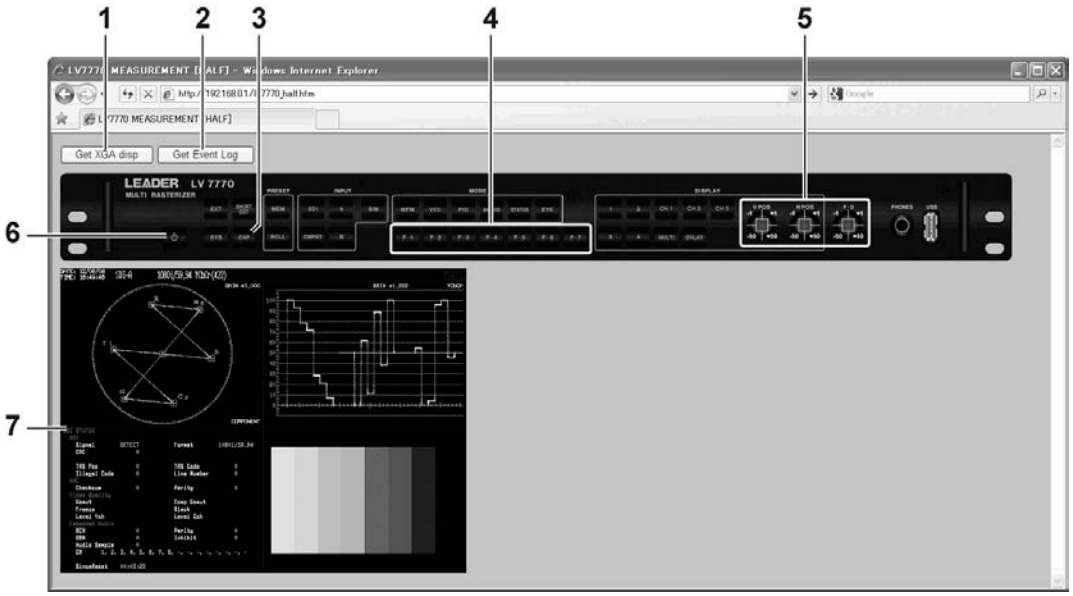


Figure 11-7 Main display

Table 11-26 Main display explanation

Number	Name	Explanation
1	Get XGA disp	Click this to capture the currently displayed screen and display it in a different window. You can use the window's menu to save the screen as a .bmp file.
2	Get Event Log	Click this to display the event log in a different window. You can use the window's menu to save the event log as a .txt file. First, you have to enable the event log feature.
3	CAP	Pressing the CAP key does not capture the screen correctly. Use the “Get XGA disp” button.
4	Function keys	When you use the function keys to select settings, pop-ups are displayed in the web browser, so select the option within 2 seconds of the pop-up being displayed. The timing at which the function menus disappear is different between the LV 7770 and the browser, so when you control a function menu in the browser, the corresponding response may not be what you would expect. In this situation, set MENU Auto Off to a long time in the system menu. For information on the MENU Auto Off setting, see section 7.2.1, “General Settings.”
5	V POS H POS F･D	-50, -1, +1, and +50 are assigned to the four areas. Click the square in the center of each of these controls to perform the same operation as pressing the corresponding control on the LV 7770. On tab menus and some screens, -50 operates as -5 and +50 operates as +5. Also, in places where the setting resolution is a value other than 1, the value that is set is “resolution × the setting specified by the knob.”

Number	Name	Explanation
6	Power switch	Pressing the power switch has no effect.
7	Measurement screen	Click this to update the screen. (The screen updates automatically every 5 seconds for the “Half” screen and every 10 seconds for the “Full” screen even if you do not click the screen.)

11.5 SNTP Client Function

The LV 7770 can display time that is synchronized to an NTP server on the network.

11.5.1 Procedure

1. Configure the Ethernet settings on the LV 7770's ETHERNET SETUP tab.

Set SNTP Client Select to ON, and set the IP address, server IP address, and time zone adjustment. For details on time zone adjustment, see the next section.

