



MAG*3.0*120
VistARad Maintenance VII
Patch Description

VistA Imaging
June 2012

Department of Veterans Affairs
Product Development
Health Provider Systems

MAG*3.0*120 Patch Description June 2012

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MAG*3.0*120 Overview

This document describes MAG*3.0*120, the VistARad Maintenance VII patch.

Windows 7 Support

MAG*3.0*120 provides support for the Windows 7 operating system. The client installation file included with this patch will execute on either Windows XP or Windows 7. Certain installation details differ according to the target installation environment. These differences are noted in the section *VistARad Client Installation*.

NOTE Some legacy display adapters for high-resolution screens may no longer be supported under Windows 7.

MAG*3.0*120 contains new functionality which:

Provides Clinical Context Object Workgroup (CCOW) integration at the user and patient context level. This facilitates integration with the Computerized Patient Record System (CPRS) and other CCOW-enabled applications.

NOTE VistARad workstations that are configured to enable radiologists to interpret studies for multiple sites (that is, workstations with connections to more than one VistA host) *must not have CPRS and CCOW installed*. A safety risk arises within the patient context management when the disparate clinical applications are concurrently logged in to separate VistA host databases.

Note that there are two mechanisms by which VistARad can be configured to read for multiple sites:

1. Multiple “Connect to” destinations to separate VistA hosts are defined in the Broker configuration settings; this is a **machine-dependent setting**.
2. Users having the MAGJ REMOTE ACCESS CONTROL key can configure “Monitored Sites” settings (on the “VIX Configuration” settings tab) to connect to multiple sites. This is a **user-level setting** that is independent of machine.

MAG*3.0*120 includes these additional changes:

- Changes to the Dictation interface where multiple locked exams may be open concurrently.
- Relocates certain files, that maintained on the client workstation, to a new storage location.
- Fixes logic for automatically selecting the preferred hanging protocol for multi-modality exams.
- Provides an optional pixel erase function prior to storing images to the Medical Imaging Resource Center (MIRC) Teaching file system.
- Fixes a sporadic problem when scrolling in linked image stacks.
- Fixes a problem opening large exams having numerous (e.g., more than 75) series and scouts.
- Adds Image Comments field to the default tab of the image data display.
- Widens the Demand Route form prompt, “Default Route To” to better display lengthy destination names.
- Improves the results display for the maintenance menu option “ICPT-- Inquire VistARad CPT Matching Set” [MAGJ INQUIRE CPT MATCHING SET].
- Removes certain unused fields from MAG VISTARAD SITE PARAMETERS file (#2006.69).
- Fixes a problem with incomplete updating of the Image Access Log.
- Displays EHR Notes in the Requisition and Reports windows for Indian Health Service.

For detailed information, refer to the change summary on page [7](#).

NOTE All sites running VistA Imaging 3.0 must install the KIDS portion of this patch. At sites that have implemented VistARad, installation of both the KIDS and the client software is required; installation of the client software may be phased in according to each site’s needs.

Distribution of Software

For sites that have implemented VistARad, this patch can be downloaded from:

`ftp. imaging. med. va. gov/Software/Si tes/<your site>/Mag3_0p120`

Sites that have not implemented VistARad can download the KIDS-only portion of this patch from:

ftp://imaging.med.va.gov/Software/Sites/Mag3_0p120_KIDS_ONLY

Installation instructions are included in this document.

NOTE Any late-breaking news about this patch will be found in a readme file. If present, this file will also be located in the MAG3_OP120 directory.

Patch Contents

This patch includes the following files:

MAG3_OP120.KID – KIDS (Kernel Installation & Distribution System) package to be installed on the VistA System.

MAG3_OP120_VRAD_Setup.exe – Client software to be installed on VistARad workstations.

MAG3_OP120_Patch_Description.pdf – This document.

MAG_VistARad_User_Guide.pdf – *VistARad User Guide*.

MAG_Vrad_Quick_Ref.pdf – *VistARad Quick Reference Guide*.

MAG_vrad_QSG.pdf – *VistARad Quick Start Guide*.

MAG_Vrad_Shortcuts.pdf – *VistARad Shortcut Keys*.

MAG3_OP120_Technical_Manual_Changes.pdf – Technical Manual change pages for this patch.

Associated Patches

Before MAG*3.0*120 is installed, the following patches must be installed:

MAG*3.0*115
MAG*3.0*104

For a list of all released Imaging (MAG) patches, refer to the `patch_list.txt` file available on the Imaging FTP server (go to <ftp://ftp.imaging.med.va.gov>, then navigate to the `\Docs\Imaging_Docs_Latest` folder).

