

Aardvark Model A-2700B Wireless Signal Detector



FEATURES

- Scans and identifies activity in up to 24 frequency bands with “customizable” bands
- Frequency range: 30-3000 MHz (option to 5.7 GHz)
- -100 dBm noise floor
- Silent Vibrator
- Headphone monitor output, volume control
- Automatic reporting, real time alerts & location
- H/H & OEM “brick” versions
- Specialized filtering to reduce false alarm rates
- H/H & unattended versions with/without integrated wireless link
- Detects all commercial wireless devices
- Integrated programmable attenuator to reduce Range of detection
- Integrated real time clock
- Serial port for connection to other devices such as GPS receiver

APPLICATIONS

- Detect and geolocate cell phones in denied facilities such as prisons
- Inexpensive site survey from vehicle or “walking around”
- Alerts use of wireless devices prior to entry by tactical teams
- Protection of perimeter with unattended ground sensor version
- Ability to reject detection of devices used by guards greatly reducing false alarms
- Detection of all wireless devices including LTE, WiMax, Wi-Fi, etc
- Use as data logger to record signal strength, frequency band, time stamp, and display with GPS coordinates on Google earth

DESCRIPTION

The *Aardvark* is the first of a family of low cost signal detectors providing an innovative solution for characterization of all wireless activity over a wide frequency range and facilitates automatic geo location of target cell phones or emitters. The signal strength is measured in up to 24 frequency bands, and allows detection of any wireless devices regardless of modulation type while attributing the signal to a specific band. Simultaneously, the Aardvark provides a selectable threshold alert when a target signal is detected and logs the activity with time/date and signal strength to an internal micro SD card to a companion smart phone or PC, or provides an automatic alert with frequency band, signal strength, and other information through a wireless data link. An external GPS receiver may be added to also log GPS location and integrate it into logging operations for display on Google earth. The hand held version also shows search results on an LCD display, and optionally triggers a silent vibrator alarm and audio alert (use with headset) at a predetermined threshold for each band independently. The cutting edge technology implemented in the *Aardvark* provides exceptional detection range up to 10 times further than competitive units, the ability to

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eliminate false alarms from nearby cell towers, push to talk phones, microwave ovens and even for “custom” selected frequency bands. A programmable attenuator is also included providing the ability to reduce sensitivity by 10, 20, and 30 dB reducing the range of detection for close in operations.

In scan mode, the *Aardvark* may be programmed to scan at up to 100 channels per second. Any combination of the 24 channels may be scanned, under user control or preprogrammed from a PC. The LCD displays shows all channels simultaneously in bar graph signal strength format, including a programmable max hold line that shows the highest signal level received for each band since the last reset. A stretch-and-dump circuit assures that the detector will capture short signal bursts.

The *Aardvark* is available in a ruggedized metal case using an innovative design with silicon rubber bumpers which always cushion the fall should the *Aardvark* be dropped on a flat surface. Two sizes of battery cases are available for rechargeable batteries for the ruggedized enclosure.

SPECIFICATIONS

RECEIVER PARAMETERS

Frequency range.....30 MHz to 5700 MHz (Depends on options)
Selectivity.....Set by filters (Typically >60 dB out of band rejection)
Sensitivity.....-100 dBm noise floor (typical)
Dynamic range.....60 dB
Attenuation.....Programmable steps of 0, 10, 20, and 30 dB
Scan speed.....Selectable 1/2/5/10/20/50/100 channels/second max
Antenna.....Internal log periodic (700-2700 MHz), MMCX connector for external antenna (commercial version)
Input Impedance.....50 ohms

CONTROL CHARACTERISTICS

Front panel.....Transflective 128x64 LCD w/backlight, selectable RGB keypad
Remote control/programming.....USB, serial interface or optional wireless data link

PHYSICAL/ENVIRONMENTAL CHARACTERISTICS

Power input.....(2) 1.5 V AA batteries, Lithium recommended for longer life
Power consumption.....Approximately 50 mw when active, <1 mw standby
External power.....Via Mini-B USB connector (standard +5V USB power), cell phone power supply
Weight.....Approximately 5 oz with batteries
Size.....3W x 5.9L x 0.9T inches (excluding antenna)
Interface Connectors.....Mini-B USB, RS232
Audio output.....40 mw w/volume control, 3.5 mm stereo jack
Operating temperature range.....-20 to +55°C
Non-operating temperature range.....-40 to +70°C
Operating altitude.....0 to 12,000 ft (0 to 3657 m)
Operating humidity.....10 to 90% non-condensing (waterproof seal)

