CONVERSANT® Voice Information System

External Alarms

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- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user

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- A reorder tone is received

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Contents

Contents

Contents

6   Troubleshooting External Alarms Interface   6-1

7   External Alarms Applications   7-1

Figures

Tables

About This Book

Purpose

This book is a procedural manual aimed at presenting installation and administration tasks for the CONVERSANT® Voice Information System (VIS) External Alarms Interface feature. It describes the procedures to install the External Alarms Interface as well as to administer External Alarms interface on a MAP/100C. Note that this book does not contain detailed information for wiring a particular alarm device to the CONVERSANT VIS External Alarm Interface relay card.

Intended Audiences

This book is intended primarily for the on-site service technician who will be installing the External Alarms Interface hardware and software as well as the system administrator who will be administering and using the External Alarms Interface. It is assumed that the individuals using the External Alarms Interface package will have the requisite technical expertise to install and configure an external alarm device to relay contacts.

How This Book is Organized

This book is organized into the following chapters:

- About This Book

  This chapter is designed as a preface to the rest of the book, including such information as the book purpose, its intended audiences and organization, use, conventions, trademarks and service marks, security and safety requirements, and related resources. This chapter also explains how to make comments about the book.

- Chapter 1 — External Alarms Interface Overview

  This chapter provides a general overview of the External Alarms Interface.

- Chapter 2 — Installing External Alarms Interface

  This chapter provides procedures for installing the External Alarms Interface.

- Chapter 3 — External Alarms Interface Operations

  This chapter gives a complete description of the application administration utilities that accompany the External Alarms Interface.

- Chapter 4 — Information for Advanced External Alarms Users

  This appendix contains tips for the expert user of the External Alarms Interface.

- Chapter 5 — Summary of Commands

  This appendix contains summaries of commands specific to alarm commands associated with the External Alarms Interface.

- Chapter 6 — Troubleshooting External Alarms Interface

  This appendix contains information to assist you in troubleshooting problems that arise with the External Alarms Interface.

- Chapter 7 — External Alarms Applications

  This appendix contains information to assist you in developing applications using the External Alarms Interface.

How to Use This Book

It is suggested that you read through the book in order, chapter by chapter. Once you have gone through the entire book, Chapter 2, "Installing External Alarms Interface," Chapter 3, "External Alarms Interface Operations," and Chapter 5, "Summary of Commands" probably will be the most helpful with installing and operating the External Alarms Interface.

Be sure to refer to the chapters in this book as needed if you have any questions while working with the External Alarms Interface.

Conventions Used in This Book

The following conventions are used in this book:

- Terminal keys that you press are shown in rounded boxes. For example, an instruction to press the enter key is shown as

    Press [ENTER].

- The word "enter" means to type a value and press [ENTER]. For example, an instruction to type y and press [ENTER] is shown as

    Enter **y** to continue.

- Two or three keys that you press at the same time (that is, you hold down the first key while pressing the second and/or third key) are shown as two separate rounded boxes connected together by "and". For example, an instruction to press and hold [ALT] while typing the letter **d** is shown as

    [ALT] and [d]

- Commands and text you type or enter appear in **bold.**

- Values, instructions, and prompts that appear on the screen are shown in traditional typewriter type as

    `constant-width`

- The number zero is shown in this book as 0 when you are asked to enter the number zero.

Related Resources

The following books are expected to be used in conjunction with this book:

- *Multi-Application Platform 100C Voice Processing Hardware Installation and Upgrade, 585-350-102*

- *CONVERSANT Voice Information System Version 3.1 Software Installation and Upgrade, 585-350-104*

- *CONVERSANT Voice Information System Version 3.1 Maintenance, 585-350-105*

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External Alarms Interface Overview

1

Overview of External Alarms Interface

External Alarms Interface is an optional package that may be installed on top of the standard CONVERSANT Voice Information System software. The External Alarms Interface package consists of an installable software package and an AT bus resident circuit card. Instructions for installing the External Alarms Interface package are provided in Chapter 2, "Installing External Alarms Interface."

The External Alarms Interface package provides a means for administering externally accessible contact closures for central office isle annunciators or similar equipment. Note that whether the alarm uses various lights or audible alarm indicators is determined by the hardware you have installed.

The card included with the External Alarms Interface package includes eight relay contacts. Two relay contacts are controlled by a sanity timer control jumper and another relay contact operates as a power fail indicator. The remaining relay contacts provided with the External Alarms Interface package are controlled by the system software. The software allows you to assign system messages to relay contacts.

The External Alarms Interface display feature allows you to show which system message ID is associated with a particular Alarm Contact Set.

The External Alarms Interface reinit feature allows you to force alarm processes to reinitialize all internal data structures referring to alarms. The alarm reinit command is useful for making changes take effect after a configuration file is modified.

The External Alarms Interface retire feature allows you to turn off each Alarm Contact Set while updating the status of the specified Alarm Contact Set. The alarm retire command opens the set of contacts associated with an external alarm, thereby deactivating the alarm.

The External Alarms Interface test feature allows you to test the functionality of each Alarm Contact Set without having to generate a system alarm message. The alarm test command closes the set of contacts associated with a specified alarm, thereby activating the alarm.

The External Alarms Interface also provides the capability to assign message IDs to and remove message IDs from external alarms. Refer to Chapter 3, "Configuring External Alarms Interface," for additional information on these features.

Installing External Alarms Interface

2

Installing the External Alarms Hardware and Software

To install the External Alarms Interface package on the CONVERSANT® Voice Information System (VIS) Version 3.1, you will need the following:

- Multi-Application Platform 100C (MAP/100C)

- CONVERSANT VIS Version 3.1 External Alarm Interface package

- CONVERSANT VIS External Alarm Interface relay card (referred to throughout this book as the alarm relay card)

- CONVERSANT VIS Application Software Version 3.1

Installing the External Alarm Relay Card

The following section provides information on installing the alarm relay card. Note that you may need to refer to the "General Steps for Card Installation" in Chapter 5, "Installing Circuit Cards" in the *Multi-Application Platform 100C Voice Processing Hardware Installation and Upgrade, 585-350-102,* before starting the following procedure.

