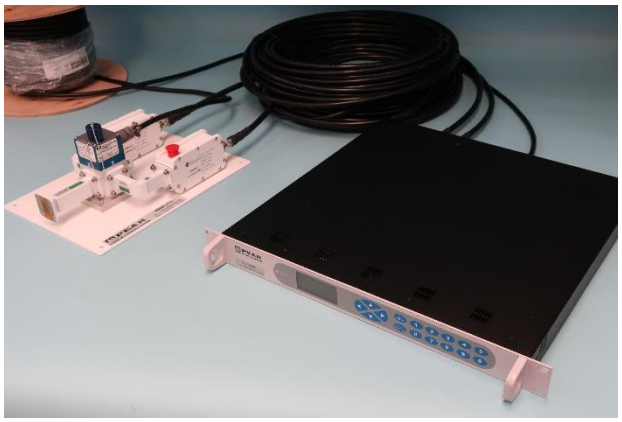
RCUH50 Series

1+1 & 2+1 Redundancy Control for Remote BUC/ BDC/ LNB/ LNA Units



RCUH50, 52 for use with;

- **PBU/ PBD series** block converters and general LNB units (L-Band interface on unit)
- **PNB series** RF systems with indoor system interfaces (internal L-Band switching)
- 3rd party RF systems & legacy infrastructure

RCUH50C, 52C for use with;

- **PNB series** RF systems with remote system interfaces (no internal L-Band switching)

The **RCUH50** 1+1 & **RCUH52** 2+1 redundancy control units are special versions of the versatile **RCUH100/ 200** redundancy switch units and are presented in a 1U high 19-inch rack mount chassis. The **RCUH50, 52** units are designed to power and monitor remote mounted low noise blocks (LNB's), low noise amplifiers (LNA's), block up converters (BUC's) or block down converters (BDC's) and drive remote mounted coaxial or waveguide switches. A range of 10MHz reference signal generation, locking and pass-through options as well as DC supply can also be provided to drive the BUC/ BDC/ LNB/ LNA units.

The **RCUH50, 52** units can be controlled from the front panel user interface (local mode) or remotely via the RS232/ 485 or optional Ethernet network link to a host computer/ NMS system (remote mode). In remote mode, the on-line unit can be selected and monitored whilst keeping switch-over automatic in case of failure. An internal L-band coaxial switch changes as the active converter unit is selected.

In AUTO mode, the unit monitors the converter/ amplifier alarm signals (or drive current) and if a fault condition is detected within an on-line unit, the RCUH50 series automatically switches traffic to the standby unit.

Customization available, so please consult the factory if the features that you require are not shown on this data sheet.
Peak can supply external switches and cabling, for more details please consult the factory.

Peak Features

- Optional monitoring of off-line LNB/ BDC L-band output
- Optional test input for off-line BUC
- Dual mains input & redundant power supplies fitted as standard
- Fully compatible with Peak PBU/ PBD block up/ down converters
- Remote control fitted as standard, with optional Ethernet remote
- Optional reference generation, external reference locking or 'pass-through' to LNB/ BUC/ BDC
- Compatible with most makes of LNA/ LNB/ BUC/ BDC for legacy system upgrades
- L-Band variable attenuator & slope compensation options available
- Dual-Voltage & 22kHz tone capability for multi-range LNB switching
- Compatible with Peak **PNB series** 1+1 & 2+1 outdoor RF assemblies

RCUH50, 52 Units – Typical Specification

L-Band Interfaces

Connections		SMA (f), 50Ω
	Option 12a;	F-Type (f), 75Ohm interfaces from LNB's
	Option 12b;	F-Type (f), 75Ohm system output interfaces
	Option 12c;	BNC (f), 75Ohm interfaces from LNB's
	Option 12d;	BNC (f), 75Ohm system output interfaces

Note: Option 12 may increase chassis height to 2RU

Monitor	Provides an L-band monitor for the off-line LNB/ BDC output
Spare BUC drive	Provides a spare L-band input to drive the off-line BUC (for test purposes)

External Co-axial/ Waveguide Switch Interface

Connection		Multi-pin circular, (mating part supplied if not ordered with option 1)
Drive type		+12VDC pulsed, latching, and indicators
	Option 10e;	+12VDC@3A for WR137/112/75/42 waveguide switch
	Option 10f;	+24VDC@2A for WR137/112/75/42 waveguide switch
	Option 10g;	+24VDC@3A for WR229/430 waveguide switch

Note: If taken with RCUH52 units, increases chassis depth to 534mm

Switch	Optional supply of external switches (please consult factory for details)

Single Switch Insertion Loss (Typical)

L-Band	0.15dB
C-Band	0.2dB (Option 6)
X-Band	0.3dB (Option 6)
Ku-Band	0.35dB (Option 6)
DBS-Band	0.4dB (Option 6)
Ka-Band	0.5dB (Option 6)

Internal Reference Generator for LNB/BUC/BDC (Option 4)

Internal reference generator, fed to BUC/ BDC/ LNB's via L-band interfaces (option 4b provides the reference output as a separate discrete connection). Includes an external reference input connection with automatic detection and locking facility.

