



# 36" Focused Audio Array: Model FA-501

## Technical Documentation

- Best Sound Quality of any focused sound technology
- Excellent Sound & Pattern Control via onboard user interface
- Not an ultrasonic solution—no safety concerns
- Custom Configuration/Enclosure and Cover colors available
- Greatest low frequency capability in the industry
- Built in Amplifier with balanced, line level input

### Specifications

**Maximum Output Level:**

85dBA (8' MOUNTING HEIGHT, TIGHT PATTERN).

**Size:**

36.25 x 36.25 x 3 INCHES

**Weight:**

37 POUNDS

**Color-Finish:**

NON REFLECTIVE BLACK POWDER COAT

**Cover:**

BLACK, WHITE, OR CREAM FLAME-RETARDING CLOTH—CUSTOM COVERS AVAILABLE

**Input Level:**

ADJUSTABLE -15DBV TO +4DBV

**Input Impedance:**

5,000 OHMS TRANSFORMER BALANCED

**Focal Pattern:**

ADJUSTABLE FROM TIGHT TO 10 FEET IN DIAMETER

**Mounting:**

FOUR 0.080 AIRCRAFT CABLES WITH QUICK RELEASE CLIPS OR FOUR THREADED INSERTS (1/4" OR 6MM)

**Frequency Response:**

SEE ATTACHED CHARTS

**Frequency Compensation:**

SWITCH SELECTABLE: MUSIC, VOICE WITH MUSIC, VOICE

**Power:**

16 TO 18 VAC OR 24VDC, 15 WATTS

**Connections:**

SCREW TERMINALS ON TOP SIDE

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Fax: 701-223-1296  
Toll free: 800-428-3461

Dakota Audio FA-501 arrays are easily field adjustable for both mounting height and pattern width. There are two push buttons and two rows of LEDs on the top side of the array. One sets the mounting height above the floor in one foot increments from 8 to 14 feet. The other button controls the pattern width in seven steps from "tight" to a circle appropriately 10 feet in diameter.

A three position switch adjusts the frequency response for the program material. The "music" position provides full range sound. The "voice with music" position has a slight rise in the high frequency response to enhance voice intelligibility while maintaining good music reproduction. The "voice" position reduces low frequencies for maximum voice intelligibility.

Audio input is line level, transformer isolated. The array accepts any standard line level input, either balanced or unbalanced. A volume control and two position gain switch accommodate a wide range of audio input levels.

For installations where the audio level is set remotely, a switch disables the volume control.

The arrays are powered by either 16 to 18 Volts AC or 24 Volts DC. A plug-in 16 VAC transformer is supplied for installations where local 120 power is available. Where the array power and signal cables share the same conduit, we suggest powering them with 24VDC.

Generally, the arrays are suspended by four thin (0.080 inch) aircraft cables with easily adjustable clips (supplied). Optionally, four threaded inserts, either 1/4 - 20 American or 6 millimeter metric, are available.

The units are constructed of aluminum, with a non-reflective black powder coat finish. The snap-on fabric cover is provided, available in black, white, and cream with other colors available. Logos or designs can be printed on the face of the fabric.



