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# Technical Publication

Direction 5831660-1EN

Revision 4

## **Revolution™ Maxima/Revolution™ Ace Application Tips and Work-Arounds**

This manual supports the following configurations:

- Revolution™ Maxima
- Revolution™ Ace



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Although this apparatus incorporates a high degree of protection against x-radiation other than the useful beam, no practical design of equipment can provide complete protection. Nor can any practical design compel the operator to take adequate precautions to prevent the possibility of any persons carelessly exposing themselves or others to radiation.

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## REVISION HISTORY

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Revision	Date	Reason for change
1	July. 2019	Revolution™ Maxima/ Revolution™ Ace - 19BW15.X or 23BW13.X
2	September. 2019	Update Information
3	November. 2020	Update Information
4	May. 2023	Update Information

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# **PRECAUTIONS   REVOLUTION™   MAXIMA/REVOLUTION™ ACE-19BW15.X OR 23BW13.X RELEASE**

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The precautions listed in this section contain information and tips that may be useful for certain situations encountered while using of the Revolution™ Maxima/Revolution™ Ace system.

## **SYSTEM**

- If you experience an error saving scan data to USB and upon retry, the system indicates it cannot mount the USB drive. Exit Recon Management, detach the USB drive, reconnect it again and try to restore from it again. If the system still fails to mount the USB, a system restart will be needed.
- Once the attention window indicating the OC is initializing disappears indicating the system is ready, the system may not be finished resetting the gantry. Check the FSA (feature status area) on the right monitor for a message that the system reset was successful. The successful reset message indicates that the system is now fully up.
- If a power fails occurs during prospective image reconstruction any images reconstructed prior to the power fail will not be displayed in the image browser and are not in the image data base. After system restart use retro recon to generate the images. There is no need to rescan the patient.
- When trying to update the patient history field in New Patient after selecting a patient record from Patient Schedule the text entered may not show in the history field, but displays in the Referring Physician field. Pressing the delete key or the ESC key may correct the issue, if this does not work then a system reboot will be required.
- The system may fail to process keyboard inputs or may place entered text in the wrong data field. The following may be used to restore keyboard operation:
  - ◆ Switch ImageWorks once, and go back to ExamRx.
  - ◆ Press and release the middle mouse button in a text field.
  - ◆ Press and release the middle mouse button in a text field again.
  - ◆ Select Shutdown, then Cancel

If there do not restore keyboard operation, a system restart will be required. This issue can be avoided by not pressing the middle mouse button when entering patient data or prescribing scan parameters.

- System Halted message displayed at completion of system Shutdown will display, then the monitor is powered off. To verify system is shut down and it is safe to power off, move the mouse. If the screen does not refresh, it is safe to press the power Off button on the CT console.
- When using the character of " or < to any input field, the information is not displayed correctly on secondary screen captures.
- When using the character of & to any input field of Patient Information, the character is not displayed correctly on the gantry display.
- Artifacts such as aliasing may be seen in reconstructions depending on DFOV selection for these types of algorithms (EdgePlus, Edge, Ultra, BonePlus, Bone, Chest, Lung, Detail).
- MTF should be measured under the condition of "Extended HU Off". MTF measurement gets unstable when over than 3,072 HU is enabled by Extend HU On setting.
- If Enterprise Authorization and Cache Enterprise Authorization is enabled and apply "Change Password on Next Login" to force a user to change the password, the system will fail to log the user on. When the Administrator want to force password change, please contact to each user who needs to change the password.

- If you open a task with pop-up window such as Mini viewer from ImageWorks or System State – USB from Service icon, after you log off and log in again, the opened pop – up window is not shown. You can click other icon such as Exam Rx and then click ImageWorks, then the pop-up window for Mini viewer will appear.
- If the right monitor is freeze when using, press Ctrl + Alt + Delete to restart system.

## SCANNING

- If breath hold time is prescribed for Helical scan, not all images will be created in PMR 2-10. Additional images will need to be created in Retro Recon.
- When Patient Position is set to Decubitus Right or Decubitus Left, the mA value on mA Table displayed is swapped for the A/P direction and L/R direction. The system modulates mA correctly.
- Axial head holder (Part number: 2115996-4) must be used when using Auto positioning to position head scan.

## GATED/CARDIAC SCANNING

- The gating button may turn red when the patient experiences a significant change in heart rate especially if the heart rate moves outside of the 30-200 BPM range. The system should recover when the heart rate returns to a value within 30-200 BPM. If the button is still red, toggle the gating button Off and then back On to get the heart rate signal synchronized. If the signal is valid but the button is still red, change to an axial non-gated scan type, toggle gating Off/On and then return to the desired scan type and settings. Care should be taken when starting the scan if the patient continues to have heart rate fluctuations such as PVCs (extra-systole).
- When doing cardiac SnapShot Pulse scan, make sure patient have stable heart rate. When doing exam reconstruction, make sure to reconstruct the desired cardiac phase window in one heartbeat cycle.

## DOSE REPORT

- A Dose Report created on Linux system cannot be sent to an IRIX based system.

## IMAGE CHECK

- Image annotation of Scan Type on SnapShot Pulse image is wrong. The correct annotation is CI.

## SMARTSTEP

- If the gantry tilt is changed while the scanner is no longer in the ready condition, user may not be able to prep until the gantry is returned to the prior tilt value.

## SMARTVIEW

- Scout or axial images will be rotated if a lateral scout is the first image displayed in the reference viewport on the transition to SmartView Display. Use Display normal to return the image to the preferred viewing orientation.
- If an Exam contains SmartView series, the PPS response may be slow to complete. To complete the PPS faster, select "Defer" on the PPS response dialog and use MPPS from the Image Works browser to complete the PPS response.

- "X-RAY OFF" may be displayed on the SmartView Display screen even when pressing the foot pedal. Select Repeat SmartView button to continue SmartView scanning.
- Auto transfer by exam may fail when SmartView is scanned at final series and end a exam. Verify that the desired images are transferred.

