

TABLE OF CONTENTS

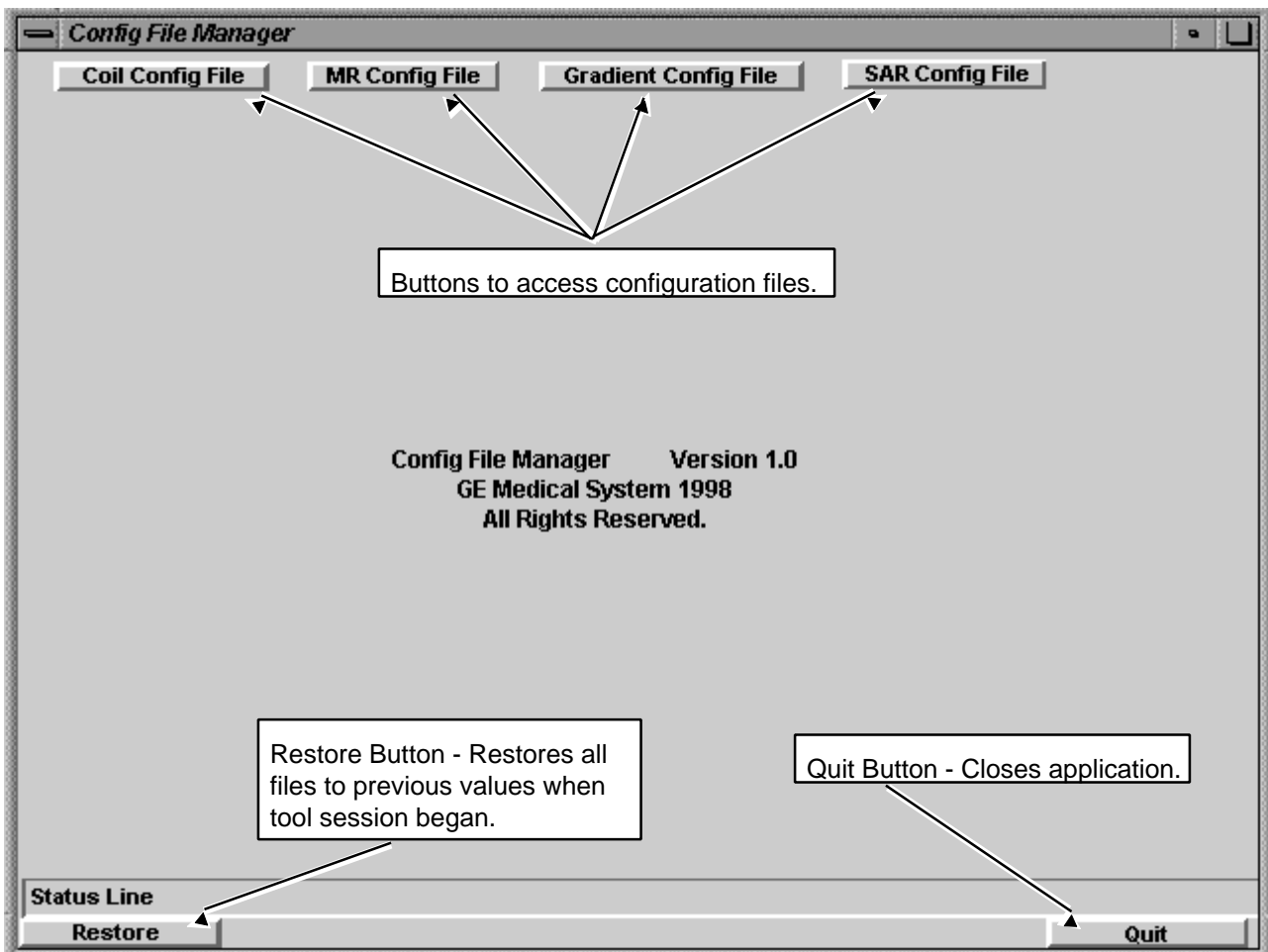
TABLE OF CONTENTS.....	1
1- OVERVIEW	2
2- CONFIG FILE MANAGER MAIN SCREEN.....	2
3- COIL CONFIG FILE.....	3
3-1 Adding Coils	4
3-2 Deleting A Surface Coil	4
3-3 Editing Coil Values.....	4
3-4 Adding New Coils to Config File Manager	6
4- MR CONFIG FILE.....	7
5- GRADIENT CONFIG FILE.....	8
6- SAR CONFIG FILE.....	9
7- EXITING THE CONFIG FILE MANAGER	10
APPENDIX A - SITE CONFIGURATIONS/OPTIONS INFORMATION.....	11
REVISION HISTORY	17

1- OVERVIEW

The Configuration File Manager is a graphical interface used to change the contents of the Coil Configuration File, MR Configuration File, Gradient Configuration File, and the SAR Configuration File. The Configuration files customize the software to the present hardware configuration. (In this text, *configuration* appears as *config*.) It also contains pre-configured parameters for all GE coils, so adding a coil is as simple as "click to add"!

