

MicroComm DXL

Intercom Master Station

Operating Instructions

November, 2010

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Section 1 - Introduction

Purpose of This Manual

This manual is intended to familiarize you with the operation of the MicroComm DXL's Series of Intercom Master Stations.

Regardless of whether your particular Intercom Master Station is a rack mount, panel mount, or desktop style, the operation is the same.

Your Intercom Master Station may include optional items such as a telephone handset or headset. If it does not, just disregard any references to those items.

Similarly, your system may or may not include paging, visiting booth stations, program distribution, etc. Again, if your system does not include any of those items, just disregard those instructions.

Welcome to the MicroComm DXL

The MicroComm DXL intercom system is designed to make your job easier. Here are some of the DXL's main features:

- an Intercom Station can request your attention when needed
- you can call an Intercom Station at any time
- you can communicate with other Master Stations in your system
- if you do not respond to a call request within a specified time, another Master Station will be notified (assuming there are at least two Master Stations in your facility)
- you can make zoned paging announcements directly from your Master Station
- you can "step" through Intercom Stations to monitor what is happening at their locations
- you can control whether program is distributed to Intercom Stations and paging zones
- you can adjust the volume of your Master Station and the Intercom Station you are speaking with during the call
- all important activities are logged and saved for printing or reference, and
- for ease and speed of maintenance, the system generates alarms whenever wiring faults and other internal system failures are detected

Elements of the System

The DXL system consists of:

- *Intercom Stations*
- *Master Stations* that can communicate with Intercom Stations and other Master Stations
- *Secondary Master Stations*, at which call requests not answered by a Master Station in a timely manner, and other alarms are annunciated,

- *One or more exchanges* where each exchange containing one Digital Communications Controller (DCC) and up to 4 Digital Communications Expanders (DCEs) or Talkback expanders (TBEs).
- *other system devices* such as paging speakers, program sources, telephone type stations, etc.

All of these elements are linked together in a communications network.

The Master Station

You can use your Master Station to perform a wide range of intercom and alarm functions. From your Master Station you can:

- call an Intercom Station
- call another Master Station
- respond to an intercom call request
- disable an Intercom Station or alarm monitor point
- (re)enable an Intercom Station or alarm monitor point
- monitor the intercom status of every Intercom Station that is connected to your Master Station
- make public address announcements to Intercom Station and loudspeaker zones
- turn program distribution to Intercom Stations and zones on or off
- transfer an intercom call to another Master Station
- disable an output control point
- enable an output control point

The System Administrator

When the MicroComm DXL is first installed at your facility, the *System Administrator* “sets up” the system. This involves, among other things:

- assigning ID Numbers and Names to Intercom Stations, alarm monitor points, and output control points
- specifying which Intercom Stations can communicate with a given Master Station(s)
- specifying which alarm points will report to a given Master Station(s)
- setting values, e.g., the priority levels for Intercom Stations and alarm monitor points, and

Most of these things do not directly affect your work with the DXL.

The “Family” of DXL Manuals

This manual is one of a set of manuals for the MicroComm DXL system:

Manual	Intended Users
Intercom Master Station Operating Instructions	Control Room Operator
MicroComm DXL Administration Manual	System Administrator/System Installer/Maintenance Staff
MicroComm DXL Installation Manuals	System Installer

This Operating Manual

This operating manual is designed to help you learn to use all of the important features of your Intercom Master Station. It will also serve as a handy reference document.

The manual is divided into eight sections, each one dealing with a key aspect:

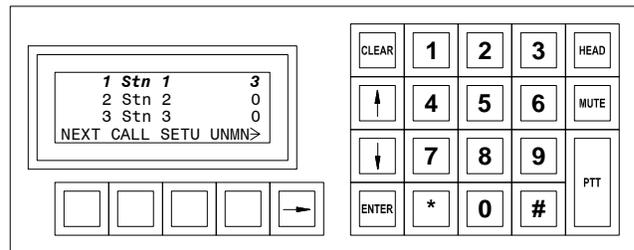
Section 1	Introduction
Section 2	Getting Started
Section 3	Principles of Operation
Section 4	Intercom Procedures
Section 5	Enabling and Disabling Stations
Section 6	Monitoring Procedures
Section 7	Alarm Handling Procedures
Section 8	Other Master Station Procedures

Remember that the DXL is an intercom system designed to help you do your job more effectively.

The more familiar you are with its operation, the easier your job will be!

Notation Used in This Manual

Your Intercom Master Station uses flashing text on the LCD display to represent such things as a selected Intercom Station or which list you are viewing. In this manual, flashing text is represented by text that is in **bold italics**, as shown in the example on the right.



Flashing display items are represented by **bold italic** characters

Section 2 - Getting Started

What is a DXL Station?

In a MicroComm DXL system, a *Station* refers to a speaker/microphone combination from which audio communications can be carried out. Associated with the intercom station are one or more switches that can be used to generate call request, select programming or other possible functions.

How the DXL System Handles Alarms

The MicroComm DXL is an integrated system that handles a wide variety of alarms, in addition to intercom call requests. To simplify operation of the system, the DXL treats call requests and alarms in the same basic fashion. (The only difference between the two is that, with call requests, intercom functions are available.)

First we will discuss how the DXL handles alarms.

Normally, the Stations that communicate with your Master Station are in the “idle” state.

When a Station initiates an alarm, the alarm is sounded at your Master Station, and the system changes the state of that Intercom Station from “idle” to “alarm”.

When an alarm is acknowledged, the system changes the status of the Station from “alarm” to “acknowledged”.

And when the alarm is canceled, the system changes the status of the Station from “acknowledged” back to “idle”.

The DXL keeps track of the status of all Stations and displays this information for you - as lists of Stations with “alarm” and “acknowledged” status.

Now let’s look at call requests.

How the DXL Handles Call Requests

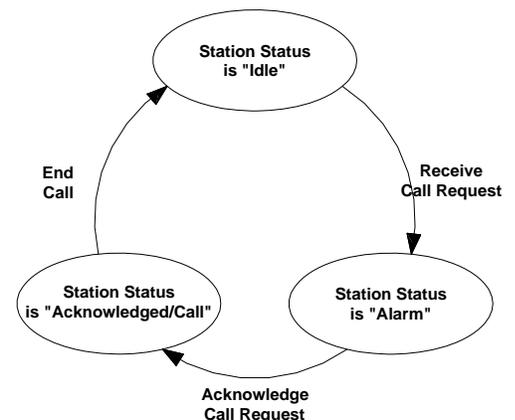
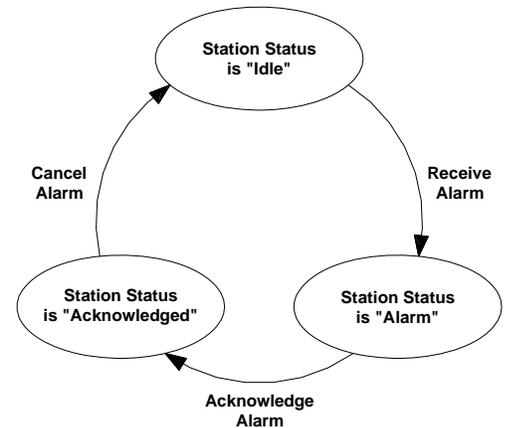
When a *call request* is initiated at an Intercom Station, the Master Station alerts you (with a beep). The station that initiated the call request is added to the Event Queue. Until the call request is acknowledged, the Master Station will sound an *alarm reminder beep* at a regular interval.

When you acknowledge the call request:

- a tone sounds at the Intercom Station to let the calling party know that the call request has been acknowledged,
- the DXL removes the Intercom Station from the Event Queue and adds it to the Acknowledged List, and
- your Master Station is connected to the Intercom Station.

Once you are connected, you may speak to the calling party, or listen.

When you have communicated with the Intercom Station, you have two options:



After a fixed interval, if the call request is not acknowledged (or canceled), it will “time out” and a *call request time-out alarm* will be annunciated at the Secondary Master Station. (The original call request remains queued at the Master Station.)

Note: When the system is set up, the System Administrator will set the time allowed before a time-out alarm is triggered by a failure to respond to the call request.

A Secondary Master Station is simply another Master Station designated to receive time out calls, fault reports as a back up function.

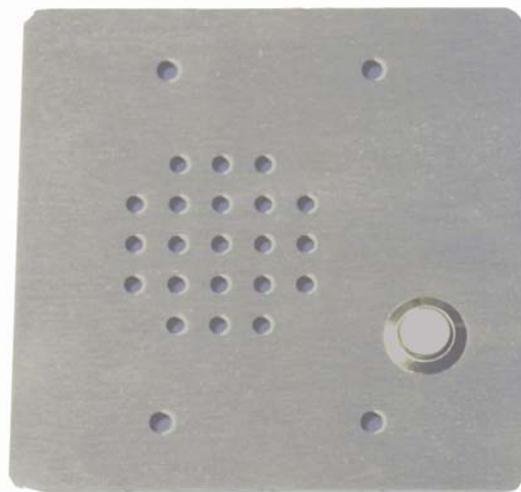
All intercom activities (call requests, calls, cancels, etc.) are logged so that they can be printed and accessed for review.

