



# MULTIPLE BAND TO C-BAND RECEIVE FREQUENCY TRANSLATORS



## FEATURES

- Automatic 5/10 MHz internal/external reference selection
- RS485/RS422 remote control
- RF input/output signal monitor ports
- 30 dB gain control
- Low phase noise
- 64 memory locations
- High frequency stability
- Summary alarm
- CE mark

This series of frequency translators provide block conversion from multiple RF input bands to the C-band receive frequency. Local control is by a front panel keyboard and remote control is available through an RS485 interface. Up to 64 discrete band and attenuation settings may be programmed into a nonvolatile memory.

## OPTIONS

- High stability reference
- Remote RS232 or 10/100Base-T Ethernet



## SPECIFICATIONS

Model Number	Input Frequency (GHz)	Output Frequency (GHz)	Translation Frequency (GHz)
DNB3-11.72-3.8	10.7 – 11.45	3.45 – 4.2	7.25
	11.45 – 12.2	3.45 – 4.2	8
	11.955 – 12.755	3.4 – 4.2	8.555
DNB3-11.82-3.8	10.9 – 11.7	3.4 – 4.2	7.5
	11.7 – 12.5	3.4 – 4.2	8.3
	12.25 – 12.75	3.7 – 4.2	8.55
DNB3-11.85-3.8	10.95 – 11.7	3.45 – 4.2	7.5
	11.7 – 12.5	3.4 – 4.2	8.3
	11.955 – 12.755	3.4 – 4.2	8.555
DNB3-11.8-3.8	10.7 – 11.5	3.4 – 4.2	7.3
	11.4 – 12.2	3.4 – 4.2	8
	12.2 – 13	3.4 – 4.2	8.8
DNB2-7.75-3.8	7.1 – 7.9	3.4 – 4.2	3.7
	7.6 – 8.4	3.4 – 4.2	4.2
DNB1-0.375-3.8	0.250–0.500	3.55 – 3.8	3.3
DNB3-1.75-3.8	0.9 – 1.7	3.4 – 4.2	2.5
	1.6 – 2.4	3.4 – 4.2	1.8
	2 – 2.8	3.4 – 4.2	1.4
DNB5-19.85-3.8	17.7 – 18.5	3.4 – 4.2	14.3
	18.4 – 19.2	3.4 – 4.2	15
	19.1 – 19.9	3.4 – 4.2	15.7
	19.8 – 20.6	3.4 – 4.2	16.4
	20.5 – 21.3	3.4 – 4.2	17.1

Type .....	Dual conversion
Frequency sense.....	No inversion
Input characteristics	
Impedance .....	50 ohms
Return loss.....	20 dB minimum
LO leakage .....	-80 dBm maximum
Signal monitor.....	-20 dBc nominal
Output characteristics	
Impedance .....	50 ohms
Return loss.....	20 dB minimum
Power output (1 dB compression) .....	+15 dBm typical at minimum attenuation, +10 dBm minimum, up to 20 dB attenuation
Signal monitor.....	-20 dBc nominal
Transfer characteristics	
Gain (at minimum attenuation) .....	35 dB minimum, 41 dB maximum
Image rejection .....	80 dB minimum
Level stability .....	±0.25 dB/day at constant temperature
Noise figure (at minimum attenuation).....	15 dB maximum
Amplitude response .....	±0.5 dB/±40 MHz, ±2.0 dB over output band
Group delay .....	1 ns peak-to-peak maximum
Intermodulation distortion (third order).....	With two 0 dBm output signals, 40 dBc minimum up to 20 dB attenuation
Spurious outputs	
Signal related.....	65 dBc minimum
Signal independent.....	-70 dBm maximum
Gain adjustment.....	30 dB in 0.2 dB steps
Frequency stability .....	±2 x 10 <sup>-8</sup> , 0 to 50°C (higher stability options available), ±5 x 10 <sup>-9</sup> /day typical (fixed temperature after 24 hour on time)
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.

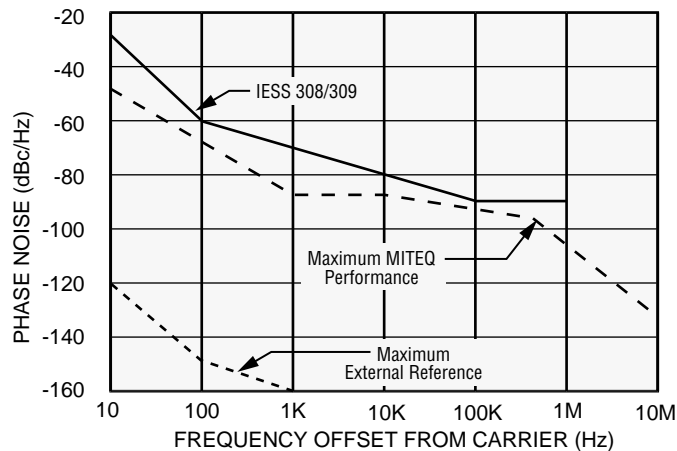
## OPTIONS

- 10.** Higher frequency stability reference.
- B.**  $\pm 5 \times 10^{-9}$ , 0 to 50°C,  
1 x 10<sup>-9</sup>/day typical (fixed temperature after 24 hour on time).
  - C.**  $\pm 2 \times 10^{-9}$ , 0 to 50°C,  
1 x 10<sup>-9</sup>/day typical (fixed temperature after 24 hour on time).
- 17.** Remote control.
- C.** RS232.
  - H.** 10/100Base-T Ethernet interface providing:  
Web-browser-based configuration  
SNMP 1.0 configuration  
Alarm reporting via SNMP trap  
Telnet access  
Password protection
- 22.** Dedicated remote control panel with RS485/422 serial interface
- A.** Provides remote control and status over a dedicated RS485 bus.
  - B.** Provides remote control and status over a dedicated fiber link. Single 62.5/125 um multimode fiber. ST-female connectors for customer supplied multimode fiber.

Notes: Missing option numbers are not applicable to this product.

For literature describing local control (front panel) and remote control (bus protocols), refer to MITEQ's Technical Note 25T055.

### PHASE NOISE CHARACTERISTICS (1.0 Hz BANDWIDTH)



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## GENERAL SPECIFICATIONS

### PRIMARY POWER REQUIREMENTS

Voltage .....	90–250 VAC
Frequency .....	47–63 Hz
Power .....	50 W typical

### SUMMARY ALARM

Contact closure/open for DC voltage and/or LO alarm

### PHYSICAL

Weight .....	16 pounds nominal
Overall dimensions .....	19" x 1.75" panel x 22" maximum (chassis depth 20")
Connectors	
RF.....	SMA female
RF monitor.....	SMA female
External reference .....	BNC female
LO monitors (front panel) .....	SMA female
Remote interface .....	DEM-9S for RS485, RS422 and RS232, RJ-45 female for Ethernet
Summary alarm.....	DE-9P
Primary power input .....	IEC-320

### ENVIRONMENTAL

Operating	
Ambient temperature.....	0 to 50°C
Relative humidity .....	Up to 95% at 30°C
Atmospheric pressure .....	Up to 10,000 feet
Nonoperating	
Ambient temperature.....	-50 to +70°C
Relative humidity .....	Up to 95% at 40°C
Atmospheric pressure .....	Up to 40,000 feet
Shock and vibration.....	Normal handling by commercial carriers



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