

## Wireless Public Address System

When the requirement to run both data and power cabling is not justified on the basis of cost, safety or simply time to deploy then the Barix Wireless Audio Distribution system is the ideal high fidelity option. This can incorporate broadcasting and intercom in the same system. Applications where solar panels or light poles are used to charge batteries which are then used to power the speakers can occur in multiple situations. For instance a rail network charges the batteries overnight when the light pole turns on and then uses that power for audio public address during the day. A quick deployment system for military applications uses solar power to charge battery sets. Schools use it to run their sports days without having cable everywhere.



The BA-200W is a custom integration of the widely deployed Barix Exstreamer 200 and the Lantronix wireless bridge. The system can be powered from a 9-30V DC or 12-24 VAC power input. In lower duty cycle applications the system can be operated from a solar or mains recharged battery system.

This makes them ideal for mounting on light poles where the batteries are recharged each night when the lights are powered on. The BA-2000 is IP67 rated and is suitable for driving typical outdoor speakers.

The superior capabilities of the Exstreamer 200 provide great functionality. The USB memory provides the ability to store a standard playlist such as a set of standard announcements and the BA-200W will play each set of messages or music files in the playlist sequence at the time that each is specified to be played. This avoids the requirements for substantial bandwidth usage streaming each message from a central server.

The BA-200w can also periodically check for changes in the playlist and automatically download new playlists and files if required. Ad hoc audio transmissions can be directed to a priority port on the BA-200W which will pause the playing of the playlist audio streams and insert the new audio. It will resume the standard announcements when the priority port is released.

If BA-200Ws are deployed in close proximity to each other then the audio output can be synchronised to avoid interference with each other. Audio levels can be set and tested via a laptop wireless connection to the BA-200W.

The BA-200W is supported by two management console options. The key console can support up to 260 individual keys, each of which may represent a standalone BA-200W or a group thereof.



A Java based, highly customizable graphical user interface is also provided. Up to eight management stations can be concurrently active. This interface can be used for both operation and management of the system. A local override capability is also provided either as a Java graphical interface or as a press to talk microphone. This is useful in situations where there is sometimes a need to make ad hoc announcements at the remote BA-200W locations.

In a similar application the Exstreamers were used for crowd control at the Roman Catholic World Youth Day in Sydney. In that instance the GSM network was used for management and control via audio means.



The flexibility of the Barix Wireless Public Address system means that temporary facilities can be quickly deployed with outdoor speakers yet still retain high fidelity and intelligibility.

Some example applications



### **Sailboat racing**

Just a few boats with a Barix wireless PA can provide audible instructions to both the fleet and to spectators to enhance safety.

### **Snow events**

Laying cables and power is difficult, yet safety and crowd control is an absolute must. A Barix wireless PA makes event management a breeze.



## Technical Specifications

### Audio Formats:

MP3 up to 320 kBit fixed & variable bit rates, G.711(uLaw/aLaw @ 8 or 24 kHz) and PCM (16bit @ 8 or 24 kHz),WMA (separate firmware)

### Audio Interfaces:

3.5 mm Headphone Jack (4Vpp max), 2 x 25W (RMS@80hm) high efficiency speaker out (overload/temp/short circuit protected), S/PDIF out (optical), bass and treble adjustable by browser

### Network Interfaces:

RJ45 10/100 Mbit Ethernet (Auto),TCP/IP, UDP, RTP, DHCP, SNMP, AutoIP, SonicIP, IPzator

### Wireless Specifications

Wireless Standards	IEEE 802.11b; 802.11g
Frequency Range	2.412 – 2.484 GHz
Output Power	14dBm +2.0 dBm/-1.5 dBm (does not include antenna gain)
Maximum Receive Sensitivity	-91dBm @ 1Mbps
Data Rates With Automatic Fallback	54Mbps — 1Mbps
Range	Up to 100 metres indoors
Modulation Techniques	OFDM, DSSS, CCK, DQPSK, DBPSK, 64 QAM, 16 QAM

With IEEE 802.11i-PSK (AES-CCMP) or WPA-PSK (TKIP) security, the BA-200W offers the highest levels of wireless encryption. It also optionally supports 256-bit Advanced Encryption Standards (Rijndael) encryption for true end-to-end (along the wired/wireless path) secure data transfer. With its Scan command, MatchPort b/g enables the ability to report BSSID, RSSI and SSID. The Network Status command reports BSSID, authentication and negotiated encryption types for the current association.

### Control Interfaces:

RS-232 DSub 9pin male, 300..115200 Baud

### Misc:

Two LED (red and green) status indicators, reset/factory default button(internal)  
USB1.1 interface for memory sticks (FAT16)(Internal)

### Power requirements:

24VDC 70 W max.

### Operating temperature / humidity:

0 - 60°Celsius  
0-70% relative humidity, non-condensing

### Certifications:

FCC A, CE A, RoHS compliant (lead free), C-Tick

### User Interface:

Browser based, serial port or Ethernet control, API for automation systems, integrated web server for control and configuration