

## High Performance Ku-Band SSPA/Block Upconverters

### General Information

Intended for outdoor environments, the Locus Microwave, Inc. UB71000 Block Upconverter utilizes proprietary combining techniques to achieve high power in an efficient package. This compact and lightweight unit can be mounted on the antenna for maximum efficiency of operation.

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

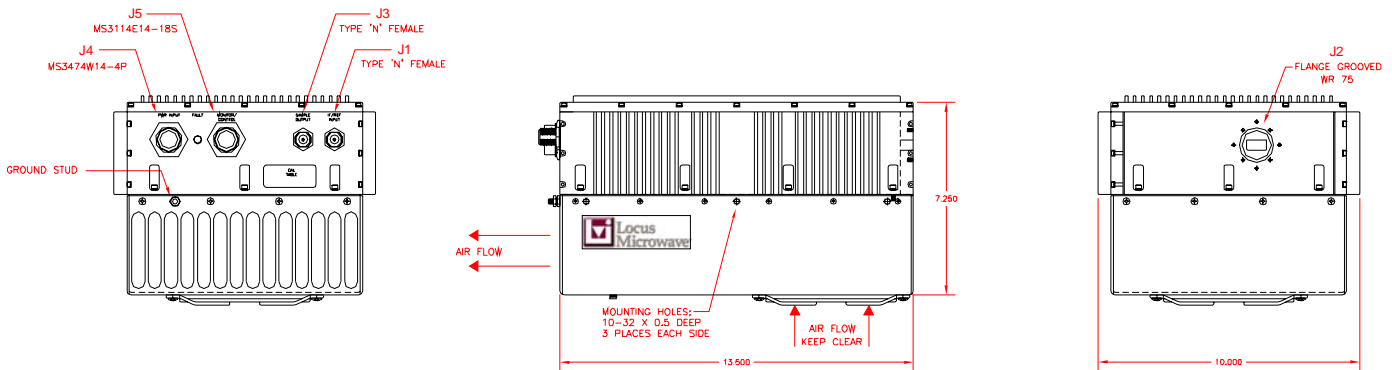
### Features:

- 80, 100 or 120 watt Output Power
- 31.5 dB Gain Adjust
- Shielded Outdoor packaging
- Internal filtering included
- Serial & Parallel I/O
- Non-Inverting Spectrum

### Options:

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

### Outline Drawing



PIN ASSIGNMENT J5		
PIN	FUNCTION	DESCRIPTION
A	Tx-RS485A (-)	Serial Transmit
B	Tx-RS232/RS485B (+)	Serial Transmit
C	GND	Signal Ground
D	unused	N.C.
E	SUMMARY FAULT	Active high, +5vdc (cmos)
F	MUTE IN	Mute Input (cmos) +Sv = mute
G	Rx-RS232/RS485A (-)	Serial Receive
H	Rx-RS485B (+)	Serial Receive
J	AUX. PWR.	+12 vdc
K	GND	
L	N.C.	
M	LNB; ALARM	Closed on fault (IN)
N	LNB; ALARM	Open on fault (IN)
P	LNB; ALARM	Open on fault (OUT)
R	LNB; ALARM	Fault common (IN)
S	LNB; ALARM	Fault common (OUT)
T	LNB; ALARM	Closed on fault (OUT)
U	unused	N.C.

PIN ASSIGNMENT J4, DC OPT		
PIN	FUNCTION	DESCRIPTION
A	+48 vdc	DC MAINS IN
B	+48 vdc	DC MAINS IN
C	+48 vdc rtn	DC MAINS RTN
D	+48 vdc rtn	DC MAINS RTN

PIN ASSIGNMENT J4, AC OPT		
PIN	FUNCTION	DESCRIPTION
A	90-264 vdc	LINE HIGH
B	GND	CHASSIS GND
C	90-264vac	LINE NEUTRAL
D	unused	N.C.



# UB71000-049/-050/-051 Ku Band SSPA/Block Upconverters

	Range	Units	Notes
<b>Electrical Specifications</b>			
Input Frequency	950-1450	MHz	950-1700 MHz optional
Output Frequency	14.00-14.50	GHz	13.75-14.50 GHz optional
External Reference			
Frequency	10	MHz	
Level	0 dBm +/-5 dB		
Phase Noise (SSB)			Per Mil-Std-188-164A
@ 1 kHz offset	-73 max.	dBc	
@ 10 kHz offset	-83 max.	dBc	
@ 100 kHz offset	-100 max.	dBc	
Gain	70 min., 75 nom.	dB	@ 0dB attenuation setting
Gain Flatness	+/-1.25 max.	dB	per full band
Gain Slope	+/-0.40 max.	dB	per 40 MHz
Stability over temperature	+/- 2.0 max.	dB	
Gain Adjust (Range/Step Size)	31.5 nom./0.5 nom.	dB	
$P_{Linear}$ (-049/-050/-051)	45.8 min./47.0 min./48.0 min.	dBm	Per Mil-Std-188-164A
$P_{1dB}$ (-049/-050/-051)	47.8 min./49.0 min./50.0 min.	dBm	
$P_{sat}$ (-049/-050/-051)	49.0 typ./50.0 typ./51.0 typ.	dBm	
Third Order Intermodulation Distortion	-25 max.	dBc	2 carriers @ rated $P_{1dB}$ - 6dB
Harmonic	-60 max.	dBc	@ rated $P_{Linear}$
Spurious, (@ rated output)	-60 max.	dBc	
VSWR, Input/Output	1.80 max./1.30 max.	:1	
Group Delay (40 MHz Segment)	0.03 max.	ns/MHz	Linear, per 40 MHz segment
	0.005	ns/MHz <sup>2</sup>	Parabolic, per 40 MHz segment
	2.5	ns p-p	Ripple, full band
AM/PM Conversion	2.0 max.	°/dB	@ rated $P_{Linear}$
User M&C Function	RS232/422/485		serial interface
DC Operating Voltage	36 to 76	vdc	AC Mains operation optional
Power -049	460 nom./540 nom.	watts	@ small signal/large signal output
-050	550 nom./675 nom.	watts	@ small signal/large signal output
-051	640 nom./750 nom.	watts	@ small signal/large signal output
<b>Mechanical Specifications</b>			
Size (approximate)	13.50 (343) x 10.00 (254) x 7.25 (184)	in. (mm)	L x W x H
Weight	29 (13.2) nom.	lbs. (kg)	
Finish	white epoxy paint		optional: green or tan
Connectors			
IF Input/Ext. Reference	Type N	Female	J1
RF Sample Output	Type N	Female	J3
RF Output	WR75	Grooved	J2
Mains Input	MS3474W14-4P		J4
Control/Alarm	MS3114E14-18S		J5
<b>Environmental</b>			
Operating Temperature	-40 to +60	°C	
Humidity	100	%	with condensation

Specifications are subject to change at the discretion of Locus Microwave, Inc.

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