

SIEMENS

ACUSON CV70 - SONOLINE G50/G60S Ultrasound Systems

US

Software Field Upgrade Procedure: v2.0

April 2004

Service Kit

082 70 361 REV 01

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Scope

Time Required for Upgrade

Plan on spending approximately two hours to upgrade the software.

Definitions, Acronyms, Conventions

Alerts

Caution alerts notify the user and service personnel of potential hazards to the equipment and are presented in the following format:

CAUTION **The system contains components that are sensitive to damage by electrostatic discharge (ESD).**
⇒ **Observe ESD protective procedures and use ESD protective equipment—including an ESD wrist strap—when protective covers are removed from the system.**

Warning alerts notify the user and service personnel of potential hazards to the user, the patient, or to service personnel and are presented in the following format:

WARNING **The system contains hazardous voltages that can range from 90 VAC to 264 VAC and cause serious injury or death.**
⇒ **Only authorized service personnel are permitted to remove protective covers and access the energized components of this system.**

Notes

Notes contain helpful suggestions or references to material not covered in the document:

NOTE **The ultrasound system is not designed to be used as an archive device.**

Definitions

Term	Acronym	Definition
Clinical Sales Specialist	CSS	A person who provides ultrasound system applications support to customers in the field
Customer Service Engineer	CSE	A person who performs service on ultrasound equipment in the field
Technical Support Engineer	TSE	A person who provides support to CSEs in the field
Uptime Service Center	USC	Department responsible for service support to CSEs

Before Starting

Required Materials

NOTE **The Service password has changed for version 2.0 software. Consult the Knowledge Base or local Siemens Uptime Center for the new password. Please note, the password is case dependent.**

- Password
- Blank MO disk
- Blank CD-ROM

Equipment

- ACUSON CV70
- SONOLINE G50
- SONOLINE G60 S

Installation Kits

NA

Reference Documents

System Reference Manual

System Preparation

The instructions below describe how to upgrade software on the CV70, G50, and G60S systems.

CAUTION Upgrade the DIMAQ software before upgrading the system software.

⇒ The upgrade may not load properly if the DIMAQ software is not loaded first.

The software for the CV70, G50, and G60S generally consists of two items:

- DIMAQ Software (two CD-ROMs)
- System Software (one MO disk).

The current release of the CV70 contains version 1.0 system software and version 1.6 DIMAQ software.

The current release of the G50 and G60S contains version 1.5 system software and version 1.5 DIMAQ software.

NOTE The terms “DIMAQ” and “DIMAQ-IP” are used interchangeably in this document. In some engineering drawings, the DIMAQ may be referred to as the “IPPC.”

Backing Up Data

Backing up data is a precautionary measure taken (prior to loading a software upgrade) in case problems are encountered during the software upgrade. Restoring customer data should not be necessary if the “Retain Current Preset” choice is selected when upgrading the system software.

The following instructions describe how to back up service information and customer preset and QuickSet data on the CV70, G50, and G60S systems.

NOTE The service Backup/Restore function affects only service information that is accessible through a service password. Eight files are potentially stored during backup from the service Backup/Restore function. Only three of eight Service Information files are likely to restore, and only if Service Information entries were made. Verify what Service Information files were saved during backup by navigating to Review, MO, Disk Utilities, and Utility Tab.

In the case that no service information entries were made, an empty backup file is generated, giving the appearance that the Service Information restore function did not work.

If no service information has been entered, or a Service Information backup is not required, proceed to “Backing Up Presets” to backup customer presets and QuickSets.

Backing Up Service Data Instructions

Use the following steps to back up the service data.

NOTE If the Service Data file is empty, there is no need to back up the Service Data. Skip to “Backing Up Presets”.

1. Power on the system and allow the boot sequence to complete; the imaging screen is displayed.
2. Press the **F4** key to display the Preset Main Menu General screen.

NOTE The Preset Main Menu General is the default screen and is displayed when F4 is first pressed. When F4 is pressed subsequently, the last Preset Main Menu subscreen accessed is displayed.