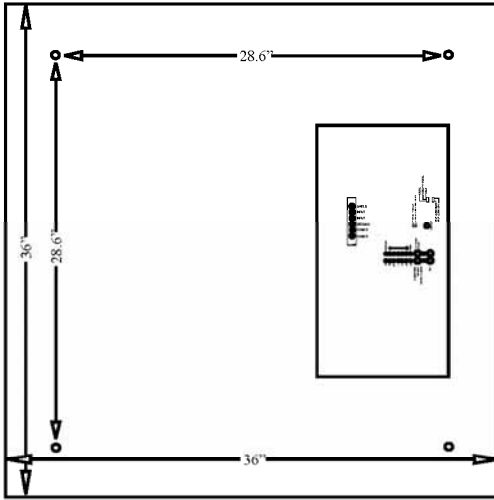
### Model FA-501

3"x36"x36" - with user control panel

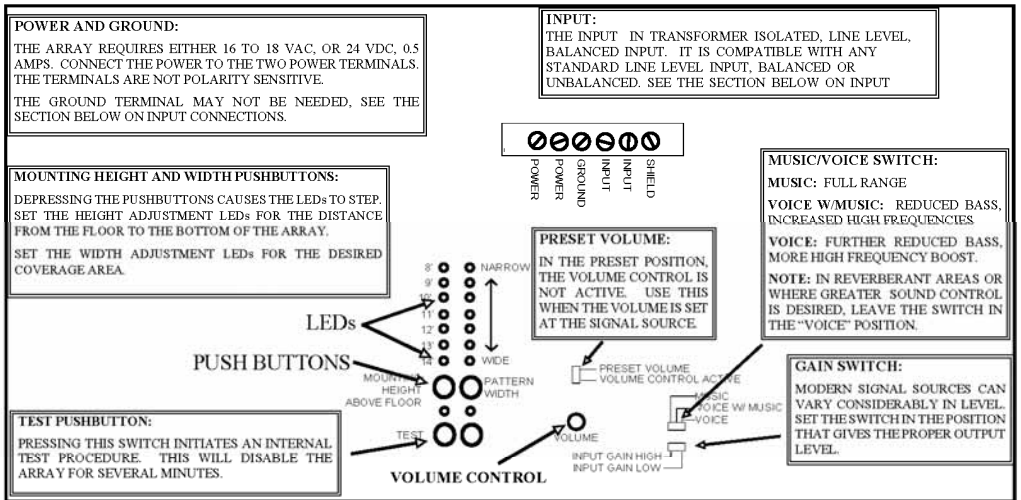
Digital Signage	Museum Exhibits	Supermarkets
Trade Show Booths	Waiting Areas	Retail
Healthcare	Education	Libraries

# MECHANICAL DRAWING, OPERATION, & CONNECTIONS

## BACK SIDE SHOWING MOUNTING HOLES



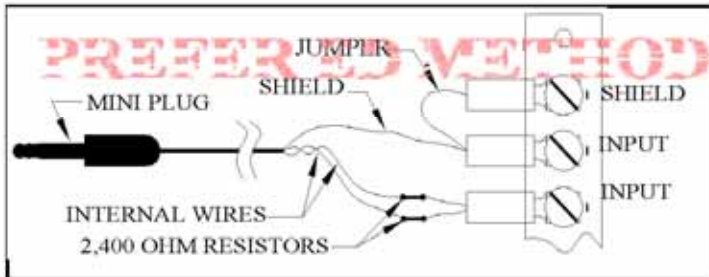
## CONTROLS & CONNECTIONS PANEL ON THE BACK OF THE ARRAY



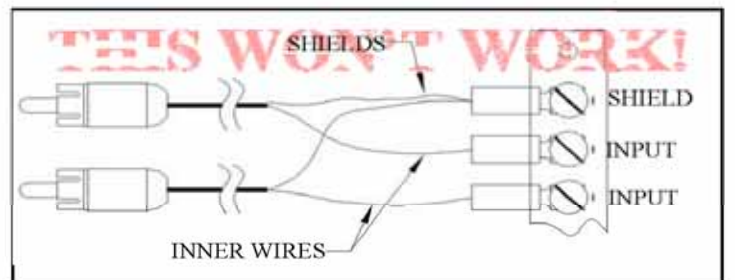
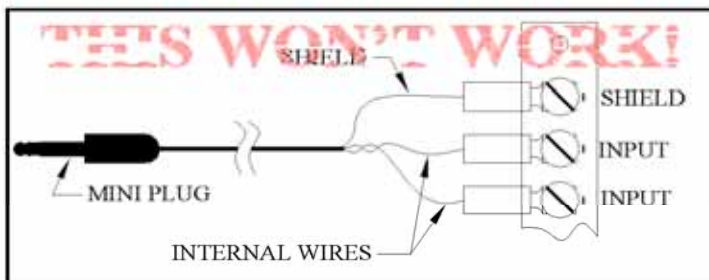
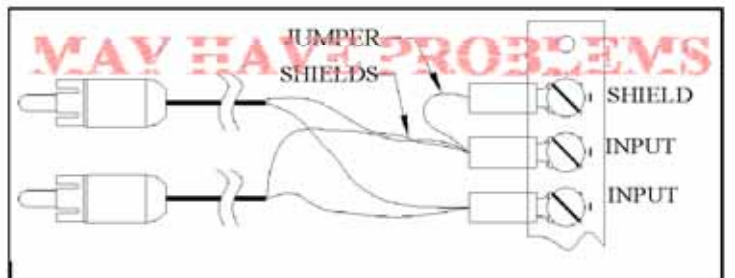
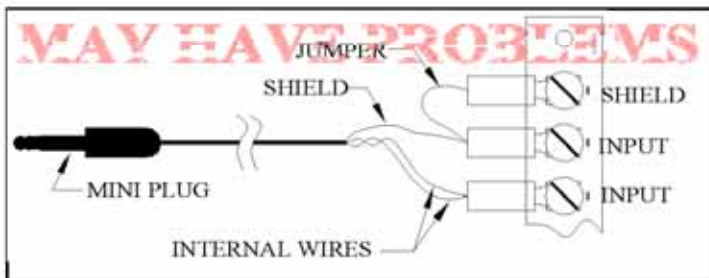
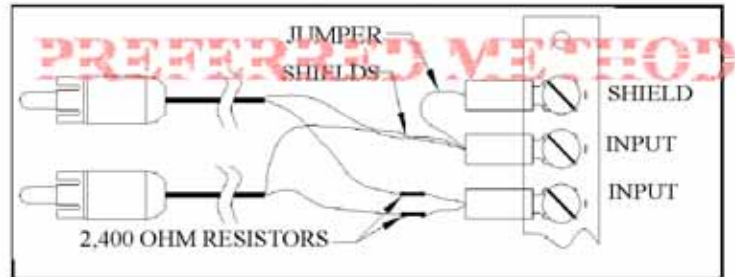
## CONNECTING TO AUDIO SOURCES:

