
MULTICOM 2000®

**Administrative
Communication
System**

Programming Instructions

Compliance

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la class A prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

Software Release

The information supplied in these instructions is applicable to systems with at least the following software revision levels:

System Software Level – 2.42

Administrative Telephone Software Level – 2.40

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Introduction

This manual provides information for the person responsible for programming the MULTICOM 2000® system. Programming is necessary after installation or when a change is made to the system configuration. An MCDS Administrative telephone is used to perform the programming. The MCDS telephone provides an easy to use Menu Display System to simplify and guide the programming process.

There are three menu routines used in programming the system: "Setup", "System Initialization", and "Station Initialization." The parameters controlled by each menu are listed below:

Setup Menu:

- Day of week.
- Time of day.
- Time signal schedule.
- Schedule-to-day assignment.
- Station assignment to Time Zones.
- Station assignment to Page Zones.

System Initialization:

- Bell duration.
- Queue timeout.
- Day start time.
- Night start time.
- Emergency announce on/off.
- Password change.
- Architectural dialing on/off.
- Preannounce tone on/off.
- Privacy tone on/off.

Station Initialization:

- Access level for each station.
- Architectural number of each station.
- Day/night administrator.
- Outside line access/Password for DISA lines.

Access to the Setup menu requires entry of a password. The Station and System Initialization menus are accessible from the Setup menu with the entry of an additional password.

Programming is accomplished from an MCDS administrative telephone connected to a station port programmed to access level "9." Station ports are located on relay cards,

and there is one relay card for each Model MCSC station card in the system. Initially, the first station port on each station/relay card pair is recognized by the system as a level 9 station (these levels can be changed as required), and each has a default station and architectural numbers associated with it.

Default Station/Architectural Numbers

Station numbers are determined by the positions of the cards in the card cage, as shown below:

| Station/ Relay Card | Card Cage Slot # | Station Numbers |
|------------------------|---------------------|--------------------|
|------------------------|---------------------|--------------------|

Wall-mounting systems and rack-mounting systems with one card cage:

| | | |
|---|----|-----------|
| 1 | 3 | 001 - 024 |
| 2 | 5 | 025 - 048 |
| 3 | 7 | 049 - 072 |
| 4 | 9 | 073 - 096 |
| 5 | 11 | 097 - 120 |

Rack-mounting systems with a second card cage:

| | | |
|----|----|-----------|
| 6 | 3 | 121 - 144 |
| 7 | 5 | 145 - 168 |
| 8 | 7 | 169 - 192 |
| 9 | 9 | 193 - 216 |
| 10 | 11 | 217 - 240 |

In wall-mounting systems, station numbers ascend **left to right** (as you look at the card). In rack-mounted systems, station numbers ascend **right to left** (looking from the back of the rack).

| Relay Card | Station # | Architectural # |
|------------|-----------|-----------------|
| 1 | 001 | 101 |
| 2 | 025 | 125 |
| 3 | 049 | 149 |
| 4 | 073 | 173 |
| 5 | 097 | 197 |
| 6 | 121 | 221 |
| 7 | 145 | 245 |
| 8 | 169 | 269 |
| 9 | 193 | 293 |
| 10 | 217 | 317 |

The architectural dialing option is enabled by default; however only stations listed above have architectural numbers assigned. All other stations on the card are initially recognized by the system software as being out of service (access level 0).

Each Model MCTC Telco Access card included in the system adds up to 8 outside line station ports per card.

- In wall-mounting systems, a single card can be installed in slot #11. The default station numbers are 097 - 104 (reduces system capacity).
- In rack-mounting systems with the MCPC processor card, one MCTC card can be installed in slot #12 of the card cage. The default station numbers are 121 - 128.
- In rack-mounting systems with the MCPA processor cards, one MCTC card can be installed in slot #12 of the card cage. The default station numbers are 241 - 248. In systems with over 120 stations, when a second card cage is used, a second MCTC card can be installed in slot #12 of the second card cage. The default station numbers are 249 - 255.

Other System Defaults

The parameters of the Setup menu (day/time/time signal schedule/time and page zones) are not initially set.

Factory defaults for the System Initialization menu:

- Bell duration for all 8 time zones is set for 5 seconds.
- Queue timeout (deletes normal and urgent calls from the display) is 60 minutes.
- "Day" start time is 07:00 (7 am).
- "Night" start time is 17:00 (5 pm).
- Emergency announce is off (no station assigned).
- Setup menu password is [1] [2] [3] [4].
- Architectural dialing is ON.
- Preannounce tone is ON.
- Privacy tone is ON.