Test Sites

The following sites are test sites for this patch:

- Fayetteville, NC – Large
- Fort Harrison – Integrated
- Houston, TX – Large

Remedy Calls

This patch addresses the following Remedy help desk calls:

Ticket #293535 GE Medical Systems Precision 500D DR and RF images too bright

Duplicate of 539358

Ticket #357161 Wrong date/time in exam list

Problem: Sometimes the wrong date/time is displayed in the exam list. This occurs for mixed modality exams imported from CD--the date that the report was scanned in is displayed, instead of the date of the acquired radiology images.

Solution: A modification was made to always display the earliest date found for a study.

Ticket #407940 Modality column in VistARad

Problem: When opening an exam with multiple modality codes, the preferred hanging protocol is not consistently found.

Solution: Program logic was modified to present the multiple modality codes in a consistent sequence so that the VistARad client's hanging protocol search would key off of the preferred modality code value.

Ticket #440204 How to correct MRI images

Problem: The program failed to open a very large MR exam having numerous sequences and scout images.

Solution: The image data storage objects used by the Preview window were re-designed to use a different type of data representation that requires much smaller number of Windows Resources (i.e., internal data objects).

Ticket #462795 CT Linking issue

Problem: Under certain circumstances with multiple CT series images displayed, scrolling through one image stack would result in images of other linked image stacks containing orthogonal image projections also scrolling.

Solution: A bug in the program logic for detecting parallel vs. orthogonal image planes in linked stacks was corrected.

Ticket # 488381 Route Exams dialog prompt

Duplicate of 500601

Ticket #500601 "Route To" list needs to be enlarged by 15 to 20 Characters.

Problem: The "Route To" list display on the Demand Route form truncates some of the destination names because the form's field is not wide enough.

Solution: The Demand Route form prompt, "Default Route To", has been widened to better display lengthy destination names.

Ticket #539358 Odd window leveling on studies

Problem: Odd window leveling behavior on some images since MAG*3.0*99. The problem occurs when performing a window/Level adjustment on MONOCHROME1 DICOM images. When dragging the cursor from right to left, the images become darker, whereas the expected response is to become brighter.

Solution: The program was modified so that images become brighter when dragging right to left; this response is consistent for both MONOCHROME1 and MONOCHROME2 images.

Ticket # 581717 Issue with Report window

Problem: Under certain circumstances with the VistARad Manager window on screen, after clicking the Report button, the Report window remains hidden behind the Manager window.

Solution: The logic controlling the display of the Report window was modified to allow it to consistently display on top of the Manager window

Ticket # 584441 DICOM MR and RF images window level display and adjustments are incorrect

Problem: The DICOM images for certain modalities either display incorrectly on initial presentation (e.g., images washed out) or respond to dynamic window/leveling incorrectly (images get darker instead of brighter as expected).

Solution: The logic controlling the initial display and window/level adjustments for images having pixel representation of MONOCHROME1 has been corrected.

Ticket # 593237 Imaging issue when cluster uses failover node

Problem: In very rare instances, VistARad could not open images if the Imaging cluster was configured to operate on the failover node. This was caused by a bug in handling an error reply message from the VIX server.

Solution: The bug in handling the VIX error reply message was isolated and corrected.

NSRs

There are no New Service Requests (NSRs) addressed in this patch.

PSIs

There are no Patient Safety Issue (PSI) reports associated with this patch.

MAG*3.0*120 Changes

MAG*3.0*120 contains changes to the VistARad workstation software and to Imaging-related routines on the VistA host.

VistARad Workstation Software Changes

CCOW Integration

CCOW integration is now available for user and patient context management with CPRS and other CCOW-enabled applications. A new Settings tab, “Context Management”, is used to enable patient context management. The setting “Enable Context Management” must be checked to use the context management functionality.

NOTE For first-time users of VistARad updated with the MAG*3.0*120 software, the check-box for this setting is defaulted to **Checked** (i.e., setting is enabled).

When CCOW is available, patient selection from either application (e.g., CPRS or VistARad) causes the other application to switch patient context automatically. If VistARad receives a patient context change while a different patient is already displayed, the “new” patient assumes the top of the display in VistARad, with the starting patient being pushed to the background in the conventional way that VistARad manages multiple patients.

The context indicator appears at the top of the various VistARad windows to the left of the Patient Name and demographics. A new menu option, “Context”, appears on the Manager and Viewer menu bars for options such as “Suspend/Resume context”.

