

Block Up-Converter (BUC)

Ku-Band 400W/500W



◆ Company Overview

RevGo designs and manufactures satellite earth station RF from low to high power. RevGo was founded in 2002 with its headquarters in the Washington DC corridor. RevGo's broad VSAT product line is produced to stringent quality standards using an ISO9001:2015 quality system:

- Block up-converter (BUC)
- Low noise block (LNB)
- Transceiver (Tx/Rx/OMT/filters)
- C-, Ku-, DBS-, Ka-bands
- 3 to 1000W output power



◆ Reliability

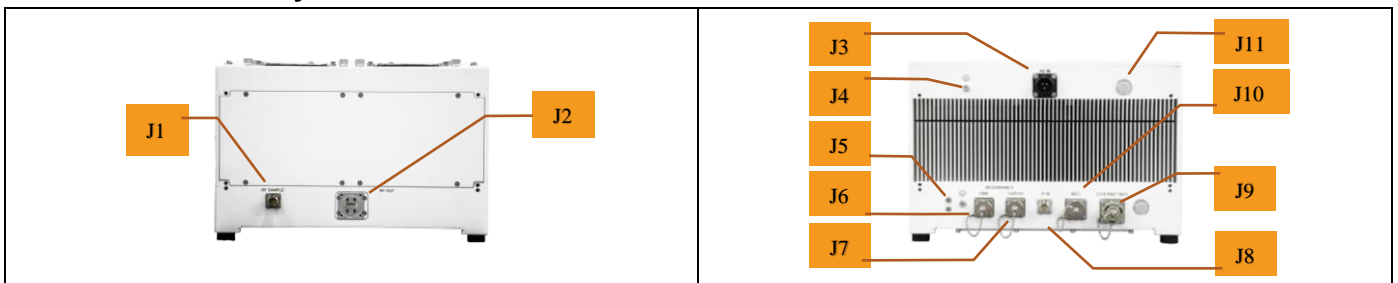
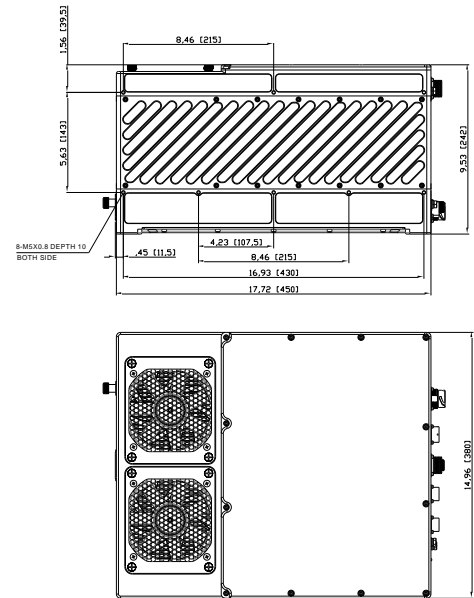
- Highly integrated RF technologies (RFIC and GaN)
- Designed for high volume production
- Linearity optimized for high order modulation and high data rate
- Strict quality control processes resulting in <0.25% field failure rates

◆ Product Features

- Low power consumption 2300W @ 56 dBm / 400W
 2800W @ 57 dBm / 500W
- Amplifier overdrive protection
- Optional high stability internal reference with Auto-detection
- Optional equipment redundancy configurations
- Low phase noise (exceeds IESS308/309)
- Rugged design for extreme environments (-40 to +60°C)

◆ Interface Summary

◆ Mechanical Diagram Unit: [mm]



No.	Interface	Type	Spec	Function
J1	RF Output Sample	N-type Female (50Ω)	Coupling coefficient: 60 dB	Output power sample
J2	RF Output	WR75-G	14.00-14.50/13.75-14.50 GHz	Built-in isolation filter, Reflected power detection
J3	AC Power Supply	ACS02E-16-10P	200 to 240 VAC (47-63 Hz)	Power for BUC
J4	Grounding	Cross Screws	M5	Ensure that the equipment can be grounded
J5	LED Status	LED*2	LED (Red/Green)	Green On: Working Normal
				Green Flash: Tx Muted
				Red On: Alarm except for PLL
				Red Flash: PLL Alarm
J6	Link connector	Redundancy connector	PT02E-12-14S	1:1/1:2 redundant system control interface
J7	Switch connector	Redundancy connector	PT02E-12-14P	1:1/1:2 redundant system switch control interface
J8	IF Input	N-type Female (50Ω)	950-1450 / 950-1700 MHz	/
J9	Ethernet connector	RJ45	Ethernet	M&C between PC and SSPB, Remote firmware upgrade
J10	M&C connector	PT02E-14-19P	RS232/RS485	RS232/RS485 between PC and BUC
J11	Breather valve	/	M12	Equalize pressure inside and outside of the BUC

