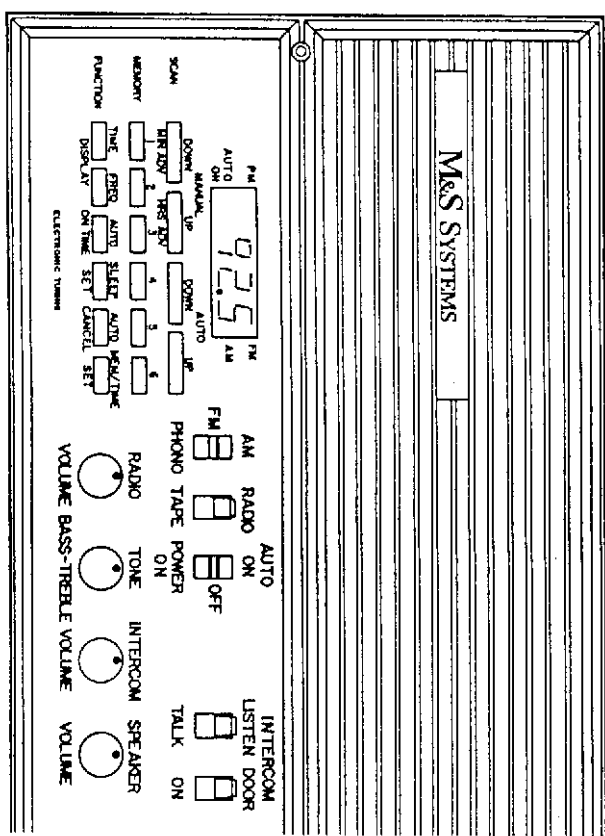


M&S Systems
 Model MC350
 Master Unit
 Owner's Guide



Lit. No. 350G

M&S SYSTEMS, INC.
 A NORTEK COMPANY
 2861 Congressman Lane
 Dallas, Texas 75220

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. Retain this booklet for future reference.

Statements of Warranty

The following warranty applies to the Model MC350.

LIFETIME LIMITED WARRANTY PRODUCTS

Central Vacuum Power Units, Musical Intercom Master Units, Compact Disc Player, Cassette Tape Player, and Built-in 2-way 8-ohm Flush Mount Speakers

M&S Systems, Inc., warrants to the original homeowner for as long as he owns his home, its products to be free from factory-cause defects of material and workmanship. M&S Systems, Inc., will repair or replace, at its option, parts and/or materials at no charge should they, upon examination, be determined to be defective.

M&S Systems, Inc., reserves unto itself the sole right to make the final decision whether there is a defect in materials or workmanship and whether or not the product qualifies for the warranty.

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.

ONE YEAR LIMITED WARRANTY PRODUCTS

Vacuum accessories, Video Door intercoms, Musical Intercom Accessories, Speakers, Ironing Centers, Wall Sates, System 2000 Intercoms.

WARRANTY EXCLUSIONS

M&S Systems, Inc.'s Limited Warranty does not apply to product damage or failure caused by acts of God, misuse, abnormal usage, normal wear, faulty installation, improper maintenance, or any repairs other than repairs made by an authorized M&S repair center. This Limited Warranty will not apply to any M&S Systems, Inc. product which has been used in violation of any electrical code or Vacuum Power Units, Musical Intercom Master Units, or Speakers installed with NON-M&S Systems' brand wire or wall housings.

These warranties are for the sole and exclusive use of products in a residential installation. The Limited Warranty covers only the liability described above, and does not include liability for incidental or consequential damages.

