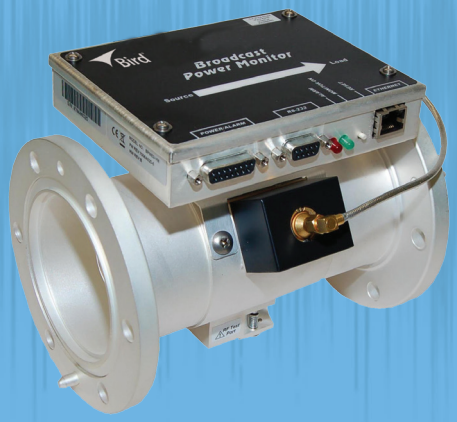
Bird®

# Broadcast Power Monitor

## *BPME Series*

The **RF** Experts




While the BPME provides the usual power and VSWR monitoring, it is much more than just a 'comfort' meter. One of the chief factors that sets BPME apart is the depth of its functionality. From remote monitoring via a user-friendly web interface to data logging capabilities, the BPME gives users a range of functions designed to make their jobs easier, while protecting the health of their investment.

In addition, the RF test port enables users to verify spectral compliance for applications such as IBOC or HDTV at the point in the transmission line where it matters most! The enhanced functionality of BPME puts complete analog and digital broadcast monitoring at the user's fingertips through user-friendly, around-the-clock, remote access from any web-enabled device. This 24/7 access ensures that problems are detected and dealt with easily and promptly-before they escalate into more costly situations.

## FEATURES/BENEFITS

Integral Power Monitor System
- Integration of forward and reflected elements into the RF Detection/Control Circuit yields added stability and greater dynamic range.

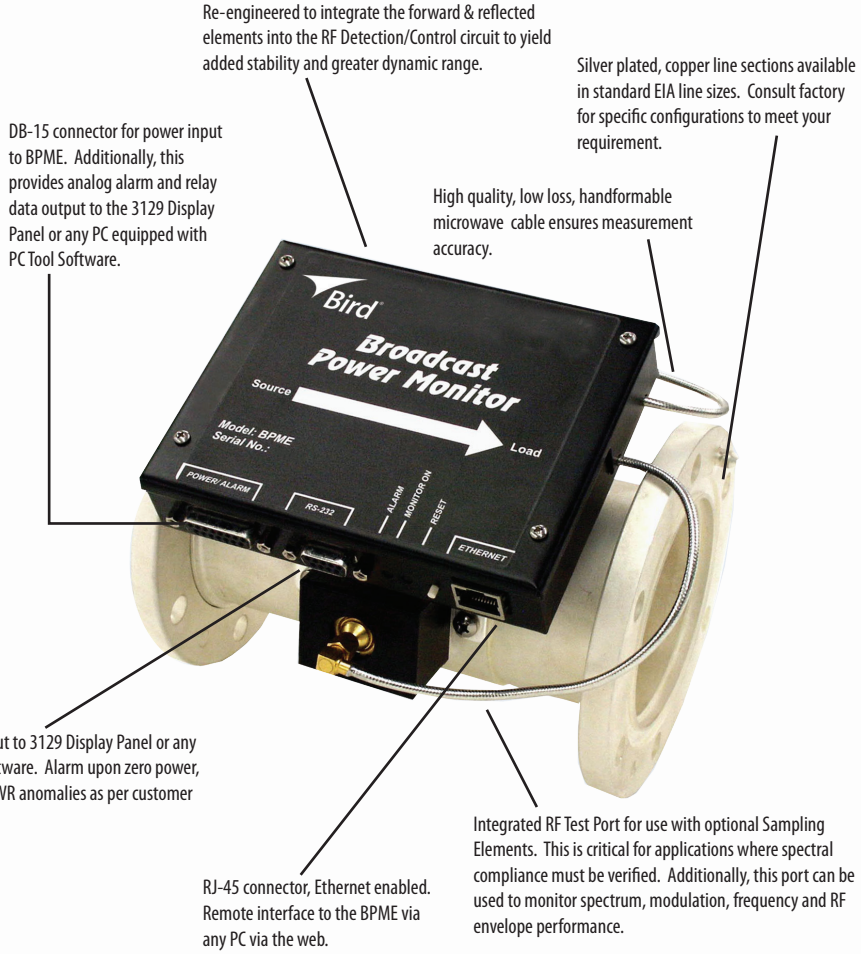
Frequency/Channel Field Configurable
- Provides channel flexibility when needed in the field.

Ethernet & RS-232 Enabled
- Future-ready remote monitoring, control & instant alarm alert.

Integral RF Test Port
- Enables mask compliance testing, as well as monitoring of spectrum, modulation, frequency & RF envelope performance.

Data Logging Capabilities
- System trends and anomalies can be detected before failures.

