

# ACE BACKSTAGE CO., INC. STAGE POCKET SYSTEMS

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# INSTALL SPEC

Stage Management Products  
 Installation Spec Sheet  
 Revision: 1C.CSM-40/60

|                           |  |
|---------------------------|--|
| <b>Model Numbers:</b>     | #CSM-40C, #CSM-40H, #CSM-40OM, #CSM-40UL, #CSM-60C, #CSM-60H, #CSM-60OM, #CSM-60UL                   |
| <b>Model Name:</b>        | Choir Stick Microphone with Audio-Technica® Elements   |
| <b>Model Description:</b> | Choir Stick Mic, 40" or 60" Long with Cardioid, Hyper-Cardioid, Omnidirectional, or UniLine Elements |



## CHOIR STICK MICROPHONE INSTALLATION

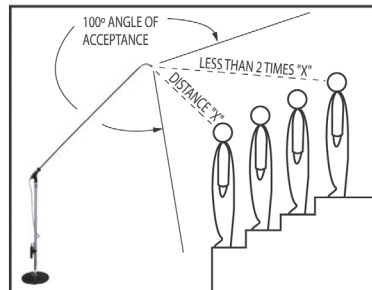
Ace Backstage Co.'s Choir Stick Microphone is a wide-range miniature condenser microphone designed for quality sound reinforcement, professional recording, television, and other demanding sound pickup applications. It requires 9V to 52 V DC from an external phantom power supply (usually provided by the mixer). A recessed switch on the power module permits the choice of flat response or low frequency roll-off to help control undesired ambient noise. Four interchangeable Audio-Technica® elements (Cardioid, Hyper-Cardioid, Omnidirectional, and UniLine) are available to permit selection of angle acceptance from 90° to 360°.

**Note:** Figures 1 and 2 assume that the element in place is a Hyper-Cardioid element (100°). The combination of small size and excellent response makes the Choir Stick Microphone ideal for choirs, instrumental groups, or theater stages. A uniform 100° angle of acceptance from the Hyper-Cardioid element provides well-balanced audio pick-up. The microphone should be located forward of the front-most source (12") and above the rear most source (approximately 88"), and aimed between them (Figure 1). Increasing the height of the mic above the sources will tend to equalize the sound levels between them, but may also increase the background/reverberant sound pickup.

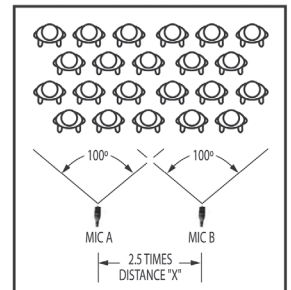
Whenever possible, the distance from the mic to the rear-most pickup should be no more than twice the distance to the front source, to maintain front-to-rear balance (Figure 1). Width of the pickup is approximately 2.5 times the distance to the closest performer. If additional mics are needed for wide sources, they should not be closer together laterally than 2.5 times the distance to the front source, to avoid phase cancellation (Figure 2). This typical spacing is approximately 4 feet apart. To orient the mic element in the proper direction, bend the gooseneck housing until the desired location is found.

**Note:** All Audio-Technica® elements will have somewhat different configurations depending on the element(s) being used. With the exception of the UniLine Element (90°), all element configurations will have broader coverage patterns, leading to variations in the Distance "X", the angle of acceptance (element polar patterns), and so on. Since applications may vary, please use this spec sheet as a guide. All drawings and measurements are for reference only.

## AUDIO-TECHNICA® HYPERCARDIOID ELEMENT CHOIR STICK MIC CONFIGURATION

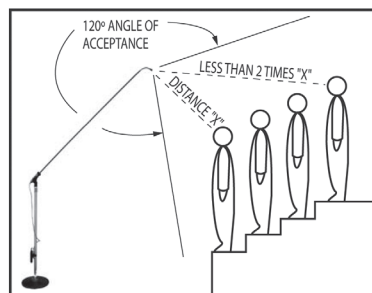


**FIGURE 1**  
Vertical Positioning of Hypercardioid Element

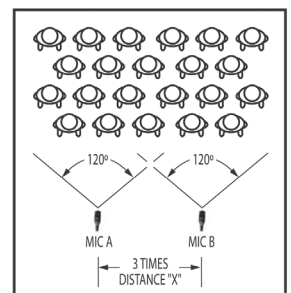


**FIGURE 2**  
Horizontal Spacing of Hypercardioid Element

## AUDIO-TECHNICA® CARDIOID ELEMENT CHOIR STICK MIC CONFIGURATION



**FIGURE 3**  
Vertical Positioning of Cardioid Element



**FIGURE 4**  
Horizontal Spacing of Cardioid Element