



MOTOROLA

SYNTOR X 9000E

*Privacy Plus
Radio System*



**OPERATOR'S
MANUAL**

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GENERAL SAFETY INFORMATION

The United States Department of Labor, through the provisions of the Occupational Safety and Health Act of 1970 (OSHA), has established an electromagnetic energy safety standard that applies to the use of this equipment. Proper use of this radio will result in exposure below the OSHA limit. The following precautions are recommended:

DO NOT operate the transmitter of a mobile radio when someone outside the vehicle is within two feet (0.6 meter) of the antenna.

DO NOT operate the transmitter of a fixed radio (base station, microwave, and rural telephone RF equipment) or marine radio when someone is within two feet (0.6 meter) of the antenna.

DO NOT operate the transmitter of any radio unless all RF connectors are secure and any open connectors are properly terminated.

In addition,

DO NOT operate this equipment near electrical blasting caps or in an explosive atmosphere.

All equipment must be properly grounded according to Motorola installation instructions for safe operation.

All equipment should be serviced only by a qualified technician.

Refer to the appropriate section of the product service manual for additional pertinent safety information.

INSTALLATION SAFETY WARNING

Consider the occupants' safety when you choose a location for the radio. Do not mount the radio overhead or on a sidewall unless you take special precautions.

If someone were to remove the radio and fail to replace it properly, road shock could bump the radio loose, and the falling radio could in some circumstances cause serious injury to the driver or a passenger.

If you must mount the radio overhead or on a sidewall, give it the added protection of a retaining strap. Custom-made straps are available from Motorola National Parts. Order kit number HLN4698A (for *Mitrek*) or HLN4697A (for *SYNTOR*, *SYNTOR X*, or *SYNTOR X 9000*).

WARNING

For vehicles equipped with electronic anti-skid braking systems, see "ANTI-SKID BRAKING PRECAUTIONS" Publication, Motorola Number 68P81109E34.

To gain full access to the Common Circuits Board for servicing, the regulator heat sink screw must be removed. When operating the radio with the regulator heat sink screw removed, care should be taken to avoid the exposed hot flange.

It is mandatory that radio installations in vehicles fueled by liquefied petroleum gas conform to the following standard.

National Fire Protection Association standard NFPA 58 applies to radio installations in vehicles fueled by liquefied petroleum (LP) gas with the LP-gas container in the trunk or other sealed-off space within the interior of the vehicles. This standard requires that:

1. Any space containing radio equipment shall be isolated by a seal from the space in which the LP-gas container and its fittings are located.
2. Remote (outside) filling connections shall be used.
3. The container space shall be vented to the outside.

MXW-0866-D (2)

FCC REQUIREMENTS

The FCC requires that you obtain a station license for your radio equipment before transmitting. No operating license or permit is required. The station licensee is responsible for ensuring that the transmitter power, frequency, and deviation are within the maximum limits allowed by the station license.

SERVICE

Should you wish to purchase a service contract for your Motorola equipment, contact your Motorola Service Representative, or write to:

National Service Manager
Motorola Communications Sector
1301 E. Algonquin Road
Schaumburg, IL 60196

TRUNKED RADIO SYSTEM DESCRIPTION

Communication "trunking" improves operating efficiencies by sharing system resources among the users. Trunking techniques are well established in the communications in-

dustry and are used by telephone companies to support the millions of calls they service. Motorola has adapted similar trunking methods to the two-way radio industry.

A trunked radio system allows a large number of users to share a relatively few number of frequencies. When you want to establish communications with someone else in the system, a repeater, or communications path is assigned to your radio. Once your conversation has ended, the repeater is freed for other users. This sharing of frequencies is accomplished automatically in a Motorola Trunked Radio System through the use of multiple repeaters and a system central controller. Trunking allows all of the repeater air time to be simultaneously pooled, maximizing the amount of air time available to any one mobile unit and minimizing channel congestion.

Some of the key benefits of the Motorola Trunked Radio System are:

- No channel monitoring required prior to transmission.
- Fast system access.
- Automatic channel selection.
- Privacy among members of the same group.
- Uninterrupted conversations.

ALERT TONES

The following alert tones will aid you by indicating unique system conditions:

System Busy— If you hear this signal— similar to a telephone busy signal when you press the microphone PTT (push-to-talk) button, you will not be able to transmit because all radio channels in the system are in use.

Automatic Call Back— When you try to transmit with all channels in use, the system goes into the automatic call back mode. When a channel is available, a series of four short beeps sounds to let you know that you can now transmit.

Talk Prohibit— If you press the microphone PTT button and hear a Low Pitched tone, you are either out of range of the trunked radio system or the system is out of service.

Failsafe— A beep that indicates failure of the system central controller. It sounds every 10 seconds when the unit is in an unmuted receive mode. The radio reverts from trunked operation to a system similar to conventional radio repeater operation.

Volume Set— This switch—enabled tone sounds to let you adjust the volume to the desired level before calls are actually received.

Talk Permit (optional)— This series of four short beeps sounds when you press the microphone PTT button to verify that the system is accepting your transmission.

Time-Out Timer Alert (optional)— This continuous tone indicates that your present transmission will soon be disabled.

Phone Off-Hook (optional)— This low-pitch continuous tone indicates that your radio is in the Telephone Interconnect mode and cannot receive fleet or subfleet calls.

Invalid Key Chirp— This momentary, lower pitched tone indicates that you have selected an incorrect button position.

Valid Key Chirp— This momentary, higher pitched tone confirms that you have selected a valid, programmed button position.

Telephone Interconnect Busy (optional)— Four telephone-type busy tones indicate that the interconnect repeater is busy when you press the telephone button. If you leave the unit in the telephone interconnect mode, the busy tones are followed by a dial tone when the repeater becomes available.

Private Conversation Call— Two high-pitched tones indicate a private call has been received.

Individual Call Alert Paging— Four beeps sounding every 6 seconds indicate that the radio is being paged.

Central Acknowledge (optional)— One high-pitched tone indicates that an Individual Call Alert has been received by the system central controller.