Factory defaults for the Station Initialization menu:

- Station numbers are assigned as described previously.
- Access levels are initially 00 (out of service) for all stations except for the first station on each relay card (which is initially assigned access level 09).
- Architectural numbers are initially 999 (not assigned) for all stations except first station on each relay card.
- Day/night administrator for each station is initially set to '999' (no administrator assigned).
- Outside line access and password for DISA lines is not assigned.

Programming Procedure

Before you can program the MULTICOM 2000 system, you must have the following:

- Completely installed MULTICOM 2000 system. All system to station wiring should be complete and all power connections and auxiliary connections made. The audio program source (Model MCAPI) should be equipped with at least one input module.
- You should prepare a station/architectural room number chart showing the assignment of station ports on the relay card(s) to the rooms in the building.
- Model MCDS Administrative telephone connected to the first station port of any relay card in the system. Note: To change an administrative station to an enhanced staff or staff station, no station in the system can have that administrative station as their day or night administrator.

The *recommended* procedure for initial system programming is as follows:

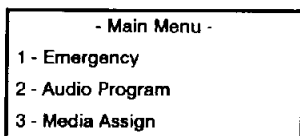
- Use the **System Initialization** menu to set the Bell Duration, Queue Timeout, Day start/Night start time, Architectural Dialing option, Preannounce and Privacy tones *only if you desire to change the default settings*. Enable the Emergency Announce option, if desired, by entering an architectural number (or station number if the architectural dialing feature is disabled) of the emergency station.
- Use the **Station Initialization** menu to program an Access Level, Architectural number, Day/Night Administrator and Outside Line Access (if enabled) for each station.
- Use the **Setup** menu to set system day and time.
- Use the **Setup** menu to program Time Zones and Page Zones and Time Signalling Schedules and assign schedules to days of the week.

Note: Manual time tones will not function if no stations are assigned to a time zone.

The Setup Menu

The Setup menu is accessed from the "Main" menu by following the directions below:

Lift the handset and press [9] to display **-Main Menu-**.



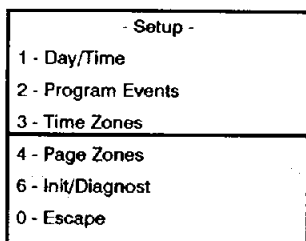
The **Main Menu** appears when you press [9]. Only the first 3 selections are shown. To scroll the menu, press [#].

Select the **Setup** menu by pressing [5]. A display will prompt you to enter the password.



Enter the correct password to access the **Setup** Menu.

Enter the password by pressing the appropriate number keys. Initially, the password is [1] [2] [3] [4]. (The password can be changed to provide security.) If an incorrect password is entered, an error message will display and you will be prompted to reenter the password. When the correct password is entered, the **-Setup-** menu will display:



The shaded portion of the illustration shows menu selections which are not displayed. Press [#] to scroll the menu and view these selections.

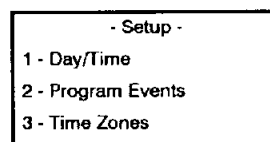
At this point, you can proceed to program the selections of the **Setup** menu (Selections [1] - [4]), or you can access the **Init/Diagnost** menu (Selection [6]) to perform System Initialization and Station Initialization programming.

To access the initialization menus, you will be prompted to enter the Service password. When the correct password is entered, the Initialization menu will display.

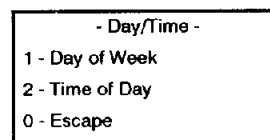
Each menu routine is covered in the following pages in the order listed above.

1 - Set Day/Time

This menu lets you set the day of the week and the time of day.



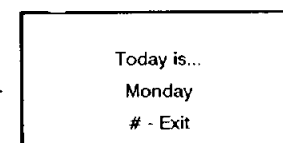
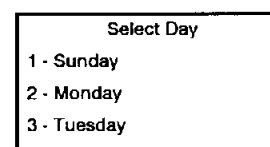
Press [1] from the **-Setup-** menu to set the day of week and time of day.



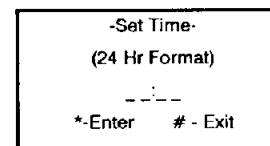
The **-Day/Time-** menu will appear. Press [1] to set the day of week. Press [2] to set time of day.

To set the day of week, press [1]. A display will appear prompting you to select the day: [1] = Sunday, [2] = Monday, etc. (You can scroll the menu by pressing the [#] key.)

Press the key corresponding to the desired day. A display will confirm the selection. Press [#] to return to the Setup menu.



To set the time of day, press [2]. A display will appear prompting you to enter the desired time in 24-Hour Format. Enter the desired time by pressing the corresponding keys.



Press [2] to display **-Set Time-** menu. The current time in the system will display and the cursor will be positioned at the 1st position.

Press [*] to enter the information into the system (will not work until 4th digit is dialed).

