

PageTek
The monitoring and control experts

PageTek SiteManager

Overview

The SiteManager software provides a complete alert and status call capture, management, and archiving environment for the plus family of PageTek monitors. The SiteManager:

- Logs all inbound alert and status calls and stores the messages for later retrieval and analysis.
- Alerts technical staff whenever scheduled status calls are not received.
- Synchronizes monitor clocks automatically.
- Provides two levels of staff access rights.
- Provides a database of all monitors with user notes capability.
- Filters received alert calls by a variety of parameters.
- Tracks monitors and technician responsibilities by region.
- Schedules technician alerts by region and time.
- Provides user-friendly messages derived from monitor alerts using a user-specified lexicon.
- Supports local and pager notification of technicians and/or operators.
- Supports e-mail notification of technicians, operators, and managers.

The SiteManager is recommended when the volume of messages from any network of PageTek monitors becomes sufficiently large to reduce technician efficiency or performance, or when archiving of system performance is required. The SiteManager software communicates with the monitoring network via the public telephone network. It is not required or meant for local interaction with PageTek monitors. Many aspects of the SiteManager software are configurable by the user, but the system is designed to achieve this functionality with a minimum of complexity.



Installation

Hardware Requirements

- 32 MB RAM
- 50 MB Free Disk Space
- VGA or Higher Resolution Monitor
- Mouse
- Two or more 14,400 bps (or higher) modems

The SiteManager software is fully compatible only with the ProTekTor+ ROM version 1.4 or later, jr+ ROM version 2.06 or later and 24+ ROM version 4.1 or later. SiteManager may be used with a mixed network of plus and classic monitors with some reduction in functionality as discussed in the *Working with a Mixed Network* in Chapter 5.

SiteManager is designed to be installed on any computer running a standard installation of Microsoft NT 4.0 or 2000. The SiteManager installation procedure installs all additional files required for operation. As with all Windows® programs, performance may be improved with additional RAM, but as the SiteManager application is not particularly memory hungry, 32 meg of memory is adequate. Due to the compact nature of the alert and status call logs, more than a year's worth of logging may be maintained on most modern hard drives. It is wise to reboot the NT machine periodically to clear out junk left in memory by the operating system, especially if other applications are also run on the machine. This is a well-documented shortcoming of the operating system rather than a fault of the SiteManager software. This is expected to be less of a problem with Windows 2000.

Installation Instructions

- 1) From the Start Menu, select **Run** and enter "D:\setup.exe" where "D" is your CD drive.
- 2) Follow the onscreen instructions to complete the installation.
- 3) Reboot the computer after the installation is complete.

If a previous version of SiteManager is being updated, that version should be uninstalled using the Microsoft Add/Remove Programs utility in the control panel. The uninstall will leave the previous database file in the directory for future use. The newly installed SiteManager will automatically import and convert the old database and its contents to the expanded database structure required by this version of SiteManager.

License Key Entry

Any time an unregistered copy of SiteManager is opened, nag dialog boxes will periodically remind the user to register the application. While the application may be registered as a demo or a permanent installation, both installations require a key to be entered for normal operation. During a demo's life span, there will be no nag boxes, though the nagging will start again when the demo life span expires.

A permanent installation will never present the user with nag boxes. Be sure to record the license key, especially when performing a permanent installation. The size of the monitor database supported by a SiteManager installation is dependent upon the License Key. Users may upgrade to a larger network capability by contacting PageTek for the required key. The License Key will be found on the title page of this manual.

To register the application perform the following steps:

- 1) Select **File > License**
- 2) Type the **License Key** in the **License Key** dialog box that opens and click OK.
- 3) Confirm a successful licensing by selecting **Help > About SiteManager**. The information just entered should be indicated.

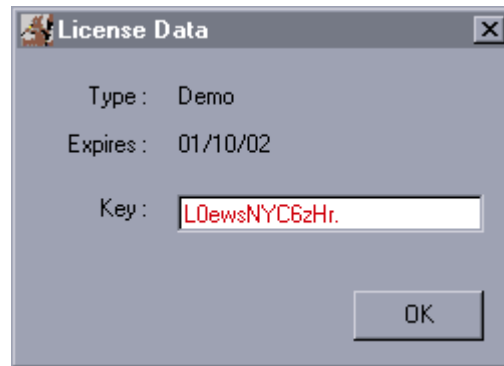


Figure 2.1

SiteManager Password Entry

The SiteManager software supports two levels of access rights. An **operator** has read-only access to SiteManager information displays, but no configuration or control capability of either the SiteManager software or the monitors reporting to the SiteManager. The **technician** password gives full read/write capability to the user. Commands not available to the Operator are visible on the menus but are grayed out and are non-functional. Under **Customize**, grayed out commands are **Regions** and **Scheduling Alert Descriptions** and **Filtering** are not visible at all except when logged in as Technician. In the **Units** editing box, the **ADD** and **DELETE** commands are not available to the operator. The SiteManager software must therefore be installed by a person holding the full read/write password rights. The default password for the operator is appropriately enough, "operator", while the default full access password is "technician". Obviously both passwords should be changed following installation. The default full-access password of *technician* should be used for commissioning SiteManager.

Default Passwords

- **Limited access: operator**
- **Full access: technician**

Changing Passwords

The technician may change the Operator or Technician passwords by use of the **File > Change Passwords** menu Password command. Two passwords may be set, one for limited access and one password for full access. A dialog box entitled **Change Passwords** will appear, indicating the current password, either of which may be edited by conventional Windows® procedures. Pressing **OK** will save the passwords and exit, while pressing cancel will exit without saving the passwords.

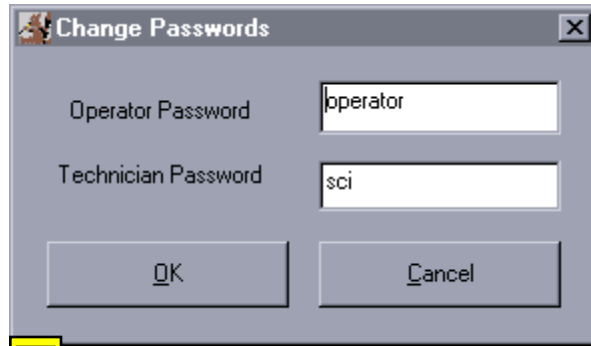


Figure 2.2

Modem and E-mail Setup

After installation, you may receive a warning that you need to configure your modems the first time you run SiteManager. Regardless, it is wise to confirm that SiteManager has correctly recognized the modems. Improper modem setup is the most common cause of SiteManager misbehavior.

To configure your modems, go to **File** and select **Properties** in the menu.

In the **Properties Listening Modem** combo box, select the modem that will receive the incoming alert calls. If required, click on the appropriate **Properties** button to set up the modem operational parameters.

- 4) In the **Properties Outgoing Modem** combo box, select the modem that will initiate outgoing calls to the monitors. This cannot be the same modem specified in the **Listening Modem** combo box. If required, click on the appropriate **Properties** button to set up the modem operational parameters.
- 5) In the **E-mail Server** field enter the name of the outgoing mail server. This will frequently be something like smtp.yourdomain.com.

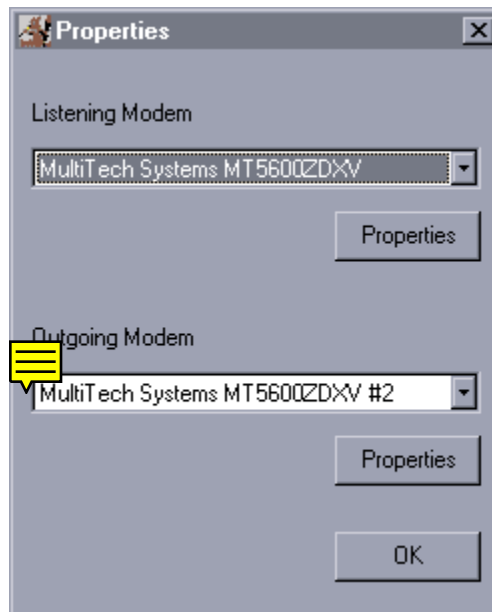


Figure 2.2

If either incoming or outgoing modems are not found in the **Properties** drop down menu, confirm that they have been properly installed by using the Modem applet in the operating system control panel. The installed modems may be confirmed by using the **Start > Settings > Control Panel > Modem**

command path. Further customization of the modem behavior including initialization strings, must be performed using the modem applet in the control period.

A note about screen resolutions

The SiteManager application will work with a screen resolution of 640 x 480 or greater. While smaller monitor screen sizes will generally be required to run at lower resolutions, a screen resolution of 800 x 680 or more is generally satisfactory on larger monitor screens. All major windows are automatically maximized to full screen to ensure legibility and focus. If the font size is felt to require adjustment, such adjustment is frequently available using the video card setup procedure.

Advanced Programming

At this point, the SiteManager software has been installed on your computer but further configuration is required to activate the Status Call monitoring, build the monitor database, configure the user-friendly alert notices, etc. As these configurations are heavily influenced by your needs, we will separately discuss the programming of these facilities in Chapter 4.

Using SiteManager

The SiteManager uses two main windows for most user interaction, namely the **Alert Call** and **Status Call** windows. All other user/SiteManager interaction uses smaller windows or dialog boxes. All windows found in SiteManager follow Microsoft Windows® conventions. Both the **Status Call** and **Alert Call** windows have the current date and time in the lower right-hand corner of the window. The communications status is generally displayed in the lower left-hand corner of the windows.