## PRODUCT HIGHLIGHTS



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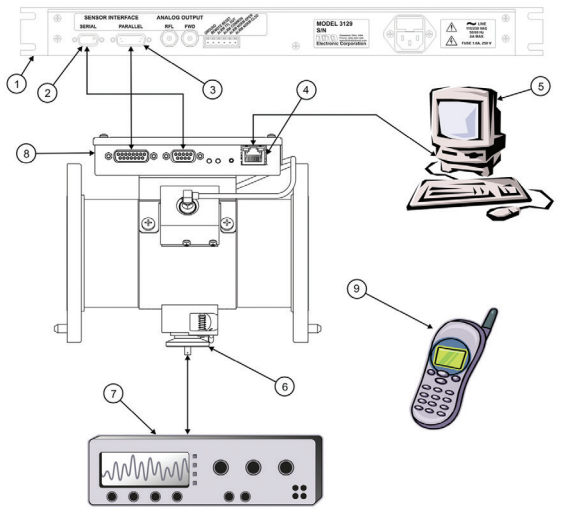
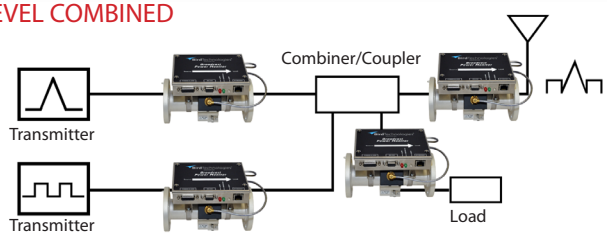
1. 3129 DIGITAL DISPLAY
2. RS-232 COMMUNICATION PORT, DB-9
3. POWER/ALARM CONNECTOR, DB15
4. ETHERNET CONNECTOR (FOR NETWORK OR LOCAL PC)
5. COMPUTER (NOT ON A NETWORK)
6. MONITOR PORT
7. MONITOR DEVICE (SPECTRUM ANALYZER, MODULATION MONITOR, OSCILLOSCOPE)
8. DETECTION/CONTROL MODULE
9. CELL PHONE OR PDA-INSTANT MESSAGE NOTIFICATION OF ALARM




## APPLICATIONS

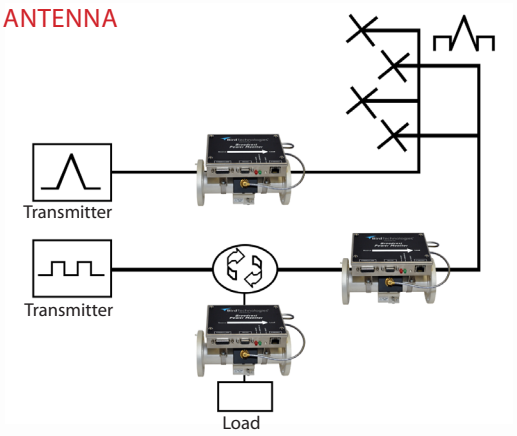
Measuring RF power and system match characteristics can be made with the BPME in any installation, regardless of the signal waveform. Complex waveforms such as 8-VSB and COFDM, used in IBOC, DAB and HDTV systems, as well as FM, AM and CW signals are accurately measured to ensure total power output requirements.

### HIGH-LEVEL COMBINED



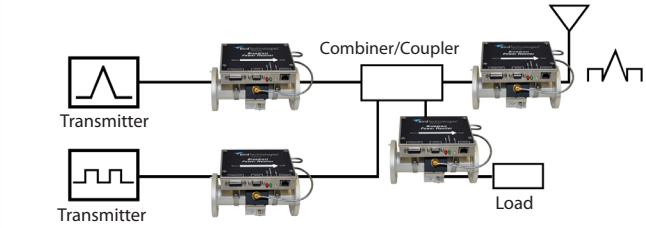

HD Radio is combined with the analog signal at the input to the antenna. Analog powercoupled to the digital transmitter must be considered when specifying the BPME. The 20 dB dynamic range of the BPME will allow for easy high-level combined installations. HD Radio is combined with the analog signal at the input to the antenna. Analog power coupled to the digital transmitter must be considered when specifying the BPME. The 20 dB dynamic range of the BPME will allow for easy high-level combined installations.

### INTERLEAVED ANTENNA




HD Radio and an analog signal can use interleaved antennas for separate but simultaneous transmission. High isolation reduces the mutual coupling however, analog power coupled to the digital transmitter must be considered when specifying the BPME. With 20 dB of dynamic range, the BPME is ready to handle this type of installation.

### MULTI-STATIONS




Multi-station operation will have a high peak-to-average power ratio, depending on the number of stations combined. Power meters not equipped to handle this high ratio will display accuracy errors up to 20%. With the ability to accurately read greater than 10 dB peak-to-average power, the BPME is your choice for multi-station applications.

