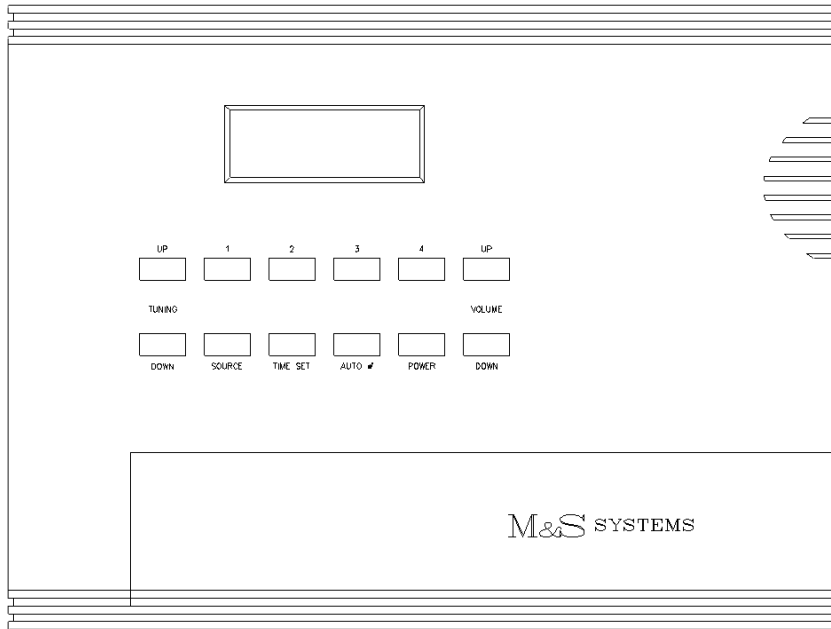

M&S SYSTEMS
Model MC602
Master Unit

Owner's Guide

This booklet contains the information you need to get the most from your musical intercom system. It also tells you what to do if your system develops operating problems, and contains applicable statements of warranty. Keep this booklet for future reference.



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M&S SYSTEMS, INC.
A NORTEK COMPANY

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MC602 FEATURES

Congratulations! Your new Model MC602 is a state of the art Music Center that provides Hands Free Room to Room communication throughout your house as well as furnishing AM, FM, or auxiliary source audio. An optional door chime can be integrated into the system to provide door communication with automatic music muting. The MC602 contains a Digital Clock with a back-up power supply that never needs replacing. It maintains the correct time and presets for up to 2 hours during a power outage.

The Hands Free communications allows every station in the house to initiate a call and then to listen for the response. The call initiator does have to press TALK and LISTEN but the person responding does not need to press any buttons. The door is even easier to answer with Automatic Hands Free communications from any station. The system automatically listens to the door after you talk to it.

The state of the art transreflective LCD display and power conserving backlight can be read in any lighting condition from direct sunlight to complete darkness. The unit provides excellent fidelity for up to 15 rooms with plenty of power. The MC602 has a Digital Phase Lock Loop Tuner with 8 AM and 8 FM Station Presets. The MC602 also has two external source inputs (AUX IN and TAPE IN) and one line output (TAPE OUT) that can be used with M&S's built-in Cassette Tape and/or CD player as well as your TV or other music sources.

The MC602 has the ability to turn itself ON and OFF at preset times (like an alarm clock or for security--to play music in the house while you are gone). The MC602 was designed to be as user friendly as possible. It also indicates when and how the intercom function is being used. The MC602 has an optional Door Release which can be used to open a door or gate from the Master or any room with remote scan speakers. The MC602 provides a Security interface which allows any remote scan speaker to be used as a panic alarm for the security system or the MC602 can provide a Home Automation interface which allows any remote scan speaker to control a group of lights and/or appliances. These same remote scan speakers allow memory or station tuning, changing sources, music ON/OFF control and system wide music volume control. Up to four optional hand-held remote controls can be used to control the MC602 from any room inside and even outside your house.

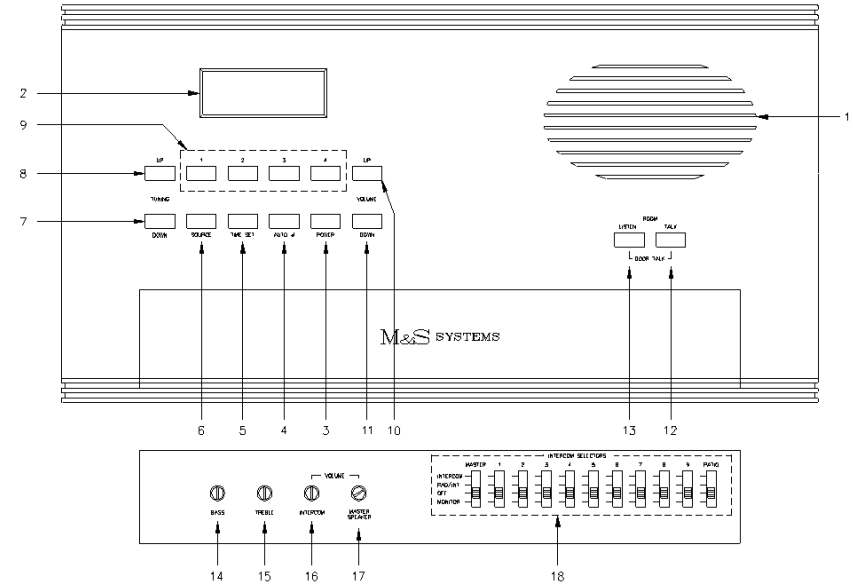
The MC602 allows you to monitor any room (including the Master) to let you know when a baby is crying or when an elderly person needs help. The MC602 can be set up so that this 'monitored room' does or does not hear other communication in the house. There is also an intercom only position, a music with intercom override position, and an off position for each room.