STANDARD VERSION (16 FREQUENCY BANDS)

<i>Frequency</i>	<i>Description</i>	<i>Frequency</i>	<i>Description</i>
704-716 MHz (Cell)	LTE/AT&T	902-928 MHz	ISM
776-788 MHz (Cell)	LTE/Verizon	880-915 MHz (Cell)	EGSM
805-815 MHz (Cell)	IDEN 800	1600-1660 MHz	Mobile SATCOM
824-849 MHz (Cell)	GSM 850	1710-1785 MHz (Cell)	GSM 1800

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896-902 MHz (Cell)	IDEN 900	1850-1910 MHz (Cell)	PCS
1920-1980 MHz (Cell)	International UMTS	1880-1920 MHz	US DECT 6.0
2400-2483 MHz	Wi-Fi/Bluetooth	700-3000 MHz	High Pass Filter
2500-2570 MHz (Cell)	WiMAX	0-700 MHz	Low Pass Filter

The following is a partial list of optional filters that are also available. Please note that the highpass and lowpass filters may be cascaded to use as a very broad bandpass or bandstop filter. This allows for increased frequency rejection of unwanted signals that may cause false alarms. Filters are also available at customized frequencies upon request.

DAUGHTER BOARD (STANDARD)

<i>Frequency</i>	<i>Description</i>
136-174 MHz	US Land Mobile
314-316 MHz	US Key Fob
410-430 MHz	US Land Mobile
428-438 MHz	International Key Fob
450-470 MHz	UHF Land Mobile
720-770 MHz	LTE Mid Band

INCLUDES 2 SPARES:
WITH 1 FOR VHF & 1 FOR HIGHER BANDS

SAMPLE OF CUSTOMIZED BANDS AVAILABLE

<i>Frequency</i>	<i>Description</i>
70-74 MHz	Low VHF
<240 MHz	Low Pass Filter
<400 MHz	Low Pass Filter
<180 MHz	Low Pass Filter
<470 MHz	Low Pass Filter
<915 MHz	Low Pass Filter
<1600 MHz	Low Pass Filter
<2000 MHz	Low Pass Filter
>1500 MHz	High Pass Filter
>2000 MHz	High Pass Filter

OPTIONS

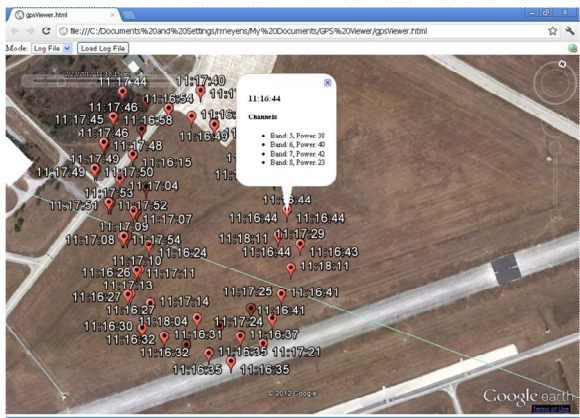
- Option 1 Additional 8 Frequency bands on daughter board (total of 24)
 - Option 2 Board version (no integrated antenna)
 - Option 3 Rugged metal case
 - Option 4 Battery tray for metal case (large) – order rechargeable battery separately
 - Option 5 Battery tray for metal case (small) – order rechargeable battery separately
 - Option 6 Integrated wireless data link
 - Option 7 Extended frequency range – 3.5 GHZ
 - Option 8 Extended frequency range - 5.7 GHZ
 - Option 9 GPS receiver with software
 - Option 10 Customized Tool Kit with multiple Aardvarks & accessories
 - Option 11 Customized frequency bands
- NOTE: CUSTOM FREQUENCY BANDS AVAILABLE UPON REQUEST



Rear View of Aardvark



WBS-915A Wireless Base Station



Sample screen shot of data logged on Google earth. Data includes time stamp, frequency band and signal strength.



Rugged Case

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