



GE Medical Systems

Technical Publications

**Direction 2209382
Revision 5**

Signa[®] Software Option Installation By MOD

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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

WARNING

- 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 DESTES AVISOS 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。
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- ・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。

注意:

- 本维修手册仅存有英文本。
- 非 GEMS 公司的维修员要求非英文本的维修手册时，客户需自行负责翻译。
- 未详细阅读和完全了解本手册之前，不得进行维修。
- 忽略本注意事项会对维修员，操作员或病人造成触电，机械伤害或其他伤害。

REVISION HISTORY

| <u>REV</u> | <u>DATE</u> | <u>PRIMARY REASON FOR CHANGE</u> |
|------------|-----------------|--|
| 0 | October, 1999 | Initial version for Release. |
| 3 | May, 2000 | Conversion Interleaf to Word. Added Catalog Availability Info for 8.2 |
| 4 | September, 2000 | Updated Catalog Information to include Release 8.3 Information. |
| 5 | August, 2001 | Updated Catalog information to include ASP, 9.0 and OpenSpeed. Revised Document name to be more generic. Added a Glossary. |

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* This revision/letter corresponds to the indicated document's revision control system.

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1 OVERVIEW

This procedure describes how to install software options on the Signa scanners 8.3, ASP, 9.x or later systems using the MOD drive. The Software Option package contains the appropriate software option MOD.

2 OPTION SOFTWARE INSTALLATION

1. Insert the MOD disk in the SGI computer MOD drive.
2. Select the **[Service Tools Desktop]**.
3. Select **[Install...]** from the Service Desktop Manager.
4. Select FE Mode if loading to Signa software revision ASP or higher.
5. A command window will open with **"Type Root Password"** displayed. Type the systems root password and then press the **<Enter>** key. **"Operator"** is the Signa default root password. If for your site, the root password has been changed by the customer you will have to obtain the correct root password from the customer.
6. After the Guided Install window opens (30 sec. for Octane; 60 sec. for Indigo), select **Option Keys** tab. See Illustration 2-1.

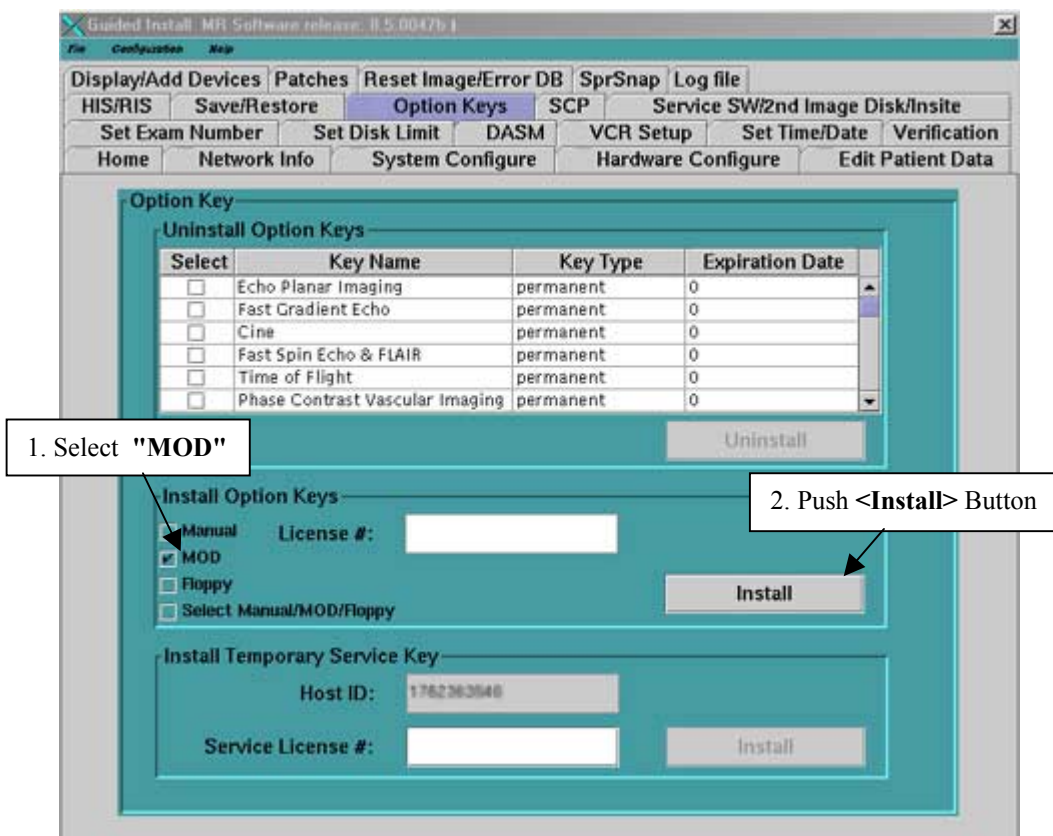


ILLUSTRATION 2-1
GUIDED INSTALL WINDOW

7. Select **MOD** box at Install Option Key portion of window, then select **Install**.
8. The option key will begin loading. Load times for option keys are very short. Typically less than 1 minute. When the key is finished loading a popup will appear requesting you to insert the next MOD or press **<Quit>**. See Illustration 2-2. If other options are to be loaded at this time, remove the currently loaded MOD by pressing the eject button on the MOD drive and insert the next MOD to be loaded. Wait 15 seconds for loading to begin. Continue this process until all options are loaded.



