GPS MASTER CLOCK
NTP TIME SERVER & TIME CODE GENERATOR

The ES-185U/NTP 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 12-channel GPS receiver. Simultaneously, the ES-185U/NTP generates several types of time code (NTP, SMPTE/EBU, IRIG-B, ESE-TC89, ESE-TC90, RS232C/ASCII, and USB) and an extremely accurate 1PPS signal (+/-10ns). These outputs allow the ES-185U/NTP to easily interface with new or existing computer, automation and clock systems. The ethernet NTP (Network Time Protocol) port allows the clock to be an NTP server and provides clock set-up via a LAN.

Features:
- NTP, SMPTE/EBU, IRIG-B, USB, ASCII (RS-232C) & ESE Time Code Outputs
- NTP Ethernet Port
- Automatic Daylight Savings Time Correction
- Loss of GPS Signal Output
- Leap Second Correction
- USB Set-up Interface & Software
- 4-Hour Battery Back-Up
- GPS “Lock” Indicator
- 9-Digit .56” LED Display
- Indoor / Outdoor Antenna and 16’ Cable
- Optional DC Operation for Field and Ground Mobile Applications
- Rugged Rack Mount Enclosure
- Time Advance/Retard Feature for Synchronization Purposes
- Dual 1 PPS Outputs
- Time Zone Offset

Included with the ES-185U/NTP is an indoor/outdoor antenna which is connected to the unit via the provided 16’ cable. If additional cable is required, “low-loss” cable, an “in-line” amplifier (LA-12F or LA-12FN for low-loss cable) or, for extra long cable runs where more than one in-line amplifier is used, an “Antenna Power Supply” (ES-AB1A) may be required. Consult the ESE factory or website for more information.

Software is also supplied with the ES-185U/NTP permitting the user to continuously update a computer’s Windows® clock to the time available on the USB port. Other features allow the user to 1) select SMPTE mode (DF, NDF, EBU & Real Time) 2) offset the Time Zone displayed and output by the ES-185U/NTP and 3) advance or delay the time output for various synchronizing purposes.

Specifications

- Standard GPS Antenna with 16’ cable
- High Performance Antenna with 19’ cable

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
GPS Receiver: Internal 12-Channel
Antenna: Indoor/Outdoor Dome with 16’ Cable
Accuracy: 1 PPS @ <10ns (20% Duty Cycle)
IRIG-B @ 1μs
ESE TC89 & TC90 Time Code @ 17mS
SMPTE: +/- 3 to 12 Frames
Adjustable (Video Modes), 0 Frames (Real Time Mode)
Drift: 33mS/day (if no GPS signal)
Video Input: RS-170A Composite Video/Blackburst, 1 Vpp, 75Ω

Outputs: 1 PPS: TTL, 20% Duty Cycle
1 PPS: TTL, 50% Duty Cycle
IRIG-B: 3 Vpp (mark amplitude), 600Ω, AM or TTL selectable
ESE Time Code: drives 100 Slaves @ 4000’
SMPTE: 600Ω Balanced or Unbalanced
RS-232C: Date & Time Output
USB: Universal Serial Bus, Date & Time Output
Ethernet: 10/100 Base-T, NTP Output
Clock Set-up: USB, RS-232C, Network (Telnet or Windows®)
Battery: 4-Hour Back-Up (displays are blank)
Options: Ant, DC, HR, J, K, UL

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