NOTIFIER®
by Honeywell

Digital Audio

DVC Digital Voice Command

Installation, Programming and Operations Manual

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Fire Alarm & Emergency Communication System Limitations

While a life safety system may lower insurance rates, it is not a substitute for life and property insurance!

An automatic fire alarm system—typically made up of smoke detectors, heat detectors, manual pull stations, audible warning devices, and a fire alarm control panel (FACP) with remote notification capability—can provide early warning of a developing fire. Such a system, however, does not assure protection against property damage or loss of life resulting from a fire.

An emergency communication system—typically made up of an automatic fire alarm system (as described above) and a life safety communication system that may include an autonomous control unit (ACU), local operating console (LOC), voice communication, and other various interoperable communication methods—can broadcast a mass notification message. Such a system, however, does not assure protection against property damage or loss of life resulting from a fire or life safety event.

The Manufacturer recommends that smoke and/or heat detectors be located throughout a protected premises following the recommendations of the current edition of the National Fire Protection Association Standard 72 (NFPA 72), manufacturer's recommendations, State and local codes, and the recommendations contained in the Guide for Proper Use of System Smoke Detectors, which is made available at no charge to all installing dealers. This document can be found at http://www.systemsensor.com/appguides/. A study by the Federal Emergency Management Agency (an agency of the United States government) indicated that smoke detectors may not go off in as many as 35% of all fires. While fire alarm systems are designed to provide early warning against fire, they do not guarantee warning or protection against fire. A fire alarm system may not provide timely or adequate warning, or simply may not function, for a variety of reasons:

Smoke detectors may not sense fire where smoke cannot reach the detectors such as in chimneys, in or behind walls, on roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level or floor of a building. A second-floor detector, for example, may not sense a first-floor or basement fire.

Particles of combustion or "smoke" from a developing fire may not reach the sensing chambers of smoke detectors because:

- Barriers such as closed or partially closed doors, walls, chimneys, even wet or humid areas may inhibit particle or smoke flow.
- Smoke particles may become "cold," stratify, and not reach the ceiling or upper walls where detectors are located.
- Smoke particles may be blown away from detectors by air outlets, such as air conditioning vents.
- Smoke particles may be drawn into air returns before reaching the detector.

The amount of "smoke" present may be insufficient to alarm smoke detectors. Smoke detectors are designed to alarm at various levels of smoke density. If such density levels are not created by a developing fire at the location of detectors, the detectors will not go into alarm.

Smoke detectors, even when working properly, have sensing limitations. Detectors that have photoelectronic sensing chambers tend to detect smoldering fires better than flaming fires, which have little visible smoke. Detectors that have ionizing-type sensing chambers tend to detect fast-flaming fires better than smoldering fires. Because fires develop in different ways and are often unpredictable in their growth, neither type of detector is necessarily best and a given type of detector may not provide adequate warning of a fire.

Smoke detectors cannot be expected to provide adequate warning of fires caused by arson, children playing with matches (especially in bedrooms), smoking in bed, and violent explosions (caused by escaping gas, improper storage of flammable materials, etc.).

Heat detectors do not sense particles of combustion and alarm only when heat on their sensors increases at a predetermined rate or reaches a predetermined level. Rate-of-rise heat detectors may be subject to reduced sensitivity over time. For this reason, the rate-of-rise feature of each detector should be tested at least once per year by a qualified fire protection specialist. Heat detectors are designed to protect property, not life.

IMPORTANT! Smoke detectors must be installed in the same room as the control panel and in rooms used by the system for the connection of alarm transmission wiring, communications, signaling, and/or power. If detectors are not so located, a developing fire may damage the alarm system, compromising its ability to report a fire.

Audible warning devices such as bells, horns, strobes, speakers and displays may not alert people if these devices are located on the other side of closed or partly open doors or are located on another floor of a building. Any warning device may fail to alert people with a disability or those who have recently consumed drugs, alcohol, or medication. Please note that:

- An emergency communication system may take priority over a fire alarm system in the event of a life safety emergency.
- Voice messaging systems must be designed to meet intelligibility requirements as defined by NFPA, local codes, and Authorities Having Jurisdiction (AHJ).
- Language and instructional requirements must be clearly disseminated on any local displays.
- Strobes can, under certain circumstances, cause seizures in people with conditions such as epilepsy.
- Studies have shown that certain people, even when they hear a fire alarm signal, do not respond to or comprehend the meaning of the signal. Audible devices, such as horns and bells, can have different tonal patterns and frequencies. It is the property owner's responsibility to conduct fire drills and other training exercises to make people aware of fire alarm signals and instruct them on the proper reaction to alarm signals.
- In rare instances, the sounding of a warning device can cause temporary or permanent hearing loss.

A life safety system will not operate without any electrical power. If AC power fails, the system will operate from standby batteries only for a specified time and only if the batteries have been properly maintained and replaced regularly.

Equipment used in the system may not be technically compatible with the control panel. It is essential to use only equipment listed for service with your control panel.

Alarm Signaling Communications:

- **IP connections** rely on available bandwidth, which could be limited if the network is shared by multiple users or if ISP policies impose restrictions on the amount of data transmitted. Service packages must be carefully chosen to ensure that alarm signals will always have available bandwidth. Outages by the ISP for maintenance and upgrades may also inhibit alarm signals. For added protection, a backup cellular connection is recommended.
- **Cellular connections** rely on a strong signal. Signal strength can be adversely affected by the network coverage of the cellular carrier, objects and structural barriers at the installation location. Utilize a cellular carrier that has reliable network coverage where the alarm system is installed. For added protection, utilize an external antenna to boost the signal.
- **Telephone lines** needed to transmit alarm signals from a premise to a central monitoring station may be out of service or temporarily disabled. For added protection against telephone line failure, backup alarm signaling connections are recommended.