Intercom Stations

A typical Intercom Station consists of:

- a call switch
- a loudspeaker and microphone, which enables two-way communication.

Intercom Stations may also take the form of telephone handsets, talkback loudspeakers with call request buttons, etc. Whatever their configuration, they include a means to place a call request and a means of two-way communication. They may include *call indicator lights* to signal that call requests have been placed or that calls have been acknowledged.



Typical Intercom Station

Initiating a Call Request

A call request is initiated by pressing the call request switch (lifting the telephone handset, etc.) at the Intercom Station.

A call request will not be able to be initiated from an Intercom Station if:

- the Station is disabled, or
- the Station has initiated a call request that has not yet been canceled.

Disabled Stations

If you disable an intercom or other station, it can no longer initiate a call request. However, you may call a disabled Intercom Station.

At any time, you may enable a disabled Station, which puts it back into operation.

When you disable a Station, it is added to the Disabled List. When you enable a disabled Station, it is removed from the Disabled List.

Intercom Calls

Your Master Station will be connected to the Intercom Station whenever:

- you initiate a call to the Intercom Station, or
- you acknowledge a call request. (In this case, the Master Station is automatically connected to the Intercom Station.)

When you call an Intercom Station, a *call announce tone* sounds (this indicates to the party at the Intercom Station that you are calling, or that you have acknowledged the call request).

Note: An Intercom Station cannot initiate a conversation with the Master Station. The Intercom Station can only communicate with the Master Station when the Master Station calls the Intercom Station, or acknowledges a call request from an Intercom Station.

Station Identification

When the System Administrator initially sets up the system, he will assign a unique ID number and name to each intercom station, Stations may be identified by:ID number and name.

Station Priority

Each Station is assigned a *call request priority* by the System Administrator. Call request priority determines the order in which Stations that have initiated call requests are displayed on the Event Queue.

A new call request with a high priority will appear on the Event Queue ahead of previously received call requests with lower priority.

The IMS-440 Intercom Master Station

The IMS-440 Master Station consists of:

- a display,
- a keyboard,
- a beeper
- a loudspeaker and microphone, and
- a handset and/or headset (optional)



Intercom Master Station

Display

The display is a four-line by 20-character LCD with backlighting that provides information you need to perform intercom functions.

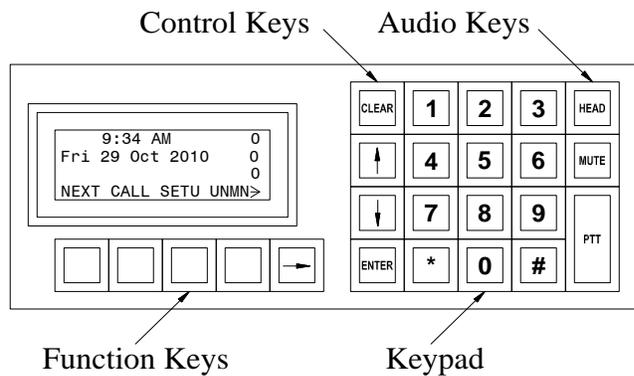
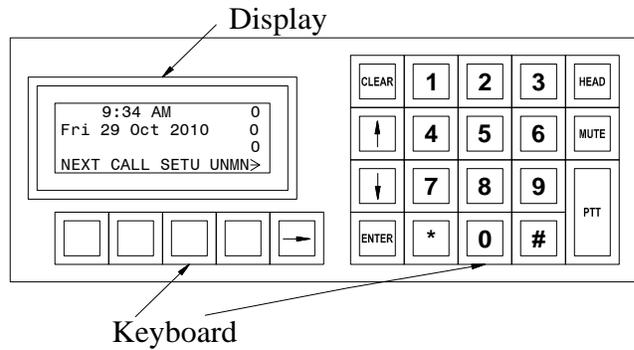
Keyboard

The keyboard consists of:

- a standard telephone-type numeric keypad,
- four control keys,
- five function keys, and
- three audio keys.

Keypad

The keypad consists of a numeric key set - (0 to 9), (* and #) - in a standard telephone layout. These keys are used to speed up station selection when performing intercom functions and to set level controls (volume and backlight levels).



Control Keys

There are four control keys:

- The Up-Arrow key (↑) and Down-Arrow key (↓) are used to scroll through the displayed list of stations and to adjust settings and volumes.
- The ENTER key is used to enter values and confirm changes.
- The CLEAR key is used to abort value entry and return to previous settings.

Function Keys

Function keys are used to perform the intercom functions that appear on the bottom line of the display. Each key is associated with the function name that appears directly above it.

If a function name does not appear above a function key, the key is not operative (an error beep will sound if you press it).

The functions that you may perform at any one time will change, according to the keys you have pressed, the list displayed and the station selected.

The key with the Right-Arrow (→) is used to display additional functions, if there are more available. Additional functions are available *only* if a Right-Arrow appears on the bottom line of the display.

Audio Keys

There are three audio control keys:

- The Press-to-Talk (PTT) key is used when you want to speak from the Master Station to the Intercom Station. If your system is set up for automatic voice switching, it can be used when you want to speak to an Intercom Station located in a noisy area.
- The MUTE key is used to temporarily suspend audio communication during a call. It will mute the Master Station microphone and allow the operator to listen to the connected station for as long as the switch is held down. This only works if your system is set up for automatic voice switching.
- The HEAD key is used to alternately turn on and off audio to your headset, if your Master Station is equipped with that option.

Beeper

The Master Station contains a beeper. Various conditions will cause a beep:

- *new alarm beep*
a single tone will sound when a new call request or other alarm is received
- *an error beep*
a single tone will sound when you press a key that is not operative at that time
- *reminder beep*
a double beep will sound at a fixed interval (from 5 to 60 seconds) as long as all call requests have not been acknowledged.

The System Administrator sets the reminder beep interval. You may adjust the volume of the Master Station beeper to suit your needs.

Note: If you are in a call, the reminder beep and new alarm beep will be disabled for the duration of your call. Once your call is completed the reminder beep and new alarm beep will automatically be re-activated.

Loudspeaker and Microphone

A loudspeaker and microphone are normally included within the Master Station panel. They are used for hands-free communication with Intercom Stations and other Master Stations. When using the loudspeaker and microphone to communicate, the communication is one way at any one time so each party must take turns speaking. The System Administrator will have set your Master Station for one of two possible operating modes:

- Voice operated switching (VOX), or
- Push to talk

You cannot change the mode from your Master Station.

In the voice operated switching (VOX) mode, the communication path will switch automatically so that it routes the signal from the person speaking to the person listening. The press-to-talk (PTT) and microphone mute (MUTE) pushbuttons can be used at the Master Station to override the automatic switching.

In the press-to-talk mode, the Master Station is normally listening to the other station. The press-to-talk switch must be depressed when speaking into the Master Station to switch the direction of the speech path.

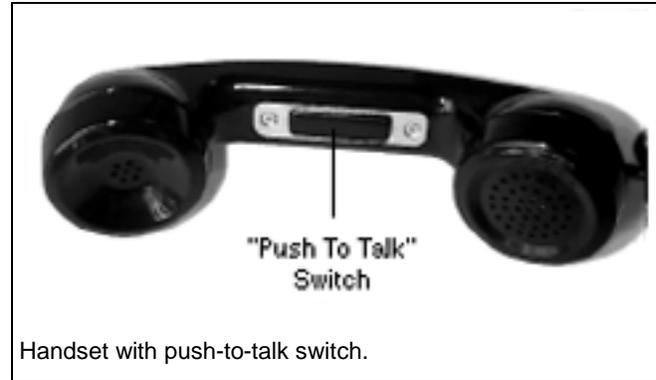
The System Administrator determines whether your Master Station will operate in the automatic (VOX) mode or the manual press-to-talk mode.

Handset

The handset can also be used to communicate with Intercom Stations or other Master Stations. When the handset is lifted from its cradle, the loudspeaker and microphone are automatically disconnected.

Handset communications to Intercom Stations are one way as for loudspeaker and microphone communications. When speaking to another Master Station using its handset, both parties can speak and listen at the same time as for normal telephone communications.

The handset includes a “push-to-talk” audio switch to control the direction of communication. It operates the same as the push-to-talk switch on the Master Station control panel.



Headset

If your Master Station is equipped with a headset, it must be plugged in to the headset jack to operate. When using your headset, you should disable the loudspeaker with the HEAD pushbutton.

- *Remember to reactivate your loudspeaker by depressing the HEAD pushbutton when you remove your headset.*

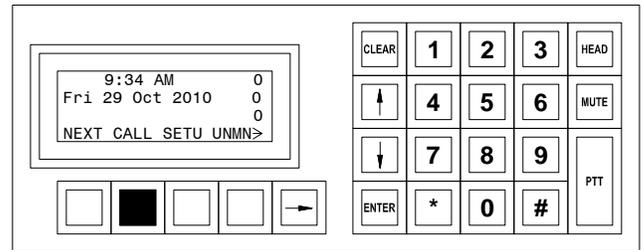
Headsets are available in various styles. Refer to the headset manufacturer’s instructions that came with your headset for further information.

