

## Chapter D

# Ring Communications Inc.

## Digital Annunciator Display

# DAD104



# CHAPTER D

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## **DAD104 DIGITAL ANNUNCIATOR DISPLAY**

### **INTRODUCTION**

The Digital Annunciator Display (DAD104) provides annunciation of ALARMS, CALLS and FAULTS for programmed, supervised stations. Handling is accomplished by single keystrokes. Four 12-character alpha-numeric DISPLAY LINES clearly indicate the annunciated extension numbers and location description. An audible tone accompanied by the flashing display line alerts the operator to annunciated events in queue. Auxiliary change over contacts are available to control external audible alarms or indicator lights which will activate anytime the internal tone is active. Additional annunciations beyond the view of the four display lines are indicated by the QUEUE COUNTER. The UP / DOWN scroll buttons are used to maneuver the additional annunciations when more than four are in the queue into the display area for handling. The current time of day is displayed in 24 hour format showing hours:minutes:seconds (HH:MM:SS) in the time window.

Its compact size allows for wall or console mounting. The face-plate dimensions match those of the Ring-Master AA905C, 10" high by 5.5" wide, permitting use of the BBF or BBS863 back box if necessary behind each unit for a uniform fit and look.

Power to the DAD104 can be supplied from the CB901 central exchange or a remote regulated 24 VDC power supply.

DAD104 operates on Ring Communications' Crisis Alert System together with the DXC901 and the DNA100. Refer to the NETWORK section for network specifications.

### **LOCATION AND DESCRIPTION OF CONTROLS** - See **Figure D1**

**ANSWER KEYS** - Respond to incoming signal on a display line.

**DISPLAY LINES** - Four red dot matrix alpha-numeric display lines, 12 characters long. The first four digits are always the calling station's call number; the remaining eight characters, including spaces, are the user defined description of the location. See example on page 6. For systems with a printer or CRT the description line may be up to 30 characters long not including the four digit call number, however only the first eight characters will be displayed on the DAD104 display line.

**CANCEL KEY** - Used to clear the display line and cancel the intercom connection when a call is complete or to silence the audible tone.

**SCROLL KEYS - UP / DOWN** - Allow the user to maneuver the display lines for viewing or handling when there are more than four annunciations in QUEUE.

**QUEUE COUNTER** - A four digit readout that indicates the total number of events in QUEUE.

**TIME DISPLAY** - Shows the current time of day in 24 hour format HH:MM:SS. The time must be set through a DNA100 node with a terminal device.

**PARK KEY** - Used to place handled annunciations in the PARK state for further handling by the same or a different display location.

**SPARE KEY** - Used for Remote Control. This key will send an event to the DXC and the DXC will send DTMF number 5 to the connected intercom station. If the connected intercom station is equipped with a DTMF decoder and a relay (AN912RR) then the relay can be used to control a remote function such as door-unlock.

### **EXPLANATION OF THE DISPLAY LINE**

An example of the four DISPLAY LINES are shown in **Figure D1**. Note that spaces count as one character position. The extension number always occupies the first four digits. The 0114 represents the annunciated station's EXTENSION number. The **CAR 4 A** is the location DESCRIPTION for extension 0114.

Each line has a STATUS. Before being handled the status is flashed alternately with the location description. An incoming annunciation event can have a status of Alarm, CALL or FAULT. An example of an incoming STATUS of a FAULT is shown on display line 3 of **Figure D1**.

- CALL** - Status when a call is initiated by a substation.
- ALARM** - Status for an alarm annunciation triggered by an alarm input from a sub/master station.
- FAULT** - Status when a station or it's cable is defective, also if a loss of power occurs to the station.
- PARK** - Status when a station is put on hold. After an incoming call is handled, it may be placed in PARK.
- BUSY** - When another display location answers a DISPLAY line.
- PWRFAIL** - Power failure in a device (CB901 lost power and is running on batteries).
- ACKNOWL** - Non voice event has been acknowledged by a DAD104 (such as PWRFAIL )

Once answered by the DAD104, the display line shows only the annunciated station's EXTENSION number and DESCRIPTION steady and is in the TALK state. When another display location answers a DISPLAY line all other displays show BUSY for that line.

