HOLOGIC®

APEX™ Data Archiving Best Practices

MAN-03906 Revision 006

APEX Data Archiving Best Practices

Part Number MAN-03906

Revision 006

Caution: Federal (U.S.A.) law restricts this device to sale by or on the order of a physician (or properly licensed practitioner).

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Overview

1 Audience

This document explains Hologic APEX Data Backup Best Practices and includes recommendations to help users understand the capabilities of the DXA product.

This discussion is intended for the following audiences:

- DXA supervisors
- IT managers
- PACS administrators
- Account sales managers
- Sales support specialists
- Product managers
- Application specialists
- Field service engineers
- Technical support
- Training specialists
- Biomed engineers

2 Purpose

This use case guidance is intended to help the user understand how the DXA system can be set up to provide data management and disaster recovery. It is important to understand what the data is and the difference between archiving scans and performing an APEX System Backup.
A discussion with the customer helps to determine the best method for providing continued support of the APEX data. If there is a need for disaster recovery, the APEX data is available so that service personnel can restore the DXA system.

Q: Why is it necessary to Back Up Data?

A: Backing up is the way to protect patient data and scans. Users are responsible for backing up the data. If the computer fails, recovery can be difficult and costly. Understanding the backup process is crucial to a successful disaster recovery. Backing up only takes a few minutes and is worthwhile.

Q: What is a Scan Archive?

A: The archive process transfers a copy of the selected scans to removable media, such as a DVD+RW, a folder on a network drive, an external drive, or PACS. The DXA system maintains two archive locations, a primary and secondary in the database.

Caution *Hologic recommends that scans be archived (saved) twice when the archive system is not backed up to ensure that a scan is not lost.*

Q: What is APEX System Backup?

A: APEX System Backup is the function used to save your ***system files*** (calibration files, patient scan database, reference and report database, step phantom and APEX registry information). These files are different from scan data files. APEX System Backup does not save scan image files.

Q: When is a System Recovery necessary?

A: It is not necessary to perform a System Recovery unless there is a serious problem with the hardware or software.

Caution *If a serious problem occurs, do not attempt a System Recovery. Contact Hologic Customer Support for help.*

3 Terminology

APEX	DXA operating system.
APEX Data	Includes patient scans, patient data, APEX configurations and calibration information, all archive media and APEX System Backup media.
APEX Data Backup	Consists of both APEX System Backup and Patient Scans Archiving.
APEX System Backup	Weekly backup of the APEX application database, system calibrations, and configurations.
DVD	Hologic approved Verbatim 4x DVD+RW media.
DXA (dual energy x-ray absorptiometry)	Imaging technique that uses a very low dose of radiation to measure bone density for the diagnosis of osteoporosis.
DXA Data Storage Kit	A 2nd Internal Drive and One USB External Drive
DXA PC	Hologic provided computer to operate the Bone Densitometer.
IRIS-Enterprise Option	Hologic provided connectivity suite.
Legacy Archive Media	Hologic approved media associated with all versions of Hologic DXA systems prior to APEX 3.5 Discovery or APEX 5.5 Horizon. Includes Floppies, LS-120 Super Disk, Jaz Cartridges, MO Cartridges, Mini-MO Cartridges, and CDs.
Network Drive	Facility provided data storage.
PACS	Facility provided Picture Archiving and Communication System for storing scans.
Patient Scans Archive	Daily copying of patient scans to media for off system storage.
Query Retrieve	The process of locating and restoring scans archived to PACS.
USB External Drive	Hologic provided USB drive.
Use Case	How the DXA system is configured for archiving scans and APEX System Backup.
Windows 7 Backup	Backup Image of APEX Data.
Second Internal Drive	Hologic provided hard drive.

4 Part Numbers

- Verbatim 4x DVD+RW (**CMP-01358**)
- DXA Data Storage Kit – **PRD-03074**
  - Internal Hard Drive
  - Hard Drive Data Cable
  - USB External Drive
- DICOM option – IRIS-ENT-APEX - Enterprise Data Management with Query Retrieve

5 Use Cases Summary

Use Case 1
Physician Office — 1 DXA, No Network: Minimal Cost

Minimum Requirements

- Customer purchases Verbatim 4x DVD+RW

Best Practices

- Patient scans are archived daily, twice (primary and secondary) to formatted CDs.
- APEX System Backup performed weekly to a formatted CD.

