



ICS-2110 Front View

## FEATURES

- **5-character electronic labels for each key, showing talk and listen assignments**
- **16-button keypad offers programming capability, plus DTMF dialing**
- **Individually variable listen levels with the Matrix Plus 3 system**
- **Allows local reprogramming**
- **Swap window mode provides an additional 9 key destinations**
- **Broadcast-quality audio with shaping circuitry for enhanced intelligibility**
- **Nine dual-action, momentary/latching talk and listen keys, with talk and listen LED's**
- **Answer-back key with display of received calls**
- **Listen keys can be assigned independently of Talk keys**
- **Keys are programmable for momentary-only operation**
- **Direct DTMF dialing can be programmed to station keys**
- **Ability to add up to 60 additional selector keys using XP and XPL expansion panels**
- **High-output speaker with on/off switch**
- **Inputs for headset or optional gooseneck mic, with auto-select feature**
- **Auxiliary connector offers program input and logic inputs to control various station functions**
- **Provisions for binaural headset operation**

## DESCRIPTION

The ICS-2110 is a nine-key/keypad station for the Matrix Plus digital intercom system with local reprogramming capabilities. When the station is connected to the matrix, it is “hot-patchable” and “self-initiating” – instantly programmed by the matrix system with its correct configuration. Five-character electronic labels for each talk/listen key and the answer-back key identify the current key assignments.



ICS-2110 Rear View

A 16-button keypad gives the operator the ability to directly assign labels to keys and select a station to communicate with. The keypad also generates DTMF tones, enabling the user to make direct telephone calls from the station. The station and its various other features may be enabled, disabled, or password protected as desired.

The front panel has both a headset connector and a jack for an optional gooseneck microphone. Headsets are detected automatically when connected. The station features a low-noise, broadcast-quality adjustable microphone preamp with a limiter circuit to keep voice levels constant, high-power earphone and speaker amplifiers, and specially contoured audio response for clear, articulate communications in all environments.

Special digital circuitry lowers the speaker's output level when the microphone is activated, eliminating feedback. The exclusive “nearby station” feature reduces feedback between adjacent stations, even when operating at high volumes.

## SELECTOR KEYS

The selector keys on Matrix Plus stations have a very broad, powerful range of functions. Dual-action, momentary/latching toggle keys are activated by pushing up for listen and down for talk. Associated red and green LED's light when a particular talk or listen key is active. As well, a particular key's function may be “split,” for communicating to one station while monitoring another audio source. With the ICS-2110 station, the 5-character display LED above each key provides the identity of current Talk assignments, and changes to display the Listen assignments with a push of the Listen Label button.

Any and all keys may be programmed for momentary-only Talk operation, or for one-touch direct telephone dialing. Keys may also be programmed for IFB interrupt, call signaling, relay control, and other functions, as necessary. Up to four labels – representing four different stations or interfaces – may be assigned to any and all talk keys, creating a group.

*Matrix Plus 3*  
DIGITAL INTERCOM

by Clear-Com

**SPECIFICATIONS****LINE INPUT/OUTPUT**

Type: Transformer Balanced  
 Input Impedance: 8K Ohms Bridging  
 Output Impedance: 150 Ohms  
 Level: 0 dBv nominal  
 Freq. Resp.: 50 Hz - 15 kHz, +/-2 dB

**PANEL MICROPHONE INPUT**

Type: Electret with proprietary phone jack  
 Input Level: -40 dBv  
 Gain Adjustment Range: +/-5 dB (software)  
 Impedance: 200 Ohms

**HEADSET MICROPHONE INPUT**

Type: Dynamic  
 Input Level: -55 dBv  
 Gain Adjustment Range: +/-5 dB (software)  
 Impedance: 200 Ohms

**HEADPHONE OUTPUTS**

Impedance: 50 - 600 Ohms  
 Power: 1/2 Watt into 50 Ohms

**LOGIC INPUTS #1 & #2**

Type: Requires closure to ground

**MUTE RELAY/STATION RELAY**

Contact Type: SPDT  
 Voltage Rating: 24 Volts DC @ 1 Amp.

**FRONT PANEL CONTROLS AND CONNECTORS**

Selector Keys: 9  
 Keypad Keys: 16  
 Answer Back Selector Key: 1  
 Volume Controls: intercom and program  
 Headset Connector: XLR-4M  
 Panel Mic Connector: Locking 1/4" phone jack

**REAR PANEL CONNECTORS**

Miscellaneous: DB-15F  
 To Matrix: DB-15M and RJ-45  
 OPT-100 Option: DB-9F

**TEMPERATURE**

Operating: 0° - 50° C (32° - 125° F)  
 Humidity: 20% to 90%, non-condensing

**POWER**

In-Line Power Supply, with 3-pin EIA connector,  
 UL approved  
 Voltage: 90 - 250 VAC, 50 - 60 Hz, 50 VA max.

**DIMENSIONS**

3.5" H x 19" W x 6.75" D  
 (89 x 483 x 172 mm)

**WEIGHT**

5.0 lbs. (2.3 Kg)

**OPT-100 AUXILIARY AUDIO OPTION**

Audio,

Output Signal Levels: 0 dBv nominal  
 Impedance: 600 Ohms, transformer balanced  
 Frequency Response: 50 Hz - 15 kHz, +/-2 dB

SA Relay,

Contact Type: SPDT  
 Voltage Rating: 24 Volts DC @ 1 Amp.

*All specifications are subject to change without notice.*

**ANSWER-BACK KEY**

The answer-back key is used to answer calls to the station from other stations or interfaces that are not assigned to the station's keys. It functions as a momentary-only key. The answer-back key is supported by the answer-back "stack", which holds up to eight incoming calls in the order in which they were received. The ICS-2110 station also has an LED display above this key, allowing the user to identify the caller prior to answering.

**THE ICS-2110 KEYPAD**

The 16-button keypad on the ICS-2110 opens up many specialized functions. These multi-function buttons allow the station operator to select stations, assign labels (stations, interfaces, or controls) to keys, enter local studio-announce mode, or dial a telephone number.

By pressing a selector key that is connected to a telephone interface through the matrix, the station operator can receive a dial tone and place a telephone call. Pushing the Dial button creates a touch-tone keypad, generating DTMF tones and permitting phone calls to anyone, anywhere from the station.

**CONNECTIONS**

Simple station-to-frame wiring uses CAT-3 data cable with RJ-45 connectors. The four-pair connection routes talk and listen audio signals, and provides data input and data output paths.

Accessory panels allow up to an additional 60 keys to be connected to a station. Program interrupt (IFB) assignment panels may also be connected, allowing up to 79 sources and destinations to be routed for talent cueing, sending audio sources, assignment to telephone interfaces, or intercom communications.

The "Miscellaneous" connector links local devices to the intercom stations. A balanced monaural program feed input may be routed through this connector. Two logic inputs are available to activate selected station functions. Both normally-closed and normally-open relay contacts are provided.

Internal connectors are provided so that a binaural headset jack can be installed on the front panel, allowing binaural headset operation.

The optional OPT-100 Auxiliary Audio board adds Studio Announce audio and relay outputs, a Hot Mic output, and two additional normally open and normally closed relay contacts.