Section 3 - Principles of Operation

Menu System

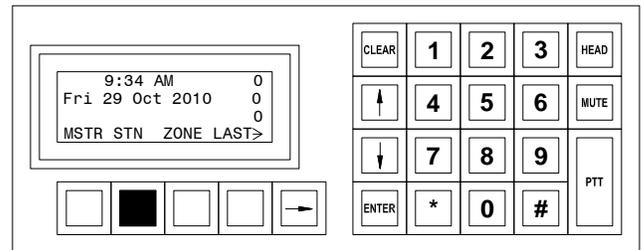
A compact Master Station requires a small display and a limited sized keyboard. To achieve this goal and still provide the required functionality, the DXL Master Stations uses four programmable keys (called function keys) and a menu system that defines the function of the keys. The bottom line of the display shows the different functions. Each time you press a function key either the specified action will be carried out or the menu will change allowing you to make further choices. The structure of menu system resembles an inverted tree, starting at the top level the menu is called the “Idle menu”.

From the “Idle menu” if we press one of the function keys, for example 'CALL', we move down the tree to a lower level menu (similar to moving to one of the tree branches).



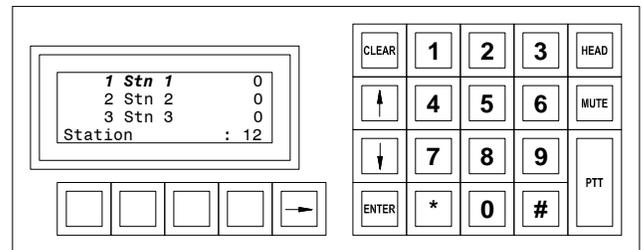
If you press this key the 'CALL' function is performed.

In this case the menu will change and the function keys will indicate the various lists that can be called. These include a list of Master Stations (MSTR), a list of Intercom Stations (STN), a list of PageZones (ZONE), as well as other lists. Pressing a function key from this menu, for example 'STN', will again change the display and present the list of Stations that you may call. In place of the menu functions the display will now indicate that you are on the “Station” list, as well as indicate the total number of Stations on the list.



If you press this key the 'STN' list will be displayed

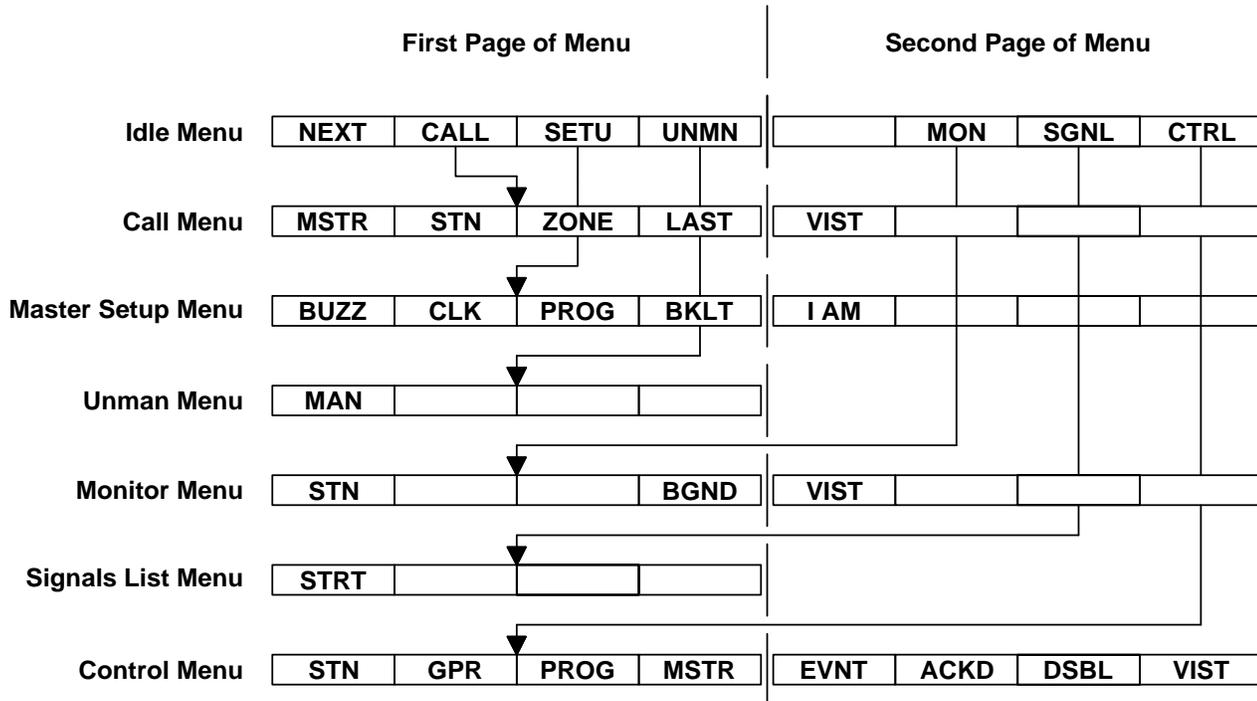
With the limited display area, three Station Names can be displayed at one time; however you can use the scroll keys "↑" and "↓" to move through the list of Stations until you reach the particular Station you want to call. Pressing the “ENTER” key will connect you to that Station. The menu system will now change and one of the function keys 'END' will allow you to terminate the call.



The list of Stations that you can call.

Function menus

The functions have been grouped together for your convenience, into menus. A menu consists of all the functions you can perform at a point in time. The following diagram gives a pictorial representation of the menus that can be reached from the top level “Idle menu” The “Idle menu” is normally displayed when there is no system activity. (By repeatedly pressing the “CLEAR” key you can always return to the “Idle menu”).

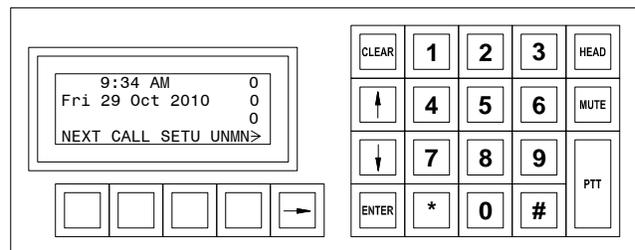


Menus reached from the top level 'Idle menu'

Use of the Right-Arrow Key

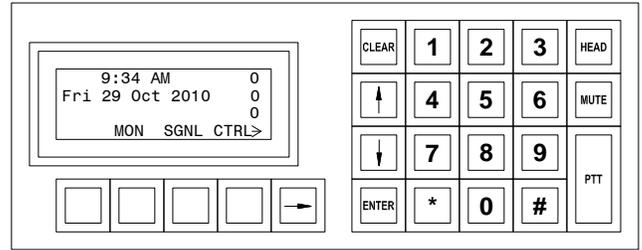
The bottom line of the display shows the different functions you may perform by pressing the function key(s) immediately beneath the display. Up to four functions are shown. Each one corresponds to the key directly below the function name.

If a Right-Arrow is displayed at the end of the bottom line, it means there are additional functions available.



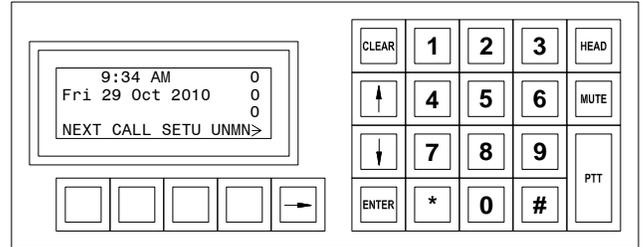
Right-Arrow indicate more functions available

When you press the Right-Arrow key (→), additional functions will appear.



Additional menu keys are displayed

If you continue to press the Right-Arrow key (→), you will return to the functions that first appeared when you accessed this display.



Pressing the Right-Arrow key returns you to the original function key menu.

List of Functions

Here is a list of functions that you may perform on the DXL system. The "function key label" is the term that will appear on the display.

Note: Only those functions that you may use at any one time will be displayed. Pressing an unlabelled function key will generate an error beep.