Block Up-Converter (BUC)

Ku-Band 400W/500W



SPECIFICATIONS

RF Specifications

RF Frequency	<u>Standard</u>	<u>Extended</u>
RF Frequency	14.00-14.50 GHz	13.75-14.50 GHz
IF Frequency	950-1450 MHz	950-1700 MHz
LO Frequency	13.05 GHz	12.80 GHz
External Ref	10 MHz, 0 ± 5 dBm	
Internal Ref (optional)		
Oscillator accuracy	±100 ppb typ.	
Oscillator stability	± 5 ppb typ.	
Output Power	<u>400W BUC</u>	<u>500W BUC</u>
Rated/Saturated	56 dBm	57 dBm
PLin ¹	55 dBm	56 dBm
PLin ²	54 dBm	55 dBm
PLin	53 dBm	54 dBm
IMD3 (@Prated-3dB)	- 25 dBc	
Small Signal Gain	80 dB	
Gain Variation	1 dB p-p / 36 MHz	
	3 dB p-p / 500 MHz	
	4 dB p-p / 750 MHz	
Gain stability	3 dB p-p	
Gain Adjustment	60-80dB (20 dB, Step by 0.1 dB)	
TX noise density	-82 dBm/Hz	
RX noise density	-156 dBm/Hz (10.7-12.75 GHz)	
Phase Noise	-65 dBc / Hz @ 100 KHz	
	-75 dBc / Hz @ 1 KHz	
	-85 dBc / Hz @ 10 KHz	
	-95 dBc / Hz @ 100 KHz	
Output Spurious	-60 dBc	

Notes:

- PLin¹: -26 dBc regrowth, 1.5 SR (commercial satellite)
- PLin²: -30 dBc regrowth, 1.0 SR (MIL-STD-188-164B, one-carrier)
- PLin : <-25 dBc IMD3 (MIL-STD-188-164B)

Part Number / Ordering Information

RGUC – <u>U</u> abbb – <u>ACR</u> <u>c</u> N– <u>Cd</u>	
a: Frequency Range	bbb: Output Power
1 = 14.00-14.50 GHz	400 = 400W
2 = 13.75-14.50 GHz	500 = 500W
c: Reference	d: OpenBmip
E = External reference	P = With openBmip calibration tables
L = Internal reference	0 = Without openBmip calibration tables

Power Supply

Input Power	200 to 240 VAC (47-63 Hz)	
Power Consumption	<u>400W BUC</u>	<u>500W BUC</u>
@ PLin Output	1400 W	1700 W
@ Rated Output	2300 W	2800 W

Interfaces

RF Output Connector	WR75-G (Grooved)
RF Output VSWR	1.25:1
IF Connector	N-Type Female
IF Input VSWR	1.5:1
Power Connector	ACS02E-16-10P
M&C Connector	PT02E-14-19P (RS232/485)
Ethernet Connector	RJ45 (Ethernet, 100/1000 MHz)
	SNMPv2
Redundancy Connector	
Link Connector	PT02E-12-14S
Switch Connector	PT02E-12-14P
Alarm Status Indicator	LED (green/red)

Physical Parameters

Size (inches)	17.72x14.97x9.53
(mm)	450x380x242
Weight (lbs)	66.13
(kg)	30
Operating Temperature	-40 to +60°C
Humidity	0-100% (condensing)
Altitude	0-10,000 feet ASL

Contact Information

Website:	www.revgo-global.com	
Telephone:	+1 (703) 348-9933	
E-mail:	Sales@RevGoGroup.com	
Address:	12007 Sunrise Valley Dr., #450 Reston, VA 20191 USA	