3. Select **Service** from the menu on the left pane of the Preset Main Menu. The Service Authentication screen is displayed.
4. Type the password, then select **OK** to display the Service Main Menu screen.
5. Select **Backup/Restore** to display the Backup/Restore screen.
6. Select the **Backup** radio button located at the top of the Backup/Restore screen.
7. Select the **All Packages** check box on the Backup/Restore screen.
8. Insert a formatted Preset MO disk in the MO drive.
If the MO disk requires formatting, perform the following steps:
 - From the imaging screen press **Review**.
 - Select **MO --> Utility --> Format**
 - Follow the screen prompts to complete the formatting.
9. Click **Go** to begin the backup.

10. When the **Format Disk** message box is displayed, select **Cancel** to bypass the format operation; if formatting is needed select **Ok**.

CAUTION **Formatting the disk overwrites all information on the disk.**
⇒ **If the disk contains information that should not be overwritten, select a different MO disk.**

11. The Service Backup [file name] message box is displayed. Accept the backup name provided or type a different name and click **OK** to continue the backup operation.
When the progress bar located on the Backup/Restore screen reaches 100%, the following message is displayed: Done
12. Select **Home**.
13. Select **Exit** to exit the service software.
14. Press **Review**; the **Review screen** is displayed.
15. Select the **MO** radio button.
16. Click the **Utility** tab; the MO Disk Utility screen is displayed.
17. Double-click the MO “+” sign to expand the view to display the files on the MO disk.
Verify the Backup file name that was stored in is listed as a file on the **MO disk**.
18. Backing up Service Data is complete; continue to “Backing Up Presets”.

Backing Up Presets

Use the following instructions to back up all presets and QuickSet.

NOTE **Refer to the System Reference Manual, “Documentation and Storage”, subsections “Storage” and “Retrieval of System Information”, for more information regarding Preset and QuickSet Storage and Retrieval.**

1. Select the **Preset** tab on the Disk Utility screen.
2. Click **Store QuickSets** on the Disk Utility screen to display the QuickSet List (Store) screen.
3. Select **All**.
4. Click **Ok** to store the QuickSets.
5. In the **File Type** menu, select **General System Presets**.
6. Click **Store** to display the **Input File Name** dialog box and type a custom file name in the **File Name** dialog box.
7. Click **Ok**, then click **Ok** to close the message box and continue.
8. In the **File Type** menu of the Disk Utility screen, select **Default Settings**.
9. Click **Store** to display the **Input File Name** dialog box.

10. Type a custom file name in the **File Name** dialog box; click **Ok** to save the entry, then click **Ok** again to continue.
11. In the **File Type** menu of the Disk Utility screen, select **Total System Configuration**.
12. Click **Store** to display the Input File Name dialog box.
13. Type a custom file name in the **File Name** dialog box.
14. Click **Ok**, then click **Ok** again to close the message box and continue.
15. If the Network file type setting exists, then in the **File Type** menu of the Disk Utility screen, select **Network Settings**.
16. Click **Store** to display the Input File Name dialog box.
17. Type a custom file name in the **File Name** dialog box.
18. Click **OK**, then click **OK** to close the message box and continue.
19. For G50 and G60S systems only: in the **File Type** menu of the Disk Utility screen, select **OB Tables and Formulas**.
20. Click **Store** to display the Input File Name dialog box.
21. Type a custom file name in the **File Name** dialog box.
22. Click **Ok**, then click **Ok** to close the message box and continue.
23. Select the **Utility** tab and double-click MO:
 - For CV70: double-click **Siemens** to view the contents of the MO disk; double-click the Preset and QuickSet folders to view their contents.
 - For G50 and G60S: double-click **SONOLINE** to view the contents of the MO disk; double-click the Preset and QuickSet folders to view their contents.
24. Verify that the stored files display on the disk.
25. Select **Exit**.
26. Eject and store the MO disk.

Backing Up the Customer Data (Exams)

If the customer has not already done so, back up all exam and patient data to CD using the Tiff/AVI format, before upgrading DIMAQ software.

NOTE	Upgrading the DIMAQ software overwrites all data on the HDD. Before beginning the DIMAQ software upgrade, back up all exam and patient data.
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1. From the imaging screen select **Review**.
2. Select the **HD** radio button.
3. Select the studies listed on the hard drive to back up to CD-ROM.
4. Insert a CD into the system CD-RW drive.
5. Click the **Export** button.

6. After the backup to CD is complete, click **Live Screen**.

Upgrading the DIMAQ Software

Overview

Use the following instructions to upgrade the DIMAQ software on the CV70, G50, and G60S.

