



# Model 54582

## Next Gen NTP Server / PTP IEEE-1588V2 Grandmaster Clock

### Product Highlights:

- Versions compatible with virtually all CXR Larus StarClock shelves
- Versions to provide full Network Time Protocol, (NTP V3 and V4), or Precision Time Protocol, (PTP IEEE-1588 V2)
- Adds seamless Next Generation capability to legacy installations without forklift upgrade
- Hardware based 100 Mbps Wireline NTP processing speed
- NTP within 10  $\mu$ s relative to UTC
- Carrier Class Nanosecond Synchronization Accuracy with PTP
- Consumes only two contiguous unused output card slots of shelves
- SNMP V2c or V3 software supported
- TL1 Interface through craft port or Telnet/SSH session
- Local Serial RS-232 Craft Port
- HTTP Web Interface
- Front Panel 10/100 Base-T compatible RJ-45 connector
- Installation completely non-service affecting
- Local indicators for operational verification
- Future support for IPV6
- Future support for PTP Boundary Clock



The specially designed CXR Larus Model 54582 NTP Server/ PTP IEEE-1588V2 Grandmaster Clock Module for the Larus and CXR Larus StarClock 100, StarClock 200 and StarClock 200E series of BITS Clock shelves equips these industry standard timing legends into the latest Next Generation IP timing technologies without the need for a forklift upgrade. These modules are completely autonomous, requiring only -48V power from the existing shelf. This means that the Model 54582 NTP/PTP module can be installed and serviced without taking the existing shelf out of service.

A HTTP Web interface and industry standard TL1 commands are available for management, either from a front panel mounted RS-232 jack, or via an ethernet based Telnet/SSH session, and support for SNMP V2c and V3 is included at no additional charge.

The Models 54582 List 0 and List 2 support Network Time Protocol. NTP Version 3 (RFC1305), Version 4 (draft), and SNTP V4 are all supported, and included is support for broadcast, multicast, unicast, and manycast, Time per RFC 868, and Daytime per RFC 867.

The Models 54582 List 1 and List 3 support Precision Time Protocol, and provides full support for the latest version of IEEE-1588V2 (IEEE-1588 2008), ensuring compatibility with all other vendor's PTP Slave clocks in the network. Future capability includes use as a PTP Boundary Clock

All versions support both SNMP V2c and V3, ensuring seamless integration into managed networks.



**The Model 54582  
NTP/PTP Module  
operates  
autonomously,  
making  
installation and  
maintenance a  
snap**

## Specifications:

### Physical:

#### Dimensions, Weight: (W x D x H):

1.5 in. (38mm) X 12.2 in. (310 mm) X 9 in. (226 mm)

#### Supply Voltage (Supplied from shelf)

-42 Vdc to -56 Vdc, , 0.6A maximum

### Environmental:

Operating Temp: 0°C to 50° C

Storage Temp: 0°C to 65°C

Relative humidity: 0-95%, non condensing

### Electrical:

**Ethernet Connector:** RJ-45, Per IEEE-802.3

**RS-232 Craft Interface Connector:** 9 pin Male D-Sub connector, DTE.  
Connection to PC or Laptop requires straight through (ie: not null modem) cable (not supplied)

#### LED Indicators:

<b>Power:</b>	Green
<b>Fail Alarm:</b>	Red
<b>Network:</b>	Activity and Link
<b>Output Alarm:</b>	Red
<b>Reference Good:</b>	Green

### NTP Precision:

Line rate NTP at 100 Mbps

Accuracy to UTC: 10  $\mu$ s

### Standards:

Meets or exceeds industry standards:

IEEE-802.3  
IEEE-1588V2 ( 2008)  
IPV4  
MD5 (RFC1321)  
RFC867  
RFC868  
Telnet (RFC854)  
NTP V3 (RFC1305)  
SNTP V4 (RFC 2030)  
NTP V4 draft  
SNMP V2c  
SNMP V3  
NEBS Level 3  
UL Part 15 and CE  
Future support for IPV6 (RFC 2553)  
RoHS, WEEE



**The CXR Larus StarClock 200E  
Synchronization Timing System**

## Ordering Information:

- |                     |  |
|---------------------|--|
| <b>54582 List 0</b> | <b>Module, Next Gen NTP Server, StarClock 100/200 Compatible</b> |
| <b>54582 List 1</b> | <b>Module, PTP Grandmaster, StarClock 100/200 Compatible</b>     |
| <b>54582 List 2</b> | <b>Module, Next Gen NTP Server, StarClock 200E Compatible</b>    |
| <b>54582 List 3</b> | <b>Module, PTP Grandmaster, StarClock 200E Compatible</b>        |

### **NOTE:** How to identify which StarClock shelf you have:

The StarClock 100 and 200 use white painted faceplates with no screwlocks installed

The StarClock 200E uses brushed aluminum faceplates with screwlocks installed



**Network Timing, Test and Access Solutions**