Setting the Resource Options

The alarm relay card is illustrated in Figure 2-1. This figure shows the location of the SW1 switch which sets the Input/Output address, the sanity timer control jumper, and the SW2 switch which sets the sanity timer for the alarm relay card. The SW1 switch, the sanity timer control jumper, and the SW2 switch for the alarm relay card are shown in detail in Figure 2-2, 2-3, and 2-4, respectively. Figure 2-1 also shows the location of the 8 LED indicators. The alarm relay card also has 8 relay contact closures, which are accessible via a single connector located on the front panel of the alarm relay card. Relays 1 through 8 on the alarm relay card control LED indicators 1 through 8, respectively. The relay contact closures for the alarm relay card are shown in detail in Chapter 3, "Configuring External Alarms." The external connectors are shown in detail in Figure 2-5. Note that the default jumper position is a jumper on the J9 jumper block and no jumper on the J8 jumper block as shown in Figure 2-1. In this default position, Relay 7 is controlled by the sanity timer control jumper. Relay 7 can be controlled by bit 7 by installing the jumper on the J8 jumper block instead of the J9 jumper block. This configuration provides you with another alarm contact (set 6). J7 jumper block is an external connect jumper and is not used for the External Alarms feature.
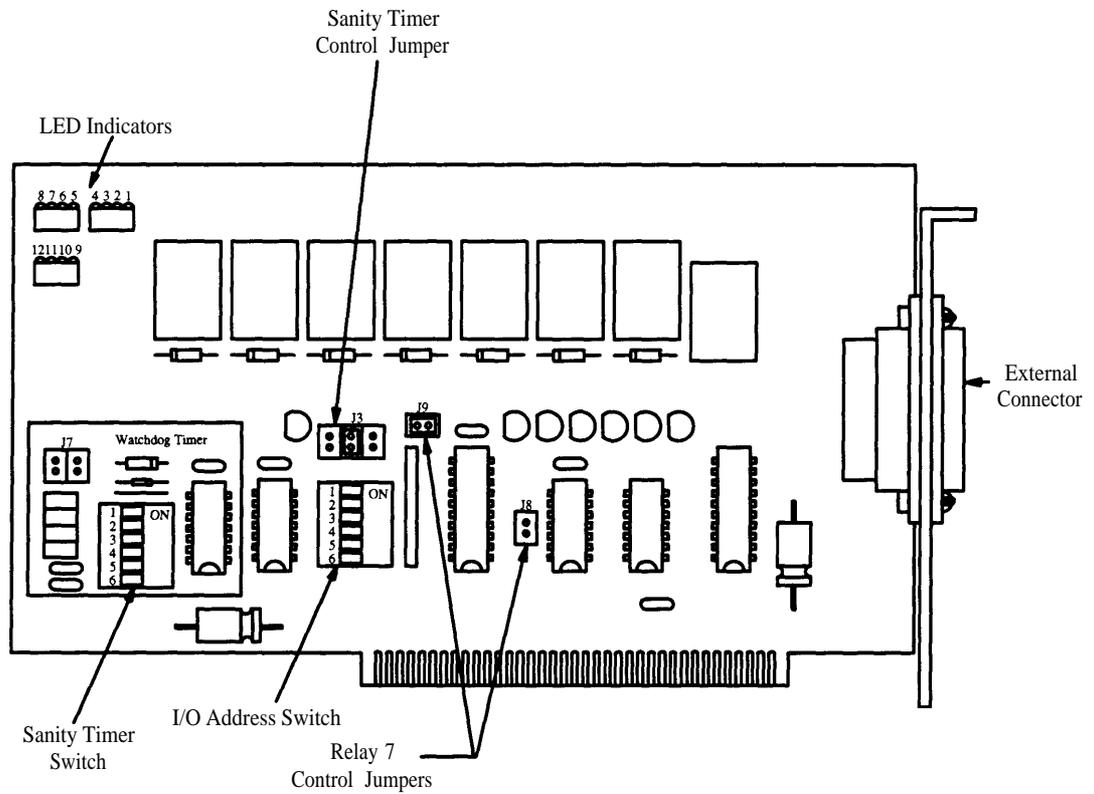
Figure 2-1. Switch and Jumper Blocks on the Alarm Relay Card

As part of the procedure for setting the resource options for the External Alarms feature, you will need to set the Input/Output (I/O) address switch, sanity timer control jumper, and sanity timer switch. These switch and jumper settings should be set as follows. Note that these are the only supported switch settings and that any other settings may affect the operation of the External Alarms feature. Refer to the information later in this chapter for additional detail on setting the Input/Output address switch, the sanity timer switch, and the sanity timer control jumper.

1. Set the switches on switch block 1 (SW1), starting at the top (switch 1) as shown in Figure 2-1. to ON ON ON OFF ON ON. The proper switch settings are shown in Figure 2-2.

2. Put a jumper on the J3 sanity timer control jumper on the two pins above position B as shown in Figure 2-3 if you want the output relay controlled by the latched timeout signal. This is the default setting for the J3 sanity timer control jumper.

3. Set the switches on switch block 2 (SW2), starting at the bottom at switch 1, to ON ON ON OFF OFF OFF as shown in Figure 2-4.

4. Install the alarm relay card in the slot designated by the configurator. Refer to the *Multi-Application Platform 100C Hardware Installation and Upgrade, 585-350-102,* Chapter 5, "Installing Circuit Cards," for additional information.