The most common cause of life safety system malfunction is inadequate maintenance. To keep the entire life safety system in excellent working order, ongoing maintenance is required per the manufacturer's recommendations, and UL and NFPA standards. At a minimum, the requirements of NFPA 72 shall be followed. Environments with large amounts of dust, dirt, or high air velocity require more frequent maintenance. A maintenance agreement should be arranged through the local manufacturer's representative. Maintenance should be scheduled as required by National and/or local fire codes and should be performed by authorized professional life safety system installers only. Adequate written records of all inspections should be kept.

Limit-F-2020

Section 5: DVC Operation

5.1 Using the DVC-KD Keypad on the DVC

When a DVC is used with a DVC-KD keypad, it operates with a network annunciator, N16, or NFS2-3030 as an audio command center, accepting and routing live paging, with LED status indicators for paging and other functions.

The DVC-KD contains push-button switches and indicators of two types:

- Those with pre-set functionality, all located along the two left columns.
- Twenty-four user-programmable buttons similar to those on the ACM-24AT annunciators, all located along the two right columns.

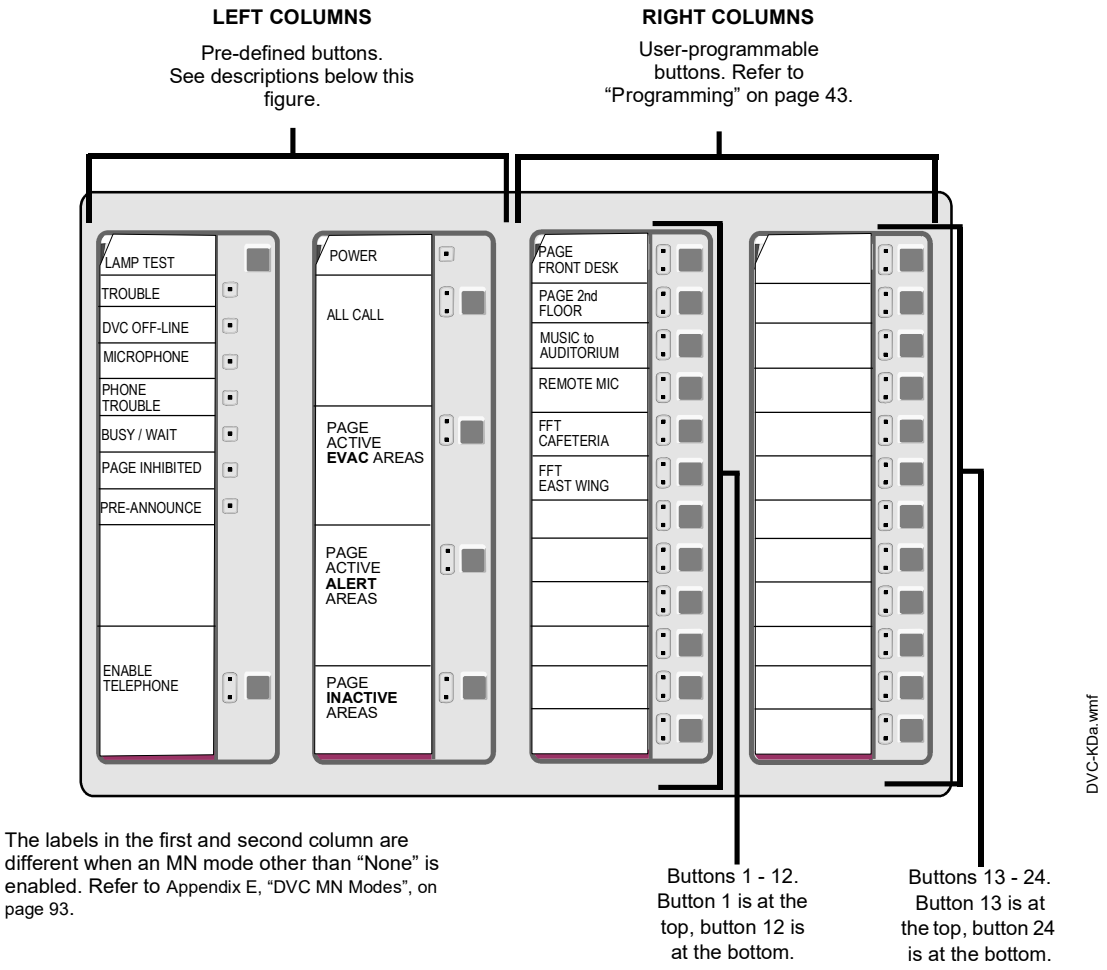

Figure 5.1 DVC-KD Keypad

5.1.1 Pre-defined Buttons/Indicators

Buttons When MN Mode = None

Figure 5.1 illustrates the label configuration in the two left columns when MN Mode = None.

LAMP TEST

Press and hold to perform a lamp test of all the LEDs on the keypad. LEDs on the DVC will also be tested with the following exceptions: Reset, TXA, TXB, RXA and RXB.

ENABLE TELEPHONE PAGE

Press this button to engage/disengage ALL CALL, PAGE ACTIVE EVAC AREAS, PAGE ACTIVE ALERT AREAS and PAGE INACTIVE AREAS paging from the DVC's TELH-1 telephone handset or an FFT on a DVC or DAL device riser.