Reference 7.2.2, "Configuring Ethernet Settings"

SYS → F•2 SYSTEM SETUP → F•3 NEXT TAB →

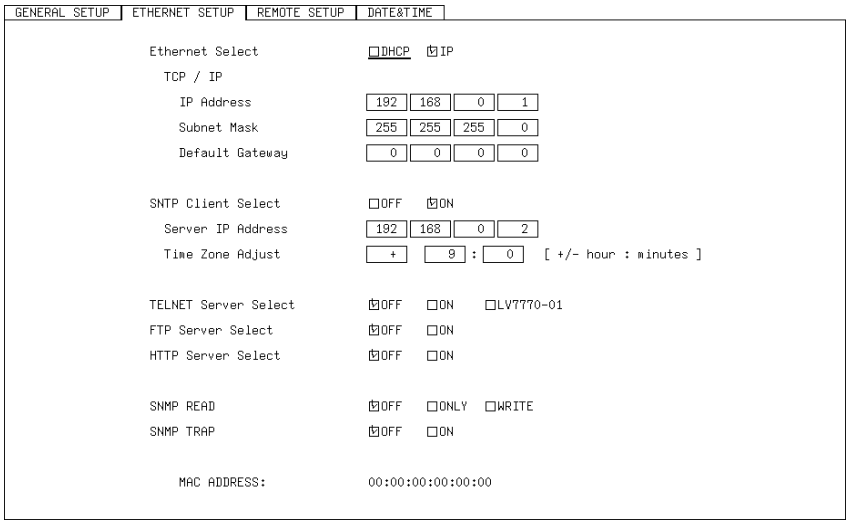


Figure 11-8 ETHERNET SETUP tab

2. Press F•1 COMPLETE.

The message "Saving data - Please Wait" is displayed.

3. If you changed the IP address, after the message disappears, restart the LV 7770.

The new IP address will take effect.

4. Connect the LV 7770's Ethernet port to the network.

Use a UTP cable (category 5).
The LV 7770 connects to the NTP server at the following times.
• When you press F•1 COMPLETE in SYSTEM SETUP
• Once every approximately 10 minutes

When the LV 7770 connects normally to an NTP server, the date and time are displayed at the upper left of the screen.
Otherwise, "SNTP:ERR" appears next to DATE, and the time that was set up to that point is displayed next to TIME.

Normal connection	Connection error
DATE: 12/05/11	DATE: SNTP:ERR
TIME: 09:16:01	TIME: 09:16:01

11.5.2 Time Adjustment Value

The date and time exchanged with an NTP (SNTP) are basically Coordinated Universal Time (UTC). Therefore, the time must be adjusted in accordance with the country or region where the device is used in. On the ETHERNET SETUP tab, set Time Zone Adjust to one of the following values.