Setting the I/O Address Switch

The SW1 switch sets the Input/Output (I/O) address; that is, the means by which the CPU accesses the alarm relay card. You should set the switches on switch block 1 (SW1), starting at the bottom with switch 1, to ON ON ON OFF ON ON. The proper address settings for the SW1 switch are illustrated in Figure 2-2. Note that the I/O address for SW1 must be set exactly as shown in Figure 2-2 as this is the only address supported for the alarm relay card.
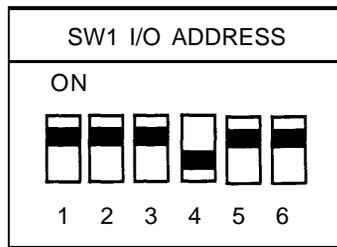
Figure 2-2. SW1 I/O Address Settings

Setting the Sanity Timer Control Jumper

The sanity timer control jumper enables the alarm relay card to request service from the CPU. The sanity timer control jumper controls the timeout behavior for the sanity timer in the following manner:

■   Jumper position A — Disables the sanity timer

■   Jumper position B — Output relay is controlled by the latched timeout signal (sanity alarm remains active until system problem is corrected)

■   Jumper position C — Output relay is controlled by the pulsed timeout signal, the duration of which is half the timeout period (that is, timeout/2 seconds)

Position B is the default setting for the sanity timer control jumper. You should put a jumper on the J3 sanity timer control jumper on the 2 pins above position B for normal use (as shown in Figure 2-3 if you want the output relay to be controlled by the latched timeout signal.
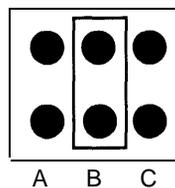
Figure 2-3. Sanity Timer Control Jumper Setting for Alarm Relay Card

Setting the Sanity Timer Switch

The SW2 switch sets the sanity timer for the alarm relay card. You should set the switches on switch block 2 (SW2), starting at the bottom with switch 1, to ON ON ON OFF OFF OFF. The proper sanity timer switch settings for the SW2 switch are illustrated in Figure 2-4. The sanity timer switch for SW2 must be set exactly as shown in Figure 2-4 as this is the only sanity timer setting supported for the alarm relay card. Note that the ON position adds the time increments printed on the alarm relay card to the sanity timeout interval. The sanity timeout interval is the sum of all the SW2 switches set to ON. In Figure 2-4, switches 1, 2, and 3 are set to ON. Consequently, the timeout interval is 33 seconds (or 4 + 9 + 20 seconds).

```
┌─────────────────────────┐
│   SW2  SANITY  TIMER     │
│                          │
│  O N                     │
│  ▐█▌ ▐█▌ ▐█▌ ▐ ▌ ▐ ▌ ▐ ▌ │
│  ▐ ▌ ▐ ▌ ▐ ▌ ▐█▌ ▐█▌ ▐█▌ │
│                          │
│   1   2   3   4   5   6  │
└─────────────────────────┘
     4   9  20  40  90 200
```

▐█▌ DESIGNATES SWITCH
    PUSHED TO ON POSITION

▐ ▌ DESIGNATES SWITCH
    PUSHED TO OFF POSITION
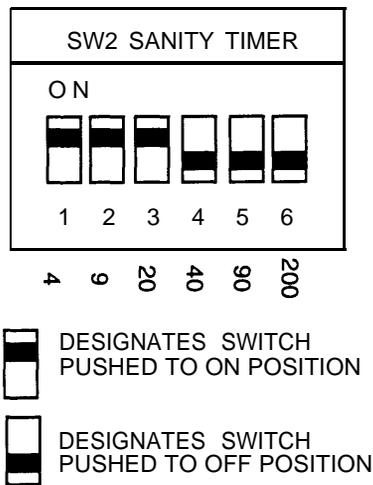
Figure 2-4. SW2 Sanity Timer Switch Settings

Relay Contact Closures

The alarm relay card has 8 relay contact closures and 8 LED indicators, with relays 1 through 8 controlling LED indicators 1 through 8, respectively. The relay contact closure and alarm contact set assignments are discussed in detail in Chapter 3, "Configuring External Alarms." Refer to Table 2-1 for information on the default connector pin and relay assignments for the alarm relay card.

Table 2-1 shows the default connector pin and relay assignment details for the alarm relay card. Note that these connector pin and relay assignments correspond to the default relay contact closures discussed in Chapter 3, "Configuring External Alarms."

Table 2-1. External Alarm Connector Configuration

Relay number	Load pin number	DC positive pin number	Alarm Contact Set
1	J1-25	J1-13	Power fail indicator
2	J1-11	J1-24	Software controlled
3	J1-22	J1-10	Software controlled
4	J1-8	J1-21	Software controlled
5	J1-19	J1-7	Software controlled
6	J1-5	J1-18	Software controlled
7	J1-16	J1-4	Sanity timer
8	J1-2	J1-15	Sanity timer

Figure 2-5 illustrates the external connectors for the alarm relay card. This figure shows the view facing the male DB-25 connector on the alarm relay card.

➡ **NOTE:**

The mating connectors should be fitted with a slide latch clip assembly kit (AMP p.n 206942-1).
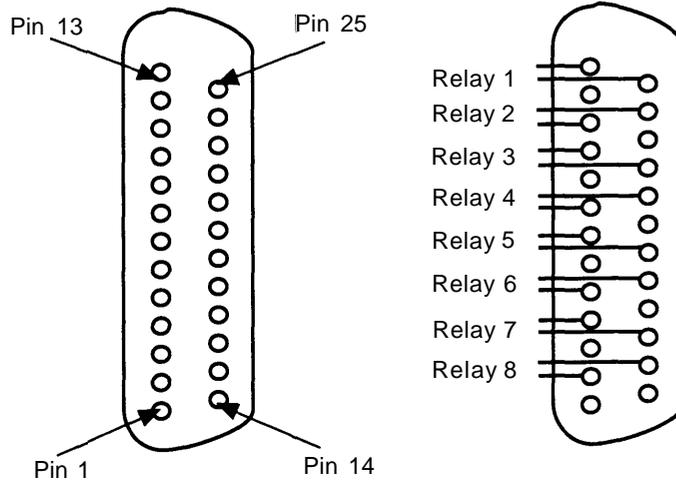
Figure 2-5. External Connectors