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

How to Correct Master Unit Operating Problems

Problem	What To Check For
No AM or FM reception	<ol style="list-style-type: none"> 1. AM/FM Phono switch correct position. 2 not in correct position. 2. Radio/Tape switch position. 3 not in correct position. 3. Power On/Off Auto On switch in correct position. 4 not in correct position.
Display flashing	<p>Momentary loss of electrical power. (Check and reprogram clock and radio frequencies.)</p>
Feedback or squeal	<p>Intercom Volume knob Unit adjusted too high. 7 on Master</p>
Weak or no intercom	<ol style="list-style-type: none"> 1. Intercom Volume knob Unit not adjusted correctly. 7 on Master 2. Room Speaker Station switches not in correct position (RADIO-INT or MONITOR). 11 3. Volume Control knob unit not adjusted correctly. 25 on room.

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About Your M&S Systems Model MC350 Musical Intercom System

The M&S Model MC350 Master Unit (Figure 1) is part of a complete home musical intercom system designed and built by M&S Systems, Inc. From a central location, the Master Unit may be linked to remote units in other rooms of your home. It may also be linked to outdoor units at your front door, patio, or garage.

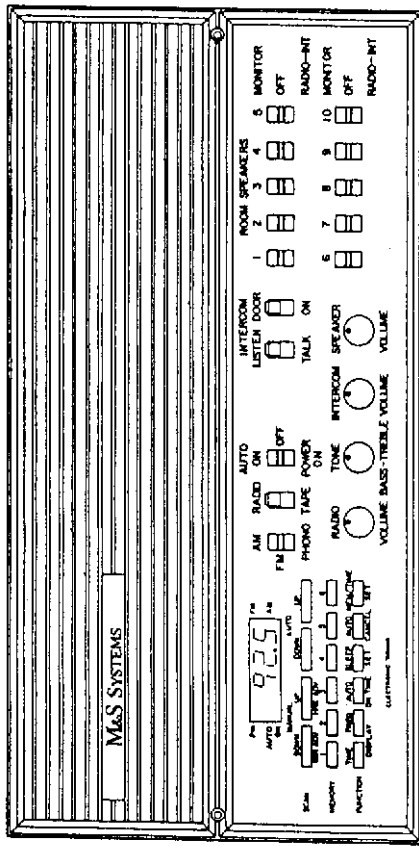


Figure 1 Model MC350 Master Unit.

Although the remote units may contain a volume control and a few function switches, the Master Unit is the "brain" of your entire system. It contains the AM/FM radio and the intercom central console. From the Master Unit, you can select the operating mode of each remote unit, set the overall volume level for the system, and access all remote units for voice communications or for use as a radio speaker.

Your Master Unit is designed as both a communication and an entertainment center. And, like all M&S Systems products, the Model MC350 Master Unit is designed to make your home more functional and enjoyable. So prepare yourself for a more satisfying home living experience.

From the Master Unit

- Step 1 To talk to the door unit, press and hold the Door-On switch **10** and press and hold the Listen-Talk switch **9**
- Step 2 To listen to the door unit, press and hold the Door-On switch **10** and release the Listen-Talk switch **9**

Note: The Door-On switch **10** mutes the radio when pressed.

From Room Units

Note: To communicate with the door unit from the room units, the Room Speaker Station switches **11** on the Master Unit must be in the RADIO-INT position.

- Step 1 To talk to the door unit, press and hold the Door-On switch **26** and press and hold the Listen-Talk switch **27**
- Step 2 To listen to the door unit, press and hold the Door-On switch **26** and release the Listen-Talk switch **27**

Note: The Door-On switch **26** mutes the radio when pressed.

How to Use the Optional Door Chime Function

Your Model MC350 Master Unit may be equipped with either a three-note or an eight-note chime. This optional chime rings through the Master Unit or any room unit and mutes the radio when the doorbell button is pressed. At least one speaker (Master Unit or room unit) must be ON for the Door Chime to function. Volume for the three-note or eight-note chime is controlled with the Speaker Volume knob **8** on the Master Unit and with the Volume Control knob **25** on the room units.

Step 2 Adjust the volume of the room units by turning the Volume Control knob 25 to the desired setting.

Step 3 Adjust the Master Unit volume by turning the Speaker Volume knob 8 to the desired setting.