In addition, your new musical intercom also features:

- *Smart Chime which will not interfere with Door Communications
- *Lightning, static, and surge protection
- *Improved reliability and serviceability

Your MC602 is designed to make your home more functional and enjoyable. Prepare yourself for a more satisfying home living experience.

MC602 MASTER UNIT OPERATION



When the MC602 is first connected to 120V house power the unit will set itself to 12:00 AM and the time will flash. The flashing display indicates that power has been applied to the unit for the first time or that there has been an extended power outage and the unit has lost its memory. The unit will operate properly and keep time from this initial 12:00 AM setting, but it should have its memory restored by performing sections 4, 5 and 9 in the following instructions.

1. **MASTER SPEAKER/MICROPHONE** High-Fidelity Speaker. This also is the microphone for communications from the master unit.
2. **DISPLAY** Easy to read and understand Liquid Crystal Display with backlight. The display normally functions as a clock or frequency readout for AM and FM, but the display can

also show additional important information. This other information is explained under the function with which it is associated.

3. **POWER button** - This button is used to turn the MC602 ON and OFF. When the unit is turned on, one of the four source indicators (AM, FM, AUX, or TAPE) on the right side of the display will be SHOWN. When the unit is off, all four of these annunciators will be off. The MC602 must be turned on to operate the radio, or to listen to other music through the unit. Setting the times and auto ♪ functions as well as all intercom functions will work with the power ON or OFF.



Display

4. **AUTO ♪ button** - This button is used to turn the Automatic Music (AUTO ♪) function ON and OFF. Pressing the AUTO ♪ button momentarily, turns the function ON and pressing it again turns it OFF. The AUTO ♪ function is ON when the AUTO indicator is displayed on the top of the display. When the AUTO ♪ function is turned on, the MC602 will turn itself ON automatically when the current time reaches the Automatic ON TIME and then turn itself OFF when the current time reaches the Automatic OFF TIME. When the MC602 automatically turns itself ON it **will always turn on at the same volume level**. This "AUTO ON VOLUME LEVEL" has a default of 6 (See Sections 10 & 11) but it can be changed following these simple steps:

- A. Turn the MC602 ON.
- B. Momentarily press the VOLUME UP and AUTO ♪ buttons at the same time. Release both buttons.
- C. The display will show the letter "A" for AUTO ON VOLUME followed by a number. This number is the volume of the music

currently playing and this will be the volume of the MC602 when it automatically turns ON.

- D. This AUTO ON VOLUME can be changed by using the VOLUME UP & DOWN buttons.
- E. When you have the volume at the level that you want the MC602 to automatically turn on to, do not press any buttons for 9 seconds. The display will go back to normal and the new AUTO ON VOLUME will be saved.



Display

5. **TIME SET button** - This button is used to access the time setting mode. When the TIME SET button is pressed momentarily, the display will indicate "SET TIME" and the current time will be displayed with the hours flashing. The UP and DOWN buttons (either TUNING UP and DOWN or VOLUME UP and DOWN) can then be used to increment or decrement the current time hours. Pressing the UP button (or DOWN button) momentarily will increment (or decrement) the hours by one each time the key is pressed. Holding the UP button (or DOWN button) depressed will rapidly increment (or decrement) the hours until the button is released. The time display also includes the AM or PM indicator which is changed by scrolling the hours past 12:00.

Note: The MC602 remains in the set mode for 25 seconds with no activity (no buttons being pressed) after which the unit automatically returns to the normal mode of operation. The TIME SET button must be pressed again to return to the set mode.

Once the current hours have been set correctly, momentarily press the TIME SET button again. The display will indicate "SET TIME" and the current time will be shown with the minutes flashing. The UP and DOWN buttons can be used as described previously to increment or decrement the current time minutes.

Once the current minutes have been set correctly, momentarily press the TIME SET button again to return to the normal mode or let the MC602 automatically return to the normal mode if no buttons are pressed for 25 seconds.

