

Responder[®] 4000 Reporting Software Installation and User's Guide



Rauland-Borg Corporation

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1

General Information

Rauland Responder 4000 Nurse Call System Reporting Software (R4KRSW) is an easily learned, Windows®-based, network-aware, customizable database program that collects, stores, displays, and, when required, reports (in print) on Responder® 4000 Nurse Call System activity.

The software is ideal for confirming the quality of patient care and serving the risk management goals of any facility. Reported data can be used in many ways, including detecting understaffed areas or providing a record of specific patient care.

Revision History



This is the first release of this document. If later editions are issued, changes and additions will be summarized under this “Revision History” heading.

Scope of this Document



Read chapters 1, 3, 4, and Appendix A if your duties include regular use of the Reporting Software. Focus on chapters 1, 2, and Appendix B if your duties include sales or maintenance of the Responder 4000 Nurse Call System.

Customer Connection/Extranet

CUSTOMER CONNECTION

You can use Rauland's secure Customer Connection site to find, view, and/or download many support documents—including manuals, drawings, and reports. To request an account, follow the online instructions at: customerconnection.rauland.com.

Alerts, Precautions, and Limitations



- ✓ You cannot connect more than one Reporting Software PC to any single system (regardless of size).
- ✓ In order to extend the X-Bus to 1400 feet, all devices connected to the X-Bus must be changed to “Long X-Bus” operation by turning Dipswitch 7 “ON.”
- ✓ Keep the X-bus as short as possible; never exceed 1,400 feet.
- ✓ Keep the cable between the R4KSPA and R4KRSPIP as short as possible; never exceed 1,000 feet.
- ✓ Only the person designated as the “administrator” is allowed to set up User accounts.
- ✓ Only the person designated as the “administrator” is allowed to grant users access to run reports and edit resident information.

Note:



- ✓ On a Responder 4000 system with R4KRSW, do not place a “Set Time” menu option on the LCD console, since the Reporting Software PC resets the system time with its own time setting.
- ✓ Because the Administrative Reporting Software PC resets the Responder 4000 time, ensure that the Reporting Software PC's time is always correct.

Packing List



R4KRSW is shipped separate from the R4KWARE installation CD. It is packaged and shipped with the R4KRSPIP. R4KRSW cannot be used with a normal R4KPIP unless it has undergone factory reconfiguration as an R4KRSPIP.

Related Documents



Other, related information can be found in the following Responder[®] 4000 System manuals:

- ✓ KI-2093, *Responder 4000 Installation*

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Getting Up and Running

In order to get the Reporting Software up and running, you'll have to 1) load the software on an Administrative PC and 2) connect the Administrative PC to the Responder system:

PC Requirements



As detailed in the next section, you'll use the installation CD to load software onto the Administrative (Admin) PC. Should you wish—and should you have a LAN in place—you can also access the software from any number of distributed “User” PCs. Make sure to only use PCs that meet or exceed the following hardware requirements:

Note:



- ✓ Administrative (Admin) PCs running R4KRSW must have “Administrator” privileges (they must be a member of the “Administrator” group on the facility’s network). User PCs must be a member of the “Power User” group at minimum. If these requirements are not met, the software will not run properly. Also – during installation and set-up, any PCs (Admin or User) must be logged on to the Administrator group.

Admin PC

- ✓ Intel P4 CPU running @ 2.0 GHz or faster
- ✓ Windows 2000 or XP Operating Systems
- ✓ 100 MB of free disk space
- ✓ Minimum of 512 MB of RAM (1 GB recommended)
- ✓ Network card
- ✓ Support for TCP/IP
- ✓ 1024 x 768 (XGA) Display
- ✓ Optional CD or DVD writer (for archival backup)

User PCs

- ✓ Intel P4 CPU running @ 1.0 GHz or faster
- ✓ Windows 2000 or XP Operating Systems
- ✓ 5 MB of free disk space
- ✓ Minimum of 256 MB of RAM
- ✓ Network card
- ✓ Support for TCP/IP
- ✓ 1024 x 768 (XGA) Display



Note:

If a lower performance computer is used for R4KRSW operation (Admin or User), it may work, albeit much slower. If the computer does not meet the above specifications, technical support for problems will be limited. This especially applies to the operating system, in particular Windows 95, 98, 98SE, ME and NT which are not supported for R4KRSW operation.

Loading the Software

If you intend to use the software on other PCs within the facility, all PCs must be on the facility's network, and all "User" PCs must have access to the Administrative PC via a shared or network drive. The following instructions are for the Administrative PC only.

The following instructions are for first-time installations. If you are upgrading your version of Reporting Software, please refer to the "Upgrading Reporting Software" section.

- 1 Verify that you are logged in as the System Administrator, or have administrator privileges at the Administrative PC.
- 2 Place the installation CD-ROM into the CD-ROM drive.
 - The installation procedure will begin automatically. If it does not, you can jump start it by:
 - ✓ Double-clicking on "My Computer" (typically a Windows desktop icon)...
 - ✓ Double-clicking on the icon representing the CD-ROM drive ...
 - ✓ Double-clicking on the "Setup.EXE" icon...
 - Once the installation has begun, the Welcome screen will appear:

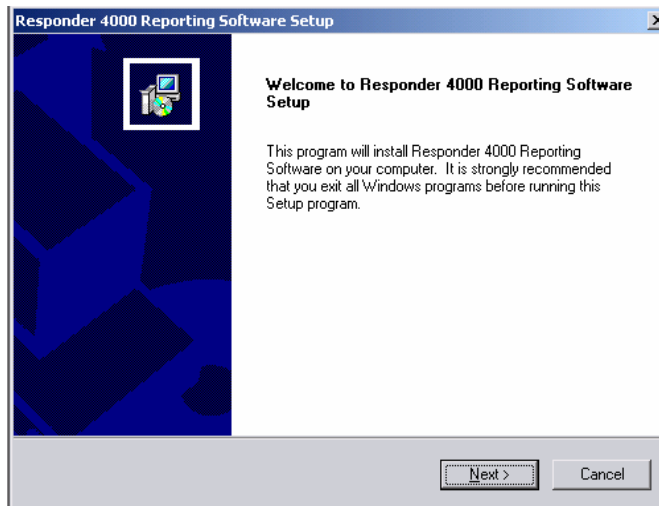


Figure 1: Responder 4000 Installation Welcome Screen

- Make sure no other Windows programs are running in the background.

3 Click on Next.

- The Choose Destination Location screen will appear:

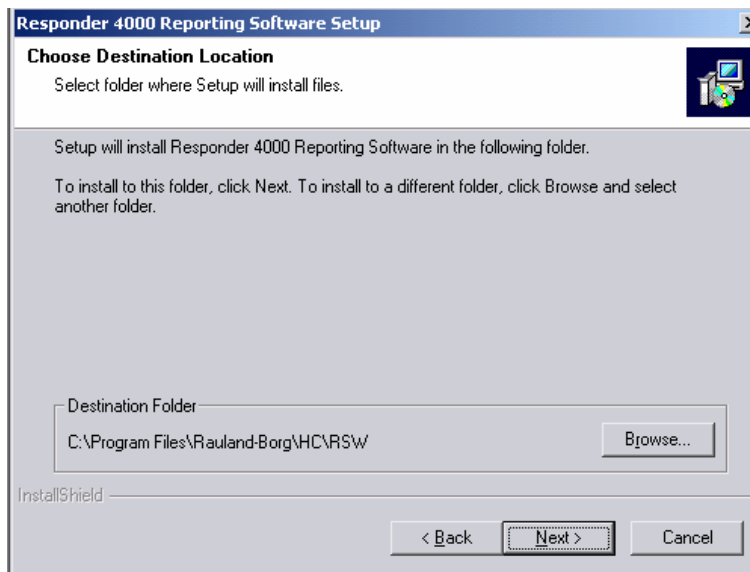


Figure 2: Choose Destination Folder Window

- If the software will not be used on any other PCs on the network, accept the default destination folder. Otherwise, change the Destination Folder to the appropriate network drive and location. Alternately, you can install in the default destination folder and make this a shared folder on the network. While the default directory for the program files is C:\Program Files\Rauland-Borg\HC\RSW, all history and settings files are kept in the directory C:\RSWHistory.

4 Click on Next.

- The Select Program Folder window will appear:

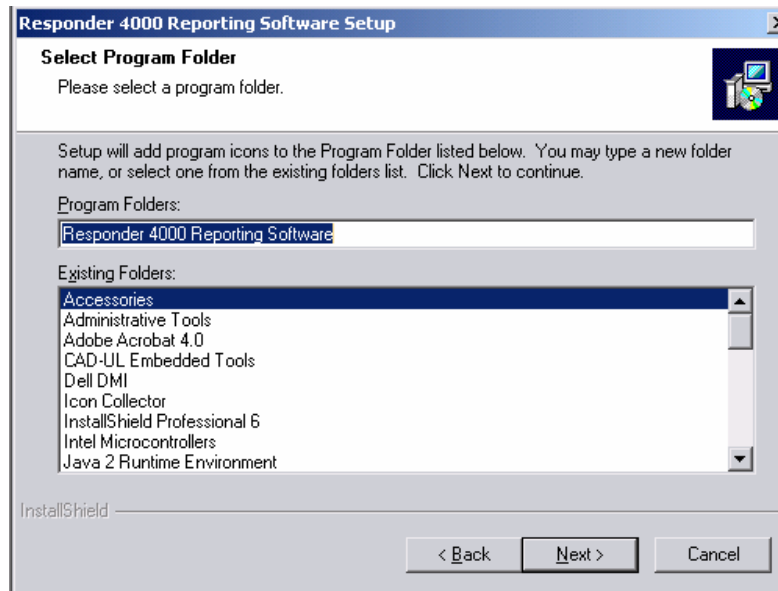


Figure 3: Select Program Folder Window

➤ Unless you have a specific reason not to, accept the default Program Folder.

5 Click on Next.

➤ The Setup Type window will appear:

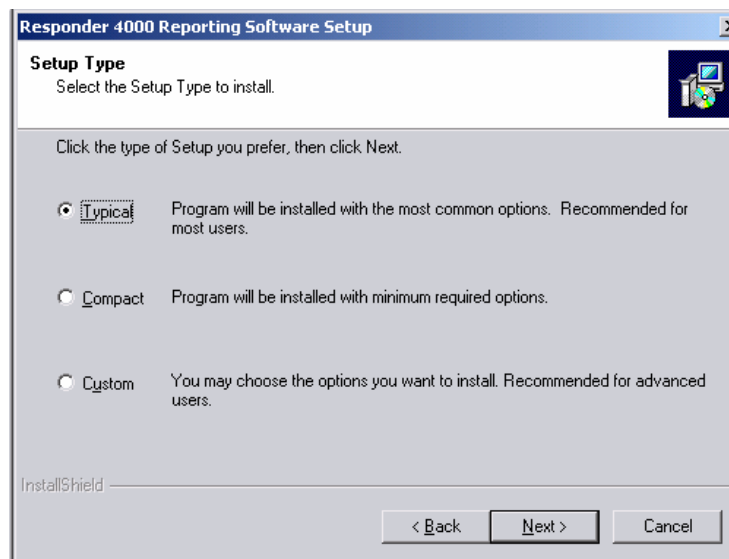


Figure 4: Setup Type Window

➤ Your choices include:

✓ Typical (Program Files, Database Files, Release Notes)

✓ Compact (Program Files, Release Notes)

✓ Custom (Allows Component Choice)

➤ Unless you have a specific reason not to, accept the default type, “Typical.”

