

ILA Series

IF (70/ 140MHz), L-Band & SHF Line Amplifier, Rack Mounted.



High Grade Line Amplifier Products;

ILA70	IF 70±20MHz & 140±40MHz frequencies
ILAU240	UHF 240-323MHz frequencies
ILAL1450	L-Band 950-1450MHz frequencies
ILAL1750	L-Band 950-1750MHz frequencies
ILAL2150	L-Band 950-2150MHz frequencies
ILAL2450	Extended L-Band 950-2450MHz frequencies
ILAS2400	S-Band 2.0-2.4GHz frequencies
ILAC4200	C-Band 3.4-4.2GHz receive frequencies
ILAC6725	C-Band 5.85-6.725GHz transmit frequencies
ILAKu1275	Ku-Band 10.7-12.75GHz receive frequencies
ILAKu1450	Ku-Band 13.75-14.5GHz transmit frequencies
ILAKu1450B	Ku-Band 12.75-14.5GHz transmit frequencies
ILAKu1480	Ku-Band 13.75-14.8GHz transmit frequencies
ILAD1840	DBS-Band 17.3-18.4GHz transmit frequencies

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

For multiple-channel units in a single chassis (Dual, Triple, Quad), please consult the factory.

For equivalent units with full user interface, remote control and digital attenuation please see ILAH series datasheet.

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

The 19-inch, 1U rack mounted, **ILA series** of IF to SHF line amplifier units from Peak Communications are designed to provide high quality signal amplification, primarily for satellite earth station across-site applications.

The **ILA series** units are mains powered and are constructed of high-grade components to give the ultimate gain flatness and stability performance.

For redundancy the **ILA series** units are fully compatible with the Peak **RCU103/ RCUH103** (1+1), **RCU203/ RCUH203** (2+1) and **RCU1001** (N+1) systems.

Peak Features

-  High gain flatness and stability performance.
-  Amplifier low current alarm monitoring
-  Manually variable attenuator options for local control of gain
-  Slope compensation options
-  Integral 1+1 & 2+1 CANBUS® redundancy control & N+1 switch systems available
-  Monitor and fibre optic L-Band interface options available
-  Fully compatible with **RCU100/ RCU200 series** 1+1/ 2+1 redundancy controllers and **RCU1001 series** for N+1 redundancy units



ILA series - Typical Specification

Input

ILA70;	50-200MHz
ILAU240;	240-323MHz
ILAL1450;	950-1450MHz
ILAL1750;	950-1750MHz
ILAL2150;	950-2150MHz
ILAL2150;	950-2450MHz
ILAS2400;	2.0-2.4GHz
ILAC4200;	3.4-4.2GHz
ILAC6725;	5.85-6.725GHz
ILAKu1275;	10.7-12.75GHz
ILAKu1450;	13.75-14.5GHz
ILAKu1450B;	12.75-14.5GHz
ILAKu1480;	13.75-14.8GHz
ILAD1840;	17.3-18.4GHz

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 performance of the unit. F-Type connector 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 performance of the unit. F-Type connector 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 4c;	50dB nom

Note: For other gain requirements please contact the factory.

Gain flatness	±0.25dB (bandwidths <500MHz)
	±0.5dB (bandwidths <800MHz)
	±1dB (bandwidths <1200MHz)
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)
S-Band	<1.7dB (degrades input return loss to 12dB)

Note: For improved S-Band RL configurations (with higher NF), please contact factory.

Monitor (input option 2a/c, output option 2b/d)

Connector	SMA (f), 50Ω on rear panel
Level	-20dBc ±3dB

Variable L-Band Attenuation (Option 10)

Attenuation range	30dB
Control	Local, continuously variable, front panel

Note: Can degrade gain flatness performance.

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).

L-Band Linear Slope compensation (Option 15)

Provides positive passive fixed slope compensation of nominally 5dB to compensate for internal circuitry & external primarily across-site L-Band cables.

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

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

Option 16a;	2-way
Option 16b;	4-way
Connections	SMA (f), 50Ω

Notes: Typical 7dB insertion loss can be expected.

Mechanical

Width	19" standard rack mountable
Height	1U (1.75")
Depth	400mm (15.7"), plus connectors
Construction	Aluminium chassis
Weight	5.5kgs (12lbs)

Environmental

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

Power Supply

Voltage	90-264VAC
Frequency	47-63Hz
Total power	50 Watts max
Option 7;	Redundant PSU; provides a 1+1 redundant power supply configuration with separate prime power inputs

Control System Interface

Discrete 'alarms interface'	PSU fail Amplifier fail (current detection)
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Options

- 1a) N-Type (f), 50Ω input interface connection
- 1b) N-Type (f), 50Ω output interface connection
- 1c) BNC (f), 50Ω input interface connection
- 1d) BNC (f), 50Ω output interface connection
- 1e) BNC (f), 75Ω input interface connection
- 1f) BNC (f), 75Ω output interface connection
- 1g) F-Type (f), 75Ω input interface connection
- 1h) F-Type (f), 75Ω output interface connection
- 2a) -20dBc input L-Band monitor on rear panel
- 2b) -20dBc output L-Band monitor on rear panel
- 2c) -20dBc input SHF monitor on rear panel
- 2d) -20dBc output SHF monitor on rear panel
- 4a) Increased gain to 30dB nom.
- 4b) Increased gain to 40dB nom.
- 4c) Increased gain to 50dB nom.
- 5) 10MHz reference pass-through on L-Band interface
- 6a) Fibre optic L-band output interface connection
- 6b) Fibre optic L-band input interface connection
- 7) Redundant power supplies
- 10a) Manual variable attenuator, 30dB at L-Band
- 10b) Manual variable attenuator, 30dB at SHF
- 15) 5dB passive, fixed, slope compensation (L-Band only)
- 16a) Passive input combiner or output splitter, 2-way
- 16b) Passive input combiner or output splitter, 4-way

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

Rear panel view (sample)



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