To set the AUTO ON and OFF times, the TIME SET button must be momentarily pressed three times without changing the current time. After pressing the TIME SET button for the third time, the display will indicate "SET AUTO ON TIME" and the auto on time will be displayed with the hours flashing. The UP and DOWN buttons can be used as previously described to increment or decrement the auto on time hours.

Once the AUTO ON TIME hours have been set correctly, momentarily press the TIME SET button again. The display will indicate "SET AUTO ON TIME" and the AUTO ON TIME will be displayed with the minutes flashing. The UP and DOWN buttons can be used as previously described to increment or decrement the AUTO ON TIME minutes.

Once the AUTO ON TIME minutes have been set correctly, momentarily press the TIME SET button again. The display will indicate "SET AUTO OFF TIME" and the AUTO OFF TIME will be displayed with the hours flashing. The UP and DOWN buttons can be used as previously described to increment or decrement the AUTO OFF TIME hours.

Once the AUTO OFF TIME hours have been set correctly, momentarily press the TIME SET button again. The display will indicate "SET AUTO OFF TIME" and the AUTO OFF TIME will be displayed with the minutes flashing. The UP and DOWN buttons can be used as described previously to increment or decrement the AUTO OFF TIME minutes.

6. **SOURCE button** - active only when the MC602 is ON. This button is used to select the audio source (FM A, FM B, AM A, AM B, AUX input, or TAPE input) which the MC602 will output to the speakers. The A and B following FM and AM indicate the preset memory bank selection. The A bank indicates the first four preset memories A1, A2, A3, and A4, while the B bank indicates the second four preset memories B1, B2, B3, and B4. The use of the memory banks is explained in paragraph 10. Each time the SOURCE button is momentarily pressed the audio source changes. The active source is displayed on the right side of the display (the memory bank indicator is on the right side of the display after MEM).



Display

7. **TUNING DOWN button** - active only when the MC602 is ON and the FM or AM source is selected. This button is used to scan down through the FM or AM radio stations. The radio stations can be scanned down in two ways using this button:

1. To scan down until the next strong station is found (Automatic Search), the TUNING DOWN button is simply pressed momentarily. The audio will be muted and the display will show the radio station frequency decreasing until a strong station is found. Once the MC602 locks onto a strong station, it will stop scanning. This station's frequency will be shown on the display, and the audio will again be heard through the speakers.

2. To scan down to a specific frequency and/or hear the stations as they are scanned (Manual Scan), the TUNING DOWN button is held in. After about 1 second the MC602 will go into Manual Scan Down mode and the display will decrement in frequency while the audio at this frequency will be heard. The unit will continue to decrement and play each frequency until the TUNING DOWN button is released. The Manual scan can be used to select a station that is not strong enough to be picked up by the Automatic Search, to scan through many frequencies without stopping on each strong station, or to quickly hear a sample of each station as it is scanned.

NOTE: To decrement the frequency down just once, the TUNING DOWN button should be held in until the frequency changes-then immediately released.

The TUNING DOWN button is also used to decrement the time when the unit is in the SET TIME, SET AUTO ON TIME, or SET AUTO OFF TIME mode as described under the TIME SET button.

8. **TUNING UP button** - active only when the MC602 is ON and the FM or AM source is selected. This button is used to scan up through the FM or AM radio stations. This button operates the same (Automatic Search and Manual Scan) as the TUNING DOWN button except that it scans the frequencies up instead of down.

The TUNING UP is also used to increment the time when the unit is in the SET TIME, SET AUTO ON TIME, or SET AUTO OFF TIME mode as described under the TIME SET button.

-
9. **1, 2, 3, and 4 buttons** - active only when the MC602 is ON and the FM or AM source is selected. These buttons are used to save and recall your most frequently used FM and AM radio stations (presets). Along with the SOURCE button, these buttons provide 8 FM memories (A1, A2, A3, A4, B1, B2, B3, and B4) and another 8 AM memories A1 through B4).

To save a radio station in memory FM B3:

1. Using the SOURCE button, change the source to FM B.
2. Tune the radio to the station which is desired to be saved.
3. Hold in the 3 button until a 3 appears as the memory number.

To recall the radio station saved in memory AM A2:

1. Using the SOURCE button, change the source to AM A.
2. Momentarily press the 2 button. The memory number should display 2 and the station that was stored in memory A2 should be displayed and heard through the speakers.



10. **VOLUME UP button** - active only when the MC602 is ON. This button is used to increase the audio level (volume) of the selected source (FM, AM, AUX, or TAPE) which is sent to all the speakers. Whenever this "system volume" is increased, the display will show the level of this volume with a number from 1 (minimum volume) to 32 (maximum volume).

Each Room Speaker including the MASTER SPEAKER has its own volume control which can be used to turn down the audio level for each particular room.

The VOLUME UP button is also used to increment the time when the unit is in the SET TIME, SET AUTO ON TIME, or SET AUTO OFF TIME mode as described

under the TIME SET button.

