



784+ PROGRAMMABLE MATRIX MIXERS & CONTROL SYSTEMS

Special Features

- 8x4 Matrix Mixer With Switchable Mic/Line Inputs.
- Remote Controlled Switching Matrix: All Inputs and Outputs Via Contact Closures or Computer.
- Setup Using Ivie's Audio Net+® Control Software, Via Either RS-485 or RS-232.
- Once Set Up, Does not Need a Host Computer to Operate.
- Can be Controlled Via a Modem.
- Remote Level Control of all Inputs and Outputs.
- An Entire Family of Remote Controls Provide Simple yet Powerful User Interface.
- Simple Remote Level Control Requires Only a 10k Pot.
- UL® Listed, External Power Supply.



The 784+ 8X4 Programmable Matrix Mixer from Ivie represents a significant advancement in user friendly, highly flexible, and easily controlled mixers. The 784+ is programmable and monitorable via Ivie's Audio Net+® protocol, using an IBM® compatible PC with VGA graphics capability.

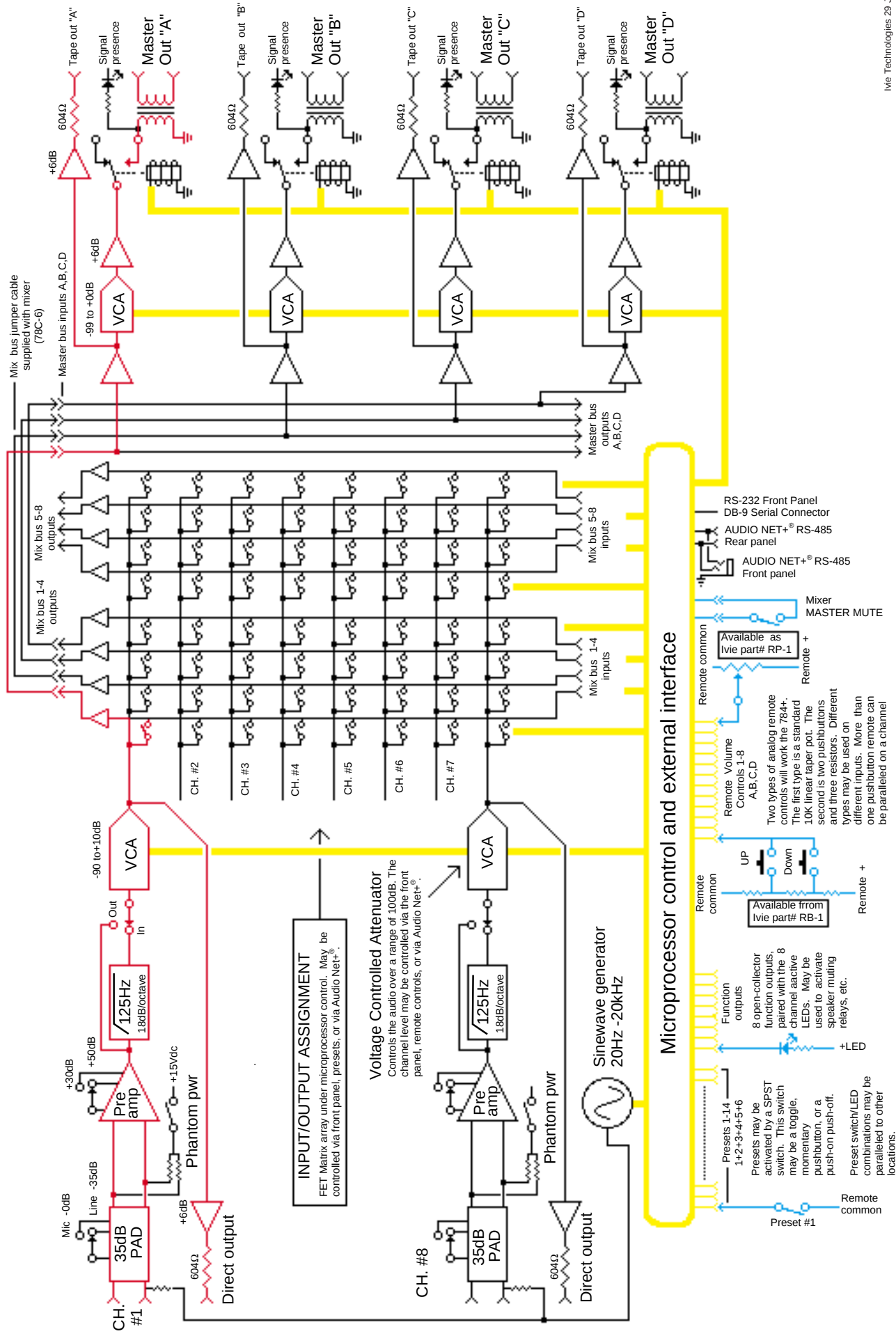
Any mic/line switchable input can be assigned to any or all outputs. The mixer features custom room combining capability. Built-in self test diagnostics, sine wave generator, and 15 preset memories add to the power of the 784+. Presets control all aspects of the mixer's functions: Input and output assignments and levels, room combining assignments, and remote control configurations. Preset selection is done remotely using AudioNet+®, or remotely through a simple contact closure employing toggle or momentary switches.