The Alert Call Window

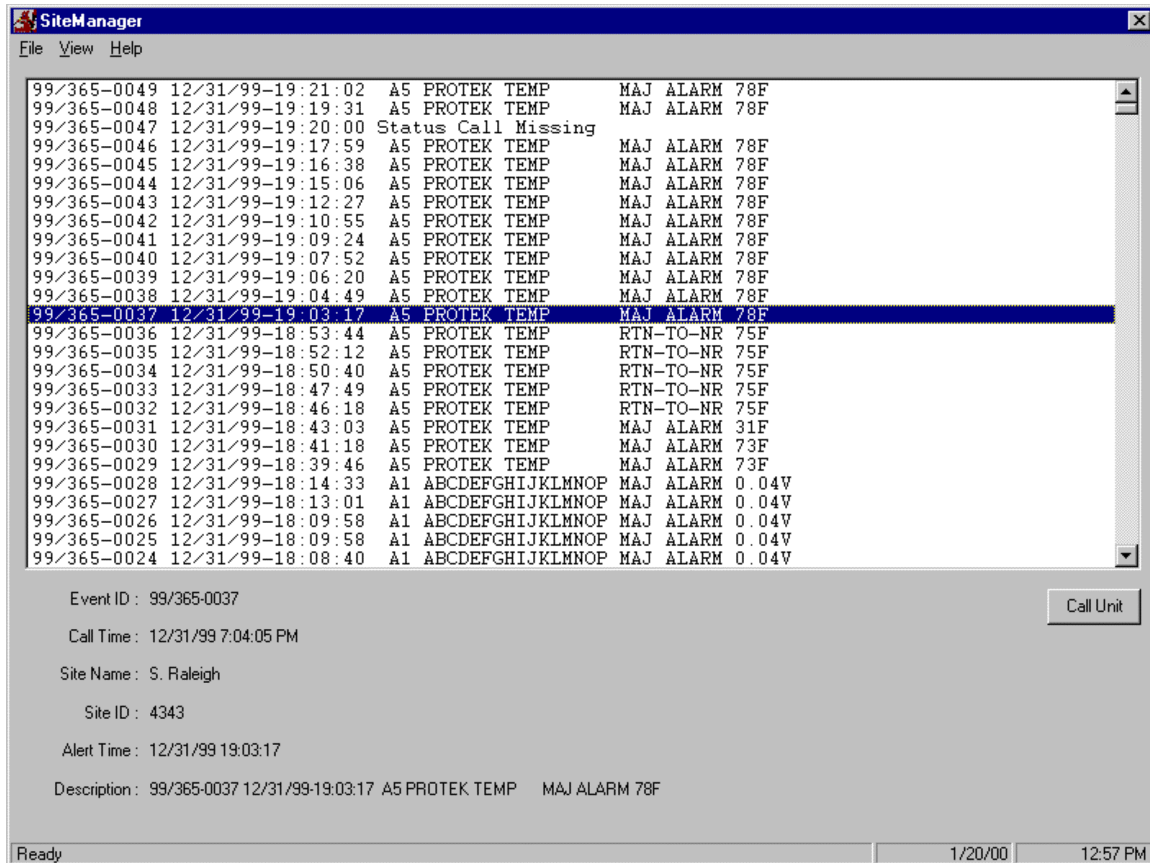


Figure 3.1[mrball6]

The **Alert Call** window (see Figure 3.1) is the primary activity window for the PageTek monitor SiteManager. It contains a single large frame in which all received alert calls are listed. If the number of alert calls exceeds the space available in the frame, a scroll bar appears on the right hand side. Using standard Windows® procedures, the user may scroll to those calls temporarily hidden. At all times, the



alert calls received within the last 30 days will be available. Alert calls older than 30 days will be automatically archived to the SiteManager directory. Below the list window is a gray area in which details of any highlighted entry will be displayed.

Accessing and using other programs

The **Alert Call** window will open maximized and occupy the complete desktop. The Alert window may be minimized to provide access to the operating system desktop. It is recommended that the task bar is set to **Always on Top** with **Auto Hide** disabled. The user may access the start menu on most modern keyboards by pressing the Windows key usually found next to the ALT key(s). Pressing the flying Windows key will bring up the Start menu in the NT 4.0 and 2000 operating environments, from which the user may access any applications or services. The alt-s key combination will also work on keyboards that are not Win-95 compliant. If multiple applications are already running, the user may cycle through these applications by using the alt-tab key combination. When running NT, the control-alt-delete keyboard combination may be used to access the NT security dialog box and the Task Manager applet. Clicking on the X box on the (main) **Alert Call** window or selecting exit in the File menu will shut down SiteManager entirely.

As the native format of the SiteManager database is the Microsoft Access compatible mdb, the various SiteManager tables may be exported directly to Access or converted to Microsoft Excel for analysis. Any information which may be printed, such as the **Alert!** And **Status** content may also be saved in the Adobe Acrobat format (PDF) using the freely available PDFWriter application, available from the Adobe web site at no charge.

Alert Call Window Organization

The **Alert Call** window displays all received alert calls and assigns them a unique event ID number. The ID number follows the format yy/ddd-xxx, where yy is the last two digits of the year, ddd is the day of the year, and xxx is the number of the call received for that date. The most recent message will always be displayed as the topmost entry.

After the unique Event ID number, the Site ID, Alarm Time, Input, Input Name, and Input Value are displayed. Note that the alarm time is the time of day at the reporting monitor and may not match the SiteManager computer system time. For this reason, it is recommended that Universal Time be used and that the Synchronize Time command is used frequently as is discussed in Chapter 4. In addition, the alert call is broken down into categories in the gray rectangle immediately below the alert call window. The Alert Call window will display all alert calls received during the previous 30 days. Once a message is more than 30 days old, it will be automatically archived and removed from the Alert Call window.

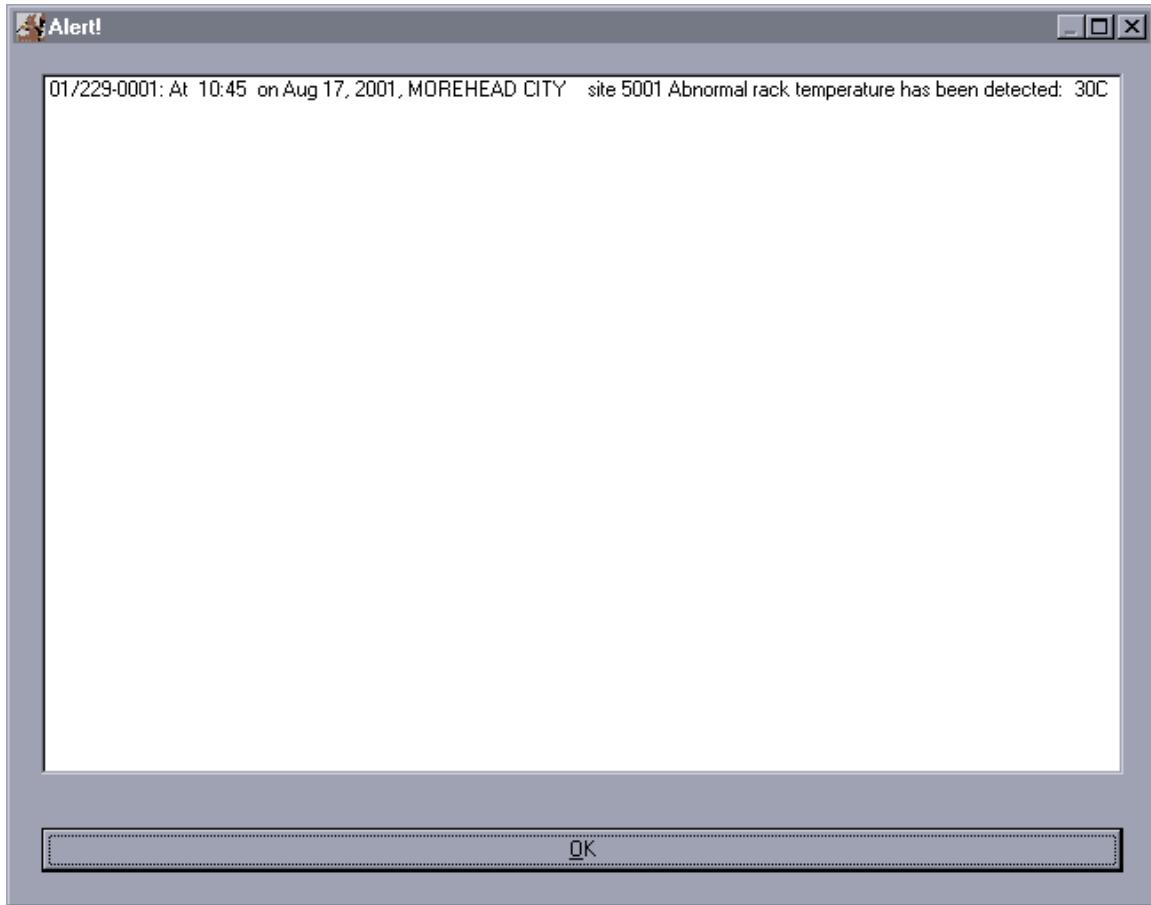


Figure 3.2

Alert Reception and Processing

Whenever an alarm is received from a site monitor, SiteManager will pop up the **Alert!** window and play the default Windows® “beep” audio. The audio beep will repeat at 30-second intervals until the OK button is pressed to acknowledge the alert. The beep may be reprogrammed to any wav audio file using the Windows control panel **Sound** applet, but this will for present be a system-wide change. External signaling using a relay driver card may be supported upon request.

