



S-BAND DOWN CONVERTER

- **LOW NOISE FIGURE**
- **LOW PHASE NOISE**
- **FINE FREQUENCY STEP**
- **LOW INTERMODULATION DISTORSION**
- **SINGLE CONVERSION**
- **HIGH RELIABILITY**

This single conversion down converter is intended for use in professional applications in S band such as satellite earth stations. The RF front end starts with high selectivity air-cavity filter to protect the receiver against out of band signals. It is followed by very low noise amplifier which keeps the overall noise figure at exceptionally low value of 3 dB.

The converter contains high level mixer to achieve low intermodulation distortion. The local source can be internal or external (selectable by front panel control key). The internal local source has low phase noise making it possible to receive very weak signals close to the thermal noise floor.

The unit has monitor ports for the RF input, LO input and the IF output as well. The unit can be operated from front panel keyboard and the LCD display but remote control via RS232 is also possible.

Picture:



**S-BAND DOWN CONVERTER****Electrical characteristics:**

RF input Carrier Frequency	2200-2300 MHz (with a maximum modulation bandwidth of ± 1 MHz)
IF Output Carrier Frequency	70 MHz No spectrum inversion
LO Frequency	2130-2230 MHz Programmable manually with minimum step size of 1 kHz Single conversion
LO mode	Internal or external (selectable by front panel control key)
LO Ext.Ref.	10 MHz (-3 - +6 dBm, automatic change-over)
LO Level (External)	+10 dBm
Internal LO Phase noise	Typical -95 dBc/Hz at 1 kHz, max -90 dBc/Hz Typical -110 dBc/Hz at 100 kHz, max -100 dBc/Hz
Internal LO stability	a) ± 1 ppm over temperature range of 10°C to 50°C b) ± 2 ppm/year
Conversion gain (with 0 dB front end attenuation setting)	20 dB (typical)
Input dynamic range (with 0 dB front end attenuation setting)	-70 dBm to -30dBm
Maximum Output level	+10 dBm P1dB
Range of Front end attenuation	0 to 69 dB with minimum 1 dB step Step Error $< \pm 2$ dB in full range
RF, LO and IF Monitoring	Separate ports
Mon Port Coupling	10 dB approx.
Return Loss	Typical 22 dB, max 18 dB at all port
Impedance	50 Ohms
Overall Noise Figure	Typical 3 dB, max 5 dB
LO Leakage (@ IF I/P, RF O/P & Mon. ports)	-100 dBm typical
Spurious and Harmonics (at RF output with 0 dB front end attenuation setting)	-50 dBc max at -30 dBm input power
Image Rejection	Better than 50 dB
AC Power Supply	Universal power supply (100-240 V AC, 50 or 60 Hz)
Unit size	19 inches rack mountable 1 U chassis

Specifications are subject to change without notice.