



5 to 25 Watt



50 Watt



100 Watt

### INTRODUCTION

The CSAT-6070 C-Band Transceiver provides superior performance, long-term reliability, and ease of installation.

### APPLICATION

The CSAT-6070 is the perfect choice for any VSAT point-to-point application, including:

- TDMA
- DAMA
- SCPC/MCPC

### FULL RATED POWER

The CSAT-6070 delivers the full rated power, or more, measured at the 1 dB compression point and at the output flange. You will know the useable output power you are paying for, and can receive full value for your investment.

### PHASE NOISE

The dual synthesizers in the CSAT-6070 deliver superior phase noise performance, exceeding Intelsat specifications by a substantial margin. Your applications will benefit from outstanding spectral purity and the ability to operate in multi-carrier environments with less worry.

### THIRD ORDER INTERCEPT (TOI)

The design of the CSAT-6070 provides a high TOI that allows multi-carrier applications without the issues normally encountered in low power environments. The CSAT-6070 delivers performance usually found only in split converter SSPA systems.

### SMALL, COMPACT DESIGN

The CSAT-6070 transceiver is enclosed in a single unit chassis. This design allows quick, easy installation for all models in this family of transceivers.

### FULL MONITOR AND CONTROL (M&C)

A variety of full monitor and control methods are designed into the CSAT-6070:

- Convenient connection using an optional small, hand-held terminal
- Easy access via EIA-232 or EIA-485 connections
- Remote management via the CDM modem family or the PC-based SatMac proprietary M&C software

### REDUNDANCY

The CSAT-6070 is available in a 1:1 redundant configuration.



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### Transmit

Frequency RF	6725 to 7025 MHz					
Frequency IF	70 MHz ± 18 MHz 140 MHz ± 36 MHz (Optional)					
Output Power, P <sub>1dB</sub>	Model:	<u>5W</u>	<u>10W</u>	<u>25W</u>	<u>50W</u>	<u>100W</u>
Gain	dBm:	+37	+40	+44	+47	+50
Gain Flatness	dB:	65	68	71	74	77
Gain Stability	±0.75 dB full RF band ±0.75 dB per 36MHz ±0.25 dB at constant C ±1.00 dB from -40° to +55°C (-40 to 131°F)					
Carrier Mute	-70 dBc					
Inter-modulation	-33 dBc for two carriers at 6 dB OPBO from rated power					
Second Harmonic	-55 dBc					
Spurious	AC line harmonics -45 dBc Carrier related, <500 kHz -60 dBc All other in-band -65 dBc					
AM to PM Conversion	3.0 Degrees at 6 dB OPBO from rated power					
RF Output VSWR	1.25:1					
RF Output Connector	Type N Female					
IF Input Impedance	50 Ohms					
IF Input VSWR	1.25:1					
IF Input Connector	Type N Female					

### Receive

Frequency RF	4500 to 4800 MHz				
Frequency IF	70 MHz ± 18 MHz 140 MHz ± 36 MHz (Optional)				
Gain, without LNA	45 dB				
Gain Flatness, without LNA	± 0.75 dB full RF band ± 0.75 dB per 36MHz ± 0.25 dB constant temperature ± 1.00 dB -40° to +55°C (-40 to 122°F)				
Gain Stability, w/o LNA	± 1.00 dB -40° to +55°C (-40 to 122°F)				
Output Power, P <sub>1dB</sub>	+13 dBm				
Two Tone Inter-modulation	-50 dBc for two tones at 0 dBm each, 1 MHz apart				
Image Rejection	-60 dBc				
RF Input VSWR	1.25:1				
RF Input Connector	Type N Female				
IF Output Impedance	50 Ohms				
IF Output VSWR	1.25:1				
IF Output Connector	Type N Female				



### Common

Conversion	Dual, no spectral inversion	
Frequency Step Size	1.0 and 2.5 MHz automatic	
Frequency Stability	1x10 <sup>-9</sup> /day 1x10 <sup>-7</sup> /year 40° to +55°C 1x10 <sup>-8</sup> /Temp.	
Attenuation	Tx	0 to 25 dB in 0.25 dB steps
	Rx	0 to 20 dB in 0.25 dB steps
Phase Noise	100 Hz	-66 dBc/Hz
	1 kHz	-76 dBc/Hz
	10 kHz	-86 dBc/Hz
	100 kHz	-96 dBc/Hz
Group Delay	Linear	0.1 ns/MHz
	Parabolic	0.02 ns/MHz <sup>2</sup>
	Ripple	1 ns p-p

### Monitor and Control

Methods	Both EIA-485 and EIA-232 Serial Interface Handheld controller, optional
Commands	Set Tx/Rx frequency Set Tx/Rx attenuation Report Tx output power Mute Tx Report internal temperature Report power supply voltages Set time/date
Faults	Up/Down converter functions Up/Down converter synthesizers Internal reference oscillator LNA current fault Over temperature condition

### Environmental

Temperature	-40° to +55°C (-40 to 122°F) Operating -50° to +75°C (-90 to 135°F) Storage					
Altitude	15,000 ft, mean sea level					
Humidity	0 to 100 Percent, Relative					
Prime Power	90 to 260 VAC Standard 47 to 63 Hz Standard 48 VDC Optional					
Model	(RF Power)	5W	10W	25W	50W	100W
	AC Power	150W	200W	250W	410W	750W
Steady State True AC Power Requirement (110 VAC)						
Dimensions:	<u>Unit</u>	<u>Inches</u>		<u>Centimeters</u>		
	5, 10, 25W	8h x 8w x 11d		20h x 20w x 28d		
	50W	9.75h x 10w x 23d		24.77h x 25.4w x 58.42d		
	100W	10h x 12.5w x 26d		25.4h x 31.75w x 66.04d		
Weight:	<u>Unit</u>	<u>Pounds</u>		<u>Kilograms</u>		
	5, 10, 25W	36 lbs		16 kg		
	50W	65 lbs		29 kg		
	100W	80 lbs		40 kg		
Low Noise Amplifier	45°K, non-isolated standard Other noise temperatures available					



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