



EAW COMMERCIAL **APPLICATIONS GUIDE**

Your Guide to Installing
EAW Commercial Audio Products



B o a r d r o o m

VOLUME #3

EAW Commercial

The New Standard in Commercial Audio

For more than 25 years, touring and installation professionals have turned to EAW for the world's finest loudspeaker systems. As well, musicians and engineers have long known Mackie for their great sounding, ultra-reliable mixers, amplifiers and speakers. So once EAW set its sights on the commercial audio market, a partnership seemed perfectly natural.

Introducing EAW Commercial

EAW Commercial is a new brand of high-performance commercial audio solutions from the professionals at EAW and Mackie. The new EAW Commercial line includes DSP matrix mixers, amplifiers, ceiling speakers, as well as a full range of loudspeakers. Ideal for permanent installations in a wide range of venues, these products provide better sound, higher flexibility and greater overall integration.

The EAW Commercial Difference

Because EAW Commercial can draw upon the world-class engineering and manufacturing resources of EAW, Mackie, SIA Software and Acuma Labs, we're able to bring cutting-edge technology to commercial audio. EAW engineers have designed digitally steerable arrays which combine our formidable digital signal processing, analog amplifier and professional loudspeaker technology into a single breakthrough product line.



However all the technology in the world doesn't mean a thing if it doesn't give your clients great sound and years of reliability. That's why all EAW Commercial products adhere to EAW and Mackie's rigorous design principles and meticulous engineering processes. Most importantly, we pay attention to all the details – like quality materials, construction, and ease of installation – so you won't have to. And thanks to our vast manufacturing resources and sheer buying power, these products give your customers a significant step-up in quality, without a step-up in price.

Now and In the Future...

Based on the solid technology and design foundations of EAW and Mackie, EAW Commercial has the experience to bring you the best performance and value in the market. We invite you to grow with us.

Modern Boardroom Utilizes Theater-Like Audio System.



In recent years, audio for the boardroom has become increasingly more sophisticated. It is not unusual for modern boardrooms to have a theater-like atmosphere for presentations utilizing surround sound and audio effects. While the intelligibility of speech for presentations is the most important element of the boardroom audio system, impressing attendees with quality audio/video runs a very close second.

In this application guide the customer wants to be able to play DVD audio with full surround sound. One could easily set up a CAM150 Mixer Amplifier with four SMS4 speakers and create an acceptable presentation system. We're going all out on this audio system because this boardroom/conference room is being designed for an ad agency that needs an impressive system to play their client's television commercials.

Master Control – Customers always want maximum versatility and the ability to grow the system as their needs change. So when the situation requires optimum flexibility, the EAW Commercial DX810 Matrix Mixer fits the bill nicely. For this installation, we'll use the DX810 to set up presets so the system can be reconfigured with the push of a button from the DXSW4 remote control. The DXSW4 remote controller allows users to go from a simple presentation using a podium microphone, to a full blown 5.1 surround sound setup with the touch of a button. In order to control all aspects of the surround system, which uses six of the eight inputs on the DX810, we'll need additional inputs to accommodate multiple microphones. A CAM150 Mixer/Amplifier can provide the extra inputs, and act as the amplifier for the ceiling speakers. By utilizing the insert points of the CAM150 Mixer/Amplifier, we can use the mixer section to provide the extra inputs without the need for a separate mixer.

Speech System – The podium microphone runs directly to the CAM150 Mixer/Amplifier, then it's routed through the insert point connection of the DX810. This will give us control of the podium microphone's volume as well as versatility in choosing which speakers are used. The CAM150 is connected to six CIS300 Ceiling Monitors running on a 100V line. We can tap them at 15 watts each, leaving us plenty of headroom on the CAM150 amplifier. The CIS300 speakers are being used mainly for speech and audio portions of the video conferencing system, so we'll position them in the ceiling above the table, slightly behind the seats. We'll now have the additional speakers for the musical presentation run through the DX810, so we can assign the podium microphone to any of these speakers as needed.

5.1 Surround Sound System – There are several options available for configuring the surround system. By running the six outputs from the DVD surround decoder through the DX810, we can control the volume, crossover points, EQ, compression, and delay of each speaker. The focus of the room is the video screen, a large centrally located plasma display which becomes the "front" of the room regardless of where attendees are seated at the table.