When an alarm for a site arrives, that alarm may now be reported in a friendlier format that is more readily understandable by a non-technical person. In some cases, such mapping may require specific descriptors programmed in the monitor only if such use does not interfere with conventional use of the monitor. The SiteManager will parse the content of the monitor-generated message to retrieve values for insertion into local user-friendly message of a maximum of 255 characters. Configuration of this capability is accomplished via the **Customize>Alert Description** menu command path described in Chapter 4.

Users may connect to any unit generating an alert call by highlighting the alert entry and clicking on the Call[mrball7] button in the lower right quadrant of the screen. A terminal session window will be displayed and the access telephone number specified in the unit database will be dialed. When accessing a site, the SiteManager will retrieve the appropriate password from the SiteManager monitor database and automatically transmit that password to the called unit during the automated log in procedure. The Call monitor function is also available from the Units Database window and performs similarly. While there is a Hang Up button on the terminal window, the user should continue to disconnect from the monitor using the TC command. The Hang Up function is available only after a connection has been established.

SiteManager will print the contents of the alert! Window directly to the default printer when the **Print Selected** (Ctrl+P) command is used. If a alternative printer is required change to that printer using the Page Setup command first. Printing to fax, PDFWriter, or text only file are other alternatives printers.

The Status Report Screen

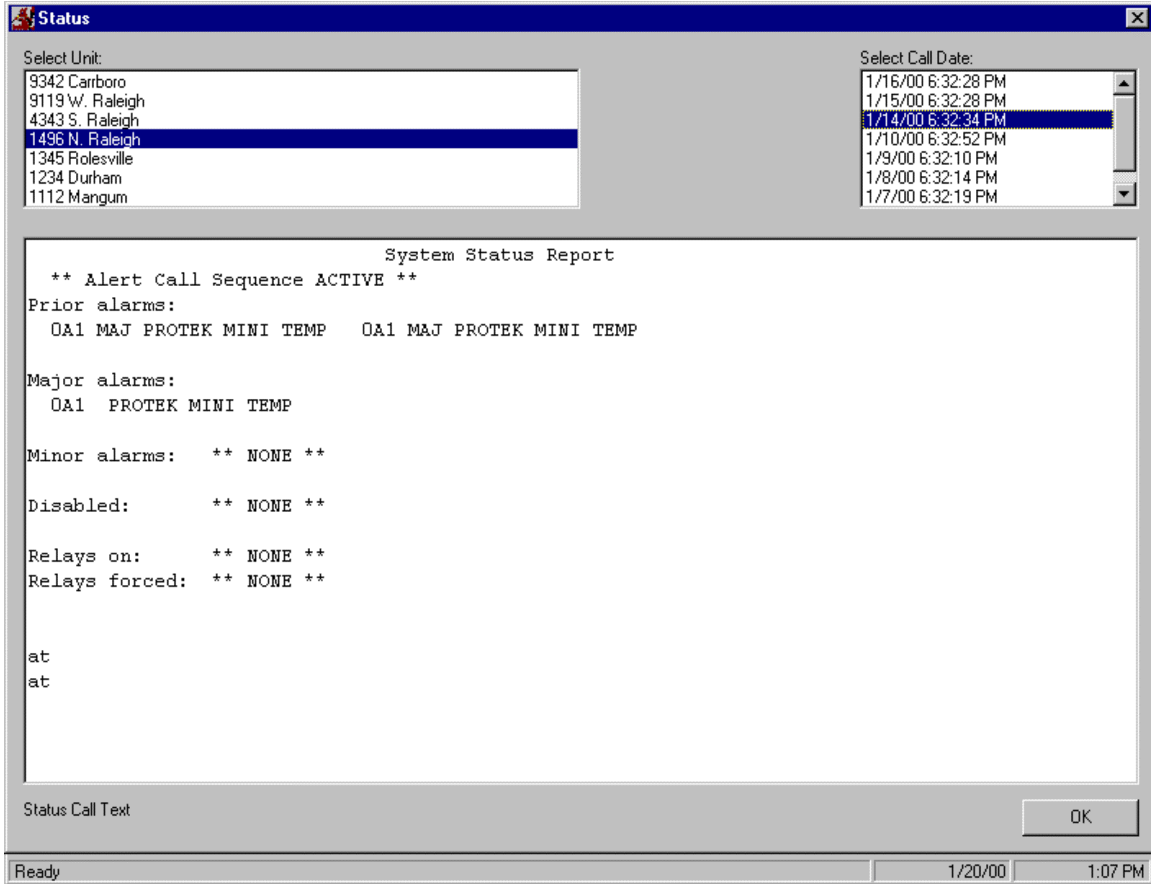


Figure 3.3

The **Status** report screen (see Figure 3.3) displays the logged status report calls received during the last 30 days. Older messages are archived as they reach 31 days of age. The contents of the **Status** Window may be printed using the **Print Selected** (Ctrl+P) command.

The upper-right field displays a list of the status report calls organized by date received from the unit. The date and time displayed in this field represents the day and time SiteManager received the call, not the date and time onboard the PageTek monitor unit. If no status calls have been received from the unit highlighted in the **Select Unit** box on the upper left then a "none received" message will be displayed .

The larger lower field displays the actual status report message as received by SiteManager. For a description of the information contained within this field, see the manual for the PageTek monitor unit. The contents of this window may be copied or "dragged and dropped" to most applications capable of importing text files. To exit this form, click on the "OK" command button.

Advanced Programming

Programming of the reporting monitors

When programming the PageTek jr+ or 24+ monitors, the listening SiteManager modem telephone number must be programmed in telephone list slot 1 under the **Telephone Number Parameters** screen (see Figure 4.1). The ProTekTor+ can send a status call to any number in the list but the SiteManager number should still be first in the calling sequence and specified to receive status calls. Failure to do so will result in the SiteManager not receiving status report calls from that monitor. Program any other telephone numbers you wish in the remaining telephone list slots. These would generally be the pager or telephone numbers of responsible local technicians.

Type		Telephone number	Alpha-pager number	Alpha-password
1	2	5551234		
2	5	18001234567	12345	
3				
4				
5				
6				
7				
8				

Types: 1 = person, 2 = VDT/printer
 Pager types: 3 = voice, 4 = digital, 5 = alpha

RETURN key = Main Menu, "Z" = repaint, "N" = next scrn, or parameter number: _

Figure 4.1

Relationship of SiteManager to Monitor Data

The relationship of SiteManager programming to the monitor programming is indicated below:

SiteManager	Monitor
Site Name	Site Name
Site ID	Site ID
Status Call Time	Status Call Deadline
SiteManager inbound modem number	Phone Slot 1
Monitor password	Password
Time	Time
Unit Phone Number	Monitor's telephone number

Time Stamping Considerations

Finally, it is recommended that you program the system time and date for all monitors to the same time zone as the SiteManager computer. Users may find that the use of Universal Coordinated Time (UTC) is convenient when monitors are in separate time zones. This also reduces the need for a twice yearly clock synchronization due to changes associated with Daylight Savings Time. This will also avoid any confusion that may result from a possible discrepancy between the times when an alarm was triggered versus when the alert call was received. After the Site Manager's database is set up, you may use the **Synchronize clocks** function under the **File** menu to synchronize the clocks for all the units.

Synchronize Clocks Function

The SiteManager can set the clocks for all plus series PageTek monitor monitors in the database. It will not synchronize PageTek classic monitors, nor plus series with outdated software. For proper operation the information contained in the units database must be accurate. However, an incorrect telephone number or password will cause the function to fail for that unit only; the function will continue setting the remaining monitors in the database. Any failure to synchronize a monitor clock will be reported in the alerts as a communications error.

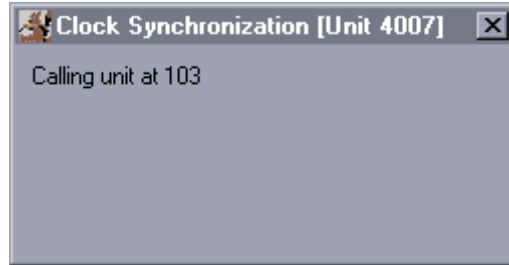


Figure XXX

To perform the automated clock synchronization, select **File > Synchronize clocks**. A small dialog box will indicate that the calling sequence has begun, and will indicate the number currently being called by the function. Full functionality of the SiteManager is available during the entire synchronization process.

There is almost certainly to be a small deviation over the course of months between the SiteManager time and that of the various devices calling into the SiteManager. Devices that are found to habitually deviate substantially from the correct time may require adjustment of the real-time clock, when possible. High accuracy real-time clock boards are available if the SiteManager's computer clock is not sufficiently accurate. Various freeware applications are available that allow synchronization of a computer's system clock with a network timeserver or with the National Bureau of Standards atomic clocks. Periodic use of these applications will ensure that the computer clock is accurate to better than one second.

Using Status Call Monitoring

It is highly recommended that all monitors be programmed to generate daily status calls. The status calls will confirm the continued operation of the monitors and ensure that all monitors are entered in the SiteManager database. If you intend that the SiteManager receive status report calls from the PageTek units, then you must program the PageTek units to send a status report call on a daily basis. Be sure to allow a large enough time buffer between the status report call time programmed onboard the PageTek unit and the status report deadline you will program in the SiteManager for the unit. When SiteManager does not receive a daily status report call from a monitor by that unit's deadline, it will notify the local operator. If there is a high call volume and the SiteManager telephone line is busy, it may take a few

minutes for the status report call to get through. It is recommended that the SiteManager deadline for receipt of a monitor's status call be at least 6 minutes after the time programmed on the monitor.