Software Installation

Pre-Installation Considerations

The *default* alarm contact set assignments, which may be accepted by the user during installation, are as follows:

- CRITICAL message IDs — Assigned to Alarm Contact Set 1

- MAJOR message IDs — Assigned to Alarm Contact Set 2

- MINOR message IDs — Assigned to Alarm Contact Set 3

- CRITICAL, MAJOR, and MINOR IDS — Assigned to Alarm Contact Set 4

See Chapter 3 in this book for information on Alarm Contact Set Configuration.

⇒ NOTE:

If you have defined your own messages before you install the External Alarms package and you accept the default alarm assignments, then those messages will also be assigned to the alarm contacts according to their priority. If you create messages after installation of the External Alarm package, then you must manually assign those messages to to the alarm contact sets of your choice according to the procedures provided in Chapter 3, "Configuring External Alarms."

Refer to the following procedure to load the CONVERSANT VIS Version 3.1 External Alarm Interface package.

1. Before loading the CONVERSANT VIS Version 3.1 External Alarm Interface package, you must first load the CONVERSANT VIS Version 3.1 application software. Refer to the installation book for the platform that you are using for information on loading the CONVERSANT VIS Version 3.1 application software.

2. Insert the diskette labeled "CONVERSANT VIS Version 3.1 External Alarm Interface" into the floppy disk drive.

3. At the prompt, type **installpkg** and press [ENTER]. An installation in progress confirmation message appears on the screen.

4. The following message appears:

   ```
   Do you want all currently defined Critical, Major,
   and Minor System messages to be assigned to Alarm
   Contact Sets 1, 2, and 3 respectively and all Alarm
   messages to be assigned to Alarm Contact Set 4 by
   default? (y or n):
   ```

Type **y** (yes) to automatically assign all message IDs to Alarm Contact Sets 1, 2, and 3 or type **n** (no) if you do not wish to make these automatic message ID assignments. Note that if you answer **n** to this prompt, you must make your own message ID assignments after installing the External Alarms Interface package. Refer to Chapter 3, "Configuring External Alarms" for additional information on assigning message IDs to external alarms.

5. When prompted to do so, remove the diskette from the disk drive.

6. A message appears stating that the External Alarm Interface software is now installed on the system.

7. The following message appears:

```
Press ENTER to allow system to reboot or ESC to not
reboot.
```

You must reboot the UNIX system to complete the installation of the External Alarms Interface package software. This step is necessary before you may start using the External Alarms Interface package. Press [ENTER] to reboot the system. If You do not wish to reboot the system at this time, press [ESC].

You may reboot the UNIX system at a later time by performing the reboot UNIX system procedure described in Chapter 4, "Common Maintenance Procedures," of the *CONVERSANT Voice Information System Version 3.1 Maintenance, 585-350-105.*

2-11

Removing External Alarms Interface Software

Refer to the following procedure to remove the CONVERSANT VIS Version 3.1 External Alarm Interface package.

⚠ **CAUTION:**

You should exercise caution when using the **removepkg** *command to remove the External Alarms Interface package as the removepkg command removes all directories and files associated with the External Alarms Interface software package. User-defined alarm assignments to contacts are removed during the* **removepkg** *procedure, so you may want to save these assignments.*

1. At the prompt, type **removepkg** and then press [ENTER].

    The numbered list of installed packages is displayed and then the following message:

    ```
    Select a number (1 – max.) from this list to
    remove:
    ```

2. Type the number associated with the External Alarm Interface package software and press [ENTER].

3. You will receive a message asking you to confirm that you wish to remove the External Alarm Interface software. Press [ENTER] to continue with the removal procedure. If you wish to abort the removal procedure at this time, press [ESC].

4. When the prompt is returned, the External Alarm Interface software has been removed.

5. The following message appears:

    ```
    Press ENTER to allow system to reboot or ESC to not
    reboot.
    ```

    You must reboot the UNIX system to complete the removal of the External
    Alarms Interface package software. Press [ENTER] to reboot the system. If
    you do not wish to reboot the system at this time, press [ESC].

    You may reboot the UNIX system at a later time by performing the reboot
    UNIX system procedure described in Chapter 4, "Common Maintenance
    Procedures," of the *CONVERSANT Voice Information System Version 3.1
    Maintenance, 585-350-105.*

⇒ NOTE:
You are not required to remove the alarm relay card after you have
removed the External Alarms Interface software.

External Alarms Interface Operations

<div style="text-align: right; font-size: 3em; font-weight: bold;">3</div>

What's in This Chapter

This chapter contains information that enables you to perform the following administrative feature associated with External Alarms:

- External alarm card relay contacts

    — Sanity timer relay contacts

    — Power fail relay contacts

    — Software controllable relay contacts

- External alarm interface software features

    — Software interface to the external alarm card

    — External alarm operational commands

    — Assigning message to alarm contact sets

External Alarms Relay Contacts

The External Alarms Interface Card includes relays which may be used to alert receptors external to the VIS of problems with the VIS. The External Alarms Interface Card includes relays controlled by a sanity timer, by power failure and by the VIS software.

Sanity Timer Relay Contacts

The Sanity Timer controls relay number 8 or relays 7 and 8 depending on how the card is configured (See Installing External Alarms Interface). The sanity timer is used to indicate that the software on the VIS is running. The sanity timer must be reset periodically by a process on the VIS. As long as the sanity timer is reset by the VIS process, the sanity timer will not time out, and the relay(s) associated with the timer will not close. The sanity timer is updated by the alerter process on the VIS. The alerter process runs at run-level 2 so the sanity timer will not time out even if the voice system is stopped. The most likely cause of sanity timer timout will be a system crash or a system lockup.

