BIAMP®

PRODUCT AND APPLICATIONS BULLETIN

FILE: Section 3 [Applications]

PRODUCTS: NEXIA™ PM - Presentation Mixer DSP
Select 8 - Remote Control Bus Device
Volume / Select 8 - Remote Control Bus Device
MCA8050 - Multi-Channel Amplifier

APPLICATION: Presentation rooms with remote control of sources and volume.

REQUIREMENTS:

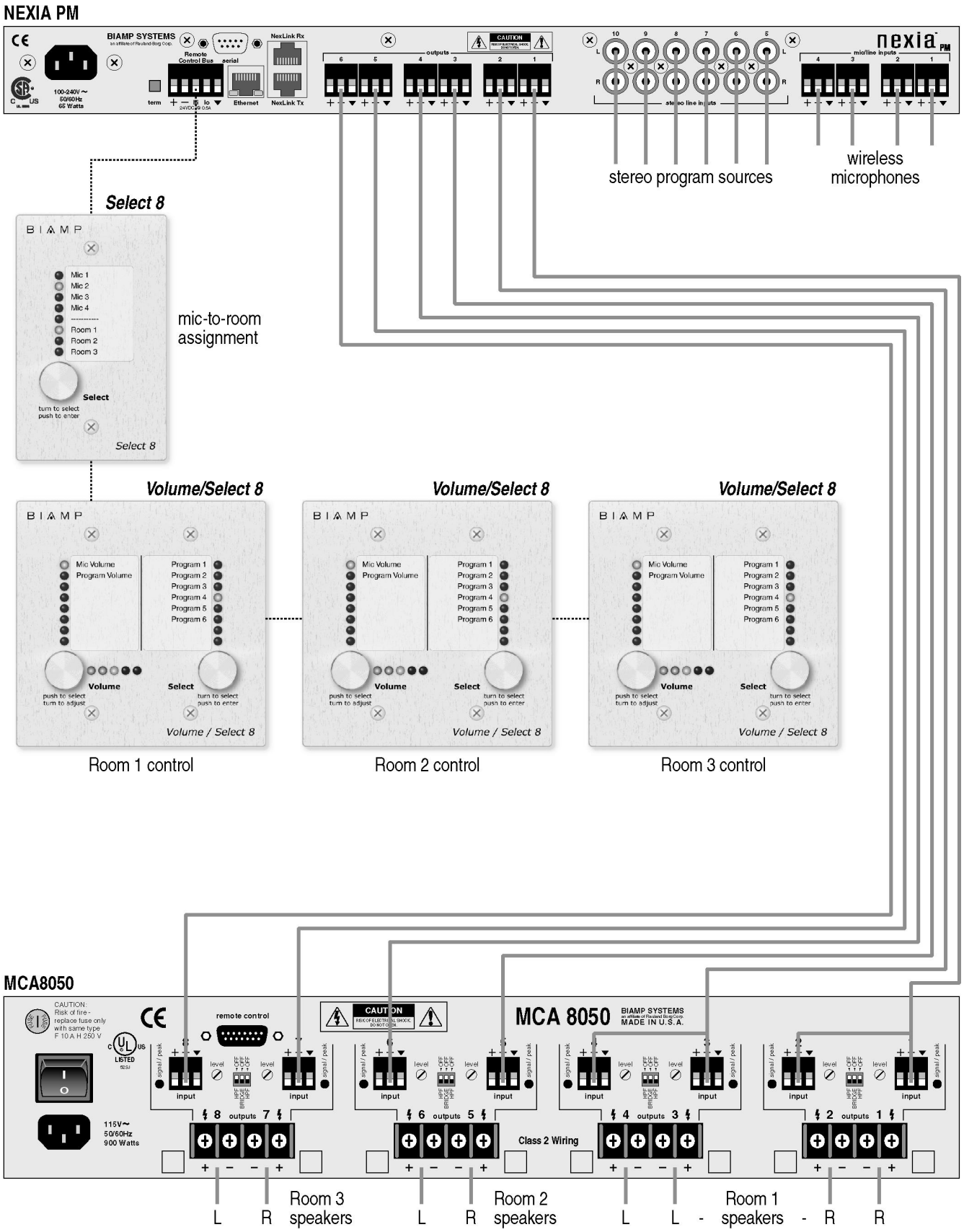
- Sound reinforcement and control in three independent presentation rooms
- Four wireless microphones assignable to the individual presentation rooms
- Program selection, from six sources, in each of the presentation rooms
- Remote control panels for mic assignment, program selection, and volume

PRODUCT OVERVIEW:

NEXIA PM is a digital signal processor with 4 mic/line inputs, 6 stereo line inputs, and 6 line outputs. Intended for multi-media presentation applications requiring both microphone and program content, NEXIA PM includes a broad selection of audio components, routing options, and signal processing. The internal system design is completely user definable via PC software, and can be controlled via dedicated software screens, RS-232 control systems, and/or a variety of optional remote control devices. Multi-unit NEXIA systems can be created utilizing Ethernet and NexLink™ digital audio linking.