2- CONFIG FILE MANAGER MAIN SCREEN

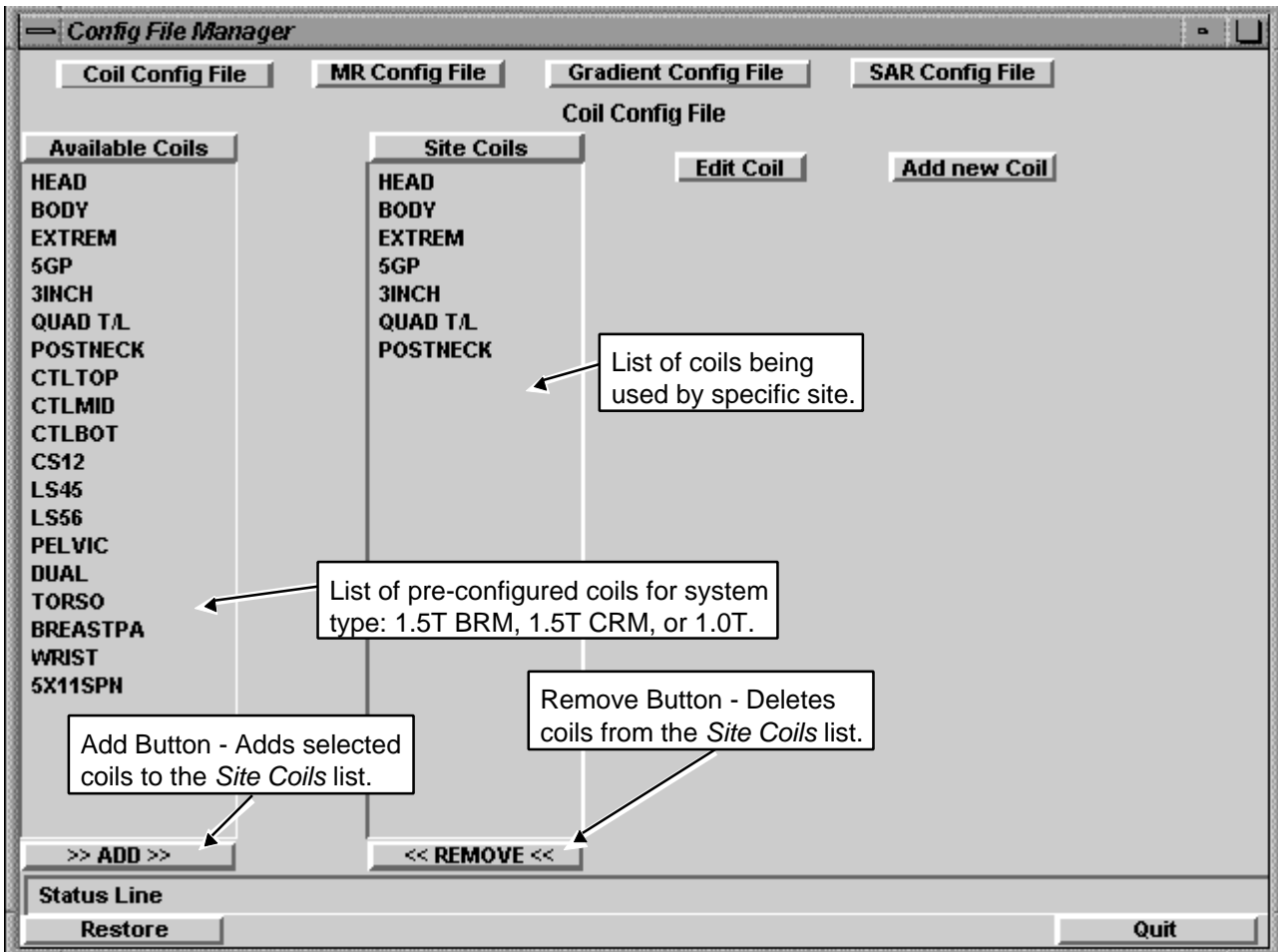
To start the Configuration File Manager, on the Service Desktop, select **[Utilities]**, then **[Config File Manager]** and click **[Start]**. The interface allows the user to make changes to the system configurations for the Coils, MR System, Gradients and SAR in one application. All of the default values are in these files. Options for editing and adding to the config files are available in each configuration category. See Illustration 2-1.



CONFIG FILE MANAGER MAIN SCREEN
ILLUSTRATION 2-1

3- COIL CONFIG FILE

The Coil Config File allows for the addition, removal and editing of coils being used by a specific site. See Illustration 3-1.



