

# **Technical Publications**

**Direction 2199603**  
Revision 4

## **Signa® LX ConnectPro (HIS/RIS) Installation**

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**Operating Documentation**

## DAMAGE IN TRANSPORTATION

All packages should be closely examined at time of delivery. If damage is apparent, have notation "**damage in shipment**" written on **all** copies of the freight or express bill **before** delivery is accepted or "signed for" by a General Electric representative or a hospital receiving agent. Whether noted or concealed, damage **MUST** be reported to the carrier **immediately** upon discovery, or in any event, within **14** days after receipt, and the contents and containers held for inspection by the carrier. A transportation company will not pay a claim for damage if an inspection is not requested within this **14** day period.

**Immediately** complete a "Damage Loss Claim Form", available via MS Exchange Mail, after the damage is found.

MS Exchange Path:

Outlook/Public Folder/All Public Folders/Medical Systems/!Global Initiatives/Information Management/Forms/Common Forms/DAMAGE LOSS CLAIM FORM.

Send the completed form to the email address listed in the form.

For more information about the Transportation Claim Procedure, access the GE Medical Systems Intranet and enter the following URL address (case sensitive):

<ftp://3.87.40.2/globepro/qualsys/Docs/190016MF.PDF>

Rev. 11/15/2000

Direction 2128126 - Language Policy For Service Documentation, Rev 0

**W A R N I N G**

- THIS SERVICE MANUAL IS AVAILABLE IN ENGLISH ONLY.
- IF A CUSTOMER'S SERVICE PROVIDER REQUIRES A LANGUAGE OTHER THAN ENGLISH, IT IS THE CUSTOMER'S RESPONSIBILITY TO PROVIDE TRANSLATION SERVICES.
- DO NOT ATTEMPT TO SERVICE THE EQUIPMENT UNLESS THIS SERVICE MANUAL HAS BEEN CONSULTED AND IS UNDERSTOOD.
- FAILURE TO HEED THIS WARNING MAY RESULT IN INJURY TO THE SERVICE PROVIDER, OPERATOR OR PATIENT FROM ELECTRIC SHOCK, MECHANICAL OR OTHER HAZARDS.

**AVERTISSEMENT**

- CE MANUEL DE MAINTENANCE N'EST DISPONIBLE QU'EN ANGLAIS.
- SI LE TECHNICIEN DU CLIENT A BESOIN DE CE MANUEL DANS UNE AUTRE LANGUE QUE L'ANGLAIS, C'EST AU CLIENT QU'IL INCOMBE DE LE FAIRE TRADUIRE.
- NE PAS TENTER D'INTERVENTION SUR LES ÉQUIPEMENTS TANT QUE LE MANUEL SERVICE N'A PAS ÉTÉ CONSULTÉ ET COMPRIS.
- LE NON-RESPECT DE CET AVERTISSEMENT PEUT ENTRAÎNER CHEZ LE TECHNICIEN, L'OPÉRATEUR OU LE PATIENT DES BLESSURES DUES À DES DANGERS ÉLECTRIQUES, MÉCANIQUES OU AUTRES.

**WARNUNG**

- DIESES KUNDENDIENST-HANDBUCH EXISTIERT NUR IN ENGLISCHER SPRACHE.
- FALLS EIN FREMDER KUNDENDIENST EINE ANDERE SPRACHE BENÖTIGT, IST ES AUFGABE DES KUNDEN FÜR EINE ENTSPRECHENDE ÜBERSETZUNG ZU SORGEN.
- VERSUCHEN SIE NICHT, DAS GERÄT ZU REPARIEREN, BEVOR DIESES KUNDENDIENST-HANDBUCH NICHT ZU RATE GEZOGEN UND VERSTANDEN WURDE.
- WIRD DIESE WARNUNG NICHT BEACHTET, SO KANN ES ZU VERLETZUNGEN DES KUNDENDIENSTTECHNIKERS, DES BEDIENERS ODER DES PATIENTEN DURCH ELEKTRISCHE SCHLÄGE, MECHANISCHE ODER SONSTIGE GEFAHREN KOMMEN.

**AVISO**

- ESTE MANUAL DE SERVICIO SÓLO EXISTE EN INGLÉS
- SI ALGÚN PROVEEDOR DE SERVICIOS AJENO A GEMS SOLICITA UN IDIOMA QUE NO SEA EL INGLÉS, ES RESPONSABILIDAD DEL CLIENTE OFRECER UN SERVICIO DE TRADUCCIÓN.
- NO SE DEBERÁ DAR SERVICIO TÉCNICO AL EQUIPO, SIN HABER CONSULTADO Y COMPRENDIDO ESTE MANUAL DE SERVICIO.
- LA NO OBSERVANCIA DEL PRESENTE AVISO PUEDE DAR LUGAR A QUE EL PROVEEDOR DE SERVICIOS, EL OPERADOR O EL PACIENTE SUFRAN LESIONES PROVOCADAS POR CAUSAS ELÉCTRICAS, MECÁNICAS O DE OTRA NATURALEZA.

## ATENÇÃO

- ESTE MANUAL DE ASSISTÊNCIA TÉCNICA SÓ SE ENCONTRA DISPONÍVEL EM INGLÊS.
- SE QUALQUER OUTRO SERVIÇO DE ASSISTÊNCIA TÉCNICA, QUE NÃO A GEMS, SOLICITAR ESTES MANUAIS NOUTRO IDIOMA, É DA RESPONSABILIDADE DO CLIENTE FORNECER OS SERVIÇOS DE TRADUÇÃO.
- NÃO TENHA TENTADO REPARAR O EQUIPAMENTO SEM TER CONSULTADO E COMPREENDIDO ESTE MANUAL DE ASSISTÊNCIA TÉCNICA.
- O NÃO CUMPRIMENTO DESTA AVISO PODE POR EM PERIGO A SEGURANÇA DO TÉCNICO, OPERADOR OU PACIENTE DEVIDO A CHOQUES ELÉTRICOS, MECÂNICOS OU OUTROS.

## AVVERTENZA

- IL PRESENTE MANUALE DI MANUTENZIONE È DISPONIBILE SOLTANTO IN INGLESE.
- SE UN ADDETTO ALLA MANUTENZIONE ESTERNO ALLA GEMS RICHIEDE IL MANUALE IN UNA LINGUA DIVERSA, IL CLIENTE È TENUTO A PROVVEDERE DIRETTAMENTE ALLA TRADUZIONE.
- SI PROCEDA ALLA MANUTENZIONE DELL'APPARECCHIATURA SOLO DOPO AVER CONSULTATO IL PRESENTE MANUALE ED AVERNE COMPRESO IL CONTENUTO.
- NON TENERE CONTO DELLA PRESENTE AVVERTENZA POTREBBE FAR COMPIERE OPERAZIONI DA CUI DERIVINO LESIONI ALL'ADDETTO ALLA MANUTENZIONE, ALL'UTILIZZATORE ED AL PAZIENTE PER FOLGORAZIONE ELETTRICA, PER URTI MECCANICI OD ALTRI RISCHI.

