

1.0 GENERAL INFORMATION

1.1 Description

The traveling-wave tube amplifiers contained in the instrumentation series are laboratory instruments designed for general purpose microwave applications. There are special amplifiers which are off-shoots from this series and are so designated by their respective model numbers. These amplifiers are basic units, which have been modified for specific and special applications, and their manuals will contain addendum pages applicable to their specialities.

All instruments of this series utilize a periodic permanent magnetic (PPM) focused traveling-wave tube, a solid state regulated power supply, and a complete integral cooling system.

1.2 Specifications

The characteristics of the basic individual units are shown in Table 1-1.

**TABLE 1-1
SPECIFICATIONS**

RF PERFORMANCE		
1077H Series		
MODEL	FREQUENCY	POWER OUTPUT (min)
1077H11	18.0-26.0 GHz	1 watt

RF PERFORMANCE		
1177H Series		
MODEL	FREQUENCY	POWER OUTPUT (min)
1177H09	1.0-2.0 GHz	10 watts
1177H10	1.4-2.4 GHz	20 watts
1177H01	2.0-4.0 GHz	10 watts
1177H05	2.5-4.0 GHz	20 watts
1177H02	4.0-8.0 GHz	10 watts
1177H06	4.0-10.5 GHz	10 watts
1177H03	8.0-12.4 GHz	10 watts
1177H07	6.5-13.5 GHz	10 watts
1177H04	12.4-18.0 GHz	10 watts
1177H08	10.5-18.0 GHz	10 watts

TABLE 1-1
SPECIFICATIONS (Continued)

RF PERFORMANCE

1277H Series

MODEL	FREQUENCY	POWER OUTPUT (min)
1277H09	1.0-2.0 GHz	20 watts
1277H01	2.0-4.0 GHz	20 watts
1277H02	4.0-8.0 GHz	20 watts
1277H03	8.0-12.4 GHz	20 watts
1277H04	12.4-18 GHz	20 watts

ELECTRICAL

Gain at rated power output	30 dB min.*
Duty	CW
Input voltage	120 Vac \pm 10%
Input frequency	50/60 Hz
Power consumption	350 W maximum
Noise figure	35 dB maximum
Spurious modulation	-35 dB minimum
VSWR	3.0:1 maximum
RF impedance	50 ohms

MECHANICAL

Length	15.5 inches
Width	16.75 inches
Height	3.5 inches
Weight	20 pounds maximum (Note 1)
Connectors	Type N female (Note 2)

ENVIRONMENTAL

Operating temperature	0 – 50°C ambient
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NOTE 1:

L-band units will not exceed 28 pounds and Option A (line transformer) will increase any unit weight by 10 pounds.

NOTE 2:

Ku-band units have WR-62 waveguide (UG-419/U waveguide flange) for RF input and output. 1077H11 units have WR-42 waveguide for RF input and output.

*Except Model 1177H06