NOTE	Upgrade the DIMAQ software before upgrading the system software.
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NOTE	The DIMAQ software CD-ROM set is for use only by trained service personnel.
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CAUTION	DIMAQ CD-ROMs are bootable. Unless software loading is intended, remove the DIMAQ software CD-ROM from the CD-R/RW drive before cycling power. ⇒ Otherwise, the local hard drive will be overwritten and its contents lost.

DIMAQ Software Upgrade Instructions

Use the following instructions to upgrade the DIMAQ software on the CV70, G50, and G60S. The upgrade takes about 20 minutes to complete.

NOTE	Upgrading the DIMAQ software overwrites all data on the HDD. Before upgrading the DIMAQ software, back up all exam and patient data.
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The DIMAQ software update includes two CD-ROMs, Disk 1 and Disk 2. The full installation requires both Disk 1 and Disk 2. The full software load is required for the initial version 2.0 software release.

Upgrade to Version 2.0 DIMAQ Software

1. Power on the system, wait for the boot sequence to complete.
2. Press the **F4** key to display the Preset Main Menu.
3. Select **Service** from the left pane of the Preset Main Menu.
4. Press **Enter** (for CV70) or **Set** (for G50 and G60S) to display the Service Authentication screen.
5. Type the service password, then click **Ok**.

6. From the Service Main Menu, click **DIMAQ-IP Maintenance** to display the Windows 2000 desktop screen.
7. Insert the DIMAQ Software CD-ROM Disk 1 into the CD-R/RW drive.
8. Select **Start** → **Shut Down** → **Restart**.
9. Click **Ok** to restart the DIMAQ.

The DIMAQ automatically loads the software from the CD drive. The blue Radisys logo is displayed and the installer status window is displayed for approximately 20 minutes.

The first installer disk is done when the following DOS prompt displays: **R:\>**

NOTE **For CV70: If the message, "DIMAQ-IP Application is not available. Check DIMAQ-IP" displays, click OK to return to DIMAQ-IP Maintenance mode.**
For G50 and G60S: If the message, "Crescendo Application is not available. Check DIMAQ-IP" displays, click OK to return to DIMAQ-IP Maintenance mode.

10. Remove the DIMAQ Software CD-ROM Disk 1 from the CD-R/RW drive.
11. Insert the DIMAQ Software CD-ROM Disk 2 into the CD-R/RW drive.
12. Cycle system power.
 - Power off the system
 - Wait 15 seconds
 - Power on the systemAllow the system to complete the boot sequence to imaging mode (approximately five minutes).
13. Press **F4**; the **Preset Main Menu** is displayed.
14. Select **Service** from the left pane of the **Preset Main Menu**.
15. Press **Enter** (CV70) or **Set** (G50 and G60S) to display the Service Authentication screen.
16. Type the service password.
17. Click **Ok**.

18. From **Service Main Menu**, click **DIMAQ-IP Maintenance** to display the Windows 2000 desktop screen (to view the upgrade progress).

No interaction is necessary, it will take approximately 15 minutes for the software load to complete.

NOTE **For CV70: If the message, “DIMAQ-IP Application is not available. Check DIMAQ-IP” displays, click OK to return to DIMAQ-IP Maintenance mode.**
For G50 and G60S: If the message, “Crescendo Application is not available. Check DIMAQ-IP” displays, click OK to return to DIMAQ-IP Maintenance mode.

19. When the Windows 2000 desktop displays and remains displayed without activity for more than one minute, remove the DIMAQ software CD-ROM Disk 2 from the CD-R/RW drive.

20. Select **Start --> Programs --> Startup --> RemoteNT** to return to the Service Main Menu.

NOTE **The screen may automatically revert to the Service Main Menu when the software is finished loading.**

21. **The following errors may be displayed. Select OK to answer and remove the error messages.**

- Communication error occurred. Some options are not available
- Check the DIMAQ IP software version. DIMAQ IP will be disabled.
- Error: a full reinstall of DIMAQ OS is required. Version-up from CV70 to G50/60 not allowed. Version seems incorrect - use at your own risk!

