

FEATURES

- *Accepts SD, HD and 3G SDI video sources per SMPTE 259M/292M/424M*
- *Auto-detects and formats insertion for 480i/p, 720p and 1080i/p for both NTSC and PAL field/frame rates*
- *Synchronizes time to internal GPS, or applied IRIG B.*
- *Inserts a time stamp synchronized to within 10usec of frame sync into each field/frame of video and the SDI VANC ancillary packet IAW MISB STD 0605.3 and NATO STANAG 4609*
- *Inserts position (Latitude, Longitude and Altitude) into the video frame and/or the SDI VANC ancillary packet.*
- *Inserts movable crosshair.*
- *Inserts fixed boresight crosshair.*
- *Inserts up to 3920 characters of alphanumeric data.*
- *Select 1 of 16 colors individually for characters, crosshair and boresight crosshair*
- *Remotely controlled via Ethernet Port and RS-232C Serial Port.*
- *Non-volatile Memory saves key settings and certain insertion data.*



DESCRIPTION

The Model 6041G-HD is a ruggedized SDI video inserter. When the unit is placed within 100 meters of an SDI video source, the 6041G-HD enables accurate time stamping of each video frame/field. Time stamping prior to any compression and transmission of the SDI stream from a remote source such as a range camera, ensures that time recorded is accurate to within 10 microseconds of the frame or field sync.. Since the unit reclocks the SDI stream, it may also be used as a repeater extending the distance from the SDI video source to the transport insertion equipment (compressor, Ethernet, or other transport means). The unit auto-detects and decodes the imaging format permitting most SDI 480i/p, 720p or 1080i/p NTSC or PAL sources to be connected without having to change system settings. The time message may be inserted into the active video image, with the color (1 of 16) and location selected by the user. When selected, the time is also inserted into the SDI meta-data (vertical ancillary packets) in accordance with MISB STD 0605.3 and NATO STANAG 4609. The time reference is derived from either the internal GPS receiver or an external IRIG B time code source. If the GPS or IRIG lock is lost the unit will automatically continue to run on an internal clock.

Additionally, when using GPS as the reference, the 6041G-HD can insert position into the video image and/or the VANC packet.

The 6041G-HD is remotely controlled via either an Ethernet or RS-232 port. Commands allow the operator to specify all annotation and read the unit status and time data.

The 6041G-HD is housed in a ruggedized aluminum enclosure, 2.5" high, 10" wide (including mounting flanges) and 7" deep. It is powered by 9-36 VDC

MODEL 6041G-HD

HD-SDI VIDEO DATA ENCODER

SPECIFICATIONS

Video In	Standard SD/HD/3G SDI digital video. Formats supported and auto-detected:	
	SD	480i at 29.97 Hz 576i at 25 Hz 480p at 59.94 Hz 576p at 60 Hz
	HD	720p at 60, 59.94, 50, 30, 27.97, 25, 24 and 23.98 Hz 1080i at 30, 29.97, 25, 24 and 23.94 Hz 1080p at 60, 59.94, 50, 30, 29.97, 25, 24 and 23.98 Hz (3G bit rate)
Video Out	Identical to video input except with graphics and annotation added	
Inserted Time Resolution	0.1 msec	
Timing Accuracy	When Locked to GPS: (Dynamics mode set to 'Fixed')	When NOT locked to GPS but after 24 hours of GPS locked disciplining.
	1 x 10 ⁻⁹ @ 1 second	<2.5 x 10 ⁻⁶ without discipline
	1 x 10 ⁻¹⁰ @ 100 second	<0.3 x 10 ⁻⁶ ; <30 ms per day
	3 x 10 ⁻¹² @ 1 day	
Position	Inserts Latitude, Longitude and Altitude. Position accuracy : five meters circular error probability (CEP)	
GPS Performance	Channels:	12 Parallel channels, tracks all satellites in view
	Time-to-first-fix	<25 seconds typical (warm start), <180 seconds typical (cold start)
	UTC Time Mark	Synchronized with Global Reference Standard
	Reacquisition:	2 seconds typical
	Dynamics Mode:	Two settings: Fixed and In Motion, Walking, Land Vehicle, Marine, Airborne. Timing accuracy varies from <25nsec (Fixed) to <100nsec (In Motion)
	Datum:	WGS 84
GPS Antenna	Active Patch Magnetic Mount Antenna, 5 VDC power provided via antenna cable. Gain: 26 db ± 2 db. Noise figure: 1.5 db Max. Antenna interface is short circuit protected.	
IRIG B Input	IRIG B standard serial time code (IRIG Standard 200-98). Input level 500mv peak-to-peak to 5 volts peak-to-peak with modulation ratio from 2:1 to 6:1,	
Meta-Data Encoding	Time stamp and position are recorded in the vertical ancillary packets (VANC) of the SDI stream IAW MISB STD 0605.3 and NATO STANAG 4609	
Ethernet Port	Standard TCP/IP protocol, 10/100 Mbit/sec, user settable IP, MAC, Gateway and port	
Serial Interface	EIA RS-232C, Asynchronous, 8 data bits, 1 start bit, 1 stop bit, no parity, RTS/ETS control. Selectable baud rates are 4800, 9600, 19.2K (factory default) or 38.4K baud.	
Alphanumeric Characters	From 24 to 54 lines of characters depending on video input format. Number of characters per line is 20, 40, 60, 80 or 120 depending on the input aspect ratio (4:3 or 16:9) and as selected by the operator. Individual characters are described on a 7X9 pixel matrix. Characters. Color and size are set via keyboard or remotely via communication ports	
Package and Environment	Size:	2.5" H x 10" W (including mounting flanges) x 7" D ruggedized aluminum enclosure.
	Weight	5 lbs
	Temperature:	-20°C to 60°ambient
	Humidity:	85% non-condensing
Power Input	9-36 VDC, 12 watts	



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