Mobile Unit Acknowledge (optional)— Four high-pitched tones indicate that the individual Call Alert has been received by the intended unit.

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INTRODUCTION

Systems 9000 Control Unit

The **SYNTOR X 9000E** Control Unit allows you to field program your own names to represent talk groups. The names you assign are clearly shown in the eleven character alphanumeric display. At a glance, you can see all the key operating information including the talk group selected, the channel being scanned, and the on/off status of various options. The operating conditions are shown either by the display or by lighted indicators.

In addition to showing talk groups, the display will also show *Channel Scan* lists, *Private Conversation* lists, and frequently called telephone numbers. It also plays an integral role in encoding certain operating data through the control unit.

BASIC CONTROL UNIT

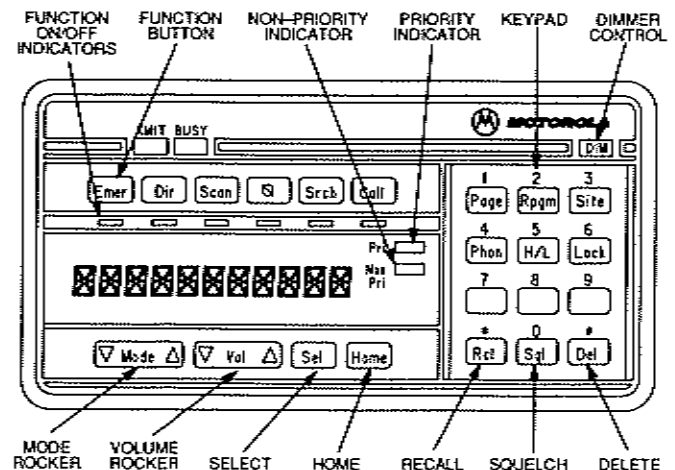
Before operating the trunked/conventional mobile radio, familiarize yourself with the various operating controls, indicators, and alert tones. Figure 1 shows the configuration of a fully optioned **SYNTOR X 9000E** control unit. The On/Off switch is located on the bottom right side of the unit.

The following sections describe the use of the various controls. A word shown in bold type, for example **[Mode]**, indicates a button on the control unit.

The power switch is a hidden slide switch located on the bottom right side of the control unit. The display is used for

power indication. When turned on, "SELF-CHECK" displays and your radio checks itself for proper operation.

If a system malfunction is discovered, an error code displays for two seconds. Should the malfunction jeopardize system security, the control unit stops accepting inputs and a fail code displays. See the troubleshooting guide for full descriptions of error and fail codes.



GPW-4227-A

Figure 1. SYNTOR X 9000E Control Unit

GENERAL OPERATION

MODE

Use the **[Mode]** rocker switch to scroll through the list of modes programmed in your system. During normal operation, the selected mode number and field programmed mode name is shown on the radio's display. **[Mode]** is also used for selecting option choices.

Note

Some units may have a **[Zone]** and **[Mode]** or **[System]** and **[Subfleet]** rocker rather than **[Mode2]**. (See Optional Control Units, page 26).

If your unit is the **[System]** and **[Subfleet]** version. Use the **[Subfleet]** rocker whenever the manual refers to **[Mode]**.

VOLUME AND SQUELCH

The **[VOL]** rocker controls volume settings for radio reception. It also sets the public address and external radio volume levels for radios with these options. To set the volume, use the volume rocker to adjust the volume level.

The **[Sql]** button on the keypad unsquelches the radio (conventional modes only). Press **[Sql]** to display "MONITOR

ON" and allow channel monitoring. **[Sql]** is also used to set squelch level.

To set the squelch level, hold **[Sql]** until a beep sounds. The display shows the current setting. Use **[Mode]** to change squelch level. Press **[Home]** to return to normal operation.

HOME

The radio goes to a pre-programmed home mode when **[Home]** is pressed. You may use **[Home]** and the keypad to select other modes by holding **[Home]** until a beep sounds. Use the keypad to enter your desired mode. Press **[Home]** to go to that mode. When you complete changing any option or radio feature, press **[Home]** to return to normal operation.

DIM

The **[Dim]** button adjusts the brightness of the display and button backlighting to one of four levels. When your radio is turned on, the brightness automatically resets to its highest level. Press **[Dim]** to lower the brightness. The lowest setting turns the display off for surveillance operation.

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CHANNEL SCAN FEATURES

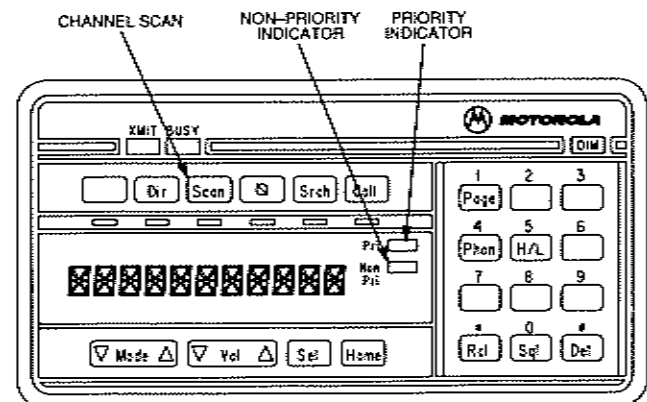
CHANNEL SCAN

The *Channel Scan* feature allows you to monitor a previously selected list of modes for activity. Press **[Scan]** to begin *Channel Scan* operation. If no activity exists, the display shows your selected channel. When a scanned channel becomes active, the display shows the active channel and unmutes the radio. To scan, regardless of PL code (conventional modes only), press **[Sql]** once while scan is on. Any channel activity will now unmute the radio during scanning.

OPERATOR SELECT CHANNEL SCAN

The *Operator Select Channel Scan* allows you to select your own list of modes to scan. You may also assign first and second priority modes. You may select, modify, or review a scan list by holding **[Scan]** until a beep sounds. Use keypad entries, mode name selection, or a combination of both to create or add to your scan list, and press **[Sel]** to enter that mode on your scan list. Press **[Home]** to return to normal operation and start scanning. Hold **[Scan]** until a beep sounds to review your scan list. Use **[Rcl]** to scroll through your list.