Block Up-Converter (BUC) Ku-Band 400W/500W



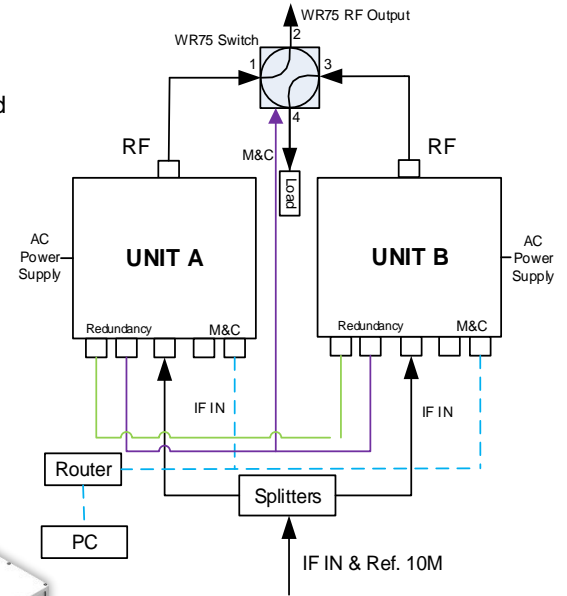
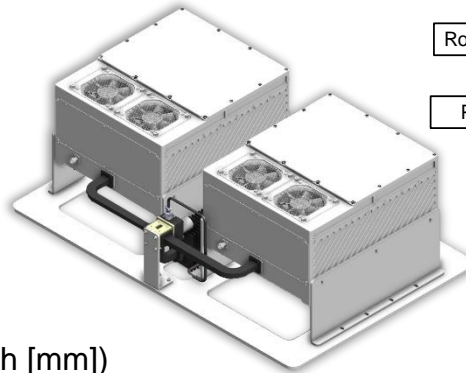
Optional 1:1/1:2 Redundancy Configuration

In the event of an equipment failure, the optional 1:1 redundancy kit switches traffic from the primary BUC to the standby BUC. 1:2 configuration is supported

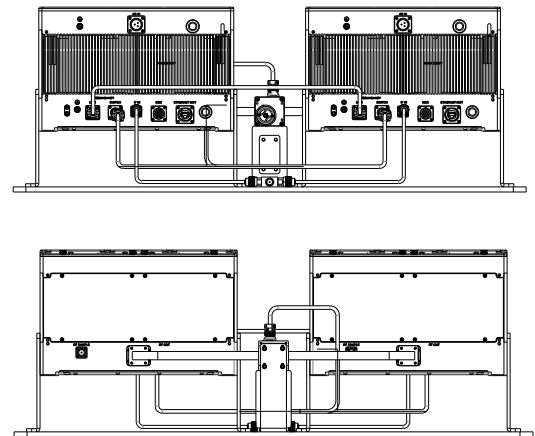
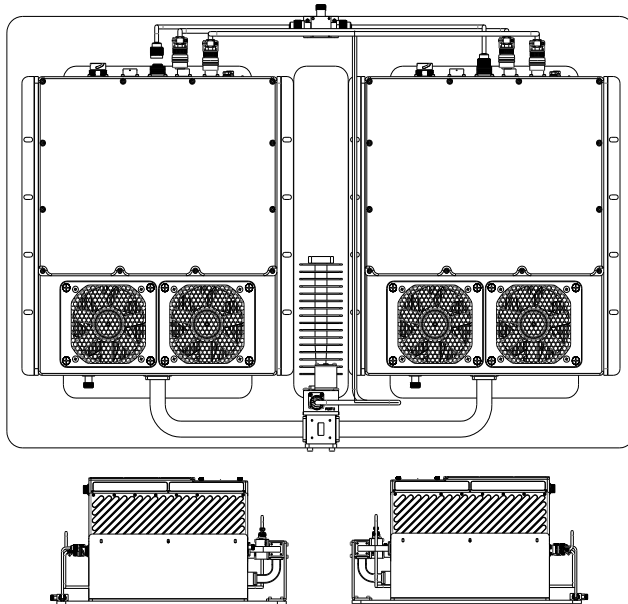
- Compatibility: 400W, 500W BUCs
- Switching Function: Auto or Manual
- Type of Standby: Cold-backup (ECO) or Hot-backup
- Rugged design for extreme environments
- Touch screen control panel (1U, optional)

◆ Items Included in Kit

- WR-75 waveguide switch *1
- WR-75 Hi Power Load *1
- Waveguide *2
- Splitter *1
- Interconnection cabling
- Mounting Frame x1



◆ Mechanical Diagram (Unit: inch [mm])



◆ Part Number / Ordering Information

RGXA – KU500RK - C0
Optional 1:1 Redundancy Kit

RGXA – BUCRKCUCU - A0
Optional touch screen control panel (1U)

◆ Contact Information

Website:	www.revgo-global.com	
Telephone:	+1 (703) 348-9933	
E-mail:	Sales@RevGoGroup.com	
Address:	12007 Sunrise Valley Dr., #450 Reston, VA 20191 USA	