ILLUSTRATION 2-2
INSTRUCTIONAL POP UP FOR MOD OPTION LOADS

9. After all options are loaded, press the **<Quit>** button to quit the option load process. Select **File ->Quit** from the main menu bar to exit the Guided Install tool.

3 REBOOT COMPUTER

1. Reboot the computer.
2. The installation is now complete.

4 SIGNA OPTION KEY CATALOG MATRIX AND MOD FRU PART NUMBERS

Refer to Table 4-1 for a list of available Options for the Signa Scanners.

TABLE 4-1
OPTION KEY CATALOG MATRIX

| Option Catalog | Options Activated | MOD Part Number * |
|---|---|-------------------|
| M3090BD HiSpeed Key For ACGD | <ul style="list-style-type: none"> HiSpeed Scanning | 2285279 |
| M309BE Echo Speed Key | <ul style="list-style-type: none"> SGD Echo Speed | 2210001 |
| M3033JE ACGD Plus (Enables) 33m T/M) | <ul style="list-style-type: none"> ACGD Plus | 2291924 |
| M2033JF ScanTools 2000 For OpenSpeed | <ul style="list-style-type: none"> Cine Phase Contrast Vascular Imaging 3D Surface/Voxtool iDrive | 2308732 |
| M2033JF LxTools for OpenSpeed | <ul style="list-style-type: none"> Fast Spin Echo & Flair Fast Gradient Echo Time Fo Flight Interactive Vascular Imaging SPECIAL Three Plain Localizer E3DTOF Clariview | 2254688-2 |
| M1090JK Fiesta 2D | <ul style="list-style-type: none"> Fiesta 2D | 2272138 |
| M1090KK Fiesta 3D | <ul style="list-style-type: none"> Fiesta 3D | 2272141 |
| M1090KR Delayed Enhancements | <ul style="list-style-type: none"> Delayed Enhancements | 2272142 |
| M3033JL Dynamic R1 | <ul style="list-style-type: none"> Dynamic R1 (Signa 9.0) | 2308735 |
| M3033JF FTMRA | <ul style="list-style-type: none"> FTMRA (Signa 9.0) | 2308732 |
| M3033JJ PROSE | <ul style="list-style-type: none"> PROSE (Signa 9.0) | 2308733 |
| M3033JG PSIR | <ul style="list-style-type: none"> PSIR (Signa 9.0) | 2308731 |

* Part numbers listed are for FRU replacement of defective MOD's. The catalog number must be used to order for a customer original purchase.

Signa Option Key Catalog Matrix and MOD FRU Part Numbers (continued)

| Option Catalog | Options Activated | MOD Part Number * |
|---|--|-------------------|
| M1090LP Echo Plus | <ul style="list-style-type: none"> DW EPI | 2209994 |
| M1090LT SmartPrep | <ul style="list-style-type: none"> SmartPrep | 2209996 |
| M1090MW MS/MA | <ul style="list-style-type: none"> Multi-Slice/Multi-Angle Oblique | 2209601 |
| M1090NN FuncTool | <ul style="list-style-type: none"> FuncTool | 2210338 |
| M1090PL Connect Pro | <ul style="list-style-type: none"> Modality Work List | 2210339 |
| SGD ES Shipped Free On EchoSpeed | <ul style="list-style-type: none"> SGD EchoSpeed | |
| M1090LD Proactive Service | <ul style="list-style-type: none"> Proactive Service | 2162035 |
| M1090LF Phase Contrast Vascular | <ul style="list-style-type: none"> Phase Contrast Vascular Imaging | 2209592 |
| M1090LG Cine | <ul style="list-style-type: none"> Cine | 2209593 |
| M1090LJ IVI | <ul style="list-style-type: none"> Interactive Vascular Imaging | 2209595 |
| M1090LL 3D Surface | <ul style="list-style-type: none"> #d Surface/VoxTool | 2209597 |
| M1090LM Research | <ul style="list-style-type: none"> Research | 2209598 |
| M1090LN Research PSD | <ul style="list-style-type: none"> Standard Research PSD Set | 2209599 |
| M1090KS Lx UG Options Europe/Asia | <ul style="list-style-type: none"> Spectroscopy/PROBE DW EPI Flair EPI Smart Prep SSFSE | 2227959 |
| M1090CR Cardiac All | <ul style="list-style-type: none"> Blood Suppression Fast Cine Tagging SGD Perf | 2220154 |

* Part numbers listed are for FRU replacement of defective MOD's. The catalog number must be used to order for a customer original purchase.

