

1/3 RACK-MOUNTED



Unit shown with Option 17, display-remote control

Unit shown without Option 17, display-remote control

FEATURES

- 30 dB level control
- Local oscillator monitor port
- Output signal monitor port
- Low phase noise
- Low intermodulation distortion
- Summary alarm
- CE certification

OPTIONS

- Higher frequency stability
- RS-422/RS-485 and 10/100 Base-T Ethernet
- Automatic 5/10 MHz internal/external reference selection
- Gain transmit to L-Band
- 30 dB additional level control
- LO level alarm

This equipment is designed for applications where frequency translation is needed with a minimum of amplitude and group delay distortion.

U.S. Patent #7,510,090



TEST TRANSLATORS

RF TRANSMIT-BAND TO RF RECEIVE-BAND

INPUT FREQUENCY (GHz)	OUTPUT FREQUENCY (GHz)	LO FREQUENCY (GHz)	MODEL NUMBER
5.85 to 6.425	3.625 to 4.2	2.225	DNS-6.1/3.9TR
5.85 to 6.65	3.4 to 4.2	2.45	DNS-6.25/3.8TR
6.725 to 7.025	4.5 to 4.8	2.225	DNS-6.8/4.6TR
7.9 to 8.4	7.25 to 7.75	0.65	DNS-8.15/7.5TR
7.9 to 8.4	7.175 to 7.675	0.725	DNS-8.15/7.4TR
12.75 to 13.25	10.7 to 11.2	2.05	DNS-13/11.2TR
13.75 to 14.5	10.7 to 11.45	3.05	DNS-14/11TR
13.75 to 14.5	11.45 to 12.2	2.3	DNS-14/11.8TR
13.75 to 14.5	12 to 12.75	1.75	DNS-14/12.3TR
13.75 to 14.5	10.95 to 11.7	2.8	DNS-14/11.3TR
13.75 to 14.5	11.7 to 12.45	2.05	DNS-14/12TR
17.3 to 18.1	11.7 to 12.5	5.6	DNS-17.7/12.1TR

Ka-BAND

INPUT FREQUENCY (GHz)	OUTPUT FREQUENCY (GHz)	LO FREQUENCY (GHz)	MODEL NUMBER
29.5 to 30	19.2 to 19.7	10.3	DNS-29.75/19.45TR
29.5 to 30	19.7 to 20.2	9.8	DNS-29.75/19.95TR
29 to 30	19.2 to 20.2	9.8	DNS-29.5/19.7TR
30 to 31	20.2 to 21.2	9.8	DNS-30.5/20.7TR

RF TRANSMIT-BAND TO L-BAND

INPUT FREQUENCY (GHz)	OUTPUT FREQUENCY (GHz)	LO FREQUENCY (GHz)	MODEL NUMBER
5.85 to 6.65	0.95 to 1.75	4.9	DN1-6.25TR
5.925 to 6.425	0.95 to 1.45	7.375	DN1-6.175TR-INV
7.9 to 8.4	0.95 to 1.45	6.95	DN1-8.15TR
12.75 to 13.25	0.95 to 1.45	11.8	DN1-13TR
14 to 14.5	0.95 to 1.45	13.05	DN1-14.25TR
13.75 to 14.5	0.95 to 1.7	12.80	DN1-14.125TR
14.5 to 14.8	0.95 to 1.25	13.55	DN1-14.65TR
17.3 to 18.1	0.95 to 1.75	16.35	DN1-17.7TR

