



## MCC350A TROUBLESHOOTING TIPS

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.

Problem	What to Check
No FM or AM reception	<ol style="list-style-type: none"><li>1. Power turned on (Step 3)</li><li>2. Proper Source selected (Step 6)</li><li>3. Speaker Switches set correctly (Step 18)</li></ol>
Display Flashing	Extended loss of electrical power Set clock and auto 1 (Step 5) Resave radio frequencies (Step 10)
Feedback or Squeal	Intercom Volume Knob adjusted properly (Step 16)
Weak or no Intercom	<ol style="list-style-type: none"><li>1. Intercom Volume Knob adjusted properly (Step 16)</li><li>2. Speaker Switches set correctly (Step 18)</li><li>3. Room Speaker Volume Knob adjusted properly (Step 22)</li></ol>
Display Flashing Strange Characters	Reset Not complete from power loss Depress UP, 2, and DISPLAY Buttons at the same time and release the DISPLAY Button first. The display will show "TEST". Turn the circuit breaker that supplies power to the MCC350A off for 15 seconds, then back on. This should insure a proper reset of the C350A—the unit should display a blinking 12:00. Set clock and auto 1 (Step 5) Resave radio frequencies (Step 10)

M&S Systems, Inc.

**OPTIONAL DOOR RELEASE** - always active. If the speaker is wired for the Door/Gate release function, the ROOM SPEAKER VOLUME KNOB can be used to open the Entry Door or Gate. The Door/Gate release is activated by pushing on the ROOM SPEAKER VOLUME KNOB for 5 seconds.

**OPTIONAL REMOTE SCAN** - active only when the MC350A is ON and the FM or AM source is selected. If the speaker is wired for the Remote Scanning function, the ROOM SPEAKER VOLUME KNOB can be used to change the FM or AM radio station. The ROOM SPEAKER VOLUME KNOB can be used to scan radio stations in two ways:

1. To scan until the next strong station is found (Automatic Search), the ROOM SPEAKER VOLUME KNOB is depressed momentarily. The audio will be muted and the radio stations will be scanned until a strong station is found. Once the MC350A locks onto a strong station, it will stop scanning and the audio will again be heard through the speaker.
2. To scan each station and hear the stations as they are scanned (Manual Scan), the ROOM SPEAKER VOLUME KNOB is held in. After about 1 second the MC350A will start scanning through the frequencies and the audio at this frequency will be heard. The unit will continue to scan and play each frequency until the ROOM SPEAKER VOLUME KNOB 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.

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## MC350A FEATURES

Congratulations! Your new Model MC350A is a state of the art Intercom/Music Center which provides 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 muting. The MC350A contains a Digital Clock with battery back-up which maintains the correct time for up to 30 minutes without power and never needs replacing.

The state of the art transfective 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 12 rooms with plenty of power. The MC350A has a Digital Phase Lock Loop Tuner with 8 AM and 8 FM Station Presets. The MC350A 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 MC350A 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 MC350A was designed to be as user friendly as possible; the display tells you how to set the time and alarm functions. It also indicates when and how the intercom function is being used. The MC350A has a built-in Door Release which can be used to open a door or gate from the Master or any room wired for that function. The MC350A is equipped with remote scan and search (the radio can be manually or automatically scanned up or down from any room speaker wired for the function).

The MC350A 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. 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

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 step 18).

21. DOOR LISTEN BUTTON - always active. This button is used for listening to the outside door speaker(s). To listen to someone at the door speaker(s) hold in the DOOR LISTEN BUTTON.

NOTE: When listening to the person at the door(s), that person will be heard at each speaker that is in the RAD/INT, or INT position (See step 18).

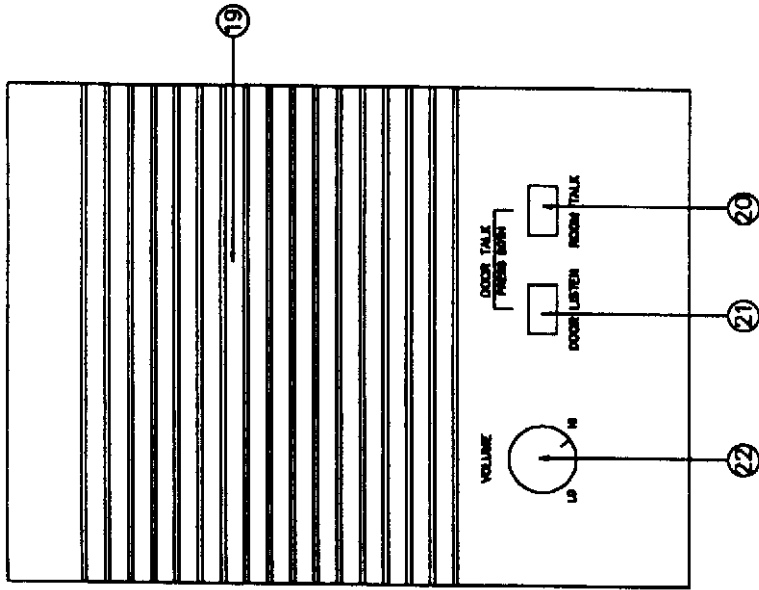
20 & 21. DOOR TALK - always active. These buttons are used for talking to the outside door speaker(s). To talk to someone at the door speaker(s) hold in the ROOM TALK BUTTON and the DOOR LISTEN BUTTON while talking in the direction of the microphone.