The input was designed to accept a wide range of audio sources, from balanced line-level professional boxes to unbalanced consumer equipment such as DVDs, CDs, AND MP3 players. Connecting unbalanced sources to the balanced input on the array can be a tricky. If you are in doubt, we have ready-made cord assemblies available at a reasonable price.

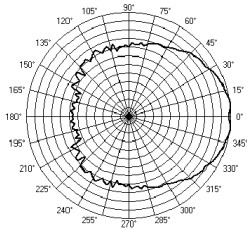
### 1/8" MINI-PLUG



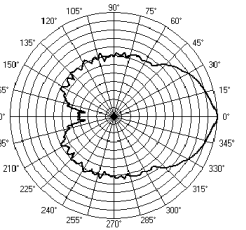
### PHONO (RCA) PLUG



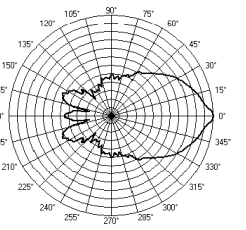
# POLAR PATTERNS



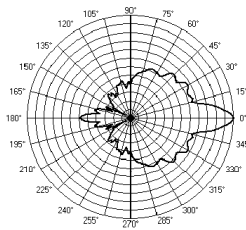
250 HZ



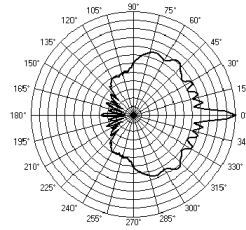
500 HZ



1 KHZ

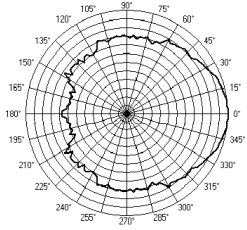


2 KHZ

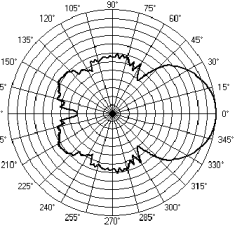


4 KHZ

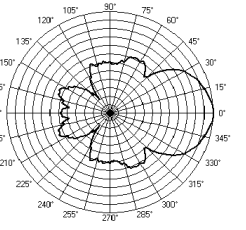
SET AT 10' HEIGHT, NARROWEST PATTERN.



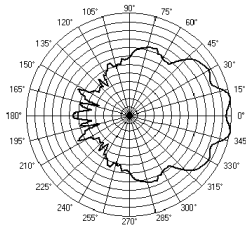
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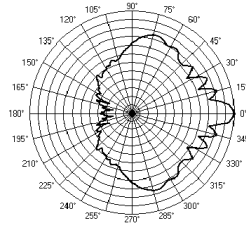
500 HZ



1 KHZ

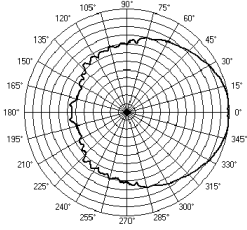


2 KHZ

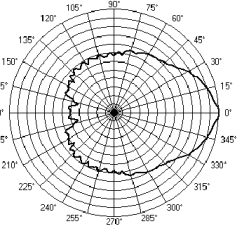


4 KHZ

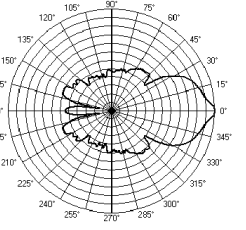
SET AT 10' HEIGHT, WIDEST PATTERN.



