



MCS™ ROOM COMBINING SYSTEM



ROOM PANEL

- Room volume control, local source and background music select switches
- Synchronizes with other Room Panels when rooms are combined



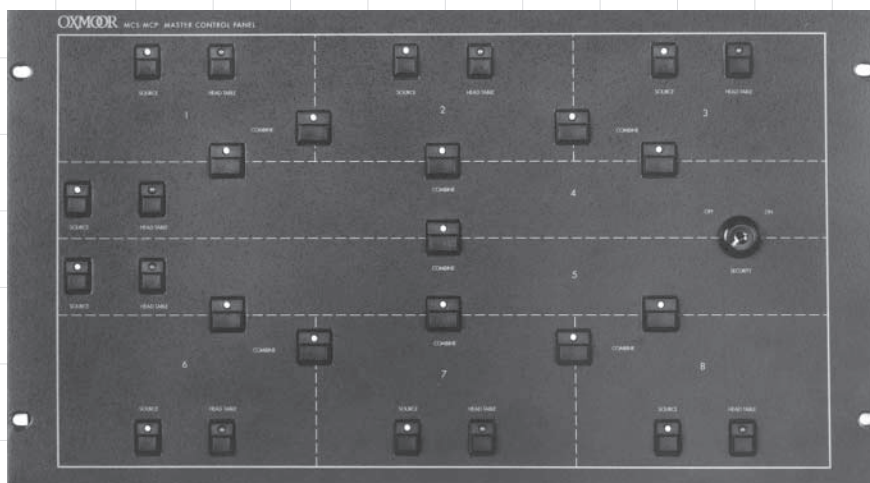
MAINFRAME

- PA-422 communication interface
- Non-volatile memory
- Combine any combination of eight rooms



MASTER VOLUME PANEL

- Volume control and source selection for each room at a remote location



TYPICAL MASTER CONTROL PANEL

- Custom screened for your specific room configuration
- Combine, source and head-table switches for each zone
- Field-programmable
- PA-422 communication interface



INTERFACE BOX

- Converts combine, source and head-table switch closures to PA-422 signals that can communicate with the Mainframe

Now it's easy to combine rooms in ways they once said couldn't be done. And while you get all the control flexibility you've dreamed of, user operation is incredibly simple and intuitive. In fact, the MCS Room Combining System lets you combine the audio and synchronize the local volume controls of any combination of eight rooms; up to eleven different possibilities — even if they are not adjacent.

The power behind all of this control flexibility lies in the MCS System's on-board microprocessor systems — powerful, yet easily field programmable to virtually any combining configuration.

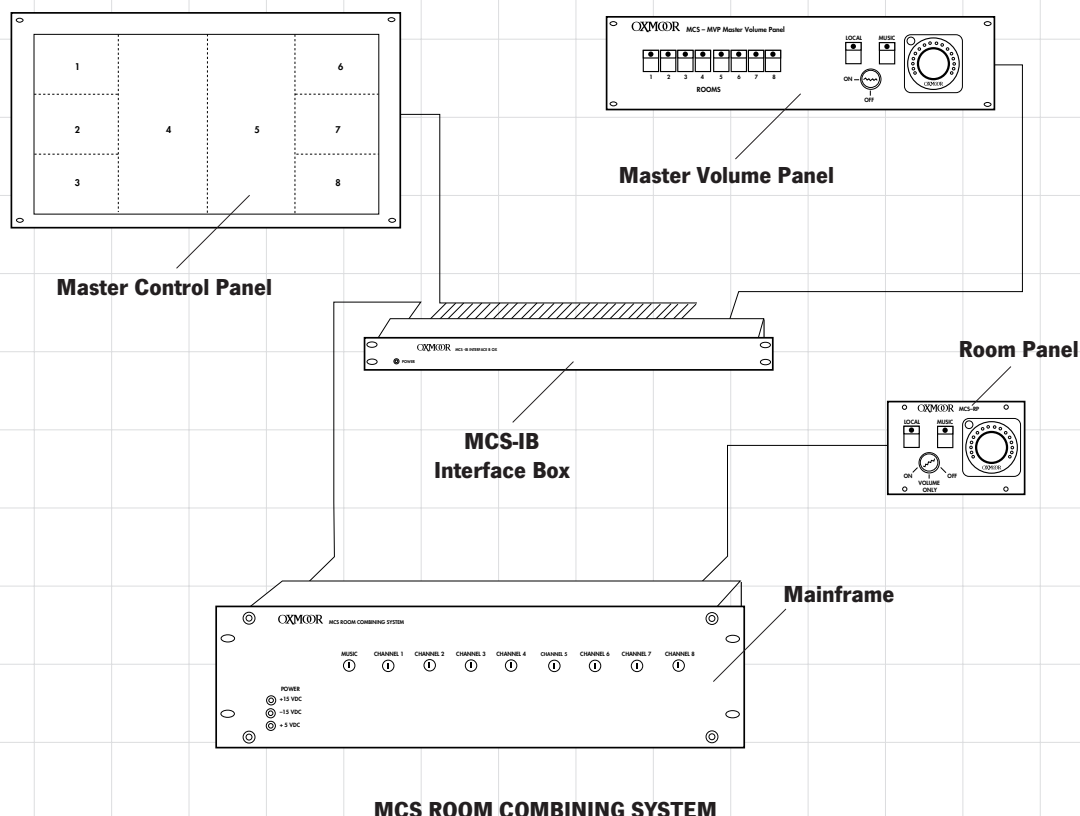
Power and simplicity are there in every user function as well. Oxmoor's custom-screened Master Control Panel shows the floor plan of the rooms that may be combined. Combine, Source and Head-Table switches are intelligently positioned to indicate their functions at a glance.