## DMPR

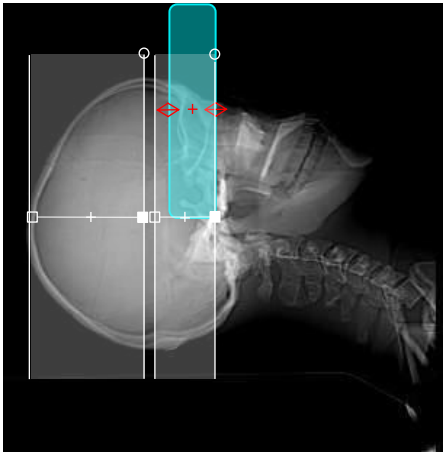
- DMPR will continue and make auto batch reformats even if there are missing images.
- If ROIs are moved outside of the Image Volume in DMPR, the shape and statistics reported of the ROI may change.
- DMPR display may show incorrectly if a desktop switch occurs prior to the model building. Wait till the DMPR model has begun building before switching desktops.
- DMPR Auto batch images may not send if SmartStep is selected prior to all batch images created and sent. Use manual network to send the images.
- Every other image is rotated 90 degree when the Batch DMPR protocol uses a 45 degree tilt. Use Reformat from Image Works to create images that are not rotated.
- DMPR may not turn off if the scan series has multiple groups. Turn off DMPR from the DMPR set up screen.
- The following Reformat protocols cannot be used in DMPR for Auto Batch:
  - ◆ Slices 10mm
  - ◆ Slices 5mm
  - ◆ Fan
  - ◆ Oblique
  - ◆ 3D
- Non-contiguous groups may be created when adding a group using different slice thicknesses in Recon 1 and DMPR is on in Recon 2-10. Prior to confirming the scan, double check that the interval between the end location of Group 1 and the start location of Group 2 for Recon 2-10 is equal to the slice thickness selected. The slice interval for the group before the invalid start location may have to be adjusted in Recon 1 to create contiguous slices, or, do not use DMPR and use Reformat to create multi-planar images.
- Non-contiguous groups may be created when prescribed multi groups, interval is smaller than thickness and DMPR is On in Recon 2-10. Generate the desired images in Retro Recon, then use Reformat to create multi-planar images. Or, use DMPR in Recon1 when the smaller interval than thickness is used.
- The system always shows 0 degree for angle measurement on Screen Save image saved in DMPR session even though the actual angle measurement is not 0 degree. Use Volume Viewer to save images with angle measurement.
- Not all annotation will be shown in all viewports. Confirm them on Viewer or ExamRx Display if needed.

## DOSE REDUCTION GUIDANCE (DR)

- Protocols already defined with ASiR/ASiR-V and have been updated manually for dose reduction do not need to be redefined using Dose Reduction Guidance. Use Dose Reduction Guidance only when defining new protocols.

## ORGAN DOSE MODULATION (ODM)

- If the length of the ODM region is less than 2 rotations in an Axial scan, the system will acquire the ODM scan for each full rotation. As shown in below , the ODM region prescribed for the 1st scan group and if the scan group has 2 rotations, the scan group (2 rotations) are acquired with ODM modulation.



- Images scanned with ODM will not show the Noise Index annotation when displayed in Viewer on AW.

## PERFORMED PROCEDURE STEP (PART OF CONNECT PRO)

- The PPS server may stop and fail to send the request. You may have to select Complete to get the series to update to the complete the state.
- The series created by post processing(Add/Sub, Volume Viewer..etc) do not update PPS status correctly.
- If an Exam contains SmartView series, the PPS response may be slow to complete. To complete the PPS faster, select "Defer" on the PPS response dialog and use MPPS from the Image Works browser to complete the PPS response.
- Completion of Deferred PPS entries in the Job Management queue may not be able to be deleted. Reboot the system and then try again to delete jobs.

## EXAM SPLIT

- The accession number will not be in the image header for exams split when Exam Split is in the Virtual Exam Split (VES) mode
- VR images sent to a remote host may not display at the same contrast as viewed on the CT scanner console. Adjust the contrast of the image manually at the remote host.

## DATA EXPORT

- When sending patient report twice, using the ftp option, the second report will be sent to Homedir instead of reportDir.

## EDIT PATIENT DATA

- When editing patient data if there are save states in the exam, Edit Patient Data leaves behind a screen save image of the Save State format with original information. Review files and remove as needed.

## ECG TRACE

- If the ECG Trace is not displayed on the monitor of the operator Console, check to see that the IVY monitor is set to Ethernet mode and the Ethernet cable is connected to the gantry. If the mode was changed from Data to Ethernet, cycle power to the IVY monitor to enable Ethernet mode.

## ECG TRACE SECONDARY CAPTURE

- The accession number is omitted from the image header. This may cause this series to be listed as a separate Exam in the image list. The exam may need to be manually reconciled on the PACS.

## ADAPTIVE STATISTICAL ITERATIVE RECONSTRUCTION™ (ASiR/ASiR-V)

- Images reconstructed with ASiR/ASiR-V will not show the ASiR/ASiR-V annotation when displayed on the version prior to AW4.4.

## SMART METAL ARTIFACT REDUCTION (MAR)

- The metal shape and the area adjacent to the metal object may show inaccuracies after MAR processing.

## PROTOCOL MANAGEMENT

- The Dose information in protocols used from Most Recent does not reflect the dose actually used for the protocol. If the protocol contains manual mA, retype the mA value to update the dose display. If Auto mA is used, the dose will not be reflected correctly in Protocol Management, however it will be updated at scan time for the current patient being scanned and based off a valid scout image.
- If protocols cannot be edited in protocol management, quit the protocol and reload the protocol to edit.

## RETRO RECON

- If only a single rotation of data is reconstructed for SnapShot Pulse acquisition, the images may not match the images from a reconstruction of the full data set.
- In the case of a scan abort during a Volume Helical Shuttle acquisition, Graphic Retro will not be available for the group where the scan abort occurred. Select one of the other scan groups to determine DFOV, R/L and A/P Centers and manually enter the changes for the group where Graphic Retro is not available.