Function

Key Label	Meaning
ACKD	After you press 'CTRL', pressing this key will cause the Acknowledged List to be displayed
BKLT	When you press this key after 'SETU', you can adjust the backlight level on your display.
BGND	When you press this key after pressing the 'MON' function key a list of stations that can be monitored via of ALA will be displayed.
BUZZ	When you press this key after 'SETU', you can adjust the volume of the buzzer on the Master Station
CALL	When you press this key from the "Idle menu", the function display will indicate the types of calls you may make.
CLK	After pressing 'SETU', you can adjust the time format of the clock to either display AM/PM, or Military 24 hour time.
CRQ	Pressing this key will give you the ability to enable or disable the Call Request Button of an Intercom Station.
CTRL	When you press this key, the function key menu will display the types of things you can control.
DELE	Pressing this key will change the display to show the monitoring list from which stations can be removed
DSBL	This key performs two separate functions:

	(a) After you press ' CTRL ', pressing this key will cause the Disabled List to appear.
	(b) Otherwise, when you press this key, you will disable the station that is selected.
DVOL	When you press this key, you be able to adjust the sound level at the Intercom Station you are communicating with. This function is available during a call.
END	When you press this key, your call to a Station will end.
EVNT	After you press ' CTRL ', pressing this key will cause the Event List to appear.
LAST	Pressing this key after ' CALL ' will place the last call made from the Master Station
MAN	Pressing this key after pressing the ' UNMAN ' function key from the "Idle menu" will allow you to change the status of the master station from unmanned to manned state.
MON	Pressing this key will bring up the monitoring options available.
MSTR	When you press this key, the display will change to show you the directory list of Intercom Station Master Stations.
NEXT	Pressing this key will acknowledge the highest priority event in the Event Queue.
PAGE	Pressing this key after ' SETU ', you will be able to change the ' PAGE ' volume of the Master Station.
PROG	This key performs two different functions: (a) After pressing the ' SETU ' key, will allow you to adjust the Programming Music Volume of the Master Station. (b) After pressing the ' CTRL ' key and selecting a station, you will be able to enable or disable the Programming Music Button of the station.
RATE	When you press the ' RATE ' key, you will be able to change the time that the system monitors an Intercom Station before switching to the next station. This effects the background monitoring rate.
SETU	When you press this key, the function menus will change to display system settings that you can change. Those include backlighting, program, buzzer, and the clock.
SGNL	When you press this key, the function menu will change to display the list of signals that you can activate.
SVOL	When you press this key, you will be able to adjust the sound level for your Master Station. This function will be available during a call.
STN	Pressing this key will change the Master Station display to show the Station Directory.
UNMN	After pressing this key will set the Master Station into Unmanned mode. A password is required to return the master into operation.
VIST	Pressing this key will change the Master Station display to show the Visiting Booth Directory.
VOL	When you press this key after the ' SETU ' key, a list of Master Station volumes you can adjust.
ZONE	Pressing this key will change the Master Station display to show the Paging Zone Directory.

Lists

The MicroComm DXL uses two types of lists to perform its functions:

- Active Lists - these are lists that change as calls and alarms are placed, acknowledged and canceled. Active lists help you know what is happening at your station at any time.
- Directory Lists - these are lists that contain all the Master Stations, Intercom Stations, paging zones, and visitor booths that your Master Station can communicate with. Directory lists let you find stations that you need to communicate with or control.

The number of stations on the Active Lists will vary from time to time.

The length of the Directory Lists, on the other hand, is constant.

Unless they are doing the same job, your Master Station will probably have different Directory Lists than the other Master Stations in the system.

The following describes the Active Lists:

Event Queue	this is a list of stations whose call requests or faults that have not been acknowledged
Acknowledge List	this is a list of faults that have been acknowledged
Disabled List	this is a list of stations that have been disabled
Last Call List	this list always contains only one entry. You use it to recall the last station you were talking to. Every time you talk to a different station, this list is updated.
Monitor List	this is a list of stations that are automatically monitored in sequence

The following describes the Directory Lists:

Station List	this is a list of all Intercom Station and non-Intercom Stations that can communicate with your Master Station
Station Group List	this is a list of station groups that can be controlled from your master station.
Master List	this is a list of all Master Stations that can communicate with your Master Station
Paging Zone List	this is a list of all paging zones that you can make announcements to from your Master Station.
Signal List	this is a list of signals that your Master Station can activate.
Visiting Booth List	this is a list of all visiting booth stations that you can communicate with, monitor, and control their on/off status.

How Lists are Displayed

The display on your Master Station is divided into three parts:

- Alarm Code and ID Number and/or Name for each station on the list

Note: A maximum of three stations can be displayed at one time.

- The current list sizes of the Event Queue, Acknowledged List and Disabled List. These values appear on the right-hand side of the display in the top three rows. They are always displayed.

Remember that these lists vary in size from time to time. Even if the list size is zero, a value will still appear.

- A set of functions that you can perform by pressing the function keys immediately beneath the display.

Let's look at this information in more detail:

Alarm Code

The alarm code indicates the type of alarm that has been received:

Alarm Code	Meaning
I	Intercom Station Call Request
A	Audio Level Alarm Call Request
t	Call Request Time-out Alarm
d	Disabled Station Alarm
M	Master Station or Staff Call Request
F	Fault Alarm
T	Tamper Alarm

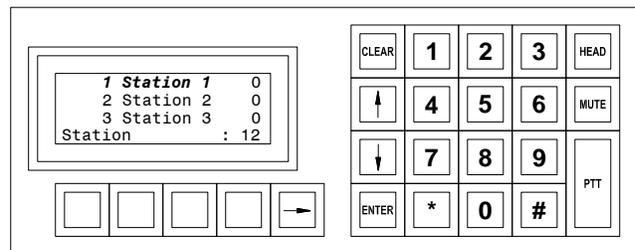
Note: t and d alarms are displayed only at the Secondary Master Station.

ID Number and/or Name

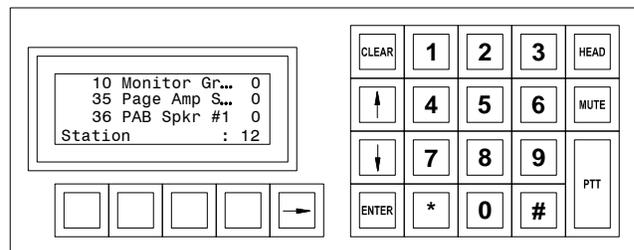
All stations in your facility are identified by ID Number and Name. The ID Number is a numeric value (between 1 and 65,535) assigned to the given station. It has no special significance other than the fact that it is a unique identification for that station. The name describes the station in terms commonly used in your facility. The Name may contain any characters, including numbers and punctuation and it may be up to 20 characters long. On the display stations are identified by both ID Number and Name.

You may sort stations on any list, numerically, by ID Number

If the Name is longer than the space allowed on the display, only the first part of the name will appear. The last character will be a (...), to indicate that the name has been cut off.

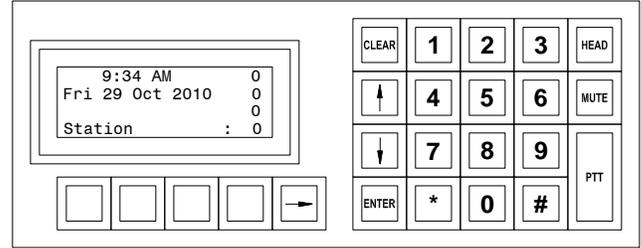


Stations identified by ID number and Name



Last character (...) indicates that Name has been shortened.

If there are no Stations on the list that is displayed (list size is zero), the time and date will appear where the alarm code and Station ID/Name are normally displayed.



If there are no Stations on the Station list, the time and date will appear

List Order

Each list has its own default order. The default order is the order in which the DXL normally displays the Stations on that list.

- Event Queue

Stations are sorted according to call request priority. (The System Administrator assigns priorities to Intercom Stations.) If two or more Stations have equal priority, they will appear in the order in which their call requests were received.

- Acknowledged List

The acknowledge list displays the faults that have been acknowledged. The list is displayed in the order that the faults were acknowledged.

- Disabled List

If the System Administrator has set up the system to display Station ID Numbers, the default order will be by ID number.

- Directory Lists

The default order will be by ID Number.

List Sizes

The three numbers on the right hand side of the display indicate the current number of Stations on each of the three variable-length lists:

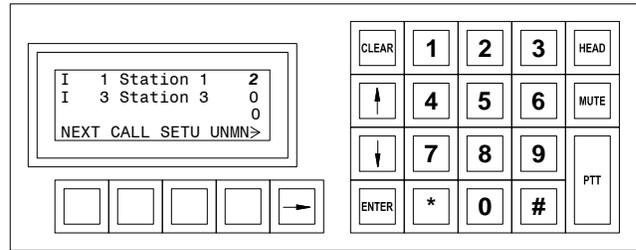
- TOP -- Event Queue
- MIDDLE -- Acknowledged List
- BOTTOM -- Disabled List

Remember that these values will vary. At any one time, the list size may be zero or some number up to the total number of stations.

How to Tell Which List you are on

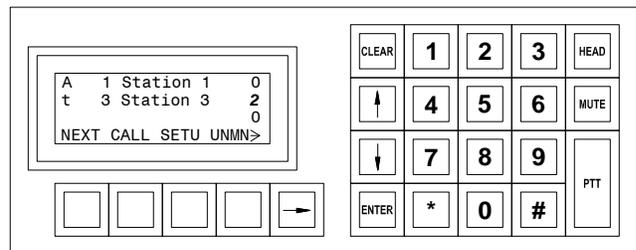
The flashing number indicates which list is currently displayed.

If the TOP list size is flashing, the Event Queue is displayed.



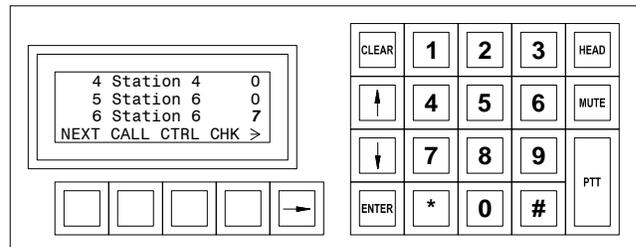
Event Queue is displayed

If the MIDDLE list size is flashing, the Acknowledged List is displayed.



