

Block Up Converter (BUC)

C-Band 800/1000W BUC



◆ Company Overview

RevGo designs and manufactures satellite earth station RF from low to medium 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/SSPB)
- Solid state power amplifier (SSPA)
- Low noise block (LNB)
- Transceiver (Tx/Rx/OMT/filters)
- C-, Ku-, DBS-, Ka-bands
- 3 to 1000W output power

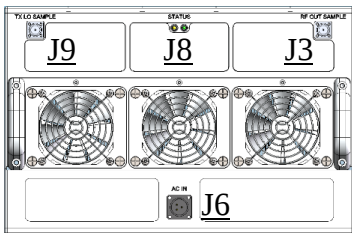
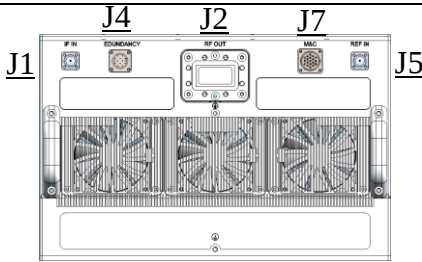
◆ Reliability

- 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

- Wide channel separation capable for multi-carriers and multi-transponders
- Variable power consumption 4000 W @60 dBm
- Independently removable fans (Patent Pending)
- Optional high Stability Internal 10 MHz Reference with Auto-Detection
- Optional equipment redundancy configurations (1:1/1:2 redundancy system)
- Rugged design for extreme environments (-40 to +55 °C)



				
No.	Interface	Type	Spec	Function
J1	IF Input	N-type Female	950-1825 MHz	Input overdrive protection
J2	RF Output	WR137-G	5.850-6.725 GHz	Built-in isolation filter Reflected power detection
J3	RF Output Sample	N-type Female	Coupling coefficient: 55 dB	Output power detection
J4	Redundancy connector	PT02E-12-14P	/	1:1/1:2 redundant system control interface
J5	REF IN	N-type Female	10 MHz	Reference clock input
J6	AC Power Supply	/	200 to 240 VAC (50-60 Hz)	Power for BUC
J7	M&C connector	PT02E-14-19P	RS232/RS485/Ethernet	M&C between PC and SSPB, Remote firmware upgrade
J8	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
J9	TX LO Sample	N-type Female	4.90 GHz	TX LO Detection (optional)

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SPECIFICATIONS

RF Specifications

RF Frequency	<u>Standard</u>	<u>Extended</u>
	5.850-6.425 GHz	5.850-6.725 GHz
LO Frequency	4.90 GHz	
IF Frequency	<u>Standard</u>	<u>Extended</u>
	950-1525 MHz	950-1825 MHz
External Ref	10 MHz, 0±5 dBm (internal ref optional)	
Output Power	<u>800 W</u>	<u>1000 W</u>
Saturated	59.5 dBm	60.5 dBm
Rated	59 dBm	60 dBm
Plin ¹	58 dBm	59 dBm
Plin ²	57 dBm	58 dBm
Plin ³	56 dBm	57 dBm
IMD3 (@Prated-3dB)	-25 dBc	
Small Signal Gain	75 dB	
Gain Variation	1.5 dB p-p / 40 MHz 3 dB p-p / 575 MHz 4 dB p-p / 875 MHz	
Gain stability	3 dB p-p	
Gain Adjustment	20 dB (55-75 dB, Step: 0.1 dB)	
TX noise density	-76 dBm/Hz	
RX noise density	-150 dBm/Hz @3.4-4.2 GHz	
P _{out} Detection range	P _{rated} to (P _{rated} -20 dB)	
Phase Noise	-68 dBc / Hz @ 100 Hz -80 dBc / Hz @ 1 KHz -85 dBc / Hz @ 10 KHz -95 dBc / Hz @ 100 KHz	
Output Spurious	-60 dBc min. -65 dBc typ. @In-band spurs	

Notes:

PLin¹: -25 dBc regrowth, 1.5 SR (commercial satellite)

PLin²: -30 dBc regrowth, 1.0 SR (MIL-STD-188-164B, one-carrier)

PLin³: < -25 dBc IMD3

Power Supply

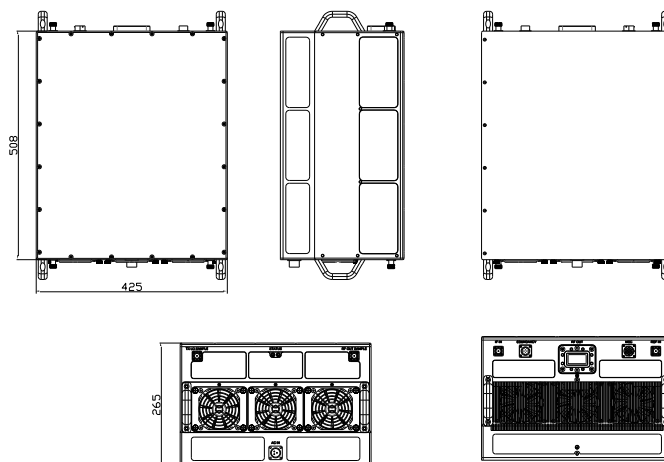
Input Power	200 to 240 VAC (50-60 Hz)	
Power Consumption	<u>800W</u>	<u>1000W</u>
@ Prated Output	3200 W typ.	4000 W typ.
@ Plin ³ Output	2500 W	2800 W