Output		10MHz at 0dBm nominal on L-Band
	Option 4b;	10MHz at 0dBm nominal on SMA(f), 50Ω
Stability;		
Allan deviation		<5 x 10^{-12} over 1s
Ageing		<3 x 10^{-10} per day, <3 x 10^{-8} per year
Temp stability		<2 x 10^{-9} over -10 to 50^{0}C

External Reference 'Pass Through' (Option 5)

For situations where an external reference signal is available on the system L-Band input (BUC systems) or output (BDC/ LNB systems). Internally splits the reference signal and passes it to the BUC/ BDC/ LNB units via the L-Band interfaces.

Note: For RCUH52 2+1 system, L-Band input source on channel 'A' only.

Input		10MHz at +3dBm min on L-Band
	Option 5a;	10MHz at +3dBm min on SMA(f), 50Ω

Note: +5dBm min., for RCUH52 unit.

Output	10MHz at 0dBm nominal on L-Band

BUC/BDC/LNB/LNA DC drives (Option 8)

Includes current monitoring with user settable 'window' alarm to trigger automatic redundancy switch-over (LNB/LNA only).

DC supply		Factory settable, typically +22.5V regulated at 0.65A nom.

Note: For higher current or multi-range dual-Voltage & 22kHz tone switching, please consult the factory with LNB type.

Connection		Fed on L-band interface
	Option 8b;	Multi-pin circular 'Interface' connector
	Option 8c;	Separate co-axial connections
	Option 8d;	Dual Voltage, typically +13V/+18V
	Option 8f;	Dual Voltage, typically +13V/+18V, plus tone (22kHz)

Electronically Variable L-Band Attenuation (Option 11)

Attenuators can be fitted to either the common L-Band 'system interface' for general gain control, or to each of the individual L-Band paths to the outdoor environment for balancing cross site path losses.

Attenuation range		30dB nominal
Step size		
	Option 11a;	0.5dB
	Option 11b;	0.1dB
Control		Local & remote

Mechanical

Width	19", standard rack mount
Height	1U (1.75")
Depth	420mm (16.5"), plus connectors
RCUH52;	534mm (21"), plus connectors
Weight	4.0kgs (8.8 lbs)
Construction	Aluminium chassis

Environmental

Operating temp		0 to +50^{0}C
	Option 6e;	-40 to +50^{0}C (for co-axial switch, option 6)
EMC		EN 55022, part B & EN 50082-1
Safety		EN 60950

Power Supply (dual, redundant)

Connection	IEC (dual feed cables provided)
Voltage	90-264VAC
Frequency	47-63Hz
Power	50 Watts max.

Control System

Remote control		RS232/ 485 port
	Option 9;	Ethernet; embedded web server & SNMP network management support.
'Interface' connector		Multi-pin circular (mating part supplied if not ordered with option 1)
	Option 7;	HPA summary alarm inputs for 'chain redundancy' control applications

Options

1) Control cable assembly for use between RCUH5x and outdoor BUC/ BDC/LNB/LNA units
2) Custom front panel overlay
4) Internal reference generator to drive BUC/BDC/LNB's via the L-Band interface
4b) External reference output as an SMA interface
5) External reference pass-through on L-Band system
5a) External reference pass-through with SMA input
6) **PBR50, 52** remote mounted co-axial SHF switching in a weatherproof housing for use with Peak BUC's
6e) Low temperature operation to -40^{0}C for remote mounted co-axial switch
8) BUC/ BDC/ LNB DC drives via L-Band interfaces
8b) BUC/ BDC/ LNB/ LNA DC drives via multi-pin 'Interface' connector
8c) BUC/ BDC/ LNB /LNA DC drives via separate coaxial connections
8d) Dual-Voltage, multi-range LNB drive
8f) Dual-Voltage plus tone, multi-range LNB drive
9) Ethernet interface with embedded web server & SNMP
10e) +12VDC@3A external waveguide switch drive
10f) +24VDC@2A external waveguide switch drive
10g) +24VDC@3A external waveguide switch drive
11a) Attenuator with local & remote control, 30dB stepped 0.5dB
11b) Attenuator with local & remote control, 30dB stepped 0.1dB
12a) F-Type (f), 75Ω LNB L-Band input interfaces
12b) F-Type (f), 75Ω L-Band system output interface
12c) BNC (f), 75Ω LNB L-Band input interfaces
12d) BNC (f), 75Ω L-Band system output interface
14) Additional switching for simultaneous output dual-range devices
14a) Transfer switching for offline unit test/monitoring access

Rear panel view *(sample unit shown populated for RCUH52)*