## RECON MANAGEMENT

- Save All scan files to USB will not be restored when selected after saving scan files using Save Selected. If this occurs exit Recon Management and start over.
- System may not recognize a USB drive connected to the media tower USB port, and will not save or restore data from the USB device. Guidelines to follow:
  - ◆ Use a USB device with an external power source.
  - ◆ When using a drive without an external power source, exit Recon Management and try again. The system may recognize the drive.

## AXIAL OVERLAPPED RECONSTRUCTION

- Images reconstructed with Overlapped reconstruction will not show 128i or 64i annotation when displayed in Volume Viewer or Volume Viewer applications.

## EXAM RX DISPLAY

- If a viewport has a MIROI graph displayed in it, the blank command does not clear (blank) the viewport. Display an image in the viewport and then use the blank command.
- Initial series order for VHS series is not sorted by pass number in List/Select. Select Sort by Series Description to display the series order by pass number.
- Scout cross reference auto view viewport will show the reference line incorrectly for ImageCheck reconstruction for long scout images.
- Exam Rx Display may unexpectedly terminate and some viewports will display only annotation without image. Use the command of "Blank" for blank viewports or use the Display Normal, and redisplay images in desired viewports.
- Select the series you want to review and wait a moment before selecting View. If you do not allow the system time to recognize the number of images in the series, the first image in the first series will be displayed, not the first image of the series you selected.
- If a series with large number images (near 3000) is reviewed while reconstruction is still in process or images are being received, display for the images may hang. Wait till all the images are available before trying to review the series.
- Images created from software prior to this release may display additional information when displayed on this release of software.
- If Auto View in Exam Rx turns to white blank viewport, click the flip button at bottom right viewport to find the desired viewport.

## IMAGE WORKS

- Initial series order for VHS series is not sorted by pass number. Select Sort by Series Description to display the series order by pass number.
- The Network icon for series complete is not set for a series that is sent by partial image groups. The entire series has to be sent as a single network request for Network icon to be set as complete.

## VIEWER

- The Magnify Glass function is no longer available. Use the Zoom or Explicit Magnify function to magnify an image.
- Images created from software prior to this release may display additional information when displayed on this release of software.

## CD/DVD/USB

- Auto launch is not run when viewing from USB device on your PC. Please select "My Computer" on your PC, then select USB device and CDVIEWER.EXE.
- Auto launch may not be run when viewing from the CD or DVD on your PC. Please select "My Computer" on your PC, then select the CD or DVD and CDVIEWER.EXE.
- Verify Data is not compatible with CD and DVD.

## ADD SUBTRACT

- Comb images will not contain the e/s/i used for the added image.

## AUDIT LOG VIEWER

- Date Time for "DICOM instances Transferred" and "Begin Transferring DICOM Instances" in the log list is not correct. Please open Events to confirm correct local time. Date Time (UTC) in Events indicates correct local time. Additionally, Date Time in Events is not also correct.

## EXPORT PROTOCOLS

- Parameters for Enhanced Xstream Injector do not reflect multiple phases. Use protocol management to review each phase.

## ARCHIVE

- For the Enhanced Xstream Injector if the injection is still in progress, when End Exam is pressed, Auto Store may not be successful. The Contrast Text Page should be manually saved to the archive device.
- Auto Store may fail to the remote archive host. Confirm the Archive flag on browser.
- Auto Store is not compatible with Prospective Exam Split. If you need storage commitment, please archive the images manually.

## NETWORK

- Auto Transfer may fail to the remote host. Confirm the transfer flag on browser.
- If a complete exam's MPPS status is in progress in exam list, the whole exam is already sent to destination. User need to manually delete failed cases in Job management first, then exam can be deleted in exam list.

## FILMING

- When filming from Reformat or VolumeViewer, the Film Composer film port is populated with image icon even though E/S/I may be selected.
- When you use the Print Series for manual filming, press Enter key after typing the Start and End in the Image Selection. Otherwise, use the slider.
- If AutoFilm viewport cannot be displayed, switch Review Layouts, then return to AutoView Layouts.
- After select whole series of images and load into Manual Film, if Delete button, Ctrl A, Ctrl X, Ctrl C and Ctrl V



on the keyboard are not working, user can click **Hide** first, then click **Film**



to open Manual Film again and continue with above keyboard operation. User can also right click on the image and perform Cut, Copy, Paste and Remove image if keyboard operation is not working.

## XTREAM INJECTOR/ENHANCED XTREAM INJECTOR

- A Scan hardware aborted scan message may be posted if parameters are changed on the injector monitor after confirm is selected. No error will be posted in the injecting Real Time Info area. Check the injector monitor before resuming the scan,

## AW SERVER CONNECTION/APPLICATIONS

- In Results Viewer, right click pull down is displayed in the lower right of the right monitor instead of at the mouse cursor location. Move mouse cursor to the lower right to select the menu choice.
- If a USB device is attached it will be shown as a selection under Free Image Importer, but the images will not import to the device. Select a device other than USB to import images.
- When the system displays ECG trace, some functions on AW Server are not available. Turn off ECG trace and operate AW Server applications.
- Not all annotation will be shown in all viewports. Confirm them on Viewer or ExamRx Display if needed.



## AW DIRECT CONNECT

- Slow update times for the Browser will be seen if AW Direct Connect is connected via shared network.
- When using Direct Connect, query speed may be impacted proportionately to the size of the exam database and if filters are not used. Using filters to specify a specific patient/exam will provide the best performance for Direct Connect.
- An alternate method to improve query speed is to utilize DICOM query. This will require 2 network connections, one for DICOM and one for Direct Connect, set up on the AW. Create one network title for query on DICOM level and second for using Direct Connect.
  - Use the DICOM query to find the patient/exam if not known;
  - Then use the Direct Connect network entry to make a filtered query on the specific patient/exam.

## LEARNING SOLUTIONS

- Acrobat Reader allows selection of print for the User Manual from the OC. There are no printers enabled for the OC. Use a PC to print the User Manual for sections that you want to print out.
- If the User Manual is open on the Learning Solutions desktop and you select a different desktop when you return to Learning Solutions, a pop-up message is seen indicating that system could not mount the CD. Click OK and continue review of the User Manual.
- Any pop-up screens associated during review of the User Manual for bookmarks, help, Adobe information will appear on the left hand.
- You will see add attachment and note icons displayed on the User Manual in Learning Solutions. These icons are not active. You would need to save the User Manual to a PC to be able to access them.

