


# RG-1000A Raster Generator Product Brochure



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 Dynamic Sciences International, Inc.

## RASTER GENERATOR

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.

# RG-1000A 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.)  
Selectableolarity

**Output Amplitude:**

p0 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:

HxWxD  
5.25 x 17 x 18 in.  
133 x 432 x 457 mm.

### Cooling:

Free air convection

### Weight:

n25.4 lbs (11.5 Kg)

### Temperature Range:

Operating: 32-95 F (0 to 35 C)

### Storage:

-40 to 167 F (-40 to 75 C)

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