Ka-BAND

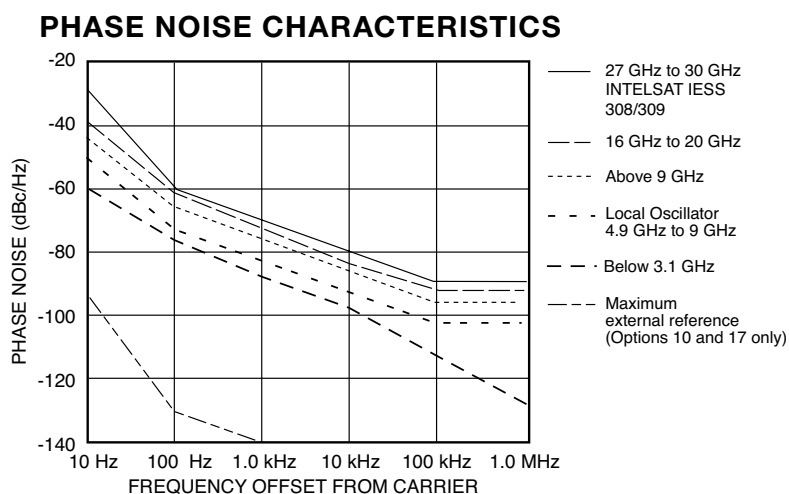
INPUT FREQUENCY (GHz)	OUTPUT FREQUENCY (GHz)	LO FREQUENCY (GHz)	MODEL NUMBER
28.35 to 28.6	0.95 to 1.2	27.4	DN1-28.475TR
29.25 to 29.5	0.95 to 1.2	28.3	DN1-29.375TR
29.25 to 30	0.95 to 1.7	28.3	DN1-29.75TR
30 to 31	0.95 to 1.95	29.05	DN1-30.5TR
30 to 31	1 to 2	29	DN1-30.5-1TR



SPECIFICATIONS	IF-BAND	L-BAND
Input characteristics		
Frequency	Refer to model number table on previous page	Refer to model number table on previous page
Impedance	50 ohms	50 ohms
Return loss	18 dB minimum	18 dB minimum
Non-damage level	+10 dBm maximum	+10 dBm maximum
Output characteristics		
Frequency	Refer to model number table on previous page	Refer to model number table on previous page
Impedance	50 ohms	50 ohms
Return loss	18 dB minimum	18 dB minimum
Output signal monitor	N/A	-20 dBc nominal
Transfer characteristics		
Conversion loss	25 dB maximum	15 dB maximum (20 dB gain optional)
Level control	30 dB continuously adjustable (rear panel), 30 dB/0.2 dB step (Option 17)	
Conversion loss stability	±0.25 dB/day at 23 °C	±0.25 dB/day at 23 °C
Amplitude response	±0.25 dB/40 MHz, ±1 dB/output frequency band	±0.25 dB/40 MHz, ±1 dB/output frequency band
Intermodulation	-50 dBc minimum at -5 dBm input	-50 dBc minimum at -5 dBm input
Frequency stability	±3 x 10 ⁻⁶ /day (0 °C to 50 °C)	±3 x 10 ⁻⁶ /day (0 °C to 50 °C)
Input/output isolation	60 dB minimum	60 dB minimum
Mute function	60 dB minimum	60 dB minimum

Note: All specifications at maximum gain unless otherwise noted.

MAXIMUM PHASE NOISE SPECIFICATIONS



TEST TRANSLATORS

OPTIONS

Missing option number are not applicable for this product.

1. Gain on transmit to L-Band units
 - Gain 20 ±3 dB
 - Power output (1 dB compression)..... +18 dBm minimum
 - Gain slope..... 0.03 dB/MHz maximum
 - Gain stability..... ±0.25 dB/day maximum at constant temperature
 - Intermodulation distortion (third-order).. With two inband signals at 0 dBm output, third-order intermodulation products are less than 60 dBc minimum and 50 dBc minimum (Ka-Band units).
 - Noise figure 18 dB maximum (20 dB for Ka-Band)
7. 30 dB additional level control
8. LO level alarm
9. Input filter
10. Higher frequency stability reference/automatic reference configuration
 - External 5 or 10 MHz at +4 ±3 dBm. If external reference is below +1 dBm nominal, the converter will automatically lock to the internal reference. Reference oscillator acts as an analog phase lock with a 0.1 Hz nominal loop bandwidth. Typical loop suppression of the external reference is as follows: -28 dB at 1 Hz offset, 65 dB at 10 Hz offset, and 100 dB at 100 Hz offset. Internal oscillator is available with the following stabilities:
 - A. ±5 x 10⁻⁸, 0 °C to 50 °C,
5 x 10⁻⁹/day typical (fixed temperature after 24 hours on time)
 - C. ±5 x 10⁻⁹, 0 °C to 50 °C,
1 x 10⁻⁹/day typical (fixed temperature after 24 hours on time)
 - Note: Translator may require 7 days to 10 days to reach stability after long storage periods.
17. Remote control/display..... 10/100 Base-T Ethernet interface providing:
 - HTTP-based web server
 - SNMP 1.0 configuration
 - Alarm reporting via SNMP Trap
 - Telnet access
 - Password protection and selectable RS-485/RS-422
 - Gain control is 30 dB in 0.2 dB steps
 - Alarm, reference and mute status on front panel

Notes: Display is only provided with remote control Option 17.