## 警告

- ・このサービスマニュアルは英語版しかありません。
- ・GEMS以外でサービスを担当される業者が英語以外の言語を要求される場合、翻訳作業はその業者の責任で行うものとさせていただきます。
- ・このサービスマニュアルを熟読し、理解せずに装置のサービスを行わないでください。
- ・この警告に従わない場合、サービスを担当される方、操作員あるいは患者さんが、感電や機械的又はその他の危険により負傷する可能性があります。

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## 1- INTRODUCTION

HIS/RIS (Hospital Information Server/Radiology Information Server) is a means by which some medical care facilities electronically track the movements and care given to their patients.

ConnectPro (Catalog Number M1090PL) is the GE Medical Systems option that allows connecting of the Signa LX scanner to the sites HIS/RIS servers. Section 2 covers installation and setup for scanners running ASP, Signa 8.4 or higher software. Section 3 covers installation to Signa 8.3 software.

ConnectPro+ (Catalog Number M1033PA) is an add on option to ConnectPro that allows the mapping of scan protocols to insurance billing codes.

This document covers the ConnectPro software load and configuration of networking parameters. Also included is installation of optional bar code scanner (Catalog Number M1090PM) which reads patient information directly from coded wristbands.

**2- HIS/RIS SOFTWARE SOFTWARE INSTALLATION AND CHECKOUT FOR SIGNA ASP, 8.4 OR GREATER**

**2-1 Information Needed Before Installing Connectpro or Connectpro+**

Before you install the ConnectPro (Catalog Number M1090PL) or ConnectPro+ option software, obtain the following information from the sites network or HIS/RIS\* administrator. It is not possible to configure the Connectpro options if this information is not collected first.

\* Hospital Information Server (HIS) or Radiology Information Server (RIS)

TABLE 2-1  
**ADDITIONAL HOST INFORMATION REQUIRED**

<b>Local Port Number to be used by Signa Host for communication.</b>	Default is 4006, which should be used unless change is required by local system admin.
<b>Local AE** Title (Hostname) (1-16 Chars)</b>	
<b>Station Name (1-8 Chars)</b>	
<b>Default Router IP Address</b>	

\*\* AE = Application Entity

HIS/RIS systems differ from site to site as to what information is tracked from what is commonly referred to as Modality Work List Service Class Provider. The following is a list of options for Signa. Working with the system administrator, check off options required.

TABLE 2-2  
**MODALITY WORK LIST INFORMATION**

<b>Component Name</b>	<b>Tracked (Yes or No)</b>
Current Patient Location	
Special Needs	
Pregnancy Status	
Referring Physician	
Request Contrast Agent	
Contrast Allergy	
Medical Alert	
Additional Patient History	

In addition, DICOM uses a (^) delimiter to delimit the entry fields which make up a person's name. It is necessary to know if the site would prefer the delimiter replaced with a blank when the patient name is retrieved from the Modality Worklist and displayed on the monitor or film.

MWL Field	Surpressed(Yes or No)
Patient Name Delimiter (^)	

Obtain the following information from the sites network or HIS/RIS\* administrator. It is not possible to configure the Connectpro options if this information is not collected first.

Modality Worklist Server	
MWL AE Title (1-16 Char)	
MWL IP Address	
MWL Port Number (0-65535)	

If the system will also be adding ConnectPro+ option, the following information concerning Perform Procedure Step may be necessary.

TABLE 2-3  
PERFORM PROCEDURE STEP (PPS) OPTIONS

PPS AE title (1-16 Chars)	
PPS IP Address	
PPS Port Number (0-65535)	

## 2-2 Loading Connectpro and or Connectpro+ Option Keys

1. Insert the option key MOD disk in the SGI computer MOD drive.
2. Go to the **[Service Desktop]**.
3. Select **[Install]** from the Service Desktop Manager at the left hand side.
2. The system will then ask for a root password, type the following:

Password: **operator <Enter>** ("operator" is the system default. If the root password has changed for this site, use what is needed.

5. Select FE install mode. After the Guided Install window opens (30 sec. for Octane; 60 sec. for Indigo), select **Option Key tab**.
6. Select the **MOD** box at the Install Option Key portion of the window then select **Install**.
7. Quit and remove the MOD after the option is loaded. Do not close the Install GUI. Proceed to section 2-3 to configure the option.

### 2-3 Configuring the HIS/RIS Options

After the software keys have been loaded select the HIS/RIS tab to start configurations. Refer to illustration 2-1.