Several types of remote controls are available for the 784+, ranging from simple analog pots to programmable, microprocessor based controls. The power and many features of these mixers is perhaps best described through the example of a few applications. The 784+ Block Diagram will help demonstrate how these applications are possible.

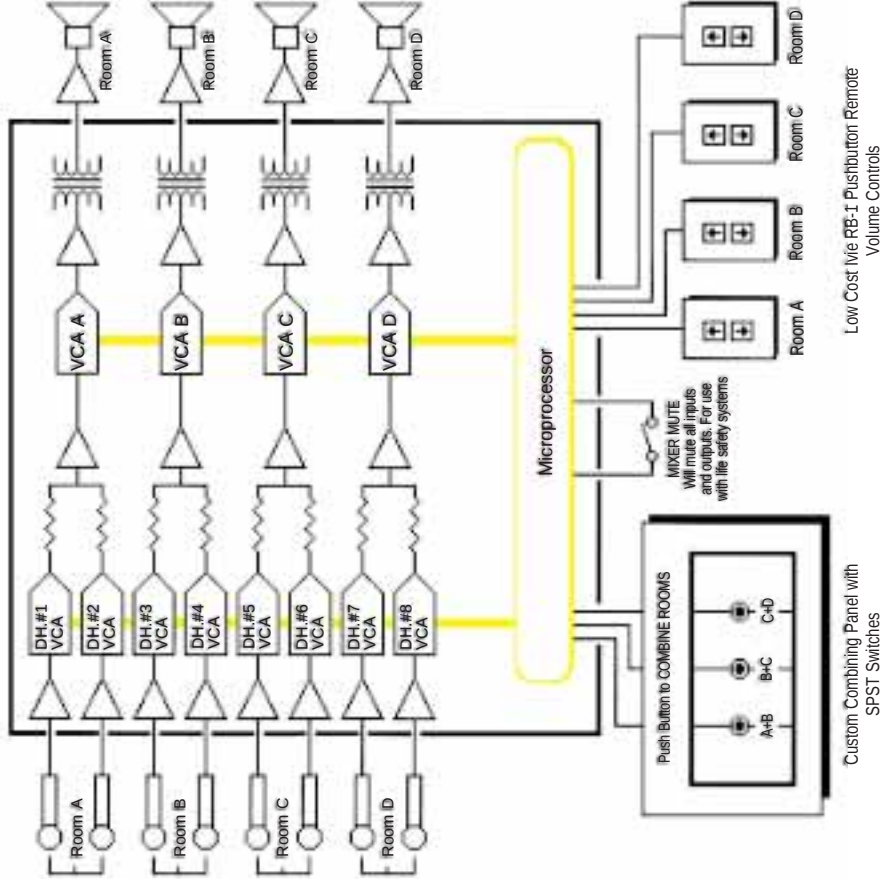
- 8X4 Matrix – Two Mixers Can Be Ganged to Form a 16X8 Matrix
- Additional Mixers May Be Added For More Inputs
- Transformer Balanced Outputs
- Computer Programmable and Monitorable : IBM® Compatible PC via Audio Net+™
- Does not Require Host Computer to Operate
- Build in Custom Room Combining Capability
- Built in Sine Wave Generator and Self Test Diagnostics
- Analog and Microprocessor Based Remote Controls Available

