

## FEATURES

- Twelve Channel GPS Receiver.
- IRIG B time code generator.
- Four Video Insertion Channels
- UTC time mark output.
- RS-232C serial port.
- Outputs Time and Latitude & Longitude via serial port.
- Time offset input via serial port.
- Event trigger input.
- Battery backed up internal clock, maintains time during power loss.
- Non-Volatile Memory, retains setup at power down.
- Includes active GPS antenna.



## DESCRIPTION

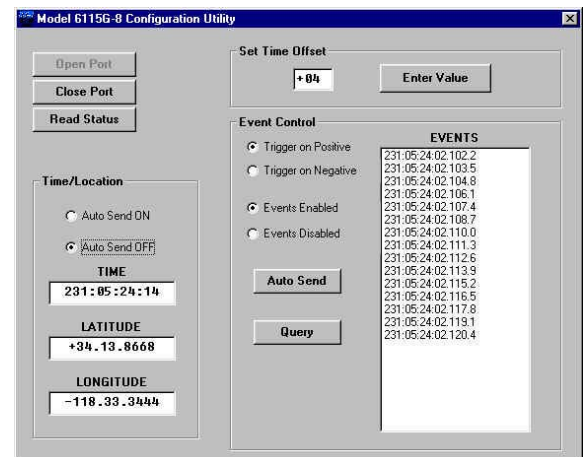
The Model 6115G-8V4 GPS Synchronized Miniature Time Code Generator provides an IRIG B time code output derived from GPS and also inserts a time message into four applied asynchronous video signals. The time code output is synchronized with UTC time unless a time offset has been programmed. A twelve-channel GPS receiver automatically acquires all in-view satellites upon power up and locks an internal IRIG B time code generator to the GPS time reference. If the GPS lock is lost the 6115G-8 will automatically switch to an internal clock and continue generating the output IRIG B signal. No discernible change in the IRIG B output will occur due to this transition. An external event may be time tagged by applying an Event Trigger to the Trigger Input. The time of the event will be captured and stored until output via the serial port.

The 6115G-8V4 features a programmable time offset to convert the time from the GPS receiver from UTC time to local time. The time offset is entered via the RS-232 port.

The Inserted video time message may be positioned at any one of fifteen locations in the video frame as selected by a front panel switch. The character size is also selectable, again by a front panel switch.

The 6115G-8V4 has an asynchronous RS-232C port, which provides a means of configuring the unit, as well as reading the time, event, and location information. The output messages for time/location and events are individually controlled. The Time/Location message may be set to OFF or AUTO. When set to AUTO, messages are sent at one-second intervals. The Event message may also be turned off, or may be set to respond only to a Query or set to send automatically until the event buffer is empty.

Included with the 6115G-8V4 is a CDROM containing a self-installing utility program for setting up the unit via a Graphical User Interface (GUI) from a Windows™ based computer via the COM port.



The 6115G-8V4 is housed in an aluminum enclosure, 7.5 inches long (including mounting flanges), 4.25 inches wide and 2.81 inches high. All controls, connectors and indicators are on the front panel.

# Model 6115G-8V4 GPS Synchronized IRIG Time Code Generator/Video Inserter

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## SPECIFICATIONS

### Frequency Stability

When GPS locked	+/- 100 nsec
When not locked	2.5 parts in $10^6$
When not powered	2.5 parts in $10^5$

### GPS Performance

Channels:	12 Parallel channels, tracks all satellites in view.
Time-to-first-fix	<24 seconds typical (warm start), <150 seconds typical (cold start).
UTC Time Mark	Synchronized with Global Reference Standard, $\pm 100$ nsec.
Reacquisition:	2 seconds typical.
Datum	WGS 84

### GPS Antenna

Active Magnetic Mount Patch Antenna, 5 VDC power provided via antenna cable.  
Gain: 26 db  $\pm$  2 db. Noise figure: 1.5 db Max.

### IRIG B Output

Standard IRIG B serial time code IAW IRIG Standard 200-98.

### 1PPS Output

Low true TTL signal, negative going edge corresponds to UTC time mark.

### Video Input

Standard 525/60 composite video 2:1 interlace, black negative per EIA RS-170, NTSC or S-Video. 75-ohm input impedance. 1.0 volt peak-to-peak. CCIR/PAL optional (6115G-8V4P). Four independent video channels.

### Video Output

Identical to video input except with message data added and DC restored, 75-ohm impedance (output as specified when terminated by 75-ohm load).

### Event Trigger Input

TTL signal, captures event on rising or falling edge, as selected. Maximum burst event input rate = 100KHz. Max stored events = 127. Note: When "Auto Send Events" is enabled, the sustained event trigger rate is limited to an average of 120 Hz to avoid buffer overflow. This rate assumes that the Auto Send of the Time/Location message is OFF.

### RS-232 Port

EIA RS-232C, Asynchronous, 19200 baud, 8 data bits, 1 start bit, 1 stop bit, no parity, no flow control. Note that the RTS output pin is not used for handshake but instead outputs the 1Hz UTC Time mark.

### Power

9 to 36 Volts DC, 5.9 watts.

### Temperature

(Operating)	-20°C to +60°C
(Non Operating)	-30 to +70°C

### Humidity

95% non-condensing

### Package

Size	Aluminum enclosure, 7.5 inches long (including mounting flanges), 4.25 inches wide and 2.81 inches high.
Weight	2 lbs.