For the front left and right speakers we will use two VR62 loudspeakers run by a CAZ800 amplifier set to "stereo" mode. A second CAZ800 will power two VR61



speakers for the left and right rear placements. A CAZ1400 set to “stereo” mode will feed the center speaker (another VR61) and the VRS12 subwoofer.

Video Conferencing – Audio from the video conferencing system will be routed to the DX810, where it can then be sent to any of the speakers. Generally the video conferencing audio will be sent to the ceiling speakers for equal distribution throughout the room. In this setup, the video conference hardware will not send the outgoing audio back to the input of the DX810, so audio feedback will not be a concern. The EQ and compression in the DX810 can be utilized to improve the quality and intelligibility of the incoming signal. Any microphone or combination of microphones can be used for the outgoing audio. A simple recording device can be fed with both portions of the audio for logging the meeting.

Now, our ad agency will be able to maximize the “wow” factor of their surround system, serving their customers with an impressive, larger than life sound. The versatility of this system is a major factor, as it can be changed instantly from a theater-type presentation, to a conference room meeting with a simple push of a button on the DXSW4 remote wall panel.

INSTALLATION NOTES:

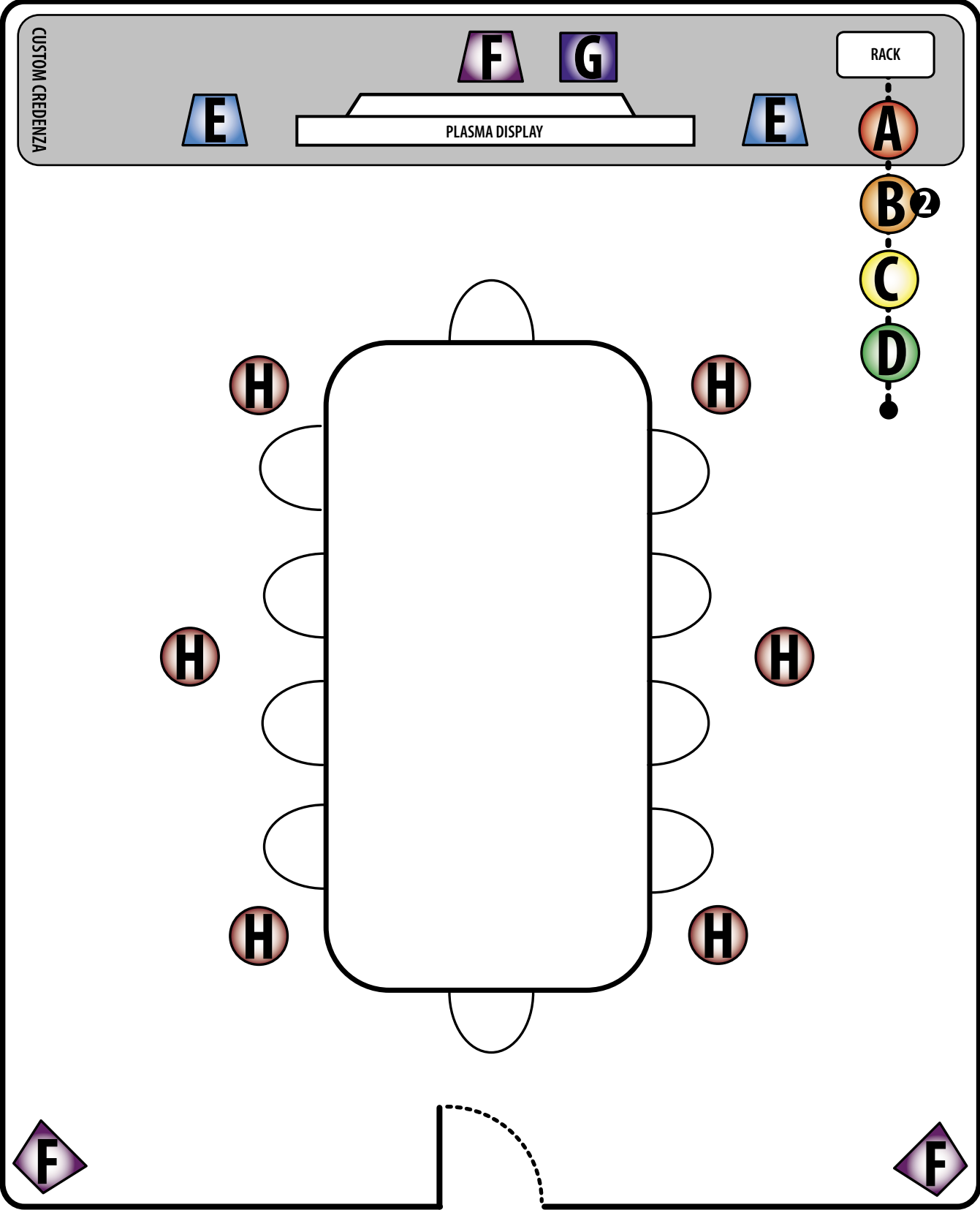
Loudspeaker Placement – Determining the number of speakers needed in a particular installation is not always an easy task. Attempting to apply various published formulas can often mislead the designer into believing that everything will come out sounding fine if they just follow the formula. Note that our Applications Guide doesn’t specify ceiling height, listener positions, required SPL levels or other major variables needed for the best sounding system. Consult a professional sound installer for best results.