6 Click on Next.

➤ The Setup Complete window will appear:

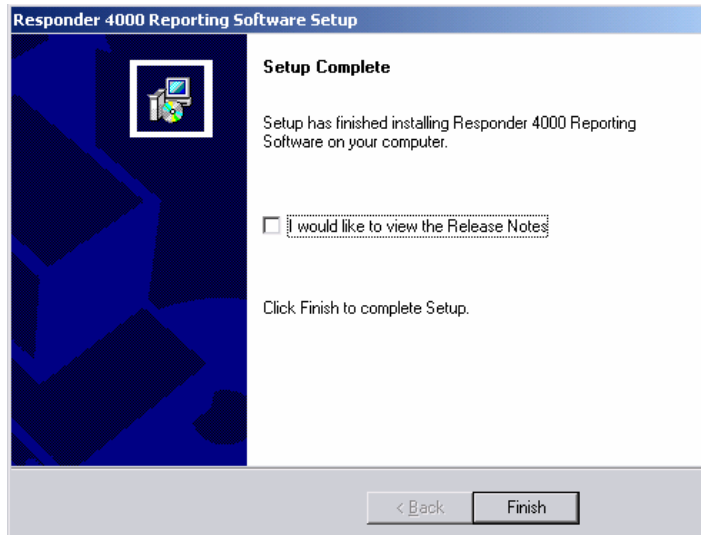


Figure 5: Setup Complete Window

- If you check the Release Notes box, the Release Notes file will open in a separate window.
- 7 Click on Finish to complete the process.
- The Restarting Windows screen will appear.
- You may opt to not restart your computer, but the data collection software will not operate correctly until you do so.

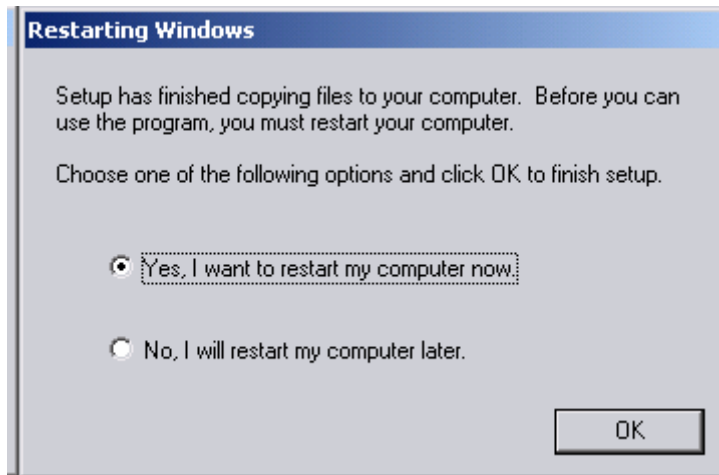


Figure 6: Restarting Windows Window

Communications Port Settings

By default, the communications port used for R4KRSW is set to port 1 during installation. If you prefer to change this setting to port 2, navigate to the R4KRSW directory (C:\Program Files\Rauland-Borg\HC\RSW or the location software was installed, if other than the default directory). In this directory, find the file “R4kCom2.reg” and double-click on it. You will see a message confirming the change:

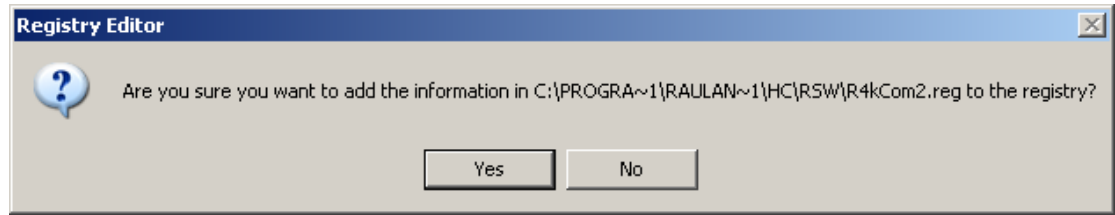


Figure 7: Registry Setting Confirmation Window

Click on “Yes” to accept the change. If, after making this change, you prefer to change back to port 1, follow the directions above, but double-click on the file “R4kCom1.reg” instead.

Configuring User PCs

User PCs can be set up to access the R4KRSW Admin PC over the facility’s network and provide users with the ability to run reports and edit resident information. Additionally, the administrator can edit user accounts from a User PC, when logged on.

If you wish to add remote software access and run reports from LAN-connected PCs (User PCs), you’ll have to: 1) create a Reporting Software shortcut on each User PC and 2) run the registry entry file to ensure that the requisite entries are loaded on the User PC (R4KRSW must already be installed on the Administrative PC and be active on the facility’s network to perform these steps).

Step 1: Creating a Shortcut

First verify that you are logged in as the System Administrator, or have administrator privileges at the User PC.

- 1 Open Windows Explorer.
- 2 Locate the Admin PC on your network.
- 3 Locate the network folder in which the Reporting Software resides.
- 4 Find the file named “R4KRSW.EXE.”
- 5 Right click on the file.
- 6 Select “Send To” | “Desktop (create shortcut)” from the shortcut menu:

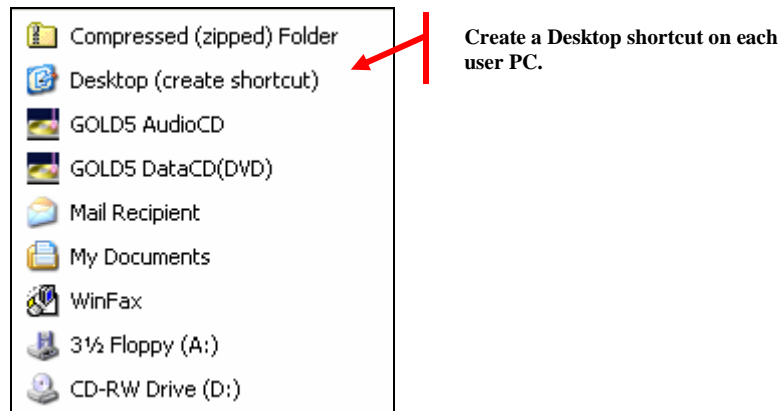


Figure 8: Shortcut Menu

- A Reporting Software icon will appear on the desktop.
- After configuring the Registry (see immediately below), double click on the icon to launch the program.

Step 2: Confirm Registry Entry

- 1 Open Windows Explorer.
- 2 Locate the Admin PC on your network.
- 3 Locate the network folder in which the Reporting Software resides.
- 4 Find the file named “RSWUSER.REG.”
- 5 Double click on RSWUSER.REG.
 - The Registry Editor confirmation window will appear:

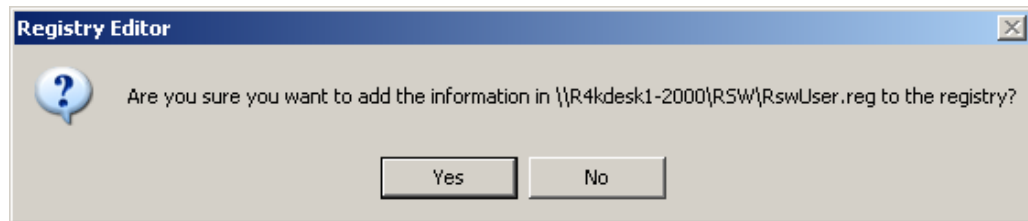


Figure 9: Registry Editor Window

- 6 Click on Yes.
 - The shortcut is ready to use.
 - **Note:** while users will be able to run reports from any User PC, they can only view the Activity Display from the Admin PC.

Upgrading Reporting Software



Note:

- ✓ You need only upgrade the software on Admin PCs; User PCs will be automatically updated after the Admin PC upgrade.
- ✓ It is recommended to uninstall the existing version of Reporting Software before installing a newer version (see note about uninstalling below).

We recommend uninstalling an existing version before installing a new version of the Reporting Software. **Note:** uninstalling an existing version does **not** delete any data files or affect saved settings. (The “RSWHistory” and “work” folders, “settings.mdb” file, and all log files remain in place after un-installation).

Unless the Reporting Software’s InstallShield® program itself is removed from the PC, it will remember installation setting choices.

Subsequent invocations of the setup program, even from a CD-ROM containing a new version, results in the display of the Maintenance screen from the original installation. If the old version of software has not been removed, inserting the new CD-ROM will display the Maintenance screen.

You can invoke an upgrade from the Maintenance screen using the Repair option. Using the Repair option, however, will result in the update of **only** those components selected during the original installation. For example, if you chose **not** to install the “Notes” component originally, then the Repair routine will **not** install the new version of the “Notes” component. More importantly, any new installation procedures will not be executed. That’s why we strongly recommend that you uninstall an existing version before installing a new one.

Prior to Uninstalling Reporting Software:

- 1 Log on to the Administrative PC with a username and password that has Administrator privileges. Note - you can skip this step if the computer is already logged on in this manner.
- 2 Activate the RSW icon (either from the icon in the system tray, or the desktop icon) so you see the RSW control panel shown below:



Figure 10: RSW Control Panel

- 3 Click on the X button in the upper left hand corner to close this window.
- 4 Click “Yes” in the dialog box shown below.

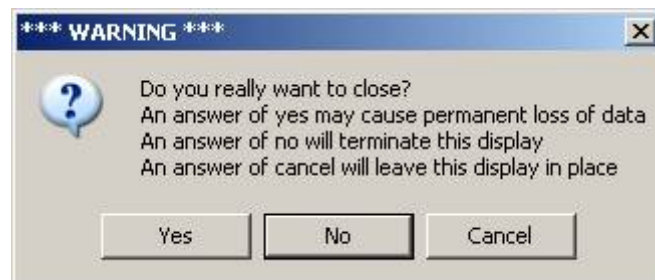


Figure 11: Loss of Data Warning

- 5 You may now uninstall the Reporting Software.

To Install an Upgrade Version:

- 1 Launch the InstallShield program.
 - The Maintenance Welcome window will appear:

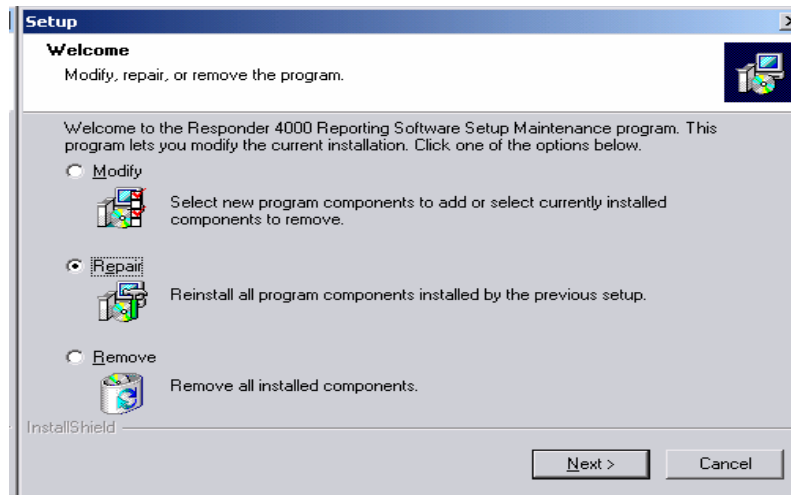


Figure 12: Maintenance Welcome Window

2 Select Repair.

3 Click on Next.

- Only the files that you originally installed will be upgraded. (For instance, if you initially chose not to install the “Release Notes,” they will **not** be installed.)
- If you prefer, you can first uninstall and then reinstall the program (this is highly recommended).

