



TRI-BAND FREQUENCY TEST TRANSLATORS

For Satellite Communications



"BU" SERIES



"B" SERIES

FEATURES

- Minimum amplitude and delay distortion
- High frequency stability
- Low intermodulation distortion
- Low phase noise contribution
- CE mark

"BU" SERIES FEATURES

- 30 dB continuous level control

"B" SERIES FEATURES

- RS485/RS422 remote control
- 64 programmable memory locations
- 30 dB level control in 0.2 dB steps
- Automatic 5/10 MHz internal/external reference selection
- Summary alarm

This series of test translators is designed to translate the C-, X-, and Ku-band satellite communication frequency transmit bands to their respective receive frequency bands. The "BU" series provides front panel control of band selection and attenuation. The high performance "B" series provides three or more frequency band translations with local and remote control.

"B" SERIES OPTIONS

- Higher stability reference
- RS232 or 10/100Base-T Ethernet

SPECIFICATIONS

Model Number	Band	RF Input (GHz)	LO Frequency (GHz)	RF Output (GHz)
DN-3B-1, DN-3BU-1	1	5.845 – 6.425	2.225	3.62 – 4.2
	2	7.9 – 8.4	0.65	7.25 – 7.75
	3	14 – 14.5	1.75	12.25 – 12.75
DN-3B-2, DN-3BU-2	1	5.845 – 6.425	2.225	3.62 – 4.2
	2	7.9 – 8.4	0.65	7.25 – 7.75
	3	14 – 14.5	2.3	11.7 – 12.2
DN-3B-3, DN-3BU-3	1	5.845 – 6.425	2.225	3.62 – 4.2
	2	7.9 – 8.4	0.65	7.25 – 7.75
	3	14 – 14.5	2.55	11.45 – 11.95
DN-3B-4, DN-3BU-4	1	5.845 – 6.425	2.225	3.62 – 4.2
	2	7.9 – 8.4	0.65	7.25 – 7.75
	3	14 – 14.5	3.05	10.95 – 11.45
DN-3B-5, DN-3BU-5	1	5.845 – 6.425	2.225	3.62 – 4.2
	2	7.975 – 8.4	0.725	7.25 – 7.675
	3	14 – 14.5	1.75	12.25 – 12.75
DN-3B-6, DN-3BU-6	1	5.845 – 6.425	2.225	3.62 – 4.2
	2	7.975 – 8.4	0.725	7.25 – 7.675
	3	14 – 14.5	2.3	11.7 – 12.2
DN-3B-7, DN-3BU-7	1	5.845 – 6.425	2.225	3.62 – 4.2
	2	7.975 – 8.4	0.725	7.25 – 7.675
	3	14 – 14.5	2.55	11.45 – 11.95
DN-3B-8, DN-3BU-8	1	5.845 – 6.425	2.225	3.62 – 4.2
	2	7.975 – 8.4	0.725	7.25 – 7.675
	3	14 – 14.5	3.05	10.95 – 11.45
DN-6B-1	1	5.845 – 6.425	2.225	3.62 – 4.2
	2	7.9 – 8.4	0.65	7.25 – 7.75
	3a	13.75 – 14.5	3.05	10.7 – 11.45
	3b	13.75 – 14.5	2.55	11.2 – 11.95
	3c	13.75 – 14.5	2.3	11.45 – 12.2
	3d	13.75 – 14.5	1.75	12 – 12.75
DN-7B-1	1	5.845 – 6.425	2.225	3.62 – 4.2
	2a	7.975 – 8.4	0.725	7.25 – 7.675
	2b	7.9 – 7.95	0.2	7.7 – 7.75
	3a	13.75 – 14.5	3.05	10.7 – 11.45
	3b	13.75 – 14.5	2.55	11.2 – 11.95
	3c	13.75 – 14.5	2.3	11.45 – 12.2
	3d	13.75 – 14.5	1.75	12 – 12.75
DN-8B-1	1a	5.845 – 6.425	2.225	3.62 – 4.2
	1b	6.425 – 6.725	3.025	3.4 – 3.7
	2a	7.975 – 8.4	0.725	7.25 – 7.675
	2b	7.9 – 7.95	0.2	7.7 – 7.75
	3a	13.75 – 14.5	3.05	10.7 – 11.45
	3b	13.75 – 14.5	2.55	11.2 – 11.95
	3c	13.75 – 14.5	2.3	11.45 – 12.2
	3d	13.75 – 14.5	1.75	12 – 12.75