Use Case 1: Physician Office — 1 DXA, No Network: Minimal Cost on Page 6.

Use Case 2
Physician Office — 1 DXA, No Network: Some Cost, Some Work

Minimum Requirements

- Customer purchases Hologic Data Storage Hardware Kit

Best Practices

- Patient scans are archived daily to the primary archive location on the 2nd drive.
- APEX System Backup is performed weekly on the 2nd drive.
- Windows 7 Backup of the 2nd drive is performed weekly to the USB-connected external drive.
- Optional: Perform one time copy of legacy archive media to the 2nd drive.

Use Case 2: Physician Office — 1 DXA, No Network: Some Cost, Some Work on Page 7.

Use Case 3
Hospital — 1 DXA, Managed IT Network: No Cost

Minimum Requirements

- Network drive is provided and backed up on a regular schedule by the facility

Best Practices

- Patient scans are archived daily to a network drive.
- APEX System Backup performed weekly to a network drive.
- Optional: Perform one time copy of legacy archive media to a network drive.

Use Case 3: Hospital — 1 DXA, Managed IT Network: No Cost on Page 22.

Use Case 4
Hospital — 1 or more DXA, Managed Radiology Network: Some Cost

Minimum Requirements

- IRIS-ENTERPRISE-APEX Option
- PACS that supports Query Retrieve
- Network drive provided and backed up on a regular schedule by the facility

Best Practices

- Patient scans are archived daily to the primary location on PACS.
- Patient scans are archived daily to a secondary location on a network drive.
- APEX System Backup performed weekly to a network drive.
- Optional: Perform a one-time copy of legacy archive media to a network drive.

Caution *Hologic recommends that scans be archived (saved) twice when the archive system is not backed up to ensure that a scan is not lost.*

Use Case 4: Hospital — 1 or more DXA, Managed Radiology Network: Some Cost on Page 30.

6 Use Case 1: Physician Office — 1 DXA, No Network: Minimal Cost

Minimum Requirements

- Customer purchases Verbatim 4x DVD+RW

Best Practices

- Patient scans are archived daily, twice (primary and secondary) to formatted CDs.
- APEX System Backup performed weekly to a formatted CD.

6.1 In the APEX application

6.1.1 Archive Scans

Primary CD

1. Format the CD if it is new.
2. Place the primary CD in the drive.
3. Click the **Archive Scans** icon.
4. On the **Un-archived** tab, click **Select All**.
5. Click **Archive Scans**.
6. Click **OK**.
7. Wait for the drive LED to stop blinking.
8. Eject the CD.
9. Label the CD

Secondary CD

1. Place the secondary CD in the Drive.
2. Select the **Archived Once** tab.
3. Click **Select All**.
4. Click **Archive Scans**.
5. Click **OK**.
6. Wait for drive LED to stop blinking.
7. Eject the CD.
8. Label the CD

6.1.2 APEX System Backup

Best Practices for APEX System Backup

- Minimally performed once a week
- Requires two CDs, labeled #1 and #2
- Alternate between CDs every week

Procedure

1. Insert the APEX System Backup CD in the drive.
2. Click **System Backup**.
3. Click **OK**.
4. Click **OK** (when complete).
5. Wait for drive LED to stop blinking.
6. Eject the CD.
7. Alternate between CDs every week.

Note *A set of CDs (Secondary Archive and one of the APEX System Backup should be stored off-site.*

7 Use Case 2: Physician Office — 1 DXA, No Network: Some Cost, Some Work

Minimum Requirements

- Customer purchases Hologic Data Storage Hardware Kit

Best Practices

- Patient scans are archived daily to the primary archive location on the 2nd drive.
- APEX System Backup is performed weekly on the 2nd drive.
- Windows 7 Backup of the 2nd drive is performed weekly to the USB-connected external drive.
- Optional: Perform one time copy of legacy archive media to the 2nd drive.