For each room, MCS-RP Room Panels feature our innovative RC-16 Volume Control and its unique "Virtual Pointer™" LED. Simple push switches

allow selection of a local sound source (such as a mixer), background music or neither. And since volume settings for a local source and background music are apt to be different, the last volume setting of each is stored in memory and recalled when switching between the two.

While easy to operate, the MCS System simplifies system design and installation as well. MCS control components communicate with each other using PA-422 protocol, allowing lengthy cable runs, easy installation and a minimum number of conductors. Master control of the MCS System may come from Oxmoor's Master Control Panel or another PA-422 controller. An MCS-IB Interface Box can be used to allow control by contact closures, converting them to PA-422 signals.

Just as important as ease of operation is effective system security. Tampering with the MCS System is prevented by key switches at the Master Control, Master Volume and Room Panels. And in the event of a power failure, a non-volatile memory will preserve system settings.



MCS SYSTEM COMPONENTS

MASTER CONTROL PANEL

The 6 rack-unit (10.50") MCS-MCP Master Control Panel, custom-designed for your specific configuration, is the primary user interface to the system.

MASTER VOLUME PANEL

A 2 rack-unit (3.50") MCS-MVP Master Volume Panel provides volume control and source selection functions for each room at a remote location.

INTERFACE BOX

The 1 rack-unit (1.75") MCS-IB Interface Box provides the interface between a control device using contact-closures, such as the MCS-MCP Master Control Panel, and the MAINFRAME.

ROOM PANEL

The 3 gang MCS-RP Room Panel provides a means to adjust local volume and to assign either a local source or a background music source to the room.

MAINFRAME

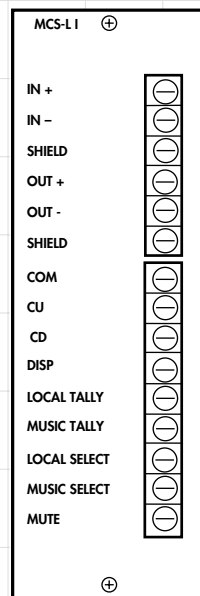
This 3 rack-unit (5.25") chassis houses a power supply plus three types of plug-in cards. These include MCS-LI Line Input card for each room to be combined, a MCS-LC Logic Card, and one MCS-CC Control Card.

MAINFRAME MODULES

MCS-LI Line Input Card

An MCS-LI Line Input Card is used for each zone or room to be combined. The Line Input card provides barrier strips for balanced audio inputs and outputs, remote volume control, and LOCAL and MUSIC SELECT with TALLY indications. A trim pot, accessible from the front panel, may be used for audio input level adjustment.

MCS-LI Line Input Card



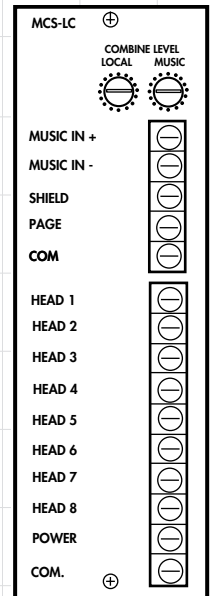
MCS-LC Logic Card

When rooms are combined, all volume controls in the combined rooms default to a preset level. The preset levels may be set using the COMBINE LEVEL LOCAL and MUSIC attenuators on the MCS-LC Logic Card.

Also included on the Logic Card is a balanced MUSIC input that can be used for background music sources and paging. A volume control, accessible from the front panel, allows level adjustment of this input.

The Logic Card provides PAGE logic connections for paging overrides. Rooms which have MUSIC selected on their Room Panel will default to the MUSIC preset level when the PAGE logic is used.

