

CSAT-6070 C-Band Transceivers



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.

CSAT-6070 C-Band Transceivers

TRANSMIT

Frequency RF	6725 to 7025 MHz	
Frequency IF	70 MHz \pm 18 MHz	
	140 MHz \pm 36 MHz (Optional)	
Output Power, P _{1dB}	5W	37 dBm
	10W	40 dBm
	25W	44 dBm
	50W	47 dBm
	100W	50 dBm
Gain	5W	65 dB
	10W	68 dB
	25W	71 dB
	50W	74 dB
	100W	77 dB
Gain Flatness	\pm 0.75 dB full RF band	
	\pm 0.75 dB per 36 MHz	
Gain Stability	\pm 0.25 dB at constant C	
	\pm 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 Spurious	-55 dBc	
	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	
	1.25:1	
RF Output VSWR	Type N Female	
RF Output Connector	50 Ω	
IF Input Impedance	1.25:1	
IF Input VSWR	Type N Female	
IF Input Connector		

RECEIVE

Frequency RF	4500 to 4800 MHz	
Frequency IF	70 MHz \pm 18 MHz	
	140 MHz \pm 36 MHz (Optional)	
Gain, without LNA	45 dB	
Gain Flatness, without LNA	\pm 0.75 dB full RF band	
	\pm 0.75 dB per 36 MHz	
Gain Stability, without LNA	\pm 0.25 dB constant temperature	
	\pm 1.00 dB -40° to +55°C (-40° to 131°F)	
Output Power, P _{1dB}	+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	5W, 10W, and 25W	Type N Female
	50W and 100W	CPR-137G
IF Output Impedance	50 Ω	
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 ⁻⁹ /day	
	1x10 ⁻⁷ /year	
Attenuation Steps	40° to +55°C 1x10 ⁻⁸ /Temperature	
	Tx: 0 to 25dB in 0.25 dB steps	Rx: 0 to 20dB in 0.25 dB steps
Phase Noise	100 Hz	-66dBc/Hz
	1 kHz	-76dBc/Hz
	10 kHz	-86dBc/Hz
	100 kHz	-96dBc/Hz
Group Delay	Linear	0.1 ns/MHz
	Parabolic	0.02 ns/MHz ²
	Ripple	1 ns p-p

MONITOR & CONTROL

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

ENVIRONMENTAL

Operating Temperature	-40° to +55°C (-40° to 131°F) Operating	
Storage Temperature	-50° to +75°C (-58° to 167°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	
Dimensions	5W to 25W	8H x 8W x 11D inches 20H x 20W x 28D cm)
	50W	9.75H x 10W x 23D inches (24.77H x 25.4W x 58.42D cm)
	100W	10 H x 12.5W x 26D inch (25.4H x 31.75W x 66.04D cm)
Weight	5W to 25W	36 lbs (16 kg)
	50W	65 lbs (29 kg)
	100W	80 lbs (40 kg)
Low Noise Amplifier	Customer defined	
RF Power	5W	10W 25W 50W 100W
AC Power	150W	200W 250W 410W 750W
	Steady State True AC Power Requirement (110 VAC)	