Software States

When you restart and log on to the RSW PC, the data collection component of the software will appear. It may take a few minutes before the software completes its status check and goes On or Off Line:



Figure 13: RSW Software Data Collection Component Window

Any time you minimize the Data Collection Component Window, it will appear only in the System tray—not on the Windows task bar. If the system goes Off Line, the RSWDF message box (“RSW not communicating”) will appear:



Figure 14: RSW Error Message

If the Reporting Software data collection component is closed, the following warning will appear:

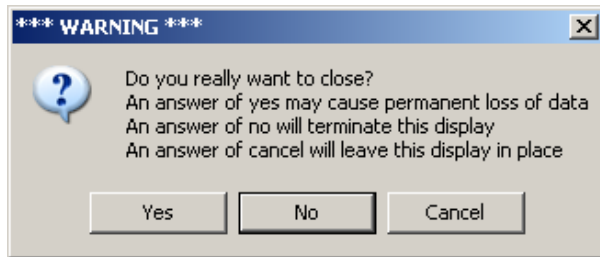


Figure 15: RSW Warning Message

Connecting the Components

As the following diagram illustrates, the complete interconnection chain includes the **Admin PC**, the **R4KSPA** Serial Port Adapter, the **R4KRSPIP** Reporting Software Peripheral Interface Port, the **R4KPR400** Power Supply, and the **R4KNIM** Network Interface Module. (The R4KRSPIP requires power from an R4KPR400. Each R4KPIP/R4KRSPIP draws 0.4 amps.)

For more detailed hardware interconnect information, consult Appendix B.

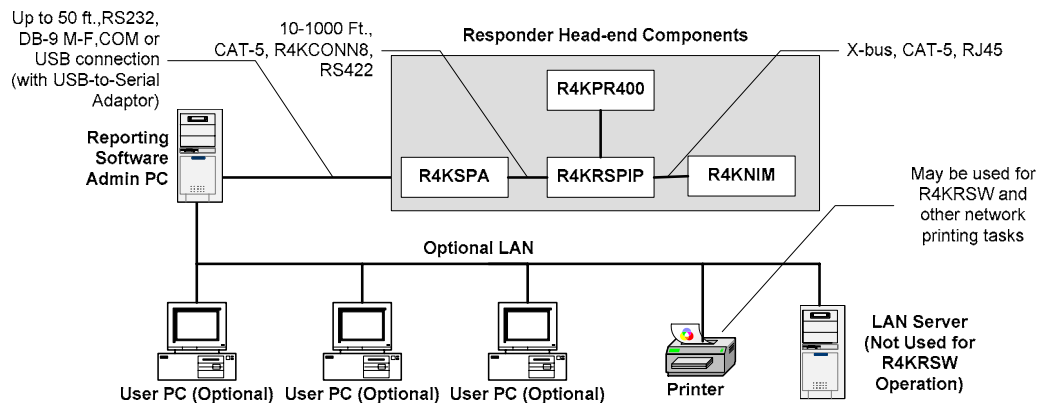


Figure 16: Connection Overview

Maintenance

While R4KRSW itself does not require maintenance, we recommend that you keep the following maintenance issues in mind:

Power Backup

Since typical PCs and Windows-based operating systems are not as reliable as “embedded” systems and do not monitor for power interrupts, we recommend that you install a UPS (Uninterruptible Power Supply) between the Administrative PC and AC power source. The UPS should be able to sustain the PC (not video display) for at least 30 minutes. If the Admin PC and R4KRSW are not running, Responder 4000 calls will not be logged into the database and critical information may be lost.

Periodic Rebooting

We also recommend that you reboot and restart both the Administrative PC and R4KRSW at a minimum of once per month, but preferably once per week. Note: the R4KRSW database logging feature will **not** log calls during the reboot process. Choose a known little/no traffic period to reboot/restart.

Periodic Backup

We also recommend periodic database backups (CD-ROM or Tape Backups are preferred). If necessary, contact your IT or MIS department for assistance.

Maintaining Standard Operation

The data collection component of R4KRSW is a service that gets installed on the Admin PC during the installation procedure. When it is running, it will appear as an icon in the PC’s system tray. This service will restart automatically when the PC is restarted, and will continue to collect data, even if the PC has not been logged in. The report/activity display interface does not need to be open in order for data collection to take place. We do not recommend ever closing the data collection component, as this will stop the collection of nurse call data. To ensure that the data collection component is still running, check for its icon in the system tray:



If the data collection component goes offline for any reason, the offline icon will appear:



Updating the Site Database

Because R4KRSW automatically uploads the site database from the Responder 4000 system—during R4KRSW installation **and** system updates—you need not manually transfer the database for the changes to take effect. Be aware that it may take several minutes for the database transfer to take place during R4KRSW installation and initial startup.

Administrative PC Applications

Because of inherent instabilities in the Windows operating system and some software applications (especially “Shareware” or “Freeware” software), it is recommended that only R4KRSW be installed and run on the Administrative PC. This will insure the highest integrity of the call database and long-term stability of the R4KRSW application.

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3

Reporting Software: An Overview

You can use the Responder 4000 Reporting Software (RSW) to define, create, and print nurse call activity reports and to view real-time nurse call activity.

Logging In

When you open the report/activity display component of the software, the following window will appear:

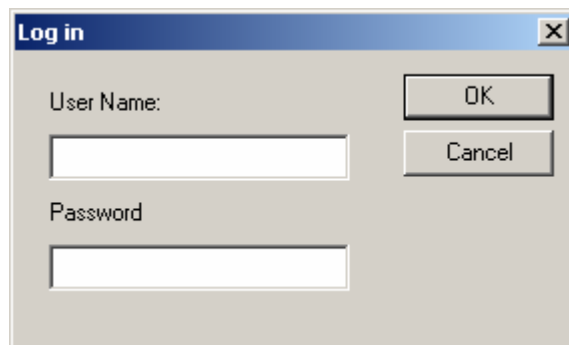
The image shows a standard Windows-style dialog box titled "Log in". It has a blue title bar with a close button (X) in the top right corner. The dialog contains two text input fields: the first is labeled "User Name:" and the second is labeled "Password". To the right of the "User Name:" field are two buttons: "OK" and "Cancel".

Figure 17: Log in Window

The default user name is “administrator,” and the default password is “1234.” Both are case-sensitive. Only the person who logs in as administrator has the ability to enter new users. You cannot change any user’s user name (including the administrator’s), but you can establish a different password. If, for some reason, you do not recall or cannot use a changed password, you’ll need to contact Tech Support for assistance.

Screen Tour/Elements

After you launch the software, the opening screen will display:

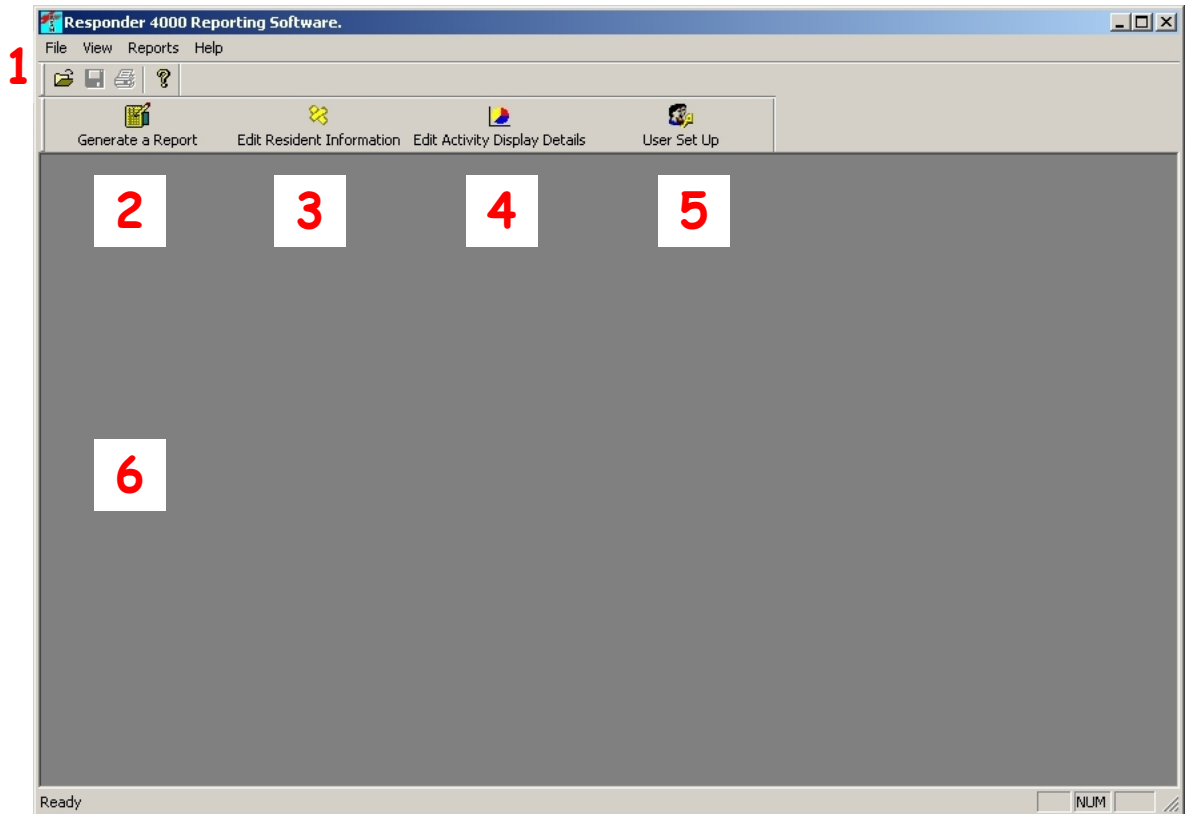


Figure 18: Opening Screen

You'll be able to access all of the program's significant controls from the opening screen.

Dropdown Menus and Toolbar (1)

You can access controls either via the Dropdown Menus or Toolbar icons.

Generate a Report Icon (2)

The Report icon allows you to access the report generation functions.

Edit Resident Information Icon (3)

The Resident Information icon allows you to access and manipulate resident profiles.

Edit Activity Display Details (4)

The Edit Activity Display icon allows the administrator to customize display details.