COIL CONFIG FILE SCREEN
ILLUSTRATION 3-1

The pre-configured coil list for the Config File Manager tool are in Directory /w/config:

- CoilConfig.df.0.7T

Cable and coil loss values are different for each system. During software install, the system copies the appropriate coil definition file above to the CoilConfig.df (in /w/config). The CoilConfig.df file is then used by the Config File Manager tool when adding an "Available Coil".

Note

All coils currently available for Signa OpenSpeed will be pre-configured as part of a software load. If no Restore Info is done to the system, It will be necessary for the installer to remove coils that are not being used by the site. Coils will only need to be added if the coils are not GE standard.

IMPORTANT! Do not multiply a surface coil's Recon Scale Factor times the Head Coil Recon Scale Factor! Scan does this automatically. With the new Configuration File Manager, only the surface coil multiplier is pre-configured in the CoilConfig.cfg as the "Recon Scale Factor". When adding new coils, **only update the Recon Scale Factor for Head and Body coils**, depending on Sytem Gain Calibration results.

3-1 Adding Coils

Note

All coils currently available for Signa OpenSpeed will be pre-configured as part of a software load. If no Restore Info is done to the system, It will be necessary for the installer to remove coils that are not being used by the site. Coils will only need to be added if the coils are not GE standard.

To add coils to the Coil Config file, perform the following steps:

1. On the *Config File Manager* main screen, select [**Coil Config File**]. See Illustration 2-1.
2. Select the coil(s) to add to the site's configuration by clicking on the desired coil name(s) in the *Available Coils* list. See Illustration 3-1.
3. Click the [**>>ADD>>**] button to add the selected coil(s) to the *Site Coils* list. You must reboot Signa for scan to recognize that a coil has been added to the list.

3-2 Deleting A Surface Coil

To delete coils from the Coil Config file, perform the following steps:

1. On the *Config File Manager* main screen, select [**Coil Config File**]. See Illustration 2-1.
2. Select the coil(s) to delete in the *Site Coils* list by clicking on the coil name(s). See Illustration 3-1.
3. Click the [**<<Remove<<**] button to delete the selected coil(s) from the *Site Coils* list. You must reboot Signa for scan to recognize that a coil has been deleted from the list.

3-3 Editing Coil Values

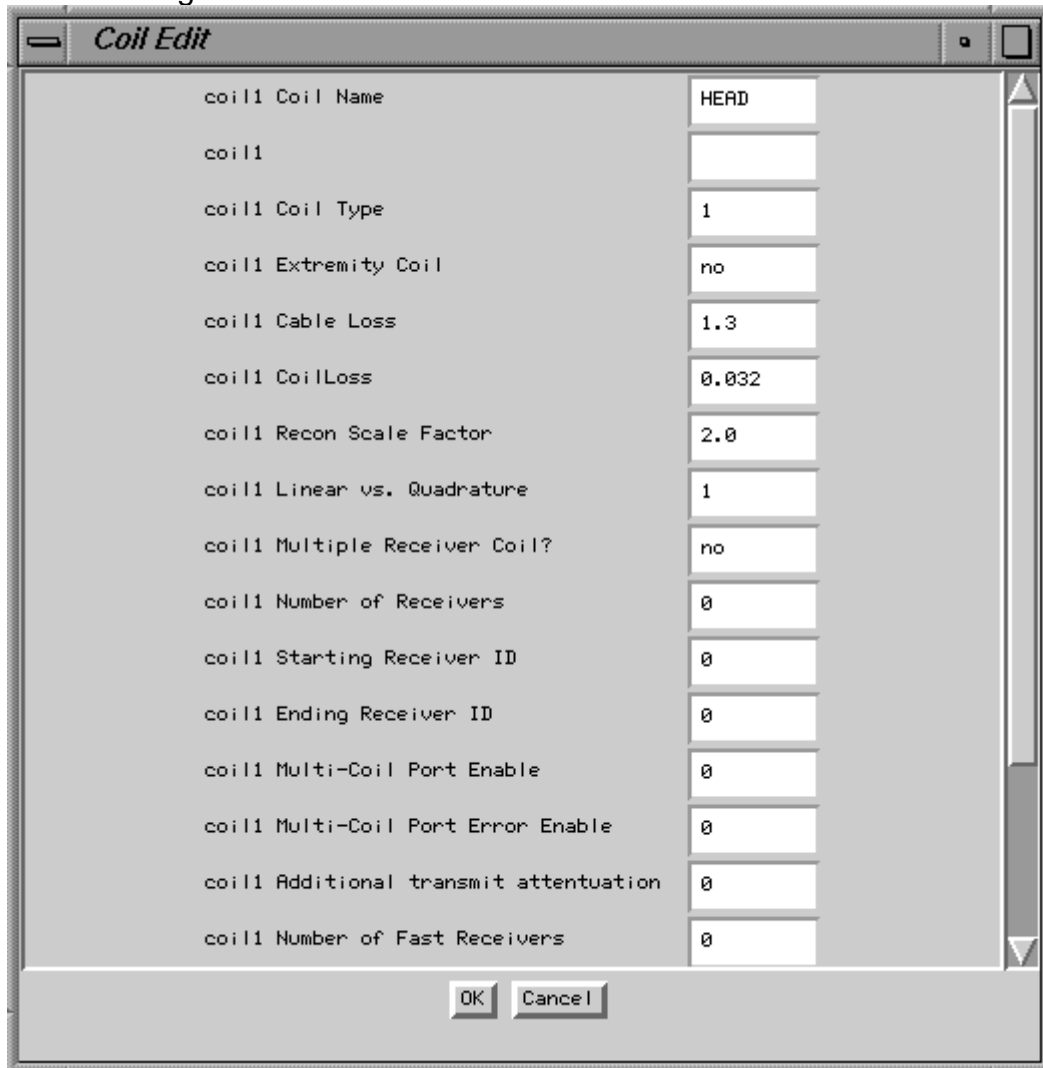
To edit or view coil values perform the following steps:

