

# MODEL 6140-1 GPS/IRIG B VIDEO SYNCHRONIZER

## FEATURES

- Twelve channel GPS receiver with active antenna.
- IRIG B time code generator.
- Synchronized RS-170 composite video frame generator
- Synchronized NTSC, black burst, composite video frame generator.
- Battery backed-up internal clock.
- Powered by 9 to 36 Volts DC



## DESCRIPTION

The Model 6140-1 is a stand-alone unit designed to synchronize color and/or monochrome video cameras to GPS time or IRIG B serial time code. All cameras genlocked to like units will be precisely synchronized. It consists of a twelve-channel GPS receiver, the output of which is used to synchronize an IRIG B time code generator. The IRIG B signal is then used to drive the color and monochrome video sync generators. The 6140-1 provides a precise IRIG B serial time code output, an RS-170 composite video signal, an RS-170 vertical sync pulse, an RS-170A (NTSC) composite signal with black burst and an RS-170A vertical sync pulse. The unit automatically acquires all in-view satellites upon power up and locks the internal IRIG B time code generator to the GPS time reference. The Video Sync Generators then lock to the IRIG B. Lock status is displayed by LED indicators on the front panel. If the GPS lock is lost the 6140-1 will automatically switch to an internal clock and continue generating the output IRIG B signal. No discernible change in the IRIG B output or video sync will occur due to this transition.

The 6140-1 may also be used as a stand-alone unit to generate an IRIG B signal and video synchronization signals. The time-of-year may be set by the user via an included RS-232 port which may also be used to read the GPS/IRIG time. In the event of a power failure the time will continue to advance by automatically switching to a battery backed-up internal clock. The IRIG and video outputs will resume, without resetting, upon reapplication of power.

The 6140-1 is powered by 9 to 36 Volts DC and includes an active magnetic mount GPS antenna.

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## SPECIFICATIONS

### Frequency Stability (not locked to GPS)

When powered	1 part in 10 <sup>6</sup> .
On Battery backup	1 part in 10 <sup>4</sup> .

**Clock backup life (un-powered)** 1 year minimum.

### GPS Performance

Channels:	12 Parallel channels, tracks all satellites in view.
Time-to-first-fix	15 seconds typical (warm start), 90 seconds typical (cold start).
UTC Time Mark	Synchronized with Global Reference Standard.
Reacquisition:	2 seconds typical.

**IRIG B Output** Standard IRIG B serial time code IAW OSG IRIG Standard 200-98.

**RS-170 Output** Composite Video Sync signal IAW EIA RS-170, 1V peak to peak, 60 Hz field rate.

**RS-170A Output** Composite Video Sync signal IAW EIA RS-170A (NTSC), 1V peak to peak, 59.94 Hz field rate, Black burst.

**RS-170 Sync Vertical** TTL levels, low true non-serrated vertical synchronization signal derived from the RS 170 composite sync signal.

**RS-170A Sync Vertical** TTL levels, low true non-serrated vertical synchronization signal derived from the RS 170A composite sync signal

**Power** 9 to 36VDC, 2.75 Watts.  
Note: 115VAC power optional.

**Temperature**  
Operating 0°C to +55°C  
Non-operating -20°C to +70°C

**Humidity** 95% non-condensing.

**Package**  
Size 8.5" wide x 10" deep x 2.5" high.  
Weight 2.5 lbs.