NOTE **These messages are indicating that the DIMAQ IP software and the System software are not at compatible levels after upgrading the only the DIMAQ IP software. Because of the incompatibility, not all options will be available. When the System software has been upgraded, the software levels will then be compatible and all options will be available.**

22. Click **Exit**. The system returns to imaging.

23. Eject disk #2.

24. The DIMAQ software has been successfully installed. Proceed to “Upgrading the System Software”.

Upgrading the System Software

Overview

Using following instructions to upgrade the system software on the CV70, G50, and G60S.

NOTE **Upgrade the DIMAQ software before upgrading the system software.**

Upgrading the System Software Instructions

1. Insert the MO disk containing the system software in the MO drive.
2. Press the **F4** key to display the Preset Main Menu screen.
3. Use the trackball to scroll down the menu and select **System/Language**.
4. Press **Enter** (CV70) or **Set** (G50 and G60S) to display the Preset System/Language screen.
5. Select one of the following actions displayed on the screen:
 - **Retain Current Preset:** to retain the user-defined settings for system presets, QuickSets, OB tables and formulas.
 - **Initialize Preset:** There may be circumstances where it is appropriate to delete user-defined settings for the system presets, QuickSets, OB tables and formulas, retaining the factory default settings.

NOTE **Important: Siemens recommends backing up the user-defined system presets, QuickSets, OB tables and formulas before selecting Initialize Presets.**

6. Click **Upgrade System**.

7. Perform the appropriate tasks listed in the following table.

If the condition in column one is true then perform the action listed in column two of the same row.

Tab. 1 If - Then Conditional Table

If	Then...
Retain Current Preset was selected.	<p>The system instructs the user to restart the system.</p> <p>Restart the system by pressing the green on/off switch to power off the system. Wait approximately two to three minutes for the system to power off; wait 15 seconds and then press the green on/off switch to power on the system.</p>
Initialize Preset was selected.	<p>The system displays a caution message, warning that the presets will be deleted.</p> <p>The system requests confirmation to delete the presets and continue. Select Yes to continue; selecting No button returns the view to the System/Language screen.</p> <p>When Yes is selected, the system instructs the user to restart the system.</p> <p>Restart the system by pressing the green On/off switch to power off the system. Wait approximately two to three minutes for the system to power off; wait 15 seconds and then press the green on/off switch to power on the system.</p>

8. The system will display a progress bar at the bottom of the screen, as the system software installation proceeds; the loading of the software requires approximately 15 minutes.
9. When the software installation process is completed, the following message is displayed: *Restart the System.*
10. Press the MO eject button to remove the disk.
11. Cycle system power.
 - Power off the system
 - Wait 15 seconds
 - Power on the system

NOTE **The system software installation is complete. Proceed to the next section.**

Restoring Service Information, System Preset and QuickSets

If **Retain Current Presets** was selected during the software load, then restoring backups should not be necessary unless problems were encountered during the system software upgrade. If the Customer Data was backed up and the customer wants the Customer data loaded back onto the system, then it is necessary to restore the Customer Data onto DIMAQ.

Restoring Service Information

NOTE If service information was entered and Service Information files were backed up, only three of eight potential files that were backed up can be restored.

NOTE If no service information was entered, if service information was not backed up, or a Service Information backup is not required, proceed to “Restoring System Presets and QuickSets” to backup customer presets and QuickSets.

Use the following instructions to restore Service Information.

1. Power on the system and allow the boot sequence to complete.
2. Insert the MO backup disk.
3. Press the **F4** key; the Preset Main Menu screen is displayed.
4. Select the **Service** button located in the left pane of the Preset Main Menu.
5. Press the **Enter** (CV70) or **Set** (G50 and G60S) key; the Service Authentication screen is displayed.
6. Type the password and select the **Ok** button; the Service Main Menu screen is displayed.
7. Select the **Backup/Restore** button; the Backup/Restore screen is displayed.
8. Select the **Restore** check box located at the top of the screen.
9. Select the backup file to restore from the **Restore** pull down menu.
10. Select **All Packages** in the Packages Window.

NOTE If no packages are displayed it is because when the backup file was created there was no service information data available for backup; therefore, the backup file is displayed, but no packages are available to display or restore.

11. Select the **Go** button located in the lower right section of the screen.
12. Restore is complete when the progress bar reaches 100% and the packages are unchecked.
13. Click **Home**.

14. Click **Exit**; the system returns to the imaging screen.

NOTE **If Retain Current Preset was selected prior to upgrading the System software, it should not be necessary to restore the feature keys.**

Restoring System Presets and QuickSets

Use the following instructions to restore all system presets and QuickSets.