Interfaces

RF Output Connector	WR137-G (Grooved)
RF Output VSWR	1.3:1
IF Connector	N-Type Female
IF Input VSWR	1.5:1
M&C Connector	PT02E-14-19P
Redundancy Connector	PT02E-12-14P
Alarm Status Indicator	LED (Red/Green)

Physical Parameters

Size (mm)	508*425*265 (L*W*H)
Weight (lbs)	99.20
(kg)	45
Operating Temperature	-40 to +55 °C
Humidity	0-95% (Condensing)
Altitude	0-3000 m Above 3000 meters, for every 1000 meters of rise, the high temperature operating temperature of the product drops by 6°C



Part Number / Ordering Information

RGUC-C**abbb**-ACR**c**N-C0

a: Frequency Range **bbb:** Output Power

1 = 5.850-6.425 GHz 800 = 800W

2 = 5.850-6.725 GHz 10H = 1000W

c: Reference Type

E = External reference

L = Internal reference

Contact Information

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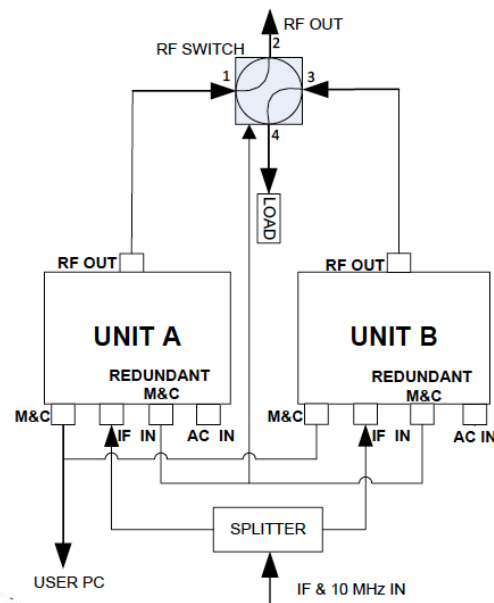
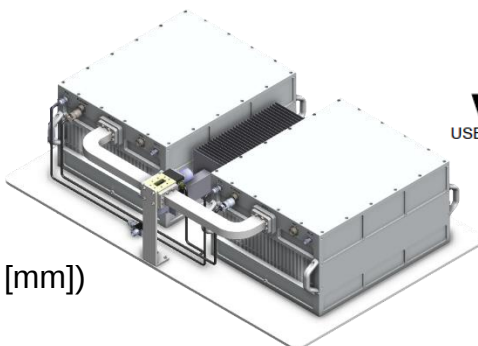
Optional 1:1 Redundancy Configuration

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

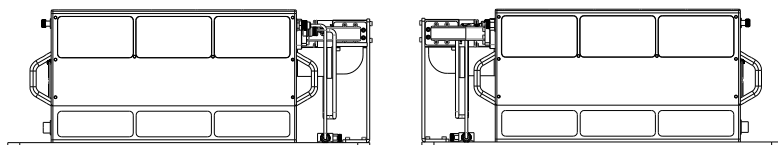
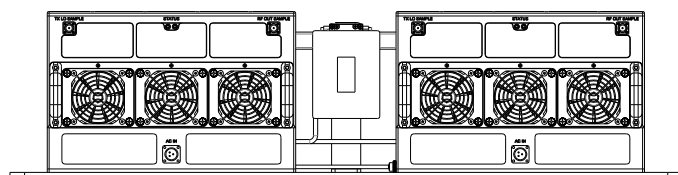
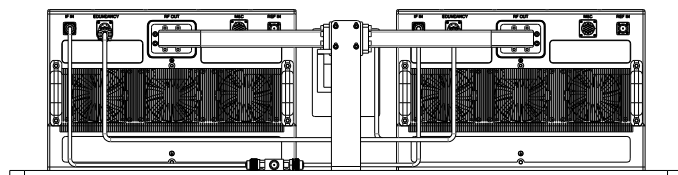
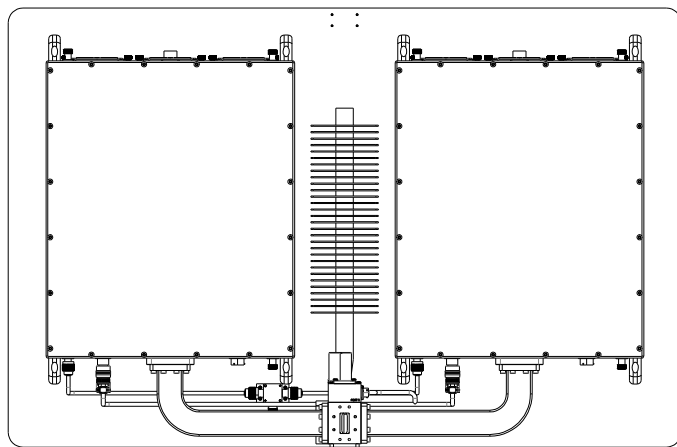
- Compatibility: 800/1000W BUCs
- Switching Function: Auto or Manual
- Type of Standby: Cold-backup (ECO) or Hot-backup
- Rugged design for extreme environments

◆ Items Included in Kit

- WR-137 waveguide switch *1
- WR-137 Hi Power Load *1
- Waveguide *2
- Splitter *1
- Interconnection cabling
- Mounting Frame x1



◆ Mechanical Diagram (Unit: inch [mm])



◆ Part Number / Ordering Information

RGXA – C1000RK - A0
Optional 1:1 Redundancy Kit

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