Room Audio Director

RAD -30A

OVERVIEW

The RAD-30A is the latest addition to the popular RAD (Room Audio Director) series currently manufactured by Communications Company, Inc. and installed in expandable meeting rooms throughout the world. Like its predecessors, the **RAD-20** and **RAD-30**, the **RAD-30A** furnishes an audio status control in each meeting room.....at the touch of a button. While the **RAD-20** provides for the combining of three (3) rooms (the **RAD-30** provided combination of eight [8]), the **RAD-30A** is capable of controlling twelve (12) meeting rooms in any combination.

Using thirteen(13) membrane switches, which include six (6) **combine** busses, the **RAD-30A** gives local in-room control of background **MUSIC** (ON/OFF), **MUSIC VOLUME UP, MUSIC VOLUME DOWN** and, **PAGE ON/PAGE OFF**. **LOCAL** program volume is controlled by the mixer/amplifier (supplied by the contractor) associated with each room.

Any **ROOM CONTROL PANEL**, combined on the same buss with other **RCP's**, may be designated as that combination's **MUSIC MASTER** for convenient control of music and page.

SYSTEM COMPONENTS

The basic RAD-30A system, as supplied by the factory, is comprised of:

A. One (1) Master Logic Module (MLM) (See Figure 1)
B. Room Control Panels (RCP)-minimum of one (1) required for each room to be combined (See Figure 2)
C. Daughter-boards - minimum of one (1) required for each room to be combined (expandable to twelve [12])

COMPONENTS REQUIRED FOR FUNCTIONAL SYSTEM

One (1) Master Logic Module (MLM); located at equipment rack
Two (2) or more Room Control Panels (RCP): minimum one (1) for each room to be combined
Integrated Mixer/Amplifier: minimum one (1) for each room to be combined
Speakers: as required for the room
Page source(s): Maximum two (2)
Music source: Maximum one (1)

COMMUNICATIONS COMPANY inc.

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Specifications

Room Control Panel (RCP)

Type: One each control panel to be located in each room
Switching: Membrane type
Switching logic: Solid state CMOS logic
Control logic: Solid state CMOS logic driven with one (1) bi-directional serial line and powered over one(1) pair of wires from the MLM (+5 Vdc)
Connection barrier: Screw terminals
Dimensions: Front Panel - 12" x 12"
Wall mounting requirements:
H 10 1/2", W 10", D 4 5/8"
Color: Front panel: textured off-white;
Switch panel: black
Weight: 4.5 lb.

Master Logic Module (MLM)

Type: Room Combining Amplifier
Frequency response: 40 Hz to 15 KHz ± 1 dB
Gain: Unity
Inputs: Twelve (12) balanced transformer inputs from mixers.
One (1) balanced input for music.
Two (2) balanced inputs for page.
Input impedance: 15K Ohm bridging
Input level controls: Continuously variable potentiometers for music and page inputs.
Input level: 0 dBv nominal
Outputs: Twelve (12) unbalanced outputs
Output source impedance: 600 Ohms
Maximum output: +14 dBm into 600 Ohms
Total harmonic distortion: .01% THD @ 1Khz '0'dBm
Signal to noise: 72 dB
Control input: 24 Vdc page key, optically isolated
Logic circuitry: Solid state CMOS logic, no relays
Connectors: Barrier-type screw terminals
Dimensions: Front panel - 5 1/4" x 19"
Rack mounting requirements -
H 5 1/4", W 17", D 14 3/4"
Power requirements: 120 Vac, 50/60 Hz, 40 Watts
Color: Black (front panel)
Weight: 28 lb. with (twelve [12] daughter boards)

Built In Diagnostics

The RAD-30A system, because it is microprocessor based, contains extensive self-test diagnostics in ROM. These diagnostics will enable the technician to quickly locate and correct a problem. **The diagnostics are only accessible to the factory, NOT the customer.** There are, however, power up diagnostics and a LED on the MLM to indicate to the user if the system is operational.

Basic System wiring requirements

Each RCP requires three (3) conductors one (1) pair/ shielded, [shield used as 3rd conductor], 20 awg. is recommended] to be home run to the MLM. For convenience in large rooms, multiple RCP's may be paralleled using the shielded pair; but, only ONE (1) RCP at a time can act as the "MASTER" for that location. Strip terminals on the rear panel of the MLM accommodate:

a) One (1) "Audio In" (balanced)
b) One (1) "Audio Out" (unbalanced)
c) One (1) "Control Panel" (balanced) for each of the twelve (12) RCP's; plus two (2) balanced page sources - "Page 1" / "Page 2"; and one (1) balanced "Music" source.

(NOTE: USE INDUSTRY STANDARDS FOR DETERMINING WIRE GAUGE BETWEEN MIXERS/POWER AMPLIFIERS AND THE MLM.)

Recommended associated equipment

Automatic/Manual mixer: (see Note [1])
one (1) for each room to be combined
1/3 octave equalizer: (see Note [2])
one (1) for each room to be combined
Power amplifier:
one (1) for each room to be combined

Note [1]: Optimum results have been obtained using an automatic mixer in those rooms requiring four (4) or more microphones.
Note [2]: Allows a greater working distance between the program source (person speaking) and the microphone by controlling feedback.

