

RF ATTENUATION MEASUREMENT
Frequency Converter 0.01 to 18 GHz



- Internal or External 10 MHz Reference Signal
- No Adapters Needed
- For Use with Model VM-7 Advanced 30 MHz Receiver
- Converts 0.01 to 18 GHz Signals to a 30 MHz Signal
- Rack Mount Kit Available

Extends Your VM-7 Capabilities to 18 GHz

The Frequency Converter Model 8852 is a device that is intended for use with the TEGAM Model VM-7 Attenuator and Signal Calibrator over the frequency band of .01 to 18 GHz. The 8852 extends the VM-7's capabilities to measure devices at frequencies other than 30 MHz. Other features include:

Aux Output

This RF output supplies a 2 to 18 GHz synthesized continuous wave signal in 2 kHz steps at +7 dBm, which can be used as a signal source for other applications.

IEEE-488 Bus Programmable

The Model 8852 operational parameters are controlled over the IEEE-488 compatible bus using an external controller or an upgraded VM-7 with applicable software.

10 MHz Ref Input/Output

This instrument will either accept or provide a 10 MHz reference signal for system operation.

Rack Mounting

This instrument can be stacked easily with other TEGAM instruments or mounted in any cabinet or rack designed according to MIL-STD-189 or EIA RS-310 using the appropriate rack mounting kit (P/N 187-1007-1).

Weinschel PLANAR CROWN® Connector System

The use of Weinschel PLANAR CROWN® connectors at the two INPUT connectors provides the Model 8852 user with easy exchange of connector types and eliminates the need for adapters and other devices that would create additional insertion loss. This "Torque Free" type of connector also provides quick replacement of defective connectors. All crowns will mate nondestructively with connectors per MIL-STD-39012 (refer to Weinschel PLANAR CROWN® data sheet for more details).

System Operation

The Model 8852 can be easily configured into an attenuation measuring system with the addition of the TEGAM VM-7 and a signal source. This system is capable of performing attenuation measurements from 0.01 to 18 GHz. For detailed specifications and block diagrams of such a system, refer to the Model 8850 Attenuation Measurement System data sheet. The Frequency range can be extended even further to 40 GHz with the addition of the Model 8853 Frequency Converter.

Specifications

Input Frequency Range	Low Band High Band	10 MHz to 1.999 GHz 2 GHz to 18 GHz
Frequency Resolution	1 kHz from .01 to 1.999 GHz 2 kHz above 2 GHz	
Maximum Input Level	+20 dBm	
Nominal Impedance	50 Ω	
Mixer Compression	+1 dBm (1 dB compression)	
SWR at RF Input Connector	Low Band (0.01-2 GHz) High Band (2-18 GHz)	3.0 maximum 3.0 maximum
Conversion Loss (RF IN to 30 MHz output)	0 \pm 6 dBm nominal from 0.01 to 18 GHz	
Noise Figure	12 dB maximum	
Output Frequency	30 \pm 0.250 MHz	
Internal 10 MHz Reference Oscillator	Frequency Stability Output Level	\pm 1 ppm @ 0 to 50 $^{\circ}$ C 8 dBm \pm 2 dBm
External 10 MHz Reference Oscillator	Input Impedance Input Level	50 Ω 8 dBm \pm 2 dBm
Aux Output	2 to 18 GHz, +7 dBm \pm 2.5 dBm	
Operation	IEEE-488 bus control or VM-7 Local mode (Note: only if the VM-7 I/O card has been upgraded with two bus ports and applicable software)	
Remote Programmability	Compatible with IEEE-488 STD-1987.	
Connectors	RF Inputs 10 MHz External Input 10 MHz Output 30 MHz Output AUX Output Digital Interface	PLANAR CROWN (female Type N) female BNC female BNC female Type-N female SMA 24 pin IEEE-488
Input Power Requirements	100, 120, 220, 240 VAC \pm 10 % @ 50 to 60 Hz	
Power Consumption	180 Watts	
EMI	Designed to meet MIL-STD-461 for radiated emission and susceptibility.	
Design and Construction	Designed to meet requirements of MIL-STD-28800D TYPE III, CLASS 5, STYLE E	
Environmental	Operating Temperature Storage Temperature Humidity	0 $^{\circ}$ C to +50 $^{\circ}$ C (+32 $^{\circ}$ F to +122 $^{\circ}$ F) -40 $^{\circ}$ C to +75 $^{\circ}$ C (-40 $^{\circ}$ F to +167 $^{\circ}$ F) 95 %
Physical Dimensions	Height Width Depth Weight	133.3 mm (5.21 in) 426.7 mm (16.8 in) 619.8 mm (24.4 in) 27.2 kg (65 lb)
Included Accessories	Power Cord Manual GPIB/IEEE-488 Cable (1 Meter Long) 8852 to VM-7 inter-connect cable, coaxial	P/N 068-21 P/N IM212 P/N 1583-3 P/N 192-1030
Optional Accessories	Rack Mount Kit for 8852 SureCAL Software Measurement Accessory Kit SWR/Retrun Loss Measurement Kit	P/N 187-1007-1 P/N 8850-SURECAL P/N 187-4001 P/N 187-4003