# L-BAND UP/DOWN CONVERTER



## **Product Highlights**

One Rack Unit High

70 MHz or 140 MHz IF

Up and Down Converter

Up to 1000 MHz Bandwidth

LCD & Keypad Front Panel

LNB & SSPB Support

125 kHz Step Size

Phase Noise Better than Intelsat IESS 308/309

1:1 through 1:8 RS and STARswitch™ compatible

#### **Key Features**

- Complete, Independent, Up and Down Converters in a single 1 RU package
- Dual stage, synthesized up and down converters.
- 950 to 1525 MHz Std. or Extended 950 to 1950 MHz.
- Inverting and Non-inverting LNB support.
- Inverting or Non-inverting Up Converter Spectrum
- Calibrated Gain and Level Monitoring.
- Programmable cable slope compensation.
- Low microphonic design
- Full monitoring and control through LCD and Keypad Front Panel or serial remote
- User programmable, Nonvolatile memory for multisatellite operation.
- Front Panel RS-485 Address, Alarm Masking, Reference Offset, Frequency, and Gain settings
- RS-232, RS-422, RS-485 Serial interface for remote M&C
- Universal 115/230 VAC Power Supply Input
- Automatic switch over to External 10 MHz Reference
- Flexible design can adapt to most user configurations
- Internal High Stability 10 MHz Reference (Optional)
- DC and Reference Mux. on L-Band cables for external SSPB and LNB (Optional)
- Wideband 950 1950 MHz (Optional)

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# **LT-3600 Technical Specifications**

General Specifications		Transfer Characteristics	Upconverter	Downconverter
Primary Power		Frequency Sense	Positive	Positive
Voltage Range:	115/230 VAC ±15%		Inverting Optional	Inverting Selectable
Frequency:	47 to 63 Hz	Gain Adjust (0.5 dB Steps)	10 to 30 dB	25 to 45 dB
Power (Int. Elect.):	25 Watts Max.	Gain Linearity (over 10 dB)	± 1.0 dB	± 1.0 dB
Connector:	ICE-320	Gain Linearity (over 20 dB)	± 1.5 dB	± 1.5 dB
Summary Alarm	Form C Contract	Gain Slope Adj. Range (over 500 MHz)	0 to +5 dB	0 to +5 dB
	Closure on DB-9M	Gain Stability (0 to +50°C)	± 0.75 dB	± 1.0 dB
Environmental		Output at 1dB compression	+ 10 dBm min.	+10 dBm min.
Temperature Range:	Operating Non-Oper.	Intermodulation distortion	40 dBc min with two	40 dBc min with two
	0 to 50°C -50° to 70°C	(third order)	carr. each at 0 dBm	carr. each at 0 dBm
Humidity:	5% to 95%, Non Cond.	Amplitude Response		
Altitude:	Up to 10,000 ft.	Over any 36 MHz	± 1.0 dB (Typical)	± 1.0 dB (Typical)
Shock/Vibration:	As in commercial shipping		± 1.5 dB (Max)	± 1.5 dB (Max)
Physical	Alone Shipping	Over Full Band	± 1.5 dB	± 1.5 dB
Weight (Lbs.):	10 max. 15 max.	Group Delay		
Dimensions (in LWH):	19x18x1.75 24x22x8	Fc ±5 MHz	2 nS	2 nS
RF Characteristics		Fc ±10 MHz	3 nS	3 nS
Frequency:	950 to 1525 MHz Standard	Fc ±18 MHz	6 nS	6 nS
	950 to 1950 MHz Optional	Noise Power Density	-125 dBm/Hz	
Impedance:	50 Ohm		@25 dB Gain	
Return Loss:	16 dB	Noise Figure		15 dB
L-Band Connectors:	N-Type Female/SMA	Image Rejection		60 dBc
Frequency Selection:	125 kHz Step Size	Spurious, non-carrier related	-60 dBm max.	-55 dBm max.
Frequency Stability Std.	±1 PPM (0 to 50°C)		@25 dB Gain	@30 dB Gain
High Stability Option 4	±2 x 10-8 (0 to 50°C)	Spurious, carrier related	-55 dBc max.	-50 dBc max.
	±1 x 10-9 / day		@0 dBm Output	@0 dBm Output
	±1.5 x 10-7 / day	DC Power on L-Band Cables	+22V @ 2.0 Amps	+22V @ 0.5 Amps
External Reference:	10 MHz, 0 to +13dBm	**Optional	+15V @ 1.0 Amps	
Connector:	BNC, Female	References on L-Band Cables		
IF Characteristics		10 MHz	-2 dBm ±2 dB	-2 dBm ±2 dB
Frequency Range:	70±18 MHz Std.	**DC Power on L-Band Cables is not available in	n combination with Redundant co	onfigurations.
	140±36 MHz Opt.			
Impedance:	50 Ohms	Part Number Information		201667-
Return Loss:	18 dB	(all available standard options sh	nown below)	(see digits below)
Connector:	BNC, Female	Digit 1 Digit 2 Digit 3	Digit 4 Digit 5	Digit 6 Digit 7
Phase Noise Offset	dBc / Hz Max.	(Frequency) (L-Band Range) (Bias VDC, L- Band)	(10 MHz Ref. Osc.) (L-Band Ports)	(10 MHz Ref. STARswitch Out) Ready
at 100 Hz -66	at 1 kHz -76	1 70 MHz 1 950-1525 0 None	0 Standard 0 SMA	0 No 0 No
at 10 kHz -86	at 100 kHz -96	2 140 MHz MHz (Standard) 1 D/C-22V U/C-22V	1 High Accuracy 1 N-Type	1 U/C & D/C 1 Yes 2 U/C Only
at 1 MHz -106		2 950-1950 2 D/C-22V MHz (Extended) U/C-15V		3 D/C Only

Shown to the right is the rear panel of the LT-3600:



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3750 W. Loop 281 • Longview,TX 75604 • Phone 903-295-1480 • Fax 903-295-1479 • Email: Longview-sales@gdsatcom.com

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