Here's a Tip: Set the Speaker Volume knob 8 between the 3 o'clock and maximum positions. This setting should provide audio reception with the greatest clarity.

Communicating with Room Units

Note: To communicate with the room units, the Room Speaker Station switches 11 must be in the RADIO-INT position.

Step 1 To talk to room units from the Master Unit, press and hold the Listen-Talk switch 9.

Step 2 To listen to the room units from the Master Unit, release the Listen-Talk switch 9.

Step 3 To talk to the Master Unit from the room unit, press and hold the Listen-Talk switch 27.

Step 4 To listen to the Master Unit from the room unit, release the Listen-Talk switch 27.

Note: The radio mutes during communication.

Monitoring Room Units

A unique feature of the Model MC350 is its ability to monitor room units. This feature is especially helpful when children or a sick person is involved. To monitor any or all room units, set the Room Speaker Station switches 11 to the MONITOR position. Volume is controlled with the Intercom Volume knob 7.

Communicating with the Door Unit

Communication with the door unit is possible from the Master Unit or the room units. This feature allows you to screen visitors from the safety of your home.

Master Unit Controls, Indicators, and Features

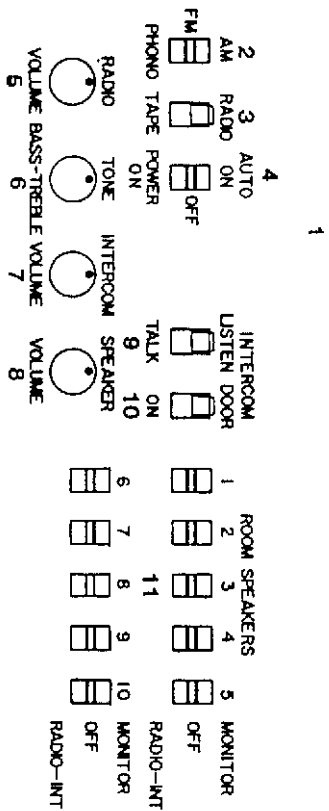


Figure 2. Master Unit Controls, Indicators, and Features

1 Combination Speaker/Microphone Provides speaker for both radio and intercom. Provides microphone for intercom.

2 AM/FM Phono switch Sets to any of three positions to select audio operating mode:

AM Radio operates on AM frequencies only.

FM Radio operates on FM frequencies only.

PHONO Radio is muted to allow audio input from phonograph.

- 3** Radio/Tape switch: Sets to either of two positions to select audio operating mode:
 - RADIO** Receives input from AM/FM radio or from phonograph.
 - TAPE** Allows audio input from tape player.
- 4** Power On/Off Auto On switch: Sets to any of three positions to select power mode:
 - POWER ON** Turns the Master Unit on.
 - POWER OFF** Turns the Master Unit off.
 - AUTO ON** Turns the Master Unit on at a preselected time.
- 5** Radio Volume knob: Adjusts radio volume for entire system.
- 6** Tone knob: Adjusts radio bass/treble.
- 7** Intercom Volume knob: Adjusts overall volume of entire intercom system.
- 8** Speaker Volume knob: Adjusts radio/intercom volume of Master Unit only.
- 9** Listen-Talk switch: Switch is spring-loaded to LISTEN position. Must be pressed and held to TALK position to speak over intercom, and released to listen.

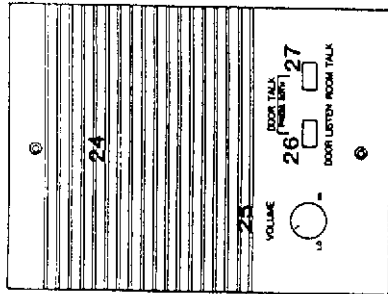


Figure 4. Room Unit

- 24** Combination Speaker/Microphone: Provides speaker for both radio and intercom. Provides microphone for intercom.
- 25** Volume Control knob: Adjusts the speaker volume. The switch must be pressed and held for communication between the door unit and the room unit. Switch is spring-loaded to DOOR OFF position.
- 26** Door-On switch: Press the switch to talk and release it to listen. Switch is spring-loaded to LISTEN position.
- 27** Listen-Talk switch: Press the switch to talk and release it to listen. Switch is spring-loaded to LISTEN position.

