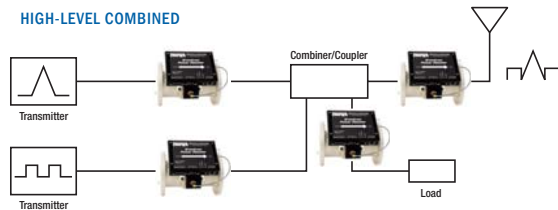


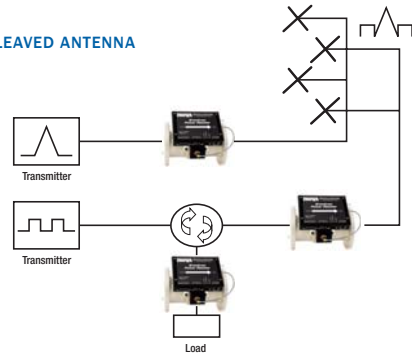
Measuring RF power and system match characteristics can be made with the BPM-E in any installation, regardless of the signal waveform. Complex waveforms such as 8-VSB and COFDM, used in IBOC, DAB and HDTV systems, as well as FM, AM and CW signals are accurately measured to ensure total power output requirements.

HIGH-LEVEL COMBINED



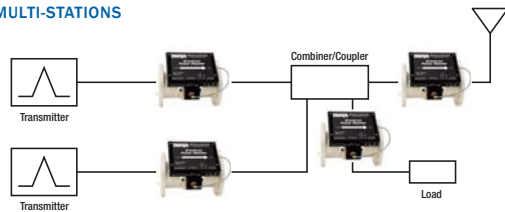
HD Radio is combined with the analog signal at the input to the antenna. Analog power coupled to the digital transmitter must be considered when specifying the BPM-E. The 20 dB dynamic range of the BPM-E will allow for easy high-level combined installations.

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 BPM-E. With 20 dB of dynamic range, the BPM-E 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 BPM-E is your choice for multi-station applications.

BPM-E OPERATING CHARACTERISTICS

Frequency Range	See chart
Forward/Reflected Power Range	See chart
Measurement Type	In-line, True Average Power
Peak/Average Ratio	10 dB maximum
Coupler Directivity	28 dB minimum
Accuracy	±5% of reading
Alarms	VSWR, No/Low Forward Power
Outputs	High Forward Power
Display Options	SPDT relay contact
Remote Interface	BPM-E PC Software, 3129 Ethernet 10BASE-T or 100BASE-TX (auto-sensing) Ethernet Version 2.0/IEEE 802.3 Protocols: ARP, UDP/IP, TCP/IP, Telnet, ICMP, SNMP, DHCP, BOOTP, TFTP, Auto IP, and HTTP Security: 256-bit encryption Serial RS-232, 9600 baud, no parity, 8 data bits, 1 stop bit, no handshake

BPM Series Broadcast Power Monitors

MODEL 3129 BROADCAST POWER METER

Operating Voltage	115/230 VAC @ 50/60 Hz
Operating Power	Less than 10 watts
Dimensions	5.25" X 1.9" X 1.75" (133.35 mm X 48.3 mm X 44.5 mm)
Weight	Approximately 2 lbs. (0.85 kg)
Supplied with	50 feet of cable to connect RS-232 and serial ports between 3129 and line section, and serial interface cable
LINE SECTION	
Operating Temp.	-10°C to +50°C (14°F to 122°F)
Storage Temp.	-40°C to +80°C (-40°F to 176°F)
Humidity	95% +5% max. (noncondensing)
Altitude	up to 10,000 feet (3,048 m)
Calibration cycle	Annual

Consult our Applications Engineers at Bird Technologies Group today for assistance in choosing the BPM-E best suited for your installation.

FREQUENCY AND FORWARD/REFLECTED POWER RANGES

VHF (45-230 MHz)			UHF (470-890 MHz)		
Line Size	Power Designator	Forward Power Range	Power Designator	Forward Power Range	
7/8"	Low	50 - 500 W	Low	25 - 250 W	
	Medium	500 W - 2 kW	Medium	250 W - 1 kW	
	High	2 - 5 kW	High	1 - 2.5 kW	
1 5/8"	Low	200 W - 2 kW	Low	50 - 500 W	
	Medium	2 - 8 kW	Medium	500 W - 2 kW	
	High	8 - 20 kW	High	2 - 5 kW	
3 1/8"	Low	500 W - 5 kW	Low	250 W - 2.5 kW	
	Medium	5 - 20 kW	Medium	2.5 - 10 kW	
	High	20 - 50 kW	High	10 - 25 kW	
4 1/16"	Low	1 - 10 kW	Low	400 W - 4 kW	
	Medium	10 - 40 kW	Medium	4 - 15 kW	
	High	40 - 100 kW	High	15 - 40 kW	
6 1/8"	Low	2 - 20 kW	Low	800 W - 8 kW	
	Medium	20 - 80 kW	Medium	8 - 30 kW	
	High	80 - 200 kW	High	30 - 75 kW	

