

# 10 & 20 Watt Power Amplifier 6900K Series

**Features**

- to 18 GHz
- Octave Bandwidths or Greater
- Optional GPIB control

**Description**

For test and measurement applications that require RF power of 20 Watts, Varian offers the 6900K Series power amplifier. For testing on antenna ranges, in EMC chambers, or on a test bench, Varian provides equipment built with quality and reliability that you can trust.

The 6900K series amplifiers are constructed with proven reliable traveling wave tubes (TWTs) which are built to provide dependable service within their lifetime. These TWTs have a wide range of applications and are readily available, resulting in Varian's ability to offer additional tubes in a timely manner. The power supply for the 6900K series has a calculated MTBF of more than 41,000 hours. Combined with Varian TWTs the 6900K series amplifier provides the industry standard for dependability.

The 6900K series TWT amplifier has a full line of standardized options including remote control, input and output insulators and harmonic filters. For ATE applications, IEEE 488 bus controllable amplifiers are available, with internal GPIB cards or external modules. More than a thousand Varian 6900K series amplifiers are used throughout the world, performing over a wide range of specifications, in a variety of environmental and operating conditions.

**Selection Guide**

Model	Power (Watts)	Freq. (GHz)	Gain (dB)	Connector
VZL6941K1	20	1-2	35	N
VZS6950K1	10	2-4	30	N
VZS6951K1	20	2-4	35	N
VZH6970K1	10	4-10	35	N
VZC6961K1	20	4-8	35	N
VZX6980K2	10	8-12.4	40	N
VZX6981K1	20	8-12.4	40	N
VZM6990K1	10	8-18	37	N
VZM6991K3	20	8-18	40	N
VZM6991K1	20	12.4-18	40	N

**SPECIFICATIONS**

Frequency Range 1 To 18 GHZ (see Selection Guide)

Rated Output Power 20 Watts CW. Saturated output power may exceed rated power by 6 dB or more near band center. Output power is reduced by the insertion loss of all microwave options added at the output.

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Small Signal Gain	35 to 40 dB (see Selection Guide). Typically 10 to 20 dB higher near band center. Gain at saturated Power is typically 5 dB less than small signal gain.
Gain Stability	0.25 dB/day at constant drive and temperature.
Gain Variation	10 dB peak-peak (typical), except M band 15 dB (typical)
Impedance	50 Ohms
	Input: 2.0:1 typical, Output: 2.0:1 typical, Load: 1.3:1 max. for full spec compliance, 2.0:1 max. for no damage.
Noise & Spurious	-50 dBc typical excluding harmonics and residual modulation.
Noise Figure	35 dB max.

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**Mechanical & Environmental**

Ampient Temperature	0 to +50°C
Relative Humidity	95% non condensing
Altitude	6,000 feet max.
Cooling	Forced air with ingegral bower
Prime Power	115 +10% 50/60 Hz, single phase
Power Consumption	400 Watts

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