## UPDATE OF DOSE CALCULATION METHOD (BASED ON IEC60601-2-44:2009+A1:2012)

This new software calculates the dose value (CTDI<sub>vol</sub> and DLP) based on IEC60601-2-44:2009+A1:2012. IEC60601-2-44:2009+A1:2012 defines the dose for the following cases in addition to its previous standards. Then, when a scan is executed with same scan parameters setting, the displayed dose values using new software are different from the displayed dose value using old software as follows;

- Ped Body SFOV (Changed CTDI phantom from 16cm to 32cm)  
CTDI<sub>vol</sub> and DLP: About 50%
- Helical except Volume Helical Shuttle and Cardiac  
CTDI<sub>vol</sub> : Increase  
DLP: Almost same
- Volume Helical Shuttle  
CTDI<sub>vol</sub> : Decrease  
DLP: Same

If you need a dose value calculated by the old software , use the following conversion methods.

CTDI<sub>vol\_new</sub> software : CTDI<sub>vol</sub> following IEC60601-2-44:2009+A1:2012, calculated by this new software.

DLP\_new software : DLP following IEC60601-2-44:2009+A1:2012, calculated by this new software.

CTDI<sub>vol\_old</sub> software : CTDI<sub>vol</sub> calculated by old software with GE Healthcare specified methods.

DLP\_old software : DLP calculated by old software with GE Healthcare specified methods.

- Ped Body SFOV

$CTDI_{vol\_old\ software} = CTDI_{vol\_new\ software} \times \text{conversion factor [mGy]}$

$DLP\_old\ software = DLP\_new\ software \times \text{conversion factor [mGy}\cdot\text{cm]}$

**Conversion Factors from the  $CTDI_{vol}$  based on the 32 cm phantom to the  $CTDI_{vol}$  based on the 16 cm phantom (Reference IEC60601-2-44:2009+A1:2012)**

Aperture (mm)	Ped Body			
	80kV	100kV	120kV	140kV
40	2.32	2.23	2.20	2.18
20	2.32	2.23	2.20	2.18
10	2.32	2.23	2.19	2.18
5	2.31	2.23	2.19	2.18
2.5	2.31	2.22	2.19	2.17
1.25	2.30	2.22	2.18	2.17

$CTDI_{vol}(16\text{cm phantom}) = CTDI_{vol}(32\text{cm phantom}) \times (\text{conversion factor})$

Example:

Scan conditions; 120kV, Ped Body SFOV, Tube Current 200mA, Axial 1.0sec/rot, Detector Coverage 40mm,  
 $CTDI_{vol\_new\ software} = 15.23\text{ mGy}$ ,  $DLP\_new\ software = 60.93\text{ mGy}\cdot\text{cm}$

$CTDI_{vol\_old\ software} = 15.23 \times 2.20 = 33.51\text{ [mGy]}$

$DLP\_old\ software = 60.93 \times 2.20 = 134.0\text{ [mGy}\cdot\text{cm]}$

\* In case of GT2000x Table, converted values may have some gap (within 1.2%).

- Helical Scan except Volume Helical Shuttle and Cardiac Helical

$$CTDI_{vol\_old\ software} = CTDI_{vol\_new\ software} \times (L_{original} - L_{adjustment}) / L_{original} \text{ [mGy]}$$

DLP\_old software : same. (There are few gaps when auto mA is enabled because new calculation uses averaged mA and averaged Aperture factor thought previous calculation uses each mA and aperture per view.)

$L_{original}$  = Table speed (cm/sec) × Total Exposure Time (sec) (Table travel during the entire LOADING) (cm)

$L_{adjustment}$  = The value in the following table (cm) (Adjustment factor for dynamic collimation made)

#### Adjustment Factor for L (cm) when small focal spot is used

Rotation Time (s)	20mm Aperture				40mm Aperture			
	p0.531	p0.969	p1.375	p1.531	0.516	0.984	p1.375	p1.531
1	0.399	0.407	0.708	0.826	0.679	1.060	1.668	1.737
0.9	0.401	0.409	0.711	0.829	0.682	1.065	1.675	1.745
0.8	0.401	0.409	0.711	0.830	0.682	1.065	1.675	1.746
0.7	0.403	0.412	0.715	0.835	0.685	1.071	1.685	1.756
0.6	0.402	0.412	0.715	0.834	0.684	1.071	1.683	1.754
0.5	0.404	0.415	0.719	0.838	0.687	1.076	1.691	1.763
0.4	0.406	0.419	0.725	0.845	0.692	1.085	1.703	1.777
0.35	0.408	0.422	0.728	0.849	0.695	1.091	1.619	1.685

#### Adjustment Factor for L (cm) when large focal spot is used

Rotation Time (s)	20mm Aperture				40mm Aperture			
	p0.531	p0.969	p1.375	p1.531	0.516	0.984	p1.375	p1.531
1	0.382	0.389	0.677	0.789	0.679	1.061	1.669	1.739
0.9	0.383	0.391	0.680	0.793	0.682	1.066	1.677	1.747
0.8	0.383	0.391	0.680	0.793	0.682	1.066	1.677	1.747
0.7	0.385	0.394	0.684	0.798	0.686	1.072	1.686	1.757
0.6	0.385	0.394	0.684	0.797	0.685	1.072	1.685	1.756
0.5	0.386	0.397	0.687	0.801	0.688	1.077	1.692	1.764
0.4	0.388	0.401	0.693	0.808	0.693	1.086	1.705	1.779
0.35	0.390	0.404	0.697	0.812	0.696	1.093	1.620	1.687

#### Example:

Scan conditions; 120kV, Large Body SFOV, Start Loc: 0mm, End Loc 200mm, Tube Current 200mA, 0.7sec/rot, Detector Coverage 40mm, Helical Pitch p0.984, Total Exposure Time 4.38s,  $CTDI_{vol\_new\ software} = 12.39 \text{ mGy}$

$$L_{original} = (40\text{mm}/10\text{mm} \times 0.984 / 0.7\text{sec}) \times 4.38\text{sec} = 24.63 \text{ cm}$$