To delete a mode from your list, press **[Del]** when the mode you want to remove is displayed. Press **[Home]** to return to normal operation and start scanning.



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Figure 2. Channel Scan

PRIORITY

Note

Privacy Plus radio models do not allow priority scan on trunking modes.

If this feature is not in your radio, the priority modes are defined in the radio memory and cannot be operator modified.

On power-up, the operator select scan returns to the list selected prior to power-down.

When scan is on, the priority of a mode on the scan list is determined by the number of times the [Sel] button was pressed when the mode was entered in the scan list. See Table 1.

Table 1. Mode Priority Assignment

Press [Sel]	Assigns Mode To	Indicator
1 Time	Non-Priority	Non-Priority Lights
2 Times	Second Priority	Priority Lights
3 Times	First Priority	Priority Blinks

DYNAMIC PRIORITY

The "dynamic priority" feature allows the priority of a mode on the scan list to be modified when active. Press the [Sel] button to make a non-priority mode a second priority. Restore the original scan list by either (1) turning scan off and on, (2) changing modes, or (3) turning the radio off and on.

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An optional tone to alert you of first or second priority activity is also available. Both "dynamic priority" and "priority alert" features are programmed into the memory.

NUISANCE MODE DELETE

This optional feature may be programmed in the radio memory. Non-priority modes in the scan list that become undesirable may be temporarily deleted using the [Del] button when that mode is active. Modes are not permanently affected, and only one mode may be deleted at a time. Priority modes cannot be deleted. To return a deleted mode to the list, press [Rcl]. Another optional feature is the priority alert tone. This alert tone may be programmed in the radio memory.

MODE SLAVED SCAN

Mode Slaved scan lists are pre-programmed and cannot be operator modified. When [Scan] is on, the internal scan list for the selected mode is scanned and the scan indicator lights. The currently active mode number or name displays while the appropriate priority or non-priority indicator lights. If no activity exists, the display indicates the selected mode until activity on a scanned mode occurs.

TALK BACK SCAN

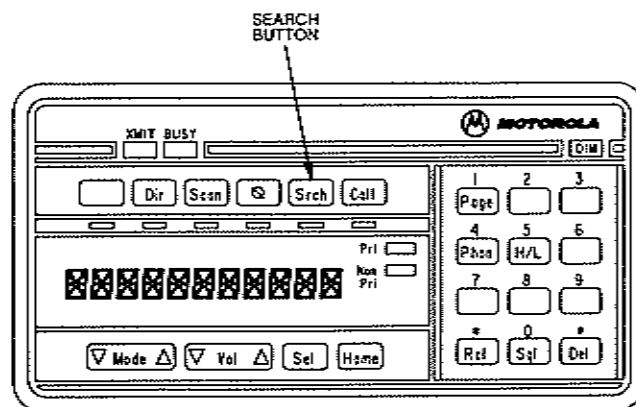
Talk Back Scan allows you to transmit on the last active received mode, regardless of what mode is selected on the control unit.

SYSTEM SEARCH AND LOCK

SEARCH AND LOCK

When your vehicle moves out of range of a repeater, the radio automatically searches through a pre-determined list of alternate repeaters and locks onto a system that is in the current coverage area.

The [Srch] button turns the function on and off. Press and hold the [Srch] button to initiate a scan. While the radio searches for a new repeater, the indicator light below the button flashes. Once a new site has been found, the new mode name appears on the display and the indicator lights solid.



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Figure 3. System Search and Lock

MDC-1200 EMERGENCY ALARM

EMERGENCY ALARM

Press the **[Emer]** button to activate the Emergency Alarm feature. The red indicator lights and the display flashes "EMERGENCY".

When the base acknowledges the alarm, an acknowledgment tone (beep-beep-beep-beep) follows, and the radio automatically returns to normal operation.

If the base does not acknowledge the alarm after 20 retries (the option automatically tries 20 times), the red indicator turns off and the display returns to normal operation.

No further action is required.

Exit the Emergency Alarm mode by pressing PTT.

SILENT EMERGENCY ALARM

During a silent Emergency Alarm, the indicator below the **[Emer]** button does not light and the receiver audio mutes so no indication is given that an Emergency Alarm has been sent. Press the **[Emer]** button to activate the Silent Alarm option. Exit the Silent Alarm mode by pressing the PTT.

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TELEPHONE INTERCONNECT OPTION

The Telephone Interconnect option allows you to place or receive private telephone calls directly from the mobile radio. This capability is performed through the System Central Controller. All calls between you and the land line user are private, regardless of who initiates the call.

You may dial numbers manually or from a pre-defined list. The radio stores up to nine phone numbers (names can be field programmed), plus the last number called.

SCRATCH PAD DIALING

Press the **[Phon]** button to make a call. An alert tone sounds and the display alternates between "SCRATCH PAD" and the last number dialed. The scratch pad memory stores the last number dialed from the keypad.

Enter the phone number on the keypad. Press **[Del]** twice (delete function) if you make an error. Press the **[Sel]** button to make the call. If the system is busy, telephone busy signal sounds. When a channel becomes available, the number will automatically dial.

When the land line party answers, explain that only one person can talk at a time. Each time you release your PTT button, the listener hears a tone. This is their cue to begin talking. Proceed with your conversation in a normal push-to-

talk manner. Press the **[Home]** button to exit the phone mode.

KEYPAD DIALING

Keypad dialing is often necessary when using PBX's, long distance services, etc.

