

VIDEO CHANGEOVER

The LT 4440 is a changeover unit that switches to the backup system when failures occur.

CE
Upon request

RoHS



LT 4440 CHANGEOVER

GENERAL

The LT 4440 is a changeover unit that automatically switches the signal from the primary signal to the backup signal when problems are detected in the primary signal.

Two systems of input signals (primary and backup) are connected to the LT 4440, and the LT 4440 detects errors on the amplitude of the primary input signal.

A single LT 4440 provides 11 channels. HD-SDI (channels 1 to 6 only), SD-SDI, AES/EBU digital audio, analog black burst signal, and tri-level sync signals are supported through the configuration of the internal switch.

If a switch occurs from the primary signal to the backup signal, the LT 4440 indicates the channel that caused the problem on the LED front panel.

The LT 4440 can be configured in the system with the LT 4400 MULTIFORMAT VIDEO GENERATOR.

FEATURES

■ Input/Output

Provides 11 channels (a single channel consists of PRIMARY input, BACKUP input, and OUTPUT output) on a single LT 4440.

■ Delay for Starting the Monitor

The delay for starting the error monitor at power up can be set to FAST or SLOW depending on the rise time of the system signal source being connected.

■ Determination Criteria of the Signal Level

The internal preset switch allows level detection switching among SD-SDI, AES/EBU digital audio, NTSC or PAL

analog black burst, HD analog tri-level sync, HD-SDI(only supported on channels 1 to 6), and other signals.

■ Error Display

When a signal level error is detected, the LT 4440 illuminates the error LED on the front panel as well as the LED panel that indicates the channel causing the problem. This feature allows quick investigation of the problem.

The LT 4440 can be configured in the system with the LT4400



SPECIFICATIONS

LT 4440

Inputs

PRIMARY inputs: 1 input each for 11 channels (75 Ω BNC connector)
BACKUP inputs: 1 input each for 11 channels (75 Ω BNC connector)

Outputs

OUTPUT outputs : 1 output each for 11 channels (75 Ω BNC connector)

Input/Output Characteristics (CH1 to CH11)

Return Loss: 30 dB 0 to 10 MHz
 15 dB 10 to 750 MHz
 10 dB 750 MHz to 1.5 GHz
Insertion Loss: 0.2 dB 0 to 10 MHz
 0.5 dB 10 to 200 MHz
 2.0 dB 200 MHz to 1.5 GHz
Cross Talk: -60 dB 0 to 10 MHz
 -30 dB 10 MHz to 1.0 GHz
 -20 dB 1.0 to 1.5 GHz

Delay for Starting the Monitor

Select from two delay settings for starting the error monitor at power up according to the rise time of the system signal source connected to the LT 4440.

FAST: 1 minute or more (60 to 80 s)
SLOW: 4 minutes or more (240 to 320 s)

Input Signal Type

Set the type of input signal applied to the LT 4440 using the internal dip switch.

Signal Type: HD-SDI (CH1 to CH6 only)
 SD-SDI (270 Mb/s)
 SD-SDI (143 Mb/s)
 AES/EBU digital audio
 Tri-level sync signal
 NTSC black burst
 PAL black burst

Determination Criteria of the Signal Level

Detection Level: Detects an error when the amplitude of the input signal drops by 2 to 5 dB from the defined level and makes the switch.
 The detection level varies slightly depending on the type of signal specified using the internal dip switch.
 The detection level can be set to LOW or HIGH for each signal type.

Detection Reference Level

*1 The signals levels inside the parentheses are those during normal conditions.

When the Determination Criteria is Set to Low

HD-SDI (CH1 to CH6 only): 450 to 635 mV (800 mV)
SD-SDI (270 Mb/s): 450 to 635 mV (800 mV)
SD-SDI (143 Mb/s): 450 to 635 mV (800 mV)
AES/EBU
Audio: 631 to 794 mV (1000 mV)
NTSC black burst: -180 to -227 mV (-286 mV)
PAL black burst: -190 to -238 mV (-300 mV)
Tri-level sync: 337 to 476 mV (600 mV)

When the Determination Criteria is Set to HIGH

HD-SDI (CH1 to CH6 only): 505 to 713 mV (800 mV)
SD-SDI (270 Mb/s): 505 to 713 mV (800 mV)
SD-SDI (143 Mb/s): 505 to 713 mV (800 mV)

AES/EBU

Audio: 734 to 924 mV (1000 mV)
NTSC black burst: -210 to -264 mV (-286 mV)
PAL black burst: -220 to -277 mV (-300 mV)
Tri-level sync: 379 to 535 mV (600 mV)

User-Defined Detection Level Setting (CH7 to CH11 only)

USER setting 1: Set between -100 to -700 mV *2
USER setting 2: Set between -100 to -700 mV *2

Expansion of the Detection Level Using the Attenuator (CH7 to CH11 only)

Set the internal attenuator to expand the detection level further by 5 times

USER setting 1: Set between -700 to -3500 mV *2
USER setting 2: Set between -700 to -3500 mV *2

*2 When a signal equivalent to the H.SYNC waveform is applied. The specifications of the detection level may not be achieved depending on the waveform shape.

Error Display

Total Error LED: Notifies errors by illuminating the error LED on the panel.
Error Channel LED: Detects the channel causing the error and notifies the channel by illuminating the corresponding LED.

Panel Key Lock

Time to Key Lock: The key lock is automatically enabled when key operation is not detected for 60 s.

External Control (REMOTE) Connector

Application: For external remote control. RESET, AUTO SWITCHING, and TOGGLE SYNC
Inputs:
Outputs: FAULT and SYNC SOURCE
Connector Type: 9-pin Dsub connector

Environmental Conditions

Operating Temperature: 0 to 45 °C
Operating Humidity: ≤90 % RH (without condensation)
Operating Environment: Indoor use
Operating Altitude: Up to 2,000 m
Overvoltage Category: II
Pollution Degree: 2

Power Requirements

90 to 250 VAC (no switching necessary),
 50/60 Hz 25 Wmax.

Dimensions and Weight

426 (W) x 44 (H) x 400 (D) mm (excluding protrusions), 3.5 kg

Accessories

Rack supports 2
 Rack support attachment screws 4
 Power cord 1
 Instruction manual 1
 Cover / inlet stopper 1

LT 4440 REAR PANEL

