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.

### 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

#### “B” Series Options
- Higher stability reference
- RS232 or 10/100Base-T Ethernet
Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion loss</td>
<td>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)</td>
</tr>
<tr>
<td>Amplitude response</td>
<td>±0.4 dB over any 40 MHz, ±1 dB over each output frequency band</td>
</tr>
<tr>
<td>Input/output return loss</td>
<td>18 dB minimum</td>
</tr>
<tr>
<td>Frequency stability</td>
<td></td>
</tr>
<tr>
<td>“BU” series</td>
<td>±1 x 10^-6/day, 0 to 50°C</td>
</tr>
<tr>
<td>“B” series</td>
<td>±2 x 10^-8/day, 0 to 50°C (higher stability options available), ±5 x 10^-9/day, typical (fixed temperature after 24 hour on time)</td>
</tr>
<tr>
<td>Automatic reference configuration</td>
<td>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)</td>
</tr>
<tr>
<td>Level control</td>
<td>30 dB continuously adjustable (“BU” series), 30 dB in 0.2 dB steps (“B” series)</td>
</tr>
<tr>
<td>Intermodulation distortion</td>
<td>With two inband signals at -13 dBm input, third order intermodulation products are less than 50 dBc</td>
</tr>
<tr>
<td>Input/output isolation</td>
<td>60 dB minimum</td>
</tr>
</tbody>
</table>

Phase Noise Specifications

MAXIMUM PHASE NOISE CHARACTERISTICS
(1.0 Hz BANDWIDTH)

![Phase Noise Graph](image)
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.

    B. ±5 x 10^{-9}, 0 to 50°C,
       1 x 10^{-9}/day typical (fixed temperature after 24 hour on time).
    C. ±2 x 10^{-9}, 0 to 50°C,
       1 x 10^{-9}/day typical (fixed temperature after 24 hour on time).

    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 are not applicable for this product.
# General Specifications

## Primary Power Requirements
- **Voltage**: 100-240 VAC (-10%, +6%)
- **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 (9.07 kg)
- **Chassis dimensions**: 19" [482.6mm] x 1.75" [44.45mm] panel height x 20" [508mm] maximum
- **Connectors**
  - RF: SMA female
  - LO monitors: SMA female
  - Alarm ("B" series): DE-9P
  - External reference ("B" series): BNC female
  - 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

Specifications are subject to change without notification.