

# ANDREA DA-350 MICROPHONE PERFORMANCE

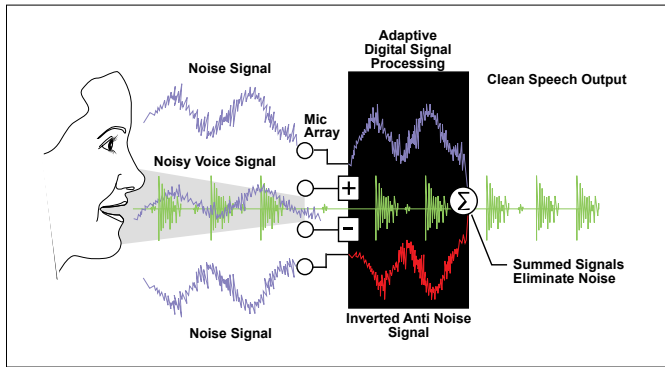


Figure 1. DSDA Illustration

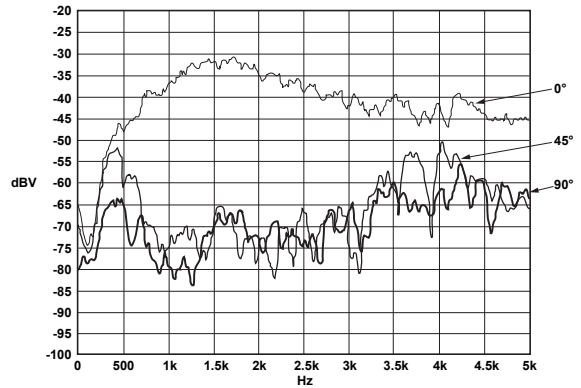


Figure 2.  
Voice Frequency Response @ 0° vs.  
Background Noise Response @ 45° and 90°

## Proven Test Results

As part of a recent series of ASR tests, comparative microphone tests between the Andrea Array Microphone DA-350 and a standard directional microphone used in the automotive industry were performed. 28 verbal commands were spoken to the Auto PC using both the DA-350 and a standard directional microphone. Under the most rigorous road test conditions, as illustrated in Figure 4, Test 3; the Auto PC test bed experienced a 93.3% recognition rate using the Andrea DA-350 compared to a 0% recognition rate using the standard directional microphone.

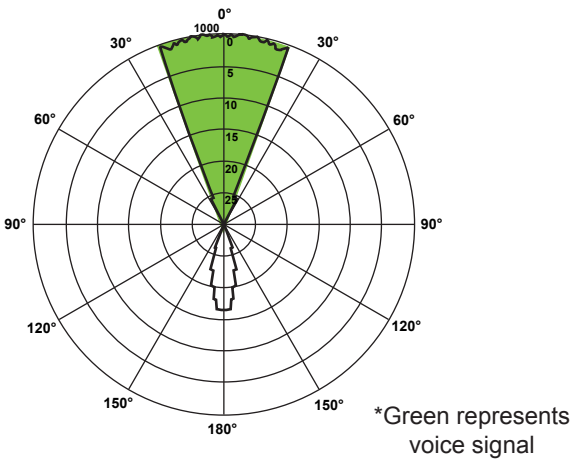


Figure 3.

Polar Plot of Directional Microphone Sensitivity Beam  
(1/3 Octave Noise, Centered at 1 kHz)

Microphone	Test #1		Test #2		Test #3	
	Competitor	Andrea Array	Competitor	Andrea Array	Competitor	Andrea Array
Description	Automobile Radio On, Window Partial	Automobile Radio On, Window Partial	Automobile Radio Loud, Window Down	Automobile Radio Loud, Window Down	Automobile Radio Loud, Both Windows Down	Automobile Radio Loud, Both Windows Down
Radio	Score # Tries	Score # Tries	Score # Tries	Score # Tries	Score	Score # Tries
Nomad	59 1	71 1	66 3	57 1	no recognition	68 1
Start	55 1	62 1	50 2	58 1	no recognition	54 1
Mute	61 1	63 1	58 3	66 1	no recognition	69 1
Volume	61 1	70 1	56 4	60 1	no recognition	68 1
Help	68 1	59 1	50 2	67 1	no recognition	63 1
Next	60 1	55 1	61 1	63 1	no recognition	66 1
Previous	71 1	71 1	67 1	70 1	no recognition	70 1
Radio	70 1	70 1	71 5	71 1	no recognition	74 1
Disc Player	79 1	79 1	73 2	79 1	no recognition	70 1
Navigate	70 1	72 1	62 1	71 1	no recognition	66 1
Address Book	66 2	69 1	51 2	60 1	no recognition	52 1
Setup	52 1	70 1	53 2	68 4	no recognition	81 1
Audio	68 1	83 1	65 1	69 1	no recognition	65 1
AM	66 1	73 1	57 1	69 1	no recognition	64 3
FM	57 1	62 1	69 6	52 2	no recognition	72 1
Preset	69 1	71 1	63 1	66 1	no recognition	62 1
Stop	60 1	67 1	58 1	59 1	no recognition	75 1
Review	75 2	74 1	76 2	79 1	no recognition	62 1
Zero	72 1	69 1	58 3	74 1	no recognition	70 1
One	65 1	73 1	65 1	72 1	no recognition	64 1
Two	63 1	61 1	62 1	69 1	no recognition	56 1
Three	53 1	65 1	67 1	73 1	no recognition	60 1
Four	59 1	60 1	65 4	57 1	no recognition	73 1
Five	72 1	75 1	70 1	74 1	no recognition	80 1
Six	79 1	74 1	63 1	83 1	no recognition	64 1
Seven	54 1	51 1	54 1	72 1	no recognition	70 1
Eight	58 3	60 2	50 3	72 1	no recognition	56 1
Nine	72 1	74 1	54 1	65 3	no recognition	56 1
	64.8	67.6	60.9	67.7	0	65.7
	87.50%	96.60%	49.10%	82.40%	0.00%	93.30%

Figure 4.



ANDREA ELECTRONICS CORPORATION  
65 ORVILLE DRIVE, SUITE ONE, BOHEMIA, NY, 11716  
WWW.ANDREALECTRONICS.COM  
P: (631) 719-1800 F: (631) 719-1998