User Set Up Icon (5)

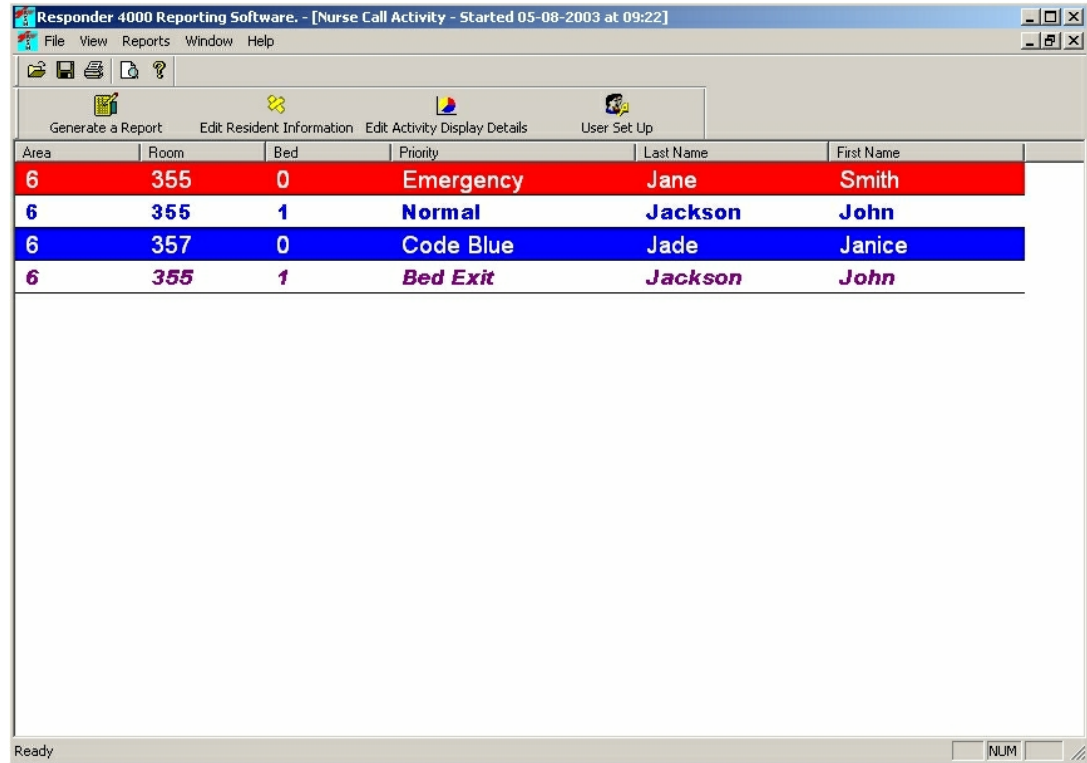
The User Set Up Icon allows the administrator to manipulate User profiles.

Display Area (6)

All information is shown in the display area.

Real-Time Activity Display

As illustrated immediately below, you can choose to have nurse call activity (Area, Room, Bed, Priority, etc.) appear in the display area. The Real-Time Activity Display feature is only accessible from the Admin PC and only one Activity Display window can be open at a time.



The screenshot shows a software window titled "Responder 4000 Reporting Software. - [Nurse Call Activity - Started 05-08-2003 at 09:22]". The window contains a table with the following data:

Area	Room	Bed	Priority	Last Name	First Name
6	355	0	Emergency	Jane	Smith
6	355	1	Normal	Jackson	John
6	357	0	Code Blue	Jade	Janice
6	355	1	Bed Exit	Jackson	John

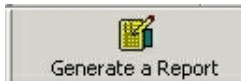
Figure 19: Real-Time Activity Display

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4

Using the Software

Generating a Report



- 1 To begin the process of generating a report, click on the “Generate a Report” icon.
➤ The Report Format Setup window will appear:

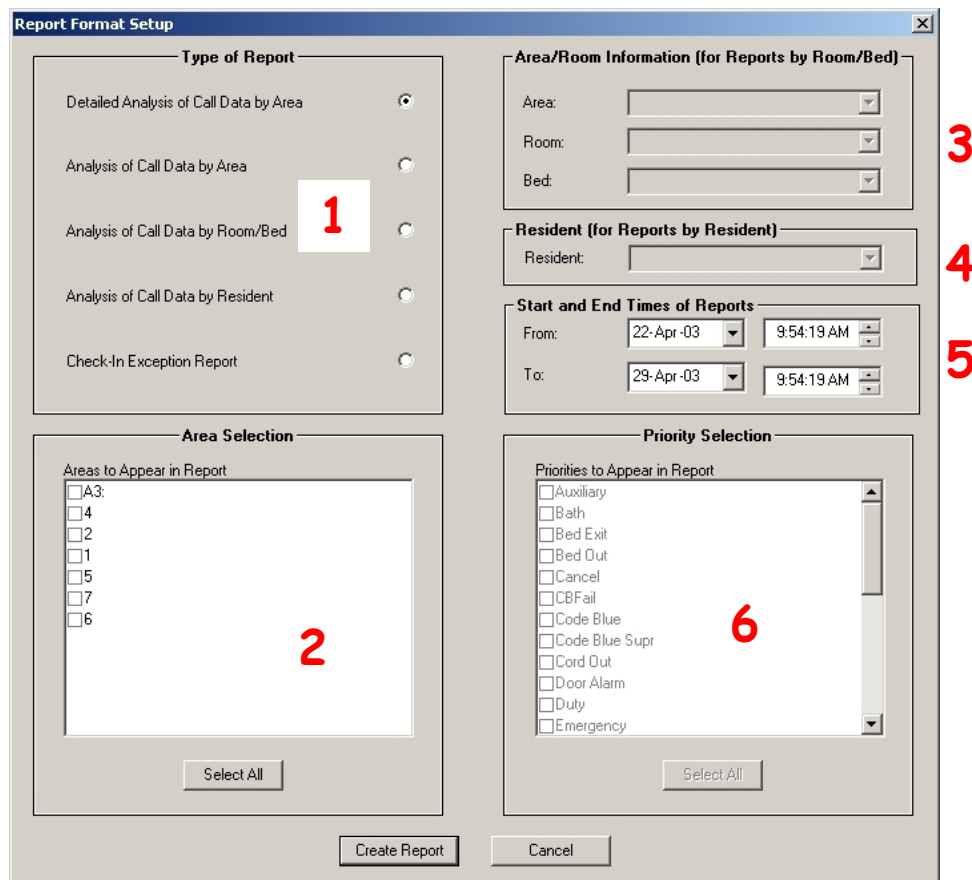


Figure 20: Report Format Setup Window

Type of Report (1)

Five different reports are available:

Detailed Analysis of Call Data by Area

This report provides a transaction-by-transaction detailed listing of nurse call activity:

A3:314:1	16:08:07	09/16/2003
Normal	00:00:00	
Staff In	00:00:20	
Cancel in room	00:00:20	
Staff Out	00:00:31	
***End of Activity	00:00:31	

Figure 21: Call Data by Area Example

The four line entry reveals that a Normal call was placed from area A3, room 314, bed 1, at 4:08pm on September 16th. Staff registered in the room after 20 seconds (resulting in the cancellation of the call), and left the room after 11 seconds (resulting in the time of 00:00:31 when the “Activity Ended”). The entire transaction lasted 31 seconds.

Analysis of Call Data by Area:

This report provides a summary overview of nurse call activity for a specific area or group of areas. The eight (8) line entry below shows activity from areas 1, 2, 4, 5, 6, 7, and A3:

Area: 1,2,4,5,6,7,A3: Activity Report - Generated Monday, March 24, 2003 at 11:28:12						
Call Date	Call Placed	Room/Bed	Call Type	Voice Response	Staff Response	Staff Time
03/21/2003	13:30:16	356:1	Normal	00:00:06	N/A	N/A
03/21/2003	13:30:42	418:2	Normal	00:02:04	N/A	N/A
03/21/2003	13:30:45	313:0	Normal	00:02:03	N/A	N/A
03/21/2003	13:30:48	304:0	Bath	N/A	00:00:11	N/A
03/21/2003	13:30:53	206:1	Normal	00:01:58	N/A	N/A
03/21/2003	13:30:55	207:1	Normal	00:02:05	N/A	N/A
03/21/2003	13:31:03	304:0	Normal	00:02:01	N/A	N/A
03/21/2003	13:31:14	356:2	Bed Exit	N/A	00:00:03	N/A

Figure 22: Analysis of Call Data by Area Report

The last line of the report will show averages for each of the response time/staff time columns.

Voice Response indicates the time the call was answered at a console.

Staff Response indicates the time the call was cancelled by pressing the staff registration or the cancel button associated with that call.

Staff Time indicates the amount of time the staff registration was enabled after canceling a call.

Analysis of Call Data by Room/Bed:

This report is similar to the Analysis of Call Data by Area report, except that it only provides information on one Room/Bed combination.

Bed Activity for: 1 in Area: 6 Room: 354 Activity - Generated 06-25-2003 at 15:48					
Call Date	Call Placed	Call Type	Voice Response	Staff Response	Staff Time
06/19/2003	07:37:20	Normal	00:00:03	N/A	N/A
06/19/2003	09:13:39	Normal	00:00:02	N/A	N/A
06/19/2003	09:13:44	Normal	00:00:02	N/A	N/A
06/23/2003	14:41:47	Normal	N/A	00:00:01	N/A
		Averages	00:00:02	00:00:01	N/A

Figure 23: Analysis of Call Data by Room/Bed Report

Analysis of Call Data by Resident:

This report is similar to the Analysis of Call Data by Area report, except that it only provides information on a single Resident.

Resident Activity for: Jones, Bob - Generated 04-03-2003 at 11:35					
Call Date	Call Placed	Call Type	Voice Response	Staff Response	Staff Time
03/28/2003	13:52:00	Normal	N/A	00:00:02	N/A
04/03/2003	10:41:45	Normal	N/A	00:00:08	N/A
04/03/2003	10:41:57	Cord Out	N/A	00:00:19	N/A
04/03/2003	10:42:17	Normal	N/A	00:00:01	N/A
04/03/2003	11:30:56	Normal	00:00:16	N/A	N/A
04/03/2003	11:31:19	Priority	00:00:11	00:00:15	N/A
04/03/2003	11:31:38	Priority	N/A	00:00:05	N/A
04/03/2003	11:32:12	Normal	00:00:08	N/A	N/A
04/03/2003	11:32:29	Cord Out	N/A	00:00:18	N/A
04/03/2003	11:32:51	Normal	N/A	00:00:25	N/A
04/03/2003	11:33:34	Priority	00:00:13	00:00:20	N/A
04/03/2003	11:34:01	Priority	N/A	00:00:03	N/A
04/03/2003	11:34:13	Normal	00:00:05	N/A	N/A
		Averages	00:00:10	00:00:11	N/A

Figure 24: Analysis of Call Data by Resident Report

Check-In Exception Report

This report provides a list of all of the rooms in a facility for which the Resident Check-In station's button has not been pressed during the specified check-in time. Its format is similar to the Analysis of Call Data by Area report:

Area: 1,2,4,5,6,7,A3: Check-in Exception - Generated 05-08-2003 at 10:33				
Area	Call Type	Room	Bed	Time Received
A3:	No ChkIn	306	0	05/08/2003 00:04:09
A3:	No ChkIn	307	0	05/08/2003 00:04:09
A3:	No ChkIn	310	0	05/08/2003 00:04:09
A3:	No ChkIn	311	0	05/08/2003 00:04:09
A3:	No ChkIn	314	0	05/08/2003 00:04:10
A3:	No ChkIn	315	0	05/08/2003 00:04:10

Figure 25: Check-In Exception Report

Area Selection (2- Figure 20)

Select those areas you would like included in area-specific reports. (See figure 4.)

Area/Room Information (3- Figure 20)

Select the area, rooms, and beds for which you would like included in the "Analysis of Call Data by Room/Bed" report. This option is only enabled when you generate an "Analysis of Call Data by Room/Bed" report. (See figure 4.)

Resident (4- Figure 20)

For the "Analysis of Call Data by Resident" report, select the resident for which you would like to run the report. This option will only be enabled when "Analysis of Call Data by Resident" report is chosen. (See figure 4.)

Start and End Times of Reports (5- Figure 20)

Select the dates and times you would like the report to include by editing the fields within this box. (See figure 4.)

Priority Selection (6- Figure 20)

Select the priorities of calls you would like to include in the report. For example, you may only wish to view details of Code Blue calls – so you would choose Code Blue from this list. Note: this option is not available for the "Detailed Analysis of Call Data by Area" report. (See figure 4.)