1. On the *Config File Manager* main screen, select [**Coil Config File**]. See Illustration 2-1.
2. Select the appropriate coil(s) (you can select more than one coil) in the *Site Coils* list by clicking on the coil name(s) and then click the [**Edit Coil**] button. See Illustration 3-1.
3. The *Coil Edit* screen displays the present values of the selected coils. See Illustration 3-2. To change a value, click in the field to enter text or tab through fields and make necessary changes. (Use the **<Delete>** key to edit text; the **<Backspace>** key does not work. Click [**OK**] to close the screen. You must reboot Signa for scan to recognize that a change has been made to a coil configuration.

IMPORTANT! Do not multiply a surface coil's Recon Scale Factor times the Head Coil Recon Scale Factor! Scan does this automatically. With the new Configuration File Manager, only the surface coil multiplier is pre-configured in the CoilConfig.cfg as the "Recon Scale Factor".

Note

Remember to reboot Signa for scan to recognize any changes made to the coil lists or configurations.



COIL EDIT SCREEN
ILLUSTRATION 3-2

3-4 Adding New Coils to Config File Manager

To add a coil that is not in the *Available Coils* list, perform the following steps:

1. On the *Config File Manager* main screen, select [**Coil Config File**]. See Illustration 2-1.
2. Click the [**Add new Coil**] button. See Illustration 3-1.
3. The *Add a New Coil* screen displays coil value fields for a new coil. See Illustration 3-3. Values for new coils are in the service manual provided with the coil. For new "Multi Coil Recon Enable" field, enter **0** as the default unless instructed otherwise. Either click in the fields or tab through the fields to enter values. (Use the **<Delete>** key to edit text; the **<Backspace>** key does not work. Click [**OK**] to close the screen.

IMPORTANT! Do not multiply a surface coil's Recon Scale Factor times the Head Coil Recon Scale Factor! Scan does this automatically. With the new Configuration File Manager, only the surface coil multiplier is pre-configured in the CoilConfig.cfg as the "Recon Scale Factor".

Field Name	Input Box
Coil Name	
Coil Type	
Extremity Coil	
Cable Loss	
CoilLoss	
Recon Scale Factor	
Linear vs. Quadrature	
Multiple Receiver Coil?	
Number of Receivers	
Starting Receiver ID	
Ending Receiver ID	
Multi-Coil Port Enable	
Multi-Coil Port Error Enable	
Additional transmit attenuation	
Number of Fast Receivers	
Starting Fast Receiver ID	

