



BST28-010 BROADBAND BASE STATION TRANSCEIVER

- ◆ **Solid-State Design for LMDS Applications**
- ◆ **Compact Outdoor Package**
- ◆ **QPSK, QAM or COFDM Capability**
- ◆ **Single Antenna for Transmit and Receive**

PRODUCT APPLICATION:

The BST28-010 is a solid-state transceiver designed to provide P-T-MP (point-to-multi-point), full duplex (two-way) communication with QPSK, QAM or COFDM modulated carriers (FDMA multiple carrier regime) in the 27 - 31 GHz frequency band.

The BST28-010 consists of an outdoor transceiver and an indoor Interface Processing Unit (IPU). The outdoor transceiver features a modular design consisting of integrated transmitter, receiver and diplexer modules. The high-performance diplexer makes it possible to use the transceiver with a single antenna. The outdoor transceiver package is

mechanically integrated with the antenna to provide a low-loss connection and to facilitate installation, mounting and antenna aligning.

The indoor IPU is a rack mounted chassis that provides frequency conversion, reference oscillator, and AC power to the outdoor transceiver. Downstream transmission is in the 27 - 28.5 GHz band and upstream reception is in the 29 - 31 GHz band.

Test points are provided to monitor output signal level, IF input levels and crystal oscillator reference frequency. Diagnostic voltages are provided for local or remote monitoring.

BST28-010

Transmitter Section	
Input Frequency ² :	950 to 1450 MHz.
Modulation Format:	QPSK, 16-QAM, 64-QAM, COFDM
Gain IFTORF	35 dBm
Output Level:	27 dBm max (Single QPSK Carrier)
Output Frequency ² :	26.5 to 28.5 GHz
Receiver Section	
Input Frequency ² :	29.0 to 31.0 GHz.
Noise Figure:	6 dB
Gain:	40 dB
Output Frequency ² :	400 - 700 MHz.
Common specifications	
Frequency Response:	±1 dB
Frequency Stability:	± 2 ppm
Input Return Loss:	15 dB
Output Return Loss:	18 dB
RF Connectors:	WR-28 Waveguide
Input/Output Connector:	Type "N"
Mounting:	Outdoor mount to vertical pipe
Temperature Range:	-40° to 113°F (-40° to 45°C)
Humidity:	to 95%
Primary Power:	110/220 VAC, 50/60Hz (per customer specification)
Weight:	10 lb. (4.5 kg)
Dimensions:	20cmW x 20cmH x 15cmD (8" x 8" x 6")

¹ Specifications subject to change without prior notice.

² Other frequencies available

IPU28-001

Downstream (Transmitter) Section	
Input Frequency ² :	41 to 47 MHz (44 MHz nominal)
Instantaneous Bandwidth:	10 MHz
Modulation Format:	QPSK or QAM
Input Level:	-10 dBm maximum (modulation dependent)
Output Frequency ² :	1150 to 1450 MHz
Gain:	Programmable from -15 to +5 dBm
Spectrum Conversion:	Inverting
Input Connector	"F" female with 75-ohm impedance
Upstream (Receiver) Section	
Input Frequency ² :	400 to 700 MHz
Gain:	Programmable from -10 to +10 dBm
Output Frequency ² :	45 to 65 MHz recommended (5 to 65 MHz possible)
Output Connector:	"F" female with 75-ohm impedance
Common specifications	
Crystal Frequency:	50 MHz
Crystal Output Power:	3 dBm ±3 dB
Frequency Stability:	±2 ppm
BST Connector:	Type "N" - female with 50-ohm impedance
Temperature Range:	-50° to 104°F (-10° to 40°C)
Humidity:	to 90%
Primary Power:	+20 to +36 VDC
Weight:	1.98 kg
Dimensions:	48cm X 31.4cm X 4.45cm

¹ Specifications subject to change without prior notice.

² Other frequencies available