

5300 Beethoven Street, Los Angeles, CA 90066 TEL: (310)306-5556 • FAX: (310)821-7413 WEB: www.ophirrf.com • E-MAIL: sales@ophirrf.com

MODEL 5016A

0.8 - 2.0 GHz 25 WATTS LINEAR POWER RF AMPLIFIER

Solid State Broadband High Power RF Amplifier

The 5016A is a 25 Watt broadband amplifier that covers the 0.8 – 2.0 GHz frequency range. This small and lightweight amplifier utilizes Class A/AB linear power devices that provide an excellent 3rd order intercept point, high gain, and a wide dynamic range.

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_{RF} amplifiers, the 5016A comes with an extended multiyear warranty.

Electrical 1 Frequency Range 0.8 – 2.0 GHz 2 Saturated Output Power 25 Watts typical 3 Power Output @ 1dB Comp. 20 Watts min 4 Small Signal Gain +44 dB min 5 Small Signal Gain Flatness ± 1.5 dB max 6 IP3 +53 dBm typical 7 Input VSWR 2:1 max 8 Harmonics -20 dBc typical @ 20 Watts 9 Spurious Signals < -60 dBc typical @ 20 Watts 10 Input/Output Impedance 50 Ohms nominal 11 AC Input Power 300 Watts max 12 AC Input Power 300 Watts max 12 AC Input Power 300 Watts max 14 RF Input Signal Format CW/AM/FM/PM/Pulse 15 Class of Operation A/AB Mechanical A/AB 16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis		<u>Parameter</u>	Specification @ 25° C
2 Saturated Output Power 25 Watts typical 3 Power Output @ 1dB Comp. 20 Watts min 4 Small Signal Gain +44 dB min 5 Small Signal Gain Flatness ± 1.5 dB max 6 IP3 +53 dBm typical 7 Input VSWR 2:1 max 8 Harmonics -20 dBc typical @ 20 Watts 9 Spurious Signals < -60 dBc typical @ 20 Watts 10 Input/Output Impedance 50 Ohms nominal 11 AC Input Power 300 Watts max 12 AC Input Power 300 Watts max 12 AC Input Power 300 Watts max 14 RF Input Signal Format CW/AM/FM/PM/Pulse 15 Class of Operation A/AB Mechanical A/AB 16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environ	<u>Electrical</u>		
3	1	Frequency Range	0.8 – 2.0 GHz
4 Small Signal Gain +44 dB min 5 Small Signal Gain Flatness ± 1.5 dB max 6 IP₃ +53 dBm typical 7 Input VSWR 2:1 max 8 Harmonics -20 dBc typical @ 20 Watts 9 Spurious Signals < -60 dBc typical @ 20 Watts 10 Input/Output Impedance 50 Ohms nominal 11 AC Input Power 300 Watts max 12 AC Input 100 − 240 VAC, single phase 13 RF Input +10 dBm max 14 RF Input Signal Format CW/AM/FM/PM/Pulse 15 Class of Operation A/AB Mechanical 16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	2	Saturated Output Power	25 Watts typical
5 Small Signal Gain Flatness ± 1.5 dB max 6 IP₃ +53 dBm typical 7 Input VSWR 2:1 max 8 Harmonics -20 dBc typical @ 20 Watts 9 Spurious Signals < -60 dBc typical @ 20 Watts 10 Input/Output Impedance 50 Ohms nominal 11 AC Input Power 300 Watts max 12 AC Input 100 - 240 VAC, single phase 13 RF Input +10 dBm max 14 RF Input Signal Format CW/AM/FM/PM/Pulse 15 Class of Operation A/AB Mechanical A/AB 16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing Operating Altitude Up to 10,000' Above Sea Level </th <th>3</th> <th>Power Output @ 1dB Comp.</th> <th>20 Watts min</th>	3	Power Output @ 1dB Comp.	20 Watts min
6 IP ₃ +53 dBm typical 7 Input VSWR 2:1 max 8 Harmonics -20 dBc typical @ 20 Watts 9 Spurious Signals < -60 dBc typical @ 20 Watts 10 Input/Output Impedance 50 Ohms nominal 11 AC Input Power 300 Watts max 12 AC Input 100 – 240 VAC, single phase 13 RF Input +10 dBm max 14 RF Input Signal Format CW/AM/FM/PM/Pulse 15 Class of Operation A/AB Mechanical 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Altitude Up to 10,000' Above Sea Level	4	Small Signal Gain	+44 dB min
7 Input VSWR 2:1 max 8 Harmonics -20 dBc typical @ 20 Watts 9 Spurious Signals < -60 dBc typical @ 20 Watts 10 Input/Output Impedance 50 Ohms nominal 11 AC Input Power 300 Watts max 12 AC Input 100 – 240 VAC, single phase 13 RF Input +10 dBm max 14 RF Input Signal Format CW/AM/FM/PM/Pulse 15 Class of Operation A/AB Mechanical 16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	5	Small Signal Gain Flatness	<u>+</u> 1.5 dB max
8 Harmonics -20 dBc typical @ 20 Watts 9 Spurious Signals < -60 dBc typical @ 20 Watts 10 Input/Output Impedance 50 Ohms nominal 11 AC Input Power 300 Watts max 12 AC Input 100 – 240 VAC, single phase 13 RF Input +10 dBm max 14 RF Input Signal Format CW/AM/FM/PM/Pulse 15 Class of Operation A/AB Mechanical 16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	6	IP ₃	+53 dBm typical
