Section 1
GENERAL DESCRIPTION

1.1 INTRODUCTION

The Krohn-Hite Model 1200A, illustrated in Figure 1, combines a function generator and ramp generator in one instrument. An exclusive feature of the 1200A is WAVEGUARDä, a unique output protection circuit that protects the generator's MAIN (HI) OUTPUT from damage, if a voltage is accidentally placed across the output terminals. The WAVEGUARD circuit recovers automatically when the external voltage is removed.

The main generator provides sine, triangle and square wave forms from 0.2Hz to 3MHz. Frequency is controlled by the tuning dial, calibrated in Hertz from .2 to 30 (1500:1) plus a 3 band, decade multiplier. A fine-tune vernier provides ±2.5% adjustment of the dial setting. Frequency may be also controlled externally by an AC or DC voltage applied to the external voltage control (VC) input.

The auxiliary ramp generator amplitude is continuously adjustable from 5mV p-p to 20 volts p-p, open-circuit. Output impedance is a constant 50 ohms. A simultaneous LO (-20dB) output is also provided.

Additional features include: ±10V variable DC offset, auxiliary TTL output and a calibrated CV (control voltage) output, proportional to the main generator frequency.

A Rack-Mounting Kit, part No. RK-39, is also available.

The generator is carefully inspected, aged and adjusted before shipment, and should ready for operation when it is unpacked. If it appears to have been damaged in shipment, file a claim with the freight carrier, and notify Krohn-Hite or its nearest sales office immediately.

1.2 SPECIFICATIONS

1.2.1 Waveforms

Sine, triangle, TTL, ramp.

1.2.2 Frequency Range

0.2Hz to 3MHz.

1.2.3 Frequency Control

Single turn dial calibrated logarithmically from 0.2 to 300 in Hertz, and a 3 position multiplier providing a 1500:1 coverage in each multiplier position. Separate fine-tune vernier provides 5% adjustment.

BAND	MULTIPLIER	FREQUENCY RANGE (Hz)
1	1	0.2 – 300
2	100	20 – 30k
3	10K	2k – 3M

1.2.4 Frequency Accuracy

±5% at three dial calibration settings of 10, 100 and 300; ±20% maximum at other settings.

1.2.5 Main Output

1.2.5.1 Waveforms

Sine, square, triangle.

1.2.5.2 Output

HI LEVEL (0dB): 20 volts p-p open-circuit, 10 volts p-p across 50 ohms.

LO LEVEL (-20dB): 20 volts p-p open-circuit, 1 volt p-p across 50 ohms.

1.2.5.3 Isolation

Can be floated up to ±200 volts peak between output and instrument case.

1.2.5.4 Amplitude Stability (Maximum Amplitude)

10 minutes, 0.02%; 24 hours, 0.1%

1.2.5.5 Amplitude Control

Infinite resolution vernier. Minimum output less than 5 millivolts.

1.2.5.6 Frequency Response

Sine wave, less than 0.1dB from 0.2Hz to 300kHz; 1.0dB to 3MHz.

1.2.5.7 Sine Wave Distortion

Less than 0.5% from 2Hz to 300kHz; 3% to 3MHz.

1.2.5.8 Square Wave

Rise and fall time, less than 40ns; tal abberations less than 5% with 50 ohm termination.

1.2.5.9 DC Components

All waveforms are normally symmetrical about ground with nom i nal zero DC volts. At max i mum out put, drift is less than 5 mil li volts per de gree C.

1.2.5.10 Triangle Linearity

Greater than 99% from 0.2Hz to 300kHz; 95% to 3MHz.

1.2.5.11 Time Symmetry

Sine, square, tirangle 99% from 0.2Hz to 300kHz.

1.2.6 Operational Modes

Con tin u ous or lin ear sweep.

1.2.7 Sweep Characteristics

1.2.7.1 Sweep Range:

Maximum 1500:1 up or down; upper and lower limits set by tun ing dial and START FRE QUENCY control.

1.2.7.2 Sweep Duration

1000s – 1ms in two ranges; 1000s – 1s, 1s – 1ms.

1.2.7.3 Ramp Output

+5V peak sawtooth, frequency adjustable with DURATION control, .002Hz – 1kHz. Ramp retrace, less than 75ms. Output impedance, constant 600 ohms.

1.2.8 External Frequency Control (VC)

1.2.8.1 Range

1500:1.

1.2.8.2 Voltage Control Range

Zero to ±3volts. (A max i mum of ±25 volts may be ap plied to the VC in put with out dam age to the cir-cuitry).

1.2.8.3 Input Impedance

10k ohms.

1.2.9 Variable DC Offset

±10 volts open-cir cuit, ±5 volts across 50 ohms. Push-but ton ON-OFF Con trol with sep a rate ver nier. (Reduced by –20dB on LO output).

1.2.10 TTL Output

TTL pulse at generator fre quency, drives up to 10 TTL loads; rise and fall times less than 15ns.

1.2.11 Control Voltage (CV) Output

+2mV to 3 volts, proportional generatorfrequency.
Ac cu racy, better than 5%. Out put im ped ance, 600 ohms.

1.2.12 Operating Ambient Temperature Range

-10°C to 45°C.

1.2.13 Controls

Front panel contains FREQUENCY dial, frequency VER Nier, START FRE Quency, DU RA TION, AM PLI TUDE, DC OFF SET and push-but ton con trols for fre quency range MUL Ti plier, MAIN OUT-put wave form se lec tor, SWP on, sweep range mul ti plier, and POWER switch. Rear panel con tains LINE switches, SYMmetry ADJust, DC LEVEL AD Just ment and GROUND switch.

1.2.14 Terminals

Front panel only, BNC con nec tors for HI and LO out puts, TTL out put, CV out put, RAMP out put, and VC input.

1.2.15 Power Requirements

Switch selectable, 90-110, 108-132, 180-220, or 216-264 volts, sin gle phase, 50-400Hz, 13 watts.

1.2.16 Dimensions and Weights

Cabinet Size/Weight	H	W	D	Net	Gross
U.S.	3-1/2”	9”	8-1/2”	5 lb.	7 lb.
Metric	9cm	23cm	21.7cm	2.3kg	3.2kg

1.2.17 Optional Rack Mounting Kit (see Figure 2)

Part No. RK-39; permits in stal la tion of the Model 1200A into a stan dard, 19” rack spac ing.

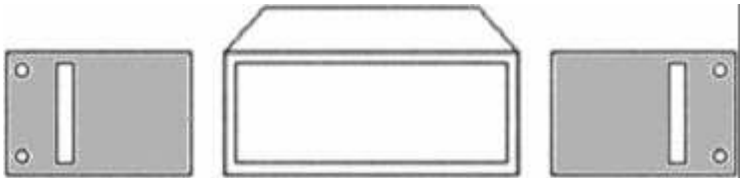

Figure 2. Optional Rack Mounting Kit

Specifications ap ply at 25°C, ±5°C at max i mum out put volt age, and dial set be tween 2 and 300, un less otherwise noted.

Specifications sub ject to change with out no tice.