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

22. ROOM SPEAKER VOLUME KNOB - Recommended setting: Maximum. This knob is used to control the volume of the ROOM SPEAKER. Turning the ROOM SPEAKER VOLUME KNOB clockwise increases the ROOM SPEAKER volume and turning it counter-clockwise decreases the ROOM SPEAKER volume. The ROOM SPEAKER VOLUME KNOB should be normally be set to maximum (fully clockwise) and the RADIO VOLUME KNOB (See step 14) should be used to adjust for the proper listening volume.

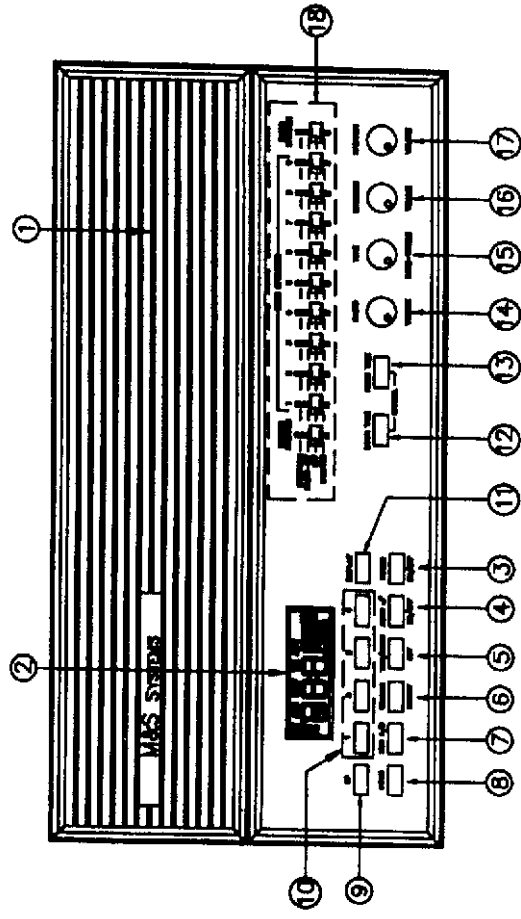
NOTE: The ROOM SPEAKER VOLUME KNOB can be used to prevent others from monitoring the room that you are in by turning the VOLUME KNOB fully counter-clockwise. Just remember that you will not hear the intercom or door chime with the VOLUME KNOB in this position!

## MC350A 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 someone in another room hold the **ROOM TALK BUTTON** in while talking in the direction of the microphone. Release the **ROOM TALK BUTTON** when you are finished talking. For a person to talk to you from another room, that person must hold in the **ROOM TALK BUTTON** on the room speaker while talking in the direction of that microphone. When that person stops talking and releases their **ROOM TALK BUTTON**, you may talk to the room(s) again by holding in the **ROOM TALK BUTTON**.

Your MC350A is designed to make your home more functional and enjoyable. Prepare yourself for a more satisfying home living experience.



## MC350A MASTER UNIT OPERATION

When the MC350A is 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 steps 5 and 10 in the following instructions.

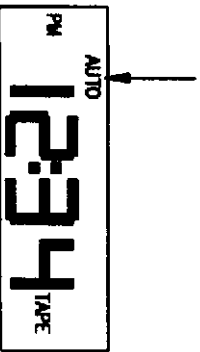
1. **MASTER SPEAKER/MICROPHONE High-Fidelity Speaker.** This also is the microphone for communications from the master unit.

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 ON/OFF BUTTON** - always active. This button is used to turn the MC350A ON and OFF. When the unit is turned on, one of the four source select 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 MC350A must be turned on to operate the radio, or to listen to other music through the unit. The unit must also be turned on to set the time and to set the auto music function. The intercom functions will work with the power ON or OFF.

