

## DLAH200

### Dual, Modular, 'Hot-swappable' Variable Gain, Line Amplifier with optional 1+1 redundancy



#### Available line amplifier modules for the DLAH200 chassis;

<b>MLAH70</b>	IF 50-200MHz frequencies
<b>MLAHU240</b>	UHF 240-323MHz frequencies
<b>MLAHL1450</b>	L-Band 950-1450MHz frequencies
<b>MLAHL1750</b>	L-Band 950-1750MHz frequencies
<b>MLAHL2150</b>	L-Band 950-2150MHz frequencies
<b>MLAHL2450</b>	Extended L-Band 950-2450MHz frequencies
<b>MLAHS2400</b>	S-Band 2.0-2.4GHz frequencies
<b>MLAHC4200</b>	C-Band 3.4-4.2GHz receive frequencies
<b>MLAHC6725</b>	C-Band 5.85-6.725GHz transmit frequencies
<b>MLAHKu1275</b>	Ku-Band 10.7-12.75GHz receive frequencies
<b>MLAHKu1450</b>	Ku-Band 13.75-14.5GHz transmit frequencies
<b>MLAHKu1450B</b>	Ku-Band 12.75-14.5GHz transmit frequencies
<b>MLAHKu1480</b>	Ku-Band 13.75-14.8GHz transmit frequencies
<b>MLAHD1840</b>	DBS-Band 17.3-18.4GHz transmit frequencies

For other 'non-standard' frequency requirements, please contact the factory.







For equivalent remote mountable units, please see PLA series datasheet.

The 19-inch 1U rack mounted **DLAH200** chassis unit is designed to accept two, line amplifier modules. Modules can be inserted/ replaced in the unit from the rear without the need to remove power or disturb the other channel in any way.

The unit incorporates a graphics display module, membrane keyboard and features a clear and intuitive control and configuration menu fully utilising the unique graphics display.

The **DLAH200** chassis units are mains powered (redundant power supplies offered as standard) and are constructed of high-grade components to give the ultimate gain flatness and stability performance.

#### Peak Features

-  High gain flatness and stability performance
-  Supports variable attenuator, 'chassis mute' & slope compensation options
-  Amplifier module low current alarm monitoring
-  Active & passive slope compensation options
-  Redundant power supplies with dual mains input
-  Integral 1+1 redundancy option for module switching



## DLAH200 Chassis - Typical Specification

### Mechanical

Width	19", standard rack mount
Height	1U (1.75")
Depth	568mm (22.4"), plus connectors
Construction	Aluminium chassis
Weight	Approx. 9kgs (20lbs)

### Environmental

Operating temp	0°C to +50°C
EMC	EN 55022, part B & EN 50082-1
Safety	EN 60950

### Power Supply (2off in redundant configuration)

Voltage	90-264VAC
Frequency	47-63Hz
Total power	50 Watts typ.

### Control System Interface

Local interface	Graphics display & keypad
Remote control	RS232/ 485 port
Option 9;	Ethernet; embedded web server & SNMP network management support
Alarms	PSU fail Amplifier current detection

### Integral 1+1 'Module' Redundancy (Option 6)

Connections	SMA (f), 50Ω
Switching speed	<150ms (from fault to switch completion)
Switch isolation	>60dB input to output
Option 13;	Output 'chassis mute' facility (>80dB)
Cables	Includes high grade rear panel links

Notes: The connection to the internal redundancy circuitry is made via SMA (f) RF links on the rear panel, this allows for by-pass wiring should the need arise. High grade co-axial linking cables are provided.

### 10MHz Reference Pass-through (Option 5)

Allows 10MHz reference fed into the unit (multiplexed onto input connection) to 'pass-through' to output (L-Band only).

- Option 5a; for use with option 6, fitted between system input and output connections
- Option 5b; for use without option 6, fitted between module input and output connections

### L-Band Linear Slope Compensation (Option 15a)

Compensates for internal circuitry & external primarily cross-site cables

Notes: Only applicable with option 6, fitted to main chassis common signal path. Unit options chosen will determine 'surplus' available for external compensation (for details contact factory).

Frequency	950-2150MHz
Compensation	Passive, fixed 5dB nom., positive slope

### Integral Input Combiner /Output Splitter (Option 16a /b)

- Option 16a; 2-way
- Option 16b; 4-way

Connections	SMA (f), 50Ω
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Notes: Only applicable with option 6, fitted to main chassis common signal path. Typical 7dB insertion loss can be expected. Includes connection spanner.