Units Database

As monitors call in with their daily status calls, they will be added automatically to the SiteManager **Units** database. If the daily status call is not programmed in any monitor, that monitor will have to be manually added to the Units database. Remember that the SiteManager will not add a monitor to the database if its SITE ID is already in the database, even if it is actually a new monitor with a different site name, location, etc. SiteManager however will add a monitor to the database even if you have previously added the monitor manually with an erroneous SITE ID.

Since the SiteManager **Units** database will not allow duplicate entries, we recommend the user devise a system for creating unique SITE IDs, and use the system consistently. If no other scheme is in place, it is suggested that the monitor serial numbers be used for the ID to insure a unique SITE ID. The SiteManager will use this SITE ID to associate alert and status calls with a particular unit during the alert logging process. It is imperative that the monitor SITE IDs match the IDs in the SiteManager monitor database. Therefore, regardless of the ID system used be sure to record the SITE IDs programmed into the units because that information will be used when setting up the SiteManager database.

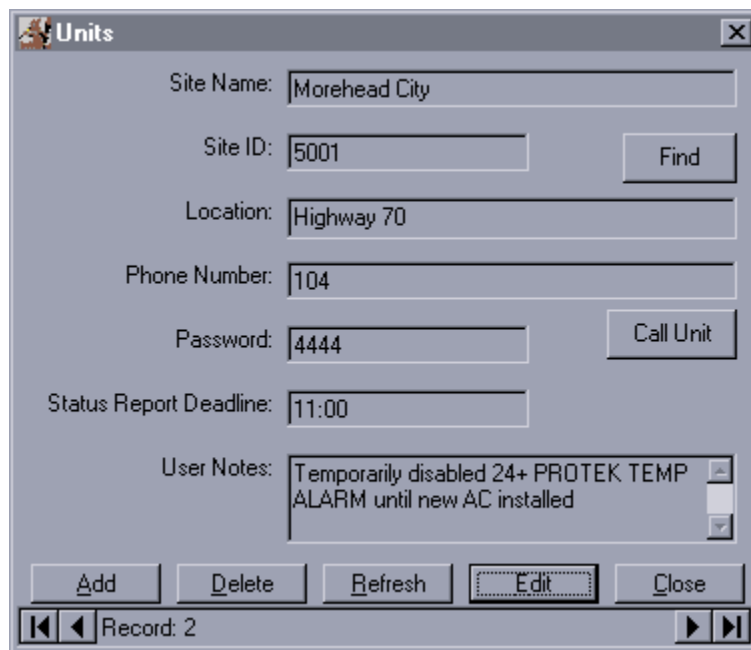


Figure 4.2

Adding new monitors to the database

To manually add a PageTek monitor to the SiteManager database, click on the **View** menu and select **Units**. If this is the first time SiteManager has been run and no status calls have been received yet, the unit database will be empty. All entries will be sorted by Site ID number. You may access any particular known SITE ID by using the horizontal scroll bar along the bottom of the form. When the **Units** database dialog box appears, click on the **Add** button.

Figure 4.3

When you have pressed the **Add** button, you should see the **Add Unit** form onscreen. Enter a Site Name that corresponds to the SITE NAME programmed in the PageTek monitor unit. Enter any descriptive name of up to 16 alphanumeric characters. Enter the four-digit SITE ID programmed in the monitor in the form's Site ID field, ensuring that the ID is a four-digit number greater than or equal to 1000. (This restriction is due to the tendency of some voice mail or telephone switches to incorrectly interpret a leading zero in a DTMF alert message as a command and may not apply to your situation.) Fill out the **Add Unit** form as desired, remembering that this information will be used by SiteManager when logging alert and status call messages and when performing the automated connection to any monitor in the database. The **Location** field identifies the physical location of the unit. Locations are stored in the database and may be used for more than one unit by selecting from the field's pull-down combo box. The **Password** field corresponds to the PASSWORD for the PageTek monitor unit.

The **Unit Phone Number** is the number that the SiteManager will dial whenever the various Call Unit buttons are clicked. The Units form will be displayed with the new unit's ID number in the Site ID field. Enter the unit's site name in the Name field, the unit's password in the Password field, and the unit's Status Report Deadline in 24 hour format (00:00 – 23:59). The monitor must be programmed to send a daily status call whenever a time is entered in this field. If the field is left blank, no status call monitoring will be performed for this monitor. If you enter a location that is not in the database already, that location will be added to the choices found in the drop down list associated with the field. Previously added locations will be available in the drop down menu.

You may enter any miscellaneous information about the new unit in the **User Notes** box. Possible uses may include travel directions, special warnings or instructions, notes regarding the last visit, etc.

When you have completed the **Add Unit** form, you may either click the **OK** button to save the information and close the form or you may click on the **Cancel** button again to abandon the **Add Unit** process without saving. In either case, you will be returned to the **Units** form, where you may repeat the process to add another unit, delete or edit an existing unit, or close the form and return to the main alert logging window.

Deleting a monitor from the database

The **Delete** button will delete the monitor whose entry is currently displayed in the **Units** form. You will be asked to confirm the deletion as indicated in Fig. 4.4. Chose **Yes** or **No** as appropriate and you will be returned to the **Units** form. Any entry erroneously deleted must be re-entered in its entirety.

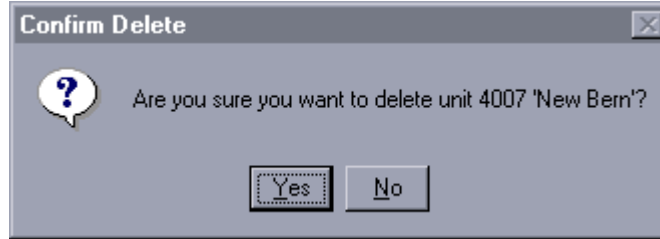


Figure 4.4

Editing a monitor database entry

The **Edit** button will display the same form (fig. 4.5) used to originally enter monitor information. Any field may be edited and saved.

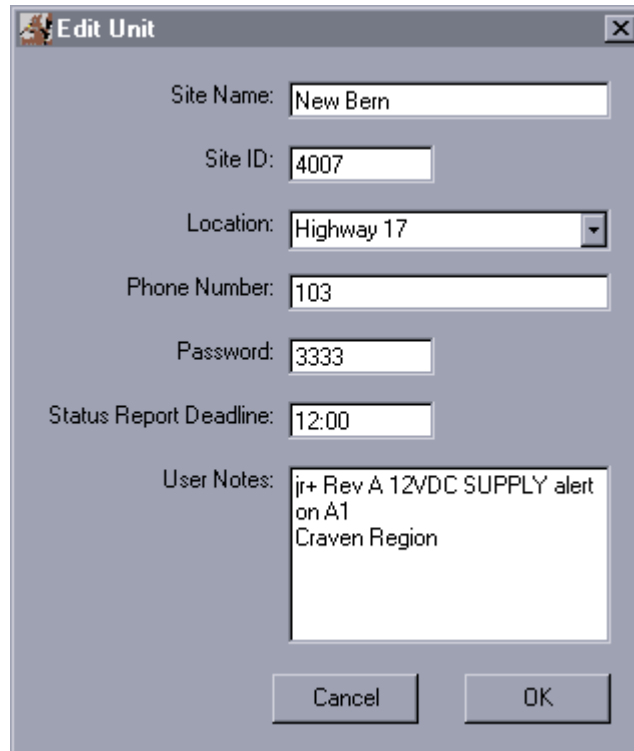


Figure 4.5

Finding a monitor in the Units database

As the database grows, it may be useful to use the **Find** button to quickly move to the correct entry.



Figure 4.6

If the four-digit Site ID specified is not in the database, a **Not Found** warning (fig. 4.7) will be displayed. Click **OK** to clear the warning. When the Site ID is found it will be displayed in the **Units** form.

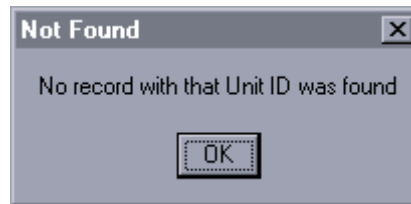


Figure 4.7

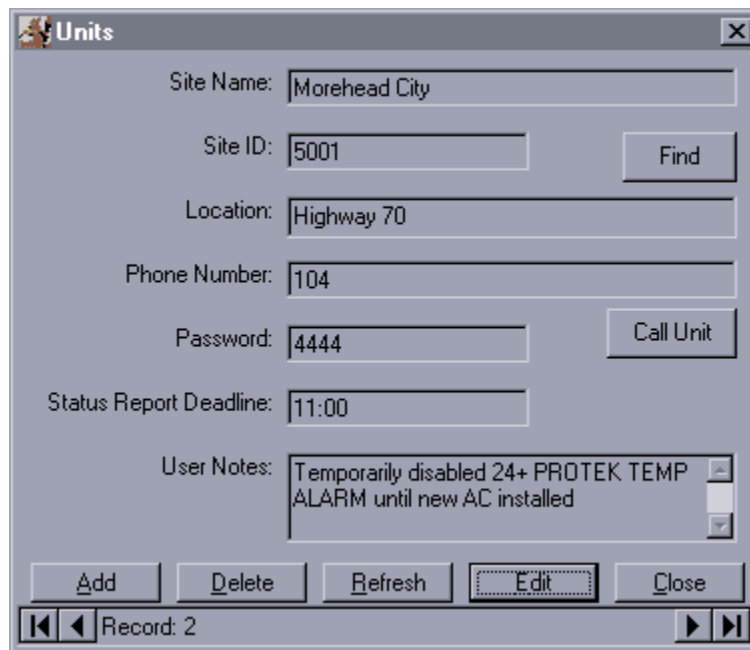


Figure 4.8

Connecting to a monitor in the Units database

The technician may connect by modem to any unit displayed in the **Units** database by clicking the **Call Unit** button. An ANSI terminal window will open for interactive connection with the monitor. It is a good

idea to perform this check whenever a new monitor is added to the database. If the **Call Unit** button is erroneously clicked, the call can be aborted by pressing the <Esc> key.