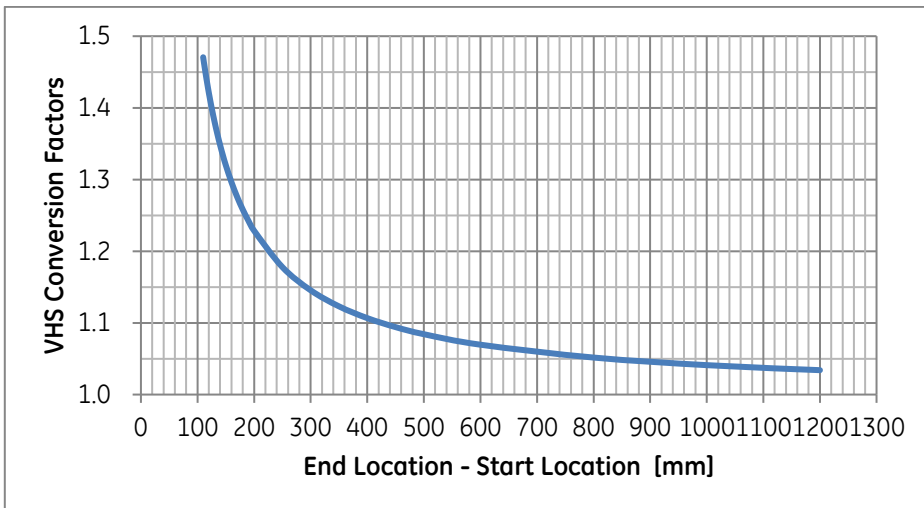
$$CTDI_{vol\_old\ software} = 12.39 \text{ mGy} \times (24.63\text{cm} - 1.071 \text{ cm}) / 24.63\text{cm} = 11.85 \text{ mGy}$$

- Volume Helical Shuttle

$$\text{VHS Conversion Factor} = (1 + 88.4046 \times (\text{End Location} - \text{Start Location})^{-1.1187})$$

$$\text{CTDI}_{\text{vol\_old software}} = \text{CTDI}_{\text{vol\_new software}} \times (\text{VHS Conversion Factor}) \text{ [mGy]}$$

DLP : same



Example:

Scan conditions; 0.4sec/rot, 120kV, Large Body SFOV, Detector Coverage 40mm, Helical Pitch 0.984, Start Location: 0mm, End Location: 200mm, Pass: 10, Tube Current: 200mA,  $\text{CTDI}_{\text{vol\_new software}} = 82.27 \text{ mGy}$

$$\text{VHS Conversion Factor} = 1 + 88.4046 \times (200\text{mm} - 0\text{mm})^{-1.1187} = 1.236$$

$$\text{CTDI}_{\text{vol\_old software}} = 82.27 \text{ mGy} \times 1.236 = 101.7 \text{ mGy}$$

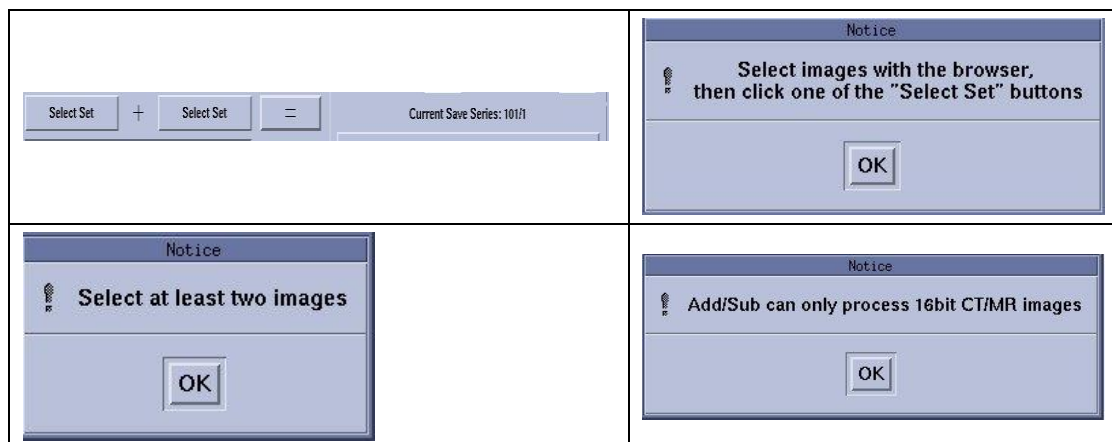
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# LANGUAGE TRANSLATION ISSUES FOR REVOLUTION™ MAXIMA/REVOLUTION™ ACE- 19BW15.X OR 23BW13.X RELEASE

The precautions listed in this section are directed toward issues related to the translation on specific screens in the User Interface.

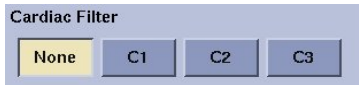
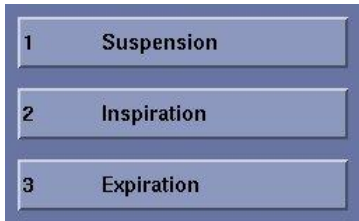
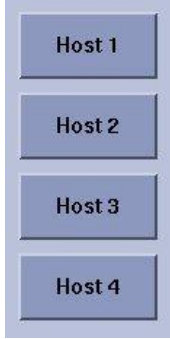
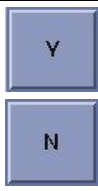
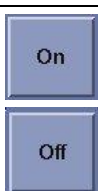
- When the system is configured in a language other than English the following may be seen:
  - Messages posted in the Real Time Information window or the Feature Status Area may be in English,
  - Image annotation is not translated nor is the corresponding user interface text,
  - Terms that are globally accepted shown in English,
  - Buttons, menus, selections or messages on User Interface screens,
  - The label which is part of Dyna Plan screen in English,
- For Chinese and Japanese languages, there are portions of the screens for Exam Rx Control Panel, AutoView Layouts, Review Layouts, Display Preferences, Display Preferences, Routine Display and Measurements that are not translated and remain in English at this time.
- When the system is configured in a language other than English, you may see the characters truncation in your User Interface. Refer to a User manual for correct operation.
- The language you used may not be supported for the following applications. Refer to an Advanced Apps on OC manual to operate the applications below for multi language,
  - o Advanced Vessel Analysis Xpress
  - o Advantage CTC Pro EC
  - o AutoBone Xpress
  - o Card EP
  - o CardIQ Xpress 2.0 Reveal
  - o Advantage Dentascan
  - o Perfusion4D/ 4DNeuro
- In Add Subtract when the system is configured in a language other than English, the Select Set and Current Save Series text on the user interface revert back to English after selecting the button. To get the translated text to display again, Quit Add/Sub and launch Add/Sub again. The English screens are included for your reference.