Sites may configure a new CPRS “Tools” menu option for launching VistARad from CPRS. Refer to the VistA Imaging Installation Guide, section 2.6.2 (Associating Display and Capture with CPRS) for background information for this configuration step; to configure for launching VistARad, add a Sequence, then enter the following line of text exactly as shown (no line breaks, no extra spaces):

```
Name=Command:VistARad="Mag_Vistarad.exe" d=%DFN h=%MREF s=%SRV  
p=%PORT
```

NOTE Since VistARad is not widely deployed on clinical workstations, configuring a CPRS Tools menu option at a high level (e.g., Division or System) is not recommended.

Dictation Modifications

The dictation interface has been modified to change some interactions when multiple locked exams may be open concurrently:

1. When **multiple locked** exams for **different** patients are open:
 - A. If the user simultaneously opens multiple exams for different patients, the dictation dialog is suppressed and will not be displayed. A message box with the following text will be displayed if the user has previously checked the Dictation dialog option “Do not show this window again”:

You are concurrently locking exams for multiple patients; to initiate dictation for these exams, you must select the "Dictate" context menu from the Open/Reserved or Patient Exams lists.
 - B. To initiate a dictation for any of these exams the user must right-click on the exam of interest from the Manager’s Open/Reserved Exams or Patient Exams lists, then select the “Dictate” option from the context menu drop-down.

NOTE If the exam(s) selected is for a patient that is already active, the program shall make that patient the current patient.

NOTE If the exam(s) selected is for a patient that is **not yet** active, the program shall make that patient active; if no exams or reports are already open for the patient, then the requisition for the highlighted exams(s) shall be displayed.

2. The Dictation dialog is now forced on screen if the user opens an exam with a Lock while another Locked exam is already open (for the same or a different patient).
3. If the user selects the "Dictate" context menu option on the main exam list (Unread or Patient) for one or more exams while another Locked exam is already open (same or different patient), then a message box with this warning appears:

Warning—other locked exam(s) are currently opened; continuing this Dictate option may initiate a dictation that conflicts with work in progress. Click CANCEL to cancel the request, or CONTINUE to proceed with the Dictate option for the selected exam(s).

Button options on the form: CONTINUE & CANCEL

Client Files Relocated

Previous to MAG*3.0*120, certain settings files and log files were placed in the folder (or sub-folders) where the VistARad executable is installed.

Windows XP

The settings files—note in particular MAGJ.ini—are now placed in the following folder:

C:\Documents and Settings\All Users\Application
Data\Vista\Imaging\MAG_VistARad\Config

The log files are now placed in:

C:\Documents and Settings\All Users\Application
Data\Vista\Imaging\MAG_VistARad\Log

Windows 7

The settings files are placed in the following folder:

C:\Program Data\Vista\Imaging\MAG_VistARad\Config

The log files are placed in:

C:\Program Data\Vista\Imaging\MAG_VistARad\Log

The program execution files are placed in:

C:\Program Files (x86)\Vista\Imaging\MAG_VistARad

Other Changes

Installing this patch will:

- Fix logic for automatically selecting the preferred hanging protocol for multi-modality exams.
- Provide a pixel edit function to remove personally identifiable information from images with burned-in text prior to storing them to the MIRC Teaching File system.
- Fix a sporadic problem where scrolling one image stack resulted in linked image stacks of orthogonal projections also scrolling.
- Fix a problem where the program was unable to open large exams having numerous (e.g., more than 75) series and scouts.
- Provide logic to always display in the exams list the earliest date found for a study; this prevents scanned document dates from overriding actual image dates.
- Fix a problem with Window/Leveling DICOM MONOCHROME1 images so

that the images become brighter when dragging right to left.

- Add Image Comments (DICOM tag 0020,4000) to the display on the default tab of the image data display.
- Widen the Demand Route form prompt, “Default Route To”, to better display lengthy destination names.
- Fix the VistARad maintenance menu option “ICPT-- Inquire VistaRad CPT Matching Set” to display results that better indicate matching logic encoded by the table entries.
- Remove certain unused fields from MAG VISTARAD SITE PARAMETERS file (#2006.69)—for details, see the Data Dictionaries section below.
- Fix a problem with incomplete updating of the Image Access Log when displaying or interpreting radiology Printset exams—each Printset member exam is now recorded in the log.
- Display, for Indian Health Service, EHR Notes in VistARad’s Requisition and Reports windows when such notes are attached to the radiology exam.

VistA System Changes

Routines

For each routine, the second line will contain the following information.

```
; ; 3. 0; IMAGING; **[Patch List]**; Mar 19, 2002; Build 27; May 23, 2012
```

New and modified routines for the VistA System are listed below.

CHECK1^XTSUMBLD is used to generate the checksums. Please note that the “before” checksum may differ if any test software has been installed.