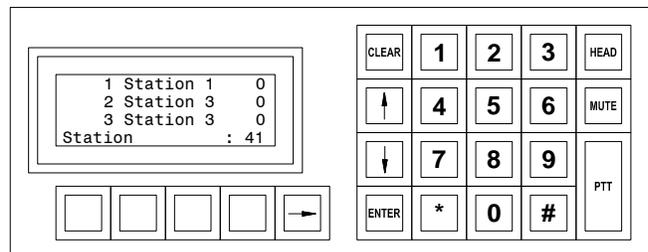
Acknowledge List is displayed

If the BOTTOM list size is flashing, the Disabled List is displayed.



Disabled List is displayed

If NO list size is flashing, one of the Directory Lists is displayed. You can tell which Directory List you are looking at by the List Name at the bottom left of the display.



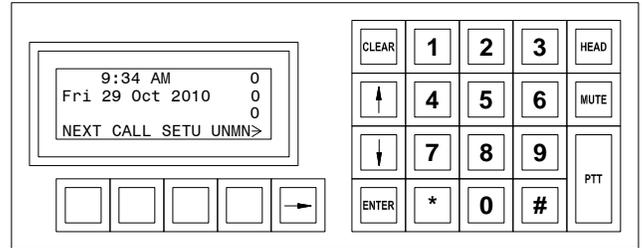
Station List is displayed

Section 4 - Intercom Procedures

How to Select a List

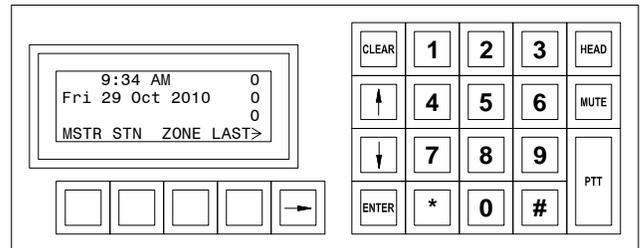
You can select a list through the ‘CALL’, ‘CTRL’, ‘MON’, and ‘SGNL’ functions on the “Idle menu”. Which function key you choose is based upon the operation you wish to perform.

Once you select one of the functions you wish to perform, the available lists you can select will be displayed.



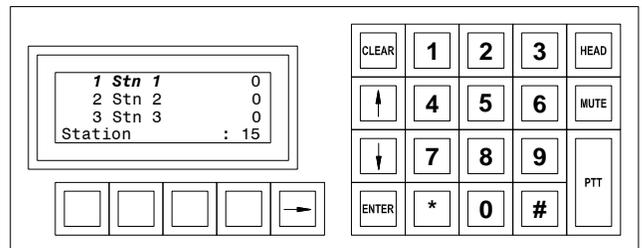
Master Station “Idle” menu.

For example, if you select the call function, you can then select whether you wish to call a Master Station, Intercom Station, paging zone, etc.



When “CALL” is pressed, the above choices appear.

If you decide to call an Intercom Station, press ‘STN’ to display the Intercom Station list.

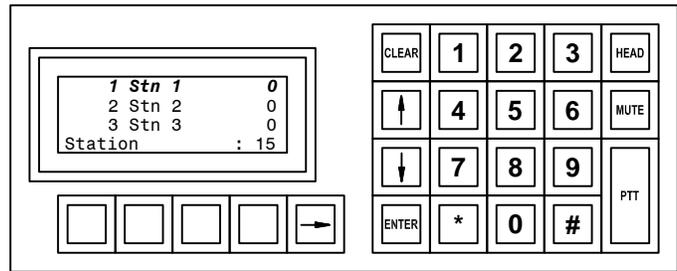


When “STN” is pressed, the list of Intercom Stations appears.

How to Select a Station

Before you perform a function, the station you want must be selected.

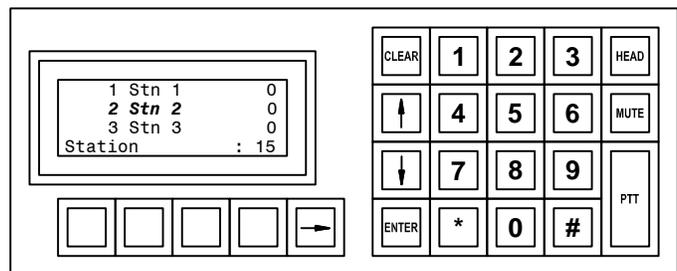
If you station you want is not currently selected, you can scroll through the Station List to the station you want - see the next heading for scrolling. As shown on the right the first station is currently selected



The top Station is currently selected

Scrolling

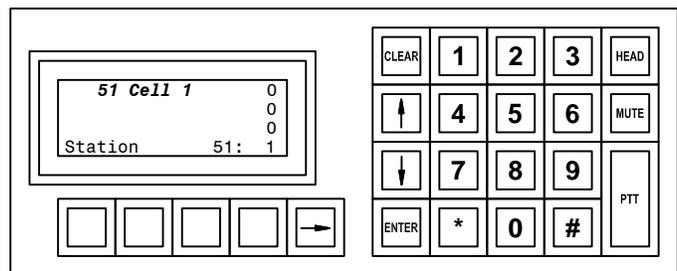
If the station you want is not selected, you can use the Up-Arrow key (“↑”) and Down-Arrow key (“↓”) to scroll up or down the list. Each time you press the arrow key, you will move up or down the list by one station.



The second Station is selected

If you know the ID Number of the Station

If you know the ID Number, you can select the station directly. If the list is displayed by order of ID Number you can simply type in the Station ID Number.

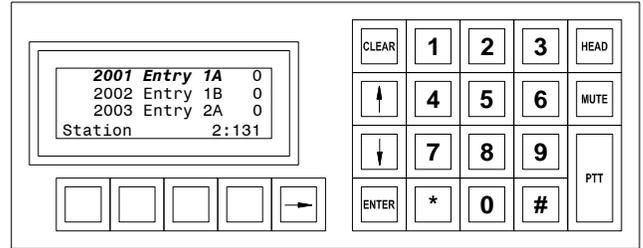


Only the Station # 51 is displayed

A Shortcut to Help With Long Lists

For lists that are sorted by ID Number you can sometimes shorten the list of displayed stations by typing in the first number of the station i.e. by typing in a “2” only the stations with ID numbers that start with “2” will be displayed.

Now you can use the Up-Arrow “↑” and Down-Arrow “↓” keys to scroll through the shortened list to make your final selection.



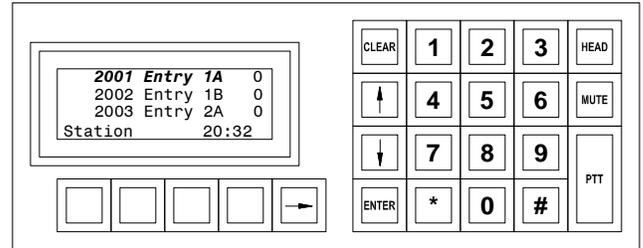
Station List – only those Stations whose ID numbers begin with “2” are displayed

Let’s say the ID Number of the station you want starts with a “2”. Press “2” and only those stations beginning with ID Numbers beginning with “2” will be displayed - this would include “2”, “20 ...29”, “200 ...299”, “2000”, “2001” ... “2999”, etc.

At any point you can stop and use the Up-Arrow and Down-Arrow keys to make your final selection.

If you know the second digit typing it in will further reduce the displayed list of stations. In this example the list contains 131 stations.

If you now type in a “0” only those stations with ID numbers that start with “20” will be displayed. In this example the displayed list is shortened and contains only 32 stations.



Station List – only those stations whose ID numbers begin with “20” are displayed

To Back Out of Your Selection

If you press “CLEAR”, you will “back out” of your selection - in the reverse order in which you enter the digits. Each time you press “CLEAR”, you go back one key stroke.

Example: Let’s say you enter “2” “0”. The list will display only stations with ID Numbers begin with “20”. If you now press “CLEAR” once, the list will display only those stations with ID Numbers begin with “2”. If you press “CLEAR” again, the entire list will be displayed. If you press “CLEAR” again you will return to a previous menu.

Making a Call to a Station

This procedure is used for making a call to an Intercom Station.

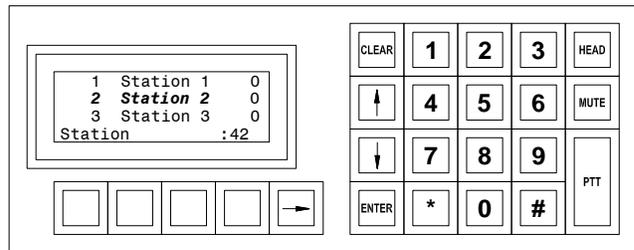
You may call an Intercom Station from any list on which it appears.

Reminder: When you acknowledge a call request from the Event Queue, you will automatically be connected to the Intercom Station.

Caution: If you call a station from the Station List or from the Disabled List and that station is also listed on the Event Queue, the system will treat your call as though you had acknowledged the call request.

To access the Station List press 'CALL' followed by 'STN".
Now select the Station you want from the Station List.

In this example, we will make a call from the Station List.