NOTE: The ALL CALL, PAGE ACTIVE EVAC AREAS, PAGE ACTIVE ALERT AREAS, and PAGE INACTIVE AREAS buttons will function only when "Local Control" has been selected in VeriFire Tools programming.

NOTE: A local microphone page, initiated at the DVC's MIC-1, will pre-empt a local telephone page from the DVC's TELH-1 or an FFT on the DVC or a DAL device riser.

ALL CALL

Press this button to initiate ALL CALL paging. DVC nodes that will receive the ALL CALL message are determined by VeriFire Tools programming. The green "active" LED will light if any of the mapped nodes are online. When one or more nodes are off-line, the yellow "trouble" LED will blink. If both the green and yellow LEDs are lit, paging can still proceed, broadcasting to all mapped nodes that are online.

PAGE ACTIVE EVAC AREAS

Press this button to initiate paging to active evacuation areas. This feature is only available for standard fidelity DVCs (multi-channel). Nodes that will receive the PAGE ACTIVE EVAC AREAS message are determined by VeriFire Tools programming. The green "active" LED will light if any of the mapped nodes are online. When one or more nodes are off-line, the yellow "trouble" LED will blink. If both the green and yellow LEDs are lit, paging can still proceed, broadcasting to all mapped nodes that are online.

PAGE ACTIVE ALERT AREAS

Press this button to initiate paging to active alert areas. This feature is only available for standard fidelity DVCs (multi-channel). Nodes that will receive the PAGE ACTIVE ALERT AREAS message are determined by VeriFire Tools programming. The green "active" LED will light if any of the mapped nodes are online. When one or more nodes are off-line, the yellow "trouble" LED will blink. If both the green and yellow LEDs are lit, paging can still proceed, broadcasting to all mapped nodes that are online.

PAGE INACTIVE AREAS

Press this button to initiate paging to inactive areas. This feature is only available for standard fidelity DVCs (multi-channel). Nodes that will receive the PAGE INACTIVE AREAS message are determined by VeriFire Tools programming. The green "active" LED will light if any of the mapped nodes are online. When one or more nodes are off-line, the yellow "trouble" LED will blink. If both the green and yellow LEDs are lit, paging can still proceed, broadcasting to all mapped nodes that are online. Paging to inactive areas will only work when the bandwidth is available, and will not take priority over messages currently playing. For example if the system is using all eight channels to play different EVAC messages to different outputs, it is not going to pre-empt the lowest priority EVAC to page to the inactive areas.

Buttons When MN Mode = ACU, LOC, or CCS

Figure E.1 on page 93 illustrates the label configuration in the two left columns when MN Mode = ACU, LOC or CCS.

LAMP TEST

Press and hold to perform a lamp test of all the LEDs on the keypad. LEDs on the DVC will also be tested with the following exceptions: Reset, TXA, TXB, RXA and RXB.

Level 1 (User Labeled)

Press the highest button in column 2 to create an ALL CALL page at the highest priority.

- If the Level 1 input category is MN, pressing this button will create an MN page locally and to all MN mapped nodes, initiating an MN alarm.
- If the Level 1 input category is Fire, pressing this button will create an ALL CALL fire page locally and to all mapped nodes.

Level 2 (User Labeled)

Press the second button down in column 2 to create an ALL CALL page at level 2 priority.

- If the Level 2 input category is MN, pressing this button will create an MN page locally and to all MN mapped nodes, initiating an MN alarm.
- If the Level 2 input category is Fire, pressing this button will create an ALL CALL fire page locally and to all mapped nodes.

Level 3 (User Labeled)

Press the 3rd button down in column 2 to create an ALL CALL general page at level 3 priority locally and to all mapped nodes.

5.1.2 LED Indicators

- **Trouble** - Illuminates steady during system initialization and when there are acknowledged troubles at the DVC node. Blinks for unacknowledged troubles.
- **DVC Offline** - Illuminates when the DVC is not providing fire protection. For example, there is a problem with the DVC that requires service.
- **Microphone Trouble** - Illuminates when a connection failure exists, or when a DVC microphone page has been initiated but no microphone activity has occurred for 17 seconds.
- **Phone Trouble** - Illuminates when a connection failure exists, or when a DVC telephone page has been initiated but no telephone activity has occurred for 17 seconds.
- **Busy/Wait** - Illuminates when a code or database download from the DVC to DAL devices is in effect.
- **Page Inhibited** - Illuminates when a page ends, as the system inhibits another page from being initiated for 3 seconds. It will also illuminate when another node has assumed paging control and locked out paging from this DVC. This occurs when the DVC requests paging permission over a standard or high-speed Noti•Fire•Net from the DCC node (refer to "Display and Control Center (DCC)" on page 76), and the DCC has not granted it. Also illuminates when the Page Inhibit feature is active.
- **Pre-Announce** - Illuminates while the pre-announce sequence is playing before paging from the DVC's MIC-1 local microphone.

5.1.3 24 User-programmable Buttons

These buttons are programmed in VeriFire Tools to perform annunciator-type control, monitor and telephone functions within the system.

5.2 Paging

The MIC-1 microphone, TELH-1 telephone handset, RM-1 remote microphone, and AUXA and AUXB inputs can perform paging operations to their local DVC or across a standard or high-speed Noti•Fire•Net to another DVC.

FFTs on the DVC/DAL device FFT risers can perform paging operations to the DVC node or the network.

