Connecting the ICM-32

Connect RS-485 Control Link and Intercom Audio
- See 'icm32_rear_panel.pdf' for documentation on the connector pin-out.
- The RS-485 control link is available from the ICM-32 rear panel on either the J3 RJ-45 connector or on the J6 DB-25 connector.
- The intercom audio input and output to the 32KD/RIO are available from the J3 RJ-45 connector.
- The ICM-32 audio input from the 32KD/RIO can be either stereo or mono. Either the left or right input can be used for mono applications.
- The audio output from the ICM-32 to the 32KD/RIO is mono.
- Up to 4 ICM-32 stations can be connected on the same RS-485 line back to a DRC or RIO.

Connect Line-In or Line-Out for Local Monitoring (Optional)
- See 'icm32_rear_panel.pdf' for documentation on the connector pin-out.
- Line-level inputs and outputs are available from the ICM-32 rear panel on the J6 DB-25 connector.
- The line level input or output can be used in stereo or mono. Either the left or right input can be used for mono applications.

System Setup

Set the Address of the ICM-32
- Up to 4 ICM-32 stations can be connected to the same RS-485 port. If more than one ICM-32 is connected to the same RS-485 port, each ICM-32 will need a unique address.
- The address is set from DIP switch DS1 on the ICM-32 back panel.
- Switches 1 & 2 set the address:
  - 1 – OFF   2 – OFF: Address 0
  - 1 – ON   2 – OFF: Address 1
  - 1 – OFF   2 – ON: Address 2
  - 1 – ON   2 – ON: Address 3

Configure the 32KD Intercom Channel Association (RIO version 1.X.X only)
- Run the Windows RCS application
- Under the 'Alpha Labels'->'Source Channel Config' folder, find the 32KD input from the ICM32 in the list of source channels.

- Set the value in the 'IFB/MM Output' column to the 32KD output channel that has is being sent to the ICM32.
- The channel configuration will get sent when you send the module configuration setup (next section below.)

Configure the 32KD (all versions)
- Run the Windows RCS application
- Select the Switcher/Status Configuration folder, click the 'Configure' button and go to the Control Module Config tab.
    - For a RIO/KRL, click on the 'Config' button of the KRL
    - For a standalone RIO, click on the 'Configure' button
- Under 'Edit Port', click on the Port number that corresponds to the RS-485 port connected to the ICM-32 to bring up the Module Configuration dialog.
    - Set the 'Port State' to 'Active'
    - Set the 'Port Type' to 'Enhanced Intercom Panel'
    - Set the 'Speaker' and 'Mic' to be the system input and output audio channels that are connected to the intercom.
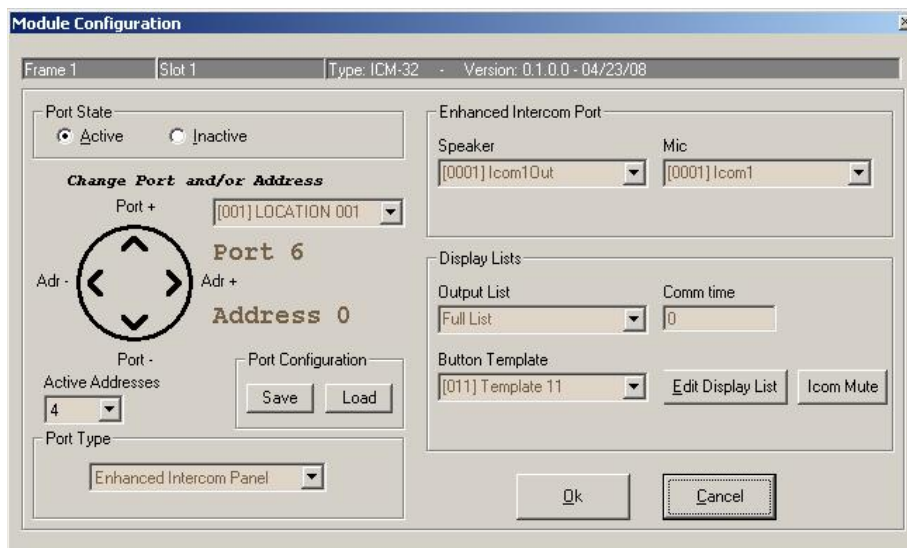   - Click 'OK' to exit the Module Configuration dialog

