



L to C-Band Block-Up-Converter

20, 40Watts GaAs

80, 100Watts GaN

Outdoor Unit

1+1 Redundancy option (page4-6)



Not all BUCs are equal: Raditek C-Band Block-Up-Converter Family is so compact, its small size and weight facilitate direct feed horn/antenna mounting.

It weighs only 5½ lbs, with up to 100W Psat, and has a built-in AC (90-265VAC 50-60Hz auto-ranging) power supply, with -48V (DC) optionally available too.

These BUCs have the best in class RF performance, including: Internal output isolator and Internet

Key Features

- Up to 100W Psat in this super-compact and light weight package 6.25"x6.45"x3.9" only!
 - Suitable for feed horn mounting
 - Best RF performance:
 - Phase noise 10dB better than IESS308/309
 - Psat of 50dBm Spurious below -60dBc
 - Wide dynamic range of Gain Control
 - Integrated L-Band to C-Band conversion
- Available also in Standard, Extended, Palapa and Insat frequency [options](#).
- Built In Output Isolator
 - Output power measurement has RMS detector
 - Configuration via RS-232 serial console, packet protocol RS-485 - User friendly HTTP based GUI and SNMP optional
 - Built in auto-ranging AC power supply
 - -48VDC isolated power supply ([optional](#))
 - Field upgradable software
 - Status LED
 - Overdrive Protection on 80 and 100W model

Order Examples: RBUC-L-C(5.925-6.725GHz) -WR137-100W-AC-ER10M-x-i13

Description: (Block Up Converter, L Band(950-1525MHz) N-Type Female IF Input Connector, to C(5.925-6.725GHz), WR137/CPR Grooved Flange RF Output Connector, 100 Watt , AC(90-265V), 10MHz Internal Reference Outdoor Unit, (X: Redundancy 1+1)

Additional Options: Cs Standard, Ce Extended, Ci Insat, Cp Palapa

Other Options 20, 40, 80Watts -48V DC (32-55V) Isolated DC PSU IR(Internal Reference) X(1+1 Redundancy as needed)

*Contact us for the part number per frequency sub-band options.

RBUC-L-C-WR137-20-100W-AC-ER10M-ODU-i13

Specifications may be subject to change

07/29/14

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Block Up Converter L to C-Band 20, 40, 80, 100Watts, Out Door Unit

20 and 40W BUCs

Parameter		20W	40W
RF Performance			
RF Frequency Range-Available in/switched:		5.85-6.425GHz (other frequency options available)	
IF Frequency Range		950-1525MHz	
LO Frequency		4.9 GHz (other options available)	
Conversion		Single Conversion; non-inverting	
Output Power at 1dB compression point		43dBm min	46dBm min
Saturated Power		44dBm typ	47dBm typ
Conversion Gain		72dB min, 75dB typ	
Gain Flatness		+/-1dB typ +/-1.5dB max over full band; +/-0.5dB max over any 40MHz	
Gain Stability		+/-1.5dB over full temperature range	
Gain Control		20dB min dynamic range	
External Reference	Frequency	10MHz multiplexed with IF In	
	Required Phase Noise	-130dBc/Hz @ 100Hz -140dBc/Hz @ 1kHz -150dBc/Hz @ 10kHz -155dBc/Hz @ 100 kHz	
Up-Converter Phase Noise		-70dBc/Hz @ 100Hz; -80dBc/Hz @ 1kHz; -90dBc/Hz @ 10kHz -95dBc/Hz @ 100kHz -115dBc/Hz @ 1MHz	
Linearity: 2 tone IMD Spectral Re-growth		-26dBc at 3dB total power back off from P1dB -30dBc for QPSK at 1.5xsymbol rate at 2dB back off from P1dB	
Output Spurious: Non-signal related		-60dBc	
Signal related		-55dBc	
Power Level		0dBm ±5dBm	
Power			
AC Voltage Range		90-265VAC 50-60Hz auto-ranging	
48V DC Voltage Range (optional)		32-55VDC Isolated	
Power Consumption		180W	220W
Mechanical			
Size		6.5"x6.5"x4.0"	
Weight		6.0 lbs	
Cooling		Forced Air	
Operating temperature		-40°C to +60°C	
Relative Humidity		Up to 100% condensing	
Interfaces			
IF Input Connector		N-type female	
RF Output Connector		CPR137 Grooved	
AC Power In		MS3112E10-8P	
RS485-RS232-Ethernet-SNMP		MS3112E14-19S	

