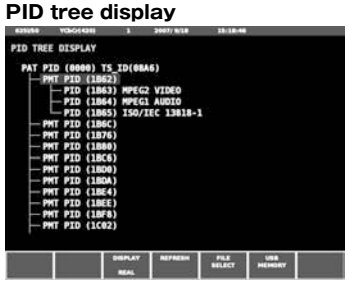
PRODUCTS NEWS

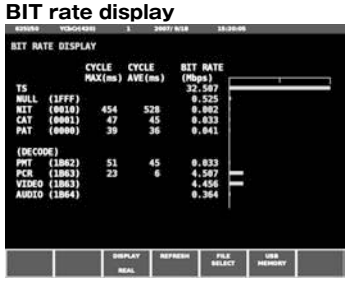
MPEG DECODER

LV 58SER04

PID tree display



BIT rate display



Continuous monitoring of MPEG-2 TS signal is possible.

■GENERAL

The LV 58SER04 is an input unit that receives MPEG-2 TS (DVB-ASI) signals and displays video/audio information on the LEADER LV 5800 (Multi Monitor). Because it contains an MPEG-2 video decoder and audio decoder, it can display the signal using the video signal waveform display, vectorscope display, picture display, and audio display. The LV 58SER04 can also be used to monitor errors defined by ETSI ETR-290, to display PAT and PMT data, and to display the TS bit rate and the bit rate for each PID. These features are ideal for continuous monitoring of MPEG-2 TS signals in broadcasting stations and similar facilities.

In addition, the LV 58SER04 can do the following when combined with other units.

- Eye pattern display of DVB-ASI signals (when combined with the LV 58SER02).
- Lissajous and level displays of audio signals (when combined with the LV 58SER40).

■FEATURES

1 DVB-ASI Input Connector

The unit comes with one DVB-ASI input connector.

2 Video Decoding

Decodes compressed video data on the MPEG-2 TS (MPEG-2 Video 4:2:2, 4:2:0) and displays a video signal waveform, vectorscope, or picture.*1

3 Audio Decoding

Combine with the LV 58SER40 (DIGITAL AUDIO unit) to decode audio data on the MPEG-2 TS and show Lissajous, sound image, and level meter displays as well as transmit digital audio signals.

The decodable audio data types are MPEG-2 AAC, Dolby*2 Digital (AC-3)*3, and LPCM (SMPTE 302M)

4 PID Search

Video and audio search for PID automatically.

5 Error Detection

Monitors and displays ETSI ETR 290 priority 1 and 2 errors.*4

6 Status Display

Displays packet bit rates and measures PCR jitter.
Displays PAT, PMT, and a selected packet dump.

7 Eye Pattern Display

Combine with the LV 58SER02 (EYE PATTERN unit) to display DVB-ASI eye patterns.*5

*1 Cannot descramble broadcast scrambling. May not be able to decode all MPEG-2 data formats.
*2 Dolby is a trademark of Dolby Laboratories.
*3 When decoding Dolby Digital(AC-3), Dolby E option is necessary to LV 58SER40 (DIGITAL AUDIO)separately.
*4 There are some limitations on the error detection feature.
*5 Jitter cannot be displayed even if the LV 58SER02 is used.

Specifications LV 58SER04

Standards
- **Supported Standards:** ISO/IEC 13818-1
- **Profile and Level** MP@HL, MP@ML, 422@ML, 422P@HL

DVB-ASI I/O
- **Input Connector**
  - **Input Connector:** BNC-R
  - **Number of Input Connectors:** 1 connector, 75 Ω
  - **Maximum Input Voltage:** ±2 V (DC + peak AC)
- **Input Signal**
  - **Serial Clock:** 270 MHz
  - **Transmission Mode:** Packet/Burst
  - **Maximum Bit Rate:** 66 Mbps
  - **Supported Packet Sizes:** 188, 204, and 208 bytes
  - **Packet Size Detection:** Audio Detects supported packet sizes

Decoding Function
- **Video Formats:**
  - 1920x1080i / 59.94, 60, 50 (4:2:0,4:2:2)
  - 1280x720p / 59.94, 60, 50 (4:2:0,4:2:2)
  - 720x480i / 59.94 (4:2:0,4:2:2)
  - 720x576i / 50 (4:2:0,4:2:2)
- **Audio Signals:** MPEG-2 AAC, Dolby Digital(AC-3), LPCM(SMPTE 302M) (LV 58SER40 (DIGITAL AUDIO) is necessary separately. In addition, when decoding Dolby Digital (AC-3), Dolby E option is necessary)

* This unit decodes only one set of video data and audio data. Even if you use the LV 5800 multi display, the unit cannot decode different video and audio streams simultaneously. If you assign the display showing the data that this unit is decoding to multiple displays and you change the PID of the data being decoded, the PIDs on all displays change simultaneously.