Once you have selected all of the details of your report, click on the "Create Report" button, and your report will appear on screen. If you'd like to print the report, click on the printer icon or select "File" then "Print" from the menu at the top of the screen.

Longer reports take a longer amount of time to appear on the screen. When generating a report that may take a long time to produce, you will see the following message box:



Figure 26: Report Generation Message Box

Clicking on the “Go to print preview” button will instantly bring up the report in a “Print Preview” format, rather than the typical on-screen display (which takes longer to generate). You can either view the report on screen or print it out in the Print Preview mode.

Others Things You Should Know

- ✓ R4KRSW is unable to track the time of a call that goes unanswered for longer than 18 hours, 7 minutes, and 58 seconds. If such a call occurs, it will show on the detailed report with an asterisk (*) after the hour and minute figures as follows:

A3::302::1	17:21:14	09/24/2003
Normal	00:00:00	
Cancel in room	18*07*58	
***End of Activity	18*07*58	

This special indication will only show on the detailed report, and not on any of the non-detailed reports.

- ✓ When you save a report, it is saved with a .r4k file extension. This file format can only be re-opened from within the reporting software (by clicking on File | Open or the “Open” toolbar icon).

Editing Resident Information



- 1 To enter new or edit existing resident information, click on the “Edit Resident Information” icon.
 - The Resident Information screen will appear:

A screenshot of a software window titled "Resident Information". The window contains several input fields and buttons. At the top, there are navigation buttons: "<<", "Show All", and ">>". Below these are text boxes for "First Name" (containing "Robert"), "Last Name:" (containing "Davis"), "Area:" (a dropdown menu with "A3:" selected), "Room:" (a dropdown menu with "302" selected), "Bed:" (a dropdown menu with "3" selected), "Sex:" (a dropdown menu with "M" selected), and "Date of Birth:" (containing "6/ 9/1979"). Below these is a "Doctor:" text box containing "Jones" and a "Notes:" text area containing "Hard of hearing.". At the bottom, there are five buttons: "New", "Update", "Delete", "Discharge", and "Cancel". Red numbers 1 through 7 are overlaid on the image to indicate specific controls: 1 points to the "Show All" button, 2 points to the "Last Name:" field, 3 points to the "Area:" dropdown, 4 points to the "Date of Birth:" field, 5 points to the "Doctor:" field, 6 points to the "Notes:" text area, and 7 points to the "Discharge" button.

Figure 27: Resident Information Screen

Resident Record Controls (1)

Use the Previous (<<) and Next (>>) buttons to navigate between records. Show All will hide the pop-up window and show all records on the primary screen.

First Name and Last Name Fields (2)

Enter resident name information as available. Note: while it is possible to enter two or more residents with the same name, you will receive a warning when this is attempted, to prevent accidental duplicate records.

Area, Room, and Bed Selection Boxes (3)

Click on the arrow at the right of these boxes to display a list from which you can select an Area, Room, and Bed to which the resident is assigned.

Sex and Date of Birth Selection Boxes (4)

Use these fields to select the gender and date of birth of the resident.

To change the Date of Birth, click on either the month, day, or year and—while highlighted—use the arrow buttons to make changes. Should you wish, you can also highlight any field and enter numbers with your keyboard.

Doctor (5)

Use this **optional** field to enter the resident's doctor's name.

Notes (6)

Use this **optional** field to enter optional notes regarding the resident.

Functional Controls (7)

Use the functional controls along the bottom to:

New

Create a new resident record.

Update

Update (modify) an existing record.

Delete

Delete an existing record. Once a record has been deleted, it cannot be recovered.

Activate/Discharge

Keep the record active or on hold. Held records are useful when you know a patient will likely return. Click the button to toggle between Activate and Discharge.

Cancel

To back out of the screen and save no changes.

User Set Up



- 1 To enter new or edit existing user information, click on the “User Set Up” icon.
 - The Edit User Access Privileges window will appear:

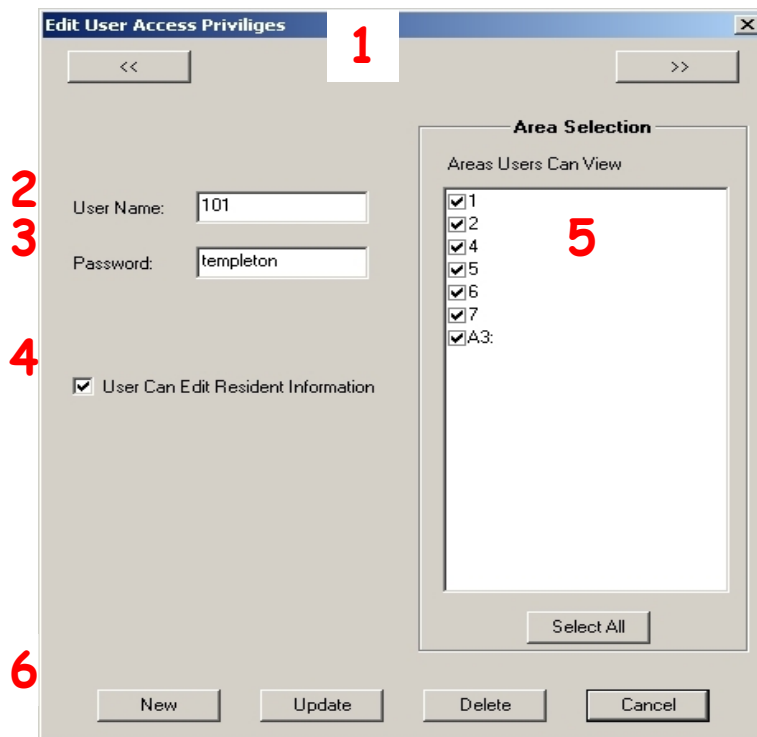


Figure 28: End User Access Privileges Dialog

Previous Record and Next Record Buttons (1)

Use the Previous (<<) and Next (>>) buttons to navigate between user records.

User Name Field (2)

Enter a “User Name” (required to log in to the system). Limit your entry to 15 characters—letters or numbers. Each User Name must be unique. The User Name is case-sensitive. Once saved, this field cannot be changed for any user, including the administrator. If this field requires changing, you must first delete the user account and re-add it with the new user name.

Password Field (3)

Enter a “Password” (required to log in to the system). Limit your entry to 10 characters, letters or numbers. The Password must be unique. The Password is case-sensitive.

User Can Edit Resident Information Field (4)

Check this box if the User will be allowed to create or edit resident information.

Area Selection (5)

Check the areas for which the User will be allowed to run reports. Click *Select All* to assign all areas.

Functional Controls (6)

Use the functional controls along the bottom to:

New

Enter a new user into the system.

Update

Make changes to an existing User's record.

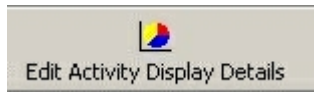
Delete

Delete a User's record from the system.

Cancel

Back out of the Edit User Access Privileges screen entirely.

Edit Nurse Call Activity Display Details



1 To customize how details appear in the Display Area, click on the “Edit Activity Display Details” icon.

➤ The Activity Display Details window will appear:

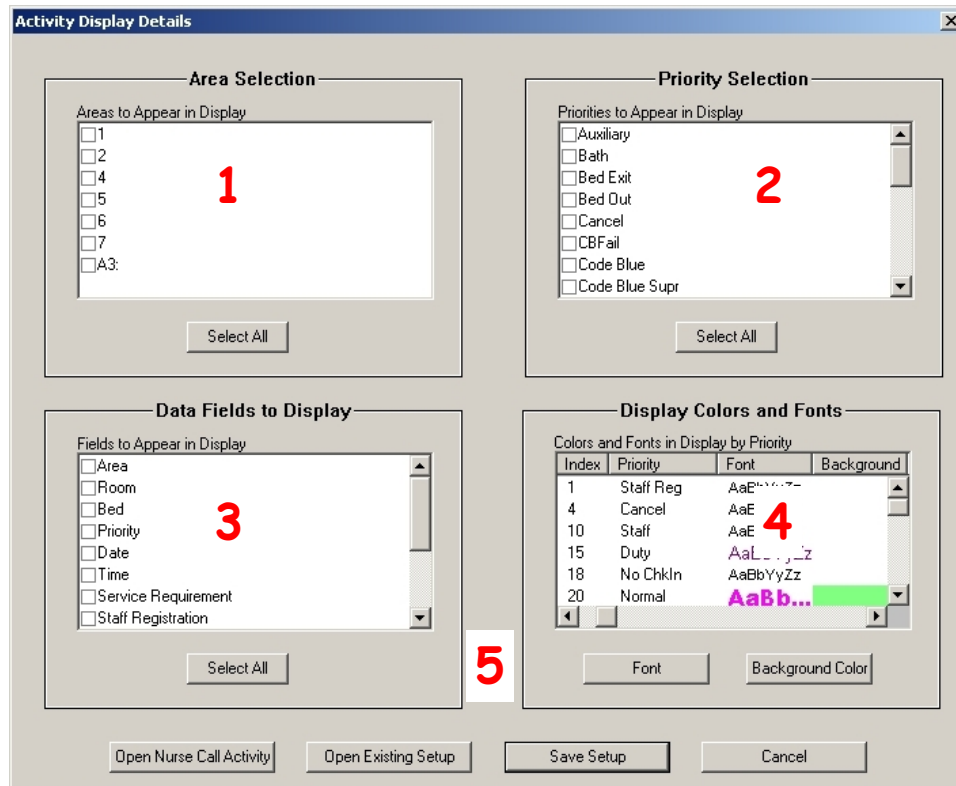


Figure 29: Activity Display Details Screen

Area Selection (1)

Click to check the areas from which you wish nurse call activity to display on the Reporting Software display area.

Priority Selection (2)

Click to check the priorities of calls you wish to display on the Reporting Software display area.

Data Fields to Display (3)

Click to check the nurse call activity information fields you wish to appear on the Reporting Software display area. Each of these fields will appear as a column on the display screen.

Display Colors and Fonts (4)

Should you wish to highlight different call priorities, you can select colors, sizes, or fonts for each.

To customize font, font style, font color, and/or font size, select a priority and click on *Font*, make your choices, and click *OK*:

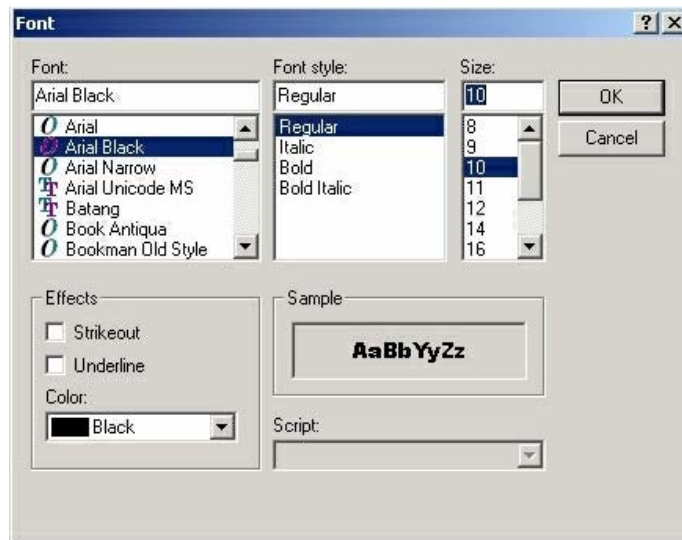


Figure 30: Display Options Screen

To customize a background color, select a priority and click on *Background Color*. Regardless of color choice, display text remains the color associated with the chosen font.