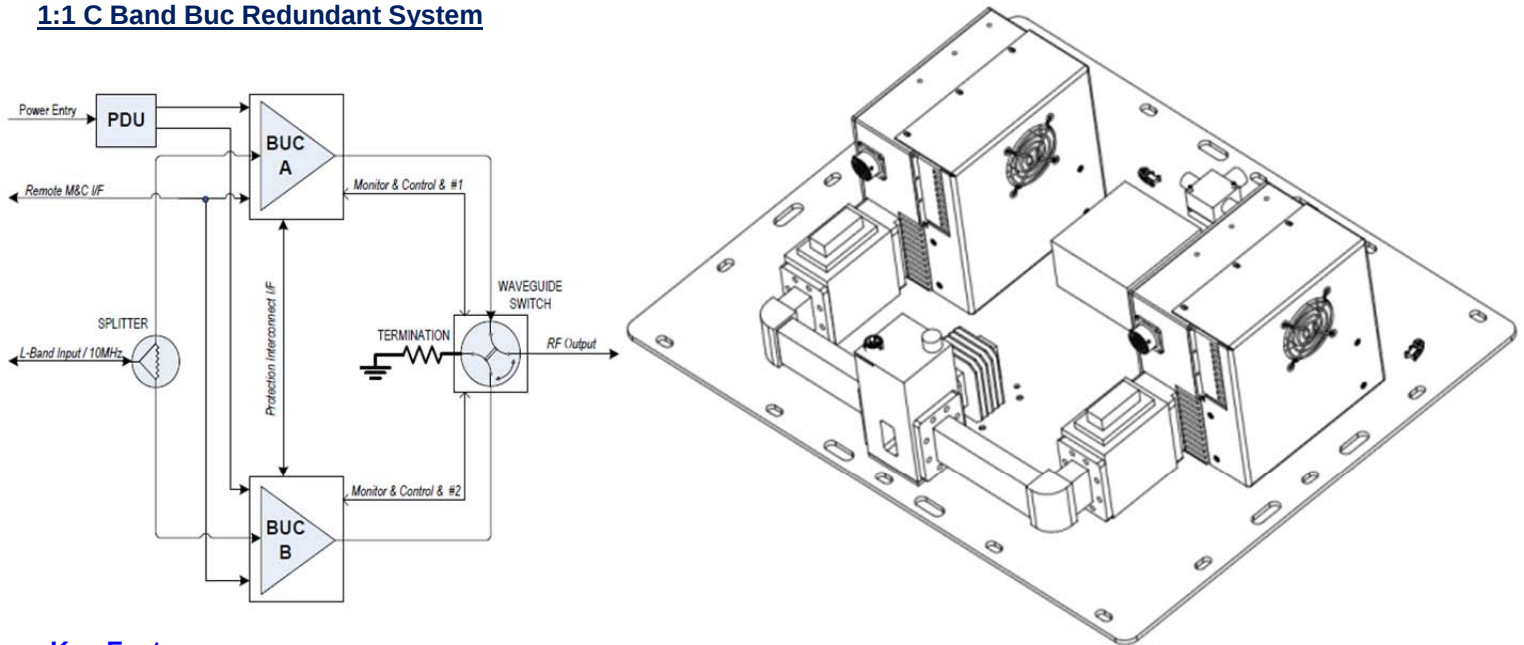
Block Up Converter L to C-Band 20, 40, 80, 100Watts, Out Door Unit

80W and 100W BUCs

Parameter		80W	100W Rated Power
RF Performance			
RF Frequency Range-Available in/switched:		5.85-6.425GHz (other frequency options available)	
IF Frequency Range		950-1525MHz	
LO Frequency		4.9 GHz	
Conversion		Single Conversion; non-inverting	
Saturated Power		49dBm (80W)	50 dBm (100W)
Conversion Gain		72dB min, 75dB typ	
Gain Flatness		+/-1dB typ +/-1.5dB max over full band; +/-0.5dB max over any 40MHz	
Gain Stability		+/-1.5dB over full temperature range	
Gain Control		20dB min dynamic range	
External Reference	Frequency	10MHz multiplexed with IF In	
	Required Phase Noise	-130dBc/Hz @ 100Hz; -140dBc/Hz @ 1kHz -150dBc/Hz @ 10kHz; -155dBc/Hz @ 100 kHz	
Up-Converter Phase Noise		-70dBc/Hz @ 100Hz; -80dBc/Hz @ 1kHz; -90dBc/Hz @ 10kHz -95dBc/Hz @ 100kHz; -115dBc/Hz @ 1MHz	
Linearity: 2 tone IMD Spectral Re-growth		-25dBc at 3dB total power back off from rated power -30dBc at 6dB total power back off from rated power -30dBc for QPSK at 1.5xsymbol rate at 2dB back off from rated power	
Output Spurious: Non-signal related		-60dBc	
Signal related		-55dBc	
Power Level		0dBm ±5dBm	
Power			
AC Voltage Range		90-265VAC 50-60Hz auto-ranging	
48V DC Voltage Range (optional)		32-55VDC Isolated	
Power Consumption	at rated power	360W	400W
	at 3dB back off from rated power	280W	420W
Mechanical			
Size		6.5"x6.5"x4.0"	
Weight		6.0 lbs	7.5 lbs included WG Circulator
Cooling		Forced Air	
Operating temperature		-40°C to +60°C	
Relative Humidity		Up to 100% condensing	
Interfaces			
IF Input Connector		N-type female	
RF Output Connector		CPR137 grooved	
AC Power In		MS3112E10-8P	
RS485-RS232-Ethernet-SNMP		MS3112E14-19S	