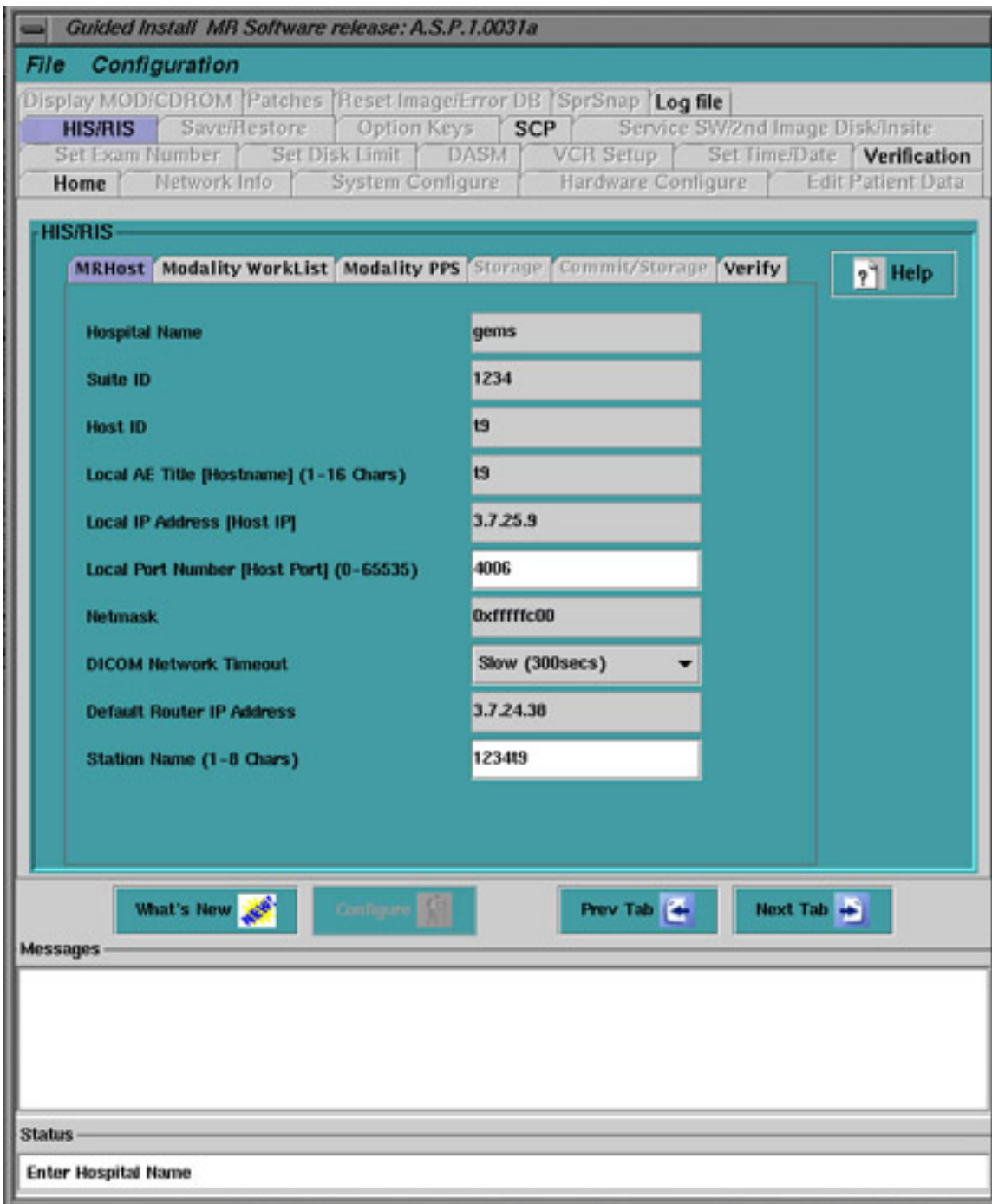


ILLUSTRATION 2-1  
CONFIGURING HOST ADDRESS

Part of the information on this sheet originates from the network tab of the GUI and should not be modified. The fields that will need to be modified are the same as the information gathered in Table 2-1 of this document.

Next, select the Modality Work List Tab. See Illustration 2-2.

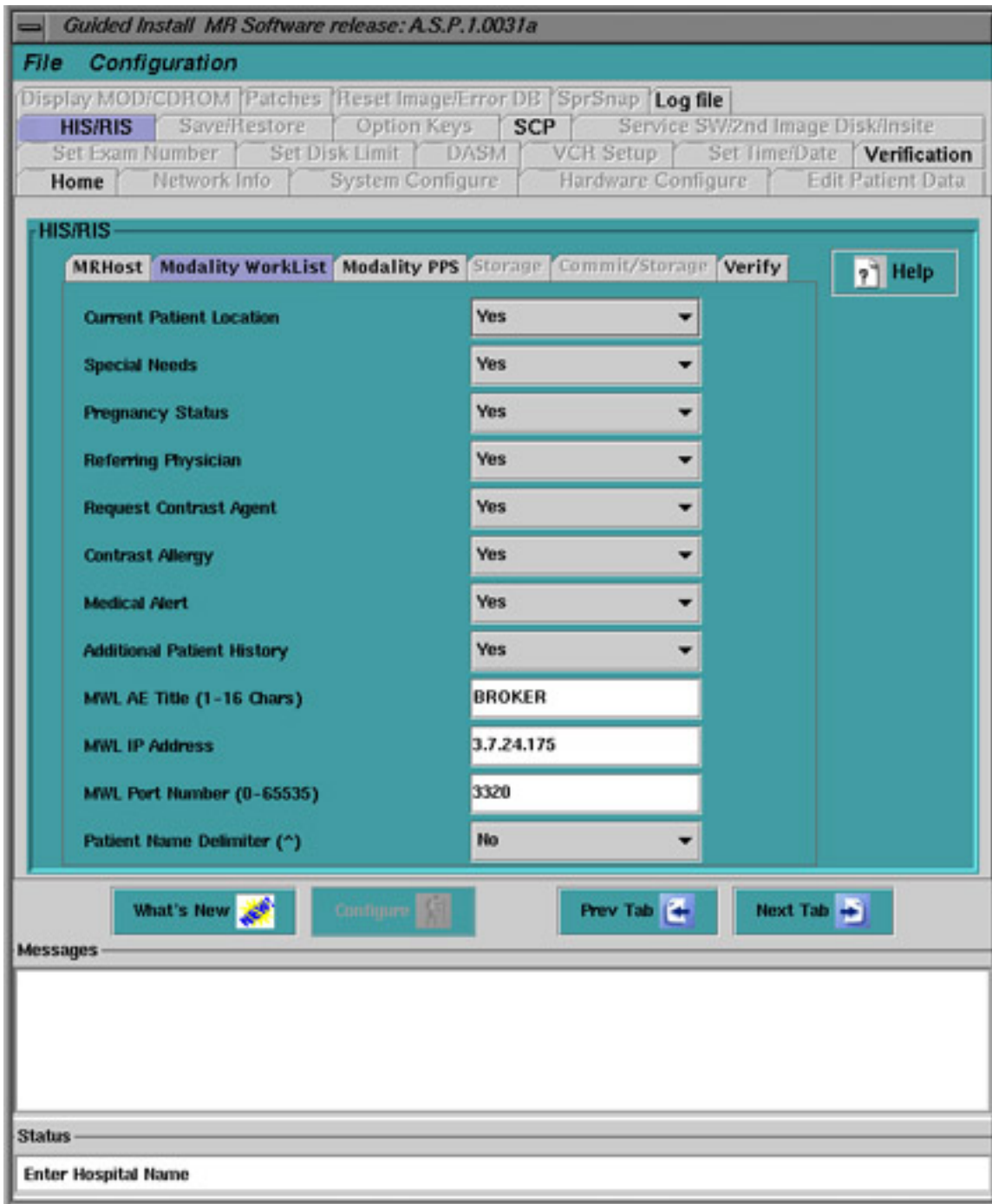


ILLUSTRATION 2-2  
MODALITY WORK LIST

Update fields on this page as required from information gathered in Table 2-2 of this document.

Next, continue to the Perform Procedure Step (PPS) Tab. Refer to Illustration 2-3.