Customizing User Friendly Local Alert Messages

Building Customized Alert Messages

This feature, accessed via the **Customize > Alert Descriptions** menu path, allows technical staff to map machine messages from PageTek monitors to a user-friendly statement that is more easily understood by non-technical personnel. While this is most useful when a call or dispatch center receives the alerts from monitors, it allows all users to more quickly and easily recognize the nature of the failure. It also can permit a greater variety of messages to be displayed at the monitoring center. The initial window to appear will be entitled **Customize Call Descriptions**. The customized call message may be mapped to any combination of Region, Site ID or Site ID range and Input Name. When a received alert message contains all specified parameters as indicated in this box, a customized message is generated. Any or all of these parameters may be selected as required.

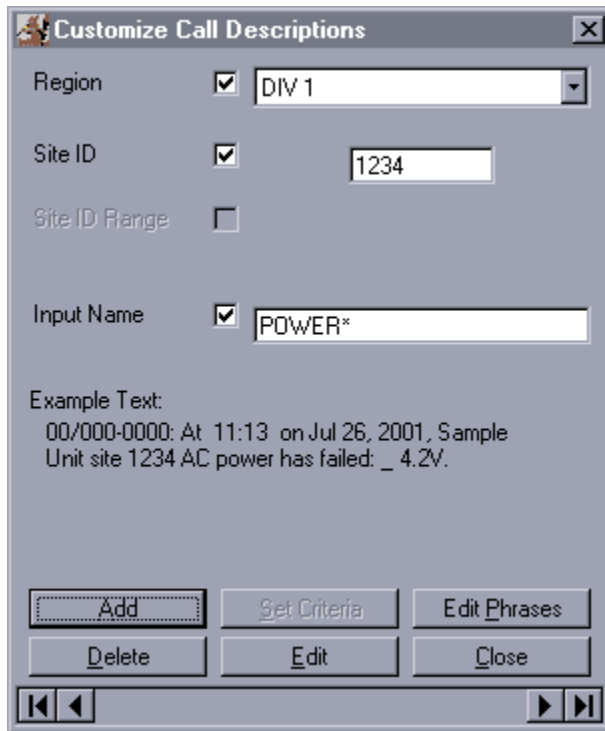


Figure 4.9

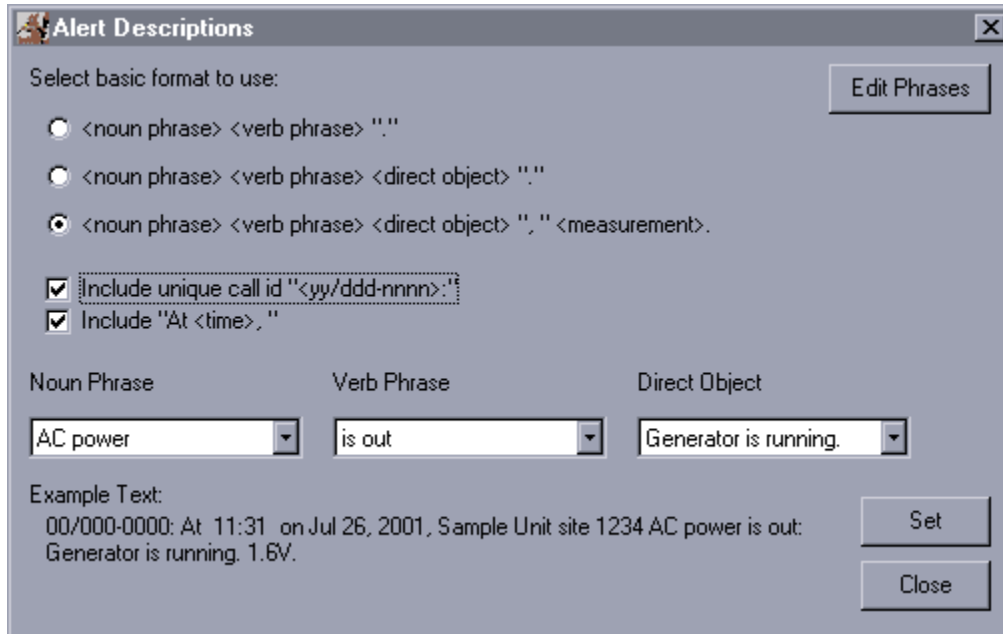


Figure 4.10

Click on the check boxes to select the desired parameters.

- 1) If desired, select the Region for which the Call Description rule is being constructed. The regions available for selection are those previously programmed using the **Customize Regions** command.
- 2) If desired, enter the **Site ID** for which the Call Description rule is being constructed
- 3) If desired, check the Input Name checkbox to enter the Input Name for which the Call Description rule is being constructed. This phrase must exactly match the Input descriptor programmed in the monitor issuing the alert messages

A sample of the expected customized message is displayed in the lower part of the dialog box. In addition to the string-input fields in the upper portion of the box, there are several additional buttons namely:

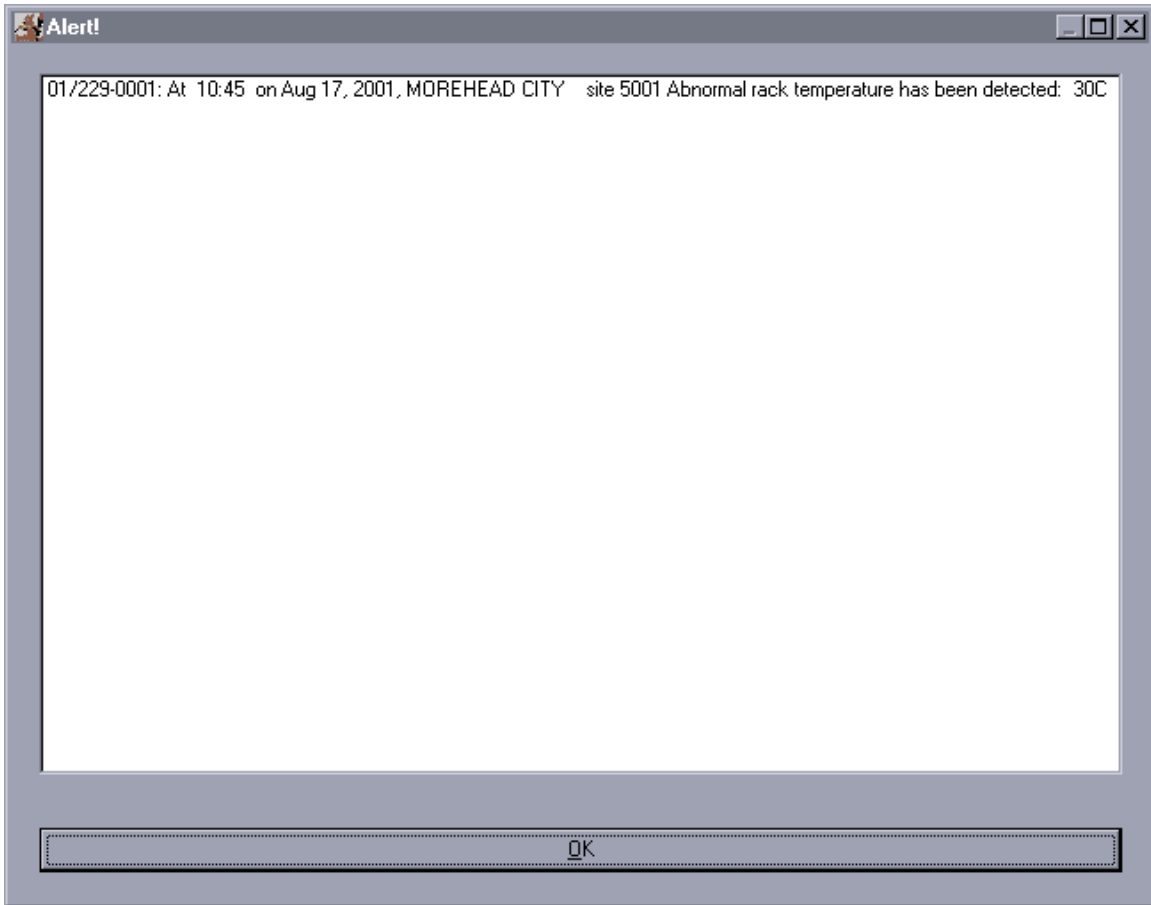


Figure 4.11

Occasionally, the PSTN (Public Switch Telephone Network) may be in a state in which communications either is compromised. The most frequent occurrence would a failure of the telephone line such that set up or torn down correctly by the SiteManager and/or monitor modems. In such a case, SiteManager will display a warning such as shown in the figure below.



Figure 4.12

When this occurs, the status indication in the lower left-hand corner of the main window may provide additional information about the communications state. Most often the indication will be "Releasing Call", indicating that the connection was not torn down correctly due to the connection being lost prematurely. If the failure is local to the monitor site, all other monitor calls will continue to be received although the warning remains unacknowledged. Acknowledge the warning by clicking on the **OK**. Operator interaction with SiteManager will not be possible until **OK** is clicked but background processes will continue. Occasionally, a modem may wedge and become unresponsive to the TAPI function used by SiteManager. In this case, a power cycling of the modems may be required.

