

ISI/ L/ R & ICI/ L Series

Reference/ IF/ L-Band/ SHF, Active & Passive Splitter/ Combiner Units, Rack Mounted



High Grade Splitter Products;

ISL02A	L-Band, active, 2-way
ISL04A/P	L-Band, active or passive, 4-way
I2SL04A/P	L-Band, active or passive, dual-channel, 4-way
I4SL04P	L-Band, passive, quad-channel, 4-way
ISL08A/P	L-Band, active or passive, 8-way
ISL12A/P	L-Band, active or passive, 12-way
ISL16A/P	L-Band, active or passive, 16-way
ISL24A/P	L-Band, active or passive, 24-way
ISL32A/P	L-Band, active or passive, 32-way
ISL64A/P	L-Band, active or passive, 64-way

Other multi-channel combinations available, please consult the factory
 For IF (70/ 140MHz) versions of the above please state ISI04, ICI04 etc
 For Reference (10MHz) versions of the above splitters please state ISR04 etc

High Grade Combiner Products;

ICL02A	L-Band, active, 2-way
ICL04A/P	L-Band, active or passive, 4-way
I4CL04P	L-Band, passive, quad-channel, 4-way
ICL08A/P	L-Band, active or passive, 8-way
ICL12A/P	L-Band, active or passive, 12-way
ICL16A/P	L-Band, active or passive, 16-way
ICL24A/P	L-Band, active or passive, 24-way
ICL32A/P	L-Band, active or passive, 32-way
ICL64A/P	L-Band, active or passive, 64-way

High Grade Splitter & Combiner Products (please consult the factory for other combinations);

ISCL02A	L-Band, active, 2-way splitter and 2-way combiner in a single chassis
ISCL04A	L-Band, active, 4-way splitter and 4-way combiner in a single chassis
ISCL08A	L-Band, active, 8-way splitter and 8-way combiner in a single chassis
ISCL04P	L-Band, passive, 4-way splitter and 4-way combiner in a single chassis
ISCL08P	L-Band, passive, 8-way splitter and 8-way combiner in a single chassis

For splitting/ combining at other frequencies, including SHF-Bands please contact the factory.

For equivalent units with full user interface, remote control and digital attenuation please see ISLH & ICLH series datasheets.

For equivalent remote mount units, please contact the factory.

The 19-inch, 1U rack mounted **ISI/L/R series** of reference/ IF/ L-Band splitter units and **ICI/L series** of IF/ L-Band combiner units from Peak Communications are designed to provide high quality signal splitting/ combining, primarily for satellite earth station applications.

The **ISI/L/R & ICI/L series** units are mains powered and are constructed of high-grade components to give the ultimate gain flatness, noise figure and return loss performance. Both active and passive versions are available, with optional internal amplifier redundancy for active versions.

Peak is happy to customise the units to meet specific needs (including SHF versions) so please contact the Peak team directly to discuss any non-standard requirements.

Peak Features



- High gain flatness and low noise figure
- Compact with up to 16-way in a single 1RU chassis
- Amplifier high & low current alarm monitoring
- Manually variable attenuator options for local control of gain
- Optional monitoring, dual PSU's, redundant amp's, BUC/ LNB power, referencing, DC blocking



ISI/L/R, ICI/L series – Typical Specification

Active Reference/ IF/ L-Band Splitter Performance (ISI/L/RxxA)

Ways (xx)	02, 04, 08, 12-way available in 1RU 16, 24-way available in 2RU 32, 64-way available in 3RU
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Notes; spare ports will require termination (see option 5). For 12-way and above, please consult the factory for performance.

Frequency	Reference (ISRxxA); 10MHz IF (ISIxxA series); 50-180MHz L-Band (ISLxxA); 850-2150MHz
Gain	0dB $\pm$ 1dB nom.
Gain flatness	$\pm$ 0.75dB across full band ($\pm$ 1.5dB for 32, 64-way) $\pm$ 0.25dB across any 40MHz
TOIP	+12dBm
1dB input GCP	+1.5dBm
Note; for higher GCP options please contact the factory	
Noise figure	6dB
Isolation	22 to 25dB typ. (between any two output ports)
Input return loss	14dB
Output return loss	20dB

Active IF/ L-Band Combiner Performance (ICI/LxxA)

Performance as above unless stated below;

Noise figure	20dB
Isolation	22 to 25dB typ. (between any two input ports)
Input return loss	20dB
Output return loss	14dB

Passive Reference/ IF/ L-Band Splitter/ Combiner Performance (ISI/L/RxxP & ICI/LxxP)

Ways (xx)	04, 08, 12, 16-way available in 1RU chassis 24-way available in 2RU 32, 64-way available in 3RU
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Note; for 12-way and above, please consult the factory for performance.

Frequency	Reference (ISRxxP); 10MHz IF (IS/CIxxP); 50-180MHz L-Band (IS/CLxxP); 850-2150MHz
Insertion loss	8 to 16dB $\pm$ 1dB nom. (dependent upon 'ways')
Gain flatness	$\pm$ 0.25dB across full L-Band range $\pm$ 0.1dB across any 40MHz
RF input power	1W max
Isolation	25dB typ. (between any two output ports)
Input return loss	14dB
Output return loss	20dB

Interface Connections

Reference/IF;	BNC (f), 50 Ω
L-Band;	SMA (f), 50 Ω
Option 1a;	BNC (f), 50 Ω
Option 1b;	N-Type (f), 50 Ω

Note; can increase chassis size; up to 8-way in 1RU, 16-way in 2RU etc.

Option 1c/ 1d; BNC (f), 75 Ω

Splitter (Input)/ Combiner (Output) 'Monitor' (Option 2a, 2b)

Connected directly to front panel (Option 2a) or rear panel (Option 2b) providing a monitor port.

