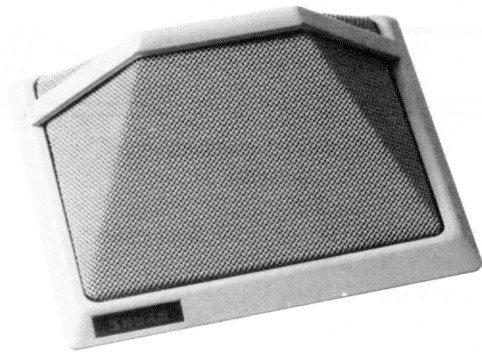


LOW-PROFILE MICROPHONE FOR AUDIO TELECONFERENCING SYSTEM



The Model STM22 Condenser Microphone is designed for use **only** with the Shure Audio Teleconferencing System (ST), a unique and highly efficient method of turning microphones on only when and if they are needed. When used with Shure ST equipment such as the ST6000, this microphone provides excellent performance, versatility and ease of use in multi-microphone teleconferencing installations. The STM22 is a low-profile surface-mount unit, designed for placement on surfaces such as tables, desks, and lecterns. Model STM22A is finished in beige to match light-colored table tops, and Model STM22W is finished in brown and black to match darker surfaces.

Unlike conventional microphones, the STM22 contains electronic circuitry and a novel transducer configuration to make it compatible with Shure ST mixers. Note that the STM22 should **not** be connected to standard phantom- or non-phantom-powered microphone inputs; it will not function properly.

STM microphones, in conjunction with the special circuitry in the ST mixer, uniquely discriminate between desired sounds that originate within their 120° front acceptance angle and all other sounds. Sounds from the front of a microphone are detected and cause it to be gated on, transmitting its signal to the mixer output. Sounds outside the acceptance angle will not gate the microphone on. This means that tabletop or wall- or ceiling-mounted loudspeakers must be placed outside the acceptance angle, and teleconference participants must be positioned within it. When an STM22 is gated on, it operates like a hemi- or half-cardioid microphone (because half the cardioid pattern "disappears" when the microphone is placed on a surface – see Figure 2). Each microphone operates completely independently in analyzing its own sound field and deciding whether or not a sound source is within the front acceptance angle.

The microphone connector is a standard three-pin professional audio type (XLR). Under most circumstances, lengths of 150 meters (500 ft) or more of good-quality two-conductor shielded microphone cable can be used as an extension between STM microphones and ST mixer inputs. Note that the same conductor must be wired to the same numbered pin at both ends of the cable to ensure proper functioning of the units. The shield must be connected to pin 1 at both ends of

the cable. Good practice dictates that microphone and extension cables be grounded only to the ST mixer chassis. If desired, the STM22 can be permanently affixed to a horizontal surface by drilling a single hole through the surface and running a 4-40 screw through to the unused threaded nut in the microphone baseplate.

Features

- Microphone only turns on for sounds originating within $\pm 60^\circ$ of microphone frontal axis
- Low vibration and hum sensitivity
- Hemi-cardioid polar pattern reduces sensitivity to room acoustics, background sounds and feedback
- Low-profile design is unobtrusive on conference tables, reduces "mike fright"
- Surface mounting eliminates comb-filter effects due to surface reflections, allowing smoother frequency response
- Available in two finishes to match most conference tables

SPECIFICATIONS

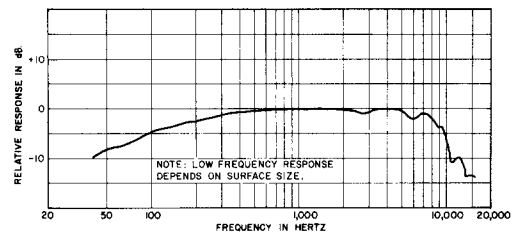
(All measurements taken at Direct Output of ST)

Type

Condenser (electret bias)

Frequency Response

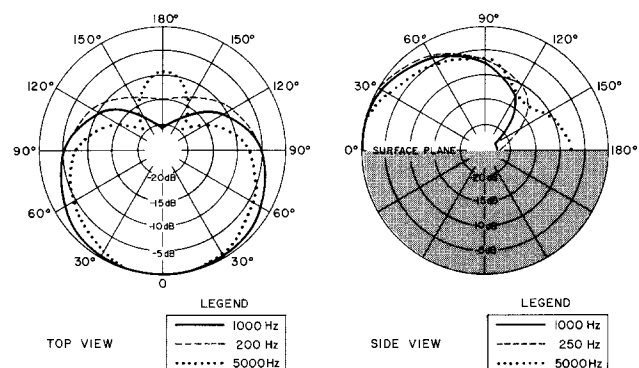
50 to 10,000 Hz, measured on hard plane with sound source 300 above plane (see Figure 1)



TYPICAL FREQUENCY RESPONSE
FIGURE 1

Polar Pattern

Hemi-cardioid (see Figure 2)



TYPICAL POLAR PATTERNS
FIGURE 2

Acceptance Angle

Microphone typically turns on for sounds within 60° of front axis

Output Level (at 1,000 Hz)

Open Circuit Voltage: -47 dB typical (0 dB = 1V/ μ bar)

Impedance

900 ohms actual at Direct Output of ST (signal level comparable to high-impedance microphone). See text for microphone wiring guidelines.

Noise

20 dB equivalent SPL typical, A-weighted

25.5 dB equivalent SPL typical, weighted per DIN 45405

Phasing

Positive pressure on microphone diaphragm produces positive voltage on tip terminal of PA Output connector, and negative voltage on tip terminal of Direct Output connector

Cable

Non-detachable 6.1m (20 ft), 2-conductor, shielded, with 3-pin professional audio connector to mate with Cannon XL series, Switchcraft A3 (Q.G.) series or equivalent connectors

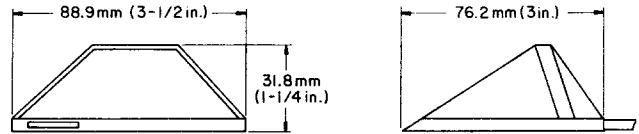
Case

STM22A: Beige plastic base, steel-mesh screen and trim

STM22W: Black plastic base and brown steel-mesh screen with black trim

Dimensions

See Figure 3



OVERALL DIMENSIONS

FIGURE 3

Weight

Net: 174 grams (6.1 oz) including cable

Packaged: 360 grams (12.6 oz)

Replacement Parts

Transducer-Amplifier: 90CJ2600

STM22A Case: 90CN2600

STM22W Case: 90CM2600

Cable: 90CH2600