

## Time server

# Network Time Server NTS

The network time server NTS is a compact and powerful NTP time server with a very good cost-performance ratio.

It can be used nearly anywhere to synchronize time systems, computers, fire alarms, audio and video surveillance etc. via NTP with the precise time.

The NTS can take over the time from the DCF transmitter in Germany or from GPS (e.g. from a DCF 4500 or GPS 4500 receiver).

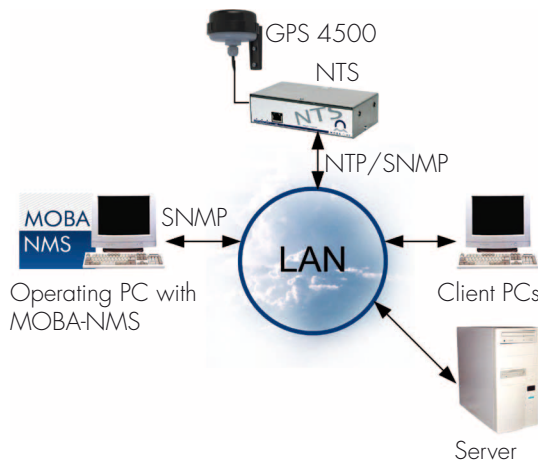
Alternatively, it can be synchronized by another time server via NTP.

The NTS can synchronize LAN slave clocks via multicast or unicast via NTP. It can also assume the function of a time zone server.

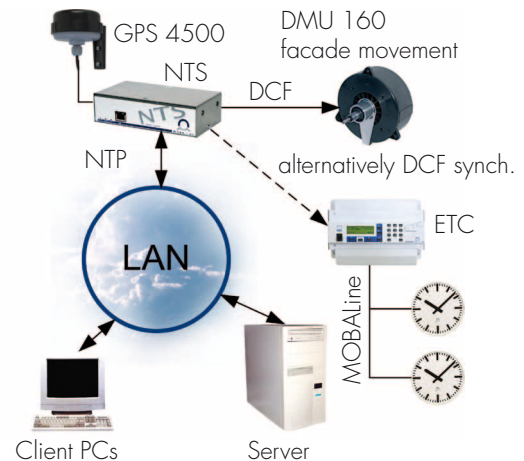
The commissioning and operation is easy and can be done via terminal menu or the network management software MOBANMS.

## NTS - Applications

NTP time server for small networks



Synchronization of an external device with DCF Current Loop (one device only)

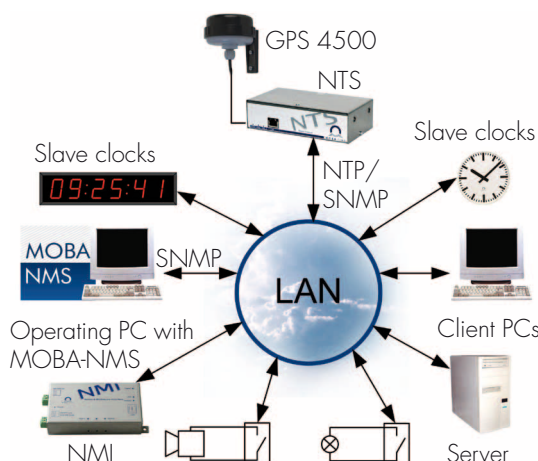


### Network bundle

Time system consisting of:

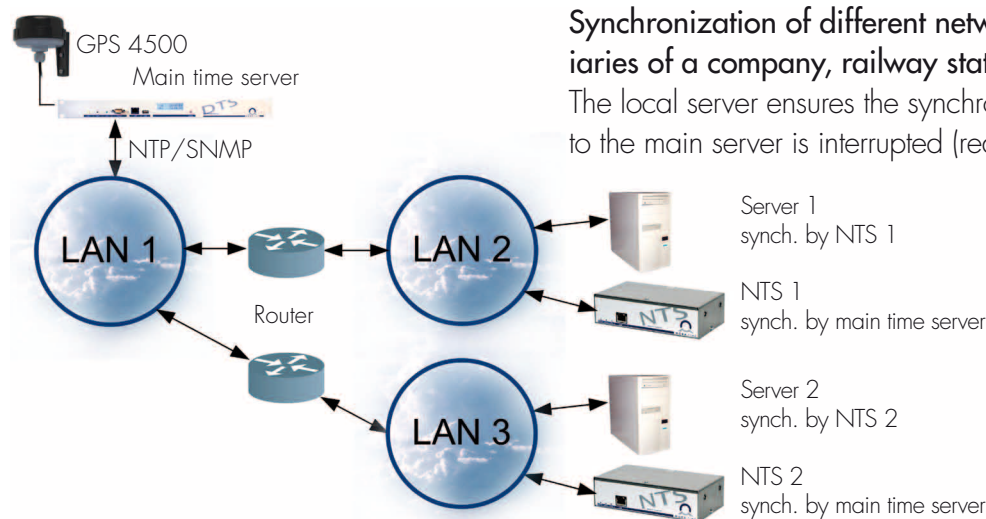
- Time server NTS, synchronized via GPS or DCF receiver
- digital and/or analog LAN clocks, synchronized via NTP
- configuration software for clocks MOBA-NMS
- LAN switch relay for school bells, time-controlled illumination etc.