Routine	Before	After	Patch List
MAGJEX1	67789912	73006273	**16, 22, 18, 65, 101, 115, 104, 120**
MAGJEX1A	74324316	74002444	**18, 65, 101, 120**
MAGJEX2	46758312	45090288	**51, 18, 76, 120**
MAGJLS3	73090068	73486963	**16, 22, 18, 101, 90, 120**
MAGJLST1	54042932	51607794	**16, 22, 18, 65, 76, 101, 90, 120**
MAGJMN1	100385788	106024345	**16, 9, 22, 18, 65, 76, 101, 90, 115, 120**
MAGJMN3	6561616	6661799	**18, 120**
MAGJRPT	70154037	78502597	**18, 101, 120**
MAGJTU4V	4995092	5203794	**90, 115, 120**
MAGJUPD1	61185644	61960961	**16, 22, 18, 76, 101, 120**
MAGJUTL2	45983614	55943912	**18, 65, 76, 104, 120**

Routine	Before	After	Patch List
MAGJUTL3	113857123	130108028	**16, 9, 22, 18, 65, 76, 101, 90, 120**
MAGJUTL4	148832735	152537255	**18, 76, 101, 90, 120**
MAGJUTL5	38131193	38114169	**65, 76, 101, 90, 115, 104, 120**

Data Dictionaries

The MAG VISTARAD SITE PARAMETERS file (#2006.69), is modified to delete the following fields, which are no longer used:

AUTODISPLAY ACTIVE? (#4)
 ENABLE SERIES DISPLAY? (#5.5)
 PATIENT LIST LIMIT # YEARS (#10)
 PATIENT LIST LIMIT # EXAMS (#11)

Menu Options

The output displayed by the option, Inquire VistaRad CPT Matching Set [MAGJ INQUIRE CPT MATCHING SET], has been modified to display attributes defined for the entered CPT code, and also the matching CPT code values for its related "Similar CPT" and "Modality/Body Part" combinations.

Note: this change as implemented does not require any KIDS component, so no new or modified Menu options will be apparent in the KIDS definition or installation files.

Mail Groups

This patch contains no new or modified FileMan mail groups.

Forms

This patch contains no new or modified FileMan forms.

Remote Procedures

This patch contains no new or modified remote procedure calls.

Protocols

This patch contains no new or modified FileMan protocols.

Templates

This patch contains no new or modified templates.

Installation

This patch is to be installed on the VistA System and on the VistARad workstations.

This patch must be installed by the compliance date to conform with VHA Directive 2001-023.

NOTE All sites running VistA Imaging 3.0 must install the KIDS portion of this patch. At sites that have implemented VistARad, installation of both the KIDS and the client software is required; installation of the client software may be phased in according to each site's needs.

This patch may be loaded while VistA Imaging System is active; however, all radiologists that would be performing interpretations should be logged off the system during the KIDS install. Installation will take less than one minute.

Installation Prerequisites

Before installing this patch, you will need to download the MAG*3.0*120 files from the Imaging FTP site to a local storage location.

Verify that the patches listed in the Patch Sequence section on page [3](#) have been installed.

Verify that client workstations have Adobe Reader 6.0 or higher installed (virgin installs only).

VistA System (KIDS) Installation

NOTE This KIDS file includes an environment check that will automatically disable exam list background compiles during the installation process. After the KIDS installation is complete, compiles will be automatically re-enabled.

Installing the KIDS Package

- 1 Ensure all users log off of all VistARad workstations.
- 2 Access the Kernel Installation and Distribution System Menu [XPD MAIN].
- 3 Run the `Install ation` option [XPD INSTALLATION MENU].

- 4 Load the KIDS file by performing the following steps.
 - a Run the Load a Distribution option [XPD LOAD DISTRIBUTION] to load the KIDS distribution.
 - b When prompted, enter the path and file name (MAG3_OP120.KID) of the MAG*3.0*120 KIDS file that you downloaded from the Imaging FTP server.
 - c When prompted to continue with the load, enter YES. A Distribution OK! message will be displayed when the load is complete.
 - d When prompted to run the Environment Check Routine, enter YES.
- 5 After loading the KIDS file, use the following options to verify the contents of the patch and to back up any affected routines.
 - a Verify Checksums in Transport Global [XPD PRINT CHECKSUM] – run this option to verify the integrity of the routines in the patch.
 - b Compare Transport Global to Current System [XPD COMPARE TO SYSTEM] – run this option to view all changes that will be made when the patch is installed. All components (routines, options, and so on) in the patch will be compared.
 - c Backup a Transport Global [XPD BACKUP] – run this option to create a backup message of any routines exported with the patch. It will NOT back up any of the other changes.
- 6 After performing the load and any optional verification steps, perform the following steps to install the KIDS file:
 - a Run the Install Package(s) [XPD INSTALL BUILD] option.
 - b When prompted for the install name, enter MAG*3.0*120.
 - c Answer NO to the following prompts:

Want KIDS to Rebuild Menu Trees Upon Completion of Install? No//**NO**
Want KIDS to INHIBIT LOGONs during the install? No//**NO**
Want to DISABLE Scheduled Options, Menu Options, and Protocols? No//**NO**
- 7 When installation is finished, an Install Complete message will be displayed.