Select 8 is a rotary encoder panel, which allows initiation of eight or more selectable NEXIA actions. *Volume/Select 8* is a rotary encoder panel, which allows adjustment of eight or more selectable NEXIA volumes, and initiation of eight or more selectable NEXIA actions.

MCA8050 is a multi-channel amplifier, providing eight outputs of 50 watts each into 4 ohms. Channels may be bridged in pairs for higher combined wattage. Connections are provided for remote control of channel levels & muting. Internal transformers are available for 25/70/100V speaker systems.


NEXIA PM
BIAMP SYSTEMS
100-240V ~ 50/60Hz 65 Watts
Remote Control Bus
serial
Ethernet
NexLink Rx
NexLink Tx
outputs
stereo line inputs
mic/line inputs
nexia PM
stereo program sources
wireless microphones
Select 8
Mic 1
Mic 2
Mic 3
Mic 4
Room 1
Room 2
Room 3
Select
turn to select
push to enter
mic-to-room assignment
Volume/Select 8
Mic Volume
Program Volume
Program 1
Program 2
Program 3
Program 4
Program 5
Program 6
Volume
push to select
turn to adjust
Volume / Select 8
Room 1 control
Room 2 control
Room 3 control
MCA8050
CAUTION: Risk of fire - replace fuse only with same type F 10 A H 250 V
remote control
MCA 8050
BIAMP SYSTEMS
MADE IN U.S.A.
input
level
signal / peak
115V~ 50/60Hz 900 Watts
Class 2 Wiring
Room 3 speakers
Room 2 speakers
Room 1 speakers
L
R

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APPLICATION EXAMPLE:

This application describes the use of NEXIA PM in presentation rooms. This is a stand-alone system utilizing a single NEXIA PM *(four mic/line inputs, six stereo inputs, six line outputs)*. An example system design, as created using NEXIA software, is shown on the back page.

Four wireless microphones are connected to inputs 1~4. Six program sources are connected to inputs 6~10. Outputs 1~6 are configured as stereo feeds to an MCA8050 multi-channel amplifier, which is driving speakers in three separate rooms. Rooms 2 & 3 each use two speakers *(Left & Right)*. Room 1 is larger and uses four speakers *(two Left & two Right)*. Each MCA8050 channel drives one speaker, with Room 1 *(Right)* signal fed to both channels 1 & 2 and Room 1 *(Left)* signal fed to channels 3 & 4.

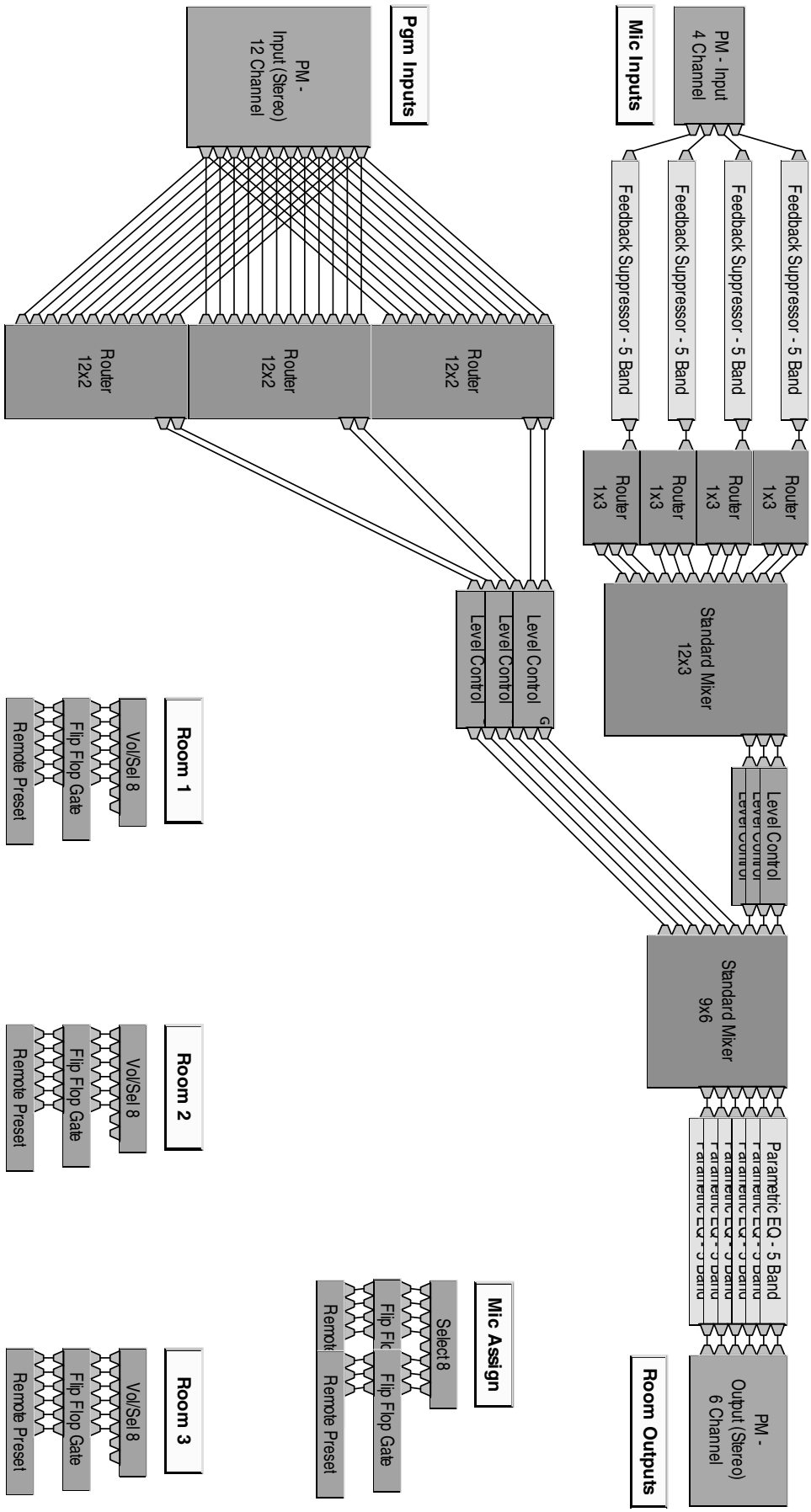
In the system design file, each of the four wireless microphones is fed through a Feedback Suppressor *(5-band)*. This prevents feedback regardless of where the mic is being used. Each mic signal is then fed to a Router *(1x3)*, allowing for 'mic-to-room' assignment. Outputs of all four Routers are then fed to a Standard Mixer *(12x3)*, which mixes the Router outputs to their corresponding rooms. Once the mic signals are routed and mixed to specific rooms, they pass through Level Control blocks to allow remote control of volume. From there, they enter another Standard Mixer *(9x6)*, where they are mixed with the selected stereo program signal for that room.