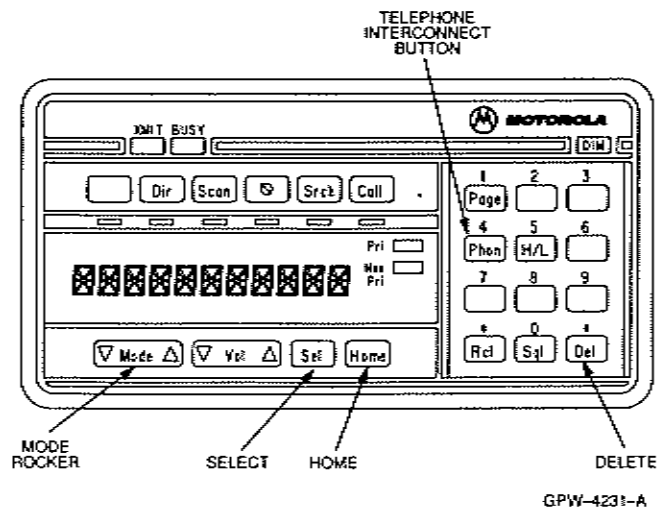


Figure 4. Telephone Interconnect

Press the **[Phon]** button. An alert tone sounds and the display alternates between "SCRATCH PAD" and the last number dialed. Use the **[Mode]** rocker to scroll to "KEYPAD DIAL" and press the **[Sel]** button.

Wait for a dial tone. If the system is busy, telephone busy signal sounds. When a channel becomes available, you hear a dial tone. Dial the number using the keypad.

When the land line party answers, explain that only one person can talk at a time. Each time you release your PTT button, the listener hears a soft tone. This is their cue to begin talking. Proceed with your conversation in a normal push-to-talk manner. Press the **[Home]** button to exit the phone mode.

AUTO DIALING FROM MEMORY

Press the **[Phon]** button. An alert tone sounds and the display alternates between "SCRATCH PAD" and the last number dialed. Use the **[Mode]** rocker to scroll to the desired name/number. Press the **[Sel]** button to begin the auto-dial sequence. If the system is busy, a telephone busy signal sounds. When a channel becomes available, the number automatically dials.

If the number has a "P" (pause), the radio de-keys until the **[Sel]** button is pressed again.

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When the land line party answers, explain that only one person can talk at a time. Each time you release your PTT button, the listener hears a soft tone. This is their cue to begin talking. Proceed with your conversation in a normal push-to-talk manner. Press the **[Home]** button to exit the phone mode.

STORING PHONE NUMBERS

Special Key sequences help program certain features of the Telephone Interconnect option such as:

- Press *— displays " * "
- Press #— displays " # "
- Press * #— displays "P". This special function is used to pause in the middle of a dialing sequence. Press the **[Sel]** button to continue.
- Press # #— erases the previous digit

To store phone numbers in memory, first press the **[Phon]** button. An alert tone sounds and the display alternates between "SCRATCH PAD" and the last number dialed.

Use the **[Mode]** rocker to scroll to "STORE PHONE" and press the **[Sel]** button. The **[Mode]** rocker scrolls through the choices and the display shows "PHONE 1", "PHONE 2", etc. (phone names can be field programmed). If a phone name is left on the display for more than two seconds, the display alternates between the number and name currently stored in that location.

Press the buttons on the keypad to enter the ID to be stored. After the ID has been entered, press the **[Sel]** button to store it. You may continue or press the **[Home]** button to store and exit the phone storage mode.

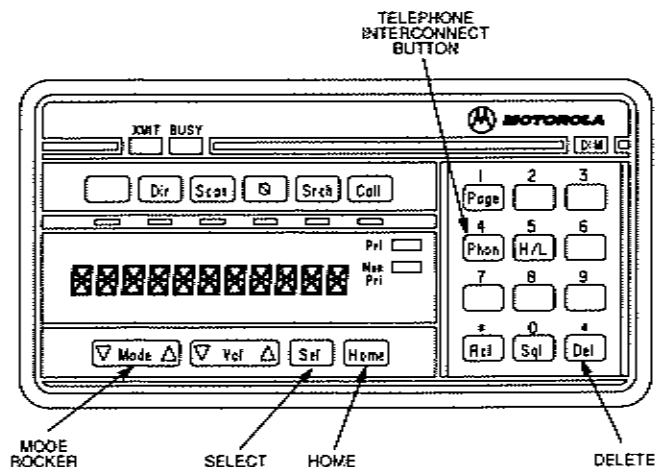
RECEIVING A TELEPHONE INTERCONNECT CALL

The land line caller dials the interconnect terminal phone number. If the system is busy, the caller hears a normal busy signal and has to redial the number. If the phone line is available, the caller hears a 1 second tone, after which he enters the access code (i.e. your mobile unit's ID number) being called. Both you and the land line caller hear a ringing tone.

If your mobile unit is already involved in a conversation, up to 20 seconds of fast ringing tones sound while the System Central Controller waits for you to complete the conversation. If you do not complete the conversation in 20 seconds, the call will be disconnected and the land line caller must redial.

Press the **[Phon]** button to answer a call. An alert tone sounds and the display shows "PHONE CALL". Press the PTT to begin the conversation.

Press the **[Home]** button to exit the phone mode.



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Figure 5. Telephone Interconnect

TELEPHONE INTERCONNECT OPTION FOR CONVENTIONAL SYSTEMS

The Telephone Interconnect option for Conventional Systems allows you to place or receive telephone calls directly from the mobile radio.

You may dial numbers manually or from a pre-defined list. The radio stores up to nine phone numbers (names can be field programmed), plus the last number called.

SCRATCH PAD DIALING

Press the **[Phon]** button to make a call. An alert tone sounds and the display alternates between "SCRATCH PAD" and the last number dialed. The scratch pad memory stores the last number dialed from the keypad or from the memory list.

Enter the phone number on the keypad. Press **[Del]** twice (delete function) if you make an error. Press the **[Sel]** button to make the call.

When the land line party answers, explain that only one person can talk at a time. Each time you release your PTT button, the listener hears a tone. This is their cue to begin talking.

ing. Proceed with your conversation in a normal push-to-talk manner.

Press the **[Home]** button to exit the phone mode.

AUTO DIALING FROM MEMORY

Press the **[Phon]** button. An alert tone sounds and the display alternates between "SCRATCH PAD" and the last number dialed. Use the **[Mode]** rocker to scroll to the desired name/number. Press the **[Sel]** button to begin the auto-dial sequence.

If the number has a "P" (pause), the radio de-keys until the **[Sel]** button is pressed again.