Functional Controls (5)

Use the functional controls along the bottom to:

Open Nurse Call Activity

Open the active call display with selected settings.

Open Existing Setup

Load existing (saved) settings by opening a saved settings file.

Save Setup

Saves selected settings for later use.

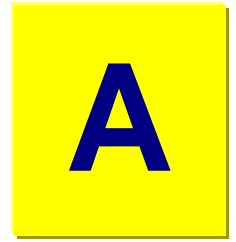
Cancel

Allows you to exit without saving changes.

Help

Opens the Help file.

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Appendix A: Sample Reports

Here are samples of all the reports that you can generate and print:

- ✓ Detailed Analysis of Call Data by Area
- ✓ Analysis of Call Data by Area
- ✓ Analysis of Call Data by Room/Bed
- ✓ Analysis of Call Data by Resident Report
- ✓ Check-In Exception Report

Detailed Analysis of Call Data by Area:

Detailed Area A3,A2: Activity - Generated 09-29-2003 at 10:29		
	Time	Date
A3::314::0	09:40:19	09/16/2003
Normal	00:00:00	
Cancel in room	00:00:06	
***End of Activity	00:00:06	
A3::314::0	09:40:34	09/16/2003
Normal	00:00:00	
Emergency	00:00:03	
Cancel in room	00:00:06	
***End of Activity	00:00:06	
A3::314::1	16:08:07	09/16/2003
Normal	00:00:00	
Staff In	00:00:20	
Cancel in room	00:00:20	
Staff Out	00:00:31	
***End of Activity	00:00:31	
A3::314::1	16:08:48	09/16/2003
Normal	00:00:00	
Console Connected	00:00:03	
Service Requirement	00:00:18	
Hang Up	00:00:22	
Emergency	00:00:32	
Staff In	00:00:38	
Cancel in room	00:00:38	
Staff Out	00:00:54	
***End of Activity	00:00:54	
A3::314::1	09:30:50	09/19/2003
Normal	00:00:00	
Staff In	00:00:06	
Cancel in room	00:00:06	
Staff Out	00:00:07	
***End of Activity	00:00:07	
A3::314::1	09:31:23	09/19/2003
Normal	00:00:00	
Console Connected	00:00:14	
Service Requirement	00:00:17	
Hang Up	00:00:18	
Staff In	00:00:26	
Cancel in room	00:00:26	
Staff Out	00:00:29	
***End of Activity	00:00:29	

Figure 31: Detailed Analysis of Call Data by Area

Analysis of Call Data by Area:

Area: 1,2,4,5,6,7,A3: Activity - Generated 05-07-2003 at 15:04						
Call Date	Call Placed	Room/Bed	Call Type	Voice Response	Staff Response	Staff Time
05/07/2003	14:00:29	A3::304	Normal	N/A	00:00:30	N/A
05/07/2003	14:01:38	A3::312	Normal	N/A	00:00:05	N/A
05/07/2003	14:02:46	A3::304	Normal	N/A	00:00:07	N/A
05/07/2003	14:04:39	A3::336.2	Normal	N/A	00:00:09	N/A
05/07/2003	14:05:32	A3::304	Normal	N/A	00:00:02	N/A
05/07/2003	14:06:14	A3::304	Normal	N/A	00:00:06	N/A
05/07/2003	14:09:12	A3::336.2	Normal	N/A	00:00:08	N/A
05/07/2003	14:10:37	A3::304	Normal	00:00:12	N/A	N/A
05/07/2003	14:11:17	A3::305	Normal	00:00:17	N/A	N/A
05/07/2003	14:12:27	A3::305	Cord Out	00:00:13	N/A	N/A
05/07/2003	14:13:04	A3::305	Normal	00:00:12	N/A	N/A
05/07/2003	14:15:47	A3::305	Normal	00:00:13	N/A	N/A
05/07/2003	14:16:14	A3::304	Normal	00:00:10	N/A	N/A
05/07/2003	14:18:01	A3::304	Normal	N/A	00:00:15	N/A
05/07/2003	14:19:36	A3::304	Normal	N/A	00:00:04	N/A
05/07/2003	14:22:38	A3::304	Normal	00:00:33	N/A	N/A
05/07/2003	14:23:40	A3::307	Normal	00:00:08	N/A	N/A
05/07/2003	14:24:21	A3::307	Normal	00:00:07	N/A	N/A
05/07/2003	14:25:05	A3::307	Normal	00:00:28	N/A	N/A
05/07/2003	14:25:46	A3::307	Normal	00:00:18	N/A	N/A
05/07/2003	14:27:43	A3::304	Normal	00:00:29	N/A	N/A
05/07/2003	14:28:30	A3::304	Normal	00:00:12	N/A	N/A
05/07/2003	14:30:29	A3::304	Normal	00:00:11	N/A	N/A
			Averages	00:00:15	00:00:09	N/A

Figure 32: Analysis of Call Data by Area

Analysis of Call Data by Room/Bed:

Bed Activity for: 2 in Area: 6 Room: 354 Activity - Generated 05-08-2003 at 10:42					
Call Date	Call Placed	Call Type	Voice Response	Staff Response	Staff Time
05/07/2003	15:21:24	Normal	00:00:37	N/A	N/A
05/07/2003	15:23:17	Normal	00:00:07	N/A	N/A
05/07/2003	15:23:37	Normal	00:00:07	N/A	N/A
05/07/2003	15:44:48	Normal	N/A	00:03:07	N/A
05/07/2003	15:54:21	Normal	00:03:23	N/A	N/A
05/07/2003	16:02:25	Normal	00:00:28	N/A	N/A
05/07/2003	16:03:28	Normal	00:00:33	N/A	N/A
05/07/2003	16:14:56	Normal	00:00:04	N/A	N/A
05/07/2003	16:15:09	Normal	00:00:04	N/A	N/A
05/07/2003	17:21:19	Normal	00:06:29	N/A	N/A
05/07/2003	17:27:53	Normal	00:00:03	N/A	N/A
05/07/2003	17:28:00	Normal	00:00:03	N/A	N/A
05/07/2003	17:28:10	Normal	00:00:14	N/A	N/A
05/07/2003	17:28:55	Normal	00:00:02	N/A	N/A
05/07/2003	17:30:20	Normal	00:01:31	N/A	N/A
05/08/2003	09:44:24	Normal	N/A	00:00:03	N/A
05/08/2003	09:45:59	Normal	N/A	00:00:03	N/A
05/08/2003	09:47:56	Normal	00:00:04	N/A	N/A
05/08/2003	09:48:13	Normal	00:00:30	N/A	N/A
05/08/2003	09:49:22	Normal	N/A	00:00:19	N/A
		Averages	00:00:53	00:00:53	N/A

Page 1 of 1

Printed: 05/08/03 10:48:55

Figure 33: Analysis of Call Data by Room / Bed

Analysis of Call Data by Resident Report:

Resident Activity for: Jones, Bob - Generated 04-03-2003 at 11:35					
Call Date	Call Placed	Call Type	Voice Response	Staff Response	Staff Time
03/28/2003	13:52:00	Normal	N/A	00:00:02	N/A
04/03/2003	10:41:45	Normal	N/A	00:00:08	N/A
04/03/2003	10:41:57	Cord Out	N/A	00:00:19	N/A
04/03/2003	10:42:17	Normal	N/A	00:00:01	N/A
04/03/2003	11:30:56	Normal	00:00:16	N/A	N/A
04/03/2003	11:31:19	Priority	00:00:11	00:00:15	N/A
04/03/2003	11:31:38	Priority	N/A	00:00:05	N/A
04/03/2003	11:32:12	Normal	00:00:08	N/A	N/A
04/03/2003	11:32:29	Cord Out	N/A	00:00:18	N/A
04/03/2003	11:32:51	Normal	N/A	00:00:25	N/A
04/03/2003	11:33:34	Priority	00:00:13	00:00:20	N/A
04/03/2003	11:34:01	Priority	N/A	00:00:03	N/A
04/03/2003	11:34:13	Normal	00:00:05	N/A	N/A
		Averages	00:00:10	00:00:11	N/A

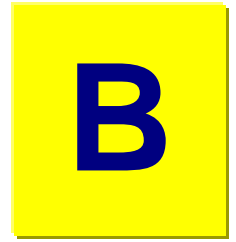
Figure 34: Analysis of Call Data by Resident Report

Check-In Exception Report:

Area: 1,2,4,5,6,7,A3: Check-in Exception - Generated 05-08-2003 at 10:33				
Area	Call Type	Room	Bed	Time Received
A3:	No ChkIn	306	0	05/08/2003 00:04:09
A3:	No ChkIn	307	0	05/08/2003 00:04:09
A3:	No ChkIn	310	0	05/08/2003 00:04:09
A3:	No ChkIn	311	0	05/08/2003 00:04:09
A3:	No ChkIn	314	0	05/08/2003 00:04:10
A3:	No ChkIn	315	0	05/08/2003 00:04:10

Figure 35: Check-In Exception Report

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Appendix B: Hardware Connect

While complete information regarding hardware installation can be found in KI-2093 (the *Responder 4000 Installation Guide*), we provide the following excerpts for your convenience.

R4KRSPIP Reporting Software PIP

(Audio/Visual Network Compatible)

Making Connections/Interconnect

The Reporting Software PIP (R4KRSPIP) connects to the system through the R4KSPA and to the R4KNIM through the X-Bus. On the X-Bus, it monitors all of the system activity and reports to the Admin Reporting Software PC.

Power Connect

Connect the module to the power supply via 18AWG wire.

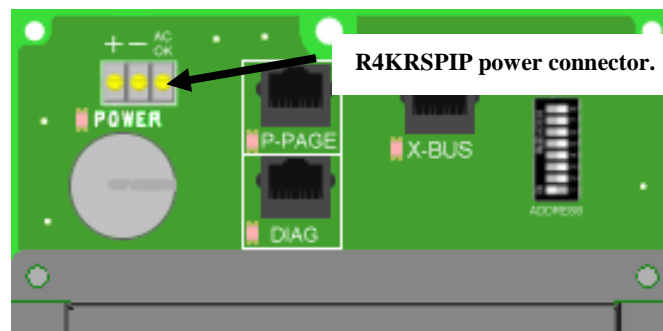


Figure 36: R4KRSPIP Power Connector

X-Bus Connect

Connect the module to the X-Bus using CAT5 UTP patch cable. If necessary, use the X-Bus Splitter (SF0720) to extend the X-Bus to other Responder[®] 4000 devices: (R4KNIMs and R4KPIPs):

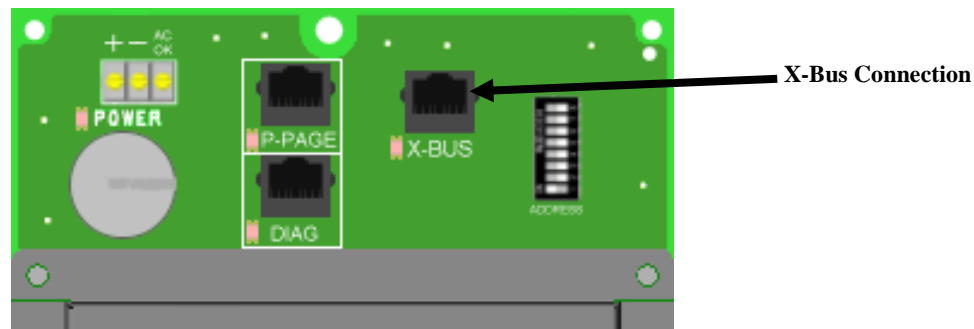


Figure 37: R4KRSPIP X-Bus Jack

Once you've connected X-Bus devices using the splitter, make sure each is operating correctly. (If necessary, check the X-Bus heartbeat LED on suspect devices.)