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### BPME OPERATING CHARACTERISTICS

| | |
|---|---|
| **Frequency Range** | See chart |
| **Forward Power Range** | See chart |
| **Measurement Type** | In-line, True Average Power |
| **Peak/Average Ratio** | 10 dB |
| **Coupler Directivity** | 26 dB min., 30dB Typical |
| **Accuracy** | ±5% of reading |
| **Alarms** | VSWR, No/Low Forward Power, High Forward Power |
| **Outputs** | SPDT relay contact |
| **Display Options** | BPME PC Software, 3129 |
| **Remote Interface** | Ethernet 10BASE-T or<br>100BASE-TX (auto-sensing)<br>Ethernet Version 2.0/IEEE 802.3<br>Protocols: ARP, UDP/IP, TCP/IP, Telnet,<br>ICMP, SNMP, DHCP, BOOTP, TFTP, Auto IP, and HTTP<br>Security: 256-bit encryption<br>Serial RS-232, 9600 baud, no parity,<br>8 data bits, 1 stop bit, no handshake |

### BPME OPERATING CHARACTERISTICS

| | |
|---|---|
| **Operating Voltage** | See chart |
| **Operating Power** | See chart |
| **Dimensions** | In-line, True Average Power |
| **Weight** | 10 dB |
| **Supplied with** | 26 dB min., 30dB Typical |
| **LINE SECTION** | |
| **Operating Temp.** | 0°C to +50°C (32°F to 122°F) |
| **Storage Temp.** | -20°C to + 80°C (-4°F to 176°F) |
| **Humidity** | 95% ±5% max. (non condensing) |
| **Altitude** | up to 10,000 feet (3,048 m) |
| **Calibration cycle** | Annual |

### FORWARD POWER RANGE

| Line Size | Power Designator | VHF (88-230 MHz) | UHF (470-890 MHz) |
|---|---|---|---|
| 7/8" | Low<br>Medium<br>High | 5W – 500 W<br>20 W – 2000 W<br>50 W – 5000 W | 2.5 W – 250 W<br>10 W – 1000 W<br>25 W – 2500 W |
| 1 5/8" | Low<br>Medium<br>High | 20 W – 2000 W<br>80 W – 8 kW<br>200W – 20 kW | 5 W – 500 W<br>20 W – 2000 W<br>50 W – 5000 W |
| 3 1/8" | Low<br>Medium<br>High | 50 W – 5000 W<br>200 W – 20 kW<br>500 W – 50 kW | 25 W – 2500 W<br>100 W– 10 kW<br>250 W – 25 kW |
| 4 1/16"<br>&<br>4 1/2" | Low<br>Medium<br>High | 100 W – 10 kW<br>400 W – 40 kW<br>1000 W – 100 kW | 40 W – 4 kW<br>150 W – 15 kW<br>400 W – 40 kW |
| 6 1/8" | Low<br>Medium<br>High | 200 W – 20 kW<br>800 W – 80 kW<br>2000 W – 200 kW | 80 W – 8 kW<br>300 W – 30 kW<br>750 W – 75 kW |

# Broadcast Power Monitor

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## MODEL NOMENCLATURE (7/8" LINE SECTIONS)

**BPME** 7 ____

| Line Section | Input Connector | Output Connector | Frequency Band | Power* | P = Panel Mount |
|---|---|---|---|---|---|
| 7 = 7/8" | A = N (F)<br>B = N (M)<br>C = LC (F)<br>D = 7/8" EIA<br>H = DIN (F)<br>J = DIN (M)<br>K = UHF (F)<br>L = UHF (M) | A = N (F)<br>B = N (M)<br>C = LC (F)<br>D = 7/8" EIA<br>H = DIN (F)<br>J = DIN (M)<br>K = UHF (F)<br>L = UHF (M) | VL = 45-88 MHz<br>V = 88-230 MHz<br>U = 470-890 MHz | L = Low<br>M = Medium<br>H = High<br>*see chart for power ranges | *leave blank for no panel |

## MODEL NOMENCLATURE (1 5/8", 3 1/8", 4 1/16", 4 1/2 AND 6 1/8" LINE SECTIONS)

**BPME** ____ ____

| Line Section | Input Interface* | Frequency Band | Power* |
|---|---|---|---|
| 1 = 1 5/8"<br>3 = 3 1/8"<br>4 = 4 1/16"<br>4A = 4 1/2<br>6 = 6 1/8" | U = Unflanged, Recessed Center Conductor<br>UF = Unflanged, Flush Center Conductor<br>D = Dielectric Flanged<br>M = Myat Flanged<br>*For Flanged, leave blank | VL = 45-88 MHz<br>V = 88-230 MHz<br>U = 470-890 MHz | L = Low<br>M = Medium<br>H = High<br>*see chart for power ranges |