For Satellite Communications

Dual Channel and Redundant Amplitude/Slope Equalizer Systems

with Hot Swappable RF Modules

DL1E

RL1E

These amplitude/slope equalizer systems offer independent gain and slope adjustment in the IF and L frequency bands. These systems are designed to compensate for long cable run loss and to provide system redundancy. The DLIE Series has independent dual-channel equalizer modules (DL1E) with slope and gain adjustment. The RL Series is a 1:1 redundant system that adds redundancy with automatic and manual switchover modes of operation.

Features

- **Hot swappable RF modules**
- **Fault tolerant design**
- **Fully redundant, hot swappable power supplies**
- **Remote control via RS485 or RS422 user selectable (DL1E and RL1E only)**
- **Remote status**
- **Module current fault detection**
- **Front panel module bias display (DL1E and RL1E only)**
- **Auto/manual mode (RL1E only)**
- **Off-line input/output access (RL1E only)**

Options

- **Remote RS232, or Ethernet**
- **Input/output signal monitors**
- **Increased gain**
- **Increased output power (1 dB compression point)**

Specifications

Frequency (MHz)	Dual Channel Model Numbers	1:1 Redundant Model Numbers
950 – 1450	DL1E-950145-H	RL1E-950145-H
950 – 1750	DL1E-950175-H	RL1E-950175-H
950 – 2150	DL1E-950215-H	RL1E-950215-H

L-Band

Gain ..... 15 dB minimum (at center frequency and 6 dB slope adjustment), 18 dB nominal (at 0 dB slope)
Gain adjustment range ..... 20 dB minimum
Amplitude slope adjustment range ..... 0 to 6 dB (see Figure 2)
Amplitude flatness ..... 1.5 dB p-p maximum (at 0 dB slope)
Power output (P1dB) ..... +10 dBm minimum (at maximum gain and 0 dB slope)
Third order intercept point ..... +20 dBm minimum (at maximum gain and 0 dB slope)
Channel-to-channel match ..... 2.5 dB maximum
Noise figure ..... 10 dB maximum (at maximum gain and 0 dB slope)
Spurious (signal independent) ..... Below thermal noise
AM/PM conversion ..... 0.5°/dB maximum at 0 dBm output
Isolation ..... 50 dB minimum
Input/output return loss ..... 18 dB minimum
Input/output impedance ..... 50 ohms

General Specifications

Primary Power Requirements

Voltage ..... 90–250 VAC
Frequency ..... 47–63 Hz
Power consumption ..... 40 W typical

Summary Alarm

Contact closure/open for DC voltage and/or amplifier alarm
Status alarm readout on remote control bus

Physical

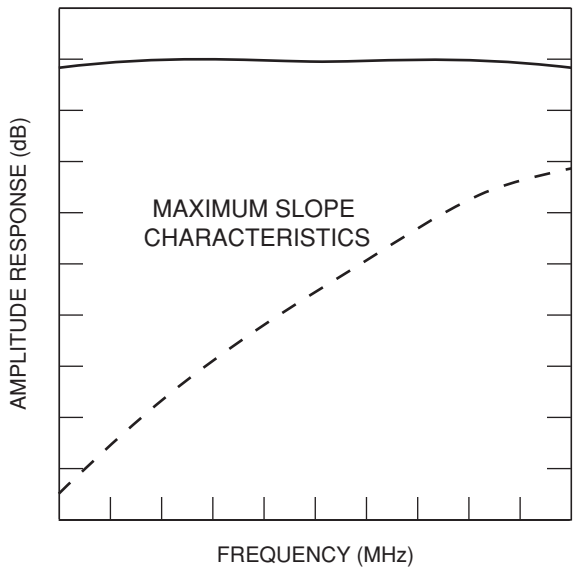
Weight ..... 20 pounds (9.07 kg) typical
Overall dimensions ..... 19" [482.6mm] x 1.75" [44.5mm] panel x 22" [558.8mm] maximum (chassis depth 20")
AC input receptacle IEC-320
RF connectors (L-band) ..... Type SMA female
Summary alarm interface mating connector DEM-9P
Remote interface ..... DEM-9S for RS422 and RS485,
DB-25P for RS232,
RJ-45 female for Ethernet

Environmental

Operating
- Ambient temperature ..... 0 to 50°C
- Relative humidity ..... Up to 95% at 30°C
- Atmospheric pressure ..... Up to 10,000 feet

Nonoperating
- Temperature ..... -50 to +70°C
- Relative humidity ..... Up to 95% at 40°C
- Atmospheric pressure ..... Up to 40,000 feet
- Shock and vibration ..... Normal handling by commercial carriers

L-Band Slope Adjustment



Options

1. Input monitor with -20 dBc nominal level.

2. Output monitor with -20 dBc nominal level.

11. Increased output power (L-band only).
Power output (1 dB compression): +20 dBm minimum (at maximum gain and 0 dB slope).
Third order intercept point: +30 dBm minimum (at maximum gain and 0 dB slope).
Output return loss: 14 dB minimum.

15. Impedance, 50 ohms (IF-band only).

16. Increased gain, 30 dB minimum (at center frequency and 6 dB slope adjustment).

17. Remote control (DL1E and RL1E only).

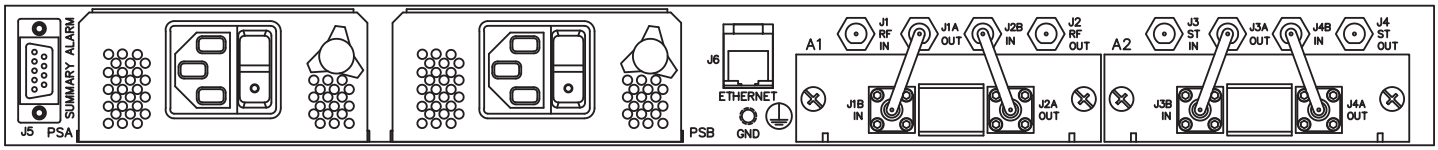
B. RS422/485 (supplied as standard).

C. RS232. This option will delete RS422/RS485.

H. 10/100Base-T Ethernet interface providing:
Web-browser-based configuration
SNMP 1.0 configuration
Alarm reporting via SNMP Trap
Telnet access
Password protection

Note: Missing option numbers are not applicable to this product.

Typical Panel View



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