Step 1 Rotate the Intercom Volume knob 7 on the Master Unit to a level that allows voice communication between the Master Unit and the room units.

Here's a Tip: Set the Intercom Volume knob 7 between the 12 o'clock and 1 o'clock positions. This setting should help eliminate "feedback" or "squeal." Once the desired setting is made, no further adjustment is necessary.

Step 4 Position the Power On/Off Auto On switch **4** to the AUTO ON position. The Master Unit is now set to turn on the radio automatically at the preselected time.

Note: You can use either of two options to turn the radio off. Placing the Power On/Off Auto On switch **4** in the OFF position turns the radio off and disables the Auto On Time function. Pressing the Automatic Cancel button **22** also turns the radio off, but this option leaves the Auto On Time function enabled. Whenever the clock reaches the Auto On Time hour and minute setting, the radio turns on automatically.

Setting the Radio to Turn Off Automatically (Sleep Set)

The Sleep Set function continues radio operation for up to 64 minutes; then turns the radio off if the Power On/Off Auto On switch **4** is in the AUTO ON or OFF position. Press the Sleep Set button **21** to enable the Sleep Set function. To cancel the Sleep Set function before the 64-minute cycle is complete, press the Automatic Cancel button **22**.

How to Use the Intercom Function

The 12-speaker, 10-station capacity intercom allows you to communicate with any room, answer the door unit from any room, or monitor one or more speakers from any combination of room speakers. The intercom functions are always ON. The intercom and optional door chimes operate 24 hours a day, even when the radio is turned off.

Note: Two additional speakers may be used with the system by connecting the speakers to a room switch on the Master Unit.

Setting up the Intercom

- Step 1** Turn the Speaker Volume knob **8** to the full clockwise position.
- Step 2** Place the Room Speaker Station switches **11** in the desired position (MONITOR, OFF, or RADIO-INT).

Adjusting Intercom Volume

Figure 4 on page 12 shows the controls you use to operate the room units.

10 Door-On switch
Mutes radio and allows intercommunication with door unit. Switch is spring-loaded to DOOR OFF position. Must be pressed and held to ON position (for both LISTEN and TALK) to use door intercom.

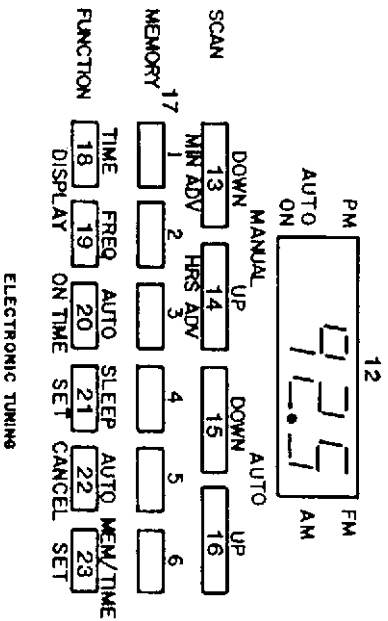


Figure 3. Master Unit Controls, Indicators, and Features

11 Room Speaker Station switches
Ten switches set to any of three positions to select the operating mode of corresponding room units:

MONITOR For monitoring rooms from Master Unit and rooms whose units are set in RADIO-INT position.

OFF Room unit is turned off.

RADIO-INT Normal intercom and radio reception.

12 Digital Time/Frequency display
Displays time (except when selecting radio frequency), radio frequencies, PM, and AUTO ON mode.

