



5200 Beethoven Street, Los Angeles, CA 90066  
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**MODEL 5139**  
**1000-2000 MHz**  
**2000 WATTS**  
**LINEAR POWER RF AMPLIFIER**

### Solid State Broadband High Power RF Amplifier

The 5139 is a very high power broadband amplifier that covers the 1000-2000 MHz frequency range. This amplifier utilizes Class A linear Gallium Nitride (GaN) power devices that provide an excellent 3<sup>rd</sup> order intercept point, high gain, a wide dynamic range, and an industry leading P1dB performance.

Due to robust engineering and employment of the most advanced devices and components, this amplifier achieves high efficiency operation with proven reliability. Like all OPHIR<sub>RF</sub> amplifiers, the 5139 comes with an extended multiyear warranty backed by Ophir RF's commitment to total customer satisfaction.

|                             | <u>Parameter</u>       | <u>Specification @ 25° C</u>                               |
|-----------------------------|------------------------|--|
| <b><u>Electrical</u></b>    |                        |  |
| 1                           | Frequency Range        | 1000-2000 MHz  |
| 2                           | Power at PSAT          | 2000 Watts Nominal   |
| 3                           | Power at P1dB          | 1500 Watts Minimum   |
| 4                           | Small Signal Gain      | +63 dB Minimum   |
| 5                           | Gain Flatness          | ± 2.0 dB Maximum   |
| 6                           | IP <sub>3</sub>        | +66 dBm typical  |
| 7                           | Input VSWR             | 2:1 max  |
| 8                           | Harmonics              | -20 dBc min @ P1dB Compression                             |
| 9                           | Spurious Signals       | < -60 dBc typical @ P1dB Compression                       |
| 10                          | Input/Output Impedance | 50 Ohms nominal  |
| 11                          | AC Input Power         | 20,000 Watts Maximum                                       |
| 12                          | AC Input               | 208 VAC, three phase 3Ø                                    |
| 13                          | RF Input               | 0 dBm max  |
| 14                          | RF Input Signal Format | CW/AM/FM/PM/Pulse  |
| 15                          | Class of Operation     | Class A  |
| <b><u>Mechanical</u></b>    |                        |  |
| 16                          | Dimensions             | 31" x 24" x 26" (H x W x D)<br>79 x 61 x 67 (H x W x D) cm |
| 17                          | Weight                 | 339 lbs. / 154 Kg  |
| 18                          | RF Connectors          | Type-N Female Input<br>Type 7/16 Female Output             |
| 19                          | Grounding              | Chassis  |
| 20                          | Cooling                | Internal Forced Air  |
| <b><u>Environmental</u></b> |                        |  |
| 21                          | Operating Temperature  | 0° C to +50° C   |
| 22                          | Operating Humidity     | 95% Non-condensing   |
| 23                          | Operating Altitude     | Up to 10,000' Above Sea Level                              |
| 24                          | Shock and Vibration    | Normal Truck Transport                                     |

Specifications subject to change without notice



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## MODEL 5139

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### FRONT PANEL CONTROLLER FEATURES (*Optional*)

- ◇ - Forward Power Monitoring
- ◇ - Reflected Power Monitoring
- ◇ - Gain Control (20 dB dynamic range of adjustment)
- ◇ - Fault Status
- ◇ - Full Protection Of any VSWR Condition, Open or Short, into any Phase Angle
- ◇ - Remote Control Access via the Ethernet, RS-232, or IEEE-488 Communications ports
- ◇ - Integrated Automatic Leveling Control to allow end-user to maintain output even with variances in temperature, or input RF level
- ◇ - Standby/Enable Control
- ◇ - Front Panel Display for easy viewing of System Status Locally
- ◇ - Keypad buttons for full local control

### CIRCUIT PROTECTIONS

- ◇ - Thermal Overload
- ◇ - Over Current
- ◇ - Over Voltage
- ◇ - Open or Short VSWR Conditions (*With Front Panel Controller*)

### CIRCUIT CONTROL (*WITH FRONT PANEL CONTROLLER*)

- ◇ - Standby (amplifier disable)
- ◇ - Gain/power setting with 20dB range
- ◇ - VSWR protection Reset
- ◇ - ALC On/ Off

### CIRCUIT INDICATIONS (*WITH FRONT PANEL CONTROLLER*)

- ◇ - Forward Power
- ◇ - Reflected power
- ◇ - VSWR Fault
- ◇ - Temp Fault
- ◇ - Gain Setting (VVA) percentage

### RFPA SYSTEM OPTIONS

- ◇ - Switched Filter Bank
- ◇ - Input Power Requirements
- ◇ - Ruggedized Version
- ◇ - Cabinet Requirements
- ◇ - Outdoor Version
- ◇ - Sample Ports
- ◇ - Racking Options
- ◇ - Many More!
- ◇ - ***Consult Factory with Specific Requirements***



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**ORDERING MODELS**

- RE - Rear RF Connector model with Front Panel Controller Ethernet, IEEE-488 and RS232
- FE - Front RF Connector model with Front Panel Controller Ethernet, IEEE-488 and RS232