Wattage Allotments – Our Applications Guide uses both low impedance systems and constant voltage systems. Choosing an amplifier for a 100V system is easy—just add up the number of transformer taps you want to use on each speaker. For example, eight CIS400 ceiling speakers tapped at 7.5 watts would ask for 60 watts. A simple rule of thumb is to allow 20% more wattage than needed to handle variations in volume and material.

The benefits of using a distributed 100V system is that each speaker only pulls the amount of wattage assigned it on the transformer taps, so you can add many speakers to a single amplifier without having to calculate the maximum impedance. You only have to pay attention to the wattage maximum. You can also mix and match different tap settings to configure select speakers louder in volume than other speakers in the same system.

This Applications Guide was created by EAW Commercial to demonstrate a basic sound system application using EAW Commercial products. As such, we do not include details such as room dimensions, ceiling heights, building materials, types of use, etc. — all of which will have a profound affect on the total system performance.

Boardroom Floor Layout



DIGITAL MATRIX MIXER

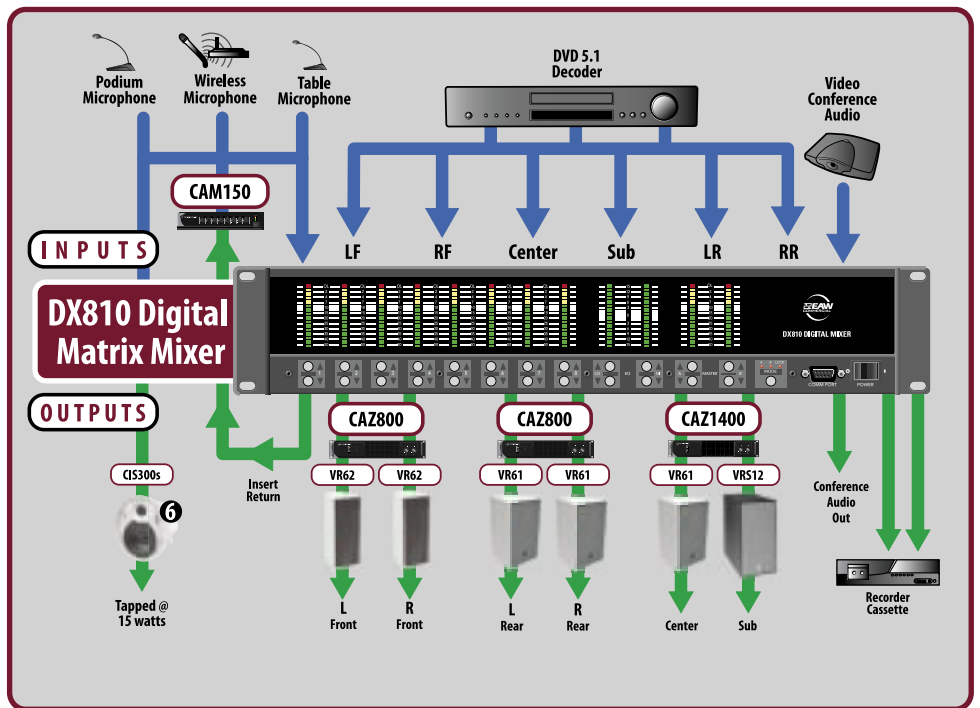
The DX810 Digital Matrix Mixer provides DSP-based digital audio mixing and processing for use in a variety of sound installations.