fig.3 – Module Configuration Dialog

- Click 'Send' on the Module Configuration dialog for the intercom setup to take effect.
- The dialog should display a green light under the address of the ICM-32 indicating the RS-485 control link to the ICM-32 is active, and the ICM-32 is responding.
- Click 'Close' on the Module Configuration dialog to exit.

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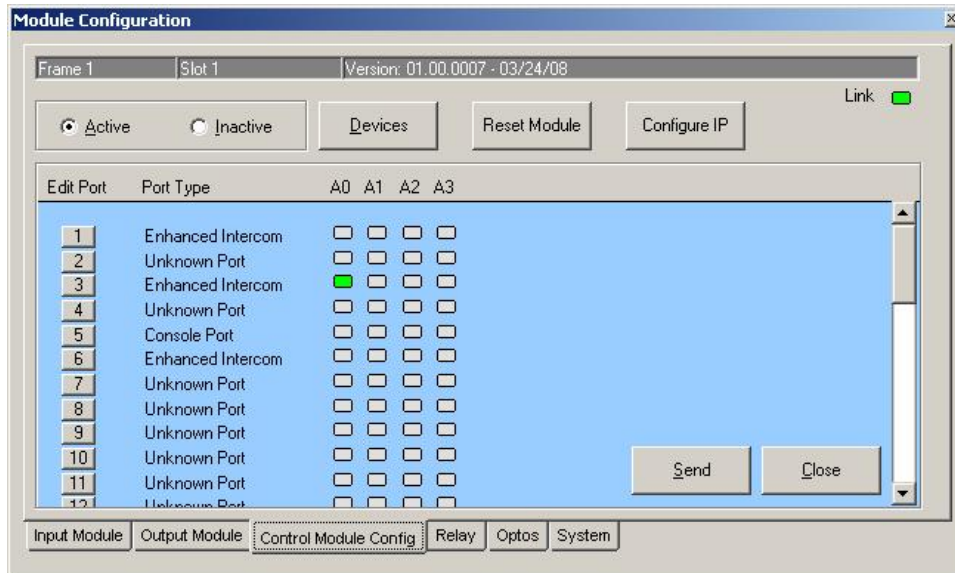   91504-3224 USA

ICM-32 Setup – Getting Started

fig.4 – Control Module Config tab.

Button Programming

- Run the Windows RCS application
- Select the Button Programming folder
- Using the Template Navigation Controls, select an unused button template number.
- Going from left to right, the ICM-32 buttons are numbered from 1-16 on the top row, and 17-32 on the bottom row.
- Buttons 16 is fixed to be a dialup button, and button 32 is fixed to be a call-answer button. Buttons 16 and 32 are not programmable as part of a template.
- On the Button Programming tab, clicking on a button will take you to the Edit Current Buttons tab for that button.
    - o Set the Button Type based on how you want the intercom lever button to function:
        - Talk –Press down on the ICM-32 lever button will talk to the 'Output Alpha' destination.
        - Listen – Press up on the ICM-32 lever button will listen to the 'Input Alpha' source
        - Talk/Listen – Can both talk and listen on the same ICM-32 lever button.
            - NOTE: in RIO version 7.X, the talk and listen channels are configured on two separate buttons: the talk channel is set on the button of interest, and the listen channel on button number <button> + 32.

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- Group (RIO version 1.X.X only) – Can talk to multiple destinations, or listen to multiple sources (see Creating Groups below to set up a group.)
  - NOTE: in RIO version 7.X, a 'Call Group' button type can be used to select multiple talk destinations on a single talk key.
  - NOTE: in RIO version 7.X, a listen group can be created on a 'Listen' button by selecting multiple listen sources for a single button.
- Relay/Opto buttons – All of the various relay & opto buttons (toggle, follow-button, momentary) are supported on the ICM32 as well.
- Inactive – ICM-32 lever button will do nothing.
- When you have finished creating a button template, click the 'Send Current Template' button in the RCS toobar.