Any external devices such as servers, PCs etc. can be synchronized via NTP.



Synchronization of different networks, e. g. in multiple subsidiaries of a company, railway stations etc.

The local server ensures the synchronization even if the connection to the main server is interrupted (redundancy).



## NTS - Features

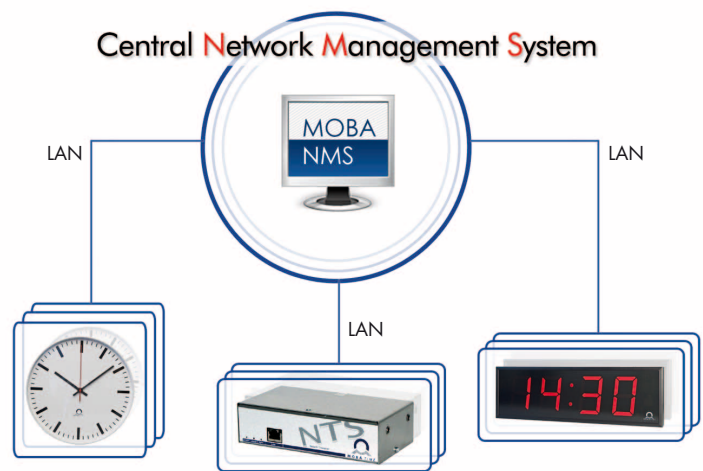
The NTS can be used as a network time server (NTP) or as a master clock (DCF). As a master clock, the NTS synchronizes other sub-master clocks (e.g. ETC) or devices using DCF (Current Loop-Signal). Alternatively, synchronization impulses (PPS) can be generated.

The NTS can send alarms as e-mails or as SNMP traps (notifications). Furthermore, SNMP can be used for the configuration and monitoring of the state of the NTS' system (Get, Put).

Using MOBA-NMS, all Mobatime network devices such as e.g. analog and digital clocks, network interfaces (NMI), LAN relays as well as other network master clocks or time servers can be operated and configured.

The software MOBA-NMS allows for easy and convenient operation, configuration, programming, administration and monitoring via LAN.

Alternatively, a simple operation menu is provided by Telnet or SSH.



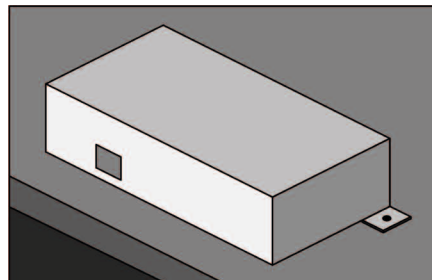
### Mounting the NTS

With rubber pads, the NTS can simply be put on a flat surface (ill. 1).

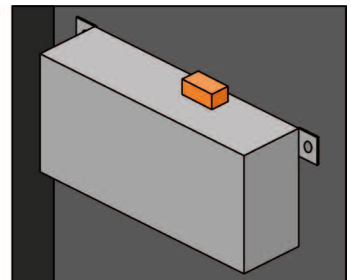
Using the two mounting brackets, the NTS can also be mounted to a wall (ill. 2).

Optionally, two brackets for rack mounting are available (ill. 3).