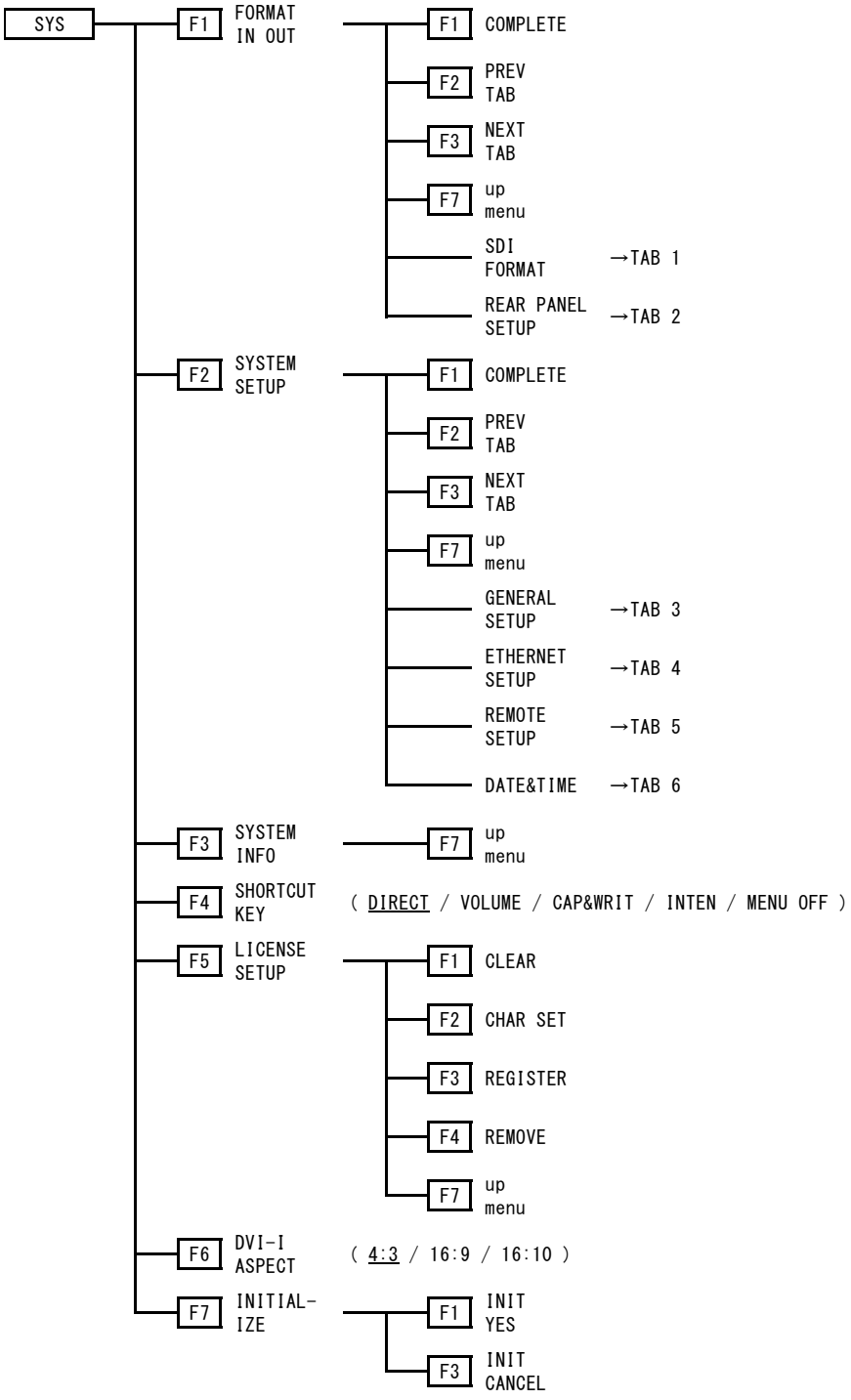
Table 11-27 Time adjustment values

Country or region	Time Zone Adjust
Eniwetok, Kwajalein	-12:0
Midway Island, Samoa	-11:0
Hawaii	-10:0
Alaska	-9:0
Pacific Time (US & Canada), Tijuana	-8:0
Mountain Time (US & Canada), Arizona	-7:0
Central Time (US & Canada), Central America, Saskatchewan, Mexico City	-6:0
Eastern Time (US & Canada), Indiana (East), Bogota, Lima, Quito	-5:0
Atlantic Time (Canada), La Paz, Santiago	-4:0
Newfoundland	-3:30
Greenland, Buenos Aires, Georgetown, Brasilia	-3:0
Mid-Atlantic	-2:0
Azores, Cape Verde Is.	-1:0
Greenwich Mean Time (Dublin, Edinburgh, Lisbon, London), Casablanca, Monrovia	-/+0:0
Amsterdam, Berlin, Bern, Rome, Stockholm, Sarajevo, Skopje, Sofija, Vilnius, Warsaw, Zagreb, Brussels, Madrid, Copenhagen, Paris, Belgrade, Bratislava, Budapest, Ljubljana, Prague, West Central Africa	+1:0
Athens, Istanbul, Minsk, Jerusalem, Cairo, Harare, Pretoria, Bucharest, lsinki, Riga, Tallinn	+2:0
Kuwait, Riyadh, Nairobi, Baghdad, Moscow, Volgograd, St. Petersburg	+3:0
Tehran	+3:30
Abu Dhabi, Muscat, Baku, Tbilisi, Yerevan	+4:0
Kabul	+4:30
Islamabad, Karachi, Tashkent, Ekaterinburg	+5:0
Kolkata, Chennai, Mumbai, New Delhi	+5:30
Kathmandu	+5:45
Astana, Dhaka, Almaty, Novosibirsk	+6:0
Rangoon	+6:30
Krasnoyarsk, Bangkok, Hanoi, Jakarta	+7:0
Irkutsk, Ulaan Bataar, Kuala Lumpur, Singapore, Perth, Taipei, Beijing, Chongqing, Hong Kong SAR, Urumqi	+8:0
Seoul, Yakutsk, Osaka, Sapporo, Tokyo	+9:0
Adelaide, Darwin	+9:30
Vladivostok, Canberra, Melbourne, Sydney, Guam, Port Moresby, Brisbane, Hobart	+10:0
Magadan, Solomon Is., New Caledonia	+11:0
Auckland, Wellington, Fiji Islands, Kamchatka, Marshall Is.	+12:0
Nuku'alofa	+13:0