When the land line party answers, explain that only one person can talk at a time. Each time you release your PTT button, the listener hears a soft tone. This is their cue to begin talking. Proceed with your conversation in a normal push-to-talk manner.

Press the **[Home]** button to exit the phone mode.

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STORING PHONE NUMBERS

Special Key sequences help program certain features of the Telephone Interconnect option such as:

- Press *— displays " * "
- Press #— displays " # "
- Press * #— displays "P". This special function is used to pause in the middle of a dialing sequence. Press the **[Sel]** button to continue.
- Press # #— erases the previous digit

To store phone numbers in memory, first press the **[Phon]** button. An alert tone sounds and the display alternates between "SCRATCH PAD" and the last number dialed.

Use the **[Mode]** rocker to scroll to "STORE PHONE" and press the **[Sel]** button. The **[Mode]** rocker scrolls through the choices and the display shows "PHONE 1", "PHONE 2", etc. (phone names can be field programmed). If a phone name is left on the display for more than two seconds, the display alternates between the number and name currently stored in that location.

Press the buttons on the keypad to enter the number to be stored at this memory location.

TO RECEIVE A TELEPHONE CALL

You hear two alert tones and the display shows "CALL" when you receive a private call.

Press the **[Call]** button to answer. An alert tone sounds and the red indicator light blinks. The display changes to "PHONE CALL". Respond to the call by pressing PTT.

Press the **[Home]** button to return the radio to normal operation.

Receiving a group call requires no action. The radio unmutes on correct PL. When complete, press the **[Call]** and **[Home]** buttons to remute the radio's audio.

Note

If the radio is equipped with External Alarm (Horn & Lights) see External Alarms.

SELECTIVE CALL

The Selective Call allows you to place and receive private calls with specific units in the trunking system.

You may select a target unit from a pre-stored list of up to nine units. If you have Unlimited Call, you can select from the pre-stored list or use the keypad to call any properly equipped unit in the system.

INITIATING A SELECTIVE CALL

Press the **[Call]** button to initiate a Selective Call. An alert tone sounds and the red indicator light blinks. The display shows the last ID called. With Unlimited Call capability, you can use the keypad to enter the desired six digit ID or use the **[Mode]** rocker to scroll through the pre-stored list of names and their associated ID numbers.

Press PTT to initiate the call. Pause for a second to allow the alert tone to sound in the receiving unit, then begin the conversation. Press the **[Home]** button to return the radio to normal operation.

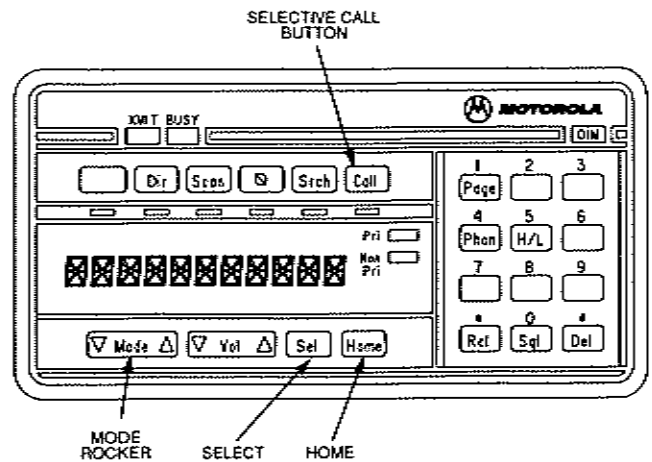


Figure 6. Selective Call

TO RECEIVE A SELECTIVE CALL

You hear two alert tones and the display shows "CALL" when you receive a private call.

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Press the **[Call]** button to answer. An alert tone sounds and the red indicator light blinks. The display changes to "ID-RCVD". Respond to the call by pressing PTT.

Press the **[Home]** button to return the radio to normal operation.

STORING CALL ID's

To store Call ID's, first press the **[Call]** button. An alert tone sounds and the red indicator light blinks. The display shows

the last ID called. Use the **[Mode]** rocker to scroll to "STORE ID" and press the **[Sel]** button. The display changes to "UNIT 1", "UNIT 2", etc. (call names can be field programmed). If the call name is left on the display for more than two seconds, the display alternates between the ID and name stored in that location.

Press the buttons on the keypad to enter the ID to be stored. After the ID has been entered, press the **[Sel]** button to store it. You may continue or press the **[Home]** button to store and exit the Call storage mode.

MDC-1200 SELECTIVE CALL

The Selective Call allows you to place and receive private calls with specific units.

You may select a target unit from a pre-stored list of up to nine units. If you have Unlimited Call, you can select from the pre-stored list or use the keypad to call any properly equipped unit in the system.

INITIATING A SELECTIVE CALL

Press the **[Call]** button to initiate a Selective Call. An alert tone sounds and the red indicator light blinks. The display shows the last ID called. With Unlimited Call capability, you can use the keypad to enter the desired four digit ID or use the **[Mode]** rocker to scroll through the pre-stored list of names and their associated ID numbers.

Press **[Sel]** to initiate the call. Pause for an automatic acknowledge from the target unit. "PLEASE WAIT" displays and a ring tone sounds until the target operator responds to the call by pressing **[Call]** then PTT.

Press the **[Home]** button to return the radio to normal operation or to terminate the call.

If the target operator does not respond, press the **[Sel]** button to exit the Call Alert page.

If the target operator does not acknowledge after five retries, the display shows "CALL NO ACK".

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If the target unit is already engaged in another private call, the display shows "UNIT BUSY".

TO RECEIVE A SELECTIVE CALL

You hear two alert tones and the display shows "CALL" when you receive a private call.

Press the **[Call]** button to answer. An alert tone sounds and the red indicator light blinks. The display changes to "ID-RCVD". Respond to the call by pressing PTT.

Press the **[Home]** button to terminate the private call.

STORING CALL ID's

To store Call ID's, first press the **[Call]** button. An alert tone sounds and the red indicator light blinks. The display shows the last ID called. Use the **[Mode]** rocker to scroll to "STORE ID" and press the **[Sel]** button. The display changes to "UNIT 1", "UNIT 2", etc. (call names can be field programmed). If the call name is left on the display for more than two seconds, the display alternates between the ID and name stored in that location.