Adding Filter Criteria

The Add button calls up the Add Criteria window, on which there are checkboxes for the Region, Site ID, Site ID Range, Input Name parameters. Checking any or all of these fields allows the parameter to be defined in the resulting input fields. Press the Create button to call up the Alert Descriptions Box in which the customized message may be built.

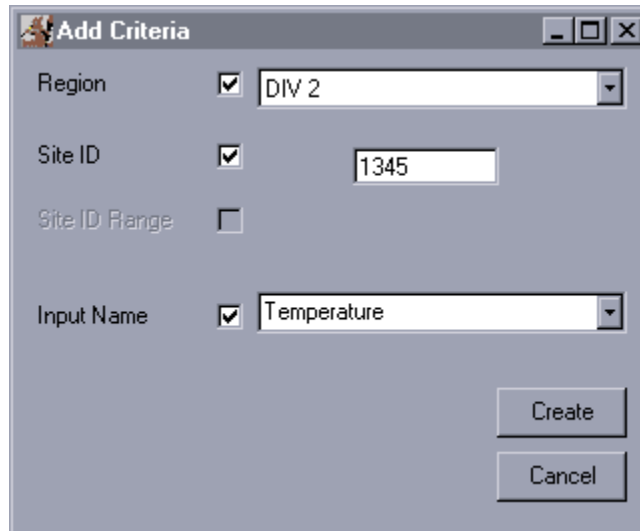


Figure 4.13

In performing this feature, the filter looks at the Site ID, Input ID and Input name in the incoming message and formats this in a phrase adhering to one of the following formats:

1. <object phase> <verb phase>
2. <object phase> <verb phase> <direct object>
3. <object phase> <verb phase> <direct object> <measurement>

To configure this facility, one must know the Site ID or Site ID range of the monitors requiring the mapping. A continuous range of Site IDs may be used, i.e., monitors having Site IDs of 1000 to 1025, inclusive may be mapped to the same user-friendly message if required. For this reason it is suggested, but not required, that monitors known to require the same message be programmed with continuous Site ID.

A single Input ID may be designated using the appropriate format:

ProTekTor+ I1 - I8

jr+ A1-A4 (A1-A8 on the jr+4) D1=D8 I1-I4

24+ 1A1-6A8 (Remember that up to 6 SIMs may be supported by the 24+) 0D1=6D8 (Remember that the motherboard is considered SIM 0 but supports only digital inputs) 0I1-6I8 (Remember that on the 24+ only digital inputs support activity monitoring.) Only a single input may be designated in the Input ID field. If multiple inputs require the same processed message, the configuration must be set for each instance.

1. <object phase> <verb phase>
2. <object phase> <verb phase> <direct object>
3. <object phase> <verb phase> <direct object> <measurement>

Defining Regions and Locations

Accessed via the **Customize > Regions** menu path, the **Customize Regions** facility allows the technical staff to designate Regions and Locations within those regions to which a monitor may be assigned. To enter a new Region use the **Tree > Add Regions** command on Regions Window. The **New Region** dialog box will appear with the prompt "Name for new region." Enter a name of up to 32 characters.

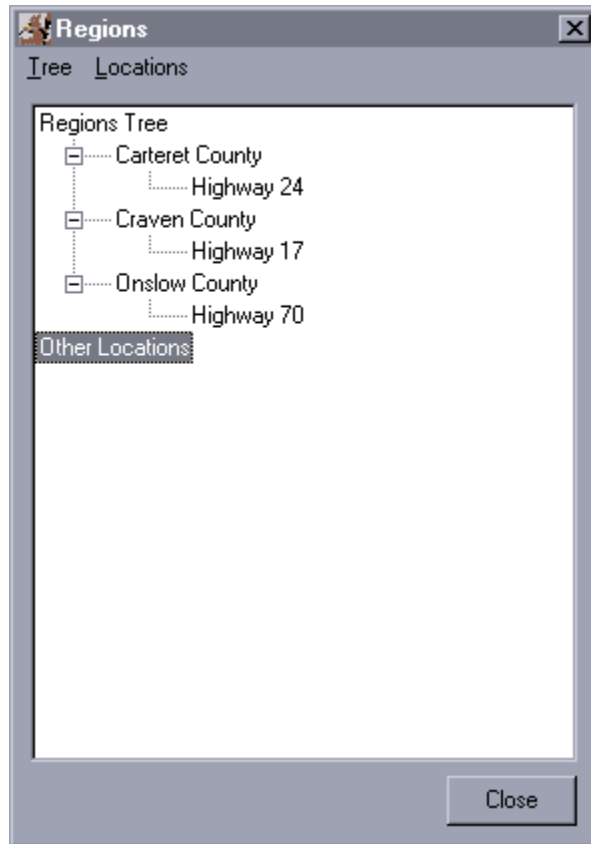


Figure 4.14

Message Archives Searching

Message Filtering

Site Name contains matches West Chester

Site ID value range 1312

Alert Date (mm/dd/yy) value range

Alert Time value range

Input Name contains matches

Input Value value range

Description contains matches

Display

Clear

Close

01/206-0012: At 12:46 on Jul 25, 2001, West Chester site 1312 input generated an alert
01/206-0011: At 12:44 on Jul 25, 2001, West Chester site 1312 input generated an alert
01/206-0010: At 12:42 on Jul 25, 2001, West Chester site 1312 input generated an alert
01/206-0008: At 12:41 on Jul 25, 2001, West Chester site 1312 input generated an alert
01/206-0007: At 12:39 on Jul 25, 2001, West Chester site 1312 input generated an alert
01/206-0006: At 12:37 on Jul 25, 2001, West Chester site 1312 input generated an alert
01/206-0004: At 12:35 on Jul 25, 2001, West Chester site 1312 input generated an alert
01/206-0003: At 12:33 on Jul 25, 2001, West Chester site 1312 input generated an alert
01/206-0002: At 12:31 on Jul 25, 2001, West Chester site 1312 input generated an alert
01/206-0001: At 12:29 on Jul 25, 2001, West Chester site 1312 input generated an alert

Figure 4.15

Building filters

Accessed via the **Customize > Filtering** menu path, the technician may search for and retrieve messages based upon content. The parameters that may be specified include:

- Site Name: The name programmed in a monitor.
- Site ID: The Site ID programmed in a monitor.
- Alert Date: The date in the time stamp sent with every alert message.
- Alert Time: The time in the time stamp sent with every alert message.
- Input Name: The Input Name programmed for an input in a monitor.
- Input Value: The dynamic value indicated by any alert message.
- Description: Any part of the Description displayed in the Alert Message window lower pane.

These parameters may be either a specific value or a continuous range of values, including initial and end values. The string specified is not case sensitive but must otherwise match exactly for correct retrieval. This facility enables the technician to search for a particular trouble across the entire network, for messages related only to a specific site or time, etc. Multiple criteria may be used for the search. It is also permissible to use wildcards when filtering by description. Behavior of the allowed wildcards is indicated in the table below:

Kind of match	Pattern	Match	No match
Multiple characters	a*a	aa, aBa, aBBBa	aBC
	ab	abc, AABB, Xab	aZb, bac
Special character	a[*]a	a*a	aaa
Multiple characters	ab*	abcdefg, abc	cab, aab
Single character	a?a	aaa, a3a, aBa	aBBBa
Single digit	a#a	a0a, a1a, a2a	aaa, a10a
Range of characters	[a-z]	f, p, j	2, &
Outside a range	[!a-z]	9, &, %	b, a
Not a digit	[!0-9]	A, a, &, ~	0, 1, 9
Combined	a[!b-m]#	An9, az0, a99	abc, aj0

Figure 4.16

The following should be kept in mind while filtering messages:

- Message filtering is not case sensitive.
- Ranges are exclusive in message filtering.
- Message filtering of Alert time is original time monitor initiated alert this is visible in Call details window but not in Alert Calls message window string. Use description contains string if searching for catching time is needed.
- Input name is not Input number.
- Input value must include the units token.
- Partial string search works only with consecutive words.

Scheduling of SiteManager Initiated Paging

Building a schedule

Accessed via the **Customize > Scheduling** menu path, this command opens the Scheduling dialog box. If no Technicians have been entered yet (as will be the case during initial installation), the prompt "Press 'View Technicians' to enter technicians in the database for scheduling." will appear. Click OK and press "View Technicians" to enter at least one technician. A dialog box labeled Customize Message will appear. Enter the technicians name or ID in the Technician Call Name field.

The Region list box contains the regions that have been programmed by the SiteManager user using the Customize Region utility. New regions may be entered by returning to the Customize Region utility.

The technician list box contains the technicians that have been programmed by the SiteManager user using the View Technicians utility accessed by the View Technicians button on this page.

The View Technician button brings up the **Customize Message** window, from which one may add, delete or edit a Technician entry. To add a technician press the Add button and enter the technician name in the Technician Call Name Box and the number of the technicians pager. Be sure to include the complete number including out dialing prefix, long distance access etc exactly as dialed. The horizontal scroll bar may be used to step through the current entries in the Technician list. To delete any technician from the list press the Delete button while that technician is visible. To modify any technician

entry, click Edit and edit the information as required, clicking **OK** when complete Each Regions may be assigned a Notification Schedule using this utility. One or more technicians may then be assigned to the regions. Each technician may be assigned to one or more regions.

To designate a schedule for a particular technician and region combination select the technician and region using the drop down list boxes. If a single schedule is to be adhered to for all weekdays and/or all weekends then that schedule may be entered only once and it will be duplicated for all weekdays. A similar capability is available for the weekend days as well.