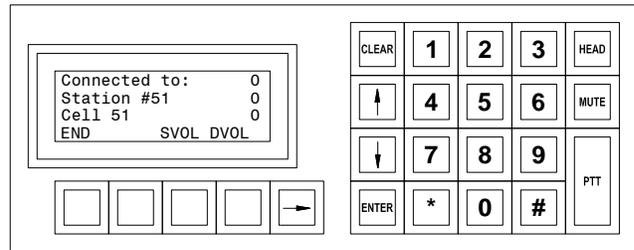
Station List

When you press "ENTER", the screen displays the ID Number of the station you are calling. You are connected to the station.

Through the loudspeaker, handset, or headset, you will be able to hear the audio at the station.

To speak to the intercom, use the station mic (located next to the loudspeaker), the handset, or the headset.

When you have finished your conversation, press 'END'. You will return to the Main Menu.



Press 'END' when you have completed the call

Functions Available When You are Making a Call

The following functions are available for you to use during a call:

- END This key will terminate the call and return you to the "Idle menu".
- SVOL Source volume, this key allows you to adjust the sound volume at your Master Station.
- DVOL Destination volume, this key allows you to adjust the sound volume at the Intercom Station to which you are connected.

Note: When you change the sound volume at an Intercom Station, the new value is saved and is re-used on subsequent calls to that station.

Level Setting Adjustments

This procedure is used to adjust sound volume at the Master Station (SVOL), and the sound volume at the Intercom Station (DVOL).

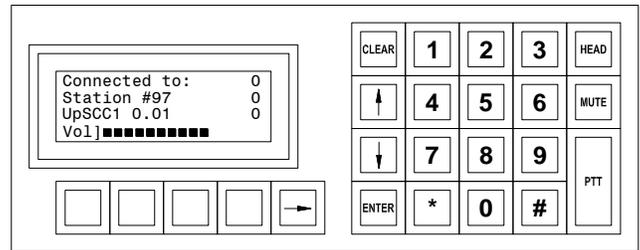
The current setting is displayed as a bar with 16 possible levels (on the bottom line of the display), replacing the function menu.

Use the Up-Arrow key (“↑”) and Down-Arrow key (“↓”) to adjust the level of the Master Volume or Station Volume, or

Note: If at any time, you want to return to your initial setting, press **CLEAR**.

When you have adjusted the setting, press **ENTER** to save your setting. You will return to the display from which you started. The function menu will once again be displayed on the bottom line of the display.

The display at the right is appears when you select ‘SVOL’ while you are connected to a Station. If you press **ENTER** the setting will be saved, if you press **CLEAR** you will return to the original setting.



Display while adjusting incoming volume levels.

Call Requests

When a call request is received, the Master Station will beep and the Intercom Station initiating the call request will be added to the Event Queue (according to priority and order received).

You may ignore the call request for the time being, or you may acknowledge it immediately.

Caution: If you do not respond promptly to the call request:

- a call request reminder beep will sound periodically to remind you that the call request has not been acknowledged, and
- after an interval, a call request time-out alarm may be annunciated at the Secondary Master Station.

Responding to a Call Request

If you are in the “Idle menu” and the Event Queue is empty the display will show the current time and date. As soon as a call is received the Event Queue will be displayed (The Event Queue will always be displayed in the “Idle menu” if there are unacknowledged events). If the incoming call request is the only entry in the event queue it will be selected (flashing) and you can respond to the call by pressing ‘**NEXT**’.

Acknowledging the Call Request

To acknowledge the top call request in the queue, press ‘**NEXT**’ function key

To acknowledge a call request that is selected, press **ENTER**.

You will be connected to the Intercom Station that you have selected. A tone will sound at the Intercom Station, and the call indicator light (if present) will go on to indicate that your Master Station is connected to the Intercom Station.

You may now speak to the Intercom Station, if you wish.

Ending the Call

To end a call with which you have been communicating with, press the **'END'** function key. This will disconnect you from the Intercom Station that you were communicating with. A tone will sound at the Intercom Station, and the call indicator light (if present) will turn off to indicate that your Master Station is no longer connected to the Intercom Station. The call will then be removed from the Acknowledged list

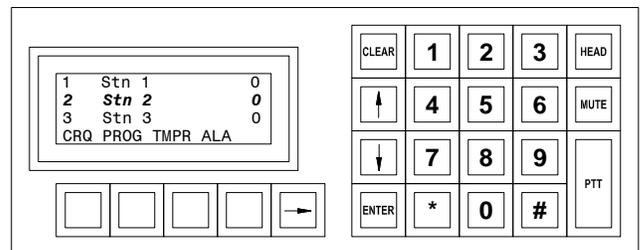
Section 5 – Enabling and Disabling Stations

Enabling/Disabling Switches at an Intercom Station.

If, during the operation of the system, there is the need to disable a Station, or parts of the Station, this can be accomplished from the Master Station. Those functions include:

- Call Request Button
- Tamper Alarm Switch
- Program (Music) Button
- Change Audio Level Alarm Threshold

Enabling/Disabling these functions is carried out by first pressing the ‘CNTR’ function key on the second page of the “Idle Menu”. A new menu appears, press the ‘STN’ function key brings up the list of stations and four functions that can be controlled, as shown on the right. Selecting one of these functions will then bring up a list of stations where this selected function can be disabled.

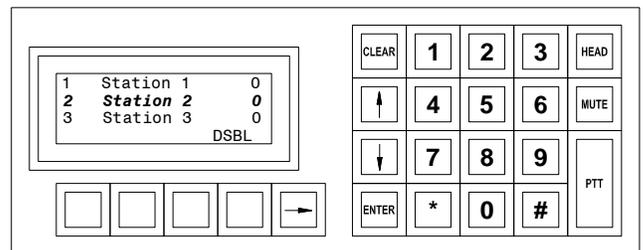


List of Stations and Operations that can be Controlled

Enabling/Disabling Call Request Switch at an Intercom Station

Even though a station may have its call request switch disabled you can still place calls to this station and communicate with it from your master station.

Enabling/Disabling an Intercom Station’s switches is carried out by first pressing the ‘CTRL’ function on the “Idle menu”, followed by selecting ‘STN’ on the new menu. This brings up a new menu, select the ‘CRQ’ function key; this will bring up a list of stations. Sort through the list and select the desired station and press the **ENTER** key. On the new menu press the ‘DSBL’ function key to disable the station. The display will now change with the **ENBL** function key will now displayed.

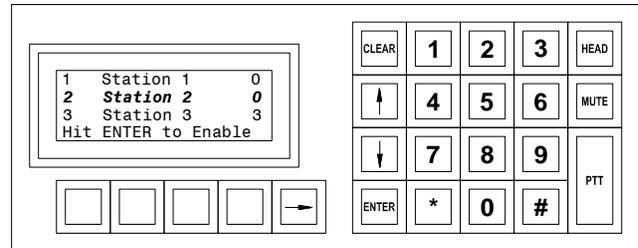


The Call Request Switch at Station #2 can be Disabled

Enabling Call Request Switch from the Disabled list

A second method of enabling a disabled station is to display the Disabled list.

Pressing the 'CNTR' function key from the "Idle menu" which will bring up a new menu. Press the 'DSBL' function key on the new menu. This will bring up the disabled list. Scroll to the station you wish to Enable and hit the **ENTER** key. The selected station will now be enabled.



Enabling a Station from the Disabled list

Enabling/Disabling Tamper Alarm at an Intercom Station

The Tamper Alarm switch ('TMPR') can be Enabled/Disabled following the same procedure used to Enable/Disable the Call Request switch.

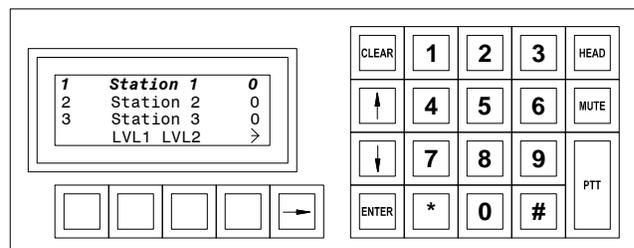
Enabling/Disabling Music at an Intercom Station

The Music programming switch ('PRGM') can be Enabled/Disabled following the same procedure used to Enable/Disable the Call Request switch.

Setting the Audio Level Alarm Thresholds for an Intercom Station

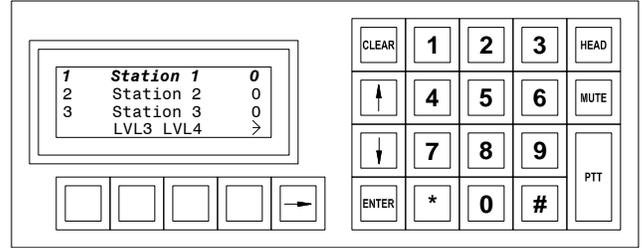
The audio level alarm setting at as is station is Enabled/Disabled using a similar procedure to that used to Enable/Disable the Call Request switch. The main difference is that when a station's audio level alarm is enabled it can be set to one of four possible predefined ALA filter settings.

From the second page of the "Idle menu" press the 'CNTL' function key this brings up a new menu the "Control menu". On this menu press the 'STN' function key this brings up a new menu. Press the 'ALA' function key to bring up the list of stations whose audio level alarm can be Enabled/Disabled by this master station. Scroll through the list to select the appropriate station. The 'LVL1' and 'LVL2' function keys are shown on the first page of the menu.