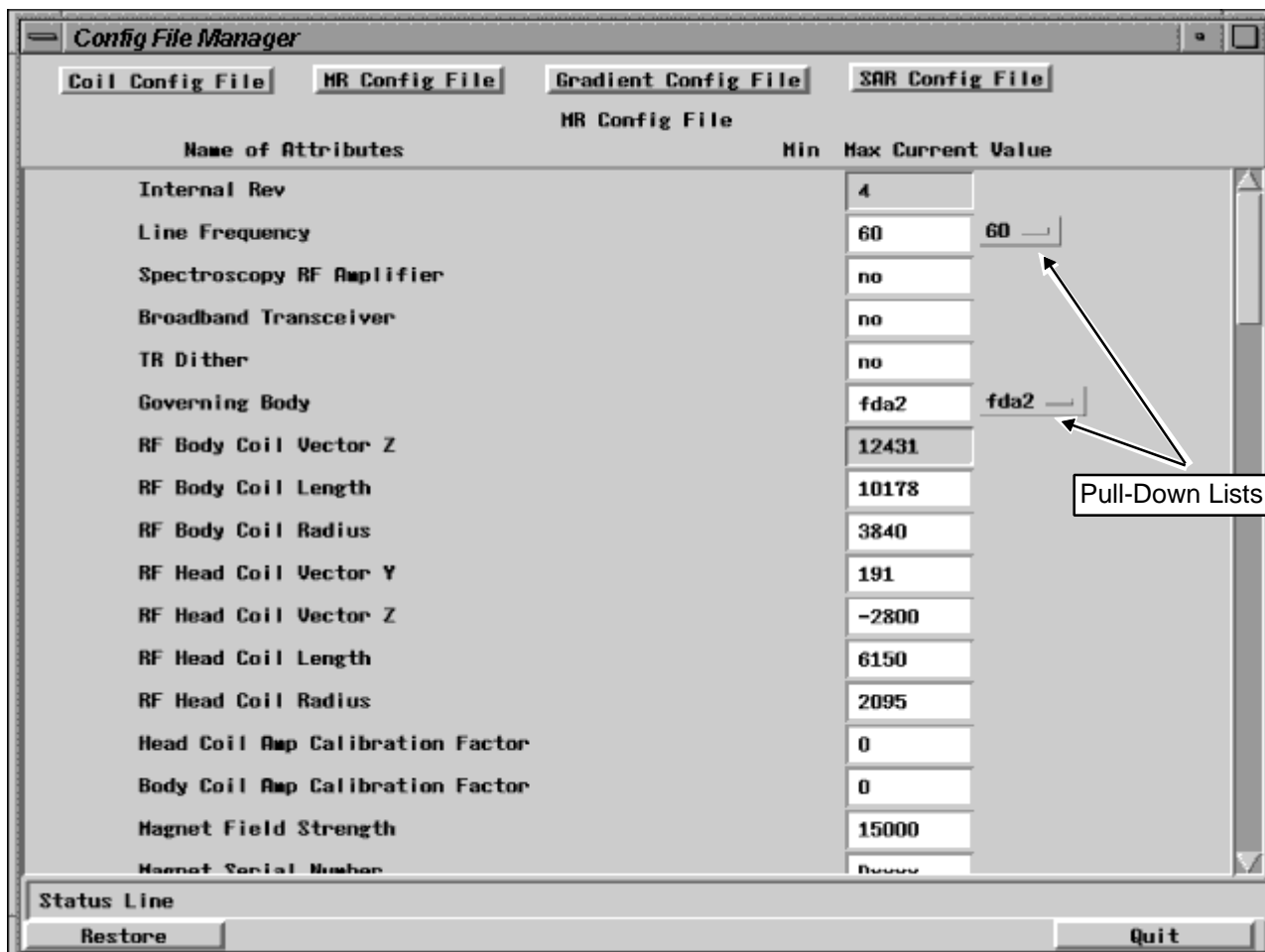
OK Cancel

ADD NEW COIL SCREEN
ILLUSTRATION 3-3

4- MR CONFIG FILE

To edit and/or view the values of the MR Config File, perform the following steps:

1. On the *Config File Manager* main screen, select **[MR Config File]**. See Illustration 2-1.
2. The *MR Config File* screen is displayed. See Illustration 4-1.



MR CONFIG FILE SCREEN
ILLUSTRATION 4-1

3. Either click in the fields or tab through the fields to enter values. For “Attributes” with defined values, click the pull-down list next to the current value. (Use the **<Delete>** key to edit text; the **<Backspace>** key does not work.)

Note

Clicking in the field displays the same information about the selected field as is displayed on the “Status Line”.

Note

To apply changes made to the MR Config File, exit the config file manager. Make sure to click the [SAVE] button when the save dialog box appears. Then, shut down Signa and reboot the computer. (Refer to Section 7, *Exiting the Config File Manager.*)

5- GRADIENT CONFIG FILE

To edit and/or view the values of the Gradient Config File, perform the following steps:

1. On the *Config File Manager* main screen, select [**Gradient Config File**]. See Illustration 2-1.
2. An example of the *Gradient Config File* screen is displayed. See Illustration 5-1.

Name of Attributes	Min	Max	Current Value
File format revision number			831.M3
x-axis Gradient Setting to obtain cxfs			17613
y-axis Gradient Setting to obtain cyfs			17565
z-axis Gradient Setting to obtain czfs			15690
Gradient Configuration Mode: SR		17	20
gradient coil type		7	7
Patient Weight Limit (Lbs)	1	500	500

GRADIENT CONFIG FILE SCREEN
ILLUSTRATION 5-1

3. Either click in the fields or tab through the fields to enter values. (Use the **<Delete>** key to edit text; the **<Backspace>** key does not work.