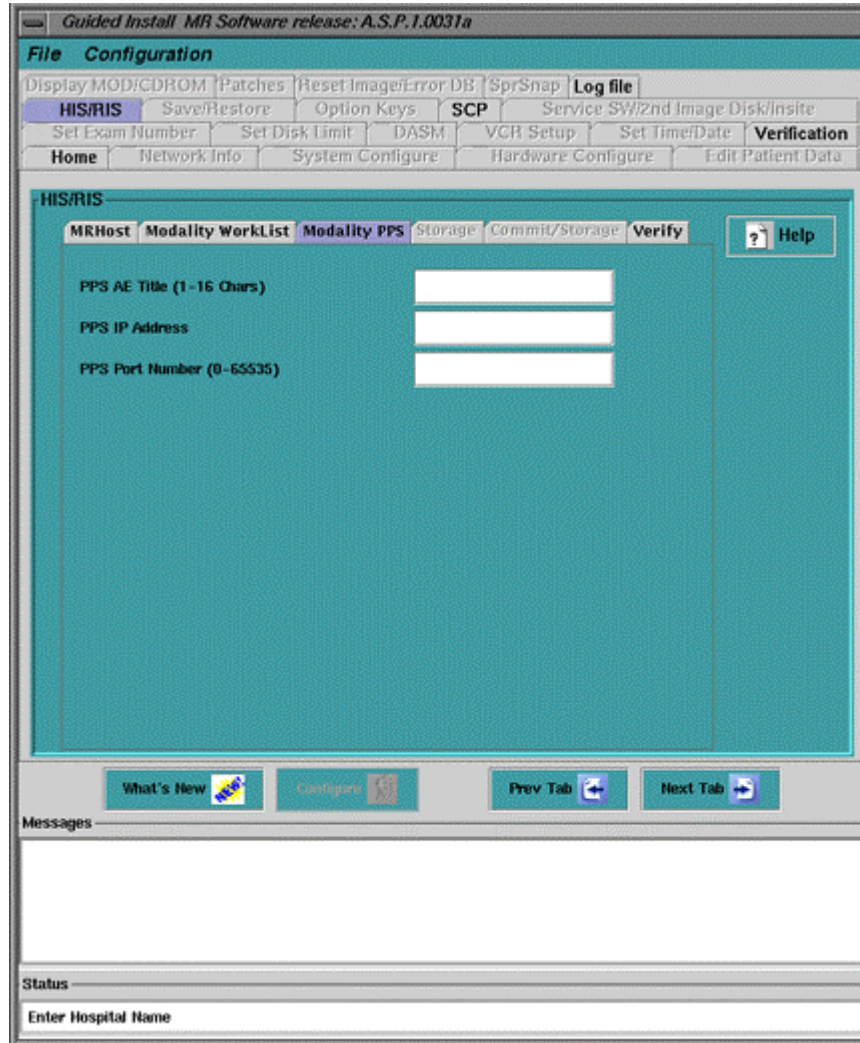


ILLUSTRATION 2-3  
PERFORM PROCEDURE STEP TAB

Update this tab from data collected and stored in Table 2-3 of this document. This tab would only be filled out if the site is loading connectpro+ option.

Continue own to the Verification tab when finished filling in all tabs. See Illustration 2-4.

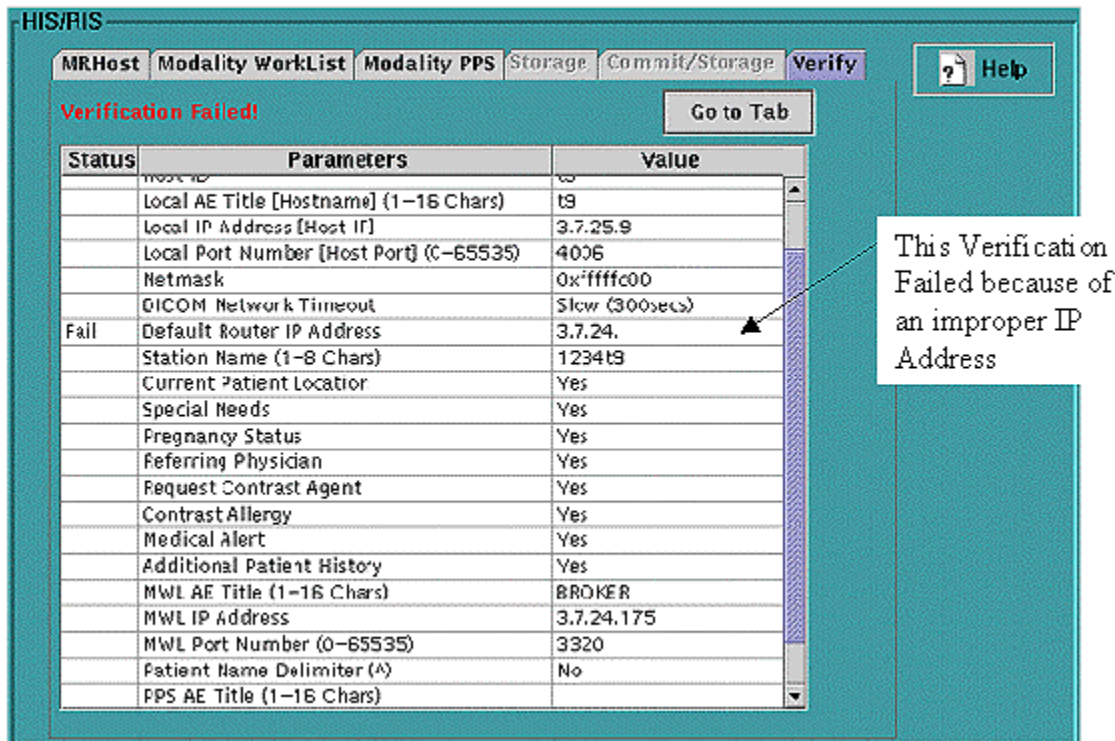


ILLUSTRATION 2-4  
VERIFICATION TAB

If all the information has been entered correctly and nothing was left out, this tab will show a "Passed" message in the left corner. Failures are flagged as shown in Illustration 2-4. Correct any failing entries before continuing.

Keep in mind that the verification only checks data format, and not content. It is up to the installer to insure the accuracy of the data.

Once all entries pass verification, press the **<Configure>** button on this page to configure the system. After configuring the system, it is recommended a "SaveInfo" be performed to backup the new system options.

Exit the Install GUI and Reboot Signa to activate the new options.

### 2-3 SCP Introduction

After configuring Connectpro and or Connectpro+, go the SCP tab in the main GUI window to map site charge codes to system protocols. See Illustration 2-5.