Serial Device Connect

Connect the R4KSPA to the diagnostics (DIAG) modular jack. See R4KSPA for connection to the serial device. Be sure **not** to plug the connection from the R4KSPA

into any port other than the DIAG port. If this happens, you will need to reboot the R4KRSW computer.

Getting it Ready

Once you've made the appropriate connections, prepare the unit as follows:

Set X-Bus Address

Before you download configuration data to the device, you'll need to set the X-Bus Address. You should always work from an X-Bus worksheet, which helps you to keep track of component address assignments. You can find a blank worksheet in KI-2104, the *Responder® 4000 System Planning Guide*.

To Set the Address

- 1 Find the address on the X-Bus Address Worksheet.
- 2 Set the Dipswitch to the correct address (valid binary X-Bus addresses are 0-63):



Figure 38: X-Bus Address Dipswitch (address 1 shown)

Extending the X-bus to 1400 feet

All Responder 4000 X-bus devices are capable of “Long X-Bus” operation. In order to extend the X-Bus to 1400 feet, all devices connected to the X-Bus must have Dipswitch 7 turned “ON”. The factory default setting for Dipswitch 7 is “OFF”. This will limit the X-Bus to 1000 feet.

Confirming it Works

The R4KRSPIP is equipped with 4 “heartbeat” LEDs, which confirm proper operation:

Heartbeat LEDs	
X-Bus Heartbeat Rate	What it Means
Fast blink	No other X-Bus devices connected
Slow blink	X-Bus Master
Solid	X-Bus Slave
P. Page Heartbeat Rate	What it Means
Solid Off	Bootstrap/not transmitting
Slow blink	Transmitting
Diagnostic Heartbeat Rate	What it Means
Solid Off	Not transmitting
Blink	This port is transmitting or receiving data
Power Heartbeat Rate	What it Means
Single blink	Normal activity – Operational mode
Triple blink	Bootstrap mode

Table 1: Heartbeat LEDs

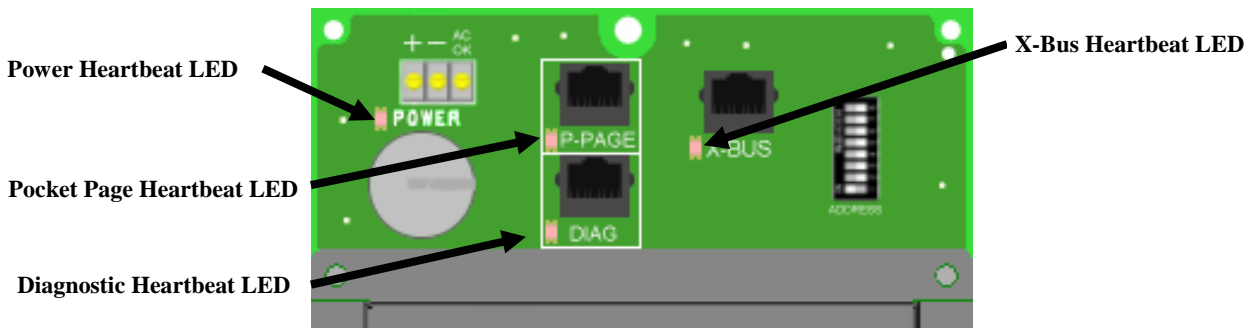


Figure 39: R4KPIP/R4KRSPiP Heartbeat LEDs

Others Things You Should Know

- ✓ You cannot connect more than one Reporting Software Admin PC to any single system (regardless of size).
- ✓ In order to extend the X-Bus to 1400 feet, all devices connected to the X-Bus must have Dipswitch 7 turned “ON.”
- ✓ Keep the X-bus as short as possible; never exceed 1,400 feet.
- ✓ Keep the cable between the R4KSPA and R4KRSPiP as short as possible; never exceed 1,000 feet.

R4KSPA Serial Port Adapter

(Visual Only and Audio/Visual Network Compatible)

Making Connections/Interconnect

The Serial Port Adapter makes two types of connections: 1) to an R4KRSPiP and 2) to a serial device (R4KRsw Admin PC).



Important:

Do NOT attempt to use more than one of the serial ports at any time.

R4KRSPiP Connect

Connect the R4KSPA to the R4KRSPiP (DIAG) via the front panel RJ45 jack—using the attached patch cable or a custom cable of your own creation (custom cables between the R4KSPA and R4KRSPiP cannot exceed 1000 total feet).

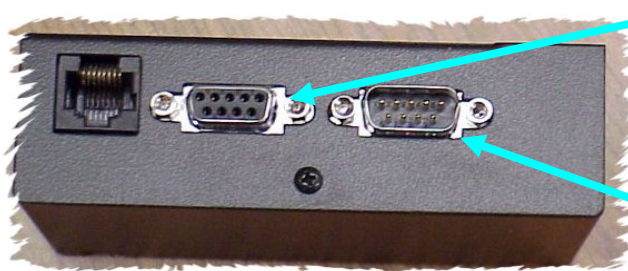


Run a patch cable from the R4KSPA to the R4KRSPiP.

Figure 40: R4KSPA Front Panel

Serial Device Connect

Connect the R4KSPA to a Reporting Software PC using either the supplied 6-foot serial cable or a custom cable of your own creation (custom cables cannot exceed 50 total feet).



Run a standard serial cable from the R4KSPA to the Reporting Software Admin PC.

Do NOT use the DTE serial ports while using R4KRsw.

Figure 41: R4KSPA Front Panel

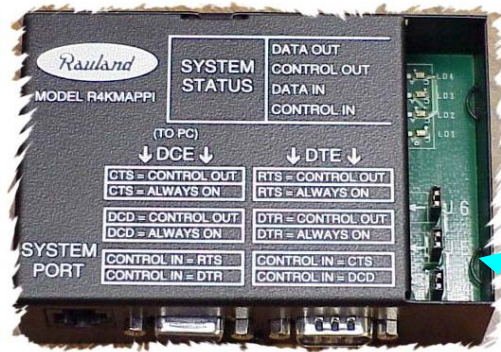


Figure 42: R4KSPA Top Panel

The factory default positions of the jumpers allow the R4KSPA to connect to the R4KRSPIP.

Getting it Ready

The R4KSPA jumpers are set at the factory to connect to the R4KRSPIP. Here is a table of jumper settings for the serial ports (factory default shown):

R4KSPA Jumpers		
↓ DCE (PC Connection) ↓	↓ DTE ↓	
CTS = CONTROL OUT	RTS = CONTROL OUT	← J6
CTS = ALWAYS ON	RTS = ALWAYS ON	
DCD = CONTROL OUT	DTR = CONTROL OUT	← J5 *
DCD = ALWAYS ON	DTR = ALWAYS ON	
CONTROL IN = RTS	CONTROL IN = CTS	← J4
CONTROL IN = DTR	CONTROL IN = DCD	

Table 2: R4KSPA Jumpers (factory default shown)

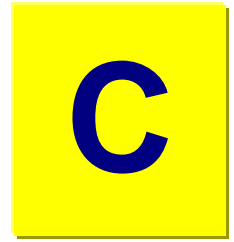
Confirming it Works

Make sure that the DATA IN and DATA OUT LEDs flash as data is passed to and from the R4KSPA.

Others Things You Should Know

- ✓ Keep the X-bus as short as possible; never exceed 1,400 feet.
- ✓ Keep the cable between the R4KSPA and the R4KRSPIP as short as possible; never exceed 1,000 feet.
- ✓ Never use a serial cable connection between the R4KSPA and PC that exceeds 50 total feet.
- ✓ Do NOT attempt to use more than one serial port from the R4KSPA at a time. Only use the DCE port for R4KRSW.

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Appendix C: System Overview

RSW Reporting Software runs on a standalone PC designated as the Reporting Software Admin PC. The Nurse Call Activity Display window is only available on this PC, and only one Activity Display window can be open at a time on the PC. It makes connection to the Responder Nurse Call system via an R4KSPA. It can be connected to a printer (locally or over an existing LAN) and to LAN clients (User PCs which make access to the software via desktop shortcuts). User PCs can be set up to access the R4KRSW Admin PC over the facility's network and provide users with the ability to run reports and edit resident information. Additionally, the administrator can edit user accounts from a User PC, when logged on.

Here's an illustration of how it might be set up:

R4KRSW System Overview

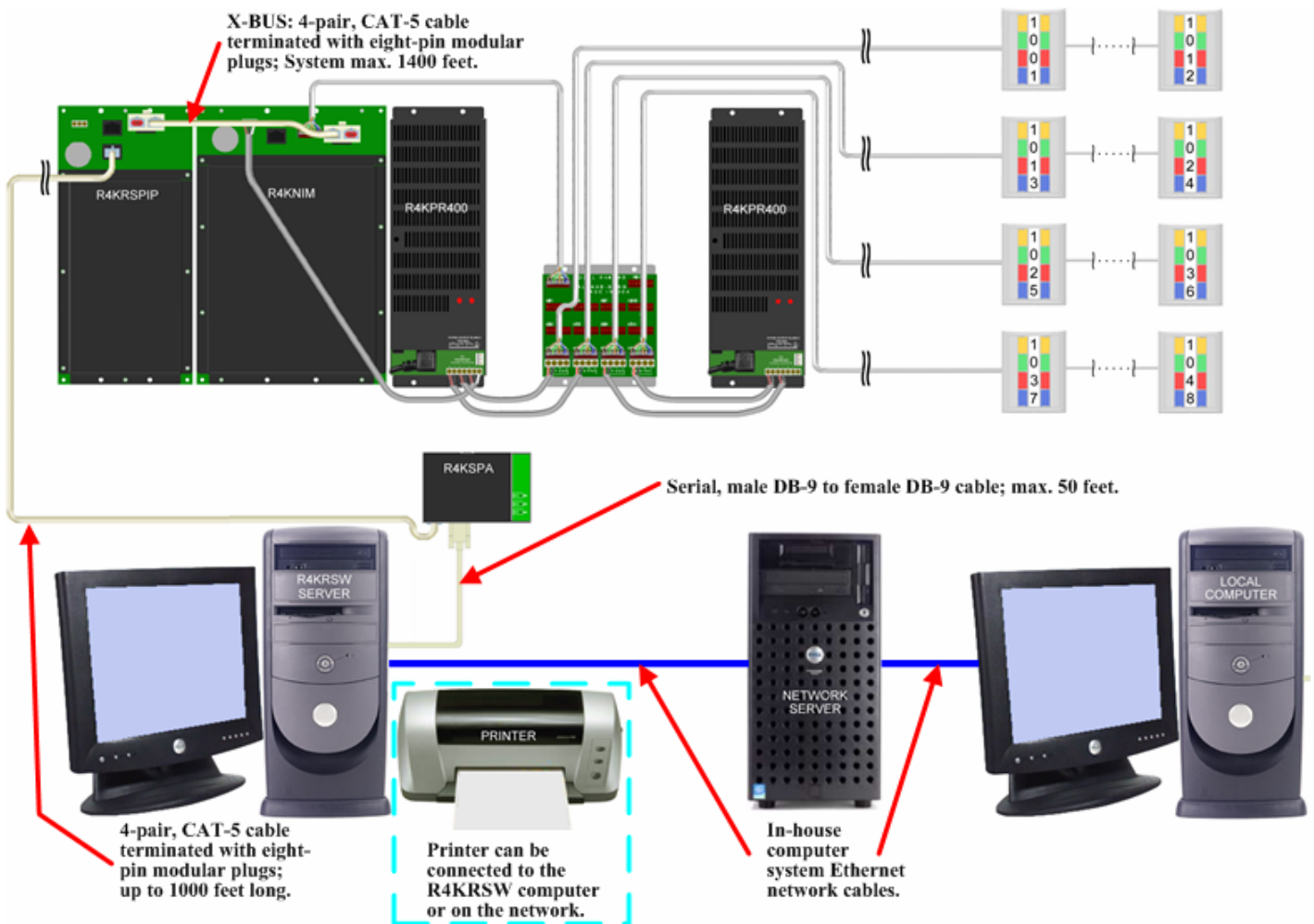
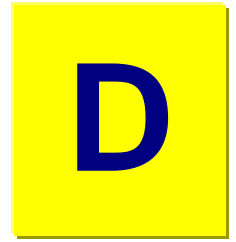