Note

To apply changes made to the Gradient Config File, exit the config file manager. Make sure to click the [**SAVE**] button when the save dialog box appears. Then, shut down Signa and reboot the computer. (Refer to Section 7, *Exiting the Config File Manager*.)

6- SAR CONFIG FILE

To edit and/or view the values of the SAR Config File, perform the following steps.

1. On the *Config File Manager* main screen, select [**SAR Config File**]. See Illustration 2-1.
2. The *SAR Config File* screen is displayed. See Illustration 6-1.

Name of Attributes	Min	Max	Current Value
Average SAR Absolute Limit (W/Kg)	0.0	2.0	2.0
Average SAR Discretionary Limit (W/Kg)	0.0	2.0	2.0
Peak SAR Absolute Limit (W/Kg)	0.0	8.0	8.0
Peak SAR Discretionary Limit (W/Kg)	0.0	8.0	8.0
dB/dt Limit for MHM governing body (T/s)	4	40	20
dB/dt Absolute Limit for IEC governing body (%)	20	70	66
dB/dt Discretionary Limit for IEC gov. body (T/s)	4	40	20
dB/dt Limit for FDA1 governing body (T/s)	20	60	45
dB/dt Limit for FDA2 governing body (%)	20	70	66
dB/dt Units of measure for Research Mode (1-T/s)	1	2	2
dB/dt Absolute Limit for Research mode	20	150	66
dB/dt Discretionary Limit for Research mode	20	150	66

Status Line
Restore Quit

SAR CONFIG FILE SCREEN
ILLUSTRATION 6-1

3. Either click in the fields or tab through the fields to enter values. (Use the **<Delete>** key to edit text; the **<Backspace>** key does not work and inserts bad characters in the field!)

Note

To apply changes made to the SAR Config File, exit the config file manager. Make sure to click the [**SAVE**] button when the save dialog box appears. Then, shut down Signa and reboot the computer. (Refer to Section 7, *Exiting the Config File Manager*.)

7- EXITING THE CONFIG FILE MANAGER

1. When finished editing values, click the **[Quit]** button to exit application.
2. Click **[Yes]** in the dialog box question, "*Really Quit?*" See Illustration 7-1.



QUIT DIALOG BOX
ILLUSTRATION 7-1

3. Next, a Save dialog box appears for each configuration file that has changed, (**Example:** The following message will appear, "*Coil Config File has been changed.*" To save changes click the **[Save]** button. To not save changes click the **[Do Not Save]** button.
4. To apply changes made in the config files: shut down Signa software and boot computer.
 - Shutting down the software: on the Service Desktop Manager, click on **[Shutdown]**.
 - Booting the computer: Refer to the procedure for *Bringing the System Up/Down*, Section 5.

APPENDIX A - SITE CONFIGURATIONS/OPTIONS INFORMATION

Site Name: _____

Date: _____

System Configuration Data Sheet

PARAMETER	DEFAULT [OPTIONS]	SITE VALUE
File Format Rev	4	
Line Frequency	60, [50, 60]	
Spectroscopy RF Amplifier	no [yes, no]	
Broadband Transceiver	no [yes, no] yes, for spectroscopy option	
TR Dither	no [yes, no]	
Governing Body	fda2 [iec, mhw1, mhw2, fda2] Selection based on governing body of country where scanner located	
RF Body Coil Vector Z	12431	
RF Body Coil Length	10178	
RF Body Coil Radius	3840	
RF Head Coil Vector Y	191	
RF Head Coil Vector Z	-2800	
RF Head Coil Length	6150	
RF Head Coil Radius	2095	
Head Coil Amp Calibration Factor	0 [0, xxxxx] 0, for RF cabinets with APB Board	
Body Coil Amp Calibration Factor	0 [0, xxxxx] 0, for RF cabinets with APB Board	
Magnet Field Strength	7000 (0.7T)	
Magnet Serial Number	[Txxxx]	
Room Shielding	no [yes, no] yes, for shielding no, if none	
MagnaShield	no [yes, no] yes, for MagnaShield no, if none.	
Shield Cooler Type	5 [0-6] 5: Sumitomo	
Resistive Shim Power Supply	0 [0-6]	
External Passive Shim	no [yes, no] yes, if external passive shim no, if none.	
Resistive Shim Power Supply	0 [0-9] 0 = none	
Passive Shim Drum	no [yes, no] yes, if passive shim drum no, if none.	
Line Conditioner Type	0 [0-2] 0: None	

System Configuration Data Sheet (continued)

