

Ku-Band Transceiver

Digital Satellite Communications



PARADISE
DATACOM

AN INTELLEX GROUP COMPANY

Overview

The 3100 series of C-Band transceivers offers a cost effective solution for digital satellite communications. The use of a standard block up-converter for low data rate application such as rural telephony, and the optional add-on booster amplifiers provide higher output powers for medium to high data rates.

Features:

- ❖ Environmental stress screening (ESS) to assure highly reliable service
- ❖ Meets all international standards
- ❖ Cost effective architecture
- ❖ Simplified installations
- ❖ L-Band IFL
- ❖ C-Band versions available

Monitor & Control

(via external terminal *)

- ❖ Tx/Rx Frequency Status
- ❖ Tx On/Off
- ❖ Tx/Rx Synthesizer Lock Status
- ❖ ODU Power On/Off
- ❖ ODU Status
- ❖ Tx Power Level Control: 0.1 dB Steps
- ❖ LNB Status
- ❖ Rx Gain Adjust: 0.1 dB Steps

*User-supplied



Power Requirements:

2 Watt Terminal	100 Watts Typical (115/230 vac, 50-60 GHz)
4 Watt Terminal	125 Watts Typical (115/230 vac, 50-60 GHz)

Options:

- ❖ Handheld Keypad Control
- ❖ PC Control Software
- ❖ Redundant Configurations

See your *Paradise Datacom* Sales Representative for more information!

Transmit Specifications

Output Frequency	14.0 - 14.5 GHz 13.75 - 14.25 GHz option
Step Size	1 MHz
Frequency Stability (vs.temp)	$\pm 1 \times 10^{-7}$ ppm
IF Frequency	70 MHz \pm 18 MHz
Input Level from Modem	-5 to -25 dBm
Input Level Adjustment Range	20 dB
Gain Flatness (over 36 MHz)	± 1.0 dB
Power Level Stability	± 0.5 dB (vs. time & temperature)
Spurious Outputs	-20 dBc/4 KHz(14.0-14.5 GHz) -50 dBc out of band
Phase Noise (SSB)	Meets or Exceeds IESS 308/309
Intermodulation Products	-26 dBc (2 carriers @ 6 dB backoff)
Noise Figure	<20 dB
Output Power @ P1dB	2, 4, 8*, 16*, 25*, 40* Watts (*requires booster amp)
Output Flange	WR-75, with O-Ring
Output Flange	WR-137

Receive Specifications

Receive Frequency Range	10.95 to 12.75 GHz(requires multiple LNBs)
Down Link Plans	10.95 to 11.45 GHz 11.20 to 11.70 GHz 11.70 to 12.20 GHz 12.25 to 12.75 GHz
LNB Noise Temperature	90 K
Output Frequency Range	70 MHz \pm 18 MHz
IDU Receive Gain	50 dB Max
IDU Gain Adjust	20 dB for Cable Compensation 30 dB for Output Level Adjustment
Spurious Outputs	-60 dBc
Frequency Stability (vs. temp)	$\pm 1 \times 10^{-7}$ ppm (excluding LNB stability)
Gain Stability (time & temp)	± 2.0 dB
Gain Flatness (over 36 MHz)	± 1.0 dB
Phase Noise (SSB) Typical	Meets or Exceeds IESS 308/309
Input Flange	WR-75

Mechanical Interfaces

Local Interface (front panel)	RJ-45
RS-232 (rear panel)	9 Pin Sub D
RS-485 (rear panel)	9 Pin Sub D
Serial Expansion Port (rear panel)	9 Pin Sub D
Tx Output Port (IDU)	Type 'N' Female
Rx Input Port (IDU)	Type 'N' Female
70 MHz from Modem (IDU)	BNC Female
70 MHz to Modem (IDU)	BNC Female
L-Band Rx Monitor Port (IDU)	BNC Female
ODU IFL Port	Type 'N' Female
LNB Output Port	Type 'F' Female (optional type 'N')

Environmental Characteristics

ODU Operating Temperature	-40° to +50° C
IDU Operating Temperature	+10° to +40° C
Outdoor Humidity	To 100%
Indoor Humidity	5 to 95%
Outdoor Environment	Non-Condensing Must operate in rain, snow, dust and salt air environment
Shock & Vibration	As normally encountered in shipping for IDU and as encountered when mounted on antenna withstanding 125 MPH wind for ODU

NOTE: Specifications are subject to change without notice. Individual specifications available upon request.