Press [#] to exit to **-Day/Time-** menu.

2 - Program Event Schedules

This menu lets you: 1) Program event schedules, 2) Assign schedules to days of the week, 3) Manually select or cancel a schedule, and 4) Clear all schedules. (Refer to page 8.)

1 - Program an Event Schedule

Press [2] at **-Setup-** menu to display **Schedules** menu.

Press [1] at **Schedules** menu display **Select Schedule** menu.

Choose the schedule to program by pressing [1] - [8]. The Schedule "X" display will appear (X = number).

Key in the time for the event (24 Hr. format). The cursor will appear at the 1st zone position (current zones or tone type already programmed for that time will appear).

Key in the desired zone numbers ([1] - [8] - press the same number to keep a current zone, or press [0] to delete a zone at the current cursor position). If less than 8 zones are entered, press [0] to skip over blank fields and place the cursor at the "Tone" position.

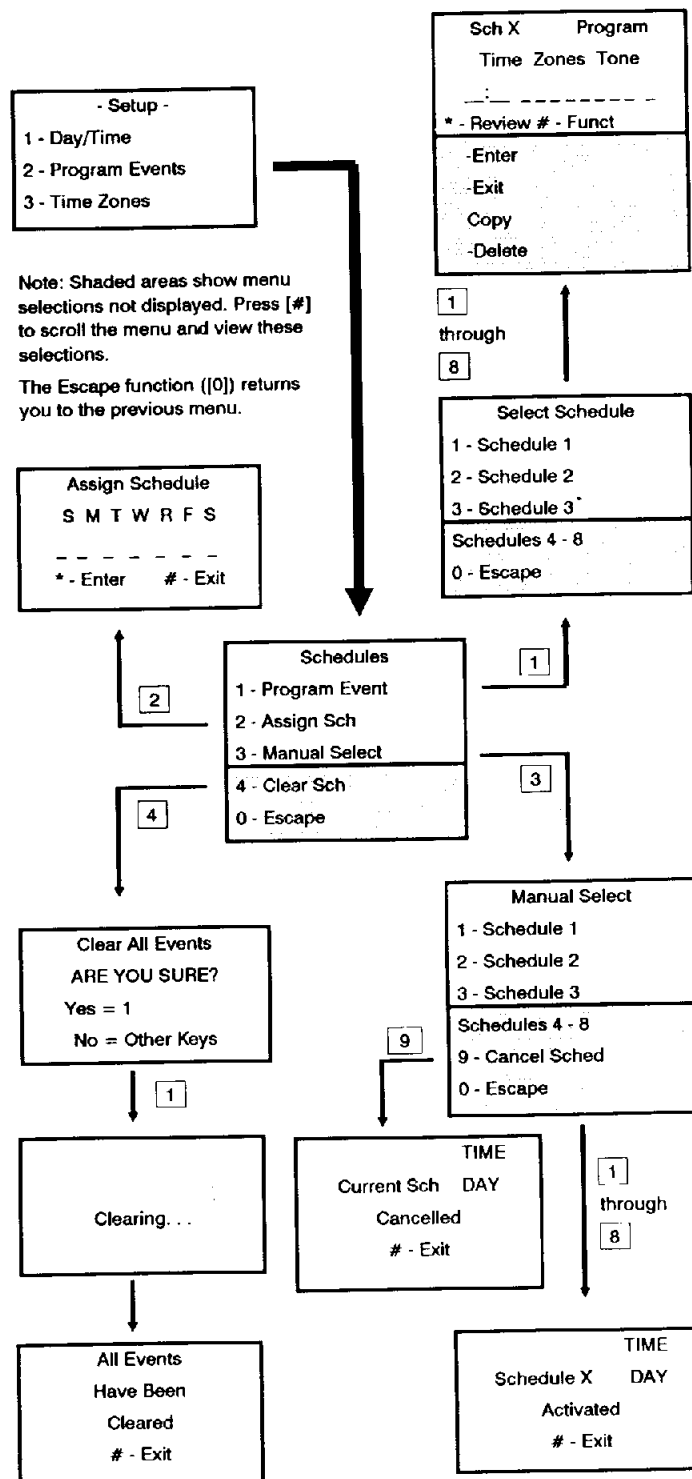
Key in the desired tone type ([1] - [8]).

To enter the event into memory (or accept existing zone information), press [#] until the word **Enter** appears on the display next to the asterisk, and then press [*]. The cursor will reappear at the 1st time position, ready for the next event. You can enter new information, or you can copy the zone information from the previous event by pressing the [#] key until the word **Copy** appears on the display next to the asterisk, and then pressing [*].