Manual Scan
Down/Minute Advance
button

Pressed to manually select:

- Radio AM or FM operating frequency (when Digital Time/Frequency display 12 shows radio frequency).
- Clock minute setting (when Master Unit is in Time mode).

Momentarily pressing this button causes the numbers displayed to change one increment at a time. Pressing and holding the button causes the numbers displayed to change rapidly. When you press this button to scan radio frequencies, the numbers increment down (that is, toward lower numbers).

Manual Scan Up/Hours
Advance button

Pressed to manually select:

- Radio AM or FM operating frequency (when Digital Time/Frequency display 12 shows radio frequency).
 - Clock hour setting (when Master Unit is in Time mode).
- Momentarily pressing this button causes the numbers displayed to change one increment at a time. Pressing and holding the button causes the numbers displayed to change rapidly. When you press this button to scan radio frequencies, the numbers increment up (that is, toward higher numbers).

Memory Selection Tuning

You can program up to 12 preselected frequencies (six AM and six FM) into the Master Unit for immediate tuning.

Setting Memory selections

- Step 1** Select a desired frequency in the AM or FM band according to the instructions under "Manual Scan Tuning" on page 8 or "Automatic Scan Tuning" on page 9.
- Step 2** Press and hold the Memory/Time Set button **23**.
- Step 3** Momentarily press (then release) one of the six Memory buttons **17**. The selected frequency is now stored for that button.
- Step 4** Repeat steps 1 through 3 to set the remaining five Memory buttons **17**. Repeat this procedure to set Memory selections for the other broadcast band.

Recalling Memory selections:

To recall frequencies placed in memory, set the AM/FM Phono switch **2** to the desired broadcast band (AM or FM), and press the desired Memory button **17**. The radio immediately tunes to the stored frequency, which is also shown on the Digital Time/Frequency display **12**. After approximately 10 seconds, the Digital Time/Frequency display **12** changes to show time, although the radio continues to receive the selected frequency.

Setting the Radio to Turn On or Off Automatically

- Step 1** Momentarily press (then release) the Auto On Time button **20**. (The Master Unit is now in the AUTO On mode, as indicated on the Digital Time/Frequency display **12**.)
- Step 2** Press and hold the Hours Advance button **14** until the desired hour is displayed; then release the button.
- Step 3** Press and hold the Minute Advance button **13** until the desired minute is displayed; then release the button.

Note: Before you can tune the radio, the Digital Time/Frequency display **12** must show a frequency. If the display shows the time, press the Frequency Display button **19**.

Step 2 Press and hold the Manual Scan Down button **13** to scan down rapidly to the desired frequency. (Momentarily pressing the button causes the numbers displayed to change one increment at a time.)

Step 3 Press and hold the Manual Scan Up button **14** to scan up rapidly to the desired frequency. (Momentarily pressing the button causes the numbers displayed to change one increment at a time.)

Automatic Scan Tuning

Step 1 Set the AM/FM Phono switch **2** to the desired broadcast band (AM or FM).

Do not set the AM/FM Phono switch **2** to PHONO unless you wish to mute the radio and receive audio from a phonograph.

Note: Before you can tune the radio, the Digital Time/Frequency display **12** must show a frequency. If the display shows the time, press the Frequency Display button **19**.

Step 2 To tune the radio to a frequency higher than the one currently displayed, momentarily press (then release) the Automatic Scan Up button **16**. The radio scans "up" to the next frequency with enough signal strength to stop the scan.

Repeat this operation until the radio is tuned to the desired frequency.

Step 3 To tune the radio to a frequency lower than the one currently displayed, momentarily press (then release) the Automatic Scan Down button **15**. The radio scans "down" to the next frequency with enough signal strength to stop the scan.

Repeat this operation until the radio is tuned to the desired frequency.

15 Automatic Scan Down button

Pressed to scan "down" toward lower numbers) automatically when selecting AM or FM frequency. Automatically stops at next frequency with enough signal strength to stop scan.

