

BTR 31 GHZ PLUMB

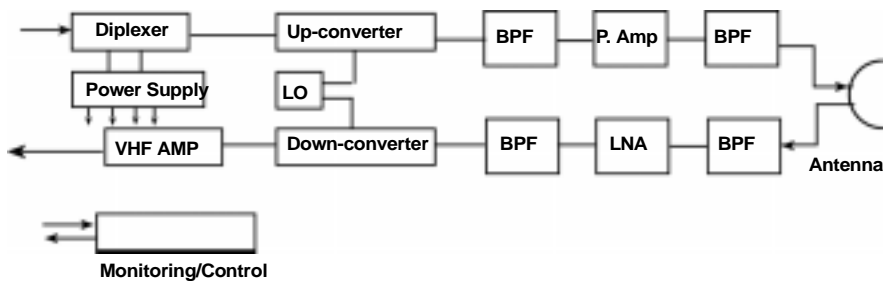
Product Overview

The BTR 31GHz outdoor transceiver (NTVG 21-AA) 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 Reunion's point-to-multipoint system. It is compatible with Reunion's Release 1.2, 1.3 and 1.4 equipment.



BTR 31GHz Transceiver

Figure 1: BTR 31GHz Block Diagram



BTR 31GHz Specification

Table 1: BTR 31 GHz Technical Specifications

TX	IF Input	RF Output
Frequency Range 31-01P	450-525 MHz	31.0-31.075 GHz
Output Level (P1 dB)		≥ 27 dBm, -40° to $+55^\circ$ C
Output Level (IP3)		$> +35$ dBm
Input Impedance	50 Ohms	
Input/Output Connector	N-Type Female	WR-28
Input/Output VSWR	1.8:1, maximum	1.8:1, max (or 13 dB)
Gain (not including antenna)		34 ± 1 dB, minimum
Gain vs. Temperature		± 3.0 dB, $(-40^\circ$ to $+55^\circ$ C)
Gain Flatness		$< \pm 1.5$ dB over 75 MHz BW
LO leakage		< -43 dBm (outband)
Frequency Stability		$< \pm 2$ ppm, $(-40^\circ$ to $+55^\circ$ C)

Antenna	BTR
Frequency	31.0-31.075 GHz
Gain	$+15.0$ dBi, $90 \pm 9^\circ$ Horn
Input/output microwave connector for the antenna	WR-28
Mounted on transceiver housing	WR-28 flange
Size (Length x Height x Width)	10" x 9" x 2" (90°)
TX / RX wave polarity	linear, single pole (horizontal or vertical)
Sectorized Angle Available	15° , 30° , 45° , 60° and 90°

RX	RF Input	IF Output
Frequency Range 31-01P	31.225-31.3 GHz	225-300 MHz
Input/Output Connector	WR-28 Cover Flange	N-Type Female
Input IP3	--18 dBm	
Output Impedance		50 Ohms
Input/Output VSWR	1.8:1, max (or 13 dB)	1.8:1, maximum
Gain (not including antenna)		37±1 dB, minimum
Gain Flatness		±2.0 dB over bandwidth
Gain Stability		<±3.0 dB over temperature
Frequency Stability		<±2 ppm, (-40° to +55° C)
Noise Figure SSB		< 7.5 dB, -40° to +55° C

Power Requirements	BTR
Input Voltage	±48 VDC
Input Current	<2 Amp
Input Power	100 Watts, maximum
Environmental	BTR
Humidity	100% condensing
Altitude	10,000 feet
Operating Temperature	-40° to +55°C
Storage Temperature Range	-60° to +75°C
Mechanical	BTR
Size (Height x Width x Depth)	19.2" x 10.3" x 6.7" (49 x 26 x 17 cm)
Weight without brackets	35 lbs. (16KG)

Converted Frequency Formula

Use the following formula to calculate the converted frequency:

$$\text{TX: } f_{\text{RF OUT}} (\text{GHz}) = 31.525 - f_{\text{IF IN}} (\text{GHz})$$

$$\text{RX: } f_{\text{IF OUT}} (\text{GHz}) = 31.525 - f_{\text{RF IN}} (\text{GHz})$$

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 reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.
© 1999 Northern Telecom Ltd.