Ordering Information

BPM-E 7					
Line Section	Input Connector	Output Connector	Frequency Band	Power	P-Panel Mount
7-7/8"	A = N(F) B = N(M) C = LC(F) D = 7/8"EIA H = 7-16 DIN(F) J = 7-16 DIN(M) K = UHF (F) L = UHF (M)	A = N(F) B = N(M) C = LC(F) D = 7/8"EIA H = 7-16 DIN(F) J = 7-16 DIN(M) K = UHF (F) L = UHF (M)	VL = 45-88 Mhz V = 88-230 Mhz U = 470-890 Mhz	L = Low M = Medium H = High *see ranges for each line section diameter	*leave blank for no panel

BPM-E			
Line Section	Line Interface	Frequency Band	Power
1-1/8" 3-3/8" 4-1/16" 4A-4-1/2" 6-6-1/8"	U = Unflanged, Recessed Center Cond. UF = Unflanged, Flush Center Cond. D = Dielectric Flanged M = Mylar flanged *for flanged leave blank Line interface availability is subject to line size. Consult factory for applicable options before ordering.	VL = 45-88 Mhz V = 88-230 Mhz U = 470-890 Mhz	L = Low M = Medium H = High *see ranges for each line section diameter



30303 Aurora Road, Cleveland, OH 44139-2794  
Tel: 1-866-695-4569  
Fax: 1-866-546-4306  
Email: sales@bird-electronic.com  
Website: <http://www.bird-electronic.com>

513-BPMEBR-0905



Broadcast Power Monitors  
for your digital & analog  
applications



[www.bird-technologies.com](http://www.bird-technologies.com)



Bird Technologies Group  
is proud to introduce  
our new improved  
**Broadcast Power Monitor-Enhanced (BPM-E)**  
to the Bird Broadcast Product Family.

*This innovative product offers users more options in how they measure, monitor and protect their RF Broadcast transmission systems while providing dependable performance and accuracy.*

While the BPM-E provides the usual power and VSWR monitoring, it is much more than just a 'comfort' meter. One of the chief factors that sets BPM-E apart is the depth of its functionality. From remote monitoring via a user-friendly web interface to never-before-available data logging capabilities, the BPM-E gives users an unmatched range of functions designed to make their jobs easier, while protecting the health of their investment.

In addition, the new 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 BPM-E 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

Re-engineered to integrate the forward & reflected elements into the RF Detection/Control circuit to yield added stability and greater dynamic range.

Silver plated, copper line sections available in standard EIA line sizes. Consult factory for specific configurations to meet your requirement.

High quality, low loss, handformable microwave cable ensures measurement accuracy.

DB-15 connector for power input to BPM-E. Additionally, this provides analog alarm and relay data output to the 3129 Display Panel or any PC equipped with PC Tool Software.

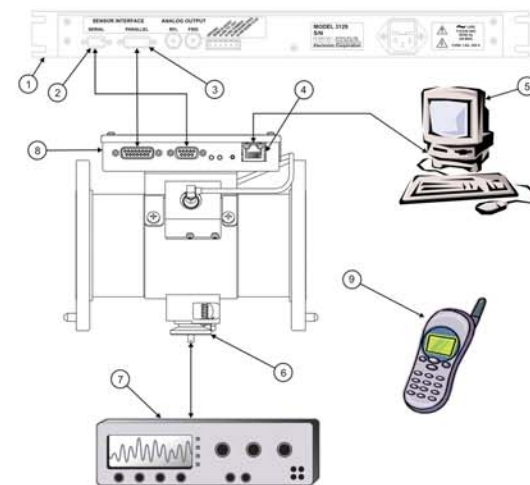
DB-9 connector, RS-232 output to 3129 Display Panel or any PC equipped with PC Tool Software. Alarm upon zero power, low power, high power or VSWR anomalies as per customer set threshold.

Integrated RF Test Port for use with optional Sampling Elements. This is critical for applications where spectral compliance must be verified. Additionally, this port can be used to monitor spectrum, modulation, frequency and RF envelope performance.

RJ-45 connector, Ethernet enabled. Remote interface to the BPM-E via any PC via the web.

#### Application Diagram

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



**BPM Series Broadcast Power Monitors**  
Complete Control of RF Broadcast Transmission Systems.