- All Remote Controls are DC
- Fifteen Presets Available (0-14)
- Presets Control All Mixer Functions: Input/Output Gain Structure, Combining, Input/Output Assignments, Remote Configuration etc.
- Master Mixer Mute for Interface with Life Safety Systems
- Individually Switched Phantom Power
- Phoenix Type Connectors for Reduced Installation Time
- RS-232 & RS-485 Control Ports Standard

784+ AUTOMATIC MATRIX MIXER BLOCK DIAGRAM

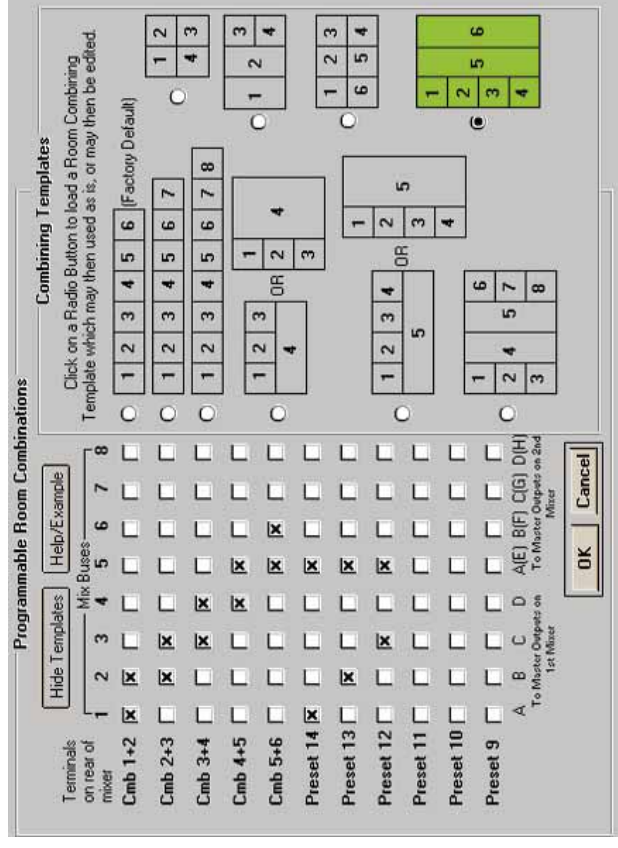


Ivie 784+ Configured as 4 - 2X1 mixers with remote volume controls and room combining.



APPLICATION #1 shows a single 784+ configured as four 2X1 mixers with remote volume controls and room combining. Four small meeting rooms can be handled with a single mixer. The room combining panel shown is simply 3 SPST switches, either with or without LED's for positive indication. The remote controls shown for each master output are simple, push button, low cost, volume controls. When rooms are combined, these remote volume controls can gang and track one another, if desired, such that master volume control for both (all) rooms can be actuated from any (all) remote controls. The last feature shown is a Master Mixer Mute which mutes all inputs and outputs upon command. The feature allows the interfacing of the 784+ to life safety systems.

Custom Room Combining right out of the box!



Maximum choice, minimum programming effort puts the installer in command.

Ivie matrix mixers can now combine up to eight rooms with up to eleven combining nodes and all eleven nodes can be contact closure activated! If "contact closure" activation of more than five room combining nodes is needed, the software allows the reassignment, for use in room combining, of up to six more contacts normally associated with presets. This, of course, reduces the number of contacts available for activating presets, but the allocation of resources is determined by the installer, based on the requirements of the application.

Ivie has made the programming for room combining as simple as possible. A number of common, room combination templates are provided that, when selected by a single "click" of the mouse, complete the necessary programming.

If the room layout does not follow one of the provided templates, step-by-step programming of the various room combinations can be done and there are help screens and programming examples to step the programmer through the process.

784+ Programmable Matrix Mixers



784+

The 784+ front panel has an Audio Net+® RS485 jack, an Audio Net+® RS232 DB-9 serial connector, four channel-output signal presence indicators, and three RS232-485 communication status lights. Access to the Audio Net+® RS485 buss is also available on the rear panel. An advantage of the Audio Net+® protocol is that an 784+ can be accessed over a phone line via modem. In this manner, remote programming and control are possible, as well as a system troubleshooting and verification of system configuration. When multiple Audio Net+® compatible mixers in a rack are looped together via their rear panel Audio Net+® connectors, a computer (or modem) connected to any one mixer will allow all mixers to be accessed.