Press the buttons on the keypad to enter the ID to be stored.

After the ID has been entered, press the **[Sel]** button to store it. You may continue or press the **[Home]** button to store and exit the Call storage mode.

DTMF SELECTIVE CALLS

The DTMF Selective Call allows you to place and receive calls with specific units.

You may select a target unit from a pre-stored list of up to nine units or use the keypad to call any properly equipped unit in the system.

INITIATING A SELECTIVE CALL

Press the **[Call]** button to initiate a DTMF Selective Call. An alert tone sounds and the red indicator light blinks. The display shows the last ID called. Use the keypad to enter the desired four digit ID or use the **[Mode]** rocker to scroll through the pre-stored list of names and their associated ID numbers.

Press **[Sel]** to initiate the call. Pause until the receiving unit responds.

Note

DTMF and call buttons are interchangeable.

Press the **[Home]** button to return the radio to normal operation.

TO RECEIVE A DTMF SELECTIVE CALL

You hear two alert tones and the display shows "CALL" when you receive a call. A ringing tone sounds when you receive a DTMF call.

Press the **[Call]** button to answer. An alert tone sounds and the red indicator light blinks. The display changes to "CALL". Respond to the call by pressing PTT.

Press the **[Home]** button to return the radio to normal operation. Receiving a group call requires no action. The radio unmutes on correct PL. Press the **[Call]** and **[Home]** buttons to remute the radio's audio.

Note

If the radio is equipped with External Alarm (Horn & Lights) see External Alarms.

STORING UNIT ID's

To store Unit ID's, first press the **[Call]** button. An alert tone sounds and the red indicator light blinks. The display shows the last ID called. Use the **[Mode]** rocker to scroll to "STORE UNIT" and press the **[Sel]** button. The display changes to "UNIT 1", "UNIT 2", etc. (call names can be field programmed). If the call name is left on the display for more than two seconds, the display alternates between the ID and name stored in that location.

When the ID name appears on the display, press the buttons on the keypad to enter the ID to be stored. After the ID has been entered, press the **[Sel]** button to store it. You may continue or press the **[Home]** button to store and exit the Unit storage mode.

INDIVIDUAL CALL ALERT PAGE

CALL ALERT PAGE

Individual *Call Alert* Page Encode-Decode allows you to selectively alert specific units in the trunking system.

You may select a target unit from a pre-stored list of up to nine units. If you have Unlimited Call, you can select from the pre stored list or use the keypad to page any properly equipped unit in the system.

INITIATING AN INDIVIDUAL CALL ALERT PAGE

Press the **[Page]** button to initiate an Individual *Call Alert* Page. An alert tone sounds and the display shows the last ID paged. With Unlimited *Call Alert* capability, use the keypad to enter the desired six digit ID or use the **[Mode]** rocker to scroll through the pre-stored list.

Press the **[Sel]** button to send a page. The display shows "PLEASE WAIT" while the page is being processed.

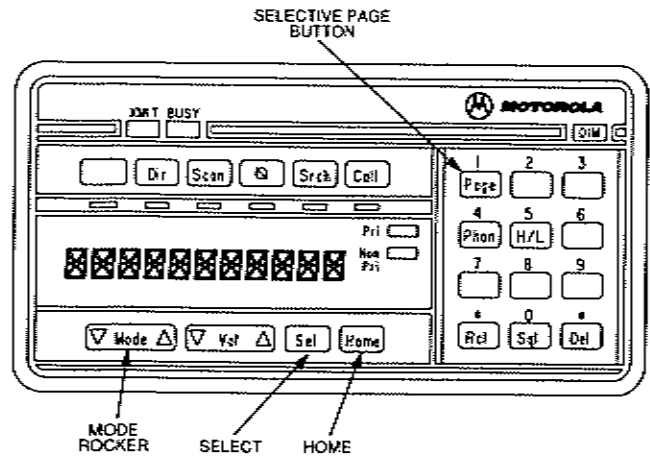


Figure 7. Selective Page

The display shows "ID PAGED" and hear four additional alert tones (beep-beep-beep-beep) sounds when the unit you paged sends a Unit Acknowledge. The radio returns to the normal operation.

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If the acknowledgment is not received within five seconds after the page has been transmitted, the display shows "PAGE NO ACK".

Press the **[Home]** button to return the radio to normal operation.

TO RECEIVE AN INDIVIDUAL CALL ALERT PAGE

When an Individual *Call Alert* Page is received, four alert tones (beep-beep-beep-beep) sound and the display flashes "PAGE". This repeats until you acknowledge the page by pressing PTT.

Note

If the radio is equipped with External Alarm (Horn and Lights) see External Alarms.

STORING PAGE ID's

Press the **[Call]** button to store Page ID's. An alert tone sounds and the display shows the last ID paged. Use the **[Mode]** rocker to scroll to "STORE ID" and press the **[Sel]** button. Now use the **[Mode]** rocker to scroll through the choices; the display shows "UNIT 1", "UNIT 2", etc. (call names can be field programmed).

If the call name is left on the display for more than two seconds, the display alternates between the ID number/name stored in that location.

Press the buttons on the keypad to enter the ID to be stored. After the ID has been entered, press the **[Sel]** button to store it. You may continue or press the **[Home]** button to store and exit the Page storage mode.

MDC-1200 INDIVIDUAL CALL ALERT PAGE

CALL ALERT PAGE

Individual *Call Alert* Page Encode-Decode allows you to selectively alert specific units.

You may select a target unit from a pre-stored list of up to nine units. If you have Unlimited Call, you can select from the pre-stored list or use the keypad to page any properly equipped unit in the system.

INITIATING AN INDIVIDUAL CALL ALERT PAGE

Press the **[Page]** button to initiate an Individual *Call Alert* Page. An alert tone sounds and the display shows the last ID paged.

With Unlimited *Call Alert* capability, use the keypad to enter the desired four digit ID or use the **[Mode]** rocker to scroll through the pre-stored list.

