

CHANNEL POWER MONITOR

Radio System Monitoring

CPM SERIES



Radio System Health Monitoring Solutions

Be confident of the status of each individual component in a radio system with effortless monitoring from a computer, tablet or mobile device.

Comprised of a central processor and a variety of sensors, the Bird CPM can be setup to monitor radio performance, combiner loss, and antenna/feedline characteristics providing continuous information on the health of each component it monitors.

Easy system access is available from any computer, tablet or phone on your network with the CPM-hosted web page. This allows for set up of alarms for failure conditions such as high or low power, or poor antenna VSWR. The monitor includes both software and hard contact alarms and can be configured to send SNMP Trap messages for emergency condition alerts. Data logging is standard and takes reliability one step further by enabling you to see degraded performance before it becomes an emergency.

PRODUCT FEATURES

- Power monitor display and sensors allow you to build a system around your needs.
- Monitor up to 16 non-directional and 16 directional sensors simultaneously.
- Measures forward, reflected, composite and individual channel power as well as antenna system VSWR.
- Monitoring of the system is accomplished via interface with the front panel or accessed through the built in web server and web page.
- Configurable alarming for high and low level power and high antenna VSWR, utilizing hard contact and SNMP formats.
- Standard Push-to-Talk (PTT) compatibility.

Solutions are available for the entire range of Land Mobile Radio frequencies.

SENSOR OPTIONS

- **Model 4044 Non-Directional Power Sensor** measures output power of either analog or digitally modulated radios up to 125 watts.
- **Model 4042 Directional Channel Power Sensor** provides power readings by individual channel.
- **Model 4043 Directional Power Sensor** provides composite power readings.

3141 MODELS

Specifications

SYSTEM

Input Voltage	
3141A15	+15 VDC (supplied by 115/230 VAC Adapter)
3141A48	±48 VDC (+48 or -48)
Input Current	
3141A15	<3 Amps
3141A48	<1 Amp
Fuse Rating	
3141A15	5 Amp
3141A48	1.25 Amp

ENVIRONMENTAL

Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)
Storage Temperature	-20 °C to 80 °C (-4 °F to 176 °F)
Humidity	95% ±5% max (non-condensing)
Altitude	up to 10,000 ft (3,048 m)

PHYSICAL

Size	1 RU 5.25 in X 19 in X 1.75 in (133.35 mm x 483 mm x 44.5 mm)
Weight	Approximately 2 lb (0.85 kg)

NON-DIRECTIONAL POWER SENSOR

MODEL 4044

MEASUREMENT

Power Range	2.5 to 125 W
Impedance	50 Ohms
Accuracy	±5% of reading
Insertion Loss	<0.1 dB
Insertion VSWR	<1.10:1 max
Intermodulation Distortion (PIM)	<-140 dBc

PHYSICAL

Size	2.3 in x 2.2 in x 1.7 in (50 mm x 56 mm x 43 mm)
Weight	.2 lb (0.1 kg)

SYSTEM

Power Supply	15 VDC, 5 mA max (from 3141)
Interface	0-4 VDC via RJ-25 Connector

CERTIFICATIONS

Compliance	CE, RoHs
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ENVIRONMENTAL

Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)
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STANDARD ACCESSORIES

5A2968T	Termination (ships with CPM)
5A2286S-KIT1	Label kit (ships with CPM)
5A2968-CS10	Cable RJ25 (ships with sensors)
7005A836-6	AC/DC power supply (ships w/ 3141A15 only)

SENSOR SELECTION GUIDE

Model Number	Frequency Range (ff)	Forward Power (ww)	Communication Interface (xx)	Input Connector (yy)	Output Connector (zz)
4044-1-ffwwxx-yyzz	42 = 118 MHz to 144 MHz 44 = 144 MHz to 244 MHz 45 = 380 MHz to 450 MHz 46 = 450 MHz to 512 MHz 47 = 762 MHz to 806 MHz 48 = 806 MHz to 869 MHz 49 = 896 MHz to 940 MHz	04 = 125 W	04 = 0-4 V Analog	01 = N(f) 02 = N(m) 03 = 4.3/10(f) 04 = 4.3/10(m)	01 = N(f) 02 = N(m) 03 = 4.3/10(f) 04 = 4.3/10(m)

MEASUREMENT

Forward Power Measurement Range	4042* : 10 W to 500 W 1 W to 50 W (06 option) 4043 : 25 to 500 W
<i>*Measure power and VSWR for up to 16 frequencies or channels with selectable bandwidths of 6.25, 12.5 or 25 kHz.</i>	
Max Reflected Power Measurement	10 dB below Forward Power Range
Dynamic Range	4042 : 17 dB 4043 : 13 dB
Impedance	50 Ohms
Accuracy	±5% of reading
Insertion Loss	<0.2 dB
Insertion VSWR	<1.15:1 max
Intermodulation Distortion (PIM)	<-145 dBc

SYSTEM

Power Supply	4042 : 7-18 VDC, <500 mA (from 3141) 4043 : 7-18 VDC, <50 mA (from 3141)
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ENVIRONMENTAL

Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)
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PHYSICAL

Size	5.2 in x 3.8 in x 1.4 in (132 mm x 96.5 mm x 35.5 mm)
Weight	4042 : .6 lb (.27 kg) 4043 : .5 lb (0.23 kg)