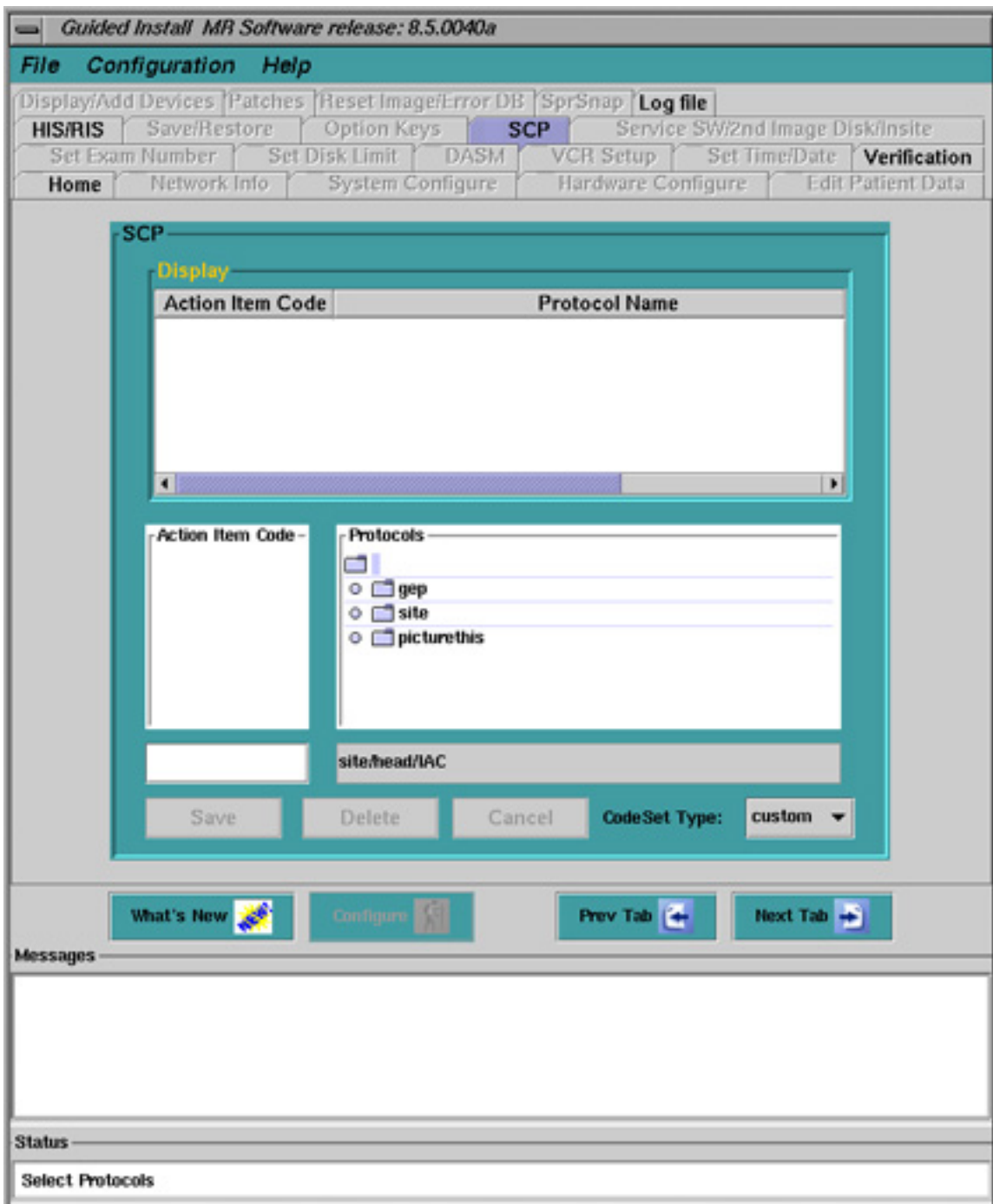


ILLUSTRATION 2-5  
SCP TAB

SCP are charge codes used by scanning facilities when billing insurance companies. This TAB allows mapping between procedure charge codes and protocols. This is a TAB best filled in by site staff. To map a charge code to a protocol, do the following:

1. Enter a charge code in the edit box below the action code box by placing the screen cursor in the box and clicking the left mouse button. Action codes are determined by the facilities billing unit.

2. Chose a protocol from the protocol list box to map that charge code to. Press the **<Save>** button to list the new map.
3. If a previously mapped action code needs to be deleted, select it in the display box, and push the **<Delete>** button. Deletions can not be undone. They have to be rebuilt.
4. Do a SaveInfo to backup edits made in this TAB against future software loads.

## 2-4 Configuration for Ignore Unmapped Action Items

On the SCP tab of Guided Install screen, an action item can be mapped to a protocol so that when the record with that action item is loaded from the Worklist browser, the mapped protocol is also loaded automatically. When not all action items of a Worklist record get mapped to protocols (called partial mapping) or no action items are mapped to protocols, a *Skipped Action Items, Please Configure* pop-up displays on the scan desktop when a Worklist record is selected and loaded. The Field *Ignore Unmapped Action Item*, under the HIS/RIS option can be toggled to either Yes or No.

- When set to **Yes**, the pop-up will NOT display when no action items are mapped to Protocols.
- When set to **No**, the pop-up will display when no action items are mapped to Protocols.

Consider the following example.

- There is a worklist record with two action items, A1 and A2, not mapped to any protocol.
  - The *Ignore Unmapped Action Items* is set to Yes on the Guided Install screen.
1. Notice that when this record is selected from the Worklist browser and loaded on the Patient Information screen, the *Skipped Action Items, Please Configure* pop-up will not display.
  2. Change *Ignore Unmapped Action Items* to NO on the Guided Install screen.
  3. Load the same record from the Worklist browser into the Patient Information screen and the pop-up now displays.

### Note

Irrespective of the setting of the *Ignore Unmapped Action Item* option:

- In all cases of partial mapping of action items to protocols, the pop-up will display.
- When all action items are mapped to protocols, the pop-up will not display.

### 3- HIS/RIS SOFTWARE OPTION INSTALLATION AND CHECKOUT FOR SIGNA 8.3

#### 3-1 Obtain HIS/RIS site server information

Before you install the HIS/RIS option software, obtain the following information from the sites network or HIS/RIS\* administrator:

\* Hospital Information Server (HIS) or Radiology Information Server (RIS)

TABLE 3-1  
HIS/RIS SERVER INFORMATION

HIS Server IP Address	_____	(The IP address for the HIS/RIS Server)
HIS Server* AE Title	_____	(Application Entity Title)
HIS Server* AE Port #	_____	(Application Entity Port)
MR Server AE Title	_____	(MR Scanners Systems Name)

The HIS/RIS system is capable of maintaining a database of the following information. Check with the customer which items will be tracked by the current sites system:

	Current Patient Location
	Special Needs
	Pregnancy Status
	Referring Physician
	Request Contrast Agent
	Contrast Allergy
	Medical Alert
	Additional Patient History

Check as required.