Power Fail Relay Contact

The Power Fail Relay Contact, relay 1 on the External Alarm Interface Card remains closed as long as there is power to the External Alarm Interface Card. Power comes to the card from the VIS backplane. The Power Fail Relay Contact will open if power is cut off from the VIS, or if the External Alarm Interface Card is not seated properly in the VIS backplane. There is no software control available for the Power Fail Relay Contact.

Software Controllable Relay Contacts

The remaining relay contacts are software controllable. That is, the VIS resident software may sent commands to the External Alarm Interface Card to open and close relay contacts. Software controllable relay contacts include relays 2 through 6 and possibly 7 depending on how the card has been configured (See Installing External Alarms Interface).

External Alarm Interface Software Features

The primary function of the software supplied with the external alarms interface package is to close relay contacts when certain alarm level messages are generated by the VIS. The software supports mapping messages to one or more relay contacts, or none at all. The software also supports an administrative command set which supports the enabling and disabling of message produced relay contact closures; and state changes to the relay contacts themselves.

Software Interface to the External Alarm Interface Card

The software implementing the External Alarms Interface consists of a process which monitors system messages (the alerter) and a command set. The alerter is also responsible for undating the sanity timer at a regular interval, by default, every 20 seconds. The alerter uses a notion of Alarm Contact Sets. An Alarm Contact Set is a set of software controllable relay contacts. The External Alarm Card relays associated with a given alarm contact set are specified in the file /vs/data/alarms/masks. The default assignments are shown in Figure 3-2.

System messages are then assigned to Alarm Contact Sets through inclusion the one or more of the alarm files in /vs/data/alarms. For example, all messages assigned to Alarm Contact Set 1 are specified in /vs/data/alarms/alarm1.

When a message is generated by the system, it is read by the alerter, and if its ID is in one of the alarm files, the Alarm Contact Set associated with that file will be closed. Note that a massage Id may reside in more than one alarm file. For example, suppose THR002 is in alarm files alarm3 and alarm4 and the hardware and software have been installed consistent with figure 3-2. When THR002 is generated by the system, the alerter will close relay contacts 2 and 4.

Note that Alarm Contact Sets and Alarm Card relay contacts are not necessarily the same thing. Alarm Contact Sets provide a level of indirection between the software and the hardware. This allows more than one Alarm Card relays to be assigned to a single Alarm Contact Set, and it allows more meaningful numeric identifiers to be associated with the relays. For instance, with the defaults settings, Critical, Major and Minor alarms are assigned to alarm contact sets 1, 2 and 3, a logical progression, however, Alarm Contact Sets 1, 2 and 3 map to Alarm Card relays 6, 5 and 4; which is non-intuitive. See Mapping Alarm Contact Sets to Alarm Card Relays in the Information for Advance External Alarms Users section of this guide.

External Alarm Operational Commands

The External Alarms Interface package is delivered with a software command set for administration of the Alarm Contact Sets. The command set is implemented in the command alarm, which is executable from the UNIX system prompt. For a complete description on the alarm command refer to the Summary of Commands section contained in this document.

External Alarms Interface provides the capability to enable, disable, display, reinit, retire, or test external alarms using the commands included with the External Alarms Interface package. Refer to Appendix B, "External Alarms Interface Summary of Commands," for additional information on each of these commands.

The External Alarms Interface enable and disable features allow you to enable or disable a specified alarm contact set. By default, all Alarm Contact Sets are set to enable; that is, the Alarm Contact Set is operational. Note that if the Alarm Contact Set is enabled, the contacts will close upon receiving an assigned message or performing the alarm test command.

The alarm display command allows you to display the state of the external alarm contact sets. The external alarm contact sets are either OFF (the contacts are open indicating that no assigned message has occurred) or ON (the contacts are closed due to the occurrence of an assigned message).

Assigning Messages to Alarm Contact Sets

➡ **NOTE:**

If you have defined your own messages before you install the External Alarms package and you accept the default alarm assignments, then those messages will also be assigned to the alarm contacts according to their priority. If you create messages after installation of the External Alarm package, then you must manually assign those messages to to the alarm contact sets of your choice according to the following procedures.

To assign a message ID to an alarm contact set, you must modify or edit an ASCII file in the **/vs/data/alarms/** directory by using the UNIX system vi editor. Refer to the *CONVERSANT Voice Information System Version 3.1 Operations, 585-350-701,* Appendix B, "UNIX System Basics," for additional information on using the vi editor.

1. Login as root.

2. Type **vi /vs/data/alarms/** *filename* (where the *filename* is either alarm1, alarm2, or alarm3).

3. To assign a message ID to an alarm contact set, add the message ID that you wish to assign to the list of message IDs and then save the /vs/data/alarms file. Note that you must use a separate line in this file for each message ID that you wish to assign. Figure 3-1 shows an example of the **/vs/data/alarms/alarm2** file with the TWIP001, TWIP002, TWIP003, TWIP004, TWIP005, TWIP006, VROP006, VROP008, VROP009 message IDs assigned to Alarm Contact Set 2.

4. After you have saved the file containing the message ID list, type **alarm reinit** to allow the change to take effect.

```
TWIP001
TWIP002
TWIP003
TWIP004
TWIP005
TWIP006
VROP007
VROP008
VROP009
```

Figure 3-1. Assign Message ID to /vs/data/alarms/alarm2 Example

Removing Message IDs to External Alarms

To remove a message ID assigned to an alarm contact set, you must modify or edit an ASCII file in the **/vs/data/alarms** directory by using the UNIX system vi editor. Refer to the *CONVERSANT Voice Information System Version 3.1 Operations, 585-350-701,* Appendix B, "UNIX System Basics," for additional information on using the vi editor.