To review events, press [#] until the word **Review** appears on the display next to the asterisk, and then press [*]. The first event time-wise from midnight will appear. Subsequent events will appear with each press of the [*] key. During the review, you can modify events by keying in new data (press [0] to delete the data at the current cursor position or to move the cursor over blank fields).

To delete an event, press [#] until the word **Delete** appears on the display next to the asterisk, and then press [*].

To exit, either hang up or press [#] until the word **Exit** appears on the display next to the asterisk, and then press [*].



2 - Assign Schedules to Days of the Week

Press [2] at **-Setup-** menu to display **Schedules** menu.

Press [2] at **Schedules** menu to display **Assign Schedule** menu. Current schedules (if any) will be displayed.

Key in the desired schedule number for each day of the week (key in the same number to keep an existing schedule or press [0] to delete a schedule and program no schedule).

Press [*] to enter the current schedules into memory.

Press [#] to exit (or hang up) Note: if you exit before pressing [*], changes will not be saved.

3 - Manually Select or Clear a Schedule

Press [2] at **-Setup-** menu to display **Schedules** menu.

Press [3] at **Schedules** menu to display **Manual Select** menu.

To manually select a schedule, press the corresponding key ([1] - [8]). The **Schedule Activated** display appears. Press [#] to exit, or hang up. The selected schedule immediately replaces the existing schedule.

To cancel the current schedule, press [9]. The current schedule will be cancelled (the schedule will not be replaced with a new schedule). Press [#] to exit, or hang up. **Note:** The active schedule is continuously displayed on the administrative phone, beneath the time display.

4 - Clear Schedule

Press [2] at **-Setup-** menu to display **Schedules** menu.

Press [4] at **Schedules** menu to display **Clear All Events** menu.

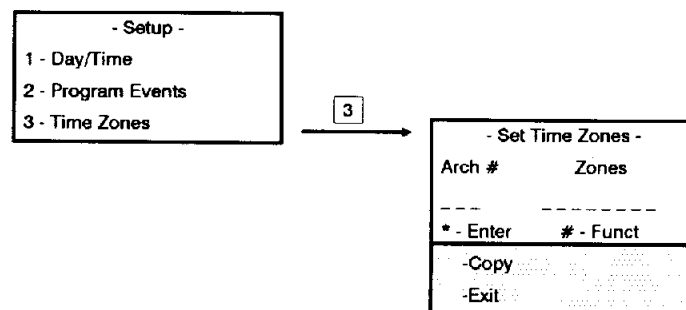
Press [*] to **clear (erase) ALL events from ALL schedules**. Press any other key to return to **Schedules** menu.

Note: The system will take a few minutes to clear the schedules. No other menu functions are possible during this time period. A display will confirm when all events have been cleared.

3 - Program Time Zones

This menu lets you assign each station to any or all of 8 time signalling zones.

Press [3] at **-Setup-** menu to display **-Set Time Zones-** menu.



Key in a 3-digit architectural number. If the number is invalid, the cursor will reappear at the **Arch #** position. If the number is valid, the cursor will appear at the 1st zone position (any zone information already programmed for that station will appear on the display).

Key in the desired zone numbers ([1] - [8]) for that station (press the same number to keep a current zone, or press [0] to delete a zone at the current cursor position).

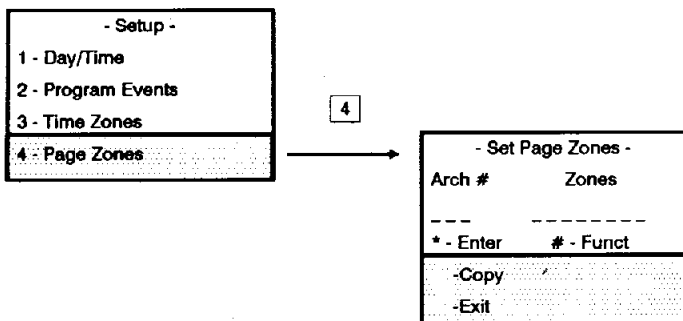
To enter the zone information, press [#] until the word **Enter** appears on the display next to the asterisk, and then press [*]. The data will be entered into the system and the next numerically-higher architectural number will appear on the display (along with any zone information already programmed for that station). You can then key in new zones for this station, copy the zone information from the previous station (by pressing [#] until the word **Copy** appears on the display next to the asterisk and then pressing [*]), or you can exit the menu.

To exit, hang up, or press [#] until the word **Exit** appears on the display next to the asterisk and then press [*]. **Note:** If you hang up without entering the information, (by pressing [*]), changes will not be saved.

4 - Program Page Zones

This menu lets you assign each station to any or all of 8 paging zones.

Press [4] at **-Setup-** menu to display **-Set Page Zones-** menu.