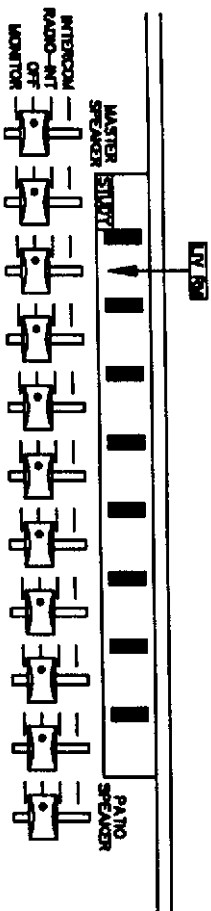


4. **AUTO  $\downarrow$  ON/OFF BUTTON** - active only when the MC350A is ON. This button is used to turn the Automatic Music (AUTO  $\downarrow$ ) function ON and OFF. Depressing the AUTO  $\downarrow$  ON/OFF BUTTON momentarily, turns the AUTO  $\downarrow$  on and depressing it again turns the AUTO  $\downarrow$  off. The AUTO  $\downarrow$  function is on when the AUTO indicator is displayed on the top of the display. When the AUTO  $\downarrow$  function is turned on, the MC350A 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.



volume of the chime is controlled at each speaker with the speaker volume knob.

You can customize your MC350A by using the optional Room Switch Label and Room Stickers. Install the large label over the 1 through 9 Room Speaker area (the top of the label should be even with the edge of the faceplate and the ridges of the label should be centered between the room switches. After turning the radio on, switch one Room Speaker to RADIO-INT at a time to determine the location it controls. Place the sticker which best describes this location on the label above the corresponding switch (the sticker should be located between the ridges of the label with the bottom of the sticker even with the bottom of the label).



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).

**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.

**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 MC350A off.

Your MC350A 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

5. **TIME/AUTO SET BUTTON** - active only when the MC350A is ON. This button is used to access the time setting mode. When the TIME/AUTO SET BUTTON is depressed momentarily, the display will indicate "SET TIME" and the current time will be displayed with the hours flashing. The UP and DOWN BUTTONS 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 changing the hours past 12:00.

**Note:** The MC350A remains in the set mode for 9 seconds with no activity (no buttons being pressed) after which the unit automatically returns to the normal mode of operation. The TIME/AUTO SET BUTTON must be depressed again to return to the set mode.

Once the current hours have been set correctly, momentarily depress the TIME/AUTO 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 depress the TIME/AUTO SET BUTTON again to return to the normal mode or let the MC350A automatically return to the normal mode if no buttons are pressed for 9 seconds.

To set the AUTO ↗ ON and OFF times, the TIME/AUTO SET BUTTON must be momentarily depressed three times without changing the current time. After depressing the TIME/AUTO 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.

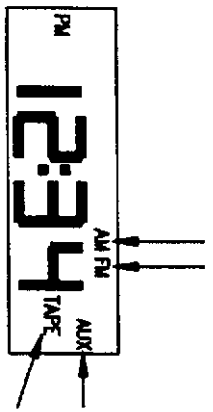
Once the AUTO ON TIME hours have been set correctly, momentarily depress the TIME/AUTO SET BUTTON again. The display will indicate "SET AUTO ON TIME" and the AUTO ON TIME will be displayed with

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 depress the TIME/AUTO 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 depress the TIME/AUTO SET 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 SELECT BUTTON** - active only when the MC350A is ON. This button is used to select the audio source (FM, AM, AUX input, or TAPE input) which the MC350A will output to the speakers. Each time the SOURCE SELECT BUTTON is momentarily depressed the audio source changes. The active source is displayed on the right side of the display.



7. **MEM A/B BUTTON** - active only when the MC350A is ON and the FM or AM source is selected. This button is used in conjunction with the four memory buttons (1, 2, 3, and 4) to access eight memories in FM and eight memories in AM. The eight memory names are 1A, 2A, 3A, 4A, 1B, 2B, 3B, and 4B for FM and the same eight names for AM. The use of the MEM A/B button is explained in step 10.

**IMPORTANT:** Do not set the RADIO VOLUME KNOB to maximum 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.

15. **STONE BASS-TREBLE KNOB** - **Recommended setting: 12:00.** This knob is used to adjust the tone of the audio heard on all the speakers (room speakers as well as the MASTER SPEAKER). Turning the TONE BASS-TREBLE KNOB clockwise increases the treble (makes the high frequencies louder) and turning it counter-clockwise increases the bass (makes the low frequencies louder).

16. **INTERCOM VOLUME KNOB** - **Recommended setting: 12:00.** This knob is used to adjust the level of the intercom communications. Turning the INTERCOM VOLUME KNOB clockwise increases the volume and turning it counter-clockwise decreases the volume. The INTERCOM VOLUME KNOB 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. **SPEAKER VOLUME KNOB** - **Recommended setting: Maximum.** This knob is used to control the volume of the MASTER SPEAKER. Turning the SPEAKER VOLUME KNOB clockwise increases the MASTER SPEAKER volume and turning it counter-clockwise decreases the MASTER SPEAKER volume. The SPEAKER VOLUME KNOB should be normally be set to maximum (fully clockwise) and the RADIO VOLUME KNOB should be used to adjust for the proper listening volume. If however, another room needs more volume than the MASTER SPEAKER, the SPEAKER VOLUME KNOB may have to be turned down somewhat and then the RADIO VOLUME KNOB may have to be turned up to get the perfect volume in each room.