1. If the system is not already powered on, then power on the system and wait for system boot sequence to complete.
2. Insert the backup MO disk into MO drive.
3. Press **Review**; the Study Screen is displayed.
4. Select the **MO Disk** button located in the Disk section of the Study screen; the Disk Utility screen is displayed.
5. Select the **Preset tab** on the Disk Utility screen.
6. Select **Recall QuickSets** on the Disk Utility screen; the QuickSet List (Recall) screen is displayed.
7. Select the required QuickSets to restore.
8. Select the **Ok** button; if a message to overwrite existing QuickSets displays, select the **Yes** button (continue to select **Yes** until the Disk Utility screen is displayed).
9. Restore the **General System Presets**:
 - Select **General System Presets** located. In the File Type menu; existing system preset file is displayed.
 - Highlight the file to recall.
 - Select the **Recall** button, then select the **Ok** button. The following message is displayed: *Restart the System*. Ignore this message; do not restart the system until later in this procedure.
10. Restore the **Default Settings**:
 - Press the **Review** key; the Study Screen is displayed.
 - Select **MO Disk** in the Disk section of the Study screen; the Disk Utility screen is displayed.
 - Select the **Preset tab**.
 - Select **Default Settings** to display the existing Preset file, located In the File Type menu.
 - Highlight the file to recall.
 - Select the **Recall** button, then select the **Ok** button. The following message is displayed: *Restart the System*. Ignore this message; do not restart the system until later in this procedure.

11. For G50 and G60S systems, if the following message displays click **Ok**: The 'OB Tables and Formulas' will be recalled automatically. Is it OK?
12. Restore the **Total System Configuration**:
 - Press the **Review** button; the Study Screen is displayed.
 - Select **MO Disk** in the Disk section of the Study screen; the Disk Utility screen is displayed.
 - Select the **Preset** tab.
 - Select **Total System Configuration** located in the **File Type** menu of the Disk Utility screen; the existing Total System Configuration file is displayed.
 - Highlight the file to recall.
 - Select the **Recall** button, then select the **Ok** button. The following message is displayed: *Restart the System*. Ignore this message; do not restart the system until later in this procedure.
13. Restore the **Network Settings**:
 - Press the **Review** button; the Study Screen is displayed.
 - Select **MO Disk** in the Disk section of the Study screen; the Disk Utility screen is displayed.
 - Select the **Preset** tab.
 - Select **Network Settings** located in the File Type menu of the Disk Utility screen; the existing Network Settings file is displayed.
 - Highlight the file to recall.
 - Select the **Recall** button, then select **Ok** button. The following message is displayed: *Restart the System*.
14. Eject and store the System Preset MO disk.
15. Cycle system power.
 - Power off the system
 - Wait 15 seconds
 - Power on the system
16. For restoring the system feature keys, refer to "Configuring and Unconfiguring the Product Feature Keys" in the Service Manual.

Proceed to "Verify Operation of Software and Restored Data".

Verifying the Operation of Software and Restored Data

Verifying the DIMAQ Software Version

1. Select the **F4** key; the **Preset Main Menu** is displayed.
2. Select **DIMAQ Utility**.

The DIMAQ software version is listed under **DIMAQ Install**.

3. Click **Ok** to exit.
4. Click **Cancel** to exit.

Confirming the System Serial Number and System Software Version

1. Confirm that no warning message is displayed on the monitor.
2. Press the **F4** key to display the **Preset Main Menu** screen.
3. Select **Service** from the menu on the left side of the screen.
4. Press **Enter** (CV70) or **Set** (G50 and G60S) to display the **Service Authentication** screen.
5. Verify that the correct software version is displayed. Serial numbers all have a three letter prefix followed by four numbers. The following table lists the prefixes for each system.

System	100V System	115V System	230V System
CV70	HAE	HAA	HAJ
G50	GEE	GEA	GEJ
G60S	GAE	GAA	GAJ

6. At the System Information screen, verify that the correct system Serial No. is displayed: The number displayed on the System Information screen should be identical to the system Serial Number recorded on the label attached to the rear of the system.

If necessary, restore the Feature keys according to the instructions found in “Configuring and Unconfiguring the Product Feature Keys” of the Service Manual.

