



SETTING THE NEW
STANDARD FOR THE
NEXTGEN NETWORK



Product Highlights

- Full IP Based Redundancy
- Offers ITU Stratum over IP
- PTP/IEEE-1588 V2 Grandmaster Clock
- Hardware based, 100 Mbps wirespeed NTP processing
- Nanosecond timestamp accuracy
- NTP Time Server
- Integrated Web Server
- External Reference Inputs:
 - GPS, T1/E1, or NTP, selectable priority
- Outputs:
 - (Up to 8) T1 or E1 outputs, framed or unframed, with or without Synchronization Status Messaging, AMI/B8ZS (T1) G.704, with or without CRC-4 (E1)
 - (1) Time of Day Output, Cisco or NTP Type 4
 - (1) PPS output, TTL format
 - (1) IRIG-B, modulated or unmodulated
 - (2) Composite Clock
- NTP/PTP Based Bridging/Holdover
- Embedded web server GUI
- Local or remote management through telnet/SSH
- Local indicators and pushbuttons for operational verification
- -48 VDC Nominal, (-20 to -75 VDC wide voltage range), or optional AC powering
- 19-inch (48.3cm) Rack mount, or desktop
- OCXO or Rubidium options available

StarSync 6850

Stratum 1 PRS/PRC
NTP/PTP Server/
Grandmaster Clock/BITS



Powered by brilliant

The StarSync 6850 from CXRLarus is a 19-inch rack-mountable Primary Reference Source (PRS) and Primary Reference Clock (PRC) that provides superior timestamping accuracy and redundant configurability. The StarSync 6850 accepts a GPS signal from a variety of manufacturer's antennas and provides antenna power via an attached RF cable. The server is also optionally capable of accepting a signal from timing sources such as Galileo and GLONASS antennas, or via Network Time Protocol (NTP) from a network peer. The StarSync 6850 uses highly accurate NTP and Precision Timing Protocol (PTP/IEEE1588V2 Grandmaster Clock) technology. With timestamping performed in the hardware, the StarSync 6850 provides wirespeed NTP/PTP with unparalleled accuracy while decreasing vulnerability to Denial of Service (DoS) attacks. In the event that a direct connection with the GPS is interrupted, and without the use of an internal or external Rubidium oscillator—the StarSync 6850 maintains Stratum 2 synchronization. This accuracy is preserved because the StarSync 6850 will engage with other StarSync 6850s in the same network to retrieve the necessary timing information.

Because of its integrated platform, the StarSync 6850 replaces previous generations' equipment at a lower total cost of ownership. The network timing distribution capabilities of the StarSync 6850 reduces the need for expensive Rubidium or Cesium timing elements in the network; however, a Rubidium internal oscillator option is available for standalone or central office deployments.

The StarSync 6850 reduces or eliminates reliance on Rubidium or Cesium Sources thereby greatly reducing CapEx/OpEx costs

CXR Larus StarSync 6850

Specifications:

PHYSICAL

Nominal Input Power: -48 VDC
 Input Voltage Power: -20 VDC to -75 VDC

Optional: 40-265 VAC, 50-60 Hz

Dimensions (W x D x H): 17.5-in (44.5 cm) X 12-in (30.5 cm) X 1.75-in (4.4 cm)

Weight: 10 lbs (4.54 kg)

Standards: Meets Bellcore NEBS TR-EOP-000063 and 1089

ENVIRONMENTAL

Operating Temperature: 32° to 144°F (0° to 50°C)
 Relative Humidity: 5% to 95%, noncondensing

REFERENCE INPUTS

NAVSTAR GPS standard, GLONASS, Galileo, future options

(2) T1/E1, RJ-48C connectors, NTP

OUTPUTS

T1/E1 (See ordering information)
 8 unprotected, or 4 1:1 protected, software selectable
 Wirewrap or RJ-48C (ordering option)

T1 port format

Transmit/receive bit rate—1.544 Mbps
 Line encoding—AMI, B8ZS
 Framing—Superframe (D4/SF), Extended Superframe (ESF) with or without SSM support

