High Performance Ku-Band Block Up Converter
80 / 100 / 120 Watt
UB71xxx Series

General Information:

Intended for outdoor environments, the Locus Microwave UB71xxx Series of Block Up Converters utilize proprietary power combining techniques to achieve high power in an efficient package. This compact unit can be mounted on the antenna for maximum efficiency of operation.

The unit has both serial and parallel interfaces plus simple LED indicators showing status and condition of the unit.

Features:

- 80, 100 or 120 Watt Output Power
- 31.5 dB of Gain Adjustment
- Shielded Outdoor Package
- Internal Filtering Included
- Serial RS-232/422/485 I/O
- Non-Inverting Spectrum
- Analog Temperature Sensing

Options:

- 13.75 – 14.50 GHz Operation
- Internal Reference
- Available as standalone SSPA

Locus Microwave, Inc., is a member of the Codan group of companies

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UB71xxx Series
High Performance Ku-Band Block Up Converter
80 100 120 Watt

CODAN SATCOM

	Range	Units	Notes
Electrical Specifications			
Input Frequency	950-1450	MHz	
Output Frequency	14.00-14.50	GHz	12.800 GHz LO
	or 13.75-14.50	GHz	13.050 GHz LO
External Reference Frequency	10.000 000	MHz	@ 0 dBm +/-5dB
Phase Noise (SSB)			
@ 1 kHz offset	-73 max., -76 typ.	dBc/Hz	per MIL-STD-188-164A
@ 10 kHz offset	-83 max., -95 typ.	dBc/Hz	
@ 100 kHz offset	-93 max., -110 typ.	dBc/Hz	
Gain			
Small Signal Gain	60 min., 65 typ.	dB	70 dB optional
Gain Flatness	±1.25 max.	dB	per full band
Gain Slope	±0.4 max.	dB	per 40 MHz
Stability over temperature	±2.0	dB	
Gain Adjustment Range	31.5 dB, 0.5 dB steps		
Output Power			
P_{1dB} (80W / 100W / 120W)	+47.8 / +49.0 / +49.5 min	dBm	
P_{sat}(80W / 100W / 120W)	+49.0 / +50.0 / +50.8 typ	dBm	
Third Order Intermodulation Distortion	-25 / -25 / -22 max.	dBc	2 tones @ 3 dB total power backoff referenced to rated P_{1dB}
Harmonic Level	-60 max	dBc	@ rated P_{1dB}
Spurious, Signal Related (@ rated P_{1dB})	-60 max.	dBc	within output band
Spurious, Signal Independent (@ rated P_{1dB})	-60 max.	dBm	outside of band
AM-PM Conversion	2 typ.	°/dB	@ 3 dB backoff relative to rated P_{1dB}
VSWR Input/Output	1.80 / 1.30 max.	:1	Output Isolator Included
Overdrive	+0 max.	dBm	non-damaging
DC Operating Voltage	+36 tp +76	vdc	
AC Mains Operating Voltage	110-264	VAC	@ 47 – 63 Hz
M&C Function	RS-232/422/485		Serial interface
Power Requirement			
80W	460 / 540 nom	Watts	
100W	550 / 675 nom	Watts	small signal / large signal
120W	640 / 750 nom	Watts	
Mechanical Specifications			
Size (see outline drawing 11151)	13.5 x 10.0 x 7.5	Inches	L x W x H
	(343 x 254 x 191)	(mm)	
Weight	34 (15.4) nom.	lbs.(kg)	
Finish	epoxy paint		std white / opt colors per FED-STD 595
Connectors			
IF /Ext. Reference	Type N	Female	J1
RF Output	WR75 Waveguide Flange	Grooved	J2
Sample Output	Type N	Female	J3
Mains Input	C016 20C003-100-12		J4
User Control I/O M&C	MS3112E-12-14P		J5
LAN / LNB Interface	MS3112E-10-6S		
Environmental			
Operating Temperature	-40 to +60	°C	
Humidity	100	%	with condensation

Specifications are subject to change at the discretion of Locus Microwave, Inc. 11621DS Rev A

