

# NTP800

## Quad-Port Enterprise-Class Network Time Server

The NTP800 provides highly accurate yet economic time distribution over local area networks (LAN) using Network Time Protocol (NTP), the industry-standard means of time distribution over discrete networks.



NTP800 has the following upgrades to the original NTP80:

- Full rack-mounted chassis design
- 1U high 19" rack mount
- Front panel includes nine digit display
- Oscillator options include OCXO & Rubidium

### Features

- Economic quad-port stratum 1 Network Time Server
- Can act as both client and server in peer-to-peer mode
- Capable of synchronizing up to 4 discrete networks independently.
- Client system accuracy to within 50  $\mu$ s\*
- Precision timing circuits ensure stability in event of synchronization signal interruption.
- Configuration via web interface.
- 4 1GBe combo ports.
- 5000 Time stamps per second.
- License upgrades to Precise Time Protocol (PTP)

### Input Synchronization Options

- Satellite (GNSS) via Active Antenna or Long-Distance Antenna System
- Satellite via IRNSS (L5 + S Band)
- NTP (Peer-to-Peer)
- IRIG-B
- 1 PPS
- 10 MHz

\* Accuracy subject to Reference Clock and network conditions

### Applications

The NTP800 provides a cost-effective way of providing time from a trusted source, which is critical in many organizations such as airports, railways, financial institutions, telecommunication companies, etc.

#### Enterprise/Corporate Networks

Any business using devices on a network can benefit from using the NTP800 - not only can it use a selection of highly accurate, trusted time sources, it is easily integrated into internal systems thus eliminating network security issues that arise from using an external time source e.g. from the Internet.

#### Rail

The ability to operate in peer-to-peer mode means that the NTP800 is especially useful as a sub-master clock in rail applications.

#### Power Utilities

Hardened dual redundant power supplies

### Key Benefits:

- Accurate & reliable time data from a trusted source
- Control over configuration via web browser
- Synchronisation between users - eradicates discrepancies
- System time stamping (e.g. for e-commerce transactions, e-mail sent & receive, etc) is highly accurate
- Automatic systems procedures, such as backups, occur at the correct time and in the correct order

# NTP800 Specifications

## Connections

The unit provides four RJ45/SEP connections to 10/100/1000 BASE-T networks.

The optional management interface provides control via a USB port.

The synchronization source input is connected via a 50Ω BNC socket.

IRIG-B Input/Output supports a variety of formats: B000, B005, B006, B007, B124, B125, B126, B127

1PPS Input/Output is supplied on a BNC connector (female) at a level of 5 volts

## Interface Standards

- NTP Version 3 [RFC 1305], NTP Version 4 [RFC5905]  
Also SNTP compatible
- SNMP Enterprise MIB (RFC1155, RFC1157, RFC1213) (Note: SNMP is for unit status only)
- Daytime Protocol (RFC867), Time Protocol (RFC 868)
- Ethernet/IEEE802.3
- IPv4 (IPv6-ready)
- UDP/IP
- ICMP

## Network Configuration

Configuration of network parameters including IP Address, Sub-net Mask, Gateway Address, SNMP Trap Address, and SNMP Read/Write community names is via web-browser. All such details are stored in non-volatile memory.

User specific network parameters can be factory-configured upon request.

Same user port available for upgrade of flash code for newer versions or additional options.

## Frequency Stability:

Oscillator		Stability per °C	Performance while disciplined						Holdover accuracy at constant temperature after loss of reference		
Option	Description		Averaging Time						Time	Frequency	
			1s	10s	100s	1000s	10000s	1 day	1 day	1 day	3 days
01	TCXO	1.5x10 <sup>-8</sup>	2x10 <sup>-9</sup>	5x10 <sup>-10</sup>	5x10 <sup>-10</sup>	5x10 <sup>-10</sup>	6x10 <sup>-11</sup>	1x10 <sup>-12</sup>	<2 ms	<2.0x10 <sup>-8</sup>	<3.0x10 <sup>-8</sup>
02	OCXO	1.2x10 <sup>-10</sup>	3x10 <sup>-10</sup>	3x10 <sup>-10</sup>	4x10 <sup>-10</sup>	4x10 <sup>-10</sup>	5x10 <sup>-11</sup>	1x10 <sup>-12</sup>	<60 μs	<2x10 <sup>-9</sup>	<4x10 <sup>-9</sup>
03	Rubidium	7x10 <sup>-12</sup>	3x10 <sup>-11</sup>	8x10 <sup>-12</sup>	3x10 <sup>-12</sup>	3x10 <sup>-12</sup>	2x10 <sup>-12</sup>	8x10 <sup>-13</sup>	<1 μs	<1.0x10 <sup>-11</sup>	<1.5x10 <sup>-11</sup>

N.B. Option 1 TCXO supplied as standard unless otherwise specified  
<sup>1</sup>Requires firmware upgrade

As we are always seeking to improve our products, the information in this document only provides general indications of product capability, suitability and performance, none of which shall form any part of any contract.

## Physical (stand-alone unit)

Size:	19-inch rack mounting 1U high 200mm deep
Weight:	10 lbs
Power:	Dual redundant, hot swappable
AC Power:	90-264VAC 50-60Hz Load 20W (typical) subject to oscillator. Connection via 3 pin IEC plug
DC Power:	18-36VDC 36-72VDC
Isolation:	2250VDC Input-Output
Display:	9 digit display + 6 status LEDs

## Environment (Operation & Storage)

Temperature:	-5°C to +50°C
Humidity:	up to 95% RH (non-condensing)
EMC:	CE compliant
Safety:	IEC 60950-1, CSA 22-2

## Input Synchronization Options

### GNSS Satellite

GNSS Multi constellation (GPS, GLONASS, Galileo<sup>1</sup>, Beidou)  
 GNSS Time Accuracy (when synchronising): ±100 nanoseconds from UTC

An active GPS Antenna is supplied as the standard antenna.

Upgrade option: The unit is compatible with Long Distance GPS Antenna for use with CAT5/5e/6 cable.

### IRNSS Satellite (optional)

GNSS Multi constellation (GPS, GLONASS, NavIC (L5 + S Band))  
 GNSS Time Accuracy (when synchronising): ±100 nanoseconds from UTC

An active Antenna is supplied as the standard antenna for IRNSS reception.

### Time Code input/output

IRIG-B per standard 200-04