## MLAH Modules - Typical Specification

### Input

Connector	SMA (f), 50Ω
Option 1a;	N-Type (f), 50Ω
Option 1c;	BNC (f), 50Ω (<2150MHz only)
Option 1e;	BNC (f), 75Ω (<2150MHz only)
Option 1g;	F-Type (f), 75Ω (<2150MHz only)

Notes: Some connector options may lower the overall unit performance. F-Type performance cannot be guaranteed.

Return loss	16dB
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### Output

Connector	SMA (f), 50Ω
Option 1b;	N-Type (f), 50Ω
Option 1d;	BNC (f), 50Ω (<2150MHz only)
Option 1f;	BNC (f), 75Ω (<2150MHz only)
Option 1h;	F-Type (f), 75Ω (<2150MHz only)

Notes: Some connector options may lower the overall unit performance. F-Type performance cannot be guaranteed.

Return loss	18 to 22dB (frequency dependent)
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### RF Performance

Gain	20dB min
Option 4a;	30dB nom
Option 4b;	40dB nom
Option 7;	Adjustment; 30dB range, 0.1 or 0.5dB steps
Gain flatness	±0.25dB (bandwidths <500MHz) ±0.5dB (bandwidths <800MHz) ±1dB (bandwidths <1200MHz)

Note: For other gain requirements please contact the factory.

Active directivity	22dB typ., 20dB min
RF input power	-10dBm max (no load, no damage)
TOIP	+25dBm (+20dBm >2150MHz)
1dB output GCP	+13dBm (+8dBm >2150MHz)

Note: For higher GCP options please contact the factory.

Noise figure	7 to 9dB (frequency dependent, at minimum attenuation)
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S-Band	<1.7dB
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### Monitor Ports (Option 2)

Option 2a;	Input monitor
Option 2b;	Output monitor
Connector	SMA (f), 50Ω, on rear panel
Level	-20dBc ±3dB

### Power Detector & Alarms (Option 14, 14b)

Detection range	0 to -50dBm
Display	graphical via front panel & remote control
Input (Option 14);	Displays actual input & calculated output power
Output (Option 14b);	Displays actual output & calculated input power
Power alarm	User settable
Compression alarm	Automatic 'pre-set' warning alarm for input/output compression point, user settable

Note: For single carrier power monitoring only. For use with multiple carriers, only the highest is displayed & cannot be used for compression point warning.

### L-Band Linear Slope Compensation (Option 15, 15b)

Compensates for internal circuitry & external primarily cross-site cables

Note: Unit options chosen will determine 'surplus' available for external compensation (for details contact factory).

Frequency	950-2150MHz
Compensation	

- Option 15; Passive, fixed 5dB nom., positive slope
- Option 15b; Active, user settable 0 to 8dB nom., positive slope (reduces to 0 to 6dB nom., over 950-1750MHz)

Note: Option 15b includes variable attenuation facility (option 7).

## DLAH Chassis Options

- 5a) 10MHz reference pass-through (with option 6)
- 6) Integral 1+1 redundancy module switching
- 9) Ethernet interface with embedded web server & SNMP, replaces RS232/485 port
- 13) Output 'chassis mute' facility (with option 6)
- 15a) 5dB passive, fixed, slope compensation (L-Band only)
- 16a) Passive system input combiner or system output splitter, 2-way
- 16b) Passive system input combiner or system output splitter, 4-way

Note: The addition of options can modify the typical specification, for details please consult the factory.

## MLAH Module Options

- 1a) N-Type (f), 50Ω MLAH module input connector
- 1b) N-Type (f), 50Ω MLAH module output connector
- 1c) BNC (f), 50Ω MLAH module input connector
- 1d) BNC (f), 50Ω MLAH module output connector
- 1e) BNC (f), 75Ω MLAH module input connector
- 1f) BNC (f), 75Ω MLAH module output connector
- 1g) F-Type (f), 75Ω MLAH module input connector
- 1h) F-Type (f), 75Ω MLAH module output connector
- 2a) -20dBc input monitor on rear panel
- 2b) -20dBc output monitor on rear panel
- 4a) higher gain to 30dB nom
- 4b) higher gain to 40dB nom
- 5b) 10MHz reference pass-through
- 7) Variable gain, 30dB range, 0.1dB steps
- 7a) Variable gain, 30dB range, 0.5dB steps
- 14) Input signal power detector and alarms
- 14b) Output signal power detector and alarms
- 15) 5dB passive, fixed, slope compensation (L-Band only)
- 15b) 0-8dB active, user settable, slope compensation (L-Band only)

Note: The addition of options can modify the typical specification, for details please consult the factory.

## Rear panel view (sample, shown with 1+1 redundancy option fitted)