12. MENU TREES

This chapter shows the menu trees that correspond to each key.
The default settings are underlined. The settings selected in the tab menu displays are also default settings.
The menus that are displayed vary depending on the LV 7770 settings and whether a USB memory device is connected to the LV 7770.

12.1 System Menu



TAB 1 (SDI FORMAT)

SDI FORMAT | REAR PANEL SETUP

```
Auto/Manual                 ☑Auto  ☐Manual
        i/PsF Select        ☑Interlace ☐Segmented Frame(PsF)
Format
        Link Format         ☑HD      ☐SD      ☐HD-DualLink
                            ☐3G-A    ☐3G-B    ☐3G-B(2map)

        Color System        ☑YCbCr(4:2:2) ☐YCbCr(4:4:4) ☐RGB(4:4:4)

        Pixel Depth         ☑10bit ☐12bit

        Scanning            ☑1080P   ☐1080i   ☐1080PsF
                            ☐720P    ☐525i    ☐625i

        Active Sample       ☑1920  ☐2048(2K)
                                                              ex.
        Frame Rate          ☑60      ☐59.94   ☐50      ☐30       59.94p : F.R.= 59.94
                            ☐29.97   ☐25      ☐24      ☐23.98    59.94i : F.R.= 29.97
```

TAB 2 (REAR PANEL SETUP)

SDI FORMAT | REAR PANEL SETUP

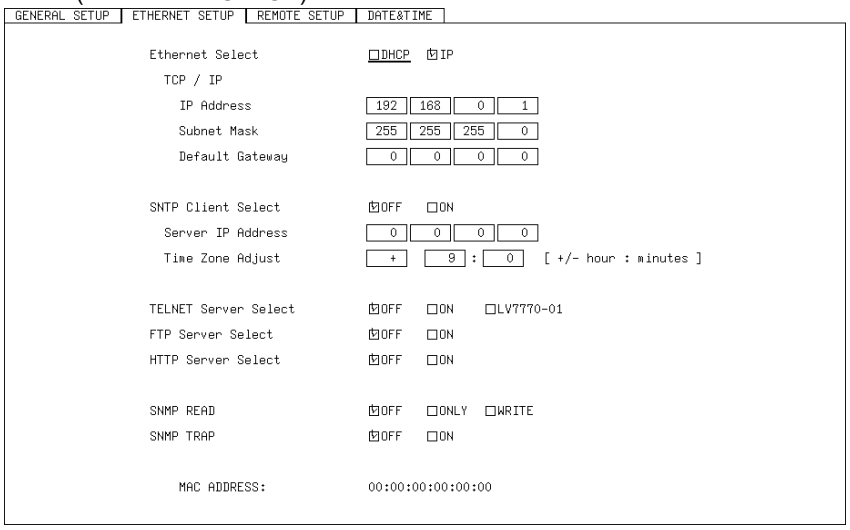
```
SDI Select Output           ☑Ach/Bch ☐Ach

Audio BNC
     GROUP A                ☑INPUT   ☐OUTPUT
     GROUP B                ☑INPUT   ☐OUTPUT
     GROUP A OUT SEL        ☑Display Source    ☐SDI 1-8ch
     GROUP B OUT SEL        ☑Display Source    ☐SDI 9-16ch

ANALOG AUDIO                ☑INPUT   ☐OUTPUT

DVI-I Aspect                ☑4:3     ☐16:9    ☐16:10

PIC MONI Output
     Color Format           ☐Auto        ☐YCbCr 422    ☐YCbCr 444    ☑RGB 444
     Pixel Depth            ☐Auto    ☑8bit    ☐10bit   ☐12bit
     2MAPPING SDI           ☑STREAM1 ☐STREAM2
```

