

Ku-Band **Micra-BUC** GaN Block-Up-Converter

Features:

- 16, 20, 25, 40 and (50 Psat) Watts
- 10MHz Ext. Reference
- Outdoor Unit.
- Optional 1+1 Redundancy unit.



Not all BUCs are equal: Raditek's Micra-BUC, the new Ku-Band Block-Up-Converter Family is compact, its small size and weight allows direct antenna feed mounting. It weighs only 5½ lbs, with up to 40W (rated power), and it 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 based monitor and control, with both serial and analog interfaces.

Ideal for any Ku band VSAT application, especially Ocean-Stabilized antennas, and RADITEK's Internet on the Move (IOTM) for the smallest, lightest weight applications.

KEY FEATURES:

- Up to 40W Linear / 50W Psat (Rated Power)
- 6.25"x6.45"x3.5" (extremely small!), 5.5lbs
- Ideal for feed horn mounting
- Only 250W Power consumption at 40-50W output
- 180W power consumption at 3dB back off.
- Excellent RF performance:
 - ❖ Phase noise 6dB better than IESS308/309
 - ❖ Saturated power of 44dBm minimum
 - ❖ Spurious below -60dBc
 - ❖ Wide dynamic range of Gain Control
- Integrated L-Band to Ku-Band up converter
- Overdrive protection on 40W model
- High Linearity
- Switchable LO option – Standard (S) and Extended Ku-Band (E) in one unit
- Built In isolator provides full output VSWR Protection
- Output power measurement - True RMS detector installed at factory (optional)
- Configuration via RS-232 serial, 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

Compare to our competitor, Wavestream, for example:-

Wavestream's Ku-Band Matchbox BUC 16W/25W/40W 10.3"L x 5.4"W x 4.5"H 10 lbs

Order Examples: RBUC-L-Kue-WR75-Nf-25W-ER10M-AC-ODU-i13

Description: (Block Up Converter, L Band (950-1450MHz) to Kue(13.75-14.5GHz), N-Type Female IF Input Connector, WR75 Grooved RF Output Connector, 10MHz External Reference, 25 Watts, AC (90-265V)

Additional Options: Kue (13.75-14.5GHz) / Ku (14.0-14.5GHz) RF Power: 16, 20, 25 and 40 Watts, 50W (Psat) AC (90-265V), or (DC: -48V(32-72V))

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

See also, the Raditek RMOD-DREAM IP/SCPC/DAMA Modem and RADITEK's RMOD-Extreme to 155MBps/64QAM

Specifications	Ku	Kue
RF Frequency Range-(switchable via RS485)	14-14.5GHz	13.75-14.5GHz
IF Frequency Range	950-1450MHz	950-1700MHz
LO Frequency	13.05GHz	12.8GHz
Conversion	Single Conversion; non-inverting	
Freq. stability	±5x10 ⁻¹⁰ /per day	
M&C	on Ethernet base	

RBUC-L-Ku-Nf-WR75-ER10M-16-50W-AC-ODU-i13

Specifications may be subject to change

07/27/15

WORLD HQ: 1702L Meridian Ave. Suite 127, San Jose, Ca 95125, U.S.A.

Tel: (408) 266-7404

FAX: (408) 266-4483

WEB: www.raditek.com

E-mail: sales@raditek.com

Block Up Converter L to Ku-Band

16, 20, 25, 40 and (50 Psat) Watts, 10MHz Ext Reference, ODU

16,20,25W Rated Power Micra-BUCs

	16W	20W	25W
Output Power at Psat	42dBm minimum -16W	43dBm minimum-20W	44dBm minimum -25W
Saturated Power	43dBm typical.	44dBm typical.	45dBm typical.
Conversion Gain	72dB min, 75dB typical		
Gain Flatness	±1dB typical ±1.5dB max over full band; ±0.5dB maximum over any 40MHz		
Gain Stability	±1.5dB over full temperature range		
Gain Control	20dB minimum dynamic range in 5dB steps		
Noise figure.	10-15db typ		
External Reference Frequency	10MHz multiplexed with IF In		
External Reference 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 Psat. -30dBc for QPSK at 1.5xsymbol rate at 2dB back off from Psat.		
Noise Power Density	Transmit band (-85dBm/Hz max) Receive band (-140dBm/Hz max)		
3rd Order Intermod. level	-30dbc typ		
Output Spurious:	Non-Signal Related (-60dBc) Signal related (-55dBc)		
Input return loss	15db		
Output return loss	20 db		
Power			
AC Voltage Range	90-265VAC 50-60Hz auto-ranging		
48V DC Voltage Range (optional)	(-48V) 32-72VDC Isolated (with reverse voltage protection)		
Power Consumption	180W(16W RF)	220W (20W RF)	250W (22W RF)
Mechanical			
Size	6.25"x6.45"x3.9"		
Weight	5.5lbs (8lb for AC powered model)		
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	WR75 grooved		
AC Power In Connector	MS3112E10-8P		
RS485-RS232-Ethernet-SNMP	MS3112E14-19S		
Warranty	3 years		

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40W / 50W Rated Power Micra-BUC.