PARAMETER	DEFAULT [OPTIONS]	SITE VALUE
Isocenter Vector Along Z-axis	Initial Values: 8689(0.7T) (Final values determined in procedure for Electrical Isocenter Calibration)	
Table Movement Limit	19850	
Beginning of Travel (mm)	0	
End of Travel (mm)	32400 If cradle travel has not been calibrated then set to 2550 mm. Refer to procedure for Longitudinal Drive Calibration.	
Max Grad Shim Value	280	
Head Plate Dissipation Limit	800	
Body Plate Dissipation Limit	5000	
Head Power Supply Limit (watts)	350	
Body Power Supply Limit (watts)	4000	
Head Plate Voltage	3000	
Body Plate Voltage	6000	
Head Quiescent Plate Current	.15	
Body Quiescent Plate Current	.7	
Head Load Line Resistance	857	
Body Load Line Resistance	394	
Network Loss Value	1.0715	
Fixed Hardware Trigger Delay	10	
Additional CINE Filter Trigger Delay	28	
Minimum Bandwidth for VBI	2	
Maximum Bandwidth for VBI for Receiver 1	125 [62.5, 125] 62.5, for 62.5 KHz Bandwidth Receivers 125, for 100 KHz Bandwidth Receivers (Not displayed, use Install GUI – Hardware button to change)	
Maximum Bandwidth for VBI for Receiver 2	125 [62.5, 125] 62.5, for 62.5 KHz Bandwidth Receivers 125, for 100 KHz Bandwidth Receivers (Not displayed, use Install GUI – Hardware button to change)	
Maximum Bandwidth for VBI for Receiver 3	125 [62.5, 125] 62.5, for 62.5 KHz Bandwidth Receivers 125, for 100 KHz Bandwidth Receivers (Not displayed, use Install GUI – Hardware button to change)	
Maximum Bandwidth for VBI for Receiver 4	125 [62.5, 125] 62.5, for 62.5 KHz Bandwidth Receivers 125, for 100 KHz Bandwidth Receivers (For Rel. 8.2.5 not displayed, use Install GUI – Hardware button to change)	
Extended Dynamic Range Threshold	63	
CERD Pre-Amp Warm Up Time (s)	900	
CERD ADC Warm Up Time(s)	1200	

System Configuration Data Sheet (continued)

PARAMETER	DEFAULT [OPTIONS]	SITE VALUE
CERD Ov Osc Warm Up Time(s)	300	
Multi Coil T/R Driver Brd Present	yes [yes, no]	
Header Body Single Line Present	yes [yes, no]	
Bore Monitor Level 1 Trip Point	29 [28-31] 31, for Wide Open Enclosure 29, for other Enclosures	
Bore Monitor Level 2 Trip Point	33 [32-36] 36, for Wide Open Enclosure 33, for other Enclosures	
Hysteresis Value For Bore Temp Mon	2 [0-10]	
Offset Value For Bore Temperature	0 [-9 to 9]	
Rated Output Power (body), Watts	10000 (0.7T)	
Rated Output Power (head), Watts	1000 (0.7T)	
Max Average Power (body), Watts	1000	
Max Average Power (head), Watts	100	
Max Pulse Energy (body), Joules	30.0 (0.7T)	
Max Pulse Energy (head), Joules	3.0 (0.7T)	
Max Pulse Width (body), ms	60 (0.7T)	
Max Pulse Width (head), ms	60 (0.7T)	
Max Duty Cycle (body)	0.60	
Max Duty Cycle (head)	0.60	
RF Amplifier Type	5 [0,1,3,4,5] 5, 0.7T Analogic RF Amp	
Power Monitor Type	0 [0,1] 0 = EFB 1 = APB	
Image Compression Value	73 [50-100]	
Gradient GAP or GIP Board Present	no [yes, no] no, for SGD Base	

System Configuration Data Sheet (continued)

PARAMETER	DEFAULT [OPTIONS]	SITE VALUE
Gradient Amplifier's Type	8280 [8280, 8645, 8651] 8280, for SGD Base	
X-axis GRAM	no-gram [no-gram, gram-0 gram-1, gram-2] no-gram, for Base	
Y-axis GRAM	no-gram [no-gram, gram-0 gram-1, gram-2] no-gram, for Base	
Z-axis GRAM	no-gram [no-gram, gram-0 gram-1, gram-2] no-gram, for Base	
X-axis ASM Present (Only for 8645 amp)	no [yes, no] yes or no, for SGD yes, for 8645	
Y-axis ASM Present (Only for 8645 amp)	no [yes, no] yes or no, for SGD yes, for 8645	
Z-axis ASM Present (Only for 8645 amp)	no [yes, no] yes or no, for SGD yes, for 8645	
X-axis GASM Present (Only for 8645 amp)	no [yes, no] yes or no, for SGD yes, for 8645 HiSpeed or EchoSpeed no, for 8645 Base	
Y-axis GASM Present (Only for 8645 amp)	no [yes, no] yes or no, for SGD yes, for 8645 HiSpeed or EchoSpeed no, for 8645 Base	
Z-axis GASM Present (Only for 8645 amp)	no [yes, no] yes or no, for SGD yes, for 8645 HiSpeed or EchoSpeed no, for 8645 Base	