Key in a 3-digit architectural number. If the number is invalid, the cursor will reappear at the **Arch #** position. If the number is valid, the cursor will appear at the 1st zone position (any zone information already programmed for that station will appear on the display).

Key in the desired zone numbers ([1] - [8]) for that station (press the same number to keep a current zone, or press [0] to delete a zone at the current cursor position).

To enter the zone information, press [#] until the word **Enter** appears on the display next to the asterisk, and then press [*]. The data will be entered into the system and the next numerically-higher architectural number will appear on the display (along with any zone information already programmed for that station). You can then key in new zones for this station, copy the zone information from the previous station (by pressing [#] until the word **Copy** appears on the display next to the asterisk and then pressing [*]), or you can exit the menu.

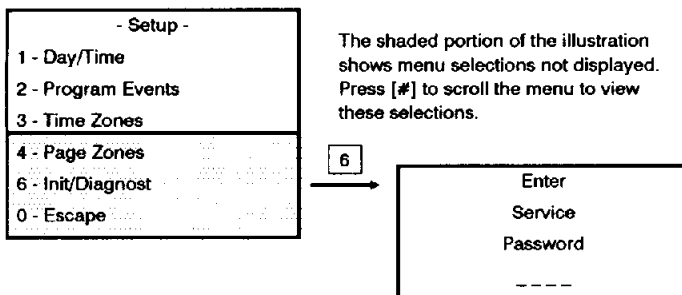
To exit, hang up, or press [#] until the word **Exit** appears on the display next to the asterisk and then press [*]. Note: If you hang up without entering the information, (by pressing [*]), changes will not be saved.

Initialization

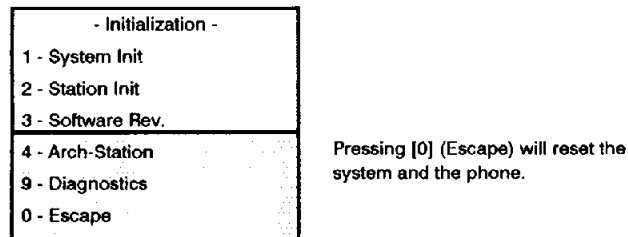
This menu selection lets you: 1) Perform system initialization programming, 2) Perform station initialization programming, 3) Display software revision level, 4) Access the architectural number/station number cross-reference display, and 9) Perform diagnostic routines.

To access the **Initialization** menus, press [6] at the **-Setup-** menu.

You will be prompted to enter the Service Password. This password is [8] [3] [2] [4] (TECH). If an incorrect password is entered, an error message will display and you will be prompted to reenter the password.



When the correct password is entered, the **Initialization** menu will be displayed:



Each menu selection of the initialization display is described in the following pages in the order shown above.

Note: The system resets when you hang up or escape from the initialization or diagnostic menus.

1 - System Initialization

This menu lets you set the following system parameters: 1) Bell Duration, 2) Queue Timeout, 3) Day start time, 4) Night start time, 5) Emergency link On/Off, 6) Password programming (System & DISA), 7) Architectural dialing On/Off, 8) Preannounce tone On/Off, and 9) Privacy beep On/Off. Each system parameter has a factory default value that can be changed to satisfy particular requirements of the installation.

Refer to the illustration on the next page, and the text below, to program the system parameters.

Press [1] from the **-Initialization -** menu to display the **System Init** menu. Press the corresponding number to program the desired selection, as described below:

1 - Bell Duration: When you key in a time zone ([1] - [8]), the current bell duration is (in seconds) displayed. Enter the desired bell duration (1- 59 sec.) and press [*] to enter. Press [#] to exit back to the **System Init** menu. The default time is 5 seconds.