RF Performance	40W	50W
Rated Power (Psat)	46dBm	47dBm
Linear power (dBm)	43dBm	44dBm
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	
External Reference 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	-24dBc at 43 dBm (20W) -30dBc at 40dBm (10W) -30dBc for QPSK at 1.5xsymbol rate at 44dBm	
Output Spurious: Non-signal related	-60dBc	
Signal related	-55dBc	
Power		
AC Voltage Range	90-265VAC 50-60Hz auto-ranging	
48V DC Voltage Range (optional)	-48 (36-75VDC)	
Power Consumption at rated power (P1dB)	225W	260W
at 3dB back off/linear	160W	200W
Mechanical		
Size	6.25"x6.45"x3.5"	
Weight	5.5lbs	
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	WR75 grooved	
AC Power In Connector	MS3112E10-8P	
RS485-RS232-Ethernet-SNMP	MS3112E14-19S	

Block Up Converter L to Ku-Band

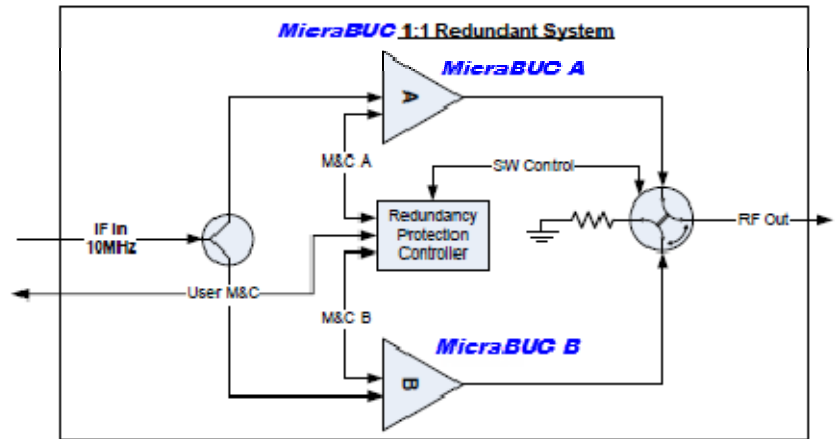
16, 20, 25, 40 and (50 Psat) Watts, 10MHz Ext Reference, ODU

1+1 Redundant BUC system

Option:

Key Features:

- Controller is powered from both BUC/PAs
- BUC/PA unit can be replaced w/o interruption.
- Controller can be replaced w/o interruption.
- Remote control via RS-232, RS-485 and Ethernet.
- Built-in SNMP and web/GUI
- Auto/manual, remote, manual override modes
- Optional Power distribution junction box.
- Manual Switch-Over



RADITEK's compact, intelligent 1+1 redundancy kit has two RADITEK Micra-BUC® units, a Controller (RPC), output waveguide sections, RF load, Input Splitter, Waveguide links, and interconnect cables. Features extensive monitor & control via serial ports EIA232/EIA485 and Ethernet. Manual switchover is via a button on the enclosure top.

IF/RF Characteristics		Monitor and Control Feature	
IF Frequency Range	950-1750 MHz	Control:	Via Serial, Ethernet
RF Frequency	13.75-14.5 GHz	Remote/Local	Via Serial, Ethernet
Return Loss at IF In Port	-14dB max	Online/Stand By	Via Serial, Ethernet
Return Loss at RF Out Port	-16dB max	Auto/Manual	Via Serial, Ethernet
Output Power	Up to 60W at Psat	Mute Control	Via Serial, Ethernet
Input (IF port) Impedance	50Ω	Gain Control	Via Serial, Ethernet
		Clear Alarm	Via Serial, Ethernet
		LO Select	Via Serial, Ethernet
External Reference		Indicators	
Frequency	10MHz	Remote/Local Indication	Via Serial, Ethernet
Int./Ext. Autosense	Internal clock locks onto the external reference	Active standby status	Via Serial, Ethernet
Interface	Combined with IF	Mute Status	Via Serial, Ethernet
Phase Noise @ 10Hz	125dBc/Hz	Switch Position	LED and Via Serial, Ethernet
Phase Noise @ 100Hz	140dBc/Hz	Gain Status	Via Serial, Ethernet
Phase Noise @ 1kHz	150dBc/Hz	Temperature BUC 1-2	Via Serial, Ethernet
Power Level	0dBm +/-5dBm	Lock status BUC 1-2	Via Serial, Ethernet
		Summary Alarm status 1-2	Via Serial, Ethernet
		Output Power detection	Via Serial, Ethernet

Block Up Converter L to Ku-Band 16, 20, 25, 40 and (50 Psat) Watts, 10MHz Ext Reference, ODU

Power		Interface	
AC Option	90-265VAC 50-60Hz to each SSPB	IF in (L band and 10MHz)	N type f/m
DC Option	36-55 VDC Isolated to each BUC	RF out	WR75 Grooved
Power	270W max to each BUC	Interface	MS3112E14-19S
		AC/DC(option)	MS3112E10-6P