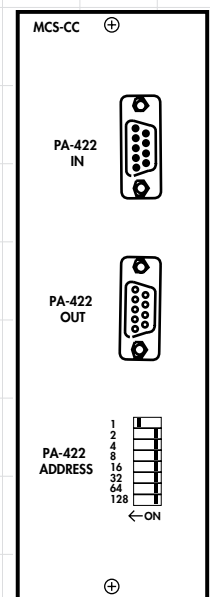
Also on the Logic Card, screw terminal blocks provide HEAD-TABLE switching logic for relay muting of speakers over a head table location.



MCS-LC Logic Card

MCS-CC Control Card

Communication between a controller and the MCS-LC Logic Card in the system Mainframe follows PA-422 protocol. The MCS-CC Control Card provides loop-through connections and address selection for PA-422 devices.



MCS-CC Control Card

MCS-MCP MASTER CONTROL PANEL

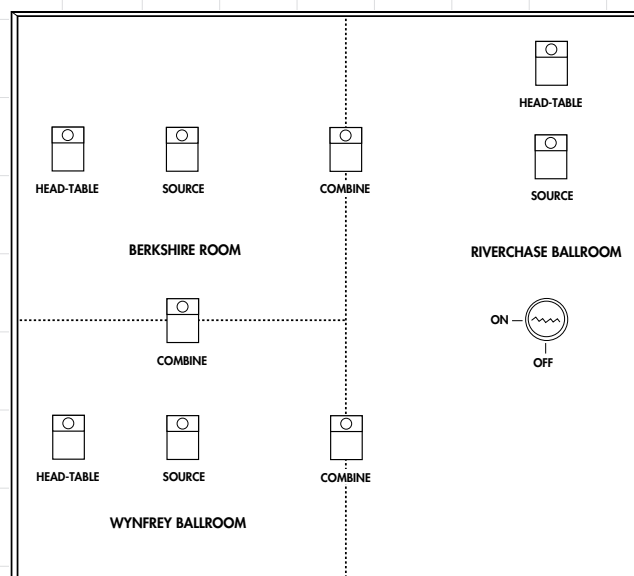
Oxmoor's custom Master Control Panel is designed to be a user interface to the MCS System. Thanks to the panel's highly intuitive layout, even an unskilled operator can see at a glance how to operate the MCS system. Its simplicity results in less time spent in training, retraining and costly call-backs.

The Master Control Panel presents the user with a graphic representation of the layout of the rooms which may be combined. The position of each switch on this "floor plan" tells the operator exactly which room or rooms will be affected by its activation. Each push-button switch includes an LED TALLY indicator to display its current status.

There are three types of functions that may be performed at the Master Control panel:

1. Room combining
2. Source selection
3. Head-table speaker muting

A key switch allows the user to secure all Master Control Panel functions, preventing unauthorized personnel from tampering with system settings.



TYPICAL MCS-MCP MASTER CONTROL PANEL SECTION

COMBINE Button

The position of each switch on the Master Control Panel's room map makes system operation highly intuitive. To COMBINE two rooms, for example, the operator simply pushes a button marked COMBINE that lies at the intersection of the two rooms. This combines the inputs of the selected room's amplifiers and causes all MCS-RP Room Panels in the combined rooms to be synchronized.

SOURCE Button

Each room on the Master Control Panel may also include a SOURCE button. Combining two or more rooms causes the audio SOURCE in each room to default to LOCAL (usually a mixer) and the LOCAL SOURCE to become "active", or added to the potential overall mix. Sources may be deleted or added again with the SOURCE button. With each push, the SOURCE button "toggles" between on (source available) and off (source disconnected). An LED on each button illuminates to show its status.

The SOURCE function may be used to increase the number of available inputs or to allow access to inputs at a variety of locations within the combined rooms. Unused sources may be switched off to avoid any chance of accidental interference.

HEAD-TABLE Button

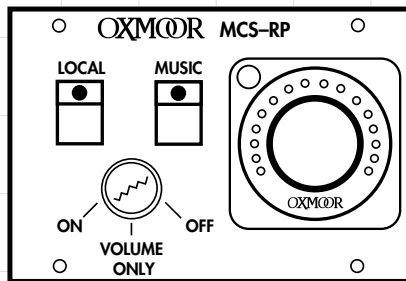
A HEAD-TABLE switch may be present in each room on the panel layout. This button provides the means for switching logic to control external circuits for muting speakers over a head-table location in the room indicated. The HEAD-TABLE switch controls open-collector outputs for driving relays, provided by others. Each push of the button toggles the outputs between an on and off state. An LED on the HEAD-TABLE switch displays its status.

MCS-RP ROOM PANEL

A typical MCS system includes a wall-mounted MCS-RP Room Panel in each room or zone to be combined. The rotary volume control is Oxmoor's well-established RC-16, which features a unique "Virtual Pointer™" LED array. Push-button switches allow the user to select background MUSIC, LOCAL sound source (usually a mixer) or OFF. And since volume settings for a local source and background music are apt to be different, the last volume setting of each is stored in memory and recalled when switching between the two. When rooms are combined, all functions on their Room Panels become synchronized.