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1:1 C Band Buc Redundant System



Key Features

- Simplicity
- Reliability
- BUC embedded redundancy protection controller with no external extra controller required
- Easy BUC/PA unit's replacement without interruption of traffic
- Remote control over RS-232, RS-485 and Ethernet.
- Built-in SNMP and web server
- Auto manual, remote, manual override operational modes
- Manual Switch-Over bottom
- Power distribution junction box (optional)

- 1) Our Intelligent Redundancy System is light weight and super-compact
- 2) Primary and secondary backup BUCs and the redundant 1:1 system have no need for an extra external controller since both system BUCs have a build-in controller.
- 3) The redundant kit comprises two Output Waveguide Switches, Input Splitter, Terminations, Waveguide links, Interconnection cables and aluminum plates.
- 4) Extensive monitor & control via serial ports EIA232/EIA485 and Ethernet.
The state of the art web browser provides the operator with comprehensive system management tool.

Note 1. System IF input can be routed to an input splitter or coaxial switch (as a part of ganged WG switch) depending on system configuration.

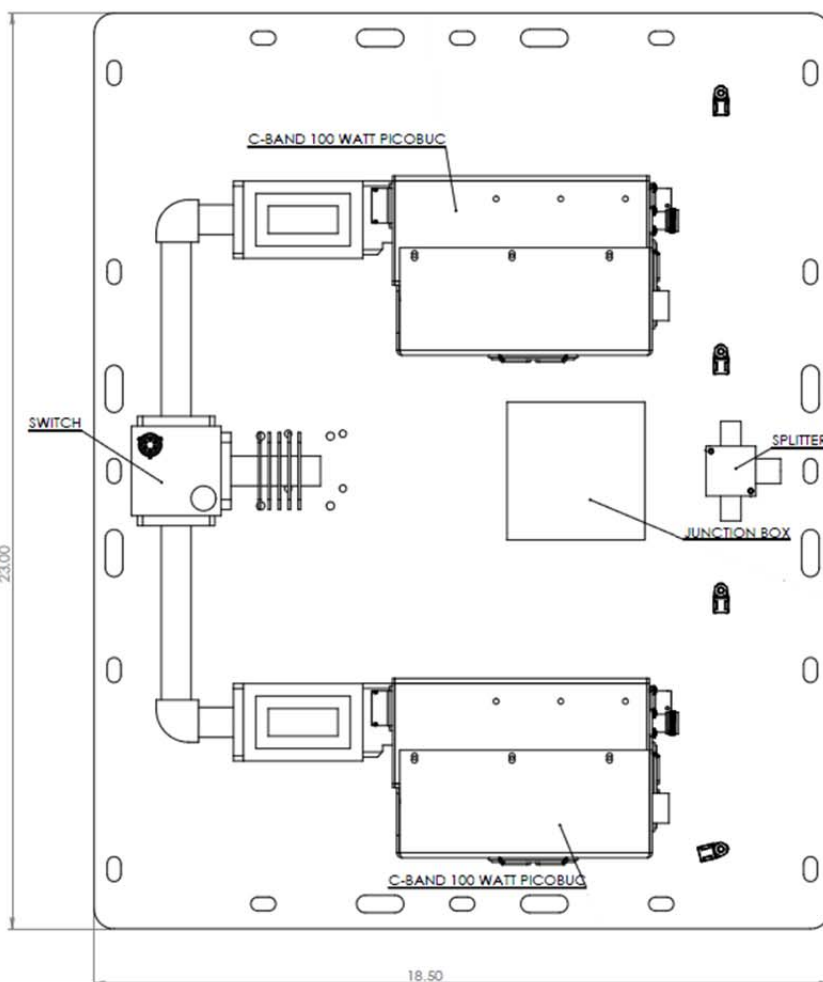
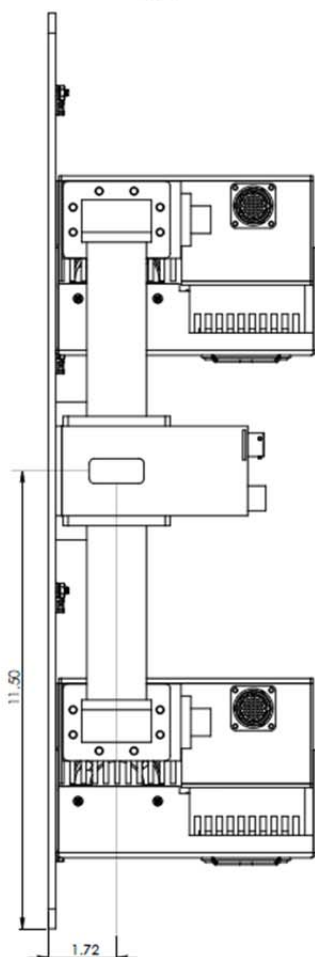
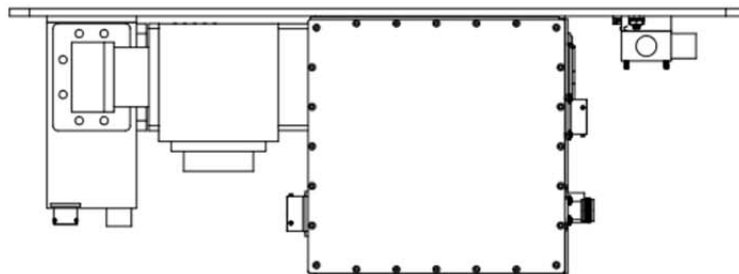
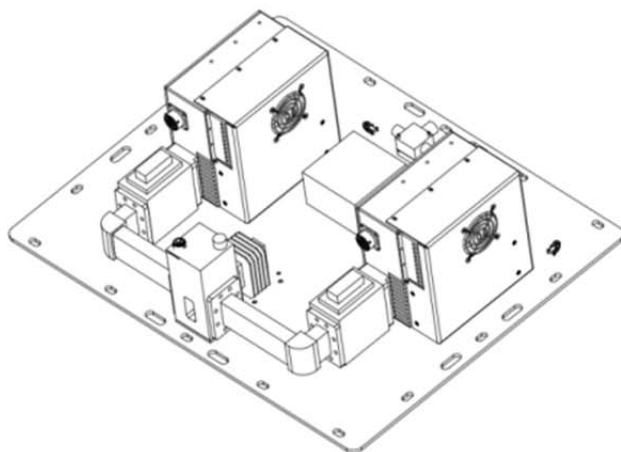