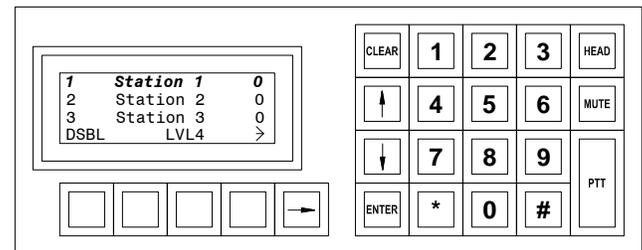
Level 1 and Level 2 are displayed on first page of menu.

On the second page of the menu the **Level 3** and **Level 4** function keys are displayed.



Level 3 and Level 4 are displayed on the second page of the menu

If we select one of the four levels as our ALA setting the function key we selected will disappear and be replaced by the **'DSBL'** function key (The **Disable** function key entry will appear on both menu pages). You can select a different ALA setting by pressing one of the remaining three **LVL** function keys. If you press the **'DSBL'** function key the ALA will be disabled and all four ALA settings will now be displayed.



Menu displayed after Level 3 has been Selected as the active ALA setting

Section 6- Monitoring Procedures

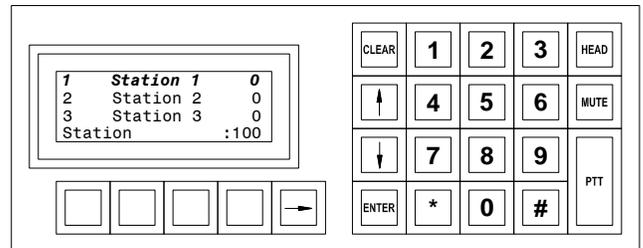
A Master Station operator can monitor the audio at Intercom Stations and Visitor Booths. A Master Station can also be pre-programmed (by the System Administrator) to continuously monitor a group of Stations. Any time the Master Station is not busy making calls or monitoring individual stations it can a group of stations.

Monitoring a Station

In order to monitor a Station the operator starts from the “Idle menu” and presses the function key **MON**.

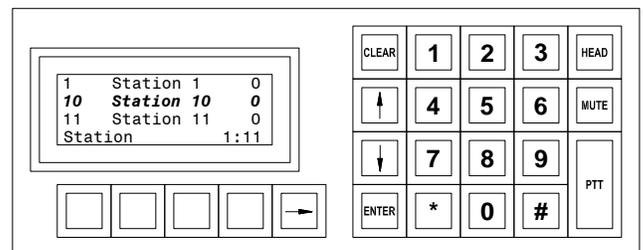


A new menu appears and if you press the function key ‘**STN**’, the list of Stations that you can monitor (the same list of Stations that you can call) will appear. Scroll through the list of Stations and select the one you wish to monitor. Press the **ENTER** key and you will start to monitor the selected Station.



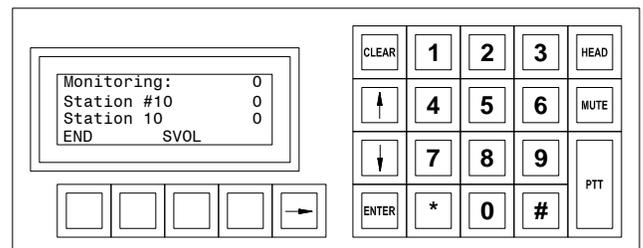
List of stations that can be monitored

To narrow the list of stations that you need to scroll through you can type in the first digit of the station ID number i.e. if you type in a ‘1’ only those stations with an ID number that starts with ‘1’ will be displayed. By pressing the **ENTER** key in this example Station 10 will be monitored.



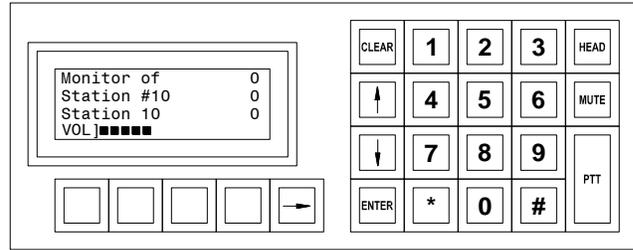
List of stations whose ID number starts with ‘1’

At this time the display will appear as shown on the right. If you press ‘**END**’ the monitoring will stop and you will return to the “Idle menu”.



Display while monitoring a Station

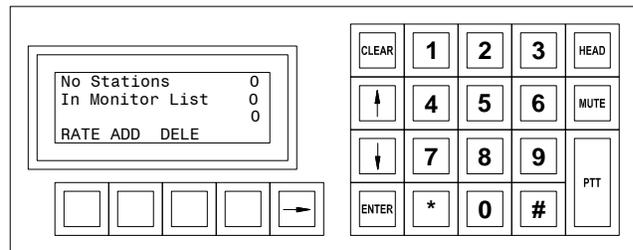
You can adjust the volume of the station audio by selecting the ‘SVOL’ function key. The display on the right allows you to adjust the volume using the Up-arrow (“↑”) and Down arrow (“↓”) keys. Once you have altered the volume press **ENTER** to save the setting and return to the monitoring menu or press **CLEAR** to return to the monitoring menu but with the previous volume setting



Adjusting the Station Monitoring Volume

Background Monitoring

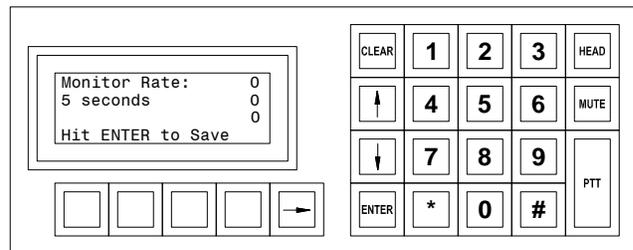
You can monitor one or several stations or a group of stations in a sequential manner, monitoring each station for a preset time before moving on to the next station in the sequence. Once in the monitor menu press the ‘BGND’ function key and the following display will appear.



Background Monitoring Menu

To Change the Monitoring Rate

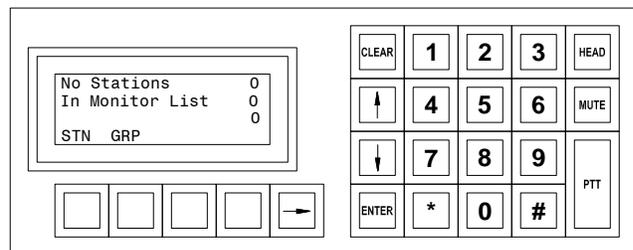
To change the rate at which the master will switch between stations while it is monitoring press the ‘RATE’ function key. Use the Up-arrow (“↑”) and Down-arrow (“↓”)keys to change the rate. Press **ENTER** to save this value or **CLEAR** to return to the original setting.



Setting the Monitoring Rate

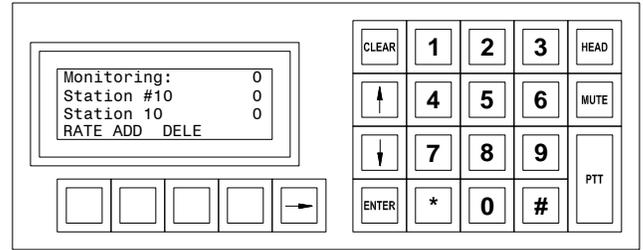
Adding Stations or Station Groups to the Monitoring List

Once in the Background Monitoring Menu pressing the ‘ADD’ function key will allow you to either add individual stations or predefined groups of station to the monitoring list.



Display after pressing the ‘ADD’ function key

Pressing the 'STN' function key will bring up the list of stations you can monitor. Scroll through the list to select the desired station and press the **ENTER** key. This station will now be added to the monitoring list. The Background Monitoring display will display the station that is currently being monitored. In a similar manner pressing the 'GRP' function key will display the list of predefined station groups. Scroll through the list until you locate the group you want to add to the station monitoring list. Once you have selected the group use the **ENTER** key to add it to the station monitor list.



Display with Active Monitoring

Deleting Stations or Groups of Stations from the Monitoring List

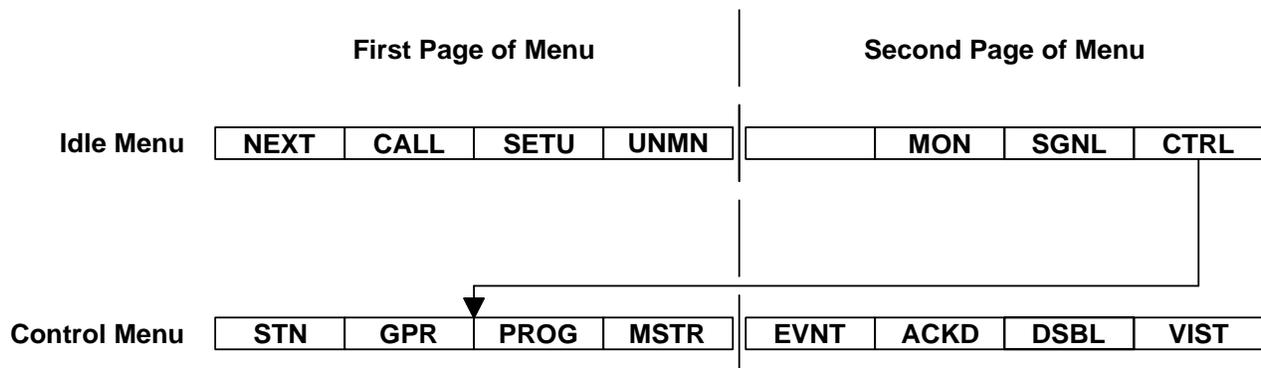
From the background monitoring menu press the 'DELE' function key to change the display and allow you to select either Stations or Groups of Stations that can be deleted from the monitoring list. Unless the monitoring list is empty you will always hear background monitoring except when you are making a call.