Creating a Group (**RIO version 1.X.X only**)

- Run the Windows RCS application
- Expand the Alpha Labels folder, and underneath it select the Group Alphas folder. If there isn't a Group Alphas folder, create one by doing the following:
  - Select the Alpha Labels folder, right click, and select 'New Folder'.
  - Right click the 'New Node' folder that is created, select 'Rename', and change the name to 'Group Alphas'
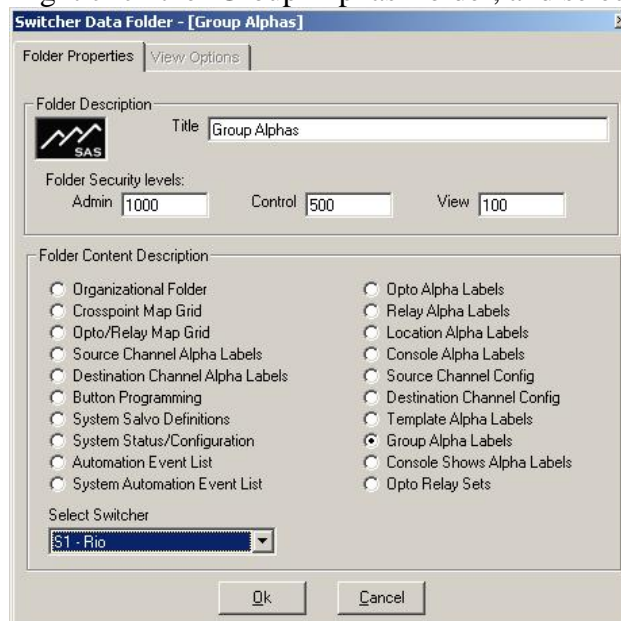 - Right click the 'Group Alphas' folder, and select 'Folder Properties'

fig.5 – Creating a Group Alpha Folder

ICM-32 Setup – Getting Started

- o   Select 'Group Alpha Labels' under Folder Content Description, and hit 'OK'
- Select the Group Alphas folder. The right hand pane will display a list of all of the groups.
- Find an unused group, and enter a name in the 'Group Label' field for the group you are creating. The 'Group Label' name is what will be shown on the ICM-32 display for the group button.
- Click the 'Send Alphas' button to push the new group labels to the system.
- Right-click anywhere in the row for the group you just created, and select 'Edit Group Programming'.
- On the 'Group Programming' dialog, set the 'Group Type'
    - o   Talk – simultaneously talk to multiple destinations on a single button.
    - o   Listen – simultaneously listen to multiple sources on a single button.
- Add channels to the group by double-clicking a channel under 'Select Channels', or by typing a channel number in the 'Enter Channel Number' field. The contents of the group are shown under 'Current List'.
- Click the 'Send Group Items' button to push the new group configuration to the system.
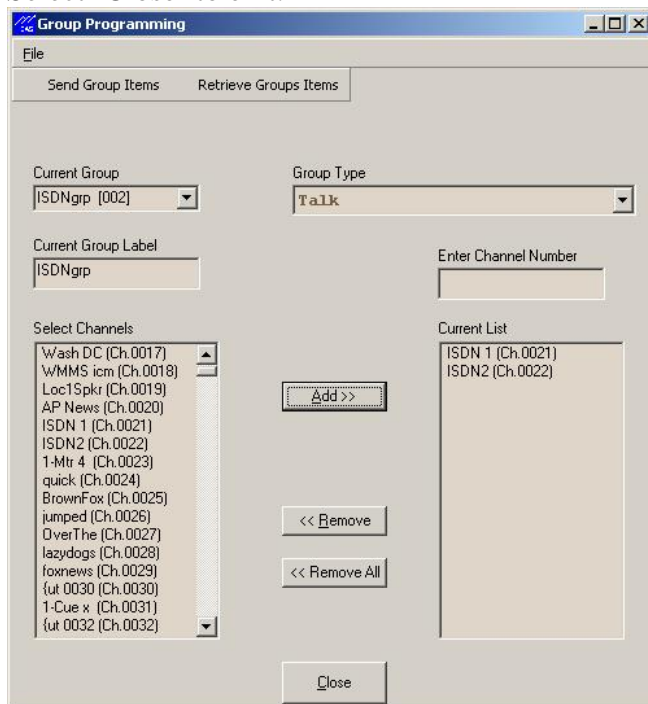- Select 'Close' to exit.