Signa Option Key Catalog Matrix and MOD FRU Part Numbers (continued)

| Option Catalog | Options Activated | MOD Part Number * |
|--|--|-------------------|
| M1033JA IDrive Pro | <ul style="list-style-type: none"> • iDrive Pro (Formaly RTIA) | 2253724 |
| M1033JB Smart Prep 2000 | <ul style="list-style-type: none"> • Smart Prep • Smart Prep 2000 Upgrade | 2254639 |
| M1033JH Smart Prep 2000 Upgrade | <ul style="list-style-type: none"> • Smart Prep 2000 Upgrade | 2254640 |
| M1033JD PROBE 2000 | <ul style="list-style-type: none"> • Spectroscopy/PROBE • PROBE 2000 Upgrade • Multi-Nuclear Spectroscopy | 2254641 |
| M1033JJ PROBE 2000 Upgrade | <ul style="list-style-type: none"> • PROBE 2000 Upgrade • Multi-Nuclear Spectroscopy | 2254642 |
| M1033JF ScanTools 2000 | <ul style="list-style-type: none"> • Cine • Phase Contrast Vascular Imaging • Echo Planar Imaging • 3D Surface/VoxTool • Flair EPI • iDrive | 2254688 |
| M1033JL Lx Tools (Former Mini Tools) | <ul style="list-style-type: none"> • Fast Spin Echo & Flair • Fast Gradient Echo • Time of Flight • Interactive Vascular Imaging • SPECIAL • SSFSE • Three Plane Localizer • E3DTOF • FSE-XL • Clariview • SGD Perf | 2254693 |
| M1033MG SAGE | <ul style="list-style-type: none"> • SAGE (Spectro Analysis GE) | 2254690 |

*Part numbers listed are for FRU replacement of defective MOD's. The catalog number must be used to order for a customer original purchase.

Signa Option Key Catalog Matrix and MOD FRU Part Numbers (continued)

| Option Catalog | Options Activated | MOD Part Number * |
|---|--|-------------------|
| M1033JR iDrive Pro Plus | <ul style="list-style-type: none"> • iDrive Pro Plus | 2272136 |
| M3033JA CV 8.4 Cardiac Option Keys | <ul style="list-style-type: none"> • iDrive Pro Plus • CV Spiral Hi-Res • CV Spiral Real-Time • CV FGRET • CV FGRET Real-Time | 2272763-3 |
| M3033JA 3D Focal Brain | <ul style="list-style-type: none"> • PROBE 3D Brain | 2253724 |
| M3003JB FuncTool for 3D Focal Brain | <ul style="list-style-type: none"> • FuncTool CSI | 2254639 |

* Part numbers listed are for FRU replacement of defective MOD's. The catalog number must be used to order for a customer original purchase.

5 GLOSSARY

Bloodsupp - Blood Suppression

Cine - Images usually of moving anatomy scanned and arranged for playback rapidly in movie format.

Clariview - Image Filtering Package

ConnectPro (HIS/RIS) - Provides DICOM modality work list connectivity to hospital or radiology information system.

DW EPI - Diffusion Weighted Echo Planar Imaging

Fast cine - Fast gated multi-phase images of the heart that show the heart as it contracts and expands during cardiac cycle in a movie format.

FuncTool - Raw Data Analyses tool.

IVI - Interactive Vascular Imaging – IVI

iDRIVE Pro - Interactive imaging uses a fast GRE pulse sequence and a new user interface to acquire continuous 2D images at a high frame rate and provide on-image navigation. Not available on systems with a single i860 AP.

Multi-Nuclear Spectroscopy - Provides access to additional spectroscopy PSD that may be used in proton mode.

MS/MA - Multi-Slice/Multi-Angle Oblique

Proactive Service - Proactive Service - Activates Proactive Diagnostics and Dial out.

Research - Allows for access to low level control of scan parameters.

Research PSD – Allows advanced PSD development.

Sgdperf - SGD enhancements, which increase, slew rates and duty cycles for higher resolution thin slice imaging.

SmartPrep - Automated triggering for contrast enhanced MRA

SmartPrep2000 Upgrade - Provides SmartPrep automated table motion

Spectroscopy/PROBE - Single voxel proton spectroscopy with PROBE-S and PROBE-P

Probe2000 Upgrade - Multi voxel proton spectroscopy (PROBE - SI)

SPECIAL - Spectral / Spatial Fat Suppression. Chemical saturation using an inversion pulse (180° pulse). This key will always suppress just fat and can not be changed to suppress water.

SSFSE - Single Shot Fast Spin Echo

Tagging - The placement of "tags" in an MR image is used to assess myocardial wall functions visually.