

# NS8002

## Product Specification Network Synced Frequency Reference



PTP/NTP client network-based precision frequency reference.  
Local network synchronization eliminates coax cabling complexity.  
User selectable 5 channel timing outputs with options for 10MHz, PPS, or IRIG signals.

### Key Features:

- PTP, NTP Client
- +/-50ns sync accuracy
- DC powered (12 Vdc)
- Compatible with Novus Network timing references
- PPS accuracy 5ns 1 sigma
- Supports Unicast, Multicast or Broadcast
- Benchtop or Rackmount hardware

### Typical Applications:

- ITU Profiles: ITUG82651, ITUG82751, ITUG82752
- IEEE802.1AS-REV: including IEEE802.1CB tag handling
- Utility: including HSR and PRP tag handling
- 5 channels: 10 MHz Sine or PPS or IRIGB User selectable outputs



## Technical Specifications

<b>Reference Frequency Output</b>	
10.0 MHz Sine	1 Vrms $\pm 0.2$ , into 50 Ohms
Locked stability	5E-11
First year frequency stability	+/-40 ppb (unlocked)
Temperature stability	+/-100 ppb (unlocked)
<b>10.0 MHz Phase Noise</b>	
1 Hz	-86
10 Hz	-116
100 Hz	-134
1 kHz	-145
10 kHz	-157
100 kHz	-159
<b>PPS Output</b>	
Amplitude	3.3 Vdc CMOS (5 Vdc option)
Accuracy	5 E-12
Pulse width	Programmable 1 to 500ms in 1 $\mu$ sec steps
Rise time	<5 ns
Load Impedance	50 Ohm
Connector	BNC

<b>Front panel Indicators and Control</b>	
System status display	Channel status, system status - front panel display LCD color
5 button selector switches	Round momentary switch assembly, up, down, left, right, enter. Selects active display mode, system status.
<b>Remote interface</b>	
Rear Panel Serial Port	USB mini-B to serial interface for system status and system configuration 115200 baud default
Standard Serial Baud Rates	Selectable baud rate 19200, 38400, 57600 or 115200 (default), 8 data bits, 1 stop bit, no parity, no flow control
Network Connectivity	Ethernet: 10/100/1000mb RJ-45 Rear panel
<b>Power</b>	
DC input	+12VDC @ 2A AC to DC Adapter, 25W Power Supply (9 to 36V)



## Environmental and Mechanical

<b>Mechanical</b>	
Height	1.77" (45mm) 1RU EIA 19" rack compatible
Width	7.97" (202.4mm)
Depth	8.0" (203.2mm)
Weight	3.0 lbs.
<b>Environmental</b>	
Operating temperature	-10 to 65°C
Storage temperature	-40 to 70°C
Humidity	0% - 90% RH non-condensing
Agency Certifications	UL / FCC Part 15
EU compliance	RoHS, REACH, WEEE
EMC Compliance Emissions/Immunity	CISPR 32 Emissions CISPR 35 Immunity IEC 61000-4-2 ESD IEC 61000-4-3 Radiated IEC 61000-4-4 Transient/burst immunity IEC 61000-4-5 Surge immunity IEC 61000-4-6 Immunity to conducted
Safety	UL 62368-1

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## Revision History

Rev.	Date	Nature of Changes	Approved By
1	December 15, 2025	Initial release.	Christian Cochran

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