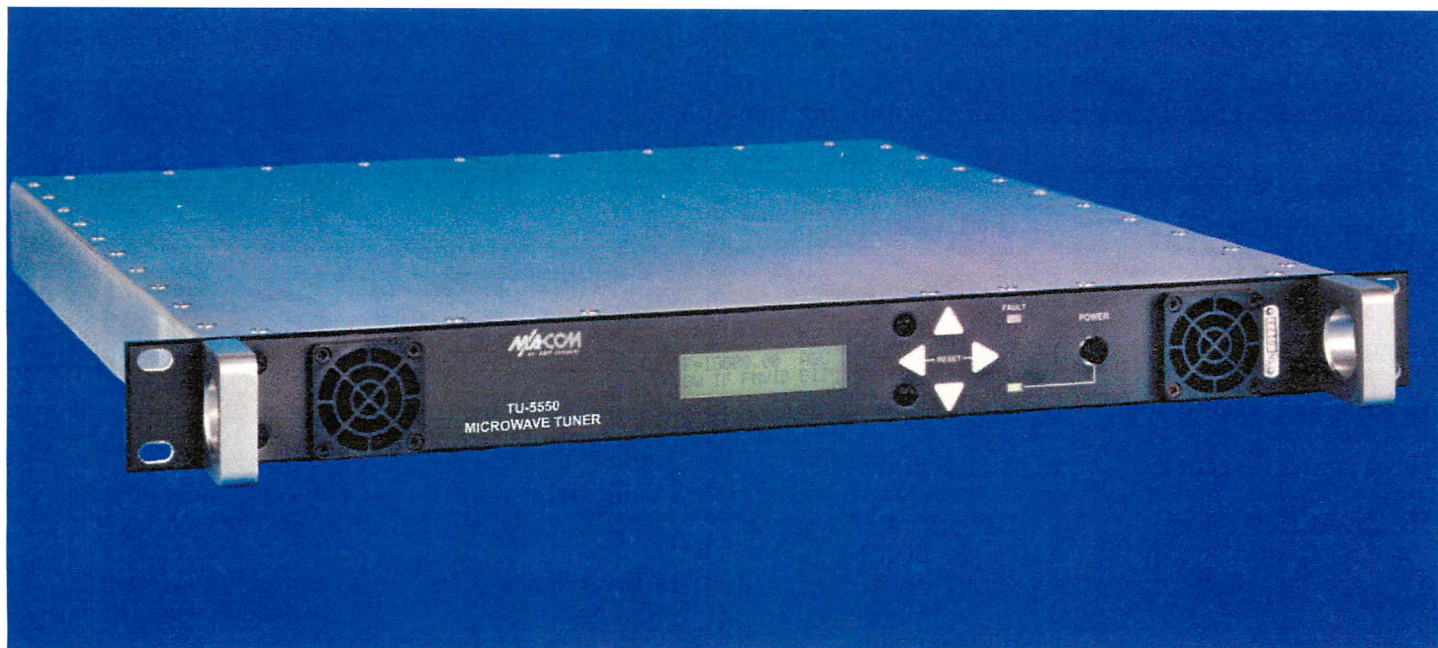




TU-5550 LOW BAND SHF DOWN CONVERTER

PRELIMINARY



FEATURES

- 1.0 to 6 GHz Tuning Range
- Synthesized in 10 kHz steps
- High Dynamic Range
- Optimized for PCM/TDM and Satellite Intercept
- Selectable Wideband IF Outputs:
 - 70/140/160 MHz standard
- Excellent BER Performance
- RS-232 Control
- Ethernet Standard

DESCRIPTION

M/A-COM's new TU-5550 fills the need for a low cost, high performance low band SHF down converter. The tuner has all the necessary features for reception of complex order, high data rate PCM/TDM, microwave repeaters, and satellite communication signals. Through the use of new low-cost commercial components and high volume receiver production, M/A-COM's TU-5550 sets a new standard for performance-to-cost value in microwave receiving equipment.

