

8010 GPS Based Time Code Generator / Master Clock

The 8010 is a GPS (Global Positioning System) Master Clock and Time Code Generator. The unit displays nine digits (Day of Year, Hour, Minute & Second) of UTC (Coordinated Universal Time) as received via the internal 8 channel GPS receiver. Simultaneously, the 8010 generates several types of time code (SMPTE/EBU, IRIG-B & RS232C/ASCII) and an extremely accurate 1PPS signal (+/-45ns). These outputs allow the 8010 to easily interface with new or existing computer, automation and clock systems.

Features:

- IRIG-B or IRIG-E, ASCII (RS-232C) Outputs
- Dual 1 PPS Output (20% and 50% Duty Cycles)
- Rugged Rack Mount Enclosure
- Six .56" Amber LED Displays
- GPS "Lock" Indicator
- < 500 Micro-Second Accuracy
- Time Zone Offset
- Automatic Daylight Savings Time Correction
- Digital, Video & Analog Slave Clocks Available
- Legally Traceable to UTC (Universal Coordinated Time)
- Loss of GPS Signal Output
- Switchable Between 12 & 24 Hr
- Indoor/Outdoor Antenna with 18' Cable
- 220-240 VAC (110-120 VAC is standard); UL and DC options



The 8010 is a low-cost yet very accurate GPS Master Clock/Time Code Generator. The unit receives time and date information from Global Positioning System satellites and supplies this data to the user in the form of different types of time code ... IRIG-B or IRIG-E, ASCII (RS-232C). Six amber LED displays (.55") provide a digital display of the Hours, Minutes and Seconds data. Two (2) One Pulse Per Second outputs and a GPS "Lock" output are also standard features. An eight-channel receiver is employed that is capable of tracking up to eight (8) satellites simultaneously, although reception of only one is required for time data to be output. Several options are available that allow the unit to meet most any demand required of a Master Clock or Time Code Generator.

Specifications

Electrical:	117 VAC, 50/60 Hz	GPS Receiver:	Internal 8-Channel
Power:	15 Watts Typical	Antenna:	Indoor/Outdoor with 19' Cable
Enclosure:	Rack Mount		
Mechanical:	1.75" x 19"; 10" Deep		
Displays:	Nine Digits, Yellow LED, .56" High		
Accuracy:	1 PPS @ <500µS		
Drift:	33mS/day (if no GPS signal)		
Outputs:	Output drives 100 Slaves @ 4000'		
	1 PPS: TTL, 20% Duty Cycle		
	1 PPS: TTL, 50% Duty Cycle		
	IRIG-B (or 'E'): 3 Vpp(mark amplitude)600.		
	RS-232C: ASCII Date & Time		
	@ 9600 Baud,		
	8 Data, No Parity, 1 Stop		

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Quartzlock Quartzlock is a registered trademark
 Specification subject to change without notice
 Issue 130902.2. Replaces all previous issues
 This specification does not form any part of a contract



8020 GPS Master Clock

The 8020 is a GPS (Global Positioning System) Master Clock and Time Code Generator. The unit displays nine digits (Day of Year, Hour, Minute & Second) of UTC (Coordinated Universal Time) as received via the internal 8 channel GPS receiver. Simultaneously, the 8020 generates several types of time code (SMPTE/EBU, IRIG-B & RS232C/ASCII) and an extremely accurate 1PPS signal (+/-45ns). These outputs allow the 8020 to easily interface with new or existing computer, automation and clock systems.



Features

- SMPTE/EBU, IRIG-B, ASCII (RS-232C) Time Code Outputs • Cable Propagation Delay Correction
- Automatic Daylight Savings Time Correction • Loss of GPS Signal Output • Leap Second Correction
- Rugged Rack Mount Enclosure • 4-Hour Battery Back-Up • GPS “Lock” Indicator • 9-Digit .56” LED Display
- Indoor / Outdoor Antenna and 19’ Cable • Optional DC Operation for Field and Ground Mobile Applications
- Time Advance/Retard Feature for Synchronization Purposes • Dual 1 PPS Outputs • Time Zone Offset

Included with the 8020 is an indoor/outdoor antenna which is connected to the unit via the provided 19’ cable. If additional cable is required, “low-loss” cable, an “in-line” amplifier or, for extra long cable runs where more than one in-line amplifier is used, an “Antenna Power Supply” may be required. Consult the Quartzlock factory for more information.

Software is also supplied with the 8020 permitting the user to continuously update a computer’s DOS or Windows® clock to the UTC (Coordinated Universal Time) available on the ASCII output. Three other programs allow the user to 1) offset the Time Zone displayed and output by the 8020, 2) compensate for cable propagation delay and 3) advance or delay the time output for various synchronizing purposes.

Specifications

Electrical: 117 VAC, 50/60 Hz
Power: 15 Watts Maximum
Mechanical: 1.75" x 19" Rack Mount, 10" Deep
Displays: Nine Digits, Yellow LED, .56" High
Accuracy: 1 PPS @ <45ns
 IRIG-B @ 1ns
 SMPTE @ 0 Frames with Respect to Video Sync, or +/- 6 Frames if Free Running (due to Drop-Frame compensation)
Drift: 33mS/day (if no GPS signal)
Video Input: RS-170A Composite Video/Blackburst, 1 Vpp, 75.

Outputs: 1 PPS: TTL, 20% Duty Cycle
 1 PPS: TTL, 50% Duty Cycle
 IRIG-B: 3 Vpp (mark amplitude), 600.
 Output: drives 100 Slaves @ 4000'
 SMPTE: 600. Balanced or Unbalanced
 RS-232C: ASCII Date & Time @ 9600 Baud, 8 Data, No Parity, 1 Stop
GPS Receiver: Internal 8-Channel
Antenna: Indoor/Outdoor Dome with 19' Cable
Battery: 4-Hour Back-Up of GPS Receiver displays are blank)

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