1. Login as root.

2. Type **vi /vs/data/alarms/** *filename* (where the *filename* is either alarm1, alarm2, or alarm3).

3. To remove a message ID assigned to an alarm contact set, delete the message ID that you wish to remove from the list of message IDs and then save the **/vs/data/alarms** file.

4. After you have saved the file containing the message ID list, type **alarm reinit** to allow the change to take effect.

Information for Advanced External Alarms Users

4

What's in This Chapter

This chapter includes the following information:

- External Alarm I/O port bit mapping

- Mapping alarm contact sets to alarm card relays

- Setting the sanity timer update time

- Voltage and current capacities for External Alarms Interface

External Alarm I/O Port Current Mapping

The bit map within the external alarm I/O port is divided between relay functions and the sanity timer control jumper reset function. Writing a "1" to the appropriate Bits 2 through 6 correspond to relays 2 through 6 that are used with the External Alarms Interface. Toggling bit 8 (setting the bit to "1" then "0") will reset the sanity timer. Table 4-1 summarizes the external alarm I/O port bit assignments.

Table 4-1. External Alarm I/O Port Bit Map

Function	Bit Number	Decimal Value
—	1	1
Relay 2	2	2
Relay 3	3	4
Relay 4	4	8
Relay 5	5	16
Relay 6	6	32
—	7	64
Sanity timer reset	8	128

Mapping Alarm Contact Sets to Alarm Card Relays

The software delivered with the external alarm package provides a mapping from alarm contact sets to alarm card relays. When the software is installed, alarm contacts are assigned as follows:

alarm contact set 1:Alarm Card Relay 6
alarm contact set 2:Alarm Card Relay 5
alarm contact set 3:Alarm Card Relay 4
alarm contact set 4:Alarm Card Relay 2

It is possible that your application may require a different mapping. You may change the alarm contact sets to alarm card relays mapping assignments by editing the **/vs/data/alarms/masks** file.

The basic format of this file is as follows:

<alarm contact set> <relay> [<relay>] ...

where <alarm contact set> is of the form alarm X and X is a single digit number (for example: 1,2,3, ...).

<relay> [<relay>] ... is one or more software controllable alarm card relay numbers (2, 3, 4, 5, 6)

Note that alarm contact sets must be disjoint; that is, two alarm contact sets may not contain the same alarm relay number.

Note that there must be a **/vs/data/alarms/alarm** X file for each alarmX defined in **/vs/data/alarms/masks.**

The **/vs/data/alarms/masks** default file looks like:

alarm1   6
alarm2   5
alarm3   4
alarm4   2

Another possible **/vs/data/alarms/masks** file could be as follows:

alarm1   6 5
alarm2   4 3
alarm3   2

In this scheme, if a message is generated whose ID is in **/vs/data/alarms/alarm1,** then alarm contact set 1 is set; that is, alarm card relays 6 and 5 are closed.

Setting the Sanity Timer Update Time

The external alarm card is equipped with a sanity timer. The sanity timer is used to inform you that the voice system may have stopped operating. This timer must be reset before it times out or relays 7 and 8 will close. The sanity timer is reset every 20 seconds by default. The voice system periodically accesses the external alarms card to reset the sanity timer. It is possible to change the reset period of the external alarms software. A timeout value can be placed in the file **/vs/data/alarms/timer.** This value should be a positive integer and its units are seconds. To change the update time to every 30 seconds, change the 20 to 30 in the **/vs/data/alarms/timer** file. In the absence of a **/vs/data/alarms/timer** file, the VIS uses a 20 second timeout value.

It is also possible to change the timeout value on the external alarm card. See Chapter 2, "Installing Extenal Alarms Interface" in this book.

➡ NOTE:
The software timeout should be less than the hardware timeout.

Voltage and Current Capacities for External Alarms Interface

Table 4-2 provides the current capacities for the External Alarms Interface hardware. Note that these current capacities must be derated in the presence of an inductive or capacitive load.

Table 4-2. Current Capacities for External Alarms

Voltage	Current
250 volts AC	5 Amperes
30 volts DC	5 Amperes
125 volts DC	1 Amperes

Summary of Commands

<div style="text-align: right; font-size: 3em; font-weight: bold;">5</div>

What's in This Chapter

This chapter contains summaries of the commands specific to the following alarm commands associated with the External Alarms Interface:

- Alarm disable
- Alarm display
- Alarm enable
- Alarm help
- Alarm reinit
- Alarm retire
- Alarm status
- Alarm test

⇒ NOTE:
These alarm commands are executed from the **/vs/bin** directory and require System Administration privileges.

This chapter provides an alphabetical listing of the CONVERSANT VIS commands. For each command listed, the following information is provided:

- Name — Gives the name and purpose of the command

- Synopsis — Summarizes the usage of the program being described

- Description — Discusses how to use the command

- Examples — Gives examples of the usage of the command as well as sample outputs of the command where appropriate

Alarm Disable

Name

alarm disable — Makes alarm unavailable for use

Synopsis

alarm disable [alll1l2l3...]

Description

The **alarm disable** command disables the specified Alarm Contact Set. This command does not affect the state of the contacts themselves. If an alarm occurs that is assigned to a disabled Alarm Contact Set, then the contacts will not close. Note that the alarm retire and test commands cause the contacts to close and open even though the set is disabled.

The numeric arguments refer to the alarm contact set.

Examples

Following is an example output for **alarm disable 2** command:

```
Alarm Contact Set 2 now disabled
```

Following is an example output for the **alarm disable all** command:

```
Alarm Contact Set 1 already disabled
Alarm Contact Set 2 now disabled
Alarm Contact Set 3 now disabled
```

Alarm Display

Name

alarm display — Show message IDs assigned to Alarm Contact Sets

Synopsis

alarm display [alll1I2I3...]