9 Spurious Signals < -60 dBc typical @ 20 Watts 10 Input/Output Impedance 50 Ohms nominal 11 AC Input Power 300 Watts max 12 AC Input 100 – 240 VAC, single phase 13 RF Input +10 dBm max 14 RF Input Signal Format CW/AM/FM/PM/Pulse 15 Class of Operation A/AB Mechanical 16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Altitude Up to 10,000' Above Sea Level	7	Input VSWR	2:1 max
10 Input/Output Impedance 50 Ohms nominal 11 AC Input Power 300 Watts max 12 AC Input 100 – 240 VAC, single phase 13 RF Input +10 dBm max 14 RF Input Signal Format CW/AM/FM/PM/Pulse 15 Class of Operation A/AB Mechanical 16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	8	Harmonics	-20 dBc typical @ 20 Watts
11 AC Input Power 300 Watts max 12 AC Input 100 – 240 VAC, single phase 13 RF Input +10 dBm max 14 RF Input Signal Format CW/AM/FM/PM/Pulse 15 Class of Operation A/AB Mechanical 16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	9	Spurious Signals	< -60 dBc typical @ 20 Watts
12 AC Input 100 – 240 VAC, single phase 13 RF Input +10 dBm max 14 RF Input Signal Format CW/AM/FM/PM/Pulse 15 Class of Operation A/AB Mechanical 16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	10	Input/Output Impedance	50 Ohms nominal
13 RF Input +10 dBm max 14 RF Input Signal Format CW/AM/FM/PM/PM/Pulse 15 Class of Operation A/AB Mechanical 16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	11	AC Input Power	300 Watts max
14 RF Input Signal Format CW/AM/FM/PM/Pulse 15 Class of Operation A/AB Mechanical 16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	12	AC Input	100 – 240 VAC, single phase
Mechanical Dimensions 19" x 5.25" x 20" 16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	13	RF Input	+10 dBm max
Mechanical19" x 5.25" x 20"16Dimensions19" x 5.25" x 20"17Weight40 Lbs.18ConnectorsType-N19GroundingChassis20CoolingInternal Forced AirEnvironmental21Operating Temperature0° C to +50° C22Operating Humidity95% Non-condensing23Operating AltitudeUp to 10,000' Above Sea Level	14	RF Input Signal Format	CW/AM/FM/PM/Pulse
16 Dimensions 19" x 5.25" x 20" 17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	15	Class of Operation	A/AB
17 Weight 40 Lbs. 18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	<u>Mechanical</u>		
18 Connectors Type-N 19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	16	Dimensions	19" x 5.25" x 20"
19 Grounding Chassis 20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	17	Weight	40 Lbs.
20 Cooling Internal Forced Air Environmental 21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	18	Connectors	Type-N
EnvironmentalOperating Temperature0° C to +50° C22Operating Humidity95% Non-condensing23Operating AltitudeUp to 10,000' Above Sea Level	19	Grounding	Chassis
21 Operating Temperature 0° C to +50° C 22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	20	Cooling	Internal Forced Air
22 Operating Humidity 95% Non-condensing 23 Operating Altitude Up to 10,000' Above Sea Level	<u>Environmental</u>		
23 Operating Altitude Up to 10,000' Above Sea Level	21	Operating Temperature	0° C to +50° C
	22	Operating Humidity	95% Non-condensing
24 Shock and Vibration Normal Truck Transport	23	Operating Altitude	Up to 10,000' Above Sea Level
	24	Shock and Vibration	Normal Truck Transport

Specifications subject to change without notice.



FE MODEL SHOWN

05/14

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

♦ R - Rear RF Connector model

♦ F _ Front RF Connector model

Approved By: Date:



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MODEL 5016A

0.8 - 2.0 GHz 25 WATTS LINEAR POWER RF AMPLIFIER

FRONT PANEL CONTROLLER FEATURES (Optional)

- ♦ Forward Power Monitoring (dBm or Watts)
- ♦ Reflected Power Monitoring (dBm or Watts)
- ♦ 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 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

CIRCUIT PROTECTIONS

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

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