5.2.1 MIC-1 Microphone Paging

To page using the MIC-1:

1. Remove the microphone from its cradle.
2. Press the DVC-KD button for the desired paging zone (for this example, ALL CALL). The green LED at the ALL CALL button will light steady.
3. Press the push-to-talk button on the microphone. If there is a pre-announce tone, it will play at this time and the Pre-Announce LED will light as it plays. Wait until this LED goes off before paging.
4. Page.
5. Release the push-to-talk button on the microphone.
6. Press the ALL CALL button to disengage the ALL CALL function. The green LED will turn off.

NOTE: The DVC-KD Microphone Trouble LED will illuminate briefly if paging is initiated but there is no activity for 17 seconds. After the 17 seconds have elapsed, the LED will light, MIC-1 microphone paging will terminate, and the LED will go out.

5.2.2 TELH-1 Telephone Paging

To page using the TELH-1:

1. Remove the handset from its cradle.
2. Press the ENABLE TELEPHONE PAGE button. The green LED at the button will light steady.
3. Press the DVC-KD or annunciator button for the desired paging zone (for this example, ALL CALL). The green LED at the ALL CALL button will light steady.
4. If there is a pre-announce tone, it will play at this time and the Pre-Announce LED will light as it plays. Wait until it ends before paging.
5. Press the handset's push-to-talk button.
6. Page.
7. Release the push-to-talk button on the TELH-1.
8. Press the ENABLE TELEPHONE PAGE button to disengage the ALL CALL function. The green LEDs at the ALL CALL and ENABLE TELEPHONE PAGE buttons will turn off.

NOTE: The DVC-KD Telephone Trouble LED will illuminate briefly if paging is initiated but there is no activity for 17 seconds. After the 17 seconds have elapsed, the LED will light, TELH-1 telephone paging will terminate, and the LED will go out.

5.2.3 RM-1 Remote Microphone Paging

NOTE: RM-1 usage is not supported for Canadian DCC Applications.

To page using a DVC's RM-1:

Configured with Annunciator

1. Remove the microphone from its cradle.
2. Press the annunciator button(s) mapped to the RM-1.
   - Specific Local Paging (when there is no ENABLE PAGING button) - Press the single button for the specific area to be paged (i.e. Cafeteria) to enable paging. The annunciator LED will blink.
   - Specific Network Paging - Press the ENABLE PAGING button, then press the button for the specific area to be paged (i.e. Cafeteria, East Wing). The annunciator LEDs will blink.
   - General Local and General Network Paging - Press the ENABLE PAGING button, then press the button for the type of paging desired (ALL CALL, PAGE EVAC, PAGE ALERT, PAGE INACTIVE). The annunciator LED(s) will blink.
3. If there is a pre-announce tone, it will play at this time and the Pre-Announce LED will light as it plays. Wait until it ends before paging.
4. Press the push-to-talk button.
5. Page.
6. To end the page, release the push-to-talk button and press the *paging function* button (not the ENABLE PAGING button) to deactivate. The annunciator LED(s) will turn off.

Configured with Keyswitch

1. Remove the microphone from its cradle.
2. Insert and turn the key in the keyswitch. (A monitor module must monitor the keyswitch that will drive logic to turn on the necessary PAM points)
3. If there is a pre-announce tone, it will play at this time and the Pre-Announce LED will light as it plays. Wait until it ends before paging.
4. Press the push-to-talk button.
5. Page.
6. To end the page, release the push-to-talk button and turn the key back to its original position.

5.2.4 AUXA/AUXB Paging

To page using a DVC's AUXA or AUXB inputs:

1. Activate the AUXA or AUXB input.
2. Press the annunciator button(s) mapped to it.
   - Specific Local Paging (when there is no ENABLE PAGING button) - Press the single button for the specific area to be paged (i.e. Cafeteria) to enable paging. The annunciator LED(s) will blink.
   - Specific Network Paging - Press the ENABLE PAGING button, then press the button for the specific area to be paged (i.e. Cafeteria, East Wing). The annunciator LEDs will blink.
   - General Local and General Network Paging - Press the ENABLE PAGING button, then press the button for the type of paging desired (ALL CALL, PAGE EVAC, PAGE ALERT, PAGE INACTIVE). The annunciator LED(s) will blink.
3. Press the push-to-talk button.
4. Page.
5. To end the page, release the push-to-talk button and press the *paging function* button (not the ENABLE PAGING button) to deactivate. The annunciator LED(s) will turn off.

5.2.5 FFT Paging

To page using an FFT handset on the DVC's FFT riser or the FFT riser on one of its DAL devices, refer to Appendix B.1, "FFT Paging", on page 79.

5.3 Display and Control Center (DCC)

A Display and Control Center (DCC) is a display location which can respond to events occurring at other participating locations. While there may be multiple Display and Control Centers on a network, an individual location can only accept the commands of one DCC at a time. The user's actions at any participating station, panel, or remote display determine which location will be the DCC.

VeriFire Tools programming determines whether a DVC has or does not have DCC capabilities. The DVC does not have a display or indicator showing it has DCC control, and so it must be mapped in VeriFire Tools to an NCA-2/C or network workstation. When the ALL CALL, PAGE ACTIVE ALERT AREAS, PAGE ACTIVE EVAC AREAS, PAGE INACTIVE AREAS, or ENABLE TELEPHONE PAGE button is pressed at a DCC-designated DVC, the DVC will attempt to get control of the network for its associated NCA-2/C or network workstation. The "Controls Active" LED on the panel will light when control has been granted, and paging can proceed. When the NCA-2/C gets control, it will be in control of itself, the DVC, and all the nodes in the ALL CALL list.

