

Emissions & Surveillance Systems

RASTER GENERATOR

RG1000A



- Separately controllable vertical and horizontal synchronization channels.
- Dual frequency displays
- Tuning knob, keypad and vernier control for accurate frequency setting
- Z-axis output channel with gain, offset and invert controls
- Precision frequency synthesizers with stable clock to facilitate capture of signals
- Remote operation via IEEE-488 bus

■ Many signals that defy analysis by other means can be understood by an operator when presented in a visual format. The RG-1000A Raster Generator makes this possible. This instrument contains a unique combination of digital and analog circuitry that allows conversion of almost any repetitive electronic signal into a pictorial display. While raster generators are commonly used for recovery of signals that are similar to television transmissions, many other applications are possible. EMI evaluation and telemetry monitoring are two examples.

■ The RG-1000A provides an X-axis range of 100 Hz to 500 kHz, and a Y-axis range of 20 Hz to 2 kHz. Either output may be made to track the other at a user selectable ratio, or tuned or set independently. All frequencies are precisely synthesized from a master clock, and an added vernier circuit allows continuous fine tuning. Adjustable gain, offset, blanking, and selectable signal inversion are provided for the Z-axis (video) channel. IEEE-488 bus control of all functions is a standard feature.

■ Dual 7-digit displays provide readouts of the frequency settings, facilitating return to a previously used set-up. A tuning knob with variable rate control allows quick adjustment of each channel frequency with user-selected resolution, and a keypad permits numerical entry of frequencies.

■ The use of a stable clock and precision synthesizers to create the frequency references makes it possible to lock onto any data stream or video signal. The output amplitude from each synchronization channel is adjustable, and controls are included for the offset and selection of normal or inverted waveforms.

■ The RG-1000A is ruggedly constructed and is suited to both laboratory and field operations. The unit uses an efficient linear power supply with EMI filtering to minimize noise and interference.

SPECIFICATIONS	
X CHANNEL (Horizontal)	
Tuning Range:	100 Hz to 500 KHz
Tuning Resolution:	0.001 Hz to 2 KHz
	0.01 Hz to 20 KHz
	0.1 Hz to 500 KHz
	Continuously adjustable
Output Waveshape:	Sawtooth
	Risetime/Falltime 10:1 (approx.)
	Selectable polarity
Output Amplitude:	0 to 7 volts
	Continuously adjustable
Output Offset:	+/- 5 v
	Continuously adjustable
External Sync:	Selectable, TTL
Y CHANNEL (Vertical)	
Tuning Range:	20 Hz to 2 KHz
Tuning Resolution:	0.0001 Hz to 200 Hz
	0.001 Hz to 2 KHz
	Continuously adjustable
Output Waveshape:	Sawtooth
	Risetime/Falltime 10:1 (approx.)
	Selectable polarity
Output Amplitude:	0 to 7 volts
	Continuously adjustable
Output Offset:	+/- 5 v
	Continuously adjustable
Z CHANNEL (Video)	
Gain:	> 10 dB into 50 Ohms
	> 15 dB into 500 Ohms
	Control Range: 50 dB
Max Output:	3 volts peak into 50 Ohms
	10 volts peak into 500 Ohms
Offset:	+/- 5 volts
	Continuously adjustable
Blanking:	+/- 15 volts
	Continuously adjustable
OTHER FEATURES	
Controls:	Input impedance adjustable 50 Ohms to 1 MOhm
	Input (AC/DC), Blanking (On/Off)
Ref Oscillator:	Oven-controlled Quartz; Aging 1 PPM/year
	Stability/accuracy; PPM after 30 min warm-up
Tracking Modes:	Vertical tuning tracks horizontal setting
	Horizontal tuning tracks vertical setting
	Independent tuning
Remote Control:	IEEE-488 bus
Physical:	H x W x D
	5.25 x 17 x 18 in.
	133 x 432 x 457 mm.
Cooling:	Free air convection
Weight:	25.4 lbs (11.5 Kg)
Temperature Range:	Operating: 32-95 F (0 to 35 C)
	Storage: -40 to 167 F (-40 to 75 C)