System Configuration Data Sheet (continued)

PARAMETER	DEFAULT [OPTIONS]	SITE VALUE
X-axis Series (Only for 8645 amp)	no [yes, no]	
Y-axis Series (Only for 8645 amp)	no [yes, no]	
Z-axis Series (Only for 8645 amp)	no [yes, no]	
X-axis Number of Power Modules (Only for 8645 amp)	2[1, 2] 1 or 2, for SGD 2, for 8645 Base or EchoSpeed 1, for 8645 HiSpeed	
Y-axis Number of Power Modules (Only for 8645 amp)	2[1, 2] 1 or 2, for SGD 2, for 8645 Base or EchoSpeed 1, for 8645 HiSpeed	
Z-axis Number of Power Modules (Only for 8645 amp)	2[1, 2] 1 or 2, for SGD 2, for 8645 Base or EchoSpeed 1, for 8645 HiSpeed	
Gradient Digital Tuning	no [yes, no] no, for Base	
Gradient Real Time Monitoring ON	no [yes, no]	
maxB1 strength (uTesla) <i>(displayed for Rel. 8.3)</i>	25.0	
Maximum integrated (B1) ^2 per pulse (uT^2sec) <i>(displayed for Rel. 8.3)</i>	8.0	
MaxRMS B1 strength for headcoils (uTesla) <i>(displayed for Rel. 8.3)</i>	7.2	
Faster Prescan on/off <i>(displayed for Rel. 8.3)</i>	1 [0, 1] 0, Off 1, On	
CERD Type	002, Universal CERD	
Gradient Coil Type	7 [1, 2, 7]	

APPENDIX A - SITE CONFIGURATIONS/OPTIONS INFORMATION (continued)

Site Name: _____

Date: _____

PARAMETER	DEFAULT	SITE VALUE
File format revision number	(Revision number of file)	
X-Axis Gradient Setting to Obtain cxfs	31000 (GRAM, Base) 29200 (SGD with CRM) 25165 (SGD with BRM)	
Y-Axis Gradient Setting to Obtain cyfs	same as X-Axis	
Z-Axis Gradient Setting to Obtain czfs	same as X-Axis	
Maximum Grad Shim Value	280	
Head Plate Dissipation Limit	800	
Body Plate Dissipation Limit	5000	
Head Power Supply Limit	350 (Watts)	
Body Power Supply Limit	4000 (Watts)	
Head Plate Voltage	3000	
Body Plate Voltage	6000	
Head Quiescent Plate Current	0.15 (mA)	
Body Quiescent Plate Current	0.7 (mA)	
Head Load Line Resistance	857 (ohms)	
Body Load Line Resistance	394 (ohms)	
Network Loss Value	1.0715	
Fixed Hardware Trigger Delay	10 (msec)	
CINE Filter Trigger Delay	28 msec	
Minimum Bandwidth for Variable BW Imaging	2 (KHz)	
S/W Gradient Update Time	4 [4,16]	
H/W Gradient Update Time	4	
H/W RF Update Time	2	
S/W SSP Update Time	1	
H/W SSP Update Time	1	
Smart Coil ID	1 [0,1] 0 = no ID 1= ID supported	
Scanner Mode	2 [0,1,2]	
Fixed Table	n ["n" or "y"]	
X angle Axis (Option 1 from the UI Table Entry)	270 [0-360]	
Y angle Axis (Option 1 from the UI Table Entry)	0 [0-360]	
Z angle Axis (Option 1 from the UI Table Entry)	25 [0-360]	
X angle Axis (Option 2 from the UI Table Entry)	270 [0-360]	
Y angle Axis (Option 2 from the UI Table Entry)	0 [0-360]	
Z angle Axis (Option 2 from the UI Table Entry)	0 [0-360]	
X angle Axis (Option 3 from the UI Table Entry)	270 [0-360]	
Y angle Axis (Option 3 from the UI Table Entry)	0 [0-360]	
Z angle Axis (Option 3 from the UI Table Entry)	-25 [0-360]	
Lateral X-offset	0	
Lateral Y-offset	0	
Lateral Z-offset	0	

REVISION HISTORY

REV	DATE	AUTHOR	PRIMARY REASONS FOR CHANGE
A	Feb 10, 2000	K. Laughlin-Parker	Used 8.3 Rev 7 as preliminary version.
B	Mar 23, 2000	K. Laughlin-Parker	Updates for table stuff