DCC is not used in a Mass Notification system. Refer to the section titled Mass Notification Control Operation in the Mass Notification manual.

5.4 Trouble Messages

Refer to Appendix C, "Trouble Messages", on page 84 for troubles generated by the Digital Voice Command system.

Non-displayed Events

The DVC will generate messages for activations/deactivations that do not normally display at network annunciators. They can be displayed at a network workstation by viewing the Background Activations screen. Refer to the network workstation manual. The notation will appear as IxxxxAyySz, where xxxx equals the input number, yy equals the DAL device address, and z equals the speaker circuit (1, 2, 3, or 4).

Read Status

The NCD, NCA-2/C, N16, NFS2-3030, a network workstation, as well as a computer running VeriFire Tools and connected to the NUP port of the DVC, will be able to read the status of a DVC. Refer to the appropriate panel manual or VeriFire Tools for Read Status display information.

Appendix C: Trouble Messages

Tables C.1 and C.2 list and describe the system and point trouble messages that can be generated by a DVC and its DAL (digital audio loop) devices. These messages pass along the wire or fiber DAL to the DVC, then to a panel network annunciator or workstation, to display as a trouble. System troubles can be used in logic equations (see “Logic Equations Branch” on page 69): the system trouble index number is listed next to each system trouble in Table C.1 for this function.

A DAA can also send trouble messages to the panel, network annunciator, or workstation through its trouble relay. The trouble relay sends a general trouble message to the panel, and the trouble must then be investigated at the DAA by checking the LED indicators. The trouble relay is used mainly as a backup in the event the monitoring panel loses communication with the DVC over a standard or high-speed Noti•Fire•Net.

The specific trouble message generated by the device appears on the panel or network annunciator’s screen as a trouble. The specific trouble message displayed will identify the digital audio component that generated it by displaying its address: the network node number of the DVC, next the device’s DAL address (1 - 32), if applicable. If the trouble is a speaker circuit trouble, the address will also contain the speaker circuit. The format will be AxxSz, where xx is the digital amplifier address, and z is the speaker circuit number .

NOTE: If the DVC is directly connected to an N16 or NFS2-3030 (that is, they are not connected through a network communication module), that panel will display specific troubles. An NFS2-640 will require a network annunciator to view DAL device troubles.

When the DVC is a node on a standard or high-speed Noti•Fire•Net, specific troubles will display at the network annunciator, workstation, or N16 or NFS2-3030 running in “Network Display Mode”.

System Trouble	Description	To Resolve	System Trouble Index Number
AC FAIL	Loss of AC power. **Note:** When AC power is lost, the DAL device does not broadcast non-emergency backup tones.	Investigate whether there is an AC power loss, or whether the power supply is correctly installed and wired.	1
ALARM SIGNAL ON	An Alarm Signal On has been performed on the network.	Perform a Network Reset to clear the Alarm Signal On.	725
AMPLIFIER LIMIT	The DAA, DAA2 or DAX is overloaded. The audio output will be distorted.	Remove outputs to lower the load on the speaker circuits. If the problem persists, call Technical Services.	590
AMPLIFIER SUPERVISION	The DAA, DAA2 or DAX amplifier’s internal supervision has identified a failure.	Ensure the amplifier is playing audio of sufficient amplitude or is idle. If the problem persists, call Technical Services.	591
ANALOG OUTPUT x TROUBLE	A trouble has occurred on DVC-AO analog output x (1-4). The analog output is configured for Class X, but no audio signal is returned.	Investigate and fix.	584 (1) 585 (2) 586 (3) 587 (4)
AUDIO LIBRARY CORRUPTED	The audio library is corrupt.	The database and audio library must be re-downloaded. If the trouble still does not clear, call Technical Services.	605
AUDIO LIBRARY INCOMPATIBLE	The audio library is not compatible with the programming database.	Check the version in VeriFire Tools. Correct and re-download the database and audio library.	607
AUXIN TROUBLE	This trouble will be generated when the auxiliary input is supervised (as determined by VeriFire Tools programming) and insufficient signal is detected on the input.	Check the wiring and source.	575
BACKUP AMP LIMIT	The BDA on a DAA2 or DAX is overloaded. The audio will be distorted.	Remove outputs to lower the load on the speaker circuits. If the problem persists, call Technical Services	630
BACKUP AMP NOT INSTALLED	The database has a BDA programmed for that address but it is either disconnected or configured incorrectly.	Confirm it is the correct product attached. Investigate the cable harnesses to make sure both are connected. Check the switch settings for proper adjustments.	679
BACKUP AMP x FAIL	Internal supervision is not working on the DS-DB backup input x (1-4).	Ensure the amplifier is playing audio of sufficient amplitude or is idle, and the wiring is correct. If the problem does not clear, call Technical Services.	675 (1) 676 (2) 677 (3) 678 (4)

Table C.1 System Trouble Messages (1 of 4)