11. **VOLUME DOWN button** - active only when the MC602 is ON. This button is used to decrease the audio level (volume) of the selected source (FM, AM, AUX, or TAPE) which is sent to all the speakers. Whenever this "system volume" is adjusted, the display will show the level of this volume with a number from 1 (minimum volume) to 32 (maximum volume).

Each Room Speaker including the MASTER SPEAKER has its own volume control which can be used to turn down the audio level for each particular room.

The VOLUME DOWN button is also used to decrement the time when the unit is in the SET TIME, SET AUTO ON TIME, or SET AUTO OFF TIME mode as described under the TIME SET button.

NOTE: For best performance, the individual speaker volume controls should be turned to maximum volume (fully clockwise) and then the VOLUME UP and DOWN buttons adjusted for the proper listening volume (this is really setting the maximum listening volume). The individual speaker volume control can then be adjusted in rooms which require less volume.

IMPORTANT: Do not set this "system volume" to a high number and then adjust all individual speaker volume controls down to acceptable listening level. This is very inefficient, will cause the amplifier to overheat, and will add distortion to the system.

10 & 11. **OPTIONAL DOOR RELEASE** - always active. If the system is set up to use the Door/Gate release function, the VOLUME UP button and VOLUME DOWN button are used to open the Entry Door or Gate. The Door/Gate release is activated by pushing both the VOLUME UP and VOLUME DOWN buttons at the same time and holding them for 4 seconds. The display will show "door" when the buttons are pressed at the same time and it will show RELS when the door release is activated.

10 & 11. **OPTIONAL HOME AUTOMATION INTERFACE** - always active. If the system is connected with a HOME AUTOMATION system the VOLUME UP button and VOLUME DOWN button are used to activate (turn on) the automated function. The function is turned on by pushing both the VOLUME UP and VOLUME DOWN buttons at the same time and holding them for 4 seconds.

10 & 11. **OPTIONAL SECURITY INTERFACE** - always active. If the system is connected with a SECURITY system the VOLUME UP button and VOLUME DOWN button are used to activate the panic alarm. The panic alarm is turned on by pushing both the VOLUME UP and VOLUME DOWN buttons at the same time and holding them for 4 seconds.

12. **ROOM TALK button** - always active. This button is used for communicating with the other rooms. To talk to someone in another room hold the ROOM TALK button in while talking in the direction of the microphone. The display will show that you are in the talk mode. Release the ROOM TALK button when you are finished talking.

NOTE: When talking to a person in another room, you will be heard at each speaker that is in the RAD/INT, or INT position (See section 18).

13. **ROOM LISTEN button** - always active. This button is used for listening to the other rooms. To listen to other rooms hold the ROOM LISTEN button in. The display will show that you are in the listen mode. Release the ROOM LISTEN button when you are finished listening.

NOTE: To get the maximum benefit from this Hands Free system, make it a house rule that whoever initiates a call will always follow up by pressing the ROOM LISTEN button. This allows someone to respond to the call without getting up or stopping their current activities.

NOTE: When listening to other rooms, you will hear each speaker that is in the MONITOR, RAD/INT, or INT position (See section 18).

12 & 13. **DOOR TALK** - always active. These buttons are used for communicating with the outside door speaker(s). To talk to someone at the door speaker(s) hold the ROOM LISTEN and ROOM TALK buttons in while talking in the direction of the microphone. The display will show that you are in the talk mode. Release the ROOM LISTEN and ROOM TALK buttons when you are finished talking—the MC602 will automatically listen (you will hear what is being said) to the person at the door(s) for approximately 25 seconds. The display will show that you are in the listen mode. You may talk to the person at the door again anytime by holding in the ROOM LISTEN and ROOM TALK buttons. Each time the buttons are released, the door speaker(s) can be listened to for another 25 seconds. If you are done communicating with the person at the door and/or you do not want to listen to the door speaker, the 25 second listening time can be canceled by momentarily pressing either the ROOM LISTEN or the ROOM TALK button by itself.

NOTE: When communicating with the person at the door(s), both sides of the conversation will be heard at each speaker that is in the RAD/INT, or INT position (See section 18).

14. **BASS CONTROL** - **Recommended setting: 12:00**. This CONTROL is used to adjust the low tones of the audio heard on all the speakers (room speakers as well as the MASTER SPEAKER). Turning the BASS CONTROL clockwise increases the bass (makes the low frequencies louder) and turning it counter-clockwise decreases the bass (makes the low frequencies quieter).

15. **TREBLE CONTROL** - **Recommended setting: 12:00**. This CONTROL is used to adjust the high tones of the audio heard on all the speakers (room speakers as well as the MASTER SPEAKER). Turning the TREBLE CONTROL clockwise increases the treble (makes the high frequencies louder) and turning it counter-clockwise decreases the treble (makes the high frequencies quieter).

