

NTTSU

# Time Synchronization Unit 1U Rack-mountable

DATA SHEET

## Time Stamp Synchronization

The Napatech Time Synchronization Unit (NTTSU) can be used for synchronization of up to 8 Napatech NT family network adapters in various setups including synchronization to a GPS (global positioning system) satellite time signal. A number of NTTSUs can be daisy-chained to synchronize more than 8 adapters.

The NTTSU can be used in three different modes:

- As time synchronization master using a GPS signal.
- As stand-alone synchronization master using its free-running counter.
- As timing distribution device getting the time information from an NT adapter working as time synchronization master.

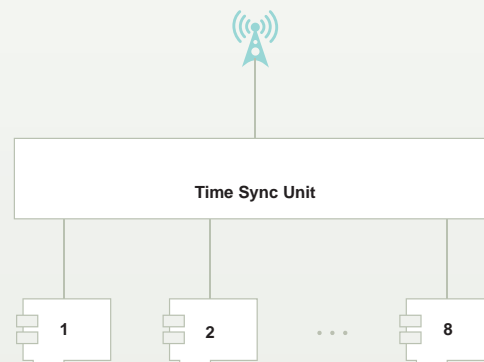


NTTSU – Time Synchronization Unit

When the NTTSU is used for GPS synchronization, an Acutime 2000 synchronization kit must be used for supplying the GPS signal.

The time synchronization precision is very high (in the nano-second range). This is useful, for instance, for exact monitoring of multiple packet streams.

The NTTSU is very easy to use. No configuration is required as the cabling of the NTTSU determines the mode of operation.



## FEATURE HIGHLIGHTS AND APPLICATIONS

### Feature Highlights

- Synchronization of up to 8 network adapters per NTTSU
- Daisy-chaining of NTTSUs
- GPS time-synchronization
- Time synchronization using an NT adapter as master
- Stand-alone time synchronization
- 6 different time formats
- Ultra-high precision
- No configuration required

### Napatech-supported Applications

The Napatech Time Synchronization Unit enables our OEM customers to create advanced precision timing solutions. Examples of supported applications are:

- Latency measurements
- Latency optimization
- Server-to-server synchronization
- Site-to-site synchronization

## SPECIFICATIONS

### General Features

- Time formats:  
PCAP-ns/-μs, native, NDIS 10 ns/100 ns, UNIX 10 ns

### Precision

- Synchronization using one NTTSU:  
Typical precision better than 20 ns  
Maximum deviation 50 ns.
- Synchronization using GPS antennas and multiple NTTSUs at different locations:  
Typical precision better than 50 ns  
Maximum deviation 300 ns.

### Environment

- Power requirements:  
100 - 240 V<sub>AC</sub>  
50 - 60 Hz
- Operating temperature  
0 - 50 °C, 32 - 122 °F
- Storage temperature  
-55 - 85 °C, -67 - 185 °F
- Operating relative humidity:  
Up to 95%, non-condensing

### Adapter Hardware

- LEDs:  
Green power LED  
Green daisy chain status LED  
Three-color GPS status LED
- Connectors:  
8 MCX female coax connectors for the adapter interface  
2 MCX female coax connectors for daisy chain input/output  
RS-232 male connector for receiving time data  
BNC female connector for receiving a PPS signal  
External DC power connector
- Physical dimensions:  
19-inch rack-mountable 1U box  
Depth: 251 mm = 9.88 inches  
Weight: 2.33 kg

### Accessories

- RS-422 to RS-232 connection box
- Time synchronization cables:  
75 ohm RG179 coax cables of different lengths with 2 MCX male connectors: one at each end

### 3rd-party Accessories

- Trimble Acutime Gold GPS smart antenna

## COMPANY PROFILE

Napatech develops and markets the world's most advanced programmable network adapters for network traffic analysis and application off-loading. Napatech is the leading OEM supplier of Ethernet network acceleration adapter hardware. Napatech is fully focused on providing the most cost-effective hardware acceleration solutions for Gigabit Ethernet connectivity, increasing our customers' ability to keep their competitive advantage, while maintaining the flexibility and cost position of standard server equipment and operating systems.

Napatech provides unmatched value-add to our OEM customers by offering a very flexible feature set and a highly scalable range of network adapters. With easy-to-use APIs, Napatech adapters enable effective integration of Network Monitoring, Network Security, Network Control and Assurance, and Network Traffic Generation appliances. Napatech has a strong international focus supporting OEM customers worldwide with headquarters and development located in Denmark, and sales and customer support located in the USA.

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