If the system also has a printer or CRT node, a more detailed description may be possible (up to 30 characters not including the four digit extension number).

For example: 0114 CAR 4 A BANK BUILDING #1

## **OPERATIONAL FUNCTIONS**

### **IDLE -**

When there are no events to display, the QUEUE will display 00. The TIME will always be visible and the display lines will be off. In DLE mode the Intercom master station assigned to the DAD104 will also be idle and may be used in normal intercom mode. See TRIDEX operation information supplied with central exchange.

### **INCOMING EVENT - *The DISPLAY lines***

When the DAD104 receives a event, a display line will flash and an audible tone will be heard. The first event will be displayed on the top line, additional events of equal or lower priority will be inserted into the queue in the order they were received. Events with higher priority will be sorted into the queue according to their PRIORITY level (1-9). Priority level 1 is the highest and 9 is the lowest.

The audible tone will indicate the priority of the highest priority level in queue. A priority 9 will have the most delay between tones and a priority 1 will have the least. The DISPLAY LINE with the highest PRIORITY will control the audible tone speed.

During an incoming signal the display will alternately flash the STATUS with the location DESCRIPTION of the calling station. The queue counter will show the number of display lines in use. The user should always note the status of the event signal (ALARM, CALL, FAULT, PARK) before responding since the incoming status of the event will not be apparent when answered.

### **HANDLING AN EVENT - *The DISPLAY line ANSWER keys***

Once the status has been observed, an active display line can be answered by pressing the ANSWER key to the left of the active DISPLAY LINE. When the ANSWER key is pressed the display will stop flashing, the audible tone will stop, and the controller will connect the intercom master station at the DAD104 with the substation that is annunciated. A warning tone will sound at both stations, and you may begin speaking after the tone. The intercom will normally switch your voice hands free, although it may be necessary or desirable to use the 'T' button on the intercom station for simplex operation (push to talk) to overcome background noise at either location. The 'T' may also be used whenever you want to continue monitoring a station for information or security reasons.

**PRIORITY OVERRIDE -**

The master station at the DAD104 should be programmed with the "Priority override" privilege by SVT through the CB901's processor card. If a busy or privacy signal is encountered, you may then press the '0' key on the intercom to override the signal and obtain voice contact before the intercom times out (default is 15 seconds). If the intercom times out, you must dial the EXTENSION number shown on the DISPLAY LINE manually on the intercom and then use the priority override feature. All substations reporting to an annunciator may also be programmed with "Privacy Category, Never" to avoid having to use the Priority feature on a station that appears in privacy.

**PARK - *The PARK key***

PARK is used to temporarily hold calls that you need to get back to after handling other events or obtaining information. Solid FAULTS can also be placed in PARK to silence the audible tone until the problem is corrected by a service person.

**REMOTE CONTROL - *The Unmarked key***

This key is used for Door Lock Control of the connected Substation.

DXC901 sends DTMF tone 5 to Substation.

DXC910 sends DTMF tone 5 to Substation.

DXA100 sends out event REMCON.

**CANCEL A CONNECTION - *The CANCEL key***

When the intercom call is completed, press the CANCEL key on the DAD104, this will cancel both the intercom channel and the event on the current DISPLAY LINE.

A FAULT will return within two seconds after being canceled if it is a solid FAULT (see PARK). Faults can occur intermittently during the scanning of the system due to electrical interference or disturbance at, or near, the station or its cable. Each substation is scanned for faults 80 times per second.

**HANDLING MULTIPLE INCOMING ANNUNCIATION -**

When the QUEUE indicator displays a number more than four (04), you can use the SCROLL UP / DOWN keys to view the additional events and decide which lines should be handled first. If the scrolling feature is not used, calls can be handled on a first in first out basis by starting at the uppermost active line. When each call is canceled each DISPLAY LINE will automatically move up, and the top active DISPLAY LINE can be used each time until all lines are handled.

### **SILENCING THE AUDIBLE ANNUNCIATOR TONE -**

When an incoming annunciation is received and cannot be handled immediately, the tone can be temporarily silenced by pressing the CANCEL key. If any additional activity occurs, the audible tone will sound again.

