

# Compact Medium Power Amplifier for Test and Measurement Applications

8.0 to 18.0 GHz

## The VZM-6993J4

250 Watt TWT  
Compact Medium  
Power Amplifier.



### Compact

Three rack units tall (5.25 in/133 mm).

### Versatile

Ultra wide-band, automatic fault recycle, user friendly microprocessor-controlled logic with integrated computer interface, VSWR soft-fail protection, digital metering, quiet operation for a laboratory environment.

IEEE interface and an integral solid state preamplifier are included as standard features.

### Efficient

Utilizes dual-depressed collector helix traveling wave tube for maximum 1.5 kVA operation.

### Global Applications

230 VAC operation. Designed to meet International Safety Standard EN61010 and Electromagnetic Compatibility 89/336/EEC.

### Easy to Maintain

Modular design and built-in fault diagnostic capability backed by CPI's worldwide 24-hour customer support network that includes 9 regional factory Service Centers.

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INSTRUMENTATION  
AMPLIFIERS

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8.0 to 18.0 GHz

250W Compact Medium Power Amplifier

## OPTIONS:

- *Input Isolator (-1 dB gain)*
- *Remote Control Panel*
- *115 VAC External Step-Up Transformer*

## SPECIFICATIONS, VZM-6993J4

### Electrical

|                    |  |
|--------------------|--|
| TWT Model Number   | 0101968100   |
| Frequency          | 8.0 to 18.0 GHz  |
| Output Power       |  |
| TWT                | 250 W min. (typical 300 W)   |
| Flange             | 225 W min. (typical 275 W)   |
| Gain               | 53.5 dB min. at rated power output;<br>55.5 dB min. at small signal                              |
| RF Level Adjust    | 0 to 20 dB   |
| Gain Stability     | ±0.25 dB/24hr. max. (after 30 min. warmup<br>and at constant drive and temperature)              |
| Gain Variation     | 12 dB pk-to-pk, typical  |
| Input VSWR         | 2.5:1 typical<br>1.5:1 max. (with optional input isolator)                                       |
| Output VSWR        | 2.5:1 typical  |
| Load VSWR          | 1.5:1 max. for full spec compliance<br>2.0:1 max. continuous operation                           |
| Residual AM        | -50 dBc below 10 kHz<br>-20 (1.3 + log F kHz) dBc,<br>10 kHz to 500 kHz<br>-85 dBc above 500 kHz |
| Phase Noise        | Meets IESS 308/309 with 3 dB margin  |
| Noise and Spurious | -50 dBc typical excluding harmonics  |
| Noise Figure       | 15 dB max.   |
| Harmonic Content   | -3 dBc typical at lower band edge decreasing<br>to -15 dBc typical at upper band edge            |
| Primary Power      |  |
| Voltage            | 220-240 VAC ±10%, single phase   |
| Frequency          | 47-63 Hz   |
| Power Consumption  | 1.4 kVA typical<br>1.5 kVA max.  |
| Inrush Current     | 200% max.  |

### Environmental (operating)

|                     |   |
|---------------------|---|
| Ambient Temperature | -10° to +40°C operating   |
| Relative Humidity   | 95% non-condensing  |
| Altitude            | 10,000 ft. with standard<br>adiabatic derating of<br>2°C/1000 ft., operating    |
| Shock and Vibration | As normally encountered in a<br>protected engineering laboratory<br>environment |
| Acoustic Noise      | 65 dBA @ 3 ft. from amplifier   |

### Mechanical

|                         |  |
|-------------------------|--|
| Cooling (TWT)           | Forced air with integral blower.<br>Rear air intake & exhaust. |
| RF Connectors           |  |
| Input                   | Type-N female  |
| Output                  | WRD-750  |
| RF Output Monitor       | Type-N female  |
| Dimensions, (W x H x D) | 19 x 5.25 x 24 in<br>(483 x 133 x 610 mm)                      |
| Weight                  | 70 lbs (32 kg)   |
| Safety                  | Designed to meet EN61010                                       |



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not up in the air



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For more detailed information, please refer to the corresponding CPI Technical Description.

**Note:** Specifications may change without notice as a result of additional data or product refinement.

Please contact CPI before using this information for system design.