Sample KIDS Installation

The sample installation below illustrates the installation of the MAG*3.0*120 KIDS.

```

1      Load a Distribution
2      Verify Checksums in Transport Global
3      Print Transport Global
4      Compare Transport Global to Current System
5      Backup a Transport Global
6      Install Package(s)
      Restart Install of Package(s)
      Unload a Distribution

Select Installation Option: 6 Install Package(s)
Select INSTALL NAME:      MAG*3.0*120      6/2/12@23: 23: 15
=> Vista Imaging V3.0 - Patch 120 - 05/23/2012 08:07AM ;Created o

This Distribution was loaded on Jun 02, 2012@23: 23: 15 with header of
Vista Imaging V3.0 - Patch 120 - 05/23/2012 08:07AM ;Created on May 2
3, 2012@08: 07: 15
It consisted of the following Install(s):
MAG*3.0*120
Checking Install for Package MAG*3.0*120
Will first run the Environment Check Routine, MAGJMN1

Wait for Background Compile program to stop;
this might take up to a few minutes...

Background Compile Stopped; proceeding with install.

Install Questions for MAG*3.0*120

Want KIDS to INHIBIT LOGONs during the install? NO//
Want to DISABLE Scheduled Options, Menu Options, and Protocols? NO//

Enter the Device you want to print the Install messages.
You can queue the install by enter a 'Q' at the device prompt.
Enter a '^' to abort the install.

DEVICE: HOME// TELNET

Install Started for MAG*3.0*120 :
      Jun 02, 2012@23: 26: 27

Build Distribution Date: May 23, 2012

Installing Routines:.....
      Jun 02, 2012@23: 26: 28

Running Post-Install Routine: POSTINST^MAGJMN1

Deleting deprecated fields from MAG VISTARAD SITE PARAMETERS file ... done!
... Enabling background compile .

Background Compile Enabled.

Updating Routine file.....

Updating KIDS files.....

MAG*3.0*120 Installed.
      Jun 02, 2012@23: 26: 31
Install Message sent #99999

Install Completed

```

VistARad Client Installation

The following steps can be used to install VistARad for the first time, or to update a workstation that is running VistARad Patch 115 (or Patch 90) to VistARad MAG*3.0*120. Installation should take two to three minutes.

NOTE If a version of VistARad *older than* Patch 90 is installed, use Add/Remove Programs in the Windows Control Panel to remove VistARad before using the steps below.

1 Log in to the workstation as an administrator, and ensure that no other programs are running.

2 Initiate the installation:

Windows XP: Double-click `MAG3_0P120_VistARad_Setup.exe` to start the installation wizard.

Windows 7: Right-click on the `MAG3_0P120_VistARad_Setup.exe`, and select option “Run as administrator” to start the installation wizard.

3 After the setup launches

a You may be prompted to install the Microsoft Visual C++ 2005 Redistributable Package. Click **Install** to complete this step.

b There will be a brief delay as the VistARad installation files are extracted.

NOTE There are no configurable installation options. VistARad will be installed in:

Windows XP: `C:\Program Files\Vista\Imaging\MAG_VistARad`

Windows 7: `C:\Program Files (x86) \Vista\Imaging\MAG_VistARad`

4 When the Welcome page appears, click **Next**.

5 When the Ready to Install page displays, click **Install**.

6 If you are updating from MAG*3.0*115 (or MAG*3.0*90) to MAG*3.0*120, you are informed that MAG*3.0*115 (or MAG*3.0*90) will be removed. Click **Yes** to continue. (Note that workstation-specific configuration files will be retained from the previous version.)

7 Installation of MAG*3.0*120 starts automatically. After installation is complete, click **Finish** to exit the wizard.

8 You may be prompted to re-start your workstation in order for the configuration changes to take effect. Click **Yes** to complete this step.

- 9 Use the VistARad shortcut on the desktop or in Windows Start menu (**Start | Programs | VistA Imaging Programs | MAG_VistARad_Patch120**) to start VistARad.
- 10 From the **Help | About** menu, verify that the software client version is 3.0.120.8