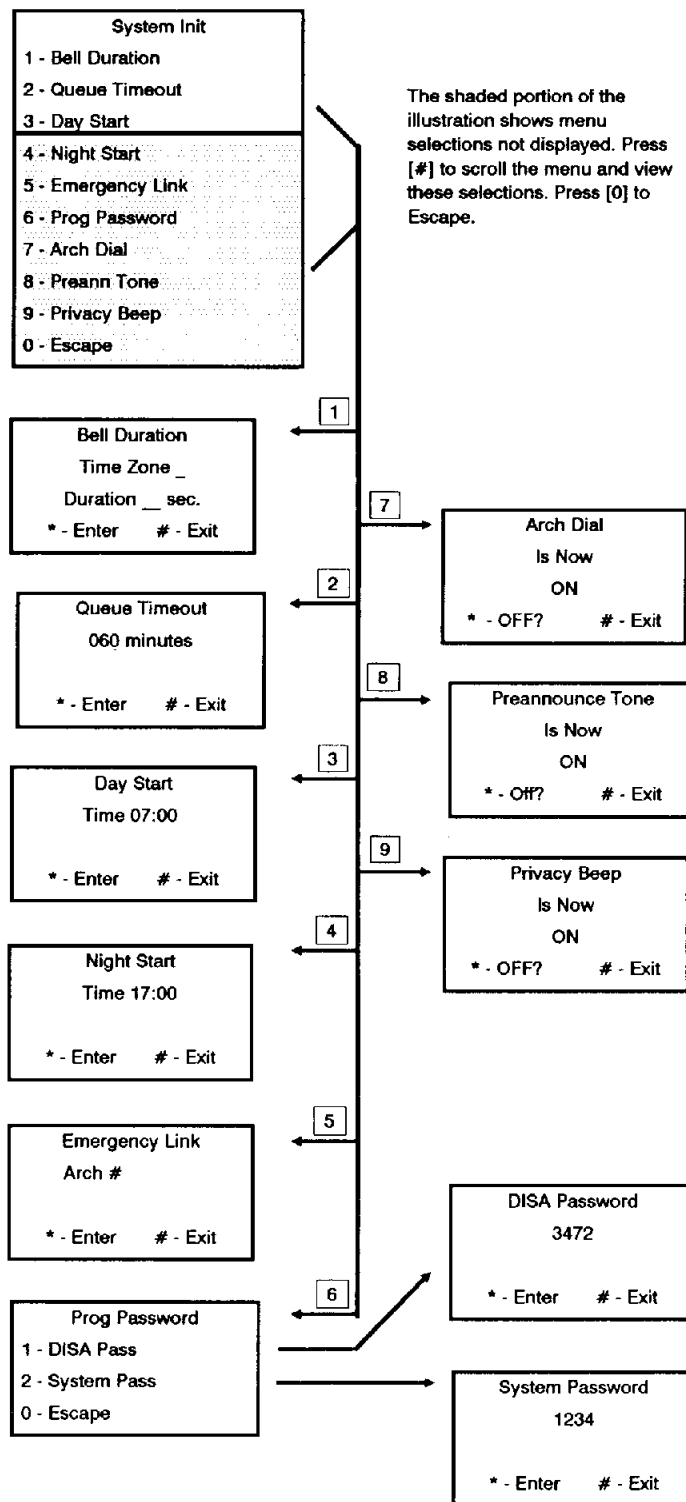
2 - Queue Timeout: The display will show the current queue timeout. Key in the desired time period (001 - 999 min.) and press [*] to enter. Press [#] to exit. The default time is 60 minutes.

3 - Day Start: The display will show the current day start time. Key in the desired new time (24 Hr format) and press [*] to enter. Press [#] to exit. The default time is 07:00 (7am).

4 - Night Start: The display will show the current night start time. Key in the desired new time (24 Hr format; must be later than the Day Start time) and press [*] to enter. Press [#] to exit. The default time is 17:00 (5pm).

5 - Emergency Link: To activate the Emergency link, enter the architectural number of the emergency station (or station number if architectural dialing is disabled). **Note:** an emergency station must be loudspeaker-equipped, level 1-9 station, and cannot be a "day" or "night" administrative station for any other stations. Key in "999" to disable the emergency link. Press [*] to enter. Press [#] to exit.

System Initialization continued on page 16.



6 - Program Passwords: This menu lets you choose a new password for the DISA function (if so equipped) and for the **Setup** menu access ("System" password). Press [1] to program the DISA password. Press [2] to program the System password. You will be prompted to enter a new 4-digit password. Enter the desired numbers and press [*] to enter. Press [#] to exit. The default System password is 1234.

7 - Architectural Dial: Press [*] to toggle between On and Off. Press [#] to exit. The default value is On.

8 - Preannounce Tone: Press [*] to toggle between On and Off. Press [#] to exit. The default value is On.

9 - Privacy Beep: Press [*] to toggle between On and Off. Press [#] to exit. The default value is On.

2 - Station Initialization

This menu lets you set the following parameters for each station port in the system: 1) Station number, 2) Access level, 3) Architectural number, 4) Day administrator, 5) Night administrator, and 6) Outside line access/password operation of DISA lines.

Refer to the illustration on the next page, and the text below to program each station.

Station Number: Press [2] at the **Initialization** menu to display the **Station Init** menu. Key in a 3-digit station number (the cursor wraps to allow correction) and press [*] to enter. If the station number is recognized by the system, the **Input Level** menu will display along with any current access level assigned to that station.

