RCU50 Series
1+1 & 2+1 Redundancy Control for Remote BUC/ BDC/ LNB Units

RCU50, 52 for use with;
PBU/ PBD series block converters and general LNB units

RCU50(Ka), 52(Ka) for use with;
PBU(Ka)/ PBD(Ka) series block converters

The RCU50 1+1 & RCU52 2+1 redundancy control units are special versions of the versatile RCU100/200 redundancy switch units and are presented in a 1U high 19-inch rack mount chassis. The RCU50, 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 RCU50, 52 units can be controlled from the front panel or by the RS232/ RS485 link to a host computer. In remote mode the active LNB/ LNA/ BUC/ BDC 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 converter unit is selected.

The front panel has manually activated lockable switches and indicator lights with legends for either LNB/ LNA/ BUC’s or BDC’s and should be specified accordingly at the time of order placement.

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 can supply external switches and cabling, for more details please consult the factory.

Peak Features

- Keys removable for security in any position
- Monitoring of off-line LNB/ BDC L-band output (standard for RCU50 only)
- Spare drive input for off-line BUC, for test purposes (standard for RCU50 only)
- Dual mains input & redundant power supplies fitted as standard
- Fully compatible with Peak PBU/ PBD block up/ down converters
- Compatible with most makes of LNB/ LNA/ BUC/ BDC for legacy system upgrades
- Remote control fitted as standard, with optional Ethernet remote
- Optional reference generation, external reference locking or ‘pass-through’ to LNB/ BUC/ BDC
- Compatible with Peak PNB series 1+1 & 2+1 outdoor RF assemblies
RCU50, 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 interface
Option 12c:  BNC (f), 75Ohm interfaces from LNB's
Option 12d:  BNC (f), 75Ohm system output interface
Monitor  Provides an L-band monitor for the off-line
LNB/ BDC output (RCU50 only)
Spare BUC drive  Provides a spare BUC input to drive the off-line
BUC (for test purposes, RCU50 only)
Note; off-line monitor/ drive for the RCU52 unit available on request.

External co-axial/ waveguide switch Interface
Connection  D-type, 15-way
Drive type  +12VDC pulsed, latching, and indicators
Option 10a:  +12VDC for waveguide switch
Option 10b:  +24VDC for waveguide switch
Note; waveguide switch type to be provided to assess current requirement.
Drive length  Dependent upon customer cable type
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  0.5dB (Option 6)
DBS-Band  0.4dB (Option 6)
Ka-Band  0.5dB (Option 6)

BUC/BDC/LNB/LNA DC drives
DC supply  Factory settable, typically +22.5V regulated at
0.65A nom. (+27V@1.5A nom. for Ka-Band)
Connection  D-Type connection
Option 8:  Fed on L-band interface

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 & of external facilities.
Output  10MHz at 0dBm nominal on L-Band
Option 4b:  10MHz at 0dBm nominal on BNC (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^-8 over -10 to 50°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 RCU52 2+1 system, L-Band input source from channel ‘A’ only.
Input  10MHz at +3dBm min on L-Band
Option 5a:  10MHz at +3dBm min on BNC (f), 50Ω
Note; +5dBm min for RCU52 unit.
Output  10MHz at 0dBm nominal on L-Band

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

Environmental
Operating temp  0 to +50°C
Option 6e;  -40 to +50°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
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.
Remote control  RS232/ 485 port (internally user settable)
Option 9;  Ethernet; embedded web server & SNMP
network management support.
Interface connector  15-way, D-type to redundant units and
external switch
Option 7:  HPA summary alarm inputs for ‘chain
redundancy’ control applications

Options
1)  Cable assembly for use between RCU50 and outdoor units
(includes L-Band, RF and control cables, as necessary)
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 a BNC interface
5)  External reference pass-through on L-Band system
5a)  External reference pass-through with BNC input
6)  PBR50, 52 remote mounted co-axial SHF switching in a
weatherproof housing for use with BUC’s
6e)  Low temperature operation to -40°C for remote mounted co-
axial switch
7)  HPA summary alarm inputs for ‘chain redundant’ applications
(BUC system)
8)  BUC/ BDC/ 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
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

Rear Panel

Peak Communications reserves the right to alter the specifications of this equipment without prior notice. RCU50-200120.
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