## English Screen Captures



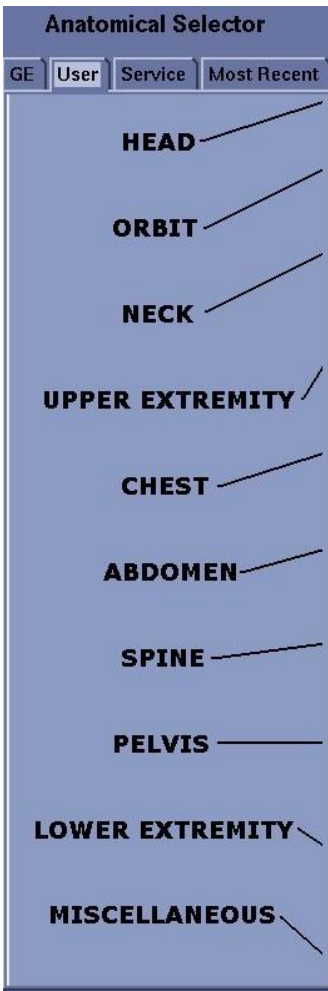
## Language Specific (continued)

- When the system is configured in a language other than English there are several items that will be displayed at English in the protocol management/New Patient/ Retro Recon. The following table shows the items that will be displayed in English and the translation.

Screen Capture	English Text	Translation (French, German, Italian, Portuguese, Spanish, Swedish, Danish, Dutch, Finnish, Norwegian, Japanese, Chinese, Russian)
	None	
	Suspension Inspiration Expiration	
	Host	
	Y N	
	On Off	



## Language Specific (continued)

- When the system is configured in a language other than English there are several items that will be displayed in English on the protocol selector. The following table shows the items that will be displayed in English and the translation.

Screen Capture	English Text	Translation (French, German, Italian, Portuguese, Spanish, Swedish, Danish, Dutch, Finnish, Norwegian, Japanese, Chinese, Russian)
	<p>Head</p> <p>Orbit</p> <p>Neck</p> <p>Upper Extremity</p> <p>Chest</p> <p>Abdomen</p> <p>Spine</p> <p>Pelvis</p> <p>Lower Extremity</p> <p>Miscellaneous</p>	

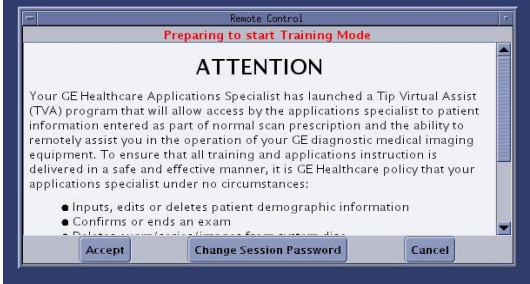
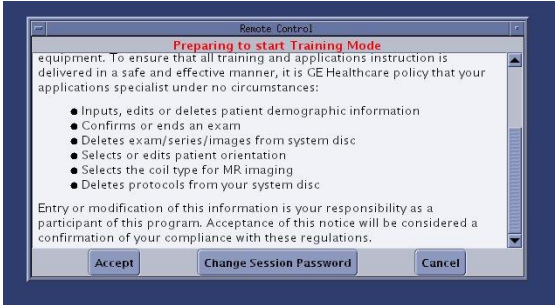


**Language Specific (continued)**

Screen Capture	English Text	Translation (French, German, Italian, Portuguese, Spanish, Swedish, Danish, Dutch, Finnish, Norwegian, Japanese, Chinese, Russian)
	Pediatric	
	GE User Service Most Recent	

## Language Specific (continued)

- When the system is configured in a language other than English, the user confirmation screen for the start of Remote Training is not translated. The attention information is translated in the following table.

Screen Capture	English Text	Translation (French, German, Italian, Portuguese, Spanish, Swedish, Dutch, Finnish, Norwegian, Japanese, Chinese, Russian)
	<p>Preparing to start Training Mode</p> <p>Attention</p> <p>Your GE Healthcare Applications Specialist has launched a Tip Virtual Assist (TVA) program that will allow access by the applications specialist to patient information entered as part of normal scan prescription and the ability to remotely assist you in the operation of your GE diagnostic medical imaging equipment. To ensure that all training and applications instruction is delivered in a safe and effective manner, it is GE Healthcare policy that your applications specialist under no circumstances:</p> <ul style="list-style-type: none"> <li>Inputs, edits or deletes patient demographic information</li> <li>Confirms or ends an exam</li> </ul>	
	<ul style="list-style-type: none"> <li>Deletes exam/series/images from system disc</li> <li>Selects or edits patient orientation</li> <li>Selects the coil type for MR imaging</li> <li>Deletes protocols from your system</li> </ul> <p>Accept Change Session Password Cancel</p>	


## Language Specific (continued)

- When the system is configured in German or Portuguese language and using Exam Split the following error message pop up is not translated. The table below shows the English screen capture, English text and the translated text.