Section 7 –Alarm Handling Procedures

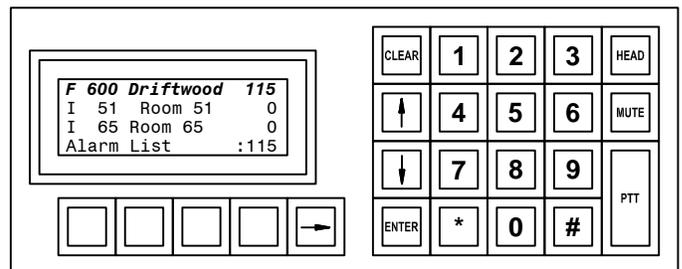
In the “Idle menu” the Event List is always displayed. If the list is empty the time and date will be displayed. If there are any incoming Events that have not been acknowledged they will be displayed, and the reminder beep will sound periodically.

If a single Event is displayed (or the Event that is flashing if there are more than one Event in the Alarm List) you can respond to it by pressing the function key ‘NEXT’. If it is a call request (a CRQ) an audio channel will be established between the Master Station and the Station that generated the call request. The Event will be moved to the Acknowledged List. If it is some other type of alarm and you press ‘NEXT’ the use of the function keys will change to indicate the possible actions you can make.

From the “Idle menu” you can select the ‘CTRL’ function to bring up a menu that will allow you to select the three active lists: the Event List (‘EVNT’), the Acknowledged List (‘ACKD’) or the Disabled List (‘DSBL’).

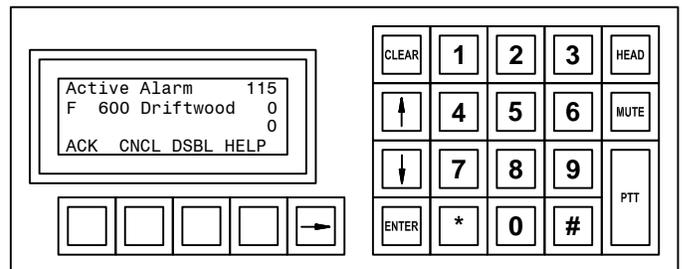


The screen on the right shows a typical Alarm List, with one of the Alarms corresponding to a hardware fault (F) and two of the Alarms corresponding to Intercom requests (I). If you select one of the Intercom requests and press **ENTER** you will move that Intercom Request to the Acknowledge List and establish an audio channel between your Master Station and the selected Station.



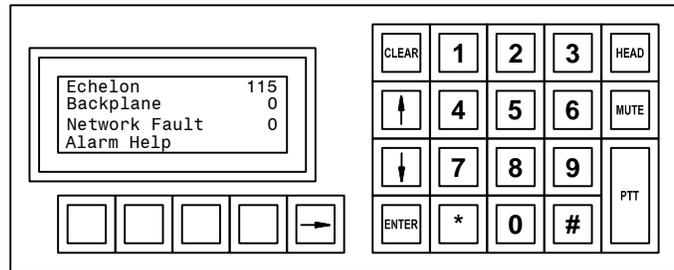
Display showing Alarm List

If you respond to a hardware fault alarm (F) by selecting the Alarm and pressing the **ENTER** key, the display will change as shown. You can then Acknowledge (‘ACK’) the fault, this will move it to the Acknowledge List (and turn off the reminder beep if it is the only current unacknowledged alarm). If the fault has been repaired you can Cancel (‘CNCL’) the alarm. This will remove it from all lists. If the Event is generated from a switch you can disable the switch. Any subsequent faults will not cause an alarm.



Selecting a Fault alarm.

The Help function will provide you with a brief description of the fault. A typical display is shown on the right.

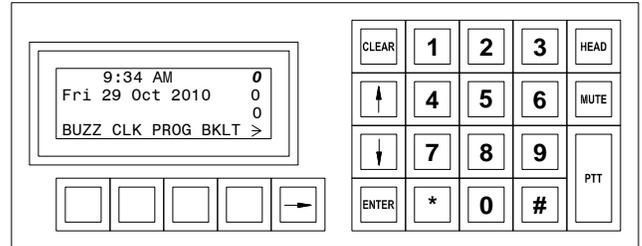


Display after selecting 'HELP' function.

Section 8 - Other Master Station Procedures

Changing Master Station Buzzer Volume, Clock Display and Backlighting Intensity

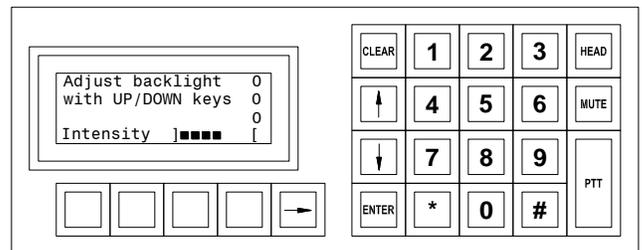
Pressing the ‘SETU’ function from the “Idle Menu” will change the display to allow you to modify some of the operational parameters of your master station



First Page of Setup Display

Changing Backlight Level

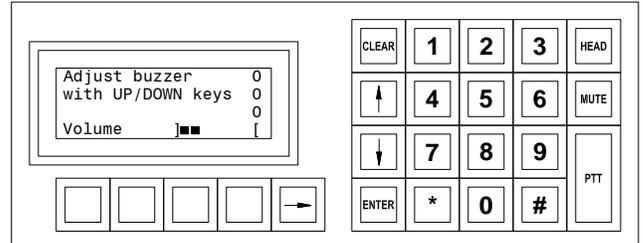
To change the Backlight Level of a Master Station start from the “Idle Menu” and press ‘SETU’, followed by ‘BKLT’. Use the arrows (“↑”) and (“↓”) to set the backlight to a desired setting.



Adjusting Backlighting Level

Changing the Buzzer Volume

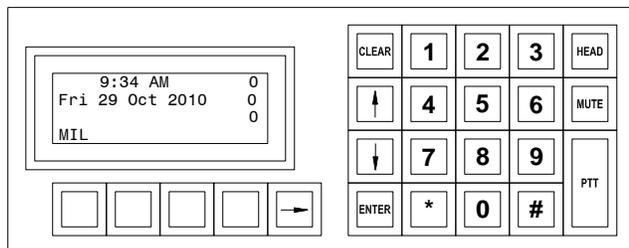
To change the Buzzer Volume of a Master Station start from the “Idle Menu” and press ‘SETU’, followed by ‘BUZZ’. Use the arrows (“↑”) and (“↓”) to set the backlight to a desired setting.



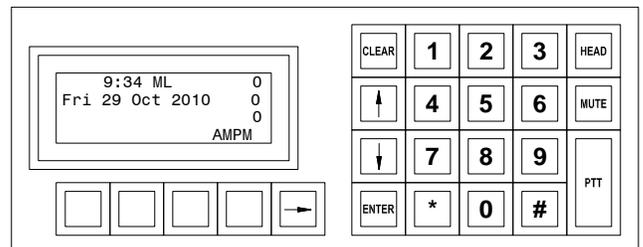
Adjusting Buzzer Volume

Changing Clock Display Mode

To change clock mode from between 12HR and 24HR time notation, press ‘SETU’, followed by ‘CLK’. If the clock is displaying the time in 12HR time notation the display shown on the right will appear. Pressing the ‘MIL’ function key the clock will now be displayed in 24HR time notation and the display will change so that you can use the function key ‘AMPM’ to change back to 12HR time notation



Clock Display in 12HR notation



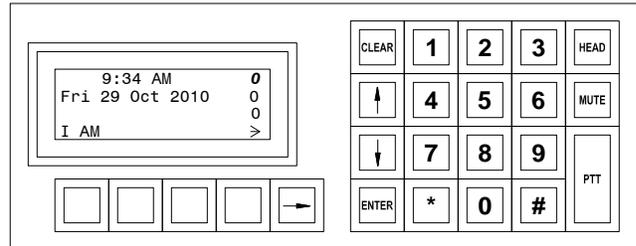
Clock Displayed in 24HR notation

To Change Programming (Music)

To change the programming (music) available to the Master Station, press ‘SETU’, followed by ‘PROG’. This will bring up a list of all available program channels. You are then able to select the programming (music) of choice. Also from this menu, you are able to change the volume of the music.

Information on Current Master Station

The ID Number and Name of a Master Station is not displayed and may be unknown to the operator. This information can be obtained by going to the second page of the ‘SETU’ menu and pressing the ‘I AM’ function key.



Second Page of Setup Display

The display will now change to provide information on the master station. A typical display is shown on the right.