The audible tone will also sound if another event is received while you are presently handling one. Two options are available to handle a event while in conversation: One is to complete the present call, press cancel, then proceed to handle the additional events. The second option is to place the present call in PARK, then answer the additional events to assess the priority of the call handling using PARK or CANCEL as needed.

### **NIGHT TRANSFER MODE -**

The DAD104 is placed in Night Transfer mode by placing the associated intercom station in privacy. Calls to this DAD104 will now be sent to the next DAD104 in the Annunciator chain (for the sub station) without the programmed delay. The delay is used in normal Day mode to delay calls before they transfer (Max delay 9.9 minutes). When the DAD104 is in transfer mode the time display will flash the word "TRANSFER" . Calls are still queued in the DAD104 but the beeper is silenced. The beeper will beep once every 40 seconds as a reminder that the we are in transfer mode. The DAD104 may answer calls in the Que while in transfer mode.

### **SET SYSTEM TIME/DATE -**

The Time and Date menu is accessed with the following key sequence:

PARK - REMOTE CONTROL - PARK - REMOTE CONTROL

Use the SCROLL keys to move through the menu.

Use the ANSWER keys to Increment or decrement Time or Date.

The CANCEL key exits the menu. No keys pushed for 30 seconds also exits the menu.

### **SUPERVISION OF CONNECTION TO DXC/DXA -**

When the DAD104 is powered up or reset it will send a log on message out on the RS485 Network asking what master station it is associated with. The DXC/DXA will respond with the call number and subscriber address of that master station. The DAD104 will then start to monitor the connection with the DXC/DXA that sent the response. If the connection fails the DAD will display the following error message:

Line 1 - **nn:76543210**

nn = the network number that the DAD is connected to.

The numbers are nodes present on this network.

Line 2 - **Net:nn Node:m**

nn = the network number of the DAD

m = the node number of the DAD

Line 3 - **Address:aa**

aa = the network address of the DAD (the 8 bit dip switch).

Line 4 - **Not Active**

Not active to answer calls.