Note 2. Stand by unit can be running in hold over modes using internal low stability reference clock signal to provide "hot standby" operation in case of external reference being switche to the active unit only.

Note 3. Indoor RU Remote control Panel can be added to the system as an option for customer convenience.

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RF Characteristics	Specifications
Return loss at IF In port	14dB max
Return Loss at RF Out Port	16dB max
Input IF port Impedance	50Ohm
Mechanical & Environmental	
Size	23" x 18.5" x 7"
Weight	18lbs
Storage temperature	-40°C to +85°C
Operating temperature	-40°C to +55°C
Relative Humidity	Up to 100% condensing
Interfaces	
IF Input Connector	N-type female
RF Output Connector	CPR137 Grooved
Controls:	
Remote/Local	Via Serial, Ethernet
Online/Stand By	Via Serial, Ethernet
Auto/Manual	Via Serial, Ethernet
Mute Control	Via Serial, Ethernet
Gain Control	Via Serial, Ethernet
Clear Alarm	Via Serial, Ethernet
LO Select	Via Serial, Ethernet
Manual Switch-Over	Button on top of RPC Enclosure
Indicators	
Remote/Local Indication	Via Serial, Ethernet
Active/Stand by status	Via Serial, Ethernet
Mute Status	Via Serial, Ethernet
Switch Position	Via Serial, Ethernet LED
Gain Status	Via Serial, Ethernet
Temperature BUC 1-2	Via Serial, Ethernet
Lock status BUC1-2	Via Serial, Ethernet
Summary Alarm status 1-2	Via Serial, Ethernet
Switch Position	Via Serial, Ethernet
Output Power Detection	Via Serial, Ethernet

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