System Trouble	Description	To Resolve	System Trouble Index Number
BACKUP AMP x HARDWARE FAIL	The DS-BDA at DS-BUS address x (1-4) is not functioning correctly.	Contact Customer Service for replacement.	620 (1) 621 (2) 623 (3) 624 (4)
BACKUP AMP x LIMIT	The DS-BDA at DS-BUS address x (1-4) is overloaded. The audio will be distorted.	Remove outputs to lower the load on the speaker circuits. Ensure the wiring is correct. If the problem persists, call Technical Services.	635 (1) 636 (2) 637 (3) 638 (4)
BACKUP AMP x NOT INSTALLED	The database has a DS-BDA at DS-BUS address x (1-4) and it is disconnected or defective.	Confirm the DS-BDA has power. Investigate the cable harnesses to make sure both are connected.	680 (1) 681 (2) 682 (3) 683 (4)
BACKUP AMP x OVERCURRENT	The DS-BDA at DS-BUS address x (1-4) is drawing more current from the power supply than expected, but is still in operation.	Removed outputs to lower the load on the speaker circuits. Ensure the DS-BDA is programmed to the same group as the DS-AMP and wired correctly.	643 (1) 644 (2) 645 (3) 646 (4)
BACKUP AMP x TRIP	The DS-BDA at DS-BUS address x (1-4) is drawing more current from the power supply than expected, and has been disabled.	Remove outputs to lower the load on the speaker circuits. Ensure the DS-BDA is programmed and wired to the same group as the DS-AMP. Press TEST on the DS-DB to clear the trip. If the trouble returns, contact Technical Services.	651 (1) 652 (2) 653 (3) 654 (4)
BATTERY	The amplifier's battery voltage is too high or too low.	Check the batteries for problems. Replace batteries if necessary.	2
BUZZER OFF-LINE	The DVC's piezo is disabled.	Re-enable the piezo at switch 5.	201
CHARGER FAIL	The amplifier's battery charger is not functioning.	Investigate and correct the charger problem.	83
DAL ADDRESS CONFLICT	More than one DAL device has the same address.	Re-address DAL device(s).	592
DAL DOWNLOAD IN PROGRESS	The DVC is currently downloading to a DAL device.	n/a	608
DAL NO ANSWER	The DAL device is not communicating.	The DAL device address will display at the panel or network level. Check for proper address settings on the unit and confirm the unit is powered and operational.	615
DAP PORT x FAILURE	Digital Audio Port x (A or B), wire or fiber, is not communicating due to a break in the connection, a short, or faulty hardware.	Locate and fix the break or short. If the problem is not a short or break, contact Customer Service for replacement.	579 (Port A) 580 (Port B)
DATABASE CORRUPTED	The database that houses the DVC/DAL device programming is corrupt.	The database must be re-downloaded, or all programming must be cleared and re-entered. If the trouble still does not clear, call Technical Services.	604
DATABASE INCOMPATIBLE	The programming database version is not compatible with application version.	The correct application or version must be downloaded.	606
DSBUS x AC FAIL	DS-BUS device at address x (1-4) has a loss of AC power.	Investigate whether there is an AC power loss, or whether the power supply is correctly wired.	655 (1) 656 (2) 657 (3) 658 (4)
DS-BUS x COMMUNICATIONS FAILURE	There is a communication failure at the DS-AMP amplifier at address x (address determined by the address switch setting at the amplifier).	Investigate the DS-BUS connections.	624 (1) 625 (2) 626 (3) 627 (4)

Table C.1 System Trouble Messages (2 of 4)

System Trouble	Description	To Resolve	System Trouble Index Number
DSBUS x LOW BATT	DS-BUS device at address x (1-4) has batteries that are too low.	Confirm that a power supply capable of charging batteries is attached. Check the batteries for problems. Replace batteries if necessary.	663 (1) 664 (2) 665 (3) 666 (4)
DSBUS x HIGH BATT	DS-BUS device at address x (1-4) has batteries that are too high.	Check the batteries or charger for problems. Replace batteries if necessary.	659 (1) 660 (2) 661 (3) 662 (4)
DSBUS x SELF TEST FAIL	DS-BUS device at address x (1-4) failed a diagnostic test.	Contact Customer Service for replacement.	667 (1) 668 (2) 669 (3) 670 (4)
DVC COMM LOSS	The DAL device is not in communication with the DVC.	The DVC will generate a DAL NO ANSWER error to the panel or network annunciator for investigation.	245
EXCEEDED CONNECTION LIMIT	The high-speed NCM has exceeded its limit of 2 devices connected to its NUP and USB ports.	Remove the additional node from the HS-NCM.	613
EXTERNAL RAM ERROR	The internal RAM test failed on the DVC or DAL device.	Contact Customer Service for replacement.	9
FLASH IMAGE ERROR	The DVC or DAL device software is corrupt.	Re-download the DVC/DAL device code software from VeriFire Tools. If the trouble still does not clear, call Technical Services.	588
GENERAL PS FAULT	General fault from the power supply at the indicated address.	Refer to the power supply's manual. For example, if the power supply is an AMPS-24, refer to its manual, p/n 51907.	232
GROUND FAULT	There is a general ground fault on the DAL device other than at Digital Audio Port A (DAPA) or Auxiliary input A.	Locate and fix the ground fault.	0
GROUND FAULT PORT x	A ground fault has occurred on Digital Audio Port (DAP) x. Wire versions only.	Locate the ground fault and repair.	572 (Port A) 573 (Port B)
HARDWARE MISMATCH	The DAL device at a particular address does not match the database selection.	Confirm the address on the DAL unit and check the database setting. Re-download the database if necessary.	614
HS-NCM SNIFFER MODE ACTIVE	HS-NCM is in a network diagnostic mode	Cycle power on the HS-NCM or call technical services.	612
LOADING....NO SERVICE	The DVC or DAL device is in bootloader mode. The DVC/DAL device is NOT providing fire protection communication while this trouble is active.	Proper authorities should be notified while this trouble is active so that other means of fire protection can be supplied, if necessary.	91
LOCAL MIC TROUBLE	The local microphone is in trouble. There is no communication, or paging has been enabled for over 17 seconds and no signal has been received.	Investigate whether the microphone is plugged in, or whether there is a problem with the local microphone.	582
LOCAL PHONE TROUBLE	The local FFT handset is in trouble. There is either a failure with the local handset, or paging from FFT has been enabled for over 17 seconds and no signal has been received.	Investigate whether the handset is plugged into the DVC, or whether there is a problem with the handset.	583
MAN EVAC RECEIVED	A network drill has been initiated.	Perform a network reset to clear the drill.	109
MAX NFN CHANNEL LIMIT	A DVC is attempting to page to the NFN network that is already in use with a page of higher or equal priority.	Reduce the number of DVCs attempting to page over the NFN. NFN only supports one channel at a time.	629
NCM COMM FAILURE	Communication lost between NCM/HS-NCM and the DVC.	Investigate cause and restore communication.	211