Additionally, some sites like to have the patient's name delimited when printed out in the HIS/RIS system. Check with the HIS/RIS Administrator to find out if the name should be delimited with a " ^ " symbol.

#### 3-2 Install and Setup HIS/RIS Option from MOD

1. Insert the MOD disk (Catalog M1090PL) in the SGI computer MOD drive.
2. Select the Service Desktop.
3. Select **[Install]** from the Service Desktop Manager.
4. The system will then ask for a root password, type the following:  
Use root password then push **<Enter>** ("operator" is the system default).
5. After the Guided Install window opens (30 sec. for Octane; 60 sec. for Indigo), select **Option Key tab**.
6. Select **MOD** box at Install Option Key portion of window, then select **Install**.

7. When installation process is complete, go to the HIS/RIS tab. See illustration 3-1.

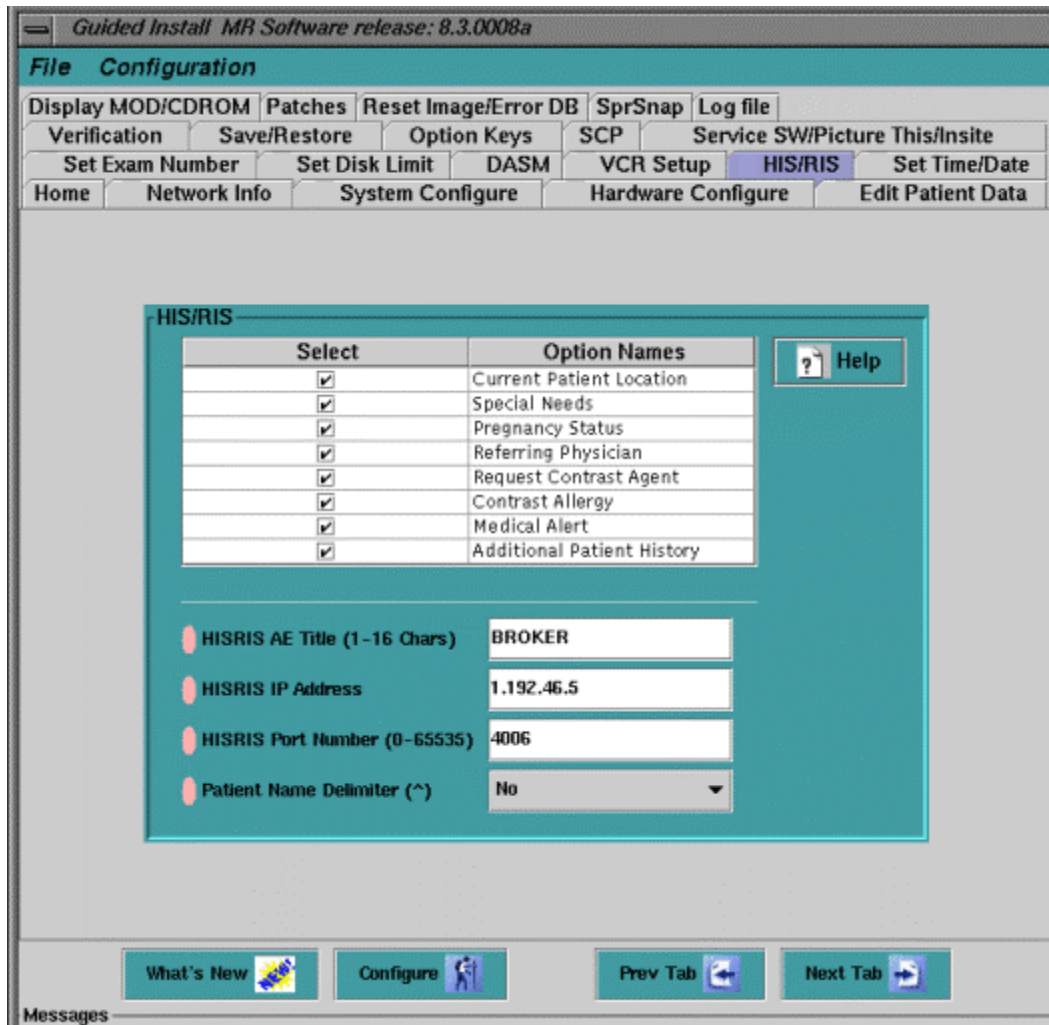


ILLUSTRATION 3-1  
HIS/RIS INSTALL GUI TAB

8. Fill in all the information in this tab based on the information collected in Section 2-1.
9. When done, push the configure button at the bottom of the tab, see illustration 3-1.
10. Exit the install GUI using **<File>**, **<Exit>**. Exit Signa and reboot the system. Once finished, re-log into Signa. Select **[New Pt]** and then query the HIS/RIS system

## 4- 1- HIS/RIS OPTION HARDWARE INSTALLATION PREPARATION

### 1-1 Bar Code Reader Kit Hardware Installation

1. Shutdown the System:
  - a. Select the **[Utilities]** button from the system desktop.
  - b. Select the **[System Shutdown]** button from the Service Desktop Manager.
  - c. A window with the message "The System is Shutting Down, Please Wait" will appear.
2. After the software shuts down, the following message appears, See Illustration 1-1.

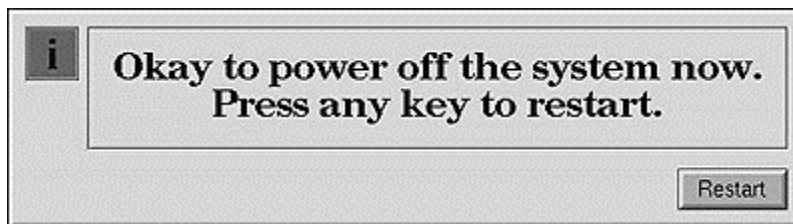


ILLUSTRATION 1-1  
READY TO POWER DOWN PANEL

3. Press the power button on the front of the SGI computer.

### 1-2 Operator Workspace Hardware Installation (Optional)

#### **Note**

The hardware installation section is only applicable if a barcode reader is ordered along with the HIS/RIS option. If there is no barcode reader to install, go to Section 2.

#### **Note**

This document contains the installation procedure for the Barcode reader for only Octane systems. For Excite based systems, such as 11x, 12x, 14x, etc, refer to the Barcode Reader for the appropriate system. The Barcode Installation procedure can be found on the applicable CD or website under the **Install/Options** section

1. Remove the back cover to the Computer Cabinet, this will expose the back panels of the SGI and PC (The SGI is located on the left) (See Illustration 1-2).