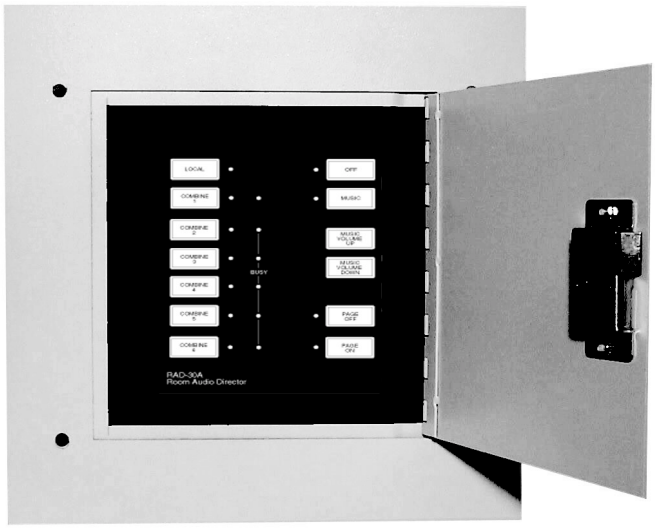
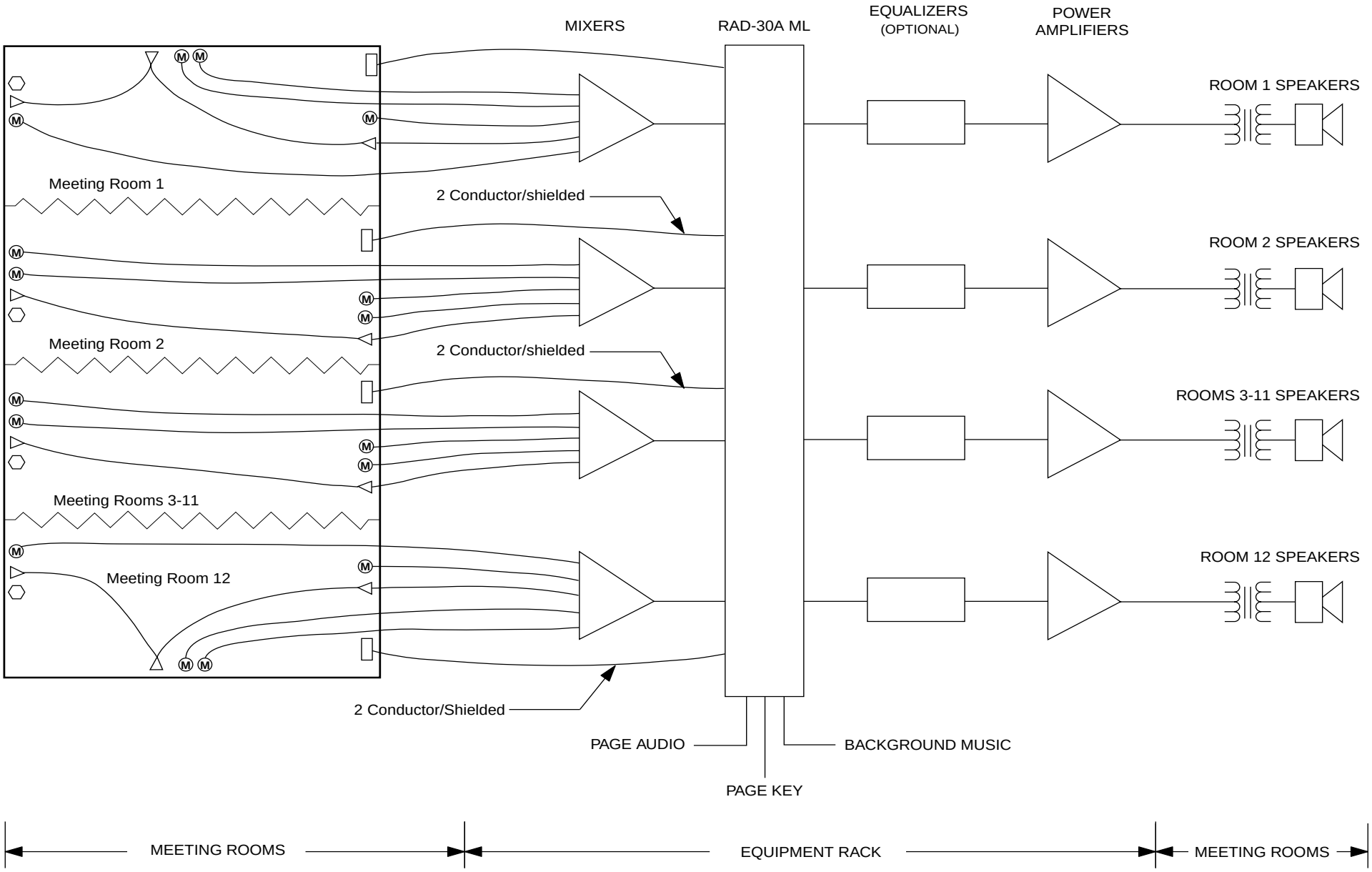


Figure #3
Lockable in-wall mounting panel supplied with each RCP

Specifications subject to change without notice



M MICROPHONE RECEPTACLE

AUX, LINE LEVEL RECEPTACLE

RP-3030 RECORD PATCH

RAD-30A CP ROOM CONTROL PANEL

If the philosophy shown on the block diagram is followed concerning the location of both microphones and auxiliary inputs, the meeting planners and catering people will love your system. This system will handle complex audio visual presentations using outside vendors with operators and unattended less sophisticated systems with equal success. Also, we recommend including one of our RP-3030 recording patch adapters in each room. This greatly increases the systems's usefulness to the owner.