TAB 3 (GENERAL SETUP)

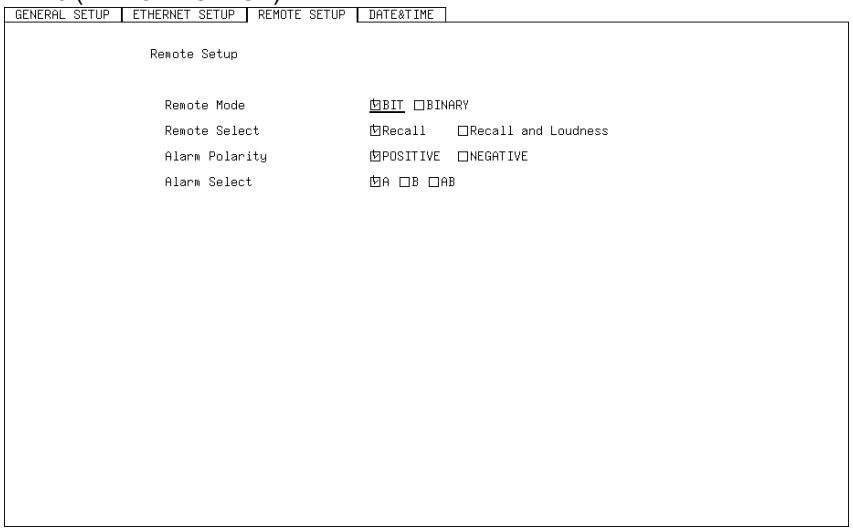
GENERAL SETUP | ETHERNET SETUP | REMOTE SETUP | DATE&TIME

```
GENERAL SETUP
        Multi Display       ☐2Multi  ☑4Multi
        Capture Mode        ☑Screen  ☐Video Frame(SDI Only)
        Memory Store Mode   ☐Loudness 2h ☑Loudness 32h (No TIF/DPX Frame Capture)
Information Display
        Format              ☑ON      ☐OFF
        Date                ☐OFF     ☑y/m/d   ☐m/d/y   ☐d/m/y
        Time                ☐OFF       ☑Real Time ☐LTC       ☐VITC       ☐D-VITC
        Color System        ☑ON      ☐OFF
        Input               ☑ON      ☐OFF




MENU Setup
        Auto Off            ☐OFF     ☑ON
        Time                [ 5 ] sec(1-60)
```

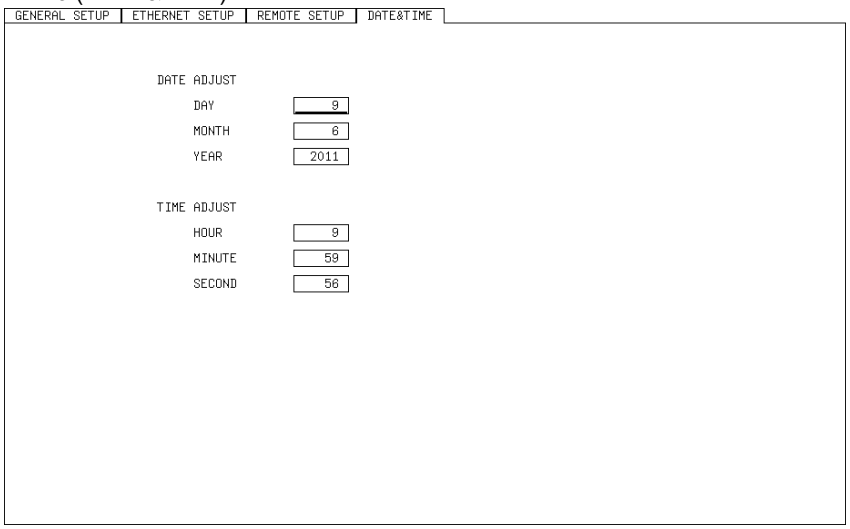
TAB 4 (ETHERNET SETUP)