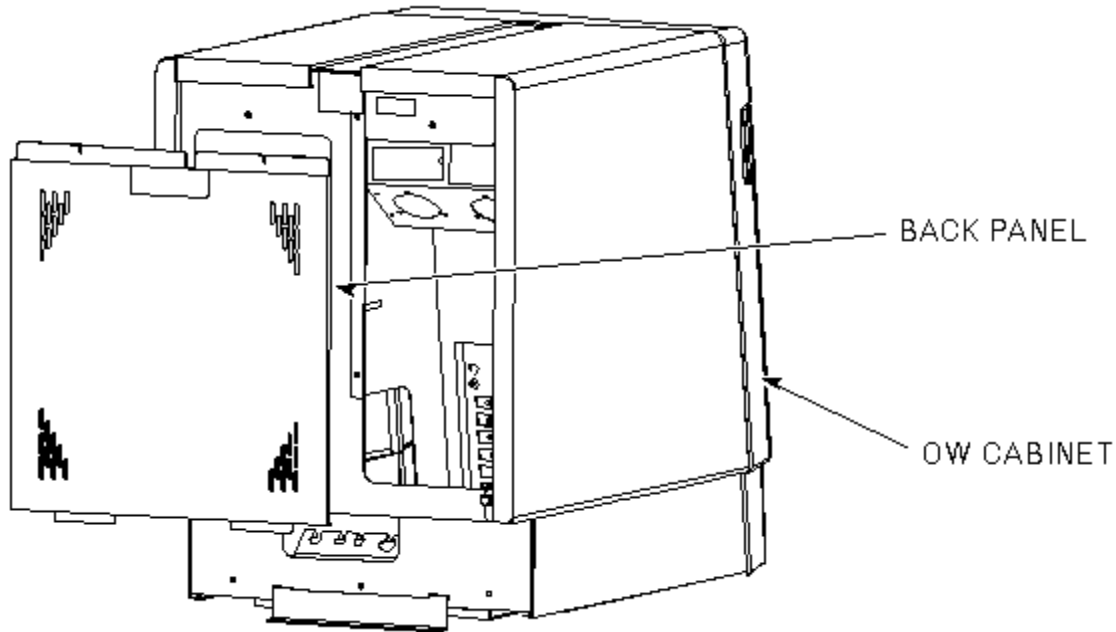


ILLUSTRATION1-2  
**REMOVE BACK PANEL OF DUPLEX**

2. Attach the Y-cable assembly (2180690-2) to the bar code scanner cord, refer to Illustration 1-3 for Indigo computer or Illustration 1-4 for Octane computer for details.

**Note**

The SGI may NOT be labeled as shown in each illustration.

3. Unplug the existing keyboard connector from on the SGI chassis, refer to Illustration 1-3 or 1-3 for details.
4. Attach keyboard connector to the short length female connector on the Y-Cable assembly, refer to Illustration 1-3 or 1-4 for details).
5. Connect the long male connector from the Y-Cable assembly to "Keyboard" connector on the SGI chassis, refer to Illustration 1-3 for Indigo computer or 1-4 for Octane computer details.
6. Optional: Mount the bar code scanner's holder to a location selected by the site Technologist. Use the double-sided tape (supplied with kit) to attach the holder.