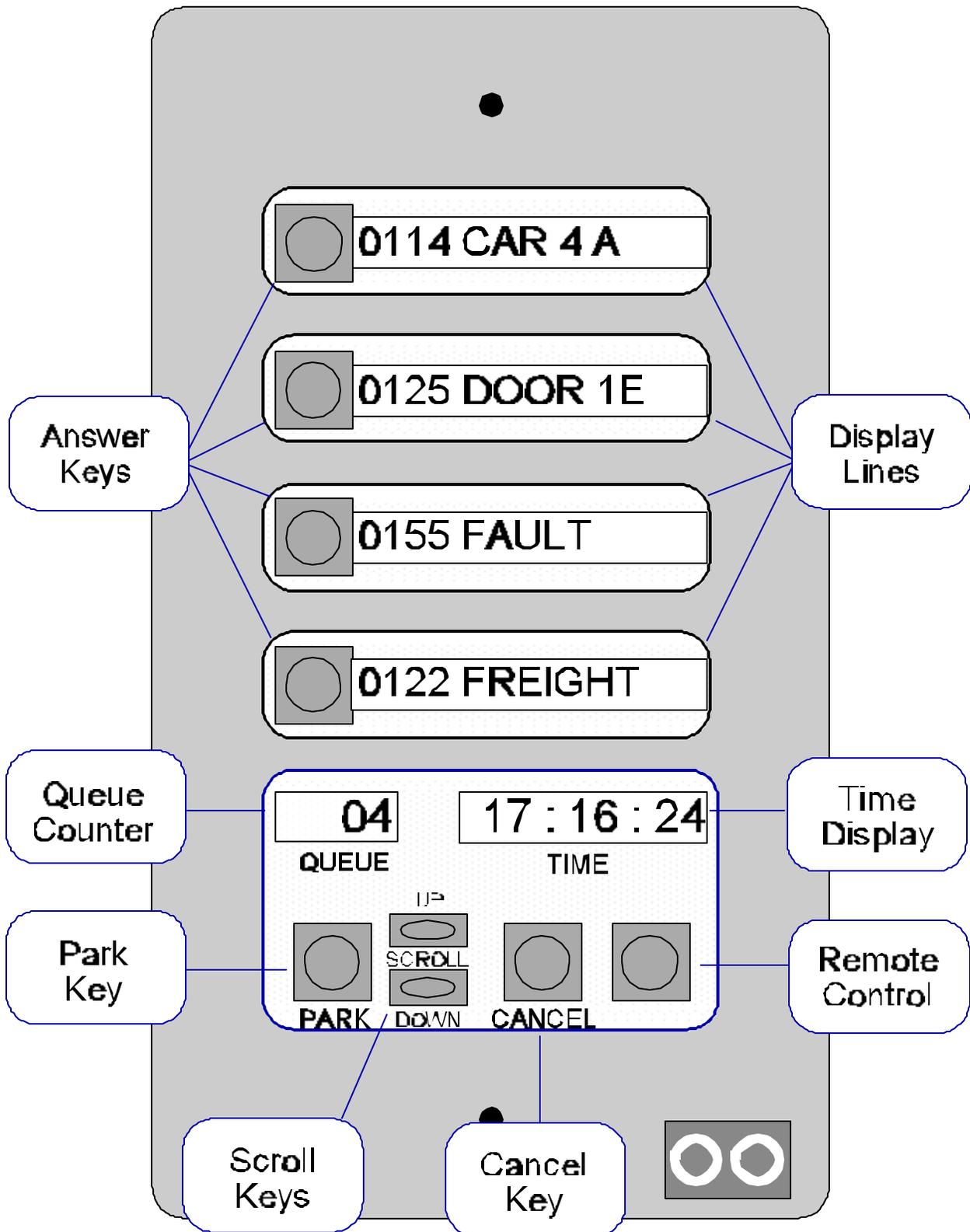


Figure D1 - DAD104 Display

**INSTALLATION** - See Figure D2.

Screw terminal blocks, TB1 and TB2, are provided for connections. Both screw terminals are plug in type for simple terminations.

The DAD104 is connected to the Network by screw terminal TB1, pins 1 through 4. TB 1 pin 1 is DATA+; pin 2 is DATA-. Pin 3 is positive power input (+12 VDC), and pin 4 is negative (-12 VDC). The cable from TB1 to the main Network loop must be a two twisted pair cable, one pair Data and one pair power. Power is supplied to the DAD104 from a fuse in the CB901 or a remote 24 VDC power supply.

An auxiliary form 'C' contact is available on TB2 to provide a dry contact signal to control an external alarm (flashing light, loud bell, etc.). TB2 pin 1 is COMMON, pin 2 is N.C. (Normally Closed), and pin 3 is N.O. (Normally Open). The contact is rated for 2 amps at 24 VDC. Power to the external device must be supplied on a separate cable pair, preferably on a separate fuse.

**Setting Network and Device Address**

DIP switch SW1 is used to set the address of the DAD104. See SETTING NETWORK ADDRESS of Chapter A - NETWORK for a full description for setting addresses, as well as, an addressing chart.

**NOTE**

**If any DIP switches are changed while the DAD104 is operating, it must be RESET or powered off and back on, in order for the changes to become valid.**

**Back-Box**

The DAD104 can be mounted into a flush (BBF863) or surface (BBS863) back box. When panel mounting the DAD104 for use in a console or control panel, a back box may not be necessary but can be used to enclose the DAD104 electronics if protection is required.

**REAR LED INDICATORS See Figure D2.**

Four LED's marked D1 through D4, are mounted on the rear of the DAD104 indicating the 3 functions. The LED's are used to show the condition of the microprocessor and the network. Refer to these indicators when installing or trouble shooting the DAD104 or the Network.

**D1 = RX :**

Receive data from the Network. Will flash when data is transmitted from another device to the network. If the Master LED is on, the RX LED will flash when other devices respond to scanning from the Master. When the Master LED is off the RX LED will flash constantly.

**D2 = TX :**

Transmit data to the Network. Will flash when the DAD104 sends data out on the Network. If the Master LED is on, the TX LED will flash constantly. When the Master LED is off, TX will only flash when transmitting to other devices.

**D3 = RUN :**

On steady when microprocessor is running. Will go out momentarily when the DAD104 is reset manually or if the program locks up.