18. **SPEAKER 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).

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 step 18).

13. 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. For a person to talk to you from another room, that person must hold in the ROOM TALK BUTTON on the room speaker while talking in the direction of that microphone (the display will show that you are in the listen mode). When that person stops talking and releases their ROOM TALK BUTTON, you may talk to the room(s) again by holding in the ROOM TALK BUTTON.

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 step 18).

12 & 13. OPTIONAL DOOR RELEASE - always active. If the system is wired to use the Door/Gate release function, the DOOR TALK BUTTON and ROOM TALK BUTTON can be used to open the Entry Door or Gate. The Door/Gate release is activated by pushing both the DOOR TALK and ROOM TALK BUTTONS for five seconds. The display will show that the RELEaSe is activated.

14. RADIO VOLUME KNOB- Recommended setting: 8:00 to 9:00. This knob is used to adjust the audio level of the selected source (FM, AM, AUX, or TAPE) which is sent to all the speakers. Turning the RADIO VOLUME KNOB clockwise increases the volume and turning it counter-clockwise decreases the volume. Each Room Speaker including the MASTER SPEAKER has its own volume control which can be used to attenuate (turn down) this "system" audio level to the desired volume for each particular room.

NOTE: For best performance, the individual speaker volume controls should be turned to maximum volume (fully clockwise) and then the RADIO VOLUME KNOB 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.

8. DOWN BUTTON - active only when the MC350A 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 DOWN BUTTON is simply depressed momentarily. The audio will be muted and the display will show the radio station frequency decreasing until a strong station is found. Once MC350A 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 DOWN BUTTON is held in. After about 1 second the MC350A 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 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 DOWN BUTTON should be held in until the frequency changes—then immediately released.

The 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/AUTO SET BUTTON.

9. UP BUTTON - active only when the MC350A 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 DOWN BUTTON except that it scans the frequencies up instead of down.

The 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/AUTO SET.

- 1, 2, 3, and 4 BUTTONS - active only when the MC350A 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. Along with the MEM A/B button, these buttons provide 8 FM memories (1A, 2A, 3A, 4A, 1B, 2B, 3B, and 4B) and another 8 AM memories 1A through 4B).

To save a radio station in memory 2B:

1. Tune the radio to the FM or AM station which is desired to be saved.
2. If MEM A is indicated on the display, momentarily depress the MEM A/B BUTTON to select MEM B. If MEM B is already indicated skip step 2.
3. Hold in the 2 BUTTON until a 2 appears as the memory number.

To recall the radio station saved in memory 3A:

1. If MEM B is indicated on the display, momentarily depress the MEM A/B BUTTON to select MEM A. If MEM A is already indicated skip step 1.
2. Momentarily depress the 3 BUTTON. The memory number should display 3 and the station that was stored in memory 3A should be displayed and heard through the speakers.



11. DISPLAY BUTTON - active only when the MC350A is ON and the FM or AM source is selected. This button is used to control what will be shown in the display (either the current time or the FM or AM frequency). The DISPLAY BUTTON is used as follows:

If the time is being displayed, momentarily depressing the DISPLAY BUTTON will cause the currently tuned FM or AM frequency to be displayed for 7 seconds; the MC350A will automatically display the time again after 7 seconds have elapsed.

If the frequency is being displayed for its 7 seconds, momentarily depressing the DISPLAY BUTTON will cause the frequency to be continuously displayed until the DISPLAY BUTTON is depressed again or until the source is changed.

If the frequency is being continuously displayed, momentarily depressing the DISPLAY BUTTON will cause the current time to be displayed.

**NOTE:** Whenever the station is changed either by Automatic Search, Manual Scan, or Recalling a Memory, the MC350A will automatically display the new frequency for 7 seconds. After these 7 seconds the display will return to the time or continue to display the new frequency depending upon the status as explained previously.

12. DOOR TALK BUTTON - always active. This button is used for communicating with the outside door speaker(s). To talk to someone at the door speaker(s) hold the DOOR TALK BUTTON in while talking in the direction of the microphone. The display will show that you are in the talk mode. Release the DOOR TALK BUTTON when you are finished talking—the MC350A will automatically listen (you will hear what is being said) to the person at the door 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 DOOR TALK BUTTON. Each time the DOOR TALK BUTTON is 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 depressing the DOOR TALK BUTTON and the ROOM TALK BUTTON at the same time. The word CANCEL under the DOOR and ROOM TALK BUTTONS identifies this function.