16. **INTERCOM VOLUME CONTROL** - **Recommended setting: 12:00**. This CONTROL is used to adjust the level of the intercom communications. Turning the INTERCOM VOLUME CONTROL clockwise increases the volume of intercom communications and turning it counter-clockwise decreases the volume. The INTERCOM VOLUME CONTROL should be set to a point where intercom communications can easily be heard, but not so high that the speakers feedback or squeal when communications are attempted.

17. **MASTER SPEAKER VOLUME CONTROL** - **Recommended setting: Maximum**. This CONTROL is used to control the volume of the MASTER SPEAKER. Turning the MASTER SPEAKER VOLUME CONTROL clockwise increases the MASTER SPEAKER volume and turning it counter-clockwise decreases the MASTER SPEAKER

volume. The MASTER SPEAKER VOLUME CONTROL should be normally be set to maximum (fully clockwise) and the VOLUME UP and DOWN buttons should be used to adjust for the proper listening volume. If however, another room needs more volume than the MASTER SPEAKER, the MASTER SPEAKER VOLUME CONTROL may have to be turned down somewhat and then the music volume increased with the VOLUME UP button to get the perfect volume in each room.

18. **INTERCOM SELECTOR SWITCHES** These switches are used to control the operation of the Room Speaker in each corresponding room.

The MASTER SPEAKER Switch controls the MASTER SPEAKER.

The ROOM SPEAKERS Switches 1 through 9 control the corresponding Room Speakers.

The PATIO SPEAKER Switch controls the Patio Speaker(s).

There are four positions for each of these switches.

INTERCOM -	A speaker with its switch set in the INTERCOM position will hear all intercom communications (including the chime, if used), but will not hear the audio sources (FM, AM, AUX, and TAPE).
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RADIO-INT A speaker with its switch set in the RADIO-INT position will hear the audio sources (FM, AM, AUX, and TAPE) as well as all intercom communications (including the chime, if used).

OFF A speaker with its switch set in the OFF position will not hear anything.

Note: If one of the indoor rooms (master - 9) are turned off, that speaker can still be used to talk to other rooms or listen to other rooms when its talk and listen buttons are pressed. However, when the patio is turned off, it is disconnected from the master and can not be used to talk from, listen to, or anything else.

MONITOR A speaker with its switch set in the MONITOR position will not hear anything, but the speaker will be used as a microphone. Any sounds that this microphone picks up will be added to the selected source and heard from any speaker that is in the RADIO-INT position. The MONITOR position can be used to listen to (monitor) a baby's or elderly person's room.

NOTE: The sounds from the MONITORED room will be added to the selected source—means that if you are listening to the FM radio in the Living room and the baby starts crying in the MONITORED baby's room, the baby's crying will be combined with the FM radio and you will hear both at the same time.

To listen only to the MONITORED room, simply turn the MC602 off with the POWER button.

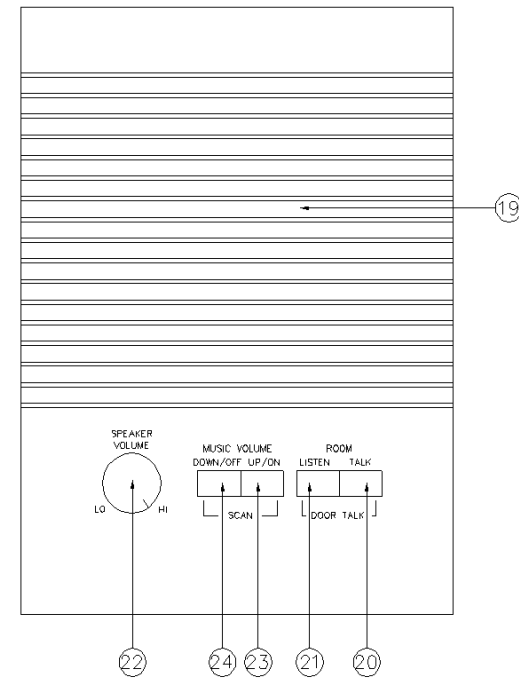
The MC602 is normally configured so that intercom communications, including the door chime, will not be heard from the speaker being monitored. However as we understand that each customer and installation is unique, the MC602 can be configured with monitor override when it is installed. If the MC602 is configured with monitor override, all intercom communications, including the door chime, will be heard from the speaker being monitored. See Appendix A for details on changing the monitor override configuration.

Your MC602 may be equipped with either a 3-note or an 8-note Door Chime. This optional chime rings through the Master speaker or any room speaker and mutes the radio when the doorbell button is pressed.

IMPORTANT: At least one speaker (Master or Room Speaker) must be in the RADIO-INT or INT position for the Door Chime to function. The volume of the chime is controlled at each speaker with the speaker volume CONTROL.