Table C.1 System Trouble Messages (3 of 4)

System Trouble	Description	To Resolve	System Trouble Index Number
NETWORK FAIL PORT x	Communication lost between standard or high-speed Noti•Fire•Net Port x and corresponding node.	Investigate the cause and restore communication.	79 (Port A) 80 (Port B)
NFPA 24HR REMINDER	Daily reminder of unresolved troubles.	Acknowledge reminder.	93
NVRAM BATT TROUBLE	Battery backup and/or clock backup is low.	Replace the battery.	94
PHONE CHANNEL LIMIT EXCEEDED	The digital bandwidth of the FFT system has been exceeded.	Turn off unused telephone points, reduce the number of active risers on a DVC/DAL network to 5 or less.	611
POWER SUPPLY COMM FAILURE	There is a communication failure with the DS-DB external power supply on the DS-BUS.	Investigate the cause at the power supply and cable. Verify the power supply is programmed to the proper communications settings.	449
POWER SUPPLY TROUBLE	There is a communication failure between the DAA lower board and its upper power supply board, or between the DAA2 lower board and its upper CPS-24 power supply board.	Contact Customer Service for replacement.	589
PRIMARY AMP x FAIL	Internal supervision is not working on amplifier x (For a DS-DB, x = DS-DB primary input 1-4. For a DAA2 or DAX, x = 1 for the primary amplifier, 2 for the BDA.).	Ensure the amplifier is playing audio of sufficient amplitude or is idle. For a DS-DB, ensure the wiring is correct. If the problem does not clear, call Technical Services.	671 (1) 672 (2) 673 (3) 674 (4)
PRIMARY AMP x HARDWARE FAIL	The DS-AMP at DS-BUS address x (1-4) is not functioning correctly.	Contact Customer Service for replacement.	616 (1) 617 (2) 618 (3) 619 (4)
PRIMARY AMP x LIMIT	The DS-AMP at DS-BUS address x (1-4) is overloaded.	Remove outputs to lower the load on the speaker circuits.	631 (1) 632 (2) 633 (3) 634 (4)
PRIMARY AMP x OVERCURRENT	The DS-AMP at DS-BUS address x (1-4) is drawing more current than expected, but is still in operation.	Remove outputs to lower the load on the speaker circuits. Ensure the BDA is programmed to the same group as the DS-AMP and wired correctly.	639 (1) 640 (2) 641 (3) 642 (4)
PRIMARY AMP x TRIP	The DS-AMP at DS-BUS address x (1-4) is drawing more current than expected, and has been disabled.	Remove outputs to lower the load on the speaker circuits. Press TEST on the DS-DB to clear the trip. If the trouble returns, contact Technical Services.	647 (1) 648 (2) 649 (3) 650 (4)
REMOTE MIC TROUBLE	The remote microphone is in trouble. It is installed and supervised, but no signal is coming from it.	Investigate and fix. Inspect wiring, microphone connection, termination.	578
SELF TEST FAILED	Diagnostic test failed.	Reboot the unit. If the problem does not clear, contact Customer Service for replacement.	250
SOFTWARE MISMATCH	The DAL device has a software revision that is incompatible with the DVC's software.	Correct the software revision.	503

Table C.1 System Trouble Messages (4 of 4)

Point	Point Trouble	Description	To Resolve
Speaker	OPEN CIRCUIT	There is a break in the wiring of a speaker circuit.	Verify the proper ELR and investigate for a break.
Speaker	SHORT CIRCUIT	There is a short circuit between the output and input of the speaker circuit.	Investigate for a short or for Class A wiring getting crossed between output and input.
FFT Riser	OPEN CIRCUIT	There is a break in the wiring of an FFT riser.	Verify the proper ELR and investigate for a break.
FFT	SHORT CIRCUIT	There is a short circuit between the output and input of the speaker circuit.	Investigate for a short or for Class A wiring getting crossed between output and input.

Table C.2 Point Trouble Messages

DVC OPERATING INSTRUCTIONS

Section 1 Operating Conditions

Normal Standby Operation

1. Green POWER indicator lit steadily.
2. Yellow TROUBLE indicators off.
3. DVC OFF-LINE indicator is not lit, indicating the DVC is connected to the network.