Input Level: The access level lets the system recognize the type of station equipment at each station port and controls the stations access to various system functions. The chart below describes the functions available to each level:

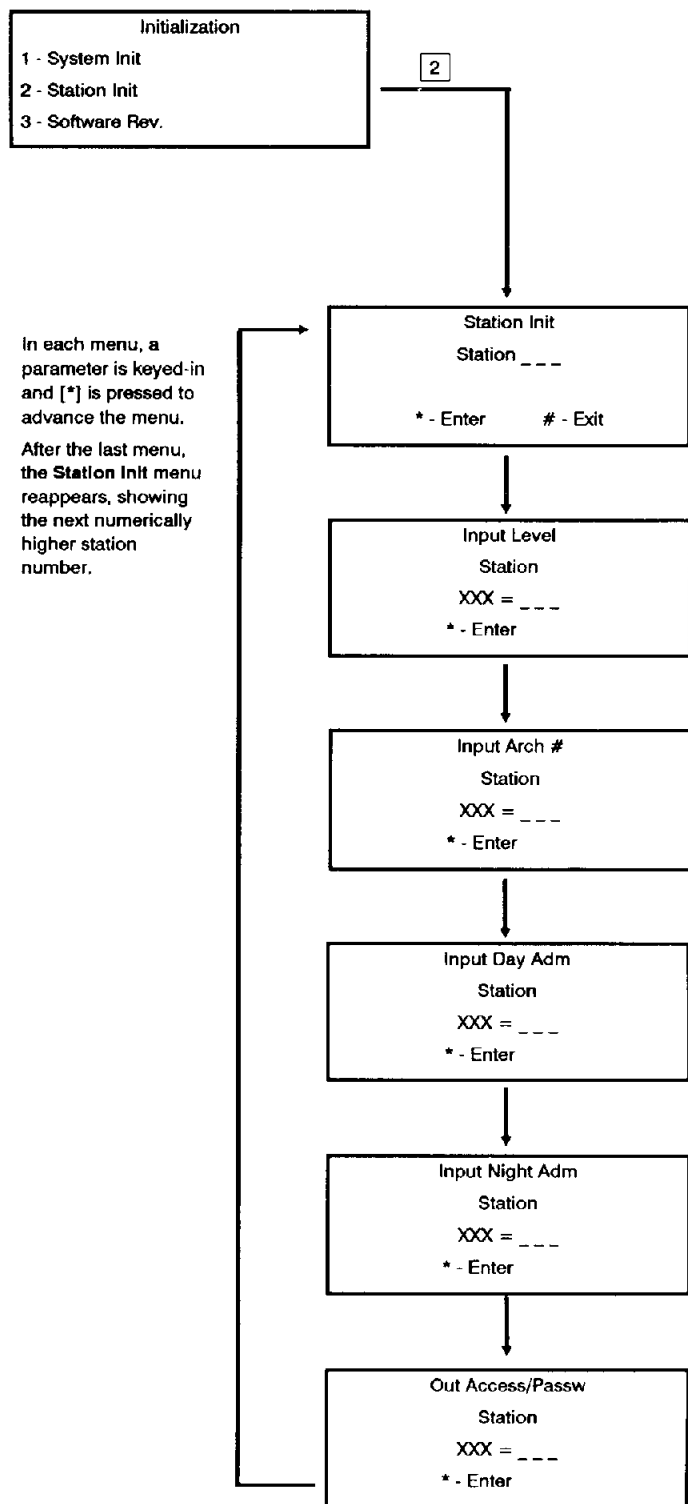
00 – Out of Service.

Staff stations - loudspeaker, call-in switch, and/or handset.

01 – Staff station (can make normal/emergency calls only).

02 – Staff station (can make urgent/emergency calls only).

03 – Staff station (can make emergency calls only).



Enhanced staff stations - DTMF dialing telephone and optional loudspeaker.

04 - Can dial level 07 - 09 phones, make an emergency call to designated administrative phone, turn reception of program material on/off, perform remote answer, ring for incoming outside line calls, access outside line, and call forward.

05 - Level 04 capabilities, plus: call any staff station, conference call, and call transfer.

06 - Level 05 capabilities, plus: all-call, and zone page.

Administrative stations - DTMF dialing display telephone and optional loudspeaker.

07 - Can dial any station, turn reception of program material on/off, scroll/clear/autodial call-waiting queue, conference call, transfer call, call forward (admin. to admin. only), assign media functions, all-call, emergency all-call, remote answer, ring for incoming outside line calls, and access outside lines.

08 - Level 07 capabilities, plus: select program source, distribute/cancel program, activate alarm signals, activate/reset external relay drivers, and zone page.

09 - Level 08 capabilities, plus: manually activate tone signals, bump/join conversation in progress, and access Setup/Initialization programming menus.

Other station Types - station ports used to interface with optional configurations.

10 - This station port is programmed to ring a designated "day" and "night" enhanced staff or administrative telephone for incoming outside line calls.

