

TIME TRANSFER OPTION FOR THE NIMBRA 360 AND 680

Time Transfer Option

Time Transfer is a value added software option for the Nimbra 360 and 680 platforms. It provides time transfer capabilities (Nimbra 360/680) as well as time interface (Nimbra 360) capabilities. Typically it can be used to distribute a common time over a Nimbra network in order to enable SFN capabilities in DTT, DVB-H, DMB and DAB networks over the same infrastructure that provides distribution of signals to the transmitters. Other services in the network will also benefit from the improved synchronization stability.

The Time Transfer option uses an augmented two-way time transfer mechanism between nodes of the network in order to compensate link delays. The links and nodes in a Time Transfer enabled network can also be calibrated for even higher time accuracy.

The Time Interface uses standard 1 PPS and 10 MHz input and output signals. Various output signal parameters can be configured according to local requirements.

The Time Transfer function is highly fault tolerant. The built-in synchronization protocol automatically determines the shortest paths for timing distribution and restores the paths in case of link or node failures. The Nimbra 360 chassis is equipped with dual pairs of time transfer ports and standby reference clocks at geographically separated locations are also supported.



NET INSIGHT AB

Box 42093, SE-126 14
Stockholm, Sweden
Tel +46-8-6850400
Fax +46-8-6850420
info@netinsight.net
www.netinsight.net

TECHNICAL SPECIFICATIONS:

Packaging: Software modules for Nimbra 360/680. Enables Time Transfer interfaces on the Nimbra 360.

Time Transfer Input Interface (Nimbra 360):

1 PPS 50 Ohm BNC, TTL levels (2.5 V), positive pulse width of 1 us to 500 ms
10 MHz 50 Ohm BNC, Sine or Square of -3 to +20 dBm RL > 15 dB @ 0.1 – 10 MHz

Time Transfer Output Interface (Nimbra 360):

1 PPS 50 Ohm BNC, TTL levels (2.5 V), positive pulse width of 1 us to 500 ms, configurable Port configurable on/off/automatic squelch 10.000.000:1 relation between 10 MHz and PPS
10 MHz 50 Ohm BNC, >10 dBm sine Port configurable on/off/automatic squelch

Maintenance: Remote software download.

Performance:

Transfer accuracy +/- 1.5 us for 10 nodes (uncalibrated)
+/- 3.0 us for 20 nodes (uncalibrated)
(when asymmetric delays are negligible, according to two-way time transfer principles)

Time system:

Time-scale Transparent to incoming 1 PPS signal
Compensations Output time can be manually adjusted up to ±1 s in steps of 25 ns.

Supported Trunk Interfaces:

Nimbra 360 Built-in trunk ports
OC-3/STM-1 and DS3/E3 plug-in modules
Nimbra 680 All trunk interfaces

Ordering information:

NPM0017-36T1 Time Transfer software license for Nimbra 360