The TU-5550 covers the entire 1-6 GHz frequency range in tuning steps as small as 10 kHz. A single, operator-selectable wideband IF is provided at 70, 140 or 160 MHz. The IF bandwidth at 70 MHz is 50 MHz, and the 140/160 MHz IF bandwidth is 80 MHz.

All receiver functions are controllable from the front panel or via RS-232C serial interface. Control/status functions include: tuned frequency, IF output frequency select, signal strength, BIT status and tuner I.D. A system "kill" command is provided to reset all functions to a default condition.

Other features include 10 MHz internal or external reference frequency and built-in-test (BIT) of power supply

voltages, internal temperature, and phase lock status. The unit is operational over the 0 to 50° C operating temperature range. The TU-5550 is housed in a 1U (1.75 inch high), full rack width chassis. All connectors are on the rear panel. Positive, forced air cooling is provided through front panel cooling fans. Mechanical construction, shielding and filtering techniques assure EMI/RFI compliance with applicable categories of MIL-STD-461C.

The TU-5550 Receiver is designed for low life cycle cost and ease of maintainability. All major assemblies and most active components are connectorized to facilitate field repair and module replacement. Power, control and signal lines are contained within the same

harness, and all connectors except coax are keyed and labeled to prevent erroneous connections. No alignment or adjustment is required after module replacement, and modules are interchangeable between receivers.

DC-5550 RECEIVER SPECIFICATIONS

Frequency Coverage	1 to 6 GHz	Bandwidth - IF Output	70 MHz IF: 50 MHz BW 140 MHz IF: 80 MHz BW 160 MHz IF: 80 MHz BW
Input Connector	SMA type, female	IF Rejection	80 dB, typical
Frequency Resolution	10 kHz	Group Delay	6 ns p-p, over 80% of 3 dB bandwidth
External Reference	10 MHz, 0 dBm	IF Inversion	Upright or inverted IF, selectable from front panel.
Internal Reference Accuracy and Aging	3×10^{-7} after 1 hr. warmup. Aging less than 1×10^{-6} per year	Built-In-Test (BIT)	Power supply voltages, temperature, phase lock status
Noise Figure	15 dB, maximum	EMI Shielding	Built to Meet MIL-STD-461C, CE03, and RE02
Phase Noise	0.7° rms, typical	Humidity	90% non-condensing at +40°C
Input VSWR	2.5:1, maximum	Shock	Meets or exceeds MIL-STD-810D, method 516.3
Preselection	Suboctave filters	Vibration	Meets or exceeds MIL-STD-810D, method 514.3-1
LO Radiation	-90 dBm, maximum antenna conducted	Temperature Range, Operating	0° to +50°C
Image Rejection	60 dB, minimum 70 dB, typical	AC Power	Universal Input - 90-250 Vac, 47-440 Hz, <80 W
1 dB Compression Point Input Level	-15 dBm	Size	1.75" H x 22" D x 17" W 4.38 cm H x 55.88 cm D x 43.18 cm W Mounts in Standard 19" rack
Third Order Input Intercept Point	-5 dBm, minimum 0 dBm, typical		
Spurious-free Dynamic Range	60 dB, typical		
LO Spurious	-55 dBc, maximum		
RF to IF Gain	24 dB, nominal		
Wideband IF Outputs	70, 140, or 160 MHz standard		

Weight	20 lbs. (9.07 kg)
Digital Control	RS-232 and Ethernet are standard on the TU-5550-25A configuration

Specifications guaranteed at 25°C.
Specifications are subject to change without notice.

OPTIONAL CONFIGURATIONS

- RS-422
- 0.5-18 GHz Frequency Coverage
- 2 kHz Step Size

WARRANTY

All M/A-COM SIGINT Products' equipment is warranted for one year, except for damage caused by accident or misuse, provided the equipment is returned for repair to the plant in Hunt Valley, Maryland, U.S.A.



TU-5550 REAR PANEL



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