

BTR 24-01MO GHz

Quick Reference Guide

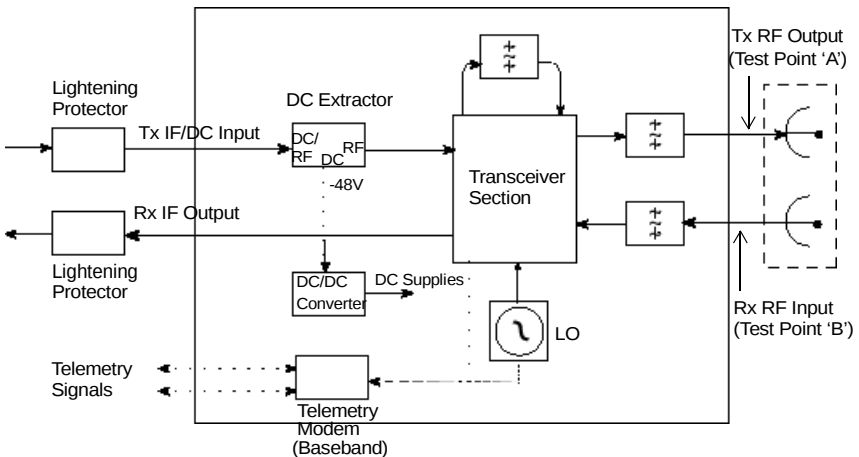
Product Overview

The BTR 24-01MO (NTVG11BC) outdoor transceiver is a state-of-the-art broadband microwave transceiver designed to operate at various frequency bands downstream. It is a combined broadband transmitter and receiver deployed in Nortel Networks Reunion point-to-multipoint system. It is compatible with Reunion's Release 1.2, 1.3 and 1.4 equipment.



BTR 24-01MO Transceiver

Figure 1: BTR 24-01MO Block Diagram



BTR 24-01MO Specification

Table 1: BTR 24-01MO Technical Specifications

TX	IF Input	RF Output
FrequencyRange 24-01MO	450-650 MHz	24.25-24.45 GHz
Output Level (P1 dB)		≥ 27.0 dBm, -40° to $+30^{\circ}$ C ≥ 26.5 dBm, $+31^{\circ}$ to $+55^{\circ}$ C
Output Level (IP3)		> 35 dBm, -40° to $+30^{\circ}$ C > 34.5 dBm, 30° to $+55^{\circ}$ C
Input Impedance	50 Ohms	
Input/Output Connector	N-Type Female	WR-42 (non-standard hole pattern)
Input/Output VSWR	1.9:1, maximum (10 dB return loss)	2.3:1, max (or 8 dB)
Gain (not including antenna)		33 dBm, minimum
Gain vs. Temperature		$\pm 2.0/-3.0$ dB, $(-40^{\circ}$ to $+55^{\circ}$ C)
Gain Flatness		± 2.0 dB over bandwidth
LO leakage		< -43 dBm (outband)
Frequency Stability		$< \pm 2$ ppm, $(-40^{\circ}$ to $+55^{\circ}$ C)

Antenna	BTR
Frequency	24.25-26.50 GHz
Bore-sight Gain (Azimuth)	15.75 ± 1.25 dBi, 90° Horn 18.9 ± 1.25 dBi, 45° 23.8 ± 1.3 dBi, 15°
Wave-guide Interface	WR-42 (non-standard hole pattern)
Size (Length x Height x Width)	10" x 9" x 2" (90°)
Polarization	Vertical or Horizontal
Sectorized Angle Available	15° , 45° , and 90°
Cross-Polarization Discrimination	26 dB Minimum

RX	RF Input	IF Output
Frequency Range 24-01MO	25.05-25.25 GHz	150-350 MHz
Input/Output Connector	WR-42 (non- standard hole pattern)	N-Type female
Input P1 dB	-18 dBm	
Output Impedance		50 Ohms
Input/Output VSWR	2.3:1, max (or 8 dB return loss)	2.1:1, maximum (or 9 dB return loss)
Gain (not including antenna)		28.0 dB $\pm$ 1.0 dB
Gain Flatness		$\pm$ 2.0 dB over bandwidth
Gain Stability		+2.0/-3.0 dB over temperature
Frequency Stability		$<\pm$ 4 ppm, (-40° to +55° C)
Noise Figure		7.0 dB, -40° to +55° C

Power Requirements	BTR
Input Voltage	-48 VDC (diplexed with TX cable)
Inrush Current	4.5 A, maximum
Input Power	66 Watts, maximum
Environmental	BTR
Humidity	100% condensing
Altitude	10,000 feet (3,000 meters)
Operating Wind Resistance	50m/second on all surfaces
Operating Temperature	-40° to +55°C
Storage Temperature Range	-45° to +70°C (packaged)
Solar Loading	ETS 300 019 class 4.1 1120W/m ² , 50°C max.
Mechanical	BTR
Size (Length x Height x Width)	19.1" x 10.3" x 5.8" (47.75 x 26 x 14.5 cm)
Weight without brackets	40 lbs. (17.8 KG)

Converted Frequency Formula

Use the following formula to calculate the converted frequency:

$$\text{TX: } f_{\text{RF OUT}} (\text{GHz}) = 24.9 - f_{\text{IF IN}} (\text{GHz})$$

$$\text{RX: } f_{\text{IF OUT}} (\text{GHz}) = f_{\text{RF IN}} (\text{GHz}) - 24.9$$

Note: The antenna has an option of a hydrophobic coating that can help to reduce ice build-up effect.

Note: Vent holes are covered with a Goretex™ patch.

Note: The transceiver mounts to a vertical pole of 2.5" to 4.5" outside diameter. It has a range of motion of 90° over and -60° under horizon. The bases of the antenna mount can rotate ±180°.

Technical Assistance Contact Information

In case additional technical assistance is required, or the transceiver unit is damaged upon receipt, contact Nortel Networks.

Nortel Networks Broadband Wireless Access (BWA) provides 24-hour customer service and technical support to ensure your service operation is trouble-free. If you have questions or need technical support, contact Nortel Networks Broadband Wireless Access at the following telephone numbers:

- In the USA and Canada, call 972-BWA-ETAS/972-292-3827



Information is subject to change without notice.
Nortel Networks reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.
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