PNB Series

1+1 & 2+1 Redundant LNB Systems

PNBC1+1, 2+1 for use with C-Band LNB units
PNBX1+1, 2+1 for use with X-Band LNB units
PNBKu1+1, 2+1 for use with Ku-Band LNB units
PNBKa1+1, 2+1 for use with Ka-Band LNB units

The **PNBx1+1** & **PNBx2+1** Low Noise Block (LNB) redundancy switching & control units comprise;

- An **RCU50/52** rack mounted control and L-Band switching unit.
- Outdoor LNB's (to customer specification/ preference).
- Waveguide switch and interconnecting waveguide (standard and custom mechanical configurations available).
- All necessary L-Band and control interface cabling to suit specific site requirements (optional).

The **RCU50, 52** units are designed to power and monitor the remote mounted LNB's and drive remote mounted 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 LNB units either via discrete cabling or multiplexed onto the L-Band cables.

The **RCU50, 52** units can be controlled from the front panel or by the RS232/ RS485 link to a host computer. Ethernet options are available with embedded web server & SNMP network management support.
In remote mode the active LNB units can be selected and monitored while keeping switch-over automatic in case of failure. An internal L-band coaxial switch changes as the active LNB unit is selected.

The **RCU50, 52** front panel can be provided with manually activated lockable switches, alternatively the **RCUH50, 52** unit can be specified which includes a full front panel user interface incorporating a graphics display module, membrane keyboard and features a clear and intuitive control and configuration menu.

The flexibility of the design allows for customization, so please consult the factory if the features that you require are not shown on this data sheet.

Peak Features

- Keys removable for security in any position
- Monitoring of off-line LNB L-band output
- Dual mains input & redundant power supplies fitted as standard
- Compatible with most makes of LNB and waveguide switch
- Remote control fitted as standard, with optional Ethernet remote
- Optional reference generation, external reference locking or 'pass-through' to LNB

PNB series – Typical Specification

L-Band Interfaces

Connections	SMA (f), 50Ω
Monitor	Provides an L-band monitor for the off-line LNB output

External Waveguide Switch Interface

Connection	Typically D-type, 15-way to circular multipole weatherproof
Drive type	
Option 10a;	+12VDC for waveguide switch
Option 10b;	+24VDC for waveguide switch
Drive length	Dependent upon customer cable type
Switch	A range of external waveguide switches are available (please consult factory with preference)

Switching Parameters

Type	Latching
Insertion Loss	
L-Band (co-axial)	0.15dB
SHF (waveguide)	0.1dB
Isolation	60dB
Switching speed	150ms (waveguide switch)
	350ms (system)

LNB DC drives

DC supply	Factory settable, typically +22.5V regulated at 0.5A nom. (1A nom. for Ka-Band)
Connection	D-Type connection
Option 8;	Fed on L-band interface

Internal reference generator for LNB (Option 4)

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

Output	10MHz at 0dBm nominal on L-Band
Option 4a;	10MHz at 0dBm nominal on BNC (f), 50Ω
Stability	$<5 \times 10^{-10}$ over 1s, $<5 \times 10^{-9}$ per day
Ageing	$<5 \times 10^{-7}$ per year
Temp stability	$<5 \times 10^{-8}$ over 0 to 50^0C

External Reference 'Pass Through' (Option 5)

For situations where an external reference signal is available on either the system L-Band output or a discrete connection. Internally splits the reference signal and passes it to the LNB units via the L-Band interfaces.

Input	10MHz at +3dBm min on L-Band
Option 5a;	10MHz at +3dBm min on BNC (f), 50Ω
Output	10MHz at 0dBm nominal on L-Band

Mechanical

Rack mounted control and L-Band switch unit;

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

Remote mounted LNB and waveguide switch unit;

Please contact factory for configuration options and drawing.

Environmental

Operating temp:	
RCU unit	0 to $+50^0$C
Outdoor items	-40 to $+50^0$C
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

Rem/Local switch	2 position key switch, selects remote or local mode
Auto/A/B switch	3 position key switch, selects converter A or B to traffic manually, or automatic mode

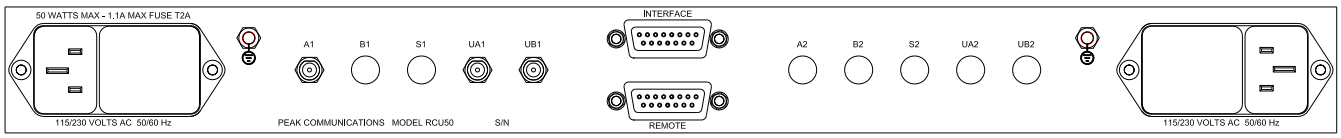
Note; for 2+1 systems, Auto/A/C & Auto/B/C switches are provided.

Option 11;	RCUH controller with full front panel user interface (graphics display and membrane keypad)
Remote control	RS232/ 485 port (internally user settable, for option 11; menu settable)
Option 9;	Ethernet; embedded web server & SNMP network management support.
Interface connector	15-way, D-type to redundant units and external waveguide switch

Options

1) Cable assembly for use between RCU and outdoor LNB units (includes L-Band and control cables)
2) Custom front panel overlay
4) Internal reference generator to drive LNB's via the L-Band interface
4a) External reference output as a BNC interface
5) External reference 'pass through' on L-Band system
5a) External reference 'pass through' with BNC input
8) LNB DC drives via L-Band interfaces
9) Ethernet interface with embedded web server & SNMP
10a) +12VDC external waveguide switch drive
10b) +24VDC external waveguide switch drive
11) RCUH series with full front panel user interface

Rear Panel



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