![brandywine communications]

NTP80plus
Triple-Port Network Time Server

The NTP80plus 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.

NTP80plus has the following upgrades to the original NTP80:

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

Features

- Economic triple-port stratum 1 Network Time Server
- Can act as both client and server in peer-to-peer mode
- Capable of synchronising up to 3 discrete networks independently
- Client system accuracy to within 50 µs*
- Precision timing circuits ensure stability in event of synchronisation signal interruption.
- Configuration via web interface.
- 1PPS output
- Supports up to 1500 clients

Input Synchronisation Options

- Satellite (GPS) via Active Antenna or Long-Distance Antenna System
- NTP (Peer-to-Peer)

* Accuracy subject to Reference Clock and network conditions

Applications

The NTP80plus provides a cost-effective way of providing time from a trusted source, which is critical in many organisations such as airports, railways, financial institutions, telecommunications companies, etc.

Enterprise/Corporate Networks

Any business using devices on a network can benefit from using the NTP80plus - 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 NTP80plus is especially useful as a sub-master clock in rail applications.

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

NTP80plus Specifications

Connections

The unit provides three discrete RJ45 connections to separate 10/100BASE-T networks.

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

1PPS output is also 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.

Physical (stand-alone unit)

Size:	19-inch rack mounting 1U high 200mm deep
Weight:	3kg
Power:	90-264VAC 50-60Hz Load 20W (typical) subject to oscillator. Connection via 3 pin IEC plug
Display:	2 rows by 40 character LCD. Character height 5mm
Keyboard:	5 button keyboard for equipment configuration & control.

Environment (Operation & Storage)

Temperature:	-5°C to +50°C
Humidity:	up to 95% RH (non-condensing)
EMC:	CE compliant

Input Synchronisation Options
Satellite

GPS Time Accuracy (signal available): ±100 nanoseconds from UTC

A GPS Active Antenna is supplied as standard Antenna upgrade option: unit is compatible with Long Distance GPS Antenna for use with CAT5/5e/6 cable.

Frequency Stability:

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

N.B. Option 1 TCXO supplied as standard unless otherwise specified

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