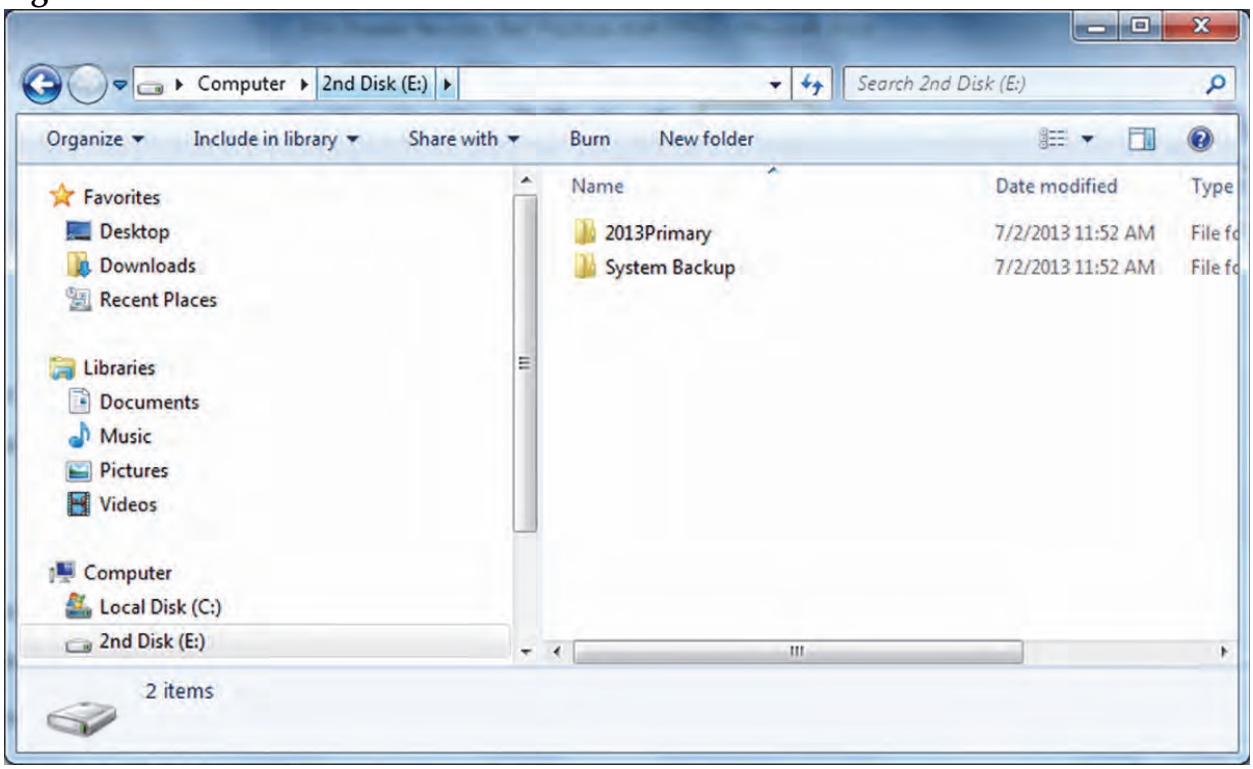
7.1 Configuration

7.1.1 Create Folders

Create folders on the 2nd drive and perform an APEX System Backup in Windows 7

1. Click the **Start** button > **Computer** and browse to the 2nd disk.
2. Create two new folders on the 2nd disk (Figure 1).
   - Name the 1st folder **YYYYPrimary** — (YYYY represents current year).
   - Name the 2nd folder **System Backup**.