The six stereo program sources are fed to three separate Routers *(12x2)*, one for each room. This allows independent program selection in each room. As with room mic signals, the room program signals also pass through Level Control blocks. Program signals are stereo, so each of these Level Control blocks has two channels with 'ganged' control. Room program signals then mix with room mic signals at the Standard Mixer, before receiving Parametric EQ *(5-band)* on their way to the respective room outputs.

A *Select 8* panel and three *Volume/Select 8* panels are connected to the NEXIA PM Remote Control Bus. The *Select 8* panel allows 'mic-to-room' assignment from a central location. The three *Volume/Select 8* panels allow control of microphone and program signals within each room.

In the system design, the *Select 8* is connected to two sets of Flip Flop Gate and Remote Preset blocks. The first Remote Preset block recalls presets associated with the individual microphones. These presets are designed to affect only their Flip Flop Gate block *(Mic 1~4 indicators)* and the second Remote Preset block *(Room 1~3 assignments)*. The second Remote Preset block recalls room assignment presets, which are designed to affect only their Flip Flop Gate block *(Room 1~3 indicators)* and the respective 'mic-to-room' Routers. The available room assignment presets change, depending upon which microphone preset is selected. This allows the *Select 8* to provide two 'pages' of operation. The user first selects a specific microphone, then selects the desired room assignment for that microphone. Multiple microphones may be assigned to the same room. Example: Mics 1~3 might be assigned to Rooms 1~3 respectively, with Mic 4 being used for assignment as a second microphone in any room.

Each *Volume/Select 8* panel is connected its own set of Flip Flop Gate and Remote Preset blocks. The Remote Preset block recalls presets associated with program source selection in that room. These presets are designed to affect only their Flip Flop Gate block *(Program 1~6 indicators)* and the respective 'program-to-room' Router. Each *Volume/Select 8* block also has two volume functions assigned to it via the Control Dialog Box. The first volume function is assigned to the Level Control block for microphone signals in that room, and the second volume function is assigned to the 'ganged' Level Control block for stereo program signal within that room.


Mic Inputs
PM - Input 4 Channel
Feedback Suppressor - 5 Band
Feedback Suppressor - 5 Band
Feedback Suppressor - 5 Band
Feedback Suppressor - 5 Band
Router 1x3
Router 1x3
Router 1x3
Router 1x3
Pgm Inputs
PM - Input (Stereo) 12 Channel
Router 12x2
Router 12x2
Router 12x2
Standard Mixer 12x3
Level Control
Level Control
Level Control
Standard Mixer 9x6
Parametric EQ - 5 Band
Room Outputs
PM - Output (Stereo) 6 Channel
Mic Assign
Select 8
Flip Flop Gate
Remote Preset
Room 1
Vol/Sel 8
Flip Flop Gate
Remote Preset
Room 2
Vol/Sel 8
Flip Flop Gate
Remote Preset
Room 3
Vol/Sel 8
Flip Flop Gate
Remote Preset

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