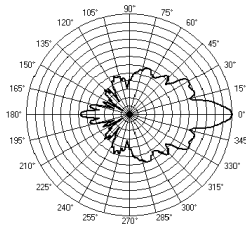
250 HZ



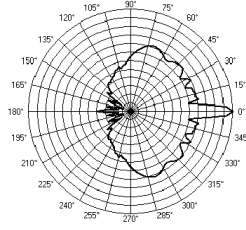
500 HZ



1 KHZ

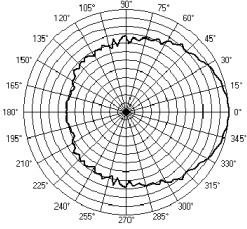


2 KHZ

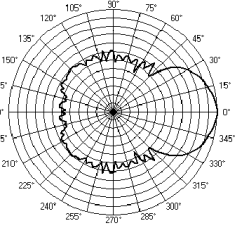


4 KHZ

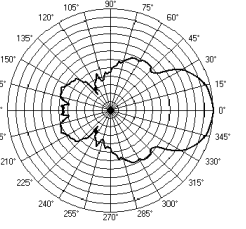
SET AT 14' HEIGHT, NARROWEST PATTERN.



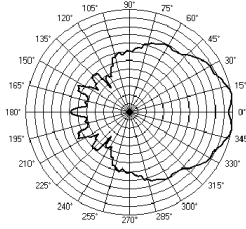
250 HZ



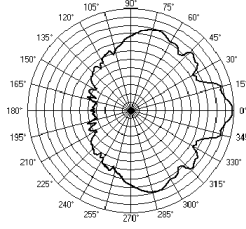
500 HZ



1 KHZ



2 KHZ

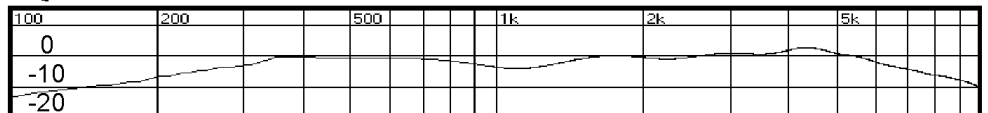


4 KHZ

SET AT 14' HEIGHT, WIDEST PATTERN.

# FREQUENCY RESPONSE

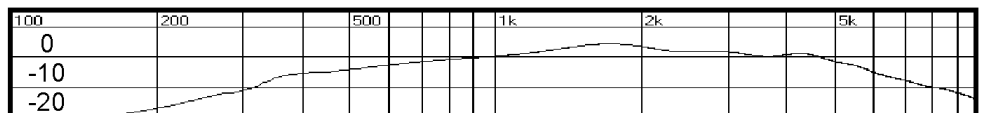
EQ SWITCH - MUSIC



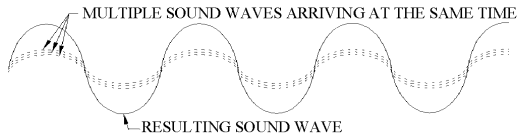
EQ SWITCH - VOICE W/MUSIC



EQ SWITCH - VOICE

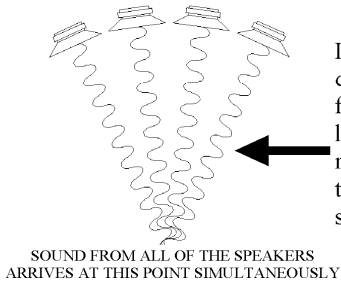
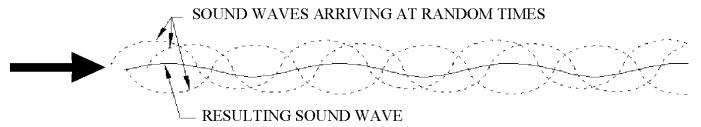


# HOW DOES IT WORK?



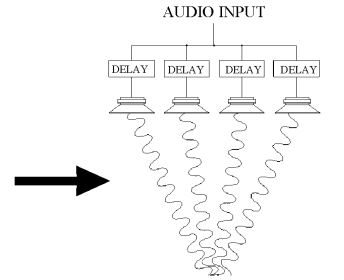
If two or more sound waves arrive at the same place at the same time, they add and produce a sound wave that is the sum of all of the incoming sound waves.

When multiple sound waves arrive at random times, some waves cancel, producing a sound wave that is less than the sum of the incoming waves.



If several speakers are mounted equal distance from the listener, the sound from each of the speakers arrives at the listener's ears at the same time. The resulting sound is considerably louder than the sound from each individual speaker.

While it wouldn't be practical to mount the speakers in a spherical array (and the result would not be adjustable), we can achieve the same results by delaying the launch time from the speakers.



SOUND FROM ALL OF THE SPEAKERS ARRIVES AT THIS POINT SIMULTANEOUSLY

## FOCUSED SOUND BY DAKOTA AUDIO

LOOKS BETTER, SOUNDS BETTER, WORKS BETTER  
AND IT'S ADJUSTABLE.



**Dakota Audio Inc.**  
**1815 Michigan Ave.**  
**Bismarck, ND 58504**