Description

The **alarm display** command displays all Message IDs associated with specified Alarm Contact Set. The numeric arguments refer to the Alarm Contact Set.

Examples

Following is a sample output for the **alarm display 1** command:

```
No Message IDs currently assigned to Alarm Contact Set
1.
```

Following is a sample output for the **alarm display 2** command:

```
Alarm Contact Set 2

    TWIP001 TWIP002 TWIP003
```

Following is a sample output for the **alarm display all** command:

```
Alarm Contact Set 1

    VROP001 VROP002 VROP003

Alarm Contact Set 2

    TWIP001 TWIP002 TWIP003

Alarm Contact Set 3

    TSM001  TSM002  TSM003
```

Alarm Enable

Name

alarm enable — Allows alarms to be available for use

Synopsis

alarm enable [alll1l2l3...]

Description

The **alarm enable** command enables the specified Alarm Contact Set for use. This command does not affect the state of the contacts themselves. If an alarm occurs that is assigned to an enabled Alarm Contact Set, then the contacts will close if they are not already closed. The numeric arguments refer to the alarm contact sets on the alarm relay card.

Examples

Following is a sample output for the **alarm enable 2** command:

```
Alarm Contact Set 2 now enabled
```

Following is a sample output for the **alarm enable all** command:

```
Alarm Contact Set 1 already enabled
Alarm Contact Set 2 now enabled
Alarm Contact Set 3 now enabled
```

Alarm Help

Name

alarm help — Output information on each alarm command

Synopsis

alarm help

Description

The purpose of External Alarm Administration is to provide the user a means of assigning or removing Message IDs to each of 3 Alarm Contact Sets. It also provides the user with the capability of enabling or disabling specific Alarm Contact Sets. The user can also test the functionality of each Alarm Contact Set without initiating a system alarm by using the test command to close a specific Alarm Contact Set. The retire command will reopen the closed set.

Below are the options to the alarm command if typed from the UNIX prompt:

- enable — In conjunction with the [all] or [n] options (where n is the alarm contact set number), this command enables the specified Alarm Contact Sets. The state of the contacts remains the same (either already open or closed). A warning message is output if the specified Alarm Contact Sets are already enabled.

- disable — In conjunction with the [all] or [n] options (where n is the alarm contact set number), this command will disable the specified Alarm Contact Sets. The state of the contacts remains the same (either already open or closed). A warning message is output if the specified Alarm Contact Sets are already disabled.

- test — In conjunction with the [all] or [n] options (where n is the alarm contact set number), this command will close the specified Alarm Contact Sets whether the contacts are enabled or not.

- retire — In conjunction with the [all] or [n] options (where n is the alarm contact set number), this command will open the specified Alarm Contact Sets whether the contacts are are enabled or not.

- status — In conjunction with the [all] or [n] options (where *n* is the alarm contact set number), this command will display the specified Alarm Contact Sets state (Enabled — Yes or Enabled — No), Status (On — Closed or Off — Open).

- display — In conjunction with the [all] or [n] options (where *n* is the alarm contact set number), this command will display all currently assigned message IDs associated with the specified Alarm Contact Sets.

- help — Will display the above descriptions.

Alarm Reinit

Name

alarm reinit — Force alarm processes to reinitialize internal data structures

Synopsis

alarm reinit

Description

The **alarm reinit** command causes the alarm process to reinitialize all internal data structures referring to alarms. When **alarm reinit** is executed, all alarm contact sets are reset (alarm contacts are open), all alarm contact sets are enabled, the **/vs/data/alarms/alarm***X* files are reread, and the **/vs/data/alarms/mask** file is reread. If the file **/vs/data/alarms/timer** exists, it will also be reread. In essence, execution of alarm reinit results in placing the system in a state identical to the state expected after system startup.

This command is useful for making changes take effect after the configuration file is modified. Any errors encountered in the configuration files are logged to the logger. Refer to the information on the alarm display command for additional information.

Examples

There is no sample output for the **alarm reinit** command. You may check the System Message Display screen for the results of the **alarm reinit** command.

Alarm Retire

Name

alarm retire — Shuts off an alarm

Synopsis

alarm retire [alll1l2l3...]

Description

The **alarm retire** command retires the specified Alarm Contact Set. The command removes external alarm by opening contacts on the specified Alarm Contact Set whether set is enabled or not.

Examples

Following is a sample output for the **alarm retire 2** command:

```
Alarm Contact Set 2 retired
```

Following is a sample output for the **alarm retire all** command:

```
Alarm Contact Set 1 already retired
Alarm Contact Set 2 retired
Alarm Contact Set 3 retired
```

Alarm Status

Name

alarm status — Display status of Alarm Contact Sets

Synopsis

alarm status [all|1|2|3...]

Description

The **alarm status** command displays the state and status of the specified Alarm
Contact Set. The numeric arguments refer to the alarm contact set.

Examples

Following is a sample output for the **alarm status 2** command:

```
Alarm Contact Set 2

    Enabled: Yes  Status: off (open)
```

Following is a sample output for the **alarm status all** command:

```
Alarm Contact Set 1

    Enabled: Yes  Status: off (open)

Alarm Contact Set 2

    Enabled: Yes  Status: off (open)

Alarm Contact Set 3

    Enabled: No  Status: on (closed)
```

Alarm Test

Name

alarm test — Manually initiate alarms

Synopsis

alarm test [alll1l2l3...]

Description

The **alarm test** command tests the specified Alarm Contact Set for use. The command initiates external alarm by closing contacts on specified Alarm Contact Set whether set is enabled or not.