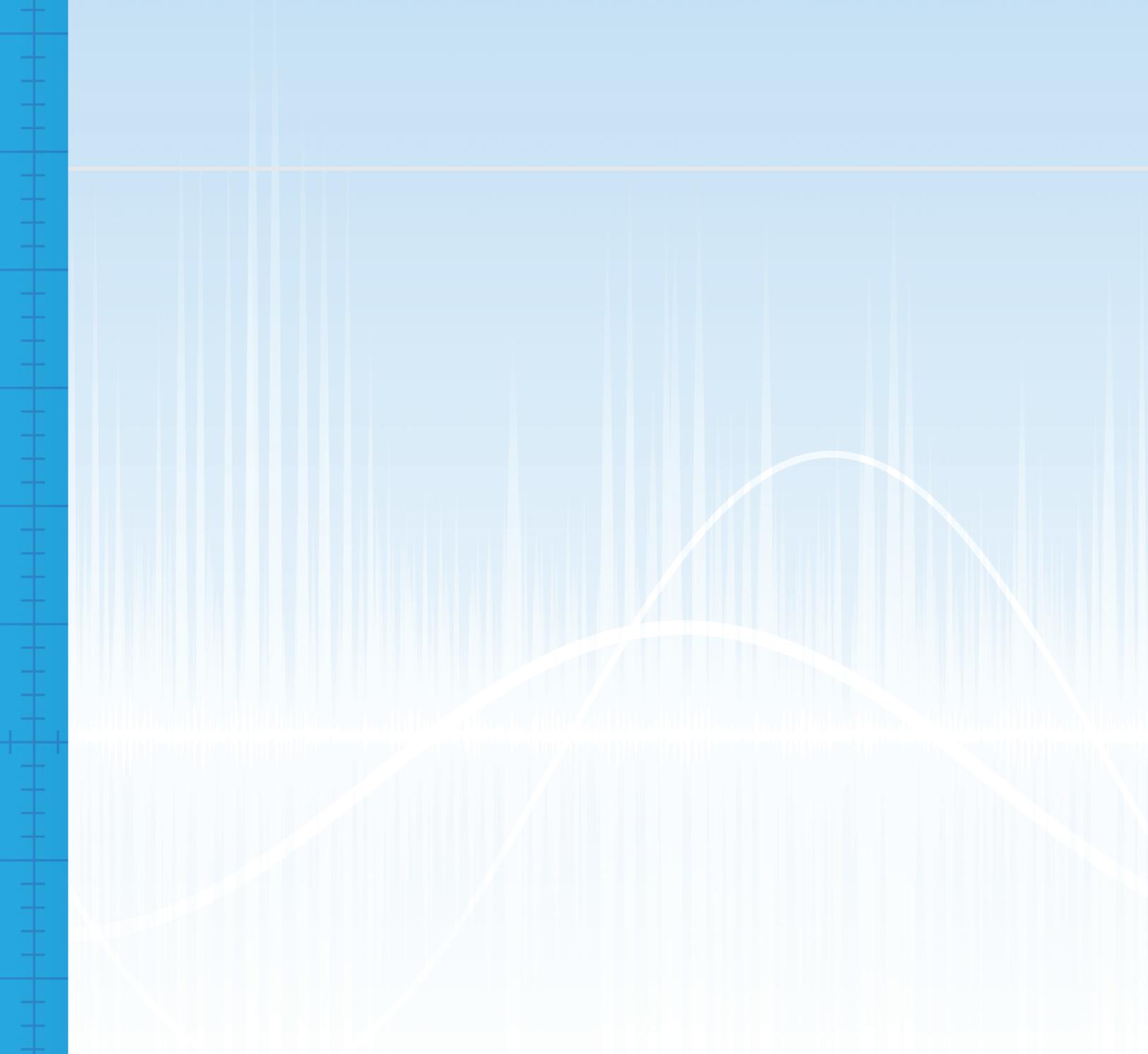
CERTIFICATIONS

Compliance	CE, RoHs
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SENSOR SELECTION GUIDE

Model Number	Frequency Range (ff)	Forward Power (ww)	Communication Interface (xx)	Input Connector (yy)	Output Connector (zz)
4042-1-ffwwxx-yyzz (Channelized)	43 = 100 to 1000 MHz	05 = 10 W to 500 W	05 = RS-485 via RJ-25	01 = N(f) 02 = N(m) 03 = 4.3/10(f) 04 = 4.3/10(m)	01 = N(f) 02 = N(m) 03 = 4.3/10(f) 04 = 4.3/10(m)
4043-1-ffwwxx-yyzz (Directional)	42 = 118 MHz to 144 MHz 44 = 144 MHz to 244 MHz 45 = 380 MHz to 450 MHz 46 = 450 MHz to 512 MHz 47 = 762 MHz to 806 MHz 48 = 806 MHz to 869 MHz 49 = 896 MHz to 940 MHz 50 = 225 MHz to 400 MHz*	02 = 0.25 W to 5 W 03 = 2.5 W to 50 W 05 = 25 W to 500 W	05 = RS-485 via RJ-25	01 = N(f) 02 = N(m) 03 = 4.3/10(f) 04 = 4.3/10(m)	01 = N(f) 02 = N(m) 03 = 4.3/10(f) 04 = 4.3/10(m)

*225 MHz to 400 MHz = Military Band



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