Figure 43: R4KRSW System Overview

Final Things to Keep in Mind

- ✓ The RSW Reporting Software only receives and reports information; it outputs nothing—and thereby has no impact on the Nurse Call system.
- ✓ Keep the X-bus as short as possible; never exceed 1,400 feet.
- ✓ Keep the cable between the R4KSPA and the R4KRSPIP as short as possible; never exceed 1,000 feet.
- ✓ Keep the serial cable between the R4KRSW computer and the R4KSPA as short as possible; never exceed 50 feet.
- ✓ Do NOT attempt to use more than one serial port from the R4KSPA at a time. Use the DCE port for Reporting Software.
- ✓ The modular connectors on the cable between the R4KRSPIP and R4KSPA look like, but are **not** Ethernet cables. Be careful when plugging and unplugging these cables.
- ✓ The printer used to print reports can be a local printer connected to the R4KRSW Admin computer or a network printer.
- ✓ Only one Nurse Call Activity Display window can be open at a time on the Admin PC.



Appendix D: Error Messages

From time to time, the system may issue error messages or display dialog boxes containing information about R4KRSW status. You'll find descriptions of many of the most common messages immediately below:

Most Common Messages

Here are the most common messages you'll encounter:

Error Message
Another user is extracting data. Log off and try again in a few minutes.

Explanation

Collision message box, displayed when more than one user has requested a report during an ongoing data extraction. This message will likely be displayed only if data-intensive reports are requested by two or more users simultaneously.

Error Message
RSW not communicating.

Explanation

Offline message, displayed by the control panel (RSWDF) if the Nurse Call system is not communicating with the RSW PC.

Error Message
Do you really want to close? An answer of yes may cause permanent loss of data. An answer of no will terminate this display. An answer of cancel will leave this display in place.

Explanation

Main close message box, displayed by the control panel (RSWDF) if a user tries to close the control panel.

Common Messages

Other common messages you may encounter:

Data Collection Log File Messages

The following messages may appear in the data collection log file—LogXYYd.txt. The data collection log file is located in the RSW Work History folder—\RSWHistory\Work where X (in the file name) represents the month (A for January, B for February, etc.) and YY represents the last two digits of the year.

Message	Indication
✓ Starting Data Collection	Displays the time at which data collection began. It may be used to detect if there is a PC reboot or data collection restart. If there has been a reboot, you will see one message when initial data collection began and a second when the reboot occurs.
✓ Compaction accomplished.	Confirms the completion of normal internal maintenance. This message is displayed early each morning.

The following messages may appear in the data collection log file—LogXYYf.txt. The data collection log file is located in the RSW Work History folder—\RSWHistory\Work where X (in the file name) represents the month (A for January, B for February, etc.) and YY represents the last two digits of the year.

✓ System is connected ONLINE.	Indicates that the system was on line.
✓ System disconnected; now OFFLINE.	Indicates that the system was offline; check connections.
✓ Require RSPIP as system connection point.	Indicates that the RSW PC is not connected to an RSPIP.
✓ Site 4KC Upload accomplished.	Indicates that a new configuration was uploaded successfully to the RSW PC after it had been downloaded to the Nurse Call system (via a separate operation).

Software Installation Messages

The following messages are likely to appear in the data collection component window if the software was not installed correctly:

Error Message
RSW data collection will not start—reinstall.

Suggested Action

Reinstall software.

Error Message
Service could not be started.

Suggested Action

Reinstall software.

Error Message

OpenService Command Failed. Service not started.

Suggested Action

Reinstall software.

Error Message

OpenSCManager Command Failed. Service not started.

Suggested Action

Reinstall software.

Error Message

Service could not be stopped.

Suggested Action

Reinstall software.

Error Message

OpenService Command Failed. Service not stopped.

Suggested Action

Reinstall software.

Error Message

OpenSCManager Command Failed. Service not started.

Suggested Action

Reinstall software.

Data Collection Log File Messages

The following messages may appear in the data collection log file—LogXYYf.txt. The data collection log file is located in the RSW Work History folder—\RSWHistory\Work where X (in the file name) represents the month (A for January, B for February, etc.) and YY represents the last two digits of the year.

- ✓ **RSWDC.DLL loading failed.**

- ✓ **RSWQR.DLL loading failed.**
- ✓ **MsgIO.DLL loading failed.**
- ✓ **Open problem; cannot establish COM port link.**

Technical Support Assistance Messages

Here are examples of messages that require assistance from Rauland-Borg Technical Support:

Data Collection Log File Messages

The following messages may appear in the data collection log file—LogXYYd.txt. The data collection log file is located in the RSW Work History folder—\RSWHistory\Work where X (in the file name) represents the month (A for January, B for February, etc.) and YY represents the last two digits of the year.

- ✓ **Bad kind-code.**
- ✓ **Rev ACE db problem.**
- ✓ **Rev Staff db problem.**
- ✓ **Rev Audio db problem.**
- ✓ **Program Error: Bad virtual Gram**
- ✓ **Current MDB Init failed**
- ✓ **Current MDB Table closing failed**
- ✓ **Current.MDB close failed**
- ✓ **DBTable[TABLE_TRANS]->AddNew().**
- ✓ **DBTable[TABLE_TRANS]->Update().**
- ✓ **TryDeleteTransaction error.**
- ✓ **Scrub Trans error.**
- ✓ **Scrub Audio error.**
- ✓ **Scrub ACE error.**
- ✓ **Scrub Staff error.**
- ✓ **History MDB Init failed.**
- ✓ **FileCopy failed; reboot PC or reinstall RSW.**
- ✓ **Working dir path is too long; using C:\.**
- ✓ **FileCopy failed; reboot PC or reinstall RSW.**
- ✓ **History MDB Close failed.**
- ✓ **History MDB Table closing failed.**
- ✓ **"Compaction failure"**

The following messages may appear in the data collection log file—LogXYYf.txt. The data collection log file is located in the RSW Work History folder—\RSWHistory\Work where X (in the file name) represents the month (A for January, B for February, etc.) and YY represents the last two digits of the year.

- ✓ **4KC upload failed; space too small**
- ✓ **4KC ZRC Decompression failure**
- ✓ **4KC Upload Failed; connection failure**
- ✓ **No 4KC Cfg is available to Upload**
- ✓ **4KC Upload: Bad Cksum**
- ✓ **4KC tmp.zip not opened**
- ✓ **4KC FileIOErr**
- ✓ **Bug: Bad 4KC Upload State**
- ✓ **Gram is to big to send**
- ✓ **RSWDC_Load_DLL**
- ✓ **RSWQR_Load_DLL**
- ✓ **Too many open CSocket**

- ✓ **Socket Accept failed**
- ✓ **Socket closed**
- ✓ **Receive Error**
- ✓ **Sockets init failed**
- ✓ **Cannot start UI socket**
- ✓ **New client sock create failed**
- ✓ **SetNew FileCopy failed; reboot PC or reinstall RSW**
- ✓ **Settings MDB Init failed**
- ✓ **Settings MDB Close failed**
- ✓ **Settings.MDB Access error**
- ✓ **History MDB Init failed**
- ✓ **History MDB Close failed**
- ✓ **History MDB Access failed**
- ✓ **ORI Search failed**
- ✓ **Site.4KC init failed**
- ✓ **Site.4KC close failed**
- ✓ **Could not read some 4KC fields**
- ✓ **RSWDB Open:: _com_error:**
- ✓ **RSWDB Open:: _com_error: misc**
- ✓ **RSWDB CLOSE:: _com_error:**
- ✓ **RSWDB CLOSE:: _com_error: misc**
- ✓ **RSWDB OpenRS:: _com_error:**
- ✓ **RSWDB OpenRS:: _com_error: misc**
- ✓ **RSWDB RStoBool**
- ✓ **RSWDB RStoBool**
- ✓ **RSWDB RStoLong**
- ✓ **RSWDB RStoLong**
- ✓ **RSWDB RStoShort**
- ✓ **RSWDB RStoShort**
- ✓ **RSWDB RStoStr**
- ✓ **RSWDB RStoStr**
- ✓ **Too many clients**
- ✓ **RSWQR worker thread not running**
- ✓ **RSWQR command missing**
- ✓ **RSWQR invalid command**
- ✓ **RSWQR no parameters**
- ✓ **RSWQR parameter name not found**
- ✓ **RSWQR parameter duplicate**
- ✓ **RSWQR parameter missing**
- ✓ **RSWQR Corrupt Settings.MDB**
- ✓ **RSWQR cannot set colors in registry**
- ✓ **RSWDC too many events, data lost**
- ✓ **RSWDC settings close err**
- ✓ **EVMSG_INSTALLED**
- ✓ **EVMSG_REMOVED**
- ✓ **EVMSG_NOTREMOVED**
- ✓ **EVMSG_CTRLHANDLERNOTINSTALLED**
- ✓ **EVMSG_FAILEDINIT**
- ✓ **EVMSG_STARTED**
- ✓ **EVMSG_BADREQUEST**
- ✓ **EVMSG_DEBUG**
- ✓ **EVMSG_STOPPED**
- ✓ **EVMSG SOCKINIT**
- ✓ **EVMSG SOCK_CREATE**
- ✓ **EVMSG SOCK_BIND**
- ✓ **EVMSG SOCK_LISTEN**

- ✓ EVMSG SOCK SELECT
- ✓ EVMSG SOCK ACCEPT
- ✓ EVMSG SOCK RECV
- ✓ EVMSG SOCK SEND_R4K
- ✓ EVMSG SOCK RX_R4K
- ✓ EVMSG SOCK SEND
- ✓ EVMSG_COMM_LOADCC
- ✓ EVMSG_COMM_LOADMS
- ✓ EVMSG_COMM_OPEN
- ✓ EVMSG SOCK COMM_OK
- ✓ NTLCCNOTLOAD
- ✓ EVMSG_MSGIO_NOTLOAD
- ✓ RSWDC Site.4KC missing priorities
- ✓ RSWDC Site.4KC missing areas
- ✓ RSWDC Site.4KC missing rooms
- ✓ RSWDC Site.4KC missing beds
- ✓ RSWQR Bed Index out of range
- ✓ RSWQR Invalid User name – no match