Examples

Following is a sample output for the **alarm test 2** command:

```
Alarm Contact Set 2 is now on (closed)
```

Following is a sample output for the **alarm test all** command:

```
Alarm Contact Set 1 already on (closed) Alarm Contact
Set 2 is now on (closed) Alarm Contact Set 3 is now on
(closed)
```

Troubleshooting External Alarms Interface

6

Trouble Location and Resolution Routine

This chapter contains troubleshooting and maintenance hints and procedures to be used with the CONVERSANT Voice Information System External Alarms Interface.

Table 6-1 provides a list of actions to try when various indications of trouble are observed. To use this table, find the condition that is best described by the problem listed under Trouble Indication, then follow the recommendations listed under User Response. If the problem is not solved after performing the listed procedures, or if no category exists for the problem, contact a field service representative for assistance.

Table 6-1. Trouble Locating Procedures

Trouble Indication	User Response

At UNIX system prompt, you use the alarm command and the system responds with the following message:
 	
/bin/ksh: alarm: not found
	First, verify that the /vs/bin/alarm file exists by executing:
	
	    ls -l /vs/bin/alarm
	
	If the /vs/bin/alarm file is not there, remove and reinstall the External Alarms package. Second, verify that /vs/bin is in your path by executing the following command:
	
	    echo $PATH
	
	If /vs/bin is not in your path, log out and log back in to the VIS.

The alarm command reports status but changes do not appear on the external alarm card LED settings.	Verify that the dip switch settings are set as described in user documentation. If not, set properly. Verify that the alarm relay card is properly positioned in the slot. Verify that there are no CRITICAL, MAJOR, or MINOR priority external alarm (EXTA) errors in the error log. If EXTA errors exist in the error log, consult the repair procedure in the *CONVERSANT Voice Information System Version 3.1 Maintenance, 585-350-105.*
The alarm command works and LED lights change when alarm test or alarm reset is executed but changes do not appear on the External Alarms annunciators.	Verify that the alarm relay card external cabling is connected properly. Use a multimeter to verify that the alarm relay card contacts are closing properly. If the contacts are not closing properly, the card may be malfunctioning and may need to be replaced.

Continued on next page

Table 6-1. Trouble Locating Procedures *(continued)*

Trouble Indication	User Response
The alarm relay card is not responding to system error messages.	Verify that the system messages in question are assigned to the alarm contact sets. Verify that the error log shows no CRITICAL, MAJOR, or MINOR priority messages associated with the External Alarms package (EXTA). If messages are found, follow the appropriate repair procedure in the *CONVERSANT Voice Information System Version 3.1 Maintenance, 585-350-105.*
External Alarm sanity timer periodically or always times out.	Verify that the switch settings for the alarm relay card are correct. Verify that the system log shows no MAJOR priority messages associated with the External Alarms package (EXTA). If MAJOR messages are found, follow the appropriate repair procedure in the *CONVERSANT Voice Information System Version 3.1 Maintenance, 585-350-105.*
LED indicator light 1 is off	Relay 1 is closed; that is, power is not being applied to the system. Check the power connections.

External Alarms Interface System Messages

The following system messages are sometimes encountered when a system is experiencing problems with the External Alarms Interface package. These system messages are arranged in numerical order by msg_ids. A short explanation of the message appears when you use the **explain** command. If no corrective action is provided in the explain text, the message is either informational or is corrected automatically by the VIS.

Refer to Chapter 3, "System Message Listings," of *CONVERSANT Voice Information System Version 3.1 Maintenance, 585-350-105,* for additional information on system messages, including the impact and repair procedures. Refer to the *CONVERSANT Voice Information System Version 3.1 Command Reference, 585-350-203,* for information on using the **explain** command.
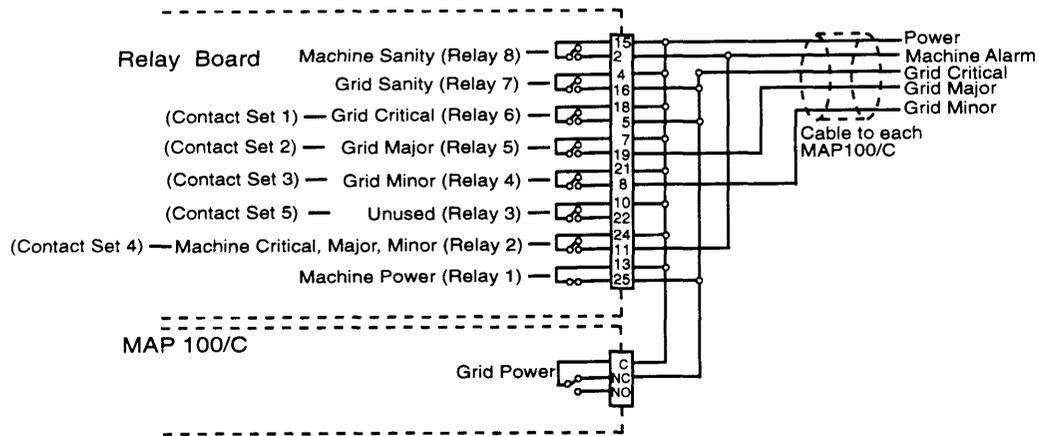
External Alarms Applications

7

What's in This Chapter

This chapter contains an example of the External Alarm Central Office Connection.

External Alarm Central Office Connection Example

Figure 7-1 provides an example functional illustration of one possible External Alarm central office configuration.

Figure 7-1. Example of Alarm Relay Card Configured for Central Office Application

In the example shown in Figure 7-1, a machine alarm light is illuminated for the sanity timer control card (Relay 8) as well as for Critical, Major, or Minor alarm occurrences (Relay 2). In addition, an aisle alarm grid is illuminated for the sanity timer control card (Relay 7), Critical (Relay 6), Major (Relay 5), and Minor (Relay 4) alarm occurrences. Relay 3 is unused in this configuration. In the example shown in Figure 7-1, the Grid Power, sanity timer, or critical alarm lights the grid Critical light. The major alarm lights the grid Major light and the minor alarm lights the grid Minor light.