Programming the 784+ mixer by computer is simple. All you need is standard Windows 95/98 based PC (faster is better) equipped with a mouse, a serial port, and VGA graphics.

You can directly access the 884+ from your standard PC using a straight serial cable from your PC's serial port to the 884+'s front panel serial connector. If longer control runs are needed, you can connect your PC to Ivie's Model 78-232A (RS232 to RS485 adaptor), which can extend separation between the mixer and the PC by up to 4000 feet. One of the standard setup screens is shown as an illustration. It graphically illustrates the inputs and outputs in a matrix configuration. To connect an input to a particular output, simply "push" the appropriate button. A button is "pushed" by placing the mouse cursor on



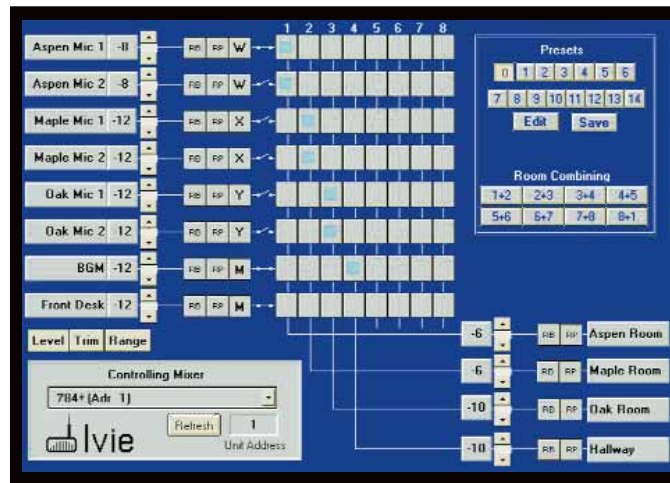
REAR PANEL

As with other Ivie rack mounted mixers, ease of wiring is a primary concern. All system connections are made using clearly labeled Phoenix type connectors. No attaching of XLR, or any other type connectors, to incoming lines is necessary. Wires need only be stripped, plugged into the appropriate socket, and the screw tightened. These connectors allow the installer to pre-wire racks, and if necessary, mixers can be removed without disconnecting the wires. For ganging mixers together, connections are made with mini DIN cables which are available directly from Ivie. Wiring simplicity and speed are assured.

the button, and clicking the mouse. Buttons which have been "pushed" are visually indicated, so the entire setup can be identified at a glance. The graphic user interface

makes setup quick, accurate, and intuitive, and a single computer can control multiple mixers. Input and output levels can be adjusted, ranges can be set, and rooms or zones can be combined or uncombined just as easily. Entire setup configurations can be stored as one of the 8 available presets, and presets can be activated remotely by the touch of a button, or via low voltage, DC lines.

Once programmed, the 784+ does not require a computer for operation. It can, however, be accessed by a computer at any time to monitor or make adjustments. Unauthorized tampering can be prevented through "password" security.



COMPUTER SCREEN

SPECIFICATIONS

Frequency Response : ± 1 dB 30Hz to 20kHz
 Equivalent Input Noise: -125 dBm with no weighting
 Input channel common mode rejection: greater than 90 dB @ 20kHz
 Inputs: electronically balanced, switchable between microphone and line level inputs.
 Input Impedance: microphone- 50-600 ohms (actual 2.1k Ω), line - 40k Ω (actual 40k Ω)
 Phantom Power Voltage: +15Vdc
 Channel Attenuation/Isolation: greater than -90 dB @ 1 kHz
 greater than -80 dB @ 20kHz
 Channel cross talk: greater than -95 dB @ 1 kHz
 greater than -70dB @ 20 kHz

Master Outputs: Transformer balanced, will drive load 600 ohms or greater. (actual impedance = 160 Ω)
 Tape Outputs: Unbalanced (actual impedance = 604 Ω)
 Direct Outputs: Unbalanced (actual impedance = 604 Ω)
 Total harmonic distortion: Less than 0.1% 30Hz to 20 kHz
 Maximum Master Output level: +18dBm
 Maximum Gain: 70 dB
 Size: 1 3/4" H x 10" W x 10" D
 Weight: 9 lbs., shipping weight: 11 lbs.



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