To make your MC602 easier to use, you should label the INTERCOM SELECTOR SWITCHES. Remove the door that covers the switches by pulling it straight out. Turn the radio ON but move all the INTERCOM SELECTOR SWITCHES to OFF. Move one switch at a time to RADIO-INT to determine the location it controls. On the back of the door, write with pen or pencil in the corresponding box, which room each switch controls.

MC602 ROOM SPEAKER OPERATION



19. **ROOM SPEAKER/MICROPHONE** High-Fidelity Speaker. This also is the microphone for communications from the room.

20. **ROOM TALK button** - always active. This button is used for talking to the other rooms and to the master. To talk to other rooms and the master hold the ROOM TALK button in while talking in the direction of the microphone. Release the ROOM TALK button when you are finished talking.

NOTE: When talking to a person in another room, you will be heard at each speaker that is in the RAD/INT, or INT position (See section 18).

21. **ROOM LISTEN button** - always active. This button is used for listening to the other rooms and the master. To listen to other rooms and the master hold the ROOM LISTEN button in. Release the ROOM LISTEN button when you are finished listening.

NOTE: To get the maximum benefit from this Hands Free system, make it a house rule that whoever initiates a call will always follow up by pressing the ROOM LISTEN button. This allows someone to respond to the call without getting up or stopping their current activities.

NOTE: When listening to other rooms, you will hear each speaker including the master that is in the MONITOR, RAD/INT, or INT position (See section 18).

20 & 21. **DOOR TALK** - always active. These buttons are used for communicating with the outside door speaker(s). To talk to someone at the door speaker(s) hold the ROOM LISTEN and ROOM TALK buttons in while talking in the direction of the microphone. Release the ROOM LISTEN and ROOM TALK buttons when you are finished talking—the MC602 will automatically listen (you will hear what is being said) to the person at the door(s) for approximately 25 seconds. You may talk to the person at the door again anytime by holding in the ROOM LISTEN and ROOM TALK buttons. Each time the buttons are released, the door speaker(s) can be listened to for another 25 seconds. If you are done communicating with the person at the door and/or you do not want to listen to the door speaker, the 25 second listening time can be canceled by momentarily pressing either the ROOM LISTEN or the ROOM TALK button by itself.

NOTE: When communicating with the person at the door(s), both sides of the conversation will be heard at each speaker including the master that is in the RAD/INT, or INT position (See section 18).

22. **ROOM SPEAKER VOLUME CONTROL - Recommended setting: Maximum.** This CONTROL is used to control the volume of the ROOM SPEAKER. Turning the ROOM SPEAKER VOLUME CONTROL clockwise increases the ROOM SPEAKER volume and turning it counter-clockwise decreases the ROOM SPEAKER volume. The ROOM SPEAKER VOLUME CONTROL should normally be set to maximum (fully clockwise) and the VOLUME UP and DOWN buttons (See section 10 & 11) should be used to

adjust for the proper listening volume.

NOTE: The ROOM SPEAKER VOLUME CONTROL can be used to prevent others from monitoring the room that you are in by turning the VOLUME CONTROL fully counter-clockwise. Just remember that you will not hear the intercom or door chime with the VOLUME CONTROL in this position!

OPTIONAL REMOTE SCAN SPEAKER OPERATION

23. **MUSIC VOLUME UP/ON button** - always active. This button is used to increase the audio level (volume) of the selected source (FM, AM, AUX, or TAPE) which is sent to all the speakers.

The MUSIC VOLUME UP/ON button can also be used to turn the MC602 ON if it is OFF. To turn the MC602 ON, momentarily press the MUSIC VOLUME UP/ON button.

24. **MUSIC VOLUME DOWN/OFF button** - active only when the MC602 is ON. This button is used to decrease the audio level (volume) of the selected source (FM, AM, AUX, or TAPE) which is sent to all the speakers.

The MUSIC VOLUME DOWN/OFF button can also be used to turn the MC602 OFF. To turn the MC602 OFF, press the MUSIC VOLUME DOWN/OFF button after the volume has decreased to its minimum level.

23 & 24. **SCAN** - active only when the MC602 is ON. This function is used to change memories and/or sources. Momentarily pressing both the MUSIC VOLUME UP and DOWN buttons at the same time will execute the SCAN function. The way that the SCAN function works is dependant on the configuration of the two jumpers P1 and P2 behind the face panel on the master that were set when the MC602 was installed. The factory default mode of operation is described here. Appendix B describes the other modes and how to change modes.

If the MC602 has the FM or AM source selected, the SCAN function will step through the 8 memory presets of the source that is selected then advance to the next source. The SCAN function will step from AUX to TAPE and from TAPE to FM (preset A1). For example, if the current source is FM and preset B4 is tuned in, executing the SCAN will tune in preset A1 in the AM band. Executing SCAN again will tune in preset A2 in the AM band. If the MC602 has the TAPE source selected, executing the SCAN function will change the source to FM and tune in preset A1. Executing SCAN again will turn in preset A2 in the FM band.