A



DX810

- 31-band Graphic EQ combined with a 8-band Parametric EQ
- Variable compressor available on each Output
- True Room combining capability (up to 16 combinations)
- Mute/Enable logic for each Input, output and group
- Password security levels
- PC Software application included



AMPLIFIERS

The CXA, CAM and CAZ Series Amplifiers are designed for continuous duty in speech, music, paging, and sound reinforcement applications that demand high performance, flexible features, and rugged dependability.

CAM SERIES AMPLIFIERS: The perfect solution for installations that may require the mixing of several audio sources prior to amplification and distribution throughout a venue.

D

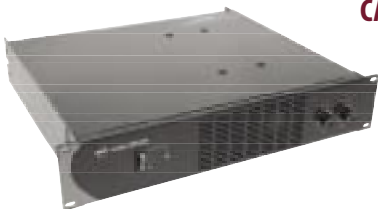


CAM150

- 150W RMS
- 4 balanced XLR microphone/line inputs
- 4 Ohm – 25V – 70V – 100V Outputs
- 1 stereo auxiliary input
- Switched 24V phantom
- Signal processing loop
- Voice priority function
- Automatic 24DC back-up power input

CAZ SERIES AMPLIFIERS: Where low-impedance systems are desired, the CAZ Series offers the flexibility of three different power points.

B



CAZ800

- 800W @ 4 Ohms bridged
- Easily switchable mono/stereo/bridged mono operating modes
- Separate outputs for channel A and channel B
- Third output for mono bridged applications: also provides both output channels on a single connector
- 30Hz subsonic filter for low-frequency speaker protection

C



CAZ1400

- 1400W @ 4 Ohms bridged
- Easily switchable mono/stereo/bridged mono operating modes
- Separate outputs for channel A and channel B
- Third output for mono bridged applications: also provides both output channels on a single connector

CEILING SPEAKERS

The CIS Series Ceiling Mount Speakers offer multiple solutions for applications requiring superior audio reproduction. Designed for basic paging and background music, the CIS Series Ceiling Mount Speakers provide an economical solution.

H



CIS300

- Waveguide-loaded 1" tweeter
- 4" LF Driver
- Integrated mounting systems
- Built-in switchable high-pass crossover
- 30 watt, 70/100V transformer built-in
- 16-ohm setting
- Includes mounting hardware
- UL/cUL/CE listed

SOUND REINFORCEMENT SPEAKERS

The VR Series Sound Reinforcement Speakers provide exceptional fidelity in foreground music applications, and are very suitable as main loudspeakers. VR Series HF horns maintain directivity, and their rugged enclosures come with user-supplied mounting hardware. Available in both black and white finishes.

E



VR62

- 2-way, full range loudspeaker
- Two 6" LF, 1" exit HF
- Rotatable HF horn allows beamwidth to be orientated as required
- Operating Range: 75Hz to 18kHz
- Power Handling: 300 watts at 8 ohm
- 90° x 60° HF beamwidth
- Barrier strip input
- Economical single amp operation
- Integrated 1/4" 20 mounting points
- Optional transformer module available for 70V and 100V applications

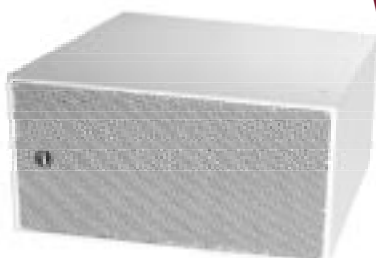
F



VR61

- 2-way, full range stage monitor
- 6" LF, 1" exit HF
- Rotatable HF horn allows beamwidth to be orientated as required
- Operating Range: 75Hz to 18kHz
- Power Handling: 300 watts at 8 ohm
- 90° x 60° HF beamwidth
- Barrier strip input
- Economical single-amp operation
- Integrated 1/4" 20 mounting points
- Optional transformer module available for 70V and 100V applications

G



VRS12

- 12" subwoofer
- Operating Range: 30Hz to 250Hz
- Power Handling: 500 watts at 8 ohm
- Barrier strip input
- Appropriate for applications where maximum LF extension is required
- Integrated 3/8" 16 mounting points



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