Level	-20dBc $\pm$ 3dB
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Note; connection type and impedance offered will be identical to the main rear panel interfaces, unless otherwise requested. User to appropriately terminate if unused.

Splitter Output 'Monitor' (Option 2c)

Rear panel loop-back link allowing one splitter output to be routed to front panel providing a monitor port.

Note; connection type, impedance and level offered will be identical to the main rear panel interfaces, unless otherwise requested. User to appropriately terminate if unused.

Splitter Output 'Monitor' (Option 2d)

Coupler connected directly to front panel providing a monitor port, retaining all outputs.

Level	-20dBc $\pm$ 3dB
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Note; connection type, impedance and level offered will be identical to the main rear panel interfaces, unless otherwise requested. User to appropriately terminate if unused.

BUC/ BDC/ LNB Powering (Option 3a)

Provides power to BUC via combiner L-Band output (Tx systems) or to BDC/ LNB via splitter L-Band input (Rx systems).

Voltage	+15, 18, 20 & 24VDC (factory settable)
Current	500mA typical
Control	On/ off switching via rear panel

Notes; for other power, connection or level configurations, please consult the factory. This option degrades gain flatness across the full band performance by approximately $\pm$ 0.25dB.

BUC/ BDC/ LNB external referencing (Option 3b)

Provides external reference to BUC via combiner L-Band output (Tx systems) or to BDC/ LNB via splitter L-Band input (Rx systems).

External reference input;

Frequency	10MHz nom (<20MHz accepted)
Level	0dBm $\pm$ 3dB nom
Connector	SMA (f), 50Ohm

Note; for other external reference connections, level configurations or for internal automatic 'back-up' reference generation, please consult the factory.

DC & 10MHz pass-through for BUC/ BDC/ LNB Powering (Option 3c, d)

Option 3c; provides DC power and 10MHz reference pass-through to BUC via combiner port 1 input to common output (Tx systems) or to BDC/ LNB via splitter port 1 output to common input (Rx systems).

Option 3d; as above, except required port is externally 'patched' back into the unit for 'flexible' DC & 10MHz multiplexing.

Voltage	+17 to +24VDC typically
Current	1A max

Note; for other power level configurations, please consult the factory. These options degrade gain flatness across the full band by approximately $\pm$ 0.25dB.

Redundant Amplifiers (Option 4)

Provides internal 1+1 redundancy for 'active' splitter/ combiner amplifiers

Control	Auto selection & manual switch-over via rear panel
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DC Blocking (Option 8)

Provides DC blocking facility for combiner inputs or splitter outputs

Variable L-Band Attenuation (Option 10)

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

Notes; attenuator typically fitted to common input (splitter) or output (combiner). Can degrade gain flatness performance.

L-Band Slope compensation (Option 15)

Provides linear positive slope compensation of nominally 5dB across the full L-Band range (850-2150MHz) to compensate for internal circuitry & external primarily cross-site L-Band cables.

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

Mechanical

Width	19", standard rack mount
Height	Typically up to 16-way in 1U (1.75"), up to 24-way in 2RU (3.5"), up to 64-way in 3RU (5.25")

Note; size is option dependent, for details please consult the factory.

Depth	200 to 400mm (option dependent), plus connectors
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Construction	Aluminium chassis
Weight	Approx. 2kgs (4.5lbs)

Environmental

Operating temp	0°C to +50°C
EMC	EN55022 part B & EN50082-1
Safety	EN60950

Power supply (active versions only)

Voltage	90-264VAC
Frequency	47-63Hz
Power	30 Watts max.
Option 7;	Redundant PSU; provides a 1+1 redundant power supply configuration with separate prime power inputs

Control System Interface (active versions only)

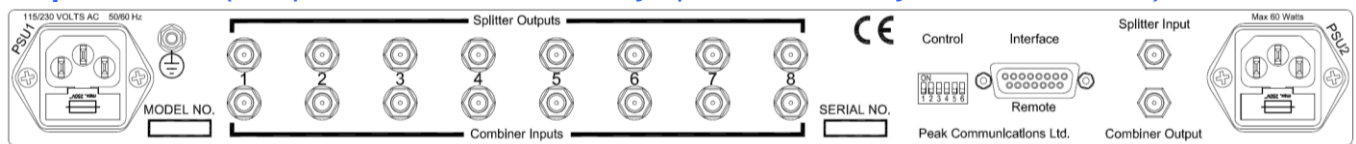
Discrete 'alarms interface'	PSU failure Amplifier current detection
Connection	D-Type, 15-way

Options

- 1a) BNC (f), 50Ω connections
- 1b) N-Type (f), 50Ω connections
- 1c) BNC (f), 75Ω connections (passive units)
- 1d) BNC (f), 75Ω connections (active units)
- 2a) Splitter (input)/ combiner (output) front panel monitor port
- 2b) Splitter (input)/ combiner (output) rear panel monitor port
- 2c) Splitter output front panel monitor port (uses one main output)
- 2d) Splitter output front panel monitor port (retains all main outputs)
- 3a) BUC/ BDC/ LNB DC powering (switchable)
- 3b) BUC/ BDC/ LNB external referencing
- 3c) DC & 10MHz pass-through for BUC/ BDC/ LNB drive
- 3d) DC & 10MHz pass-through for BUC/BDC/LNB drive via rear panel 'patch' cable
- 4) Redundant amplifiers (active versions only)
- 5) Spare port terminations.
- 7) Redundant power supplies
- 8) DC blocking for combiner inputs or splitter outputs
- 10) Manual variable attenuator, 30dB at L-Band
- 15) 5dB passive, fixed, 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 L-Band, active, 8-way splitter and 8-way combiner shown)



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