### English Screen Capture

### English Text

### Translation (German, Portuguese)

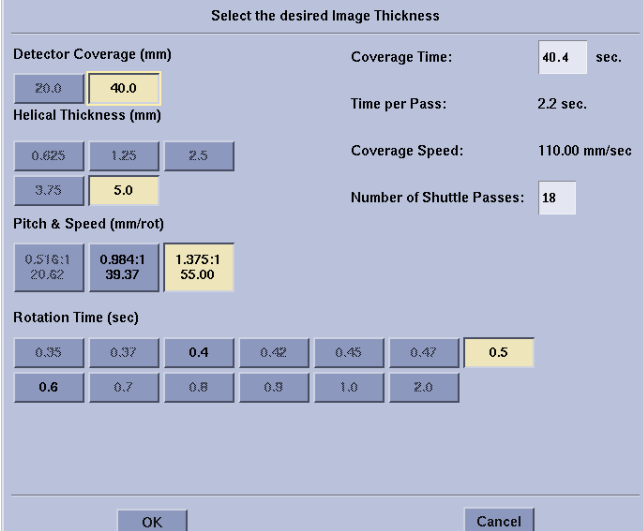
	<p>You have selected an Exam, which doesn't have Requested Code Meaning and Code Description. This application will not support on this image set. Click OK to exit.</p>	
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- When the system is configured in Swedish language and using Volume Helical Shuttle the following text in the pop up is not translated. The table below shows the English screen capture, English text and the translated text.

### English Screen Capture

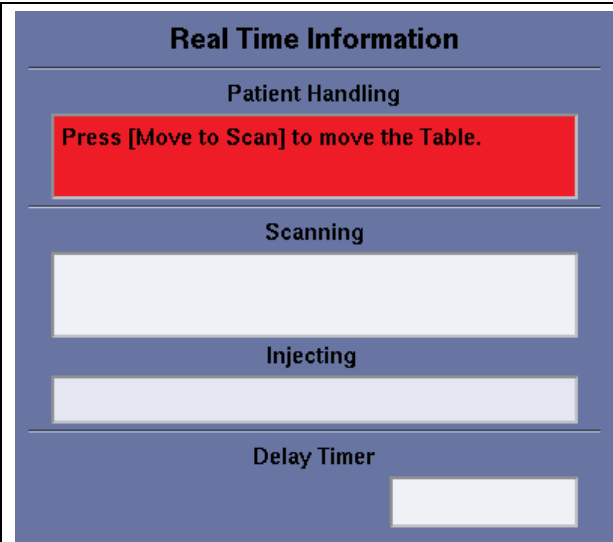
### English Text

### Translation (Swedish)

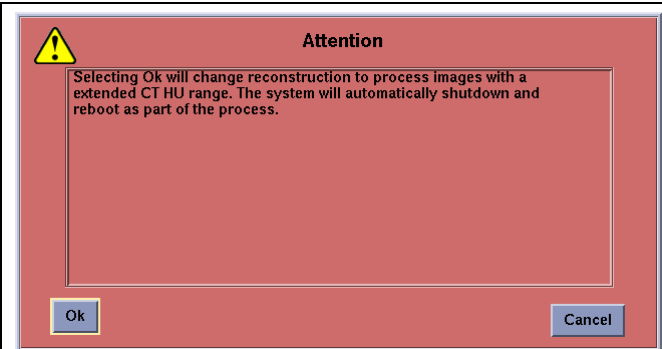
	<p>Cover age Time</p> <p>Time per Pass</p> <p>Number of Shuttle Passes</p>	
---	--	--

## Language Specific (continued)

- When the system is configured in Portuguese and Danish languages, the following error message is not translated. The table below shows the English screen capture, English text and the translated text.

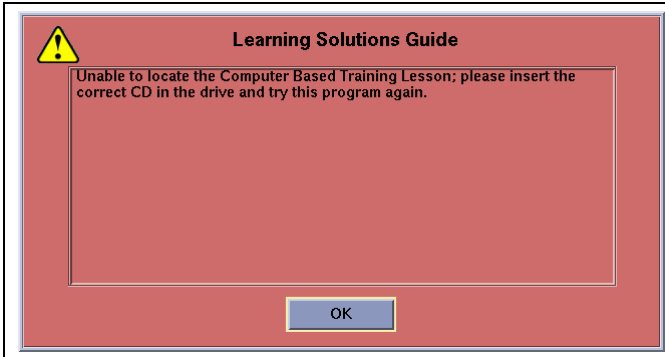
English Screen Capture	English Text	Translation (Portuguese, Danish)
	Press [Move to Scan] to move the Table.	

- When the system is configured in Danish language, the following pop-up message for Extended HU Unit is not translated. The table below shows the English screen capture, English text and the translated text.

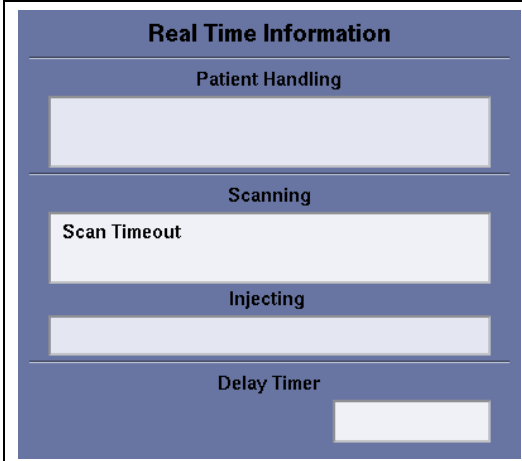
English Screen Capture	English Text	Translation (Danish)
	Selecting Ok will change reconstruction to process with an extended CT HU range. The system will automatically shutdown and reboot as part of the process.	

## Language Specific (continued)

- When the system is configured in Dutch language, the following pop-up message for Learning Solutions is not translated. The table below shows the English screen capture, English text and the translated text.

English Screen Capture	English Text	Translation (Dutch)
	Unable to locate the Computer Based Training Lesson; please insert the correct CD in the drive and try this program again.	

- When the system is configured in Dutch language, the following pop-up message in Real Time Information is not translated. The table below shows the English screen capture, English text and the translated text.