23 & 24. **OPTIONAL DOOR RELEASE** - always active. If the system is set up to use the Door/Gate release function, the VOLUME UP button and VOLUME DOWN button are used to open the Entry Door or Gate. The Door/Gate release is activated by pushing both the VOLUME UP and VOLUME DOWN buttons at the same time and holding them for 4 seconds.

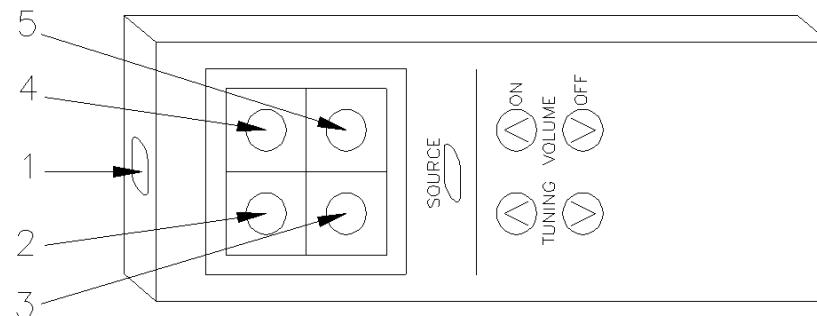
23 & 24. **OPTIONAL HOME AUTOMATION INTERFACE** - always active. If the system is connected with a HOME AUTOMATION system the VOLUME UP button and VOLUME DOWN button are used to activate (turn on) the automated function. The function is turned on by pushing both the VOLUME UP and VOLUME DOWN buttons at the same time and holding them for 4 seconds.

23 & 24. **OPTIONAL SECURITY INTERFACE** - always active. If the system is connected with a SECURITY system the VOLUME UP button and VOLUME DOWN button are used to activate the panic alarm. The panic alarm is turned on by pushing both the VOLUME UP and VOLUME DOWN buttons at the same time and holding them for 4 seconds.

OPTIONAL HAND HELD RF REMOTE CONTROL

PROGRAMMING - Upon initial power up of the MC602 or upon applying power after the unit loses its memory (power outages greater than 2 hours), the unit must be programmed or taught the unique code that is present in the REMOTE CONTROL TRANSMITTER. To do this, the MC602 must be put into its test mode by momentarily pressing the VOLUME UP and SOURCE buttons at the same time. The display on the MC602 should show TEST. Now press the TUNING UP button on the REMOTE CONTROL TRANSMITTER until the display flashes SAVE twice. The MC602 has now learned the TRANSMITTER. If more than one transmitter is to be used with the system, the second, third, and fourth transmitters must be learned by pressing the TUNING DOWN, VOL UP, and VOL DOWN on the respective TRANSMITTER. Always press a different button for each TRANSMITTER to be programmed. The test mode is exited by momentarily pressing the VOLUME UP and POWER buttons at the same time.

OPERATION - Your MUSICAL INTERCOM HAND HELD CONTROLLER is an RF remote control which means that it will work anywhere in or around your house (you do not have to be in the same room as the master). The system also has a unique code in the transmitter that is learned by the MC602, virtually insuring that no one else can interfere with your system and you will not interfere with anyone else.



Hand Held RF Remote Control

1. **SOURCE button** - active only when the MC602 is ON. This button is used to select the audio source (FM, AM, AUX input, or TAPE input) which the MC602 will output to the Music Speakers. Each time the SOURCE button is momentarily pressed, the audio source changes. The sequence is FM, AM, AUX, TAPE, and back to FM.

2. **UP button** - active only when the MC602 is ON and the FM or AM source is selected. This button is used to scan up through the FM or AM memory presets. To go up to the next preset, the UP button is simply pressed momentarily. The MC602 will tune in the next preset station (the sequence is A1, A2, A3, A4, B1, B2, B3, B4, A1, A2, ...). The band will not change (stays in AM or FM).

NOTE: If the P1 and P2 jumpers are set to the strong station scanning mode then the UP button will scan to the next strong station just like the TUNING UP button [automatic search] (See section 8) on the master.

3. **DOWN button** - active only when the MC602 is ON and the FM or AM source is selected. This button is used to scan down through the FM or AM memory presets. To go down to the next preset, the DOWN button is simply pressed momentarily. The MC602 will tune in the previous preset station (the sequence is B4, B3, B2, B1, A4, A3, A2, A1, B4, B3, ...). The band will not change (stays in AM or FM).

NOTE: If the P1 and P2 jumpers are set to the strong station scanning mode then the DOWN button will scan to the next strong station just like the TUNING DOWN button

[automatic search] (See section 7) on the master.

Note: To change the function of the TUNING UP and DOWN buttons to select all strong stations, instead of memory presets, select the SCAN STATIONS mode as shown in Appendix B.