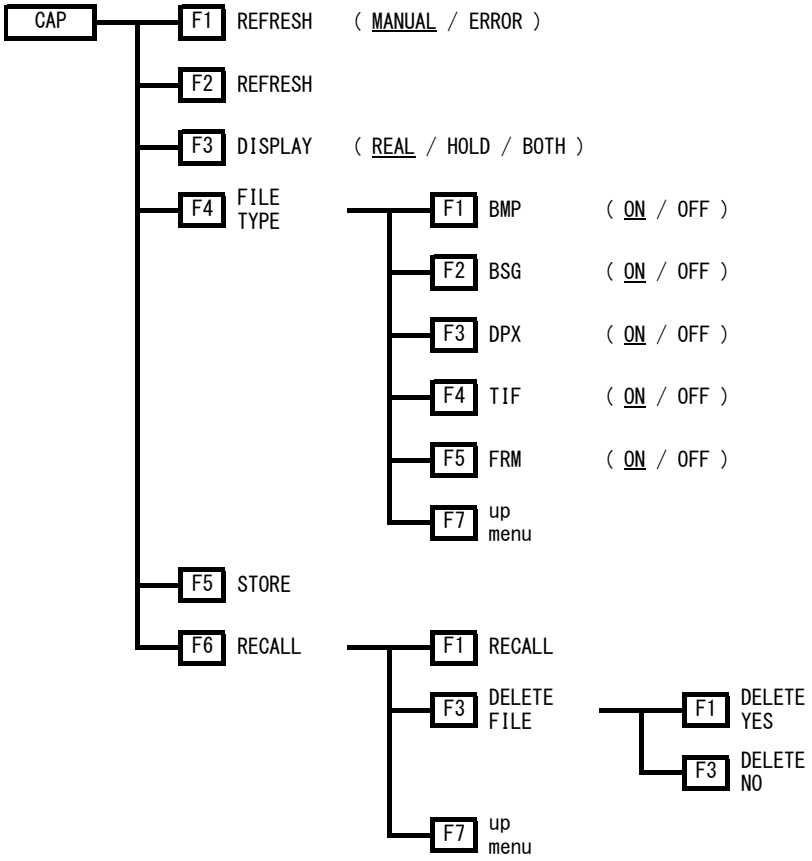
TAB 5 (REMOTE SETUP)



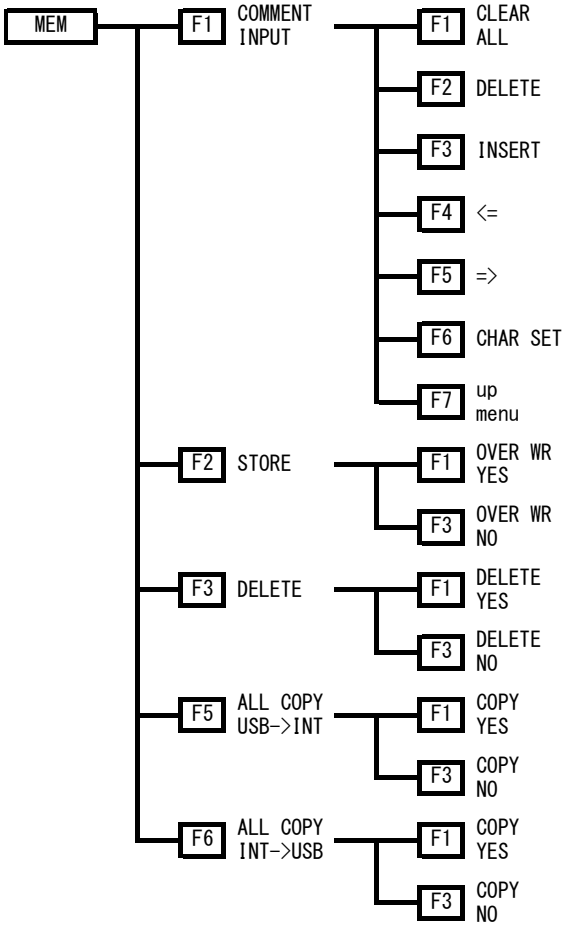
TAB 6 (DATE&TIME)