Press the **[Sel]** button to send a page. The display shows "PLEASE WAIT" while the page is being processed.

The display shows "ID PAGED" and hear four additional alert tones (beep-beep-beep-beep) sounds when the unit you paged sends a Unit Acknowledge. The radio returns to the normal operation. If the acknowledgment is not received within five retries the display shows "PAGE NO ACK".

Press the **[Home]** button to return the radio to normal operation.

TO RECEIVE AN INDIVIDUAL CALL ALERT PAGE

When an Individual *Call Alert* Page is received, four alert tones (beep-beep-beep-beep) sound and the display flashes "PAGE". This repeats until you acknowledge the page. Press **[Page]** then **[Home]** to acknowledge.

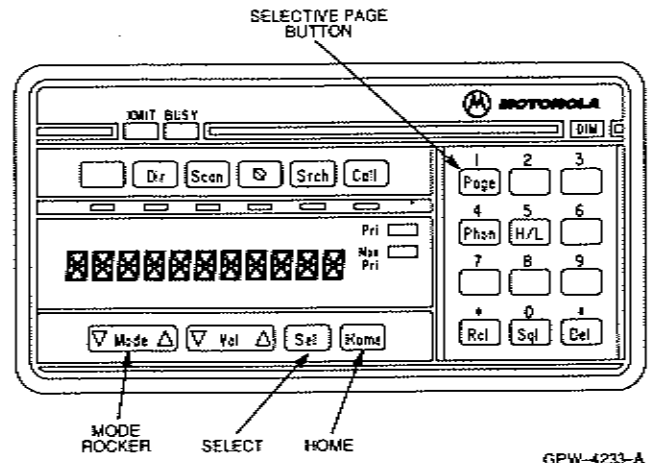


Figure 8. Selective Page

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Note

If the radio is equipped with External Alarm (Horn and Lights) see External Alarms.

STORING PAGE ID's

Press the **[Call]** button to store Page ID's. An alert tone sounds and the display shows the last ID paged. Use the **[Mode]** rocker to scroll to "STORE ID" and press the **[Sel]** button. Now use the **[Mode]** rocker to scroll through the

choices; the display shows "UNIT 1", "UNIT 2", etc. (call names can be field programmed).

If the call name is left on the display for more than two seconds, the display alternates between the ID number/name stored in that location.

Press the buttons on the keypad to enter the ID to be stored. After the ID has been entered, press the **[Sel]** button to store it. You may continue or press the **[Home]** button to store and exit the Page storage mode.

STATUS/MESSAGE

STATUS/MESSAGE

The Status and Message buttons are in Direct Entry Keyboard housing that mounts directly above the control unit.

After the Status/Message is sent and received by the System Central Controller, a Central Acknowledge tone sounds. The red indicator light blinks for 5–6 seconds while waiting for an acknowledge.

When an acknowledge is received, a Dispatcher Acknowledgment tone (beep-beep-beep-beep) sounds and the Status or Message indicator lights solid. This light stays on to show the last Status/Message acknowledged by the dispatch terminal.

If an acknowledge is not received, the red indicator continues to flash and the display shows "STS NO ACK" or "MSG NO ACK". At the same time, the indicator above the last acknowledged status/message lights. Press the [Del] button to clear the "no ack" condition, then resend the status/message as previously described.

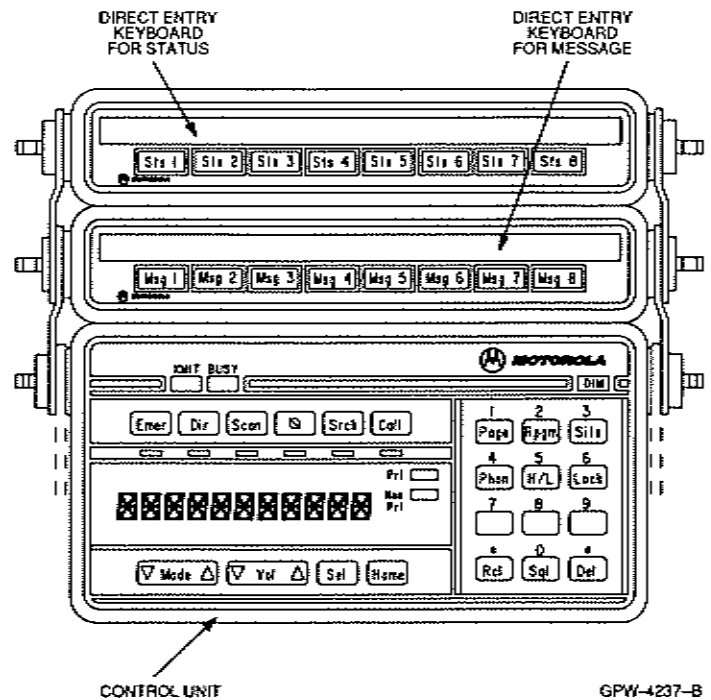


Figure 9. Control Unit with Direct Entry Status and Message Options

MDC-1200 STATUS/MESSAGE

STATUS/MESSAGE

The Status and Message buttons are in a Direct Entry Keyboard housing that mounts directly above the control unit.

To send a Status/Message transmission, press the appropriate Sts or Msg button.

The red indicator light blinks for 5 packet retries while waiting for an acknowledge.

When an acknowledge is received, an Acknowledgment tone (beep-beep-beep-beep) sounds and the Status or Message indicator lights solid. This light stays on to show the last Status/Message acknowledged by the dispatch terminal.

If an acknowledge is not received, the red indicator continues to flash and the display shows "STS NO ACK" or "MSG NO ACK". At the same time, the indicator above the last acknowledged status/message lights. Press the [Del] button to clear the "no ack" condition, then resend the status/message as previously described.

SIREN AND PUBLIC ADDRESS

The Siren and Public Address function buttons are in a Direct Entry Keyboard housing that mounts to the control unit. Indicators are above each button to show which function is selected.