For literature describing local control (front panel) and remote control (bus control), refer to L3 Narda-MITEQ Technical Note 25T066.



ACCESSORIES

1/3 rack-mount frame

Model numberOL-TR3-20

Weight.....1.5 lb. [0.68 kg] nominal

Dimensions19" [482.6 mm] x 1.75" [44.5 mm] x 20" [508.0 mm]

GENERAL SPECIFICATIONS

PRIMARY POWER REQUIREMENTS

Voltage.....100 VAC to 240 VAC (-10%, +6%)

Frequency.....47 Hz to 63 Hz

Consumption12 W typical

PHYSICAL

Weight4.5 lb. [2.04 kg] nominal

Dimensions5.70" [144.8 mm] x 1.48" [37.6 mm] x 18" [457.2 mm]
(excluding connectors)

Connectors

RF Band.....SMA female (below 18 GHz),
SMA female compatible above 18 GHz

Output monitorSMA female

LO monitor.....SMA female

Status interfaceDE-9S

Redundancy interfaceDE-9P

Remote interface (Option 17).....RJ-45 female for Ethernet, RS-422/RS-485 available
on status connector

Primary power inputIEC-320

External referenceSMA female (Option 10 only)

ENVIRONMENTAL

Operating

Temperature0 °C to 50 °C

Relative humidity.....Up to 95% at 30 °C

Atmospheric pressureUp to 10,000 feet

Nonoperating

Temperature-50 °C to +70 °C

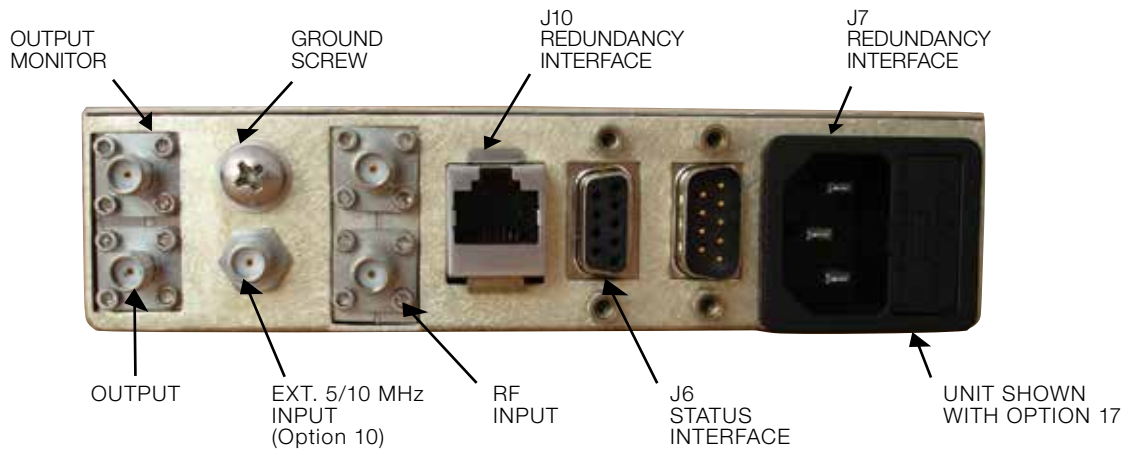
Relative humidity.....Up to 95% at 45 °C

Atmospheric pressureUp to 40,000 feet

Shock and vibrationNormal handling by commercial carriers

TEST TRANSLATORS

TYPICAL REAR-PANEL VIEW



The material presented in this datasheet was current at the time of publication. L3 Narda-MITEQ's continuing product improvement program makes it necessary to reserve the right to change our mechanical and electrical specifications without notice. If either of these parameters is critical, please contact the factory to verify that the information is current.

This material consists of L3 Narda-MITEQ general capabilities information and does not contain controlled technical data as defined within the International Traffic in Arms (ITAR) Part 120.10 or Export Administration Regulations (EAR) Part 734.7-11.
D-320E/03.10.17

narda  **MITEQ**

435 Moreland Road

Hauppauge, NY 11788

Tel: 631-231-1700

Fax: 631-231-1711

Email: nardaMITEQ@L3T.com

www.nardamiteq.com