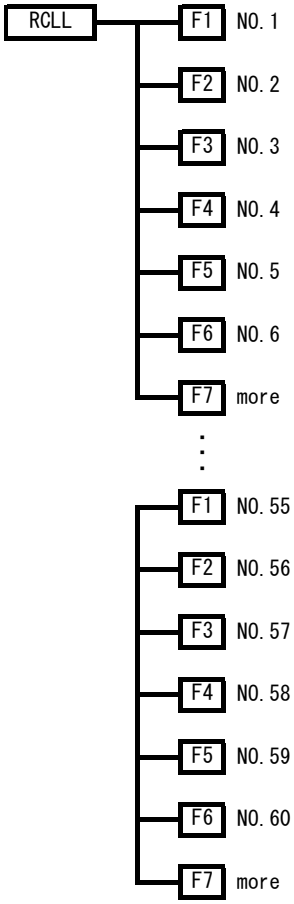
12.2 Capture Menu



12.3 Preset Registration Menu



12.4 Preset Load Menu



13. CHANGE HISTORY OF THE SOFTWARE

This manual was written for firmware version 3.4.
You can view the firmware version by pressing F•3 SYSTEM INFO on the system menu.

Ver. 3.4

- [LV 5770SER08 and LV 5770SER09A] An audio signal gate setting function was added to the lip sync measurement of the status display.

Ver. 3.2

- [LV 5770SER08 and LV 5770SER09A] A measurement range setting function was added to the lip sync measurement of the status display.

Ver. 3.1

- [LV 7770] Recall menu was improved so that each time the RCLL key is pressed, the menu toggles between show and hide.

Ver. 2.9

- [LV 5770SER08 and LV 5770SER09A] 3G-SDI lip sync measurement is now supported.

Ver. 2.2

- [LV 5770SER08 and LV 5770SER09A] The video signal waveform display now includes 1023,255 for SCALE UNIT.
- [LV 5770SER08 and LV 5770SER09A] The picture display now supports SD 16:9 display.
- [LV 7770] The Dolby option now supports indicator display of frame location. (Dolby E only)
- [LV 7770] The Dolby option now supports non-PCM flags.

Ver. 2.1

- [LV 7770] On the loudness display, a feature that indicates relative gating that is less than or equal to the threshold has been added.
- [LV 7770] On the loudness display, a feature that indicates true peaks that exceed the threshold has been added.
- [LV 7770] On the loudness display, a feature that enables you to select the content of the chart display during two input (MAIN and SUB) measurement from integrated, momentary, and short-term has been added.

Ver. 2.0

- [LV 5770SER09A] Support has been added for the SDI INPUT/EYE option.

Ver. 1.9

- [LV 7770] Simultaneous 16-channel audio display feature has been added.

Ver. 1.4

- [LV 5770SER08 and LV 5770SER09] A format ID display has been added to the NET-Q analysis display.

Ver. 1.3

- [LV 5770SER08 and LV 5770SER09] The CINELITE Advanced feature has been added.

INDEX

Following information is for Chinese RoHS only

所含有毒有害物质信息

部件号码: LV 7770

此标志适用于在中国销售的电子信息产品,依据2006年2月28日公布的《电子信息产品污染控制管理办法》以及SJ/T11364-2006《电子信息产品污染控制标识要求》，表示该产品在使用完结后可再利用。数字表示的是环境保护使用期限，只要遵守与本产品有关的安全和使用上的注意事项，从制造日算起在数字所表示的年限内，产品不会产生环境污染和对人体、财产的影响。
产品适当使用后报废的方法请遵从电子信息产品的回收、再利用相关法令。
详细请咨询各级政府主管部门。

产品中有毒有害物质或元素的名称及含量

部件名称 Parts	有毒有害物质或元素 Hazardous Substances in each Part					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
实装基板	×	○	○	○	○	○
主体部	×	○	○	○	○	○
开关电源	×	○	○	○	○	○
风扇	×	○	○	○	○	○
外筐	○	○	○	○	○	○
线材料一套	○	○	○	○	○	○
附件	○	○	○	○	○	○
包装材	○	○	○	○	○	○
电池	○	○	○	○	○	○
选件						
OP70	×	○	○	○	○	○
5770SER03A	×	○	○	○	○	○
5770SER08	×	○	○	○	○	○
5770SER09	×	○	○	○	○	○
5770SER09A	×	○	○	○	○	○
5770SER42	×	○	○	○	○	○

备注）

○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 规定的限量要求以下。

×：表示该有毒有害物质或元素至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。

Ver.2

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Nov. 26, 2015 Ver. 8 (FW Ver. 3.4)