PUBLIC ADDRESS

Press **[PA]** to select the public address option. The microphone PTT switch controls the public address without keying the radio. Use **[VOL]** to control PA volume, indicated on the display by "PA VOL —". Changing the PA volume setting does not affect the radio volume. The public address option overrides all siren functions when PT is pressed if both siren and PA are selected.

EXTERNAL RADIO

The **[ExRd]** function routes radio receiver audio to the siren speaker. When siren is on and the **[ExRd]** mode is selected, the **[VOL]** rocker controls the PA speaker volume. Changing the volume setting does not affect the radio volume setting or siren intensity. On power-up, the siren function remembers the last selected function.

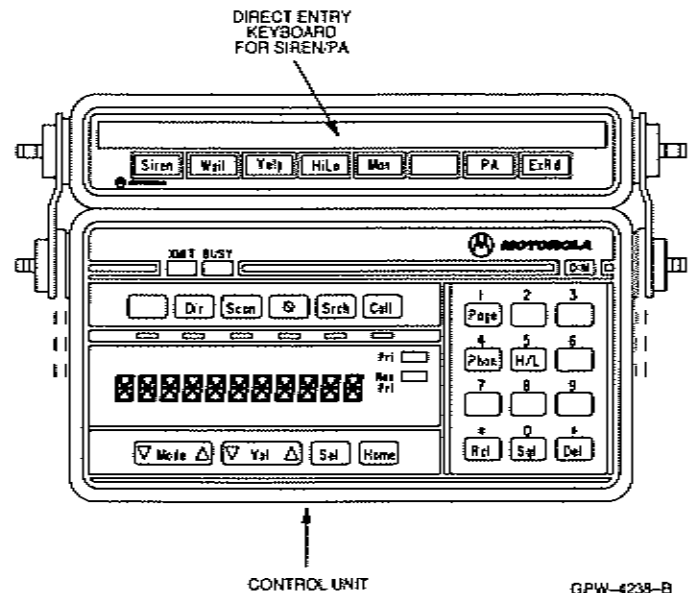


Figure 10. Electronic Siren and PA

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EXTERNAL ALARMS (HORN and LIGHTS)

EXTERNAL ALARMS

Use the External Alarms option when you must leave the vehicle but need to receive incoming messages. Select the desired alarm before leaving the vehicle.

Press the **[H/L]** button to turn the External Alarms option on and off. The last selected alarm type displays. When the option is on, the display alternates between the selected mode and the type of Alarms (i.e. "HORN ON") activated.

Press and hold the **[H/L]** button to change the External Alarms. An alert tone sounds and the display shows the current alarm selection. Use the **[Mode]** rocker to scroll through the choices of "HORN ON", "LIGHTS ON", or "HRN/LTS ON". Press the **[Home]** button to return the radio to normal operation. The External Alarms option is on.

When a call is received, cancel the alarms by pressing the **[H/L]** button.

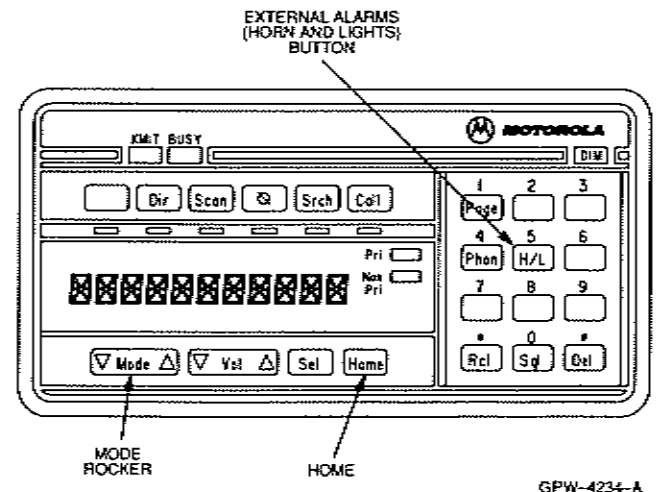
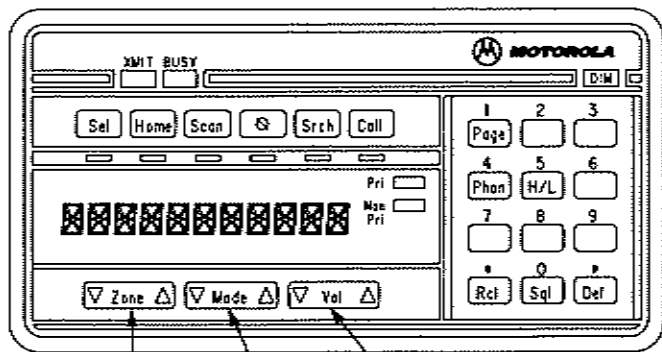


Figure 11. External Alarms

OPTIONAL CONTROL UNITS

Some units may have a [Zone] and [Mode] or [System] and [Subfleet] rocker rather than [Mode].

If your unit is the [System] and [Subfleet] version, use the [Subfleet] rocker whenever the manual refers to [Mode].



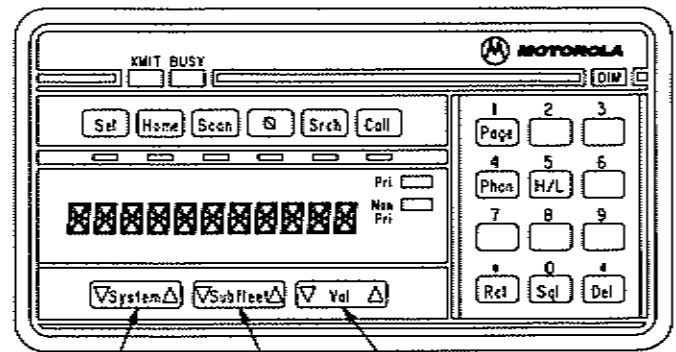
ZONE
ROCKER

MODE
ROCKER

VOLUME
ROCKER

GPW-4240-A

Figure 12. Optional Zone/Mode Control Unit



SYSTEM
ROCKER

SUBFLEET
ROCKER

VOLUME
ROCKER

GPW-4240-A

Figure 13. Optional System/Subfleet Control Unit

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This warranty applies only within the United States.

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