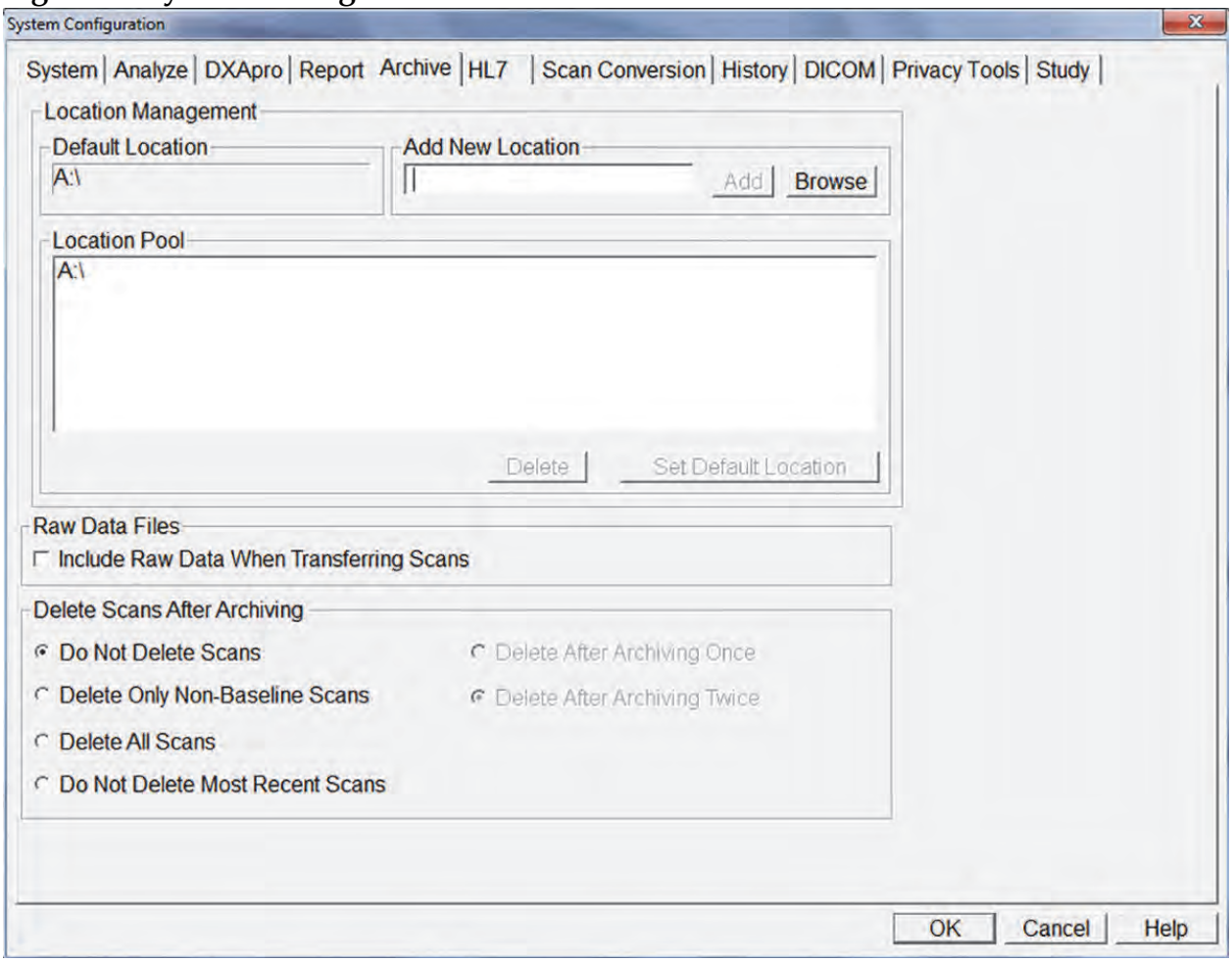
Figure 1 Folders on Second Disk



7.1.2 Configure Setup in the APEX Application

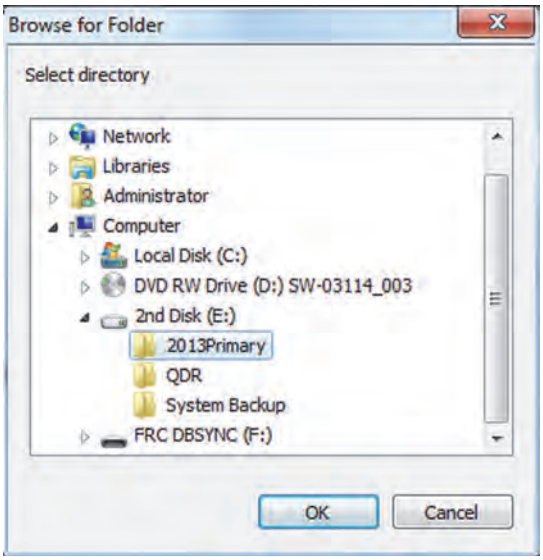
1. From the application main screen, select **Utilities > System Configuration**.
2. Click the **Archive** tab (Figure 2).