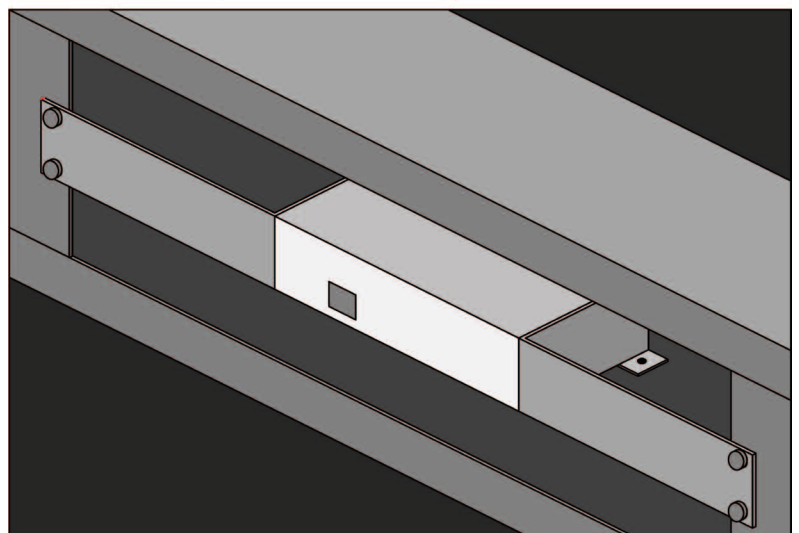
Ill. 1



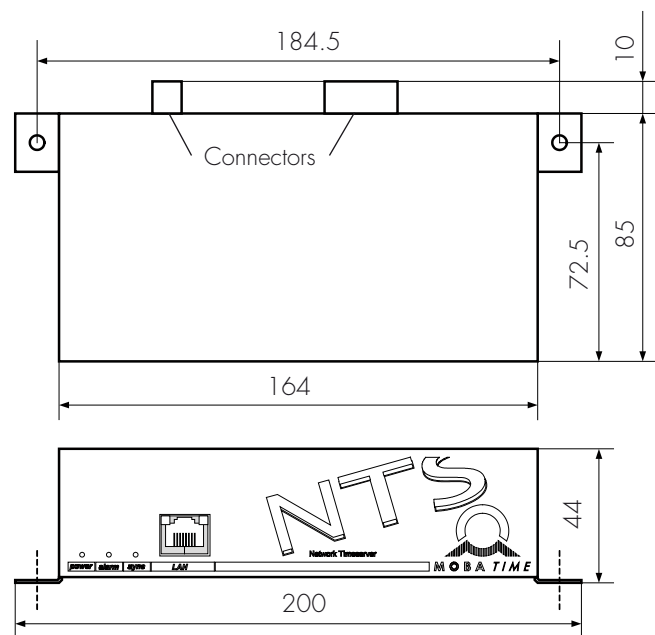
Ill. 2



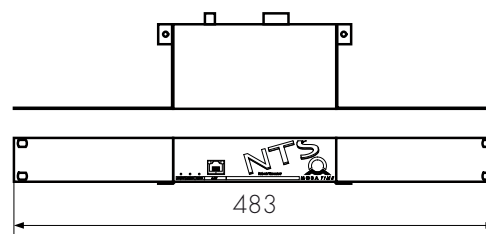
Ill. 3



## NTS - Technical details



Option: mounting brackets for 19" rack



all dimensions in mm

Technical data		Art. no. 205650
Time server	NTP V4 (fully V3 compatible), RFC 1305 (port 123) SNTP (UDP), RFC 2030 (port 123) TIME (TCP/UDP, RFC 868 (port 37) DAYTIME (TCP/UDP), RFC 867 (port 13) Max. number of NTP and SNTP requests per second: typically 250 Modes: Server, Broadcast, Multicast	
Network interface	10BaseT / 100BaseTX (IEEE 802.3) Auto-negotiation / manual Connector: RJ-45	
IP configuration	IPv4: static IP; IPv6: DHCPv6, autoconfig, static IP	
Synchronization output	DCF (UTC) or pps (configurable)	
Synchronization input	DCF 4500 / GPS 4500 (output for GPS 4500 power supply available) / NTP	
LED displays	LAN link, LAN speed / network activity, time synch. status, power supply, alarm, DCF in, init (initialization)	
DC output	20 VDC, max. 100 mA (for power supply of a GPS receiver)	
Power supply	External mains supply included in delivery 100 - 240 VAC / 50-60 Hz / max. 12 W or 24 - 28 VDC / 200 mA	
Environment	Operating temperature: -5°C...50°C Relative humidity: 5% - 95% (non-condensing)	
Accuracy	GPS (DCF input) to NTP server	typically < ± 0.5 ms
	DCF 77 radio receiver to NTP server	typically < ± 5 ms
	NTP client to NTP server	typically < ± 0.5 ms
	GPS (DCF input) or NTP client to DCF/impulse	typically < ± 2 ms
	Holdover (unsynchronized)	< ± 0.1 s/day (after 24h synch. from time source)
Time-keeping	RTC with time saving for min. 5 days (without battery)	
NTP slave clocks	1 line with time zone server function via multicast or unicast	
Operation	Telnet or SSH, MOBA-NMS over LAN or operation via SNMP	