4. **VOLUME UP [ON] button** - always active. This button is used to increase the audio level of the selected source (FM, AM, AUX, or TAPE) which is sent to all the Music Speakers. Pressing this button also turns the MC602 ON if it is OFF.

5. **VOLUME DOWN [OFF] button** - active only when the MC602 is ON. This button is used to decrease the audio level of the selected source (FM, AM, AUX, or TAPE) which is sent to all the Music Speakers. Pressing this button also turns the MC602 OFF when its audio level is all the way down.

NOTE: For best performance, the individual music speaker volume controls should be turned to maximum volume (fully clockwise) and then the volume adjusted with the VOLUME buttons on the MCTX HAND HELD CONTROLLER for the proper listening volume (this is really setting the maximum listening volume). The individual music speaker volume control can then be adjusted in rooms which require less volume.

ADVANCED FEATURES

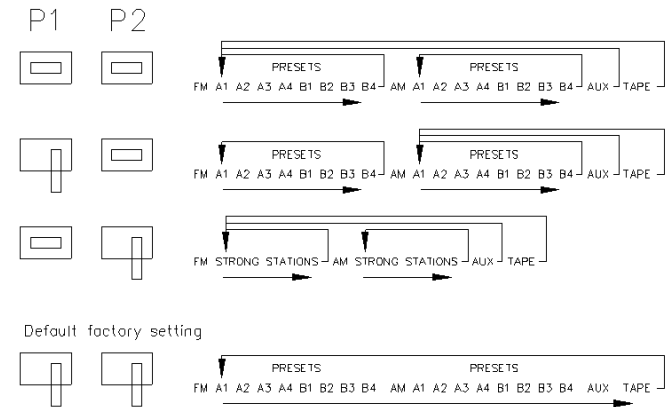
APPENDIX A - Monitor Override

The way that the MONITOR function works is dependant on the configuration of the three jumpers P1, P2, and P3 on the back of the master next to the terminal block for the green wires. The MC602 comes from the factory with only the P1 pins jumpered (the other jumper is on only 1 pin of P2 in case it is needed). In this configuration the monitored room does not hear any intercom communication or the chime.

The MC602 can also be configured for MONITOR OVERRIDE. This is done by removing the jumper from the P1 pins, inserting it on both P3 pins, and moving the P2 jumper onto both P2 pins. (A pair of needlenose pliers may be necessary to move the jumpers). In MONITOR OVERRIDE the monitored room hears all intercom communications including the chime.

APPENDIX B - Station Scanning

The way that the SCAN function works is dependant on the configuration of the two jumpers P1 and P2 behind the face panel just above and to the right of the display on the master. The following table shows how the SCAN function operates:



MC602 TROUBLESHOOTING TIPS

Problem	What to Check
No FM or AM reception	<ol style="list-style-type: none"> 1. Power turned on (Section 3) 2. Proper Source selected (Section 6) 3. Speaker Switches set correctly (Section 18)
Display Flashing	Extended loss of electrical power Set clock and auto ♪ (Section 5) Program radio frequencies (Section 9) Program REMOTE CONTROL TRANSMITTER(s)
Feedback or Squeal	Intercom Volume CONTROL adjusted properly (Section 16)
Weak or no Intercom	<ol style="list-style-type: none"> 1. Intercom Volume CONTROL adjusted properly (Section 16) 2. Speaker Switches set correctly (Section 18) 3. Room Speaker Volume CONTROL adjusted properly (Section 22)
Display Flashing Strange Characters	Reset Not complete from power loss Remove the face panel and touch the four silver solder dots next to the word RESET to the right of the twelve buttons. This should insure a proper reset of the MC602—the display should blink 12:00. Set clock and auto ♪ (Section 5) Program radio frequencies (Section 9) Program REMOTE CONTROL TRANSMITTER(s)

STATEMENTS OF WARRANTY

The following warranty applies to the Model MC602.

2 YEAR "NO-FAULT" WARRANTY PRODUCTS

Central Vacuum Power Units, Musical Intercom Master Units, Compact Disc Player, Cassette Tape Player, and Built-In Flush Mount Speakers (8 ohm and 45 ohm)

M&S Systems, Inc., warrants for two years (2) the above products to be free from factory-caused defects of material and workmanship. M&S Systems, Inc., will repair or replace, at its option, parts and/or materials at no charge, regardless of the problem. This warranty extends to the original purchaser of the product and to each subsequent owner of the product during the term of this warranty. This NO FAULT warranty covers only the liability described above, and does not include liability for incidental or consequential damages. NOTE: Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

M&S Systems, Inc., will not be responsible for any service call charges arising from the installation or repair company to the homeowner.

Defective product must be returned to the installing dealer or distributor by the homeowner. Transportation/freight charges on products submitted for replacement or repair are the customer's responsibility.

These warranties are for the sole and exclusive use of products in a residential installation.

IMPORTANT: All M&S Wire and Cable Products are U.L. Approved