fig.6 – Edit Group Programming screen.

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Local Audio Setup

Basic Setup
- On the ICM-32, press and hold the 'Dialup' knob for 5 seconds to go to the setup screens.
- Moving the knob to the left or right will navigate through the various setup screens.
- Pressing the setup button again exits setup.
- The initial 'Setup' screen also displays hardware and firmware version information for support and upgrade purposes.
- The setup parameters are stored locally by the intercom station and are retained on power-down/power-up.

fig.7 – Setup screen

Stereo Mode
- On the first 'Setup' screen, you can set the Stereo Mode to Stereo or Mono based on how you have connected the ICM-32 to the 32KD/RIO.
- The Stereo and Mono setting applies to both the Intercom Listen audio input and the Line-In input.
  - o If you are using Line-In L as a microphone source (see Microphone Selection below), then the Line-In will automatically use Line-In Right in mono.

Microphone Selection
- Set the Auto Headset option to 'Auto' to automatically detect when a headset mic plugged in to the front panel, and to switch to the headset mic.
- When Auto Headset is set to 'Auto', the microphone selected under 'Default' will be used when no headset is plugged in.
- Setting Auto Headset to 'Off' will disable automatic detection, and the microphone selected as the 'Default' microphone will always be used.
- Settings for the Default microphone are:
  - o Front Panel – built-in flush mount or gooseneck microphone
  - o Headset –headset microphone from front panel headset plug
    - Set DIP switches 5 and 6 to OFF if non-electret headsets are being used.
    - Set rear DIP switches 5 and 6 to ON if the headset microphone is an electret type.
  - o Rear XLR – rear panel XLR microphone

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- Set rear DIP switch 8 to ON if the XLR microphone requires 48V phantom power. Otherwise make sure 8 is set to OFF.
  - o Line-In L – Use this setting with an external microphone connected to an external mic preamp or other outboard gear, where the microphone signal is presented to the ICM-32 as a line-level signal. The Line-In Left input will be used as the microphone input, and the Line-In Right will continue to function normally as a mono Line-In.
- If a headset is plugged in, an 'In' icon will be displayed on the far right of the screen. If no headset is present, an 'Out' icon will be displayed.

Microphone Preamp Gain
- The microphone preamp gain can be adjusted from the 'Mic Level' setup screen.
- Each microphone input has a separate preamp gain setting, and the 'Mic Level' screen will display the gain setting for the microphone that is currently active.
- The Signal detect indicator will show when the microphone has a signal present.
- The Peak detect will show when the microphone signal is high enough that it engages the limiter.

fig.8 – Mic preamp gain screen

Mix Levels
- There are two mix setup screens, one for the Headphone/Speaker mix, and the other for the Line-Out Mix.
- The mix screens have fader controls for adjusting for the relative mix level between the microphone, intercom listen, and line-in levels.

Microphone Enable
- On the 'Muting' setup screen, there is an option for 'Microphone Enable'.
- In ordinary use, the signal from the microphone is only sent to the system when a 'Talk' button is pressed down or latched on. Make sure the 'Microphone Enable' option is set to 'On Talk Button' if this is the desired operation.
- In some scenarios, it may be desirable to have the microphone send to the system always live, even when none of the talk buttons are active. One example might be when using the ICM-32 microphone as the on-air mic for a live remote, as well as for normal intercom communications. To set the microphone to be active at all times, set the 'Microphone Enable' option to 'Always On'.

