



ZEUS *Technology Systems, Inc.*
Technical Data Sheet

ZDL-111
mm-Wave Communications System



ZDL-111-305, 90.5 GHz Communications System with optional Prime Focus Parabolic

DESCRIPTION

The Zeus Technology Systems' Model **ZDL-111** family of mm-Wave communications systems provides a point-to-point multichannel data and baseband signal conduit for a variety of dedicated applications. The **ZDL-111** provides a voice grade orderwire channel, an RS-232 digital channel, and a linear wideband analog channel, all available simultaneously for ease of link adjustment and status monitoring. The linearized wideband analog signal path offers high dynamic range and low distortion for excellent recovered signal integrity with minimal added phase noise. A variety of channelcenter frequencies is available from 10 to 105 GHz with transmit power to as high as 250 mW. All link frequencies are controlled and locked to guarantee problem free service and prevent interference to related channels or services. The small size and rugged packaging built into the

ZDL-111 allow it to survive difficult operating conditions without the threat of compromise to the service. Various custom interface configurations, both electrical and mechanical, may be provided to allow an easy transition into preexisting systems and applications, or to adapt to evolving future requirements.

FEATURES

- **10 to 105 GHz** systems available
- Up to **250 mW** transmit power, depending on operating frequency
- Wide Bandwidth, up to **100 MHz**
- Voice grade Order Wire, **300 –3000 Hz**
- **56K baud** RS-232 Channel
- Small size,
Transmitter: **2.5 x 3.8 x 5.9 inches**;
Receiver: **3.0 x 6.75 x 8.75 inches**
- Minimal power:
Transmitter: **5 watts, typ**
Receiver: **15 watts, typ**

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ZDL-111 Series SPECIFICATIONS

System Frequency Coverage	10 – 49.9 GHz: ZDL-11#(1-4)-100 50 – 89.9 GHz: ZDL-11#(1-4)-200 90 – 99.9 GHz: ZDL-111-3### (00-99) 100 – 105 GHz: ZDL-111-4### (00-50)
Transmitter Power	100 - 250 mW (-1) 50 - 100 mW (-2) 20 - 50 mW (-3) 10 - 35 mW (-4)
Types of Communication Channels Provided	Wideband Data; MODEM; Direct IF; Order Wire
Wideband Channel	0.4 – 100 MHz Transmitter: 0 dBm input, 50 Ohm, BNC Receiver: 0 dBm output, 50 Ohm, BNC
RS-232 Channel	300 – 56 K baud Transmitter input: RS-232, DB-9 Receiver output: RS-232, DB-9
Order Wire	Voice grade, 300 – 3000 Hz Transmitter: 1 K Ohm input, BNC, 500 mV p-p signal level; (Supports bias for opt, electret style mic.)
T/R Antenna Connection	WR-28 to WR-10 Waveguide
Operational Temperature Range	-10 to +50 degrees C
Power required	
Transmitter	10 – 16 VDC, 1.0 A
Receiver	10-16 VDC, 2.0 A or 115/230 VDC
Dimensions	
Transmitter	5.9 x 3.8 x 2.5 inches
Receiver	8.0 x 6.75 x 3.0 inches
Shielding	Both Tx and Rx chassis are designed to meet TEMPEST requirements for Unintentional radiation
Mechanical	Both Tx and Rx chassis and electronics are designed to meet the shock and vibration requirements of MIL-STD-810E, method 516.4 & 514. Weight: Tx: 3 ½ lbs; Rx: 7 ½ lbs

Options

- ★ Prime Focus and Cassegrain Antenna
- ★ +20 dB Low Noise Receive Amplifier
- ★ Analog Voltage RSSI indicator