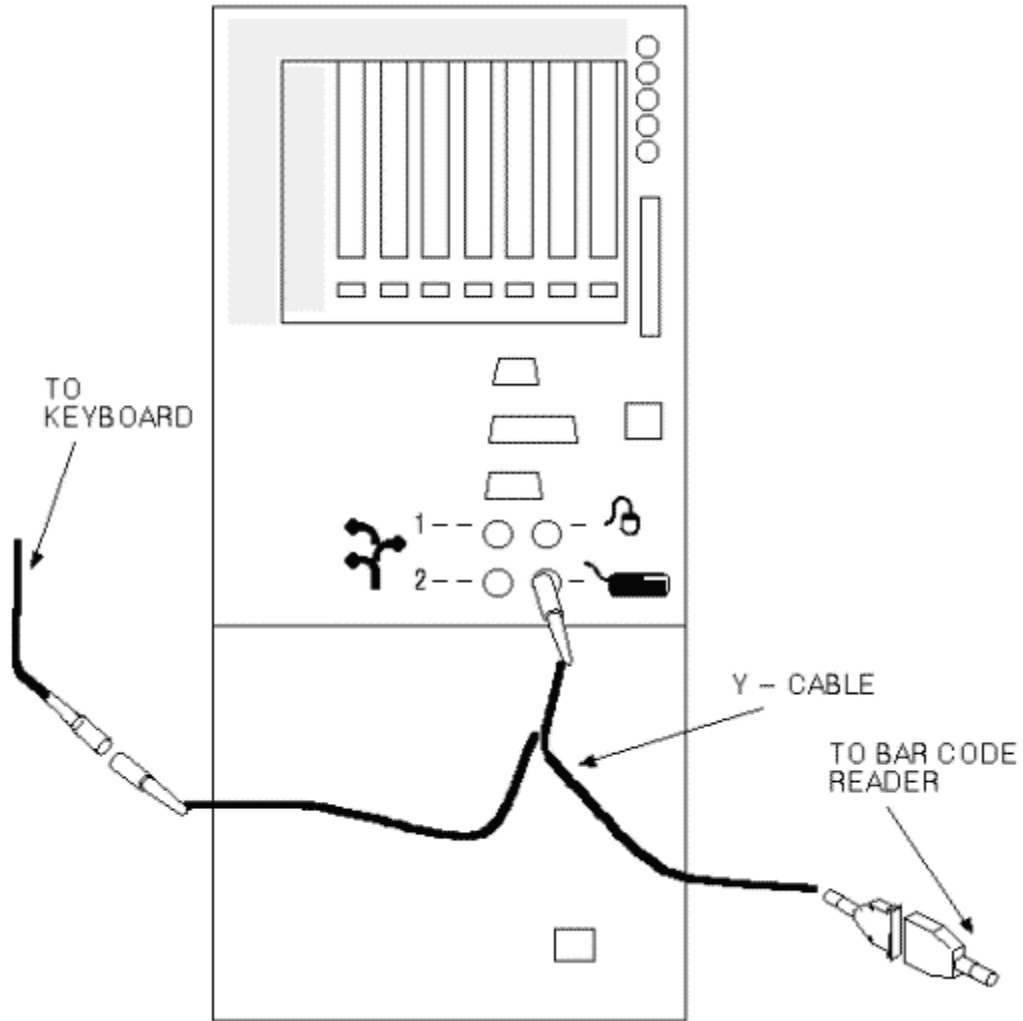


ILLUSTRATION 1-3  
BACK PANEL OF HOST (INDIGO) COMPUTER

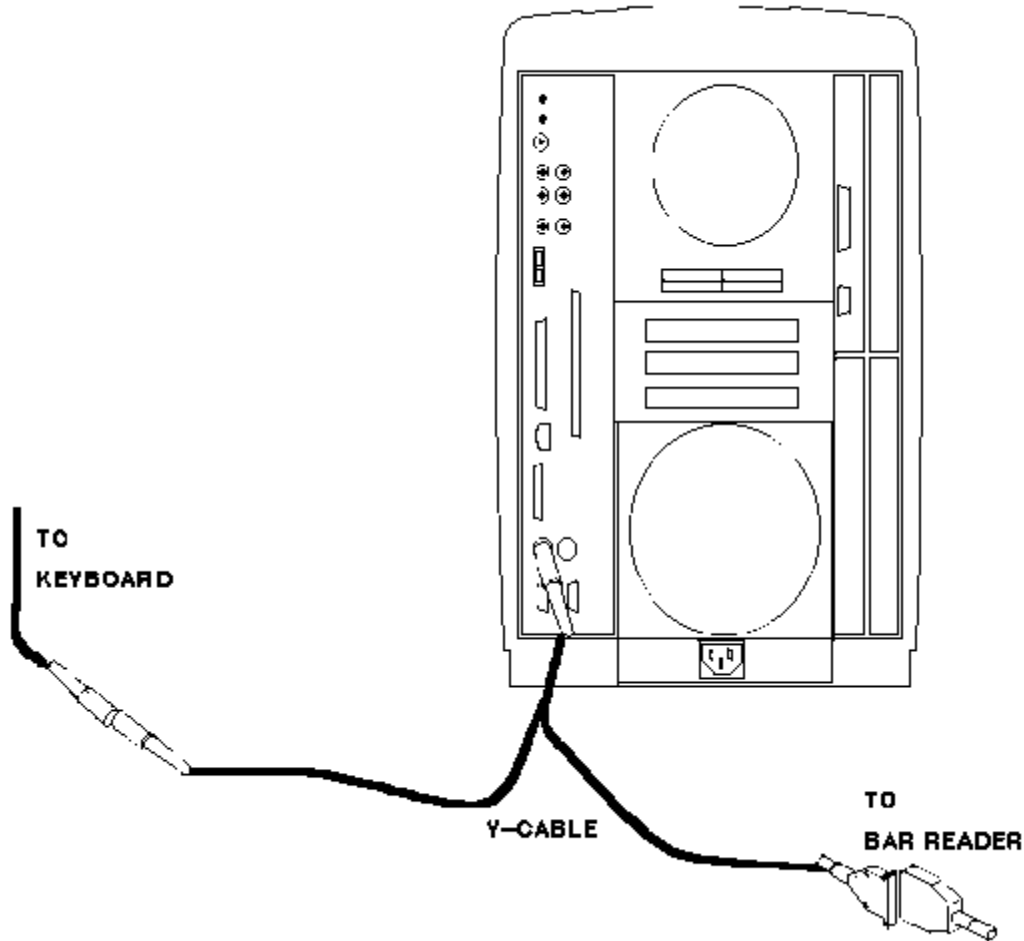


ILLUSTRATION 1-4  
BACK PANEL OF HOST (OCTANE) COMPUTER

### 1-3 Verify Bar Code Scanner Operation

#### Note

Do not replace the computer cabinet rear cover until you verify the bar code scanner operation.

1. With the computer cabinet back cover still removed, restore power to the SGI and boot up the system to the system desktop.
5. Select **[New Pt]**.
6. Use the hand-held bar code scanner to scan a barcode of a patient or refer to the User's manual for the Hand Held scanner and scan one of the sample barcodes. Make sure the screen updates with the corresponding number found at the base of the barcode. See example 1-5.

The bar code scanner beeps when it successfully reads a bar code.

Recommended: New users, take some time to practice with the bar code scanner and bar code samples. Delete the screen entry and reread the bar codes until you feel comfortable with the bar code scanner operation.

A User's Manual comes with the scanner kit. It contains detailed usage information, as well as additional sample bar codes. If you encounter difficulties, refer to the Operation User Maintenance and Troubleshooting section of this manual.

4. Manually type/enter the Patient Name.
5. Select **[End Exam]**.
6. Select **[OK]** when the End Exam confirmation box appears.
7. This completes the bar code scanner and keyboard function test.
8. Reinstall the computer cabinet rear cover.

REQUISITION #



508

PATIENT ID #



555 666 777

REQUISITION #



510

PATIENT ID #



777 888 999

ILLUSTRATION 1-5  
BAR CODE SAMPLES TO SCAN



**5- RENEWAL PARTS**

**5-1 Replaceable Parts for Bar Code Reader Kit M1090PM**

Item	Part Number	Name	FRU	Quantity	Description
1	2180690-2	Bar Code Scanner	1	1	Hand Held Bar Code Scanner Only.
1	2180690-3	Y-Cable Assembly	1	1	Console/keyboard/Scanner interface cable only.
1	2180690-4	Scanner Holder	2	1	Plastic holder only (to store bar code scanner when not in use.

**5-2 ConnectPro (HIS/RIS) Option Kit M1090PL**

Item	Part Number	Name	FRU	Quantity	Description
1	2210339	Option MOD	1	1	HIS/RIS Option Key
1	2199603	Direction	1	1	Installation Document

**5-3 ConnectPro (HIS/RIS) Option Kit M1090PM, With Hardware**

Item	Part Number	Name	FRU	Quantity	Description
1	2180690	Bar Code Reader Kit	1	1	Hardware includes hand held scanner, holder and user manual.
1	46-302200P12	Rating Plate	1	1	Rating Plate
1	2199603	Software Option	1	1	Signa Horizon 8x option key kit.

**5-4 Connectpro + Option Kit M1033PA**

Item	Part Number	Name	FRU	Quantity	Description
1	2283324	Option MOD	1	1	Perform Procedure Step
1	2199603	Direction	1	1	Installation Document

## REVISION HISTORY

REV	DATE	AUTHOR	PRIMARY REASONS FOR CHANGE
A	Jul 21, 1997 Aug 12, 1997 Aug 13, 1997	M. Keber M. Keber M. Keber	Initial version MR template for Microsoft Word documents. Changed basic text fonts to size 12; updated with other "style" changes. Changed example illustration to .bmp from Toolbook file.
0	Nov, 1999	Hawthorne	Added configuration for Signa 8.3
1	Aug, 2000	Hawthorne	Added configuration for Signa ASP and ConnectPro Option
2	Jun 6, 22002	Hofstetter	Updated barcodes in section 1-3 to improve compatibility with handheld scanner
3	Jun 22, 2007	Kargard	Added references on how to install barcode reader for Excite systems.
4	Nov 27, 2007	Kargard	Added Configuration for <i>Ignore Unmapped Action Item</i> option for HIS/RIS.