The Schedule for any particular day need not be a single contiguous period. It can be multiple periods throughout any 24-hour period, i.e., a schedule could be from 4:00 AM to 8:00 AM and from 3:00 PM to 6:00 PM. The designated schedule will be indicated visually in the Gantt chart in the window center. After the desired schedule has been entered, press the SET button to commit the schedule to memory.

To enter a schedule for any day or period check the checkbox for that day. The **ADD** and **Clear** buttons associated with that day will become active. Press the Add button the call up the Add Block window, on which field are available for the String and Ending Time of the block of time to be scheduled. The time may be entered in 24-hour format (1400) or may be entered using the AM or PM suffixes. If AM or PM suffixes are not used the entry is presumed to be in 24-hour format. If block programmed overlaps a previously programmed block of time then the two entries, this will be indicated by multiple end point markers along an apparently continuous line. While multiple blocks of time may be scheduled for the same day by repeating the **Add** procedure the **Clear** button will delete all blocks of time associated with that day or period,. For this reason, carefully confirm each entry in a multiple entry schedule before clicking **Add** on the **Add Block** window. Press the **Cancel** button if you decide not to add another time block to the schedule.

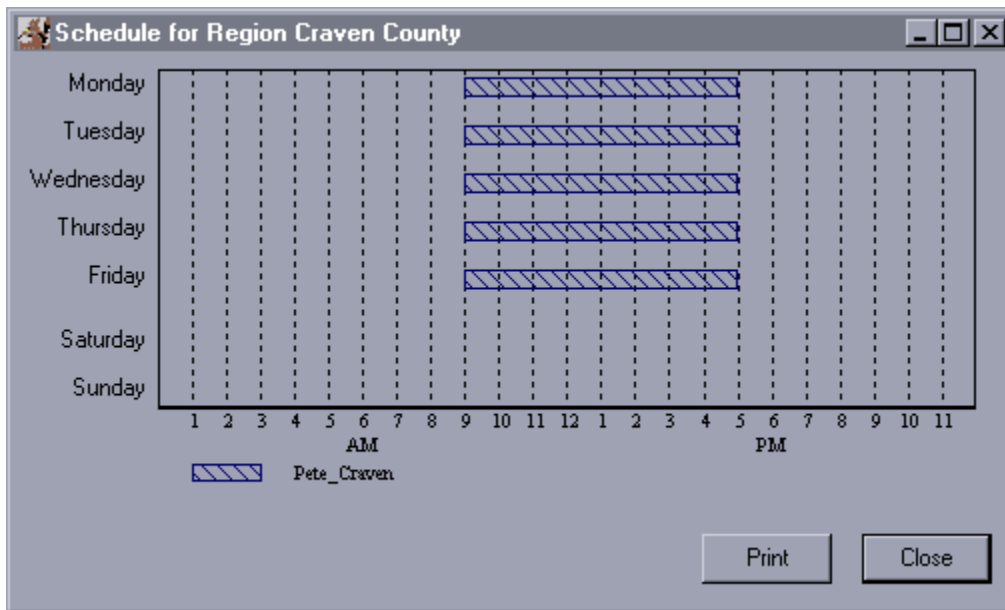


Figure 4.17

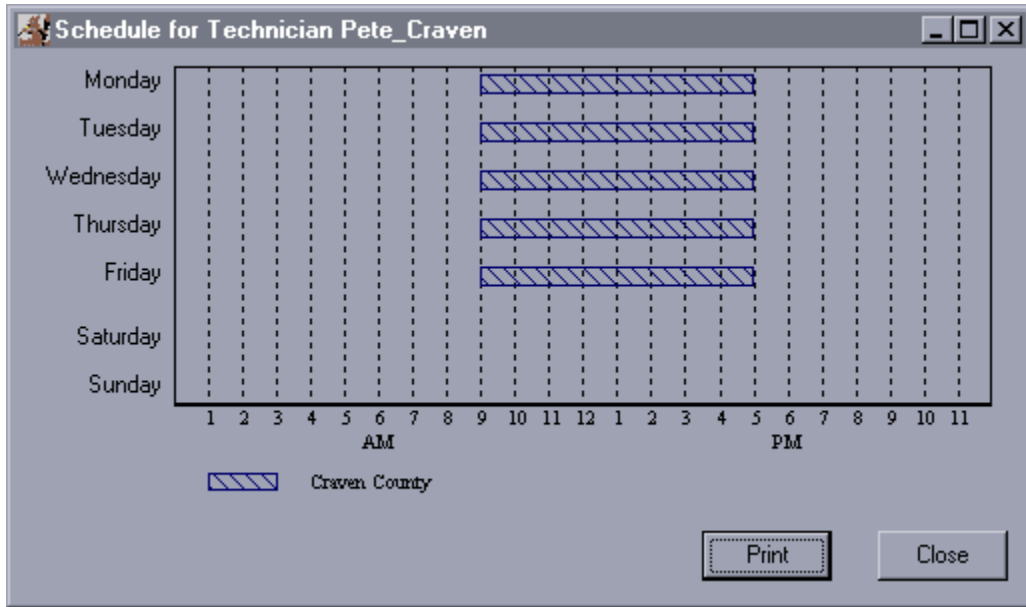


Figure 4.18

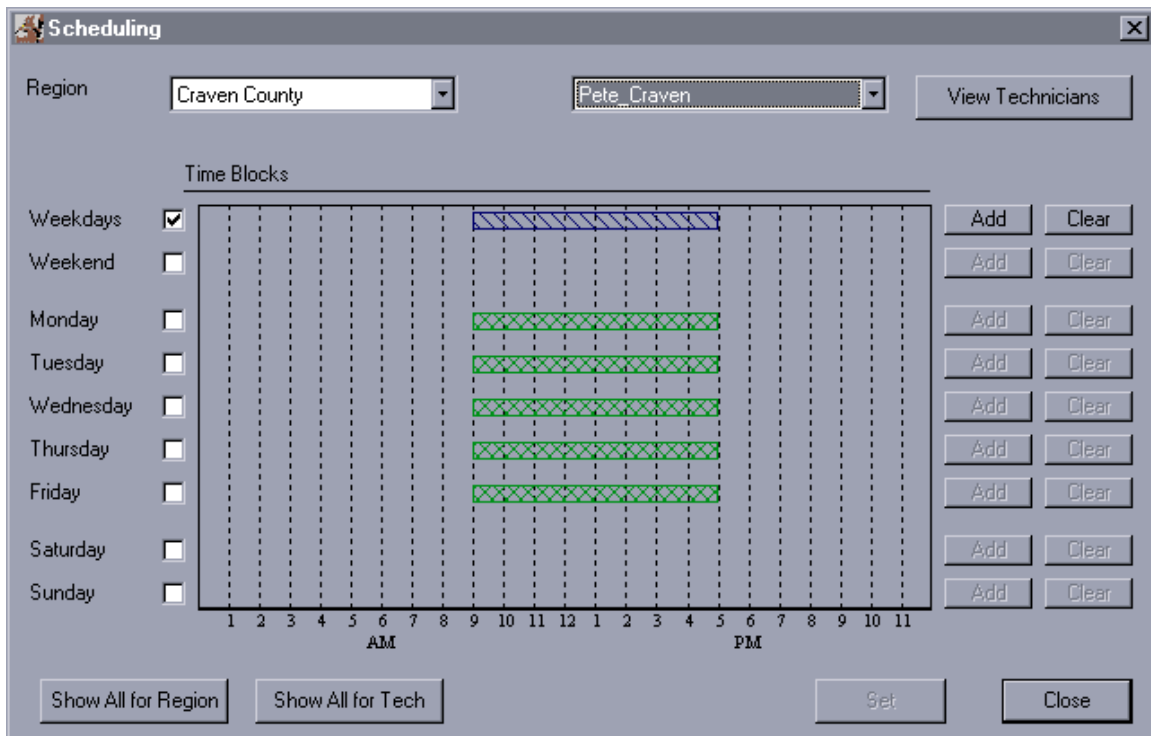


Figure 4.19

Green bars as seen in figure 4.19 indicate that a schedule is part of a global assignment of weekend or weekday and has not been set individually.

Alternative use of the scheduling facility

While the scheduling facility has been designed to primarily function in the manner indicated above, the application doesn't really care what organizational paradigm is used. The user may, for instance, decide that organization by sub network is preferable to a geographical structure. One would therefore define **Regions** as perhaps cellular, paging, and trunking networks. This would make sense if a several technicians serving in the same geographical region were each responsible for a particular technology or infrastructure. While the **Technician** mapping must ultimately be to an entity responsible for responding to any alerts, it is possible that **Technician** would be defined as the HVAC, Generator, Network, and Infrastructure departments of a larger company or group of companies.

User-friendly messages

User friendly messages may be generated by the SiteManager using a combination of the values extracted from monitor-generated alerts, hard-coded vocabulary, and a phrase lexicon programmed by the user. A rules table partially hard coded and partially user programmable is used by the SiteManager in constructing a message of up to 256 characters. The following chart indicates the structure of the SiteManager generated user-friendly messages:

Field	Generator	Source	Characters	Representative Content
Token field	SiteManager/ monitor	Derived from the monitor input value token field.	9	Watts, DC Volts, Degrees C
Value field	SiteManager/ monitor	Derived from the monitor input value field.	4	0.12, 1.20, 12.0
Descriptor field	SiteManager/ monitor	Derived from the programmed input descriptor.	16	Input Descriptor Faulty RF power Faulty Power Supply
Prog. text 1	SiteManager Supervisor	Supervisor programming	32	
Prog. text 2	SiteManager Supervisor	Supervisor programming	32	
Prog. text 3	SiteManager Supervisor	Supervisor programming	32	

Figure 4.20

The SiteManager administrator may program up to X [mrbal8]programmable message strings. Of these, any three may be programmed to be used by the SiteManager to automatically generate a user-friendly message based upon alert message content. As an example, the monitor-generated alert

```
Alert-Site: 1111 - Raleigh, NC * D8 PROTEK AC * MAJ ALARM * L MAJ=D78
```

would result is the user-friendly message

"Raleigh, NC site 1111 AC Power has failed." being generated.