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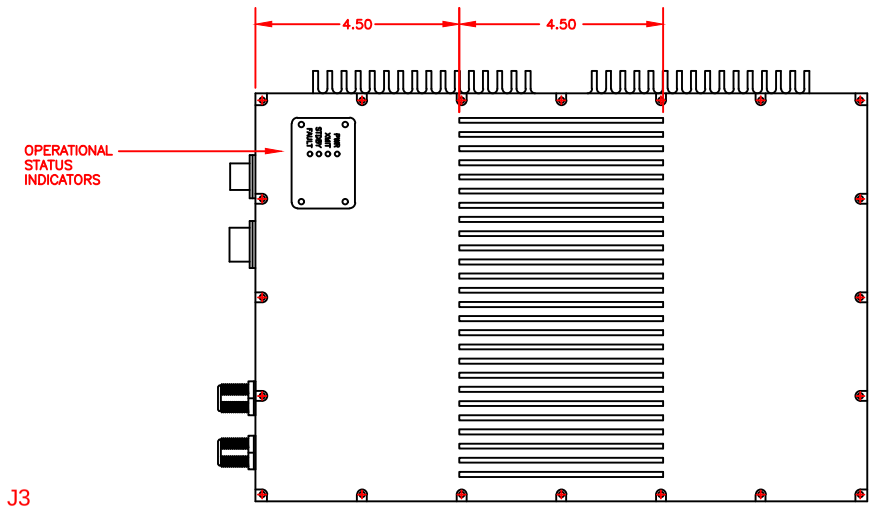
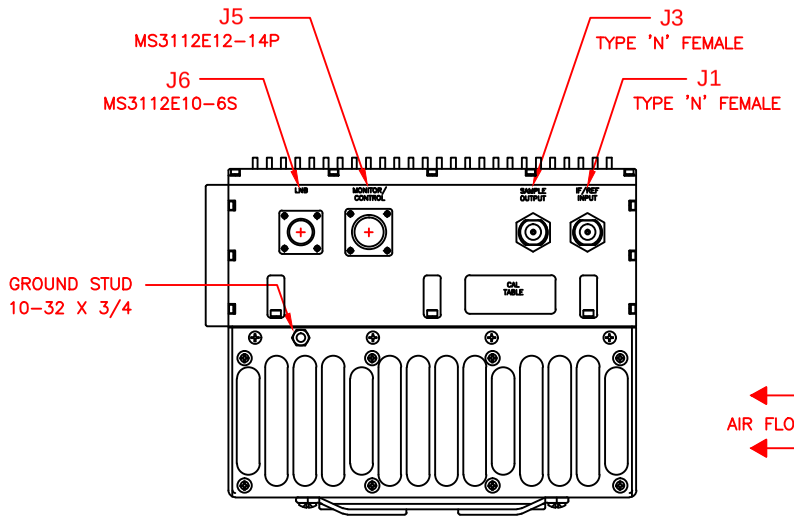
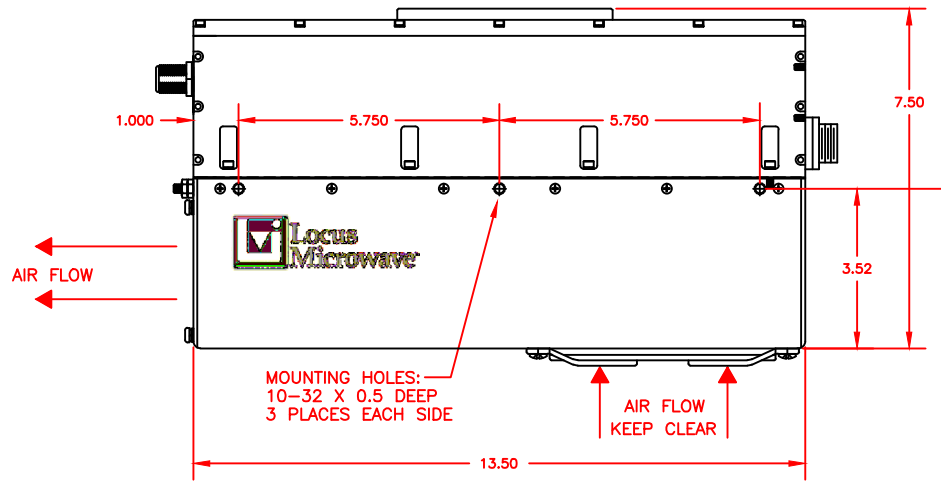
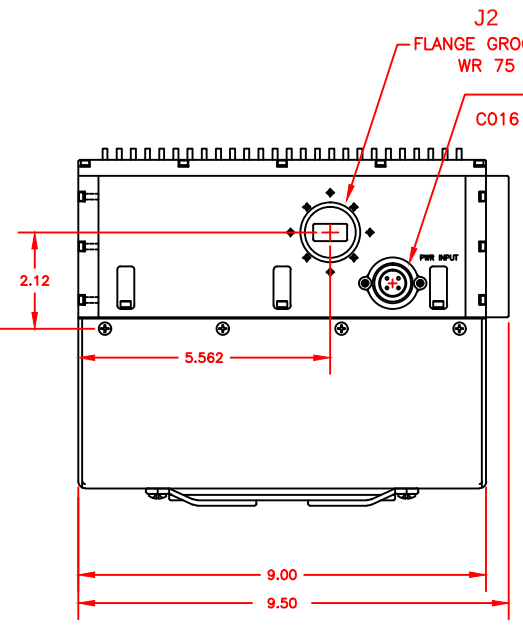
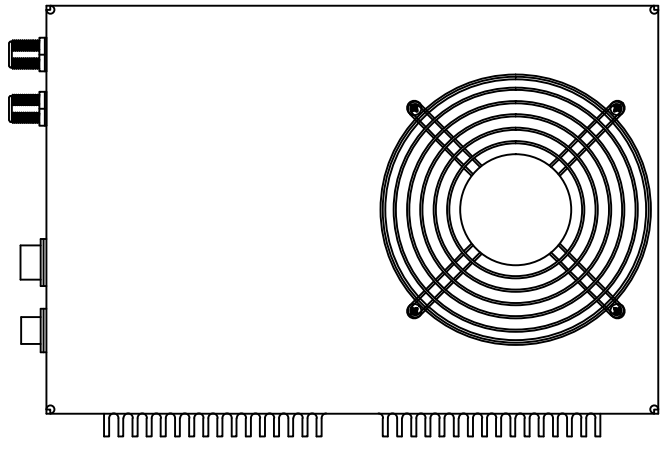
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
–	ENGINEERING RELEASE	10/09/01	DKW
A	RELOCATE STATUS INDICATORS	10/09/03	DKW
B	ECO 867: UPDATE TOP COVER FIN LOCATIONS	11/01/05	RCA
C	ECO 897: UPDATE P4 PIN CALLOUTS	11/02/10	SES
D	ECO 925: UPDATE CONNECTOR PINOUTS TABLE	11/03/15	SES