SPECIFICATIONS

FUNCTIONAL

Conversion loss.....	22 dB maximum, 18 dB typical (DN-6B-1, -7B-1 and -8B-1), 18 dB maximum, 15 dB typical (DN-3B and DN-3BU)
Amplitude response	± 0.3 dB over any 40 MHz, ± 1 dB over each output frequency band
Input/output return loss	18 dB minimum
Frequency stability	
"BU" series	$\pm 1 \times 10^{-6}$ /day, 0 to 50°C
"B" series.....	$\pm 2 \times 10^{-8}$ /day, 0 to 50°C (higher stability options available), $\pm 5 \times 10^{-9}$ /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 translator will automatically lock to the internal reference ("B" series)
Level control.....	30 dB continuously adjustable ("BU" series), 30 dB in 0.2 dB steps ("B" series)
Intermodulation distortion.....	With two inband signals at -13 dBm input, third order intermodulation products are less than 50 dBc
Input/output isolation.....	60 dB minimum

PRIMARY POWER REQUIREMENTS

Voltage	90–250 VAC
Frequency	47–63 Hz
Power consumption.....	25 W typical for DN-3B and DN-3BU, 50 W for DN-6B-1, -7B-1 and -8B-1

PHYSICAL

Weight	20 pounds nominal
Chassis dimensions	19" x 1.75" panel height x 20" maximum
Connectors	
RF	SMA female
LO monitors	SMA female
Alarm ("B" series).....	DE-9P
External reference ("B" series).....	BNC female
Remote interface ("B" series).....	DE-9S for RS485, RS422 and RS232, RJ-45 female for Ethernet
Test points ("BU" series)	
LO phase voltage (front panel)	Jack
LO frequency/power monitor (rear panel).....	SMA female
Test points ("B" series)	
LO frequency/power monitor (front panel).....	SMA female
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

TRI-BAND FREQUENCY TEST TRANSLATORS

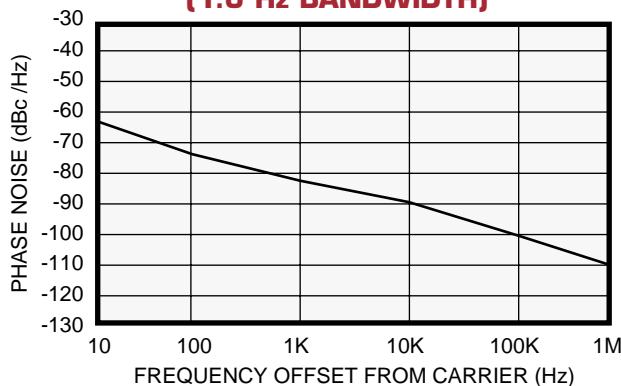
OPTIONS

1. 30 dB additional level control.
 - A. 60 dB level control. Simultaneous control of input and output attenuators ("BU" series).
 - B. 60 dB level control. Independent control of input and output attenuators ("B" series).
4. External local oscillator input. ("B" series)
Addition of SPDT switch for internal/external local oscillator selection.
Rear panel SMA connector and selection switch. Local oscillator input at 13 ± 1 dBm.
10. Higher frequency stability reference ("B" series).
 - B. $\pm 5 \times 10^{-9}$, 0 to 50°C,
1 x 10⁻⁹/day typical (fixed temperature after 24 hour on time).
 - C. $\pm 2 \times 10^{-9}$, 0 to 50°C,
1 x 10⁻⁹/day typical (fixed temperature after 24 hour on time).
17. Remote control. Refer to MITEQ's Technical Note 25T055 for details ("B" series).
 - C. RS232 remote interface.
 - H. 10/100Base-T Ethernet interface providing:
 - Web-browser based configuration
 - SNMP 1.0 configuration
 - Alarm reporting via SNMP Trap
 - Telnet access
 - Password protection

Note: Missing option numbers not applicable for this product.

PHASE NOISE

**MAXIMUM PHASE NOISE CHARACTERISTICS
(1.0 Hz BANDWIDTH)**



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