ICM-32 Setup – Getting Started

```
◀◉ MUTING     MICROPHONE ENABLE        SPEAKER
              [ On Talk Button ]        [ Enabled ]
```

Muting and Button Options

Location Muting
- Location muting can be used to mute the intercom speaker when an on-air microphone is active at a console.
- To configure, run the Windows RCS application
- Select the Switcher/Status Configuration folder, click the 'Configure' button and go to the Control Module Config tab.
    - For a RIO/KRL, click on the 'Config' button of the KRL
    - For a standalone RIO, click on the 'Configure' button
- Under 'Edit Port', click on the Port number that corresponds to the RS-485 port connected to the ICM-32 to bring up the Module Configuration dialog.
- Set the Location for the intercom to match the Location field from the on-air microphone's Source Channel Configuration.
- Click on the 'Options' button (may be labeled as 'Icom Mute'.)
- On the 'Intercom Muting Options' Dialog, select the checkbox for 'Dim/Mute Speaker', and set the 'Dim/Mute Amount' to 'Off'. Click OK.
- Click 'OK' to exit the Module Configuration dialog
- Click 'Send' on the Control Module Config tab to push the muting information to the system.

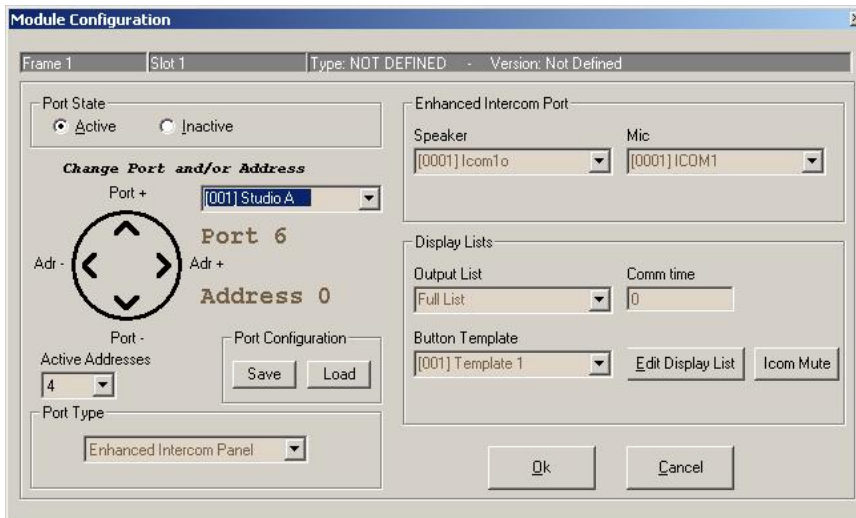ICM-32 Setup – Getting Started

fig.9 – Location muting for intercom in 'Studio A'

fig 10. Intercom muting/button options dialog

Button Options

- The Muting Options dialog also has configuration options for modifying talk/listen button behavior:

- o 'Talk can latch' – selecting this checkbox will enable the momentary latch-on feature for intercom talk buttons. When this isn't selected, a user must press and hold an intercom talk button to talk.
- o 'Left Only/Right Only' – If one of these checkboxes is selected, then the call answer and dialup talk buttons will only talk to the left half or right half of a stereo destination.

Intercom Speaker Disable
- The ICM-32 speaker can be disabled entirely as a safety feature in quiet areas.
- On the ICM-32, press and hold the 'Listen Level' knob for 5 seconds to go to the setup screen.
- Use the 'Listen Level' knob to select the 'Muting' screen.
- Set the 'Speaker' setting to 'Always Off'.
- Press the 'Listen Level' button to exit setup.

Appendix

Applies to versions:
ICM32 1.0.6.0 and higher
Rio 7.22/1.0.20 or higher (see notes for differences between version families)
DRC 6.22/1.0.12 or higher
RCS 3.12/1.1.5 or higher

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