PIN ASSIGNMENT J4		
PIN	FUNCTION	DESCRIPTION
1	180–264 VAC	LINE
2	UNUSED	N.C.
3	180–264 VAC	LINE
⏚	GND	CHASSIS GND

PIN ASSIGNMENT J6		
PIN	FUNCTION	DESCRIPTION
A	+12 VDC	AUX POWER
B	GND	CHASSIS
C	GND	CHASSIS
D	LNA/LNB FAULT IN	NORMALLY CLOSED
E	LNA/LNB FAULT IN	COMMON
F	LNA/LNB FAULT IN	NORMALLY OPEN

PIN ASSIGNMENT J5		
PIN	FUNCTION	DESCRIPTION
A	BUC STATUS	COMMON
B	TX–RS232/RS485B(+)	SERIAL TRANSMIT
C	RX–RS485B(+)	SERIAL RECEIVE
D	BUC STATUS	NORMALLY CLOSED
E	BUC STATUS	NORMALLY OPEN
F	TX–RS485A(–)	SERIAL TRANSMIT
H	LNA/LNB STATUS	NORMALLY OPEN
J	GND	CHASSIS GND
K	BUC STATUS	ACTIVE HIGH;OPEN COLLECTOR
L	RX–RS232/RS485A(–)	SERIAL RECEIVE
M	LNA/LNB STATUS	COMMON
N	MUTE FUNCTION	OPEN N to P=MUTE
P		CLOSED N to P=XMIT
R	LNA/LNB STATUS	NORMALLY CLOSED

			UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	SIGNATURES	Y/M/D
			TOLERANCES	DR WHT	10/01/26
			FRACTIONS ± 1/64" DECIMALS .XX ± .01	CHK ☐ CURSORY ☐ DETAILED	
			ANGLES ± 0°-30' .XXX ± .005	APVD	
X	XXXXX–X	DLXXXXX–X	MATERIAL	FINISH Epoxy Paint (Green, Tan, or White)	
DWG SIZE	NEXT ASSY	USED ON APPLICATION			
FORM 23085–7 REV –					

Locus Microwave

UB71000–049/050/051
OUTLINE DRAWING

SIZE	CODE IDENT	DWG NO.	REV
D	34TH3	11151	D

SCALE 1:2 | PROJ: XXXXX | PAGE 1 OF 1

UB71000 Series

Ku-Band Block Upconverter

Model Number Configuration Guide

Construct Model Number

		1	2		3	4	5
Start	UB 7 1	x	x x	-	x	x	x

1 Frequency
- 0 = 14.00-14.50 Ghz
- 1 = 13.75-14.50
- x = TBD

2 Output Power (dBm)
- 4 9 (80W)
- 5 0 (100W)
- 5 1 (120W)
- x x (TBD)

3 Gain
- 1 = 60dB
- 2 = 70dB
- x = TBD

4 Voltage
- 0 = 48VDC
- 1 =AC
- x = TBD

5 Output
- 0 = WR75
- x = TBD

Customization

Finish **Color**

0 = White	37925	
1 = Dark Green	34094	
2 = Desert Tan	33446	
3 = Beige	37722	
4 = Sand	33303	
5 = Forest Green	34083	
6 = Metalast		
x = TBD		

Factory Set Up
- 0 = RS-232
- 1 = RS-422/485
- x = TBD

Mating Solutions
- 0 =Mating Connector Set
- 1 = None
- x = TBD

Selected Configuration INCOMPLETE CONFIGURATION

	1	2		3	4	5
UB 7 1	x	x x	-	x	x	x

1	**Frequency**	= TBD		***Finish***	x	**= TBD**
2	**Output Power (dBm)**	= x x (TBD)		***Factory Set Up***	x	**= TBD**
3	**Gain**	= TBD		***Mating***	x	**= TBD**
4	**Voltage**	= TBD				
5	**Output**	= TBD		***Custom Specs***	Consult Factory	