A lockable key switch on the MCS-RP Room Panel offers three levels of user-selectable security over the panel's functions. All three panel controls may be used when the switch is in the ON position. When locked in the VOLUME ONLY position, the volume control is operable; the LOCAL and MUSIC select switches are secured. The OFF position secures all panel controls against unauthorized tampering.

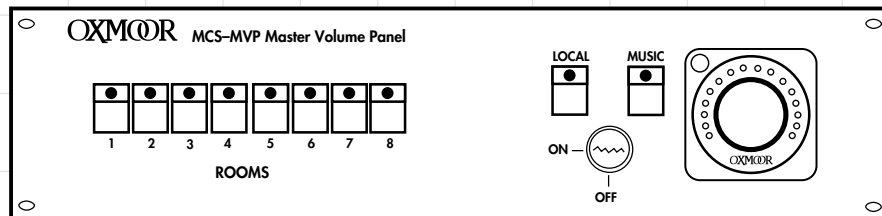
MCS-RP ROOM PANEL



MCS-MVP MASTER VOLUME PANEL

Designed to be located near the Master Control Panel, the rack-mounted MCS-MVP Master Volume Panel provides synchronized remote control of any MCS-RP Room Panel. A key switch makes panel security simple.

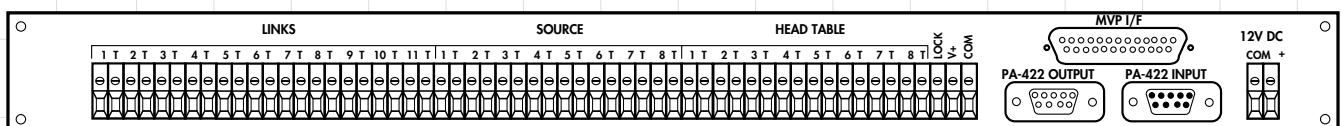
**MCS-MVP
MASTER VOLUME
PANEL**



MCS-IB INTERFACE BOX

Any MCS system which utilizes contact-closure controls and/or uses an Oxmoor Master Volume Panel requires an Interface Box. The Master Control Panel includes the Interface Box as an integral part of its assembly.

Oxmoor's MCS-IB Interface Box serves as an interpreter to convert contact closures to PA-422 signals that can communicate with the MCS Mainframe. Screw terminal blocks are provided for COMBINE, SOURCE, and HEAD-TABLE lines, LED TALLY indicators and security switching.



MCS-IB INTERFACE BOX REAR VIEW

MCS SYSTEM SPECIFICATIONS

AUDIO IN	Type Electronically Balanced (RF Suppressed) Connectors Screw Terminal Blocks Input Impedance 80 k Ohms Maximum Input Level +24 dBu
AUDIO OUT	Type Electronically Balanced Connectors Screw Terminal Blocks Source Impedance 20 Ohms (10 Ohms Each Side) Maximum Output Level (Ref. 1 kHz @ rated THD) Terminated w/600 Ohms +18 dBm Unterminated +26 dBu
FREQUENCY RESPONSE	20 Hz to 20 kHz +0, -0.3 dB -3 dB Points, Ref. 1 kHz 4 Hz to 70 kHz (+4 dBm Output)
HUM AND NOISE	Ref. +4 dBm Output @ Unity Gain -85 dB (20 Hz to 20 kHz, Unweighted)
DISTORTION	Total Harmonic (THD + NOISE) Ref. +4 dBm Output @ Unity Gain -80 dB/0.01% (20 Hz to 20 kHz) Ref. +4 dBm Output @ Unity Gain: SMPTE IMD -80 dB/0.01% Transient IMD -80 dB/0.01%
CROSSTALK & OFF ISOLATION	Channel to Channel -85 dB (@ 1 kHz) Driven Input to Off Output -85 dB (@ 1 kHz)
TRIM POT GAIN RANGE	Ref. 0 dBu Output ± 15 dB
VOLUME CONTROL	Type Oxmoor's RC-16 Connector Screw Terminal Blocks
LOGIC	Connector Screw Terminal Blocks Input Type Active Low, Internally Pulled Up Input Protection 1/2 Max. Line Voltage, 12 kV Static Logic Action Momentary Closure to Common Logic Levels (at Terminal Block) Low < .8 Volts, High > 2.4 Volts Maximum Sink Current 1 mA Maximum Cable Length 600m (2000 ft), #22 AWG
TALLY	Connector Screw Terminal Blocks Output Type Open-Collector Darlington to Common Max. Sink Current 500 mA Max. Voltage 50 VDC
<i>Specifications subject to change without notice.</i>	