16 Automatic Scan Up button

Pressed to scan "up" (toward higher numbers) automatically when selecting AM or FM frequency. Automatically stops at next frequency with enough signal strength to stop scan.

17 Memory button

Pressed to store and select six AM and six FM stations when Master Unit is in Memory mode.

18 Time Display button

Pressed to display time on Digital Time/Frequency display **12**.

19 Frequency Display button

Pressed to display selected AM or FM frequency on Digital Time/Frequency display **12**.

20 Auto On Time button

Pressed to set time for radio to turn on automatically (Auto On function).

21 Sleep Set button

Pressed to set time for radio to turn off automatically (Sleep Set function) after 64 minutes of playing time. See page 11 for more information.

22 Automatic Cancel button

Pressed to cancel Sleep Set function before maximum 64-minute cycle is complete.

23 Memory/Time Set button

Pressed to:
Place Master Unit in Memory mode to program preselected radio frequency settings using Memory buttons **17**.

Place Master Unit in Time mode for using Minute Advance button 13 or Hours Advance button 14 to set time.

Momentarily pressing this button places the Master Unit in Memory mode. Pressing and holding the button places the Master Unit in Time mode.

Operating the Model MC350 Master Unit

Your Master Unit operates with two standard functions and one optional function:

- Clock radio
- Intercom
- Door chime (optional).

This section explains how to use these functions.

How to Use the Clock Radio Function

The clock radio in your Master Unit receives both AM and FM stations.

Setting the Clock Time

Note: Before you can set the clock time, the Digital Time/Frequency display 12 must be showing the time. If the display is showing a radio frequency, press the Time Display button 18.

- Step 1 Press and hold the Memory/Time Set button 23.
- Step 2 Press and hold the Hours Advance button 14 until the desired hour is displayed; then release the button.

Note: Be sure to observe the PM indicator when setting the clock time.

- Step 3 Press and hold the Minute Advance button 13 until the desired minute is displayed; then release both this button and the Memory/Time Set button 23.

Turning the Radio On and Adjusting Volume

- Step 1 To turn the radio on, position the Power On/Off Auto On switch 4 to the POWER ON position. Positioning the Power On/Off Auto On switch 4 to the OFF position turns the radio off.
- Step 2 To select the Radio mode, position the Radio/Tape switch 3 to the RADIO position.

- Step 3 To adjust the volume, rotate the Radio Volume knob 5 clockwise. Rotating the knob counterclockwise decreases volume.

Here's a Tip: Setting the Radio Volume knob 5 to maximum volume (fully clockwise) distorts the quality of sound at the room unit speakers. Remember that each room unit also has a volume control. For best sound quality, use a moderate system level setting at the Master Unit and adjust individual room unit volume settings as needed.

Adjusting the Tone (Bass/Treble)

You use a single control, the Tone knob 6 to adjust the tone. Rotating the knob 6 clockwise increases TREBLE and decreases BASS. Rotating the knob counterclockwise increases BASS and decreases TREBLE.

Tuning the Radio

The range of the AM broadcast band is 540 to 1600 Kiloherz (KHz), and the range of the FM broadcast band is 88.1 to 107.9 Megahertz (MHz). All AM frequencies end with a zero (540, 820, 1080, etc.) and all FM frequencies end with a decimal point and an odd number (88.1, 92.5, 100.3, etc.) The Model MC350 has a tuning range beyond the standard AM/FM range. This unit tunes from 530 to 1620 KHz in the AM band and from 87.9 to 107.9 MHz in the FM band. You can tune the radio using manual scan, automatic scan, or memory selection.

Manual Scan Tuning

- Step 1 Set the AM/FM Phono switch 2 to the desired broadcast band (AM or FM).
Do not set the AM/FM Phono switch 2 to PHONO unless you wish to mute the radio and receive audio from a phonograph.