When Audible Devices are Sounding for:

1. **an Alarm Condition**
   - Evacuate the protected area.
   - Notify the monitoring service and/or the Fire Department immediately. Tell them briefly what happened and what your current status is.
   - Be prepared to provide directions to arriving firefighters.
2. **a Trouble Condition** - Activation of a trouble signal under normal operation indicates a condition that requires immediate attention. Contact your local service representative. Silence the piezo's audible signal by acknowledging the event at the DVC's panel or network annunciator. The trouble indicator will remain illuminated.

Section 2 To Page from the DVC

Fire System Only, Second Column Paging Buttons:

To page using the MIC-1 microphone or TELH-1 firefighter's telephone:

- Microphone: Press the push-to-talk button ***after*** pressing one of the paging buttons below.
- Telephone: Press the ENABLE TELEPHONE PAGE button ***before*** pressing one of the paging buttons below, then press the push-to-talk button.

ALL CALL

Press this button to initiate an ALL CALL page. After paging, press again to deactivate the microphone paging function. If the telephone paging function was selected, press the ENABLE TELEPHONE PAGE button to deactivate.

PAGE ACTIVE *EVAC* AREAS

Press this button to initiate a page to all zones designated as active evacuation areas. After paging, press this button again to deactivate the microphone paging function. If the telephone paging function was selected, press the ENABLE TELEPHONE PAGE button to deactivate.

PAGE ACTIVE *ALERT* AREAS

Press this button to initiate a page to all active zones designated as alert areas. After paging, press this button again to deactivate the microphone paging function. If the telephone paging function was selected, press the ENABLE TELEPHONE PAGE button to deactivate.

PAGE *INACTIVE* AREAS

Press this button to initiate a page to all inactive areas (that is, those outputs that are not broadcasting ALL CALL, ALERT, or EVAC messages. After paging, press this button again to deactivate the microphone paging function. If the telephone paging function was selected, press the ENABLE TELEPHONE PAGE button to deactivate.

Fire and Mass Notification System, Second Column Paging Buttons

To page using the MIC-1 microphone, press the push-to-talk button ***after*** pressing one of the paging buttons below. Paging access is indicated by a green light at the button pressed.

For MN pages, control is pre-determined by hierarchical priority programming. This DVC and its associated panel will take network control if there are no higher priority pages in progress: the panel's "Controls Active" LED lights and it will have sole access to Acknowledge, Silence and Reset functions. This control is relinquished back to the network when the page is completed. An in-progress page may be overridden by a higher-priority page.

_____(label, TOP BUTTON COLUMN 2)

Press this button to initiate an ALL CALL page at the highest priority level. If this button is designated for mass notification, a mass notification alarm will be generated by the page. After paging, press again to deactivate the microphone paging function.

_____(label, 2nd BUTTON COLUMN 2)

Press this button to initiate an ALL CALL page at the second highest priority level. If this button is designated for mass notification, a mass notification alarm will be generated by the page. After paging, press again to deactivate the microphone paging function.

_____(label, 3rd BUTTON COLUMN 2)

Press this button to initiate an ALL CALL page at the general priority level. After paging, press again to deactivate the microphone paging function.

Other Paging Areas

Press any button labeled for paging in the two right columns of the keypad to page the area designated by the label. Press again to deactivate the page function.

Section 3 To Enable FFT Communication and Paging

For buttons on the right half of this keypad or on local annunciators labeled as firefighter's telephone (FFT) points: Blinking LEDs at the button will indicate when a firefighter's telephone operator at a remote station is ringing in to this command center. Press the associated annunciator button to enable communication.

Fire System Only:

If the operator requests a paging function, press the ENABLE TELEPHONE PAGE button, then press the button for the type of paging desired (ALL CALL, etc.). Press the ENABLE TELEPHONE PAGE button again to end the page function.

Section 4 LED Indicators

Trouble - Illuminates during system initialization and when a DVC or one of its digital audio amplifiers generates a trouble. Specific trouble information will be displayed at the network annunciator or the DVC's standalone FACP.

DVC Offline - Illuminates when the DVC is not providing fire protection (for example, there is a problem with the DVC board).

DVC Microphone Trouble - Illuminates when a microphone page has been initiated, but no microphone activity has occurred for 28 seconds, or a connection failure exists.

DVC Telephone Trouble - Illuminates when a DVC telephone page has been initiated, but no telephone activity has occurred for 28 seconds, or a connection failure exists.

Busy/Wait - Illuminates when a code or database download from the DVC to its DAAs is in progress.

Page Inhibited - Another node has assumed paging control and locked out paging from this DVC.

Pre/post-announce Tone - Illuminates when the pre-announce or post-announce message is playing. Wait until this light goes off before paging.

Section 5 User-defined Buttons

The two right columns of the DVC keypad consist of user-defined inputs and outputs that act as annunciators. The labels identify the function.

To page to one of these areas, follow the directions in Section 2.

To answer an incoming firefighter's telephone call, follow the directions in Section 3.

Section 6 Lamp Test

Press and hold the LAMP TEST button to perform a lamp test of all the LEDs on the keypad, as well as the piezo.

Section 7 Periodic Testing and Maintenance

To ensure proper and reliable operation, system inspection and testing should be scheduled as required by the Authority Having Jurisdiction, or as required by NFPA 72 or local fire codes. A qualified Service Representative should perform testing.

Before Testing: Notify fire department and/or central alarm receiving station that testing will occur. Notify facility personnel of the test so alarm sounding devices are ignored during the test period.

After Testing: Notify all fire, central station, and/or building personnel when testing is complete.

Section 8 Local Service Representative:

NAME: _____

ADDRESS: _____

TELEPHONE NUMBER: _____

This sheet must be framed and mounted adjacent to the control panel.

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