The above message is composed of <extracted site name "Raleigh, NC"> <SiteManager generated vocabulary "site"> <extracted site ID "1111"> <Object phrase "AC Power"> < Verb phrase "has failed"> after matching on the *D8 PROTEK AC phrase sent by the monitor. A table resides within the SiteManager that is programmed by the SiteManager administrator.

Input generating alarm	Object phrase	Noun phrase	Verb phrase	Value	Token
D8	AC Power		has failed		
OD1	Generator		is running		
D1	Link transmitter		has been inactive	45	minutes
A1	Link transmitter	RF power	has failed	25	watts

Figure 4.21

A link transmitter failure would result in the following alert being sent by the monitor:

Alert-Site: 1111 - Raleigh, NC * A1 Link XMTR * MAJ ALARM * 48W MAJ=A1

and the following user-friendly message being generated by the SiteManager:

“Raleigh, NC site 1111 Link transmitter has failed: RF power 48 watts.”

The above message is composed of “<extracted site name “Raleigh, NC”> <SiteManager generated vocabulary “site”> <extracted site ID “1111”> <Object phrase “Link transmitter”> <Verb phrase “has failed”> Noun phrase “RF power” <Value field “48”> <Token field “watts”> after matching on the *A1 Link XMTR phrase sent by the monitor

Modem arbitration during outbound paging

The alphanumeric alerts sent by the SiteManager to on-call technicians will be an abbreviated version of the user-friendly message programmed in SiteManager. Since this message is sent immediately after reception of the alert message from the remote monitor, it is possible that the outbound paging will be using the outbound modem immediately after the receipt of the message. If so, the **Alert** call window will indicate the modem is in use and the call unit functionality will temporarily be unavailable. Upon completion of the paging task the **Call Unit** buttons will initiate a terminal connection to the specified monitor as usual.

Speeding up modem access of PageTek monitors

Since all PageTek monitors have a maximum rate of 14.4 kbps, there can be an unduly prolonged negotiation phase as the SiteManager calling modem down trains from 56K to 14.4K. This can be corrected by configuring the calling modem to connect only at 14.4kbps or less, thereby shortening the negotiation phase. The initialization string for Conexant chipsets is generally XXX and this is installed by default in the standard PageTek SiteManager installation. The default manufacturer’s initialization for the listening modem is generally satisfactory.

Testing and Maintenance

Testing the SiteManager Setup

Now that there is a unit programmed in the SiteManager database, execute the following test to ensure that everything is functioning properly.

SiteManager should be loaded and waiting to receive an incoming call. Be sure you have programmed the **Report Deadline** for that unit under the **Units** table for SiteManager.

Use the command sequence **View > Units** to access the **Units** form. Chose a unit and click on the **CALL** button. A terminal window will open and SiteManager will call the unit selected. Once connected the password prompt will appear. At this point, log in to the monitor as normal and proceed to the command screen of the connected monitor. Type XST at the prompt, return to the Main menu and terminate the connection with the TC command. The XST command, which is not visible command on the menu, will generate a status call as soon as the connection is terminated with the TC command. The SiteManager should shortly receive a status call. The message should contain the correct time, Site ID, Site Name, etc. Connect to the monitor and select the system parameters screen. Reprogram the time of day for the unit to 5 minutes before a scheduled Status Report call and close the connection.

When the status report call is received and is displayed in the Alert Call window, click on the View menu and select Status. The **Status** screen will be displayed with the last status report call in the window. If the unit's SITE ID was added properly to the database, then the status report screen will display the 4-digit SITE ID in the upper left window and the full text of the call in the large window below

We want to generate a major alarm to trigger a call to the SiteManager. Use the command sequence View > Units to access the Units form. Chose a unit and click on the **CALL** button. A terminal window will open and SiteManager will call the unit selected. Once connected the password prompt will appear. At this point, log in to the monitor as normal and proceed to the input configuration screen. Configure any input in such a manner that its current state will result in an alarm being generated. An alert call should now initiated by the monitor and an alert shortly be logged by the SiteManager,

When the SiteManager telephone line rings, SiteManager will answer automatically. A dialog box will be displayed with "Incoming call..." on the screen. SiteManager will record the alert call and display it in the Alert Call window on the main screen. Below that window, the different portions of the alert call will be categorized and displayed.

Reconnect to the PageTek monitor and disable the input you just programmed. Then acknowledge the alarm. You may set the input to unprogrammed if you wish.

SiteManager now has the alert call displayed in the Alert Call window.

If neither the status call nor the alert call is received, ensure that the SiteManager phone number is in telephone slot one of the PageTek monitor that failed to report. If the number is correctly programmed, ensure that the listening modem is properly installed and configured.

If the status call is not received but the alert call is received, confirm that the PageTek monitor failing to send the status call has the SiteManager Telephone number correctly programmed in phone slot one. The receipt of the alert call indicates that the SiteManager incoming modem is operating correctly.

If the status call is received by the alert call is not received, ensure that the number one telephone slot is correctly programmed in the calling sequence of the monitor that failed to report. Again, the receipt of the status call indicates that the SiteManager incoming modem is operating correctly.

Database Maintenance

There is intentionally no way for the site data stored by the SiteManager to be modified from within the application. The data is stored, however, in a database format that may be directly opened in Microsoft Access. The data file will be found in the directory in which the SiteManager software was installed, generally c:\program files\SiteManager on an NT 4.0 system. Since the file is saved with the mdb extension, simply double-clicking on the file in the Explorer file manager will result in Access loading the file. At that point, any controls available in Access may be applied to the file. Options include exporting to spreadsheet or word processing software for analysis or reports.

Factory access of SiteManager software using PC Anywhere.

The factory may ask to access your SiteManager installation for support, troubleshooting, or training purposes. PC Anywhere is generally installed for that purpose and may be configured to automatically begin running in the appropriate host mode. Generally, PC Anywhere host is configured to be accessible via PSTN and/or TCP/IP network.

The default password has been set to pagetek with pagetek set as the user name. You have the option of disabling this access right at any time and later enabling a password of your choice if you require technical assistance. Other PC Anywhere users may be enabled to allow technical staff to routinely access the SiteManager software from other locations. For further information about PC Anywhere refer to the Symantec documentation.

A log file is written to the SiteManager directory whenever the SiteManager application is opened. This log may be used for troubleshooting in the event of problems and its contents may be requested by PageTek during customer support.

```
At 9/28/2001 7:44:39 AM : Opened Log
At 9/28/2001 7:44:41 AM : Copy PSM_INIT.MDB -> PSM_DATA.MDB
At 9/28/2001 7:44:41 AM : PSM_DATA.MDB Open
At 9/28/2001 7:44:41 AM : Alert / Query Open Today
At 9/28/2001 7:44:41 AM : Alert / Check EOF
At 9/28/2001 7:44:41 AM : Status / Query Open
At 9/28/2001 7:44:41 AM : Status / Check EOF
At 9/28/2001 7:44:41 AM : Load Main Form
At 9/28/2001 7:44:41 AM : Main Form Reformat
At 9/28/2001 7:44:41 AM : Main/Load Listening Modem Init
At 9/28/2001 7:44:43 AM : Outgoing Modem Init
At 9/28/2001 7:44:43 AM : Find Status Report Deadline
At 9/28/2001 7:44:43 AM : Show Main
At 9/28/2001 7:44:54 AM : Initial Alert List Population
At 9/29/2001 12:06:36 AM : Finding First Status Report Deadline of the day
At 9/29/2001 12:06:36 AM : Day Change
```

At 9/30/2001 12:09:05 AM : Finding First Status Report Deadline of the day
At 9/30/2001 12:09:05 AM : Day Change
At 9/30/2001 9:42:35 AM : Exiting Program

Installed files

The following files are installed during a SiteManager installation on an NT 4 system. The system files will be installed only if not already present or if newer than those already installed on the system:

AsycFilt.dll	ODBCtl32.dll
ComCat.dll	OleAut32.dll
COMDLG32.OC_	OlePro32.dll
Ctl3d32.dll	pdqcom32.oc_
dao350.dll	PDQTAPI.OC_
EXPSRV.dll	psm_init.mda
mci32.oc_	SETUP.EXE
mfc40.dll	SETUP.LST
Mskomctl.oc_	setup1.ex_
MSJet35.dll	SiteMan.CN_
MSJInt35.dll	SiteMan.hl_
MSJtEr35.dll	SiteManager.DE_
MSRD2x35.dll	SiteManager.exe_
MsRepl35.dll	ST5UNST.EX_
MSVBVM50.dll	StdOle2.tl_
MSVCRT40.dll	VB5DB.dll
ODBCJI32.dll	VB5StKit.dll
ODBCJt32.dll	VBAJet32.dll

Windows 2000 Operating System

Many of the DLL files that must be installed by SiteManager during an NT installation are now installed as a part of the standard Windows 2000. operating system.

MCI32.DEP	PDQTAPI.oca
MCI32.oca	Pdqapi.ocx
MCI32.OCX	psm_init.mdb
MSWINSCK.oca	SiteManager.exe
MSWINSCK.OCX	VB5DB.dll
pdqcom32.ocx	

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