Easy to See
Time Lag

EDD-6200P
Time Lag Checker (Portable)

This equipment can measure the video delay time, audio delay time, difference between audio channels and difference between video and audio by using test time code (hereafter called TTC) signals.

-Generates TTC signals whose phases are the same as those of video, audio or VANC signals and outputs them as video, audio or VANC.
-Measures video and audio delay time by routing video and audio signals back to the Time Lag Checker through the desired devices and lines, and by comparing the time from output to input (return). Also measures video and audio delay time of devices or lines by comparing phases of TTC signals that are routed back to the checker.
-Estimates delay time in long distance with GPS by using two Time Lag Checkers.

Features

3G-SDI, HD-SDI and SD-SDI Supported

The Time Lag Checker supports the following video and audio standards:
Video standards
-SMPTE 259M 270Mbps SD-SDI (D1 NTSC,PAL)
-SMPTE 292M 1.485Gbps, 1.485/1.001Gbps HD-SDI (1080i 50/59/60,720p 50/59/60)
-SMPTE 424M 2.97Gbps, 2.97/1.001Gbps 3G-SDI (1080p 50/59/60)
*3G SDI: "Level A YC4:2:2 10bit" and "Level B Dual-link YC4:2:2 10bit" only
Audio standards
-AES/EBU
-Embedded Audio(8ch)

Long Distance Delay Measurements

Long distance delay measurements are possible using two Time Lag Checkers whose clocks are synchronized with a GPS clock. Audio and video delay time in long distance can be measured without GPS synchronization. * Measurements using GPS cannot be performed if four or more GPS satellites cannot be acquired due to the lack of antenna coverage or weather conditions.

Various Measurement Modes

-Delay time of video and audio
-Video transmission delay time
-Delay time of video and VANC
-Audio transmission delay time
-Delay between audio channels in various combinations
-Delay measurement of signals with different formats (with some restrictions)

High Accuracy Measurements

The accuracy of measurements is within 0.001 msec.
* Within 1 msec for Embedded SD Audio.
* Excluding cases when GPS satellites cannot be acquired

Difference Measurements between Video and VANC

Differences between video and VANC can be measured by multiplexing TTC signals into VANC areas.

Built-in High Precision Clock(synchronized by GPS)

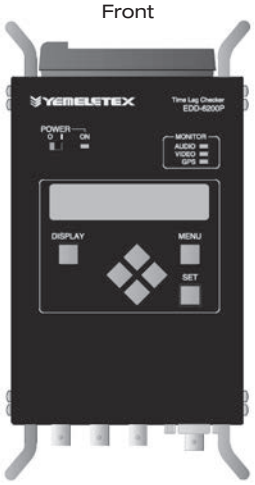
In open air, synchronize the Checker's clock with a GPS clock. Once the clock synchronization is performed, the clock keeps time within 1 ms accuracy while GPS LED is lit green (about 3 hours).

Specifications

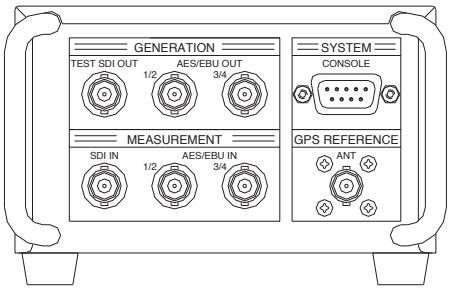
Video Format	3G-SDI	SMPTE425M 1080p 50/59/60 (Level A YC4:2:2 and Level B YC4:2:2 10bit Dual-Link structure only)
	HD-SDI	SMPTE274M 1080i 50/59/60 SMPTE296M 720p 50/59/60
	SD-SDI	SMPTE125M 480i ITU-R BT656 576i
Signal Generation	SDI Output	3G-SDI SMPTE424M / 2.97 (1.485/1.001) Gbps
		HD-SDI SMPTE292M / 1.485 (1.485/1.001) Gbps
		SD-SDI SMPTE259M / 270 Mbps
		800 mVp-p (75-ohm) ±10% BNC
	AES/EBU output	AES/EBU, 4ch 1.0 Vp-p (75-ohm) ±10% BNC x 2
	Embedded audio output	SMPTE272M/299M PCM 48kHz 8ch
	Test signals	Luster signal, Color bars (scroll)
Mesurement	SDI Input	(Same as SIGNAL GENERATION) 800 mVp-p (75-ohm) BNC
	AES/EBU input	AES/EBU, 4ch 1.0 Vp-p (75-ohm) BNC x 2
	Embedded audio input	SMPTE272M/299M PCM 48kHz 8ch
	Range	18.999999 sec (maximum range between TTC and signal) on a 0.001 msec basis (9.999999 sec: range between signals)
	Accuracy	Within ±0.001 msec (when in the same frame rate)
	Display units	sec/ms or sec/frame/ms
Panel	LED indicators	Video detection, Audio detection, GPS input
	Panel operation	Measurement target and mode selection using panel keys
	Display	Delay time value / Measurement value
Other I/O	GPS input	BNC, 50-ohm, 3V
		GPS reception: SPS 50ch, L 1 C/A code
		Cold start: 28 seconds (5 to 10 minutes required for clock synchronization)
	RS-232C	For maintenance
Other	Power	12 V DC (AC adaptor), 7.2 V DC (Battery)
	Power consumption	Less than 20 W
	Temperature / Humidity	+5℃ to 40℃ / Less than 90% (no condensation)
	Dimensions	120 (W) x 70 (H) x 180 (D) mm (excluding ledges)
	Weight	Approx. 1.5 kg

Outside Pictures

Front



Back



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ISO 9001 and 14001 certified (Sakura R&D)