

0-11. TECHNICAL CHARACTERISTICS—Continued.

MODULATION SPECIFICATIONS: (Internal and external AM, FM, OM, and Pulse Modulation)

Amplitude Modulation:

Frequency Range 100KHz to 1057.5MHz
Modulation Depth 0% to 99.9% (to 1057.5MHz) in 0.1% increments
Frequency Response DC to 100KHz external, 20Hz to 100KHz internal
Sensitivity 0.1% per mv peak into 600Ω
Maximum Input Level ±20 volts (30 seconds)
Distortion <1.5% (30% depth), <3% (30 to 70% depth), and <5%
(70 to 90% depth) modulation at a 1KHz rate to
1057.5MHz

Incidental OM <0.2 radians (30% depth, 1KHz rate, in a 0.3 to 3KHz
post-detection noise bandwidth)

Impedance 600Ω ±10%
AM Input Connector Female type BNC coaxial connector

Frequency Modulation:

Frequency Response DC to 100KHz external, 20Hz to 100KHz internal
in 1% increments
Deviation ≤300KHz (30MHz to 132.1875MHz), ≤375KHz (132.1875MHz to
328.75MHz), and ≤1.5MHz (above 328.75MHz) for a modulating
rate between DC and 100KHz
Sensitivity 1 volt peak into 600Ω ±10% for maximum deviation
Maximum Input Level ±20 volts (30 seconds)
Distortion 4% (for maximum DC Coupled deviation), 2% (for 1/2 maximum DC
Coupled deviation), and 0.4% (for 1/15 maximum DC Coupled
deviation) for a modulating rate between 20Hz and 100KHz
Incidental AM <0.3% (>400KHz carrier, 20KHz peak deviation, 1KHz rate)
Impedance 600Ω ±10%

FM Input Connector Female type BNC coaxial connector

Pulse Modulation:

Operating range 10MHz to 2000MHz
Pulse Modulation Input Connector Female Type BNC coaxial connector
Impedance 50Ω ±5Ω (10Hz to 200KHz)
Pulse Repetition Rate Range DC to 50KHz
Duty Cycle Maximum ≥50%
Pulse Duration Range 6μsec to 50msec (measured from (DC volts to turn on pulse)
to (DC volts turn off pulse))
Pulse First and Last Transition Duration (10% to 90% rise/fall time) 3μsec to 20msec
Pulse Amplitude ±3V to ±10V
Pulse Baseline Maximum Amplitude Less negative than -0.5V and less
positive than +0.5V
Pulse Topline Minimum Amplitude More negative than -3.5V and more
positive than +3.5V
Maximum Input Level ±20 volts (30 seconds)
RF Pulse Envelope Duration ±5% of the input pulse duration

0-11. TECHNICAL CHARACTERISTICS—Continued.

MODULATION SPECIFICATIONS—Continued:

Pulse Modulation—Continued:

RF Pulse Envelope First/Last Transition Duration (10%–90% rise/fall time) <0.5 μ sec
RF Pulse Envelope Overshoot/Uncertain <20% of the RF pulse envelope amplitude
RF Pulse Envelope first and Last Settling Duration <1 μ sec to within \pm 1% of final value (measured from two 90% points)
RF Pulse Envelope On/Off Ratio >40dB (10MHz to 2000MHz)

Phase Modulation:

Maximum Deviation 100 radians (from 100KHz to 132.1875MHz), 25 radians (from 132.1875MHz to 264.375MHz), 50 radians (from 264.375MHz to 528.75MHz), 100 radians (from 528.75MHz to 1057.5MHz), 200 radians (from 1057.5MHz to 2.0GHz)
Bandwidth DC to 15KHz external (DC coupled) and 20Hz to 15KHz internal and external (AC coupled)
Resolution 0.7% of setting or 0.0004% of maximum deviation, whichever is greater
Accuracy \pm (5% of setting +0.09 radians) at 1KHz rate
Distortion <0.4% at 1KHz rate
External Sensitivity 1 volt peak for selected peak phase deviation
Maximum Input Level \pm 15 volts (30 seconds)
Impedance $50\Omega \pm 5\Omega$ (10Hz to 200KHz)
ØM Input Connector Female type BNC coaxial connector

Internal Modulation Oscillator:

Frequency Range: 20Hz to 100KHz
Frequency Resolution: 1% of setting
Frequency Accuracy: 2% of setting
Output Level Range: 0 to 3 volts peak into 600Ω
Output Level Resolution: 4mV
Output Level Accuracy (within 1 sec): $\pm(4\%+15mV)$
Distortion (>0.5V peak): <0.02% (20Hz to 15.8KHz), <0.15% (15.8KHz to 100KHz)
Output Impedance: 600Ω
Output Connector Female type BNC coaxial connector

REAR PANEL CONNECTOR SPECIFICATIONS:

Interface Connector:

Type ANSI / IEEE Standard 488-1978 interface with SH1, AH1, T1, 2, 5, or 6, L1, 2, 3, or 4, SR1, RL1, PPO, DC1, ETO, and CO functions implemented

Control All front panel functions, except power switch and increment knob, may be controlled through the interface

X-Axis Connector 0—10Vdc, \pm 10%

Z-Axis Connector TTL positive true for CRT display blanking during retrace

External Reference Input 1,2,5 or 10MHz, \pm 25ppm, >0.5Vp-p 500Ω input

10MHz Output 10MHz, >1.4Vp-p into 50Ω , 75Ω impedance output

0-11. TECHNICAL CHARACTERISTICS—Continued.

OPERATING POWER REQUIREMENTS:

Voltage	115/230 VAC
Frequency	50 to 400Hz
Power Dissipation	300VA maximum

ENVIRONMENTAL REQUIREMENTS:

Operating Temperature Range	0 to +55°C
Operating Altitude	<4570 meters (15,000 feet)
Operating Humidity	5 to 95% at 40°C

OVERALL DIMENSIONS AND WEIGHT:

Height	5.25 IN. (133mm)
Width	16.75 IN. (425mm)
Depth	23.8IN. (617mm)
Weight	71.5LB (32.7kg) NET

ACCESSORIES FURNISHED:

Power Cable, 115V operation	1 each HPN 8120-1378
Fuse, 230V operation	1 each HPN 2110-0002
Fuse, 115V operation	1 each HPN 2110-0003
Front Handle Kit	1 each HPN 5061-9689