English Screen Capture	English Text	Translation (Dutch)
	Scan Timeout	

## Language Specific (continued)

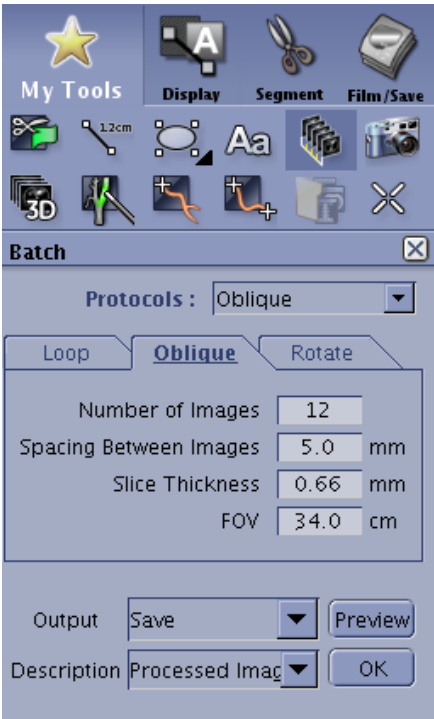
- When the system is configured in Portuguese, Swedish and Finnish languages, in Reformat the information shown in the field for various pull-down menus may appear truncated. The table below shows the English screen capture and the translated explanation.

### English Screen Capture

### English Explanation

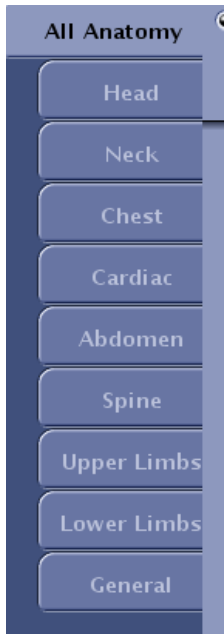
### Translation

(Portuguese, Swedish, Finnish, Russian)

	<p>The information displayed window for the pull-down menus may be truncated. Click on the pull-down to see the full information.</p> <p>The names of protocols may still appear truncated. When you name protocols consider the name length so it can easily be identified.</p>	
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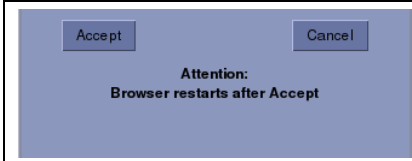
## Language Specific (continued)

- When the system is configured in Portuguese language, in Volume Viewer the Anatomical Area selection button has text that is truncated. The table below shows the English screen capture, English text and the translated text.


English Screen Capture	English Text	Translation (Portuguese)
	All Anatomy Head Neck Chest Cardiac Abdomen Spine Upper Limbs Lower Limbs General	

## Language Specific (continued)

- When the system is configured in a language other than English there are several items that will be displayed at English in AWS Favorite Application screen. The following table shows the items that will be displayed in English and the translation.

English Screen Capture	English Text	Translation (French, German, Italian, Portuguese, Spanish, Swedish, Danish, Dutch, Finnish, Norwegian, Japanese, Chinese, Russian)
	Attention  Browser restarts after Accept	

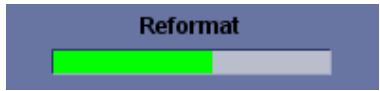
- When the system is configured in Chinese or Japanese language and using Remote AWS Application the following error message pop up is not translated correctly. The table below shows the English screen capture, English text and the translated text.

English Screen Capture	English Text	Translation (Chinese, Japanese)
	Attention  OK	



## Language Specific (continued)

- When the system is configured in Norwegian or Spanish language and using Remote AWS Application the following message pop up is not translated. The table below shows the English screen capture, English text and the translated text.

English Screen Capture	English Text	Translation (Spanish, Norwegian)
	Reformat 3D Viewer 3D MIP Fast VR Compare Compare Multiple Trauma Dual Energy Cardiac Reformat Auto Coronary Analysis Auto Ejection Fraction AutoBone Xpress GENERAL AutoBone Xpress NECK AutoBone Xpress RUN OFF Pre-Stent Aorta Analysis Carotids Analysis Lower Extremity Simple Analysis 4D Neuro DSA 4D Body Shuttle CT Brain Stroke CT Brain Tumor VessellIQ CardIQ Xpress CT Perfusion 4D FastStroke	

- All of words (the list below and Application button in ImageWorks) should not be translated whenever and wherever the word is used. The words of ScanType are not translated on CreateNewSeries popup, ScanType popup and ScanType button for each Group on View/Edit. Also ScanType label for RetroRecon are not translated.

### Not translated Word list

Category	Not translated Words	Category	Not translated Words
ScanType	Scout	Recon Mode	Full
	Axial		Plus
	Helical		Segment
	Cine	Recon	IBO
	Cardiac	Contrast	GI
Parameter name	kV		IV
	mA	FipRotate	FLR
	ISD		FTB
	SFOV		FTB/FLR
	DFOV	Cardiac	SmartScore Pro
Filming Filter	Edge		BPM
	Smooth	Auto Apps name	DirectMPR
	E1 / E2 / E3 / E21 / E22 / E23		Auto mA
	S1 /S2 / S3 / S11 / S21		Smart mA
	Lung		Smart Prep
Unit	s		IQ Enhance
	cm		IQ Enhance Plus
	mm		PMR
	kg		SmartStep
	mA		SmartView
	kV		Enhanced Xstream Injector
	mGy		Xstream Injector
	mGy-cm		MIROI
	ml	SFOV type	Ped Head
	PSI		Ped Body
	kg/cm <sup>2</sup>		Head
	kPa		Small Body
	%		Large Body
			Cardiac Small
			Cardiac Large
RAS	AP	Dose	CTDIvol
	RL		DLP
	SI		
	A / P / R / L / S / I		

**Not translated Word list (continued)**

Category	Not translated Words	Category	Not translated Words
Cardiac	Cardiac Burst	GSE	GSE /G1 / G2 /G3
	Cardiac Burst+	Recon Kernel	Bone
	Cardiac Segment		Bone Plus
	SnapShot Burst		Detail
	SnapShot Burst-2		Edge
	SnapShot Burst-4		Edge Plus
	SnapShot Burst-Plus		Lung
	SnapShot Segment		Soft
Anatomical Reference	OM		Std
	SN		Chest
	XY		Ultra
	IC	Phantom	Body 32
	SP		Head 16

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