**D4 = MASTER :**

On when the DAD104 is a Master on the Network. If other devices are already on-line the Master LED should not come on when the DAD104 is installed. The Master LED is under software control and only indicates this unit is in control of the network scanning. If there are other devices on-line and the Master LED is on and a reset occurs, D4 will go off.

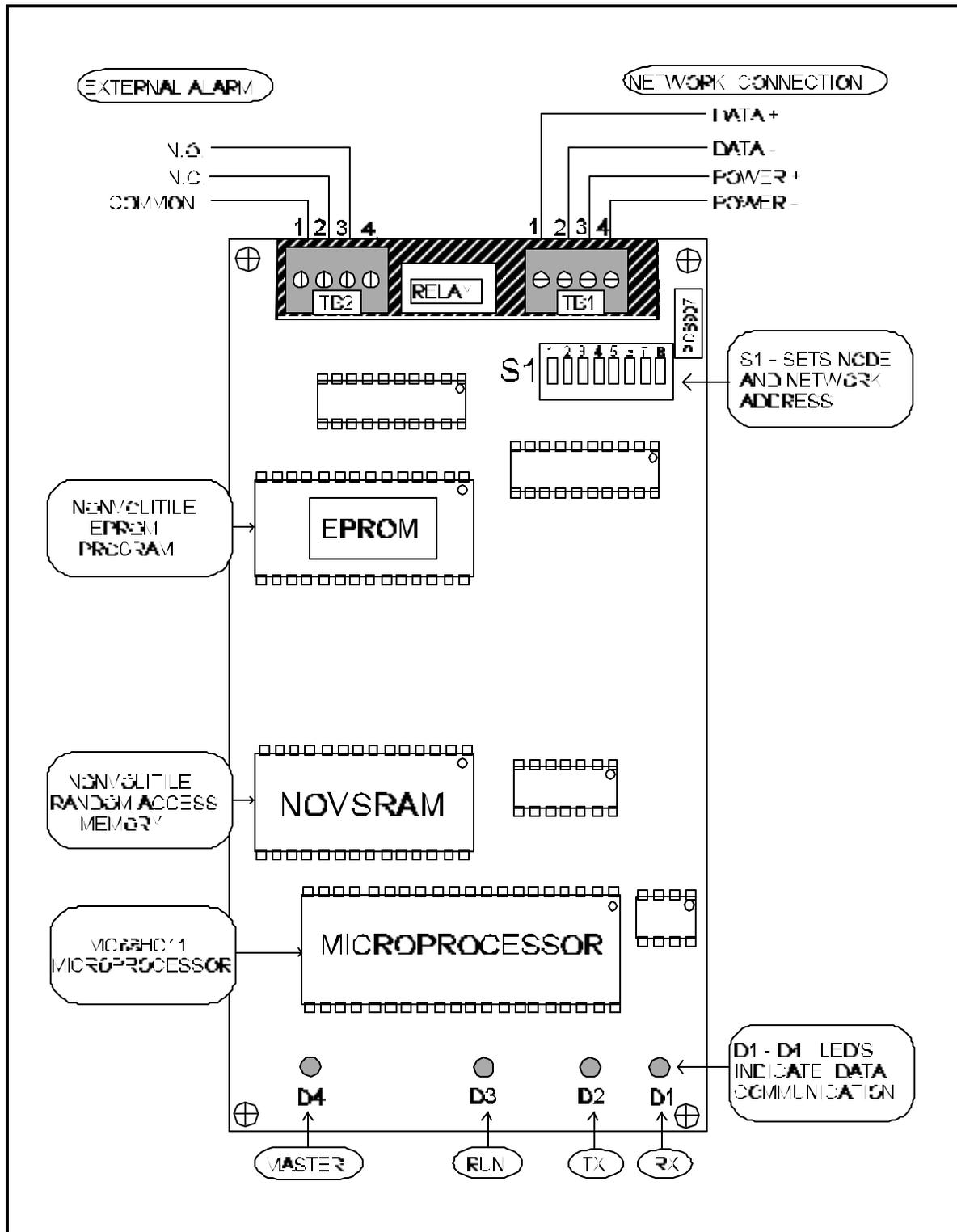


Figure D2 - Rear View of DAD104

# DAD104 NOTES