11 - This station port provides direct inward system access (DISA) to Multicom 2000 dial tone from an outside line. The functions available to DISA lines differ depending on whether or not a password is required.

12 - This station port connects to an optional device for Media Control functions.

To set the access level, key in the appropriate 2-digit code and press [*]. When the access level is entered, the next menu displays:

Input Arch #: The current architectural number (if any) assigned to the station number will appear. "999" will appear if no architectural number is assigned (architectural numbers are required for all station levels except out-of-service stations). To accept the current architectural number, press [*] to proceed to the next menu. To assign or change a number, key in a new 3-digit number and press [*] to enter and continue to the next menu (Note: if the number is already in use, it will not be accepted).

Input Day Administrator: The current day administrator (if any) will appear. Press [*] to accept the current setting and proceed to the next menu. To assign or change the administrator, key in a new 3-digit number and press [*] to proceed to the next menu.

Notes: a) If the station being programmed is administrative (level 07 - 09), DISA (level 11), Media (level 12), or out of service (level 00), day and night administrator information will be accepted if entered, but ignored by the system.

b) When the station port is programmed as an outside line station (access level 10), the day administrator is the phone that will ring when an outside call enters the system during day hours. This station can be an administrative, enhanced staff, or staff (must be handset-equipped) station.

Input Night Administrator: Same as for day administrator. Press [*] to enter the data and proceed to the next menu. (Same notes apply as above for Day Administrator.)

Outside Line Access/Password: This menu controls three functions:

For stations assigned to level 04 - 09, this menu controls the ability to make outside line calls:

- 0 - no access to outside lines (default setting).
- 1 - restricted access - local calls only (10 digits maximum).
- 2 - unrestricted access - local & long-distance calls.
- 3 - restricted access (same as 1).
- 4 - unrestricted night only access.
- 5 - restricted night only access.

For station ports assigned to level 10, entering:

- 0 - permits the line to be used for incoming and outgoing calls.
- 1 - restricts the line to incoming calls only.
- 2 - reserves the line for day/night administrative calls.

For stations assigned to level 11 (DISA), entering:

0 — enables the line for incoming or outgoing calls; a password *is not* required for incoming calls.

1 — enables the line for incoming or outgoing calls; a password *is* required for incoming calls.

2 — enables the line for incoming calls only; a password *is not* required.

3 — enables the line for incoming calls only; a password *is* required.

If a password is not required, functions available are: call a station loudspeaker (privacy/preannounce tone) or station telephone, make all-call and zone page, remote answer, and access and use Audio Program, Media Assign, External Relay, and Manual Tone menus.

If a password is required, functions available are: call a station loudspeaker (no privacy/preannounce tones) or telephone, make all-call and zone page, and access Setup menu.

After entering the desired access code, press [*] to proceed. The Station Init menu will reappear. The next numerically higher station number will appear on the display. At this point you can proceed to program the parameters for this station, key in a new station number, or press [#] to exit to the Initialization menu.

3 - Software Revision

This menu displays the current software revision level for the system:

```

Software Rev.
MCDS   XX.XX
MC2000 XX.XX
# -Exit
  
```

Press [#] to exit.

4 - Architectural/Station Cross Reference

This menu lets you enter an architectural number and displays the corresponding station number.

```

Arch to Station
Enter Arch # ___
Station # ___
* - Enter      # - Exit
  
```

When you key in an architectural number and press [*], the corresponding station number appears.

Press [#] to exit.

9 - Diagnostics

This menu lets you run diagnostic tests on: 1) System, 2) Cards.

Press [9] from the Initialization menu. A display will warn you of system shutdown and will ask if you want to proceed:

```

***WARNING***
System Will Be
Shut Down
* - Proceed  # - Exit
  
```

If you want to exit, press [#]. To proceed, press [*]. The following display will appear:

```

- Diagnostics -
1 - System Tests
2 - Card Tests
0 - Escape
  
```

If you want to run System Tests, press [1]. You will be prompted as to which test you want to run: [1] All tests, [2] Address Write, [3] Card ID, [4] Clock Test, [5] Memory Test. Pressing the appropriate key runs the corresponding test.

```

- System Tests -
1 - All
2 - Address Write
3 - Card ID
4 - Clock Test
5 - Memory Test
0 - Escape
  
```

The display will show the test being made and whether the component passed or failed.

If you want to run Card Tests, press [2]. You will be prompted to enter the slot number. Enter a slot number and press [*] to begin the test. The display will show the type of card in the slot or a message if the slot is empty, or "invalid" if invalid information is entered. To initiate a slot test, press [*]. To return to the slot # entry display, press [#]. After each phase of the test, you will be prompted to continue or exit.