E1 port format

Transmit/receive bit rate—2.048 Mbps
 Line encoding—HDB3
 Framing—G704, G704 without CRC4, unframed with or without SSM support

PPS Output, TTL compatible signal, BNC connector

IRIG-B, per IRIG Std 200-98, Modulated or unmodulated (software selectable)- RJ-45 connector

Composite Clock Output- (2), RJ-45 connectors

Timing accuracy

Locked to GPS or Stratum 1 or NTP peer—100 ns to GPS

Holdover—<3 µs to GPS for 72 hours 32° to +122° F ±9° F (0° to +50° C ±5°)

APPLICABLE PROTOCOLS / STANDARDS

ANSI T1.101
 Daytime (RFC 867)
 DiffServ/DSCP (RFC 2474)
 FTP (RFC 959)
 GR-378-CORE, GR-1244, GR-2830
 HTTP/HTTPS (RFC 2616)
 IEEE 1588 v2 (PTP)
 IPv4, IPv6
 IRIG-B (IRIG Standard 200-98)
 ITU G.811, G.812, G.813, G.823, G.824, G.703, G.704
 MD5 authentication (RFC 1321) release 2
 NTP v2 (RFC 1119), v3 (RFC 1305), v4 enhanced
 NTP broadcast mode, multicast, manycast SMTP forwarding
 SNMP v1 (RFC 1157), v2 (RFC 1448), v3 (RFC 2271), MIB II (RFC 1213)
 SNTP (RFC 2030)
 SSH (RFC 4250-4254) SSL v1, v2, v3
 Telnet (RFC 854)
 Time (RFC 868)
 802.1q, 802.1p, 802.3, 802.3af
 UL, CE, TUV, RoHS, WEEE

Ordering Information:

Note: Add an “E” after the model number for E1 operation, ie: **6850-11E**, otherwise the unit will be delivered with T1 capability (Default)

Model	Description
6850-11	StarSync PRS/PRC Time Server, Str 3E (OCXO) Bridging, DC Pwr, Wire Wrap, NTP
6850-12	StarSync PRS/PRC Time Server, Str 3E (OCXO) Bridging, DC Pwr, Wire Wrap, PTP
6850-21	StarSync PRS/PRC Time Server, Str 2 Bridging (Rb), DC Pwr, Wire Wrap, NTP
6850-22	StarSync PRS/PRC Time Server, Str 2 Bridging (Rb), DC Pwr, Wire Wrap, PTP
6850-31	StarSync PRS/PRC Time Server, Str 3E (OCXO) Bridging, DC Pwr, RJ-48C Conns, NTP
6850-32	StarSync PRS/PRC Time Server, Str 3E (OCXO) Bridging, DC Pwr, RJ-48C Conns, PTP
6850-41	StarSync PRS/PRC Time Server, Str 2 (Rb) Bridging, DC Pwr, RJ-48C Conns, NTP
6850-42	StarSync PRS/PRC Time Server, Str 2 (Rb) Bridging, DC Pwr, RJ-48C Conns, PTP
6850-51	StarSync PRS/PRC Time Server, Str 3E (OCXO) Bridging, AC Pwr, RJ-48C Conns, NTP
6850-52	StarSync PRS/PRC Time Server, Str 3E (OCXO) Bridging, AC Pwr, RJ-48C Conns, PTP
6850-61	StarSync PRS/PRC Time Server, Str 2 (Rb) Bridging, AC Pwr, RJ-48C Conns, NTP
6850-62	StarSync PRS/PRC Time Server, Str 2 (Rb) Bridging, AC Pwr, RJ-48C Conns, PTP

Accessories:

007-02319-000, GPS Antenna Kit, w/50 ft RG58 coax	007-02319-004 Down/Up Converter Antenna kit, up to 1500 ft coax
007-2534-000, Lightning Protection Kit, w/50 ft RG58 coax	Other accessories available, Contact Factory for information

Other product and company names referenced herein may be trademarks or trade names of their respective owners. Features and specifications are subject to change without notice.