Video Signal Waveform Display Function
- **Waveform Operation**
  - **Display Mode:** Overlay display (displays component signals overlaid) Parade display (displays component signals side by side)
  - **Y, C_B, C_R to G, B, R Conversion:** Converts Y, C_B, C_R signals into G, B, R and displays the result
  - **Pseudo-Composite Display:** Displays component signals artificially as composite signals
  - **Channel Assignment:** G, B, R or R, G, B order (when displaying G, B, R converted signals)
  - **Line Select:** Displays the selected line
  - **Image Quality Adjustment:** Adjusts the brightness
- **Vertical Axis**
  - **Sensitivity**
    - **V Scale:** 0 to 0.7 V, -0.3 to 0.7 V
    - **% Scale:** 0 to 100 %, -50 to 100 %
    - **Gain:** x1, x5, variable
    - **Variable Gain:** x0.2 to x2
    - **Amplitude Accuracy:** ±0.5 %
  - **HDTV Frequency Characteristics**
    - **Y Signal:** ±0.5 % (1 to 30 MHz)
    - **C_B,C_R signal:** ±0.5 % (0.5 to 15 MHz)
    - **Low-pass Attenuation:** 20 dB or more (at 20 MHz)
  - **SDTV Frequency Characteristics**
    - **Y Signal:** ±0.5 % (1 to 5.75 MHz)
    - **C_B,C_R signal:** ±0.5 % (0.5 to 2.75 MHz)
    - **Low-pass Attenuation:** 20 dB or more (at 3.8 MHz)
- **Horizontal Axis**
  - **Line Display**
    - **Display Mode:** Overlay: 1H, 2H Parade: 1H, 2H, 3H
    - **Magnification:** x1, x10, x20, ACTIVE, BLANK
  - **Field Display**
    - **Display Mode:** Overlay: 1V, 2V *1 Parade: 1V, 2V, 3V
    - **Magnification:** x1, x20, x40
    - **Time Accuracy:** ±0.5 %
  - **Cursor Measurement**
    - **Composition**
      - **Horizontal Cursors:** 2 cursors (REF and DELTA)
      - **Vertical Cursors:** 2 cursors (REF and DELTA)
    - **Amplitude Measurement:** Percentage and voltage displays
    - **Time Measurement:** Displays time in seconds
    - **Frequency Measurement:** Displays the frequency by considering the time between cursors to be a cycle

*1 The 2V display is not allowed if the input signal is progressive.

Vectorscope Display
- **Scale:** 75 %, 100 % (for the color bars)
- **Gain:** x1, x5, IQ-MAG, variable
- **Variable Gain:** x0.2 to x2
- **Amplitude Accuracy:** ±0.5 %
- **IQ Axis:** Show or hide
- **Pseudo-Composite Display:** Displays component signals by converting to composite signals that have burst added artificially. (The color matrix for HDTV signals is converted to SDTV.)
- **Image Quality Adjustment:** Adjusts the brightness

Picture Display:
- **HDTV Display:** Displayed by sampling pixels
- **SDTV Display:** Displayed by interpolating pixels
- **Marker Display:** Center marker display 4:3 or 16:9 marker display Safe action marker display Safe title marker display
- **Line Select:** Marks the selected line
- **Display Size:** Optimized display, actual size display
- **Image Quality Adjustment:** GBR level adjustment, contrast adjustment, brightness adjustment

Section and PCR Information
- **PAT**
  - **PAT Detection:** Automatically recognizes packets whose PID is 0000h as PAT
  - **Cycle Measurement *2:** Measures the PAT cycle in 1-ms intervals
  - **PAT data display:** PAT dump display
- **PMT**
  - **PMT Detection:** Select the PID of the PMT to be decoded
  - **Cycle Measurement *2:** Measures the PMT cycle in 1-ms intervals
  - **PMT data display:** PMT dump display
- **NIT**
  - **NIT Detection:** Automatically detects packets with the NIT PID specified by the PAT.
  - **Cycle Measurement *2:** Measures the NIT cycle in 1-ms intervals
- **CAT**
  - **CAT Detection:** Recognizes packets whose PID is 0001h as CAT
  - **Cycle Measurement *2:** Measures the CAT cycle in 1-ms intervals
- **PCR**
  - **PCR detection:** Automatically detects packets with the PCR PID specified by the selected PMT
  - **Cycle Measurement *2:** Measures the PCR cycle in 1-ms intervals
  - **PCR jitter:** Measures the PCR accuracy based on the internal reference clock

*2: If a section is divided into multiple TS packets, the cycle is measured for each section.

Dump Display
- **Function:** Dump display of the PAT, PMT, and the dump display of the selected packet
- **Notation:** Displays binary and hexadecimal values and contents

Bit Rate Display
- **Function:** Displays the bit rate and cycle of the main sections and packets
- **Bar Display:** Displays the occupied bandwidth with respect to the TS bit rate using bars
- **Displayed Sections:** NIT, CAT, PAT, and PMT
- **Displayed Packets:** Video, audio, PCR, and null

General Specifications
- **Environmental Conditions:** Conforms to the LV 5800
- **Power Supply:** Supplied from the LV 5800 70 W max. (if one unit is installed to the LV 5800) 20 W max. (additional power consumption for each additional unit installed to the LV 5800)
- **Weight:** 0.4 kg
- **Accessory:** Instruction manual 1

SPECIFICATION CHANGES: LEADER ELECTRONICS CORP. reserves the right to discontimue the sale of instruments and/or change the specifications of instrments at any time without responsibility for the incorporation of new features in the instrumens already sold.

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