Figure 2 System Configuration



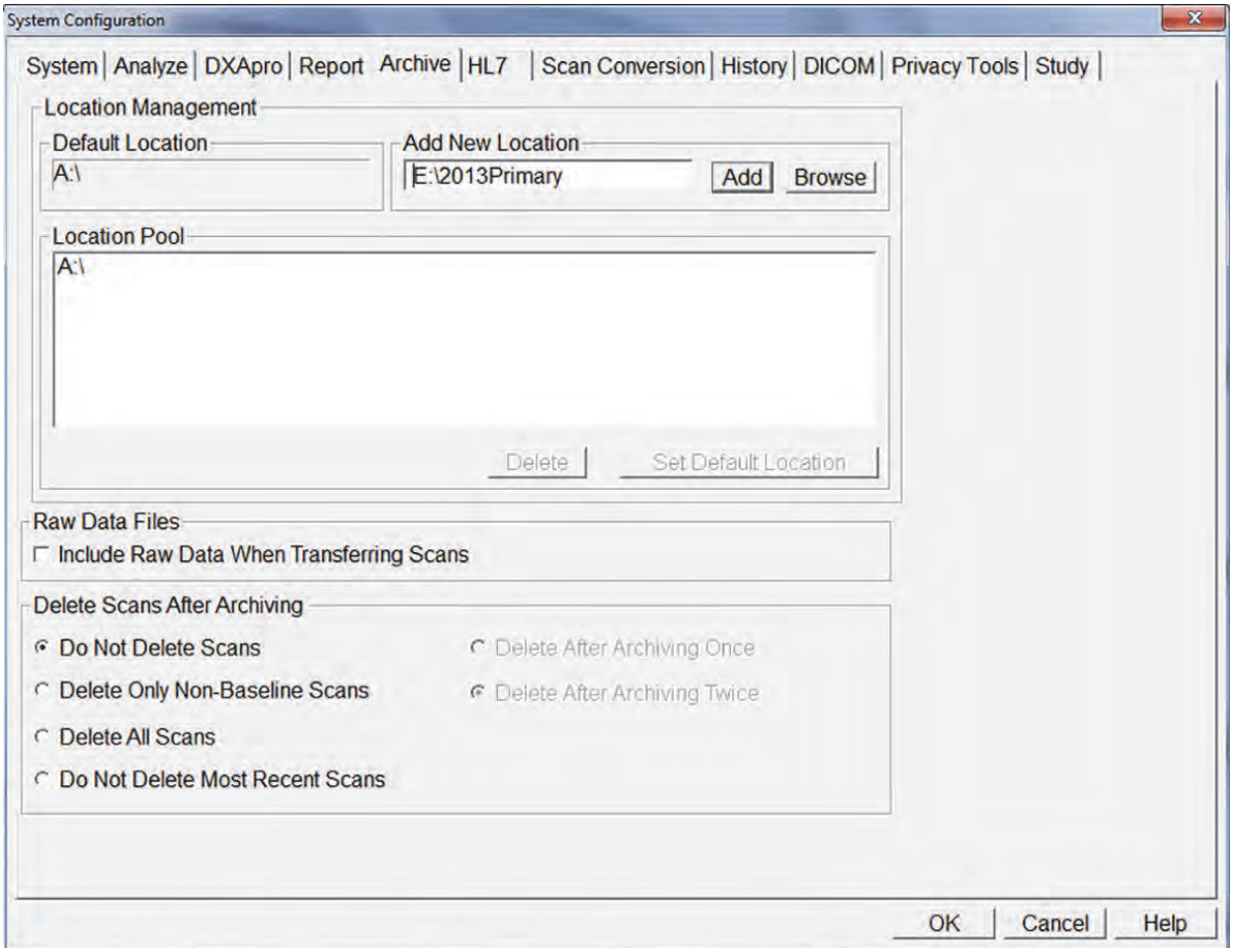
3. In **Add New Location**, click **Browse** and search for **YYYYPrimary** on the 2nd drive.
4. Select it (Figure 3).

Figure 3 New Location



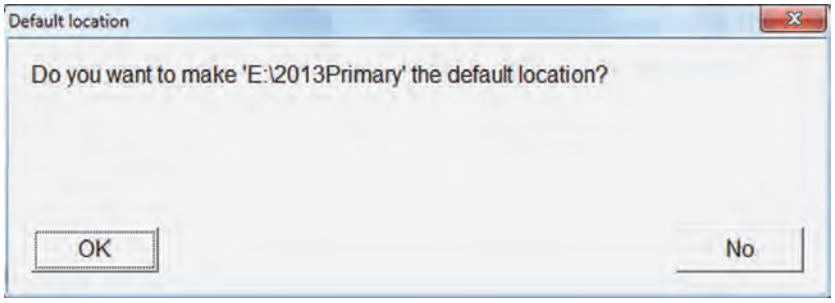
5. Click **OK**.
6. In **Add New Location** on the **Archive** tab, Click **Add** (Figure 4).

Figure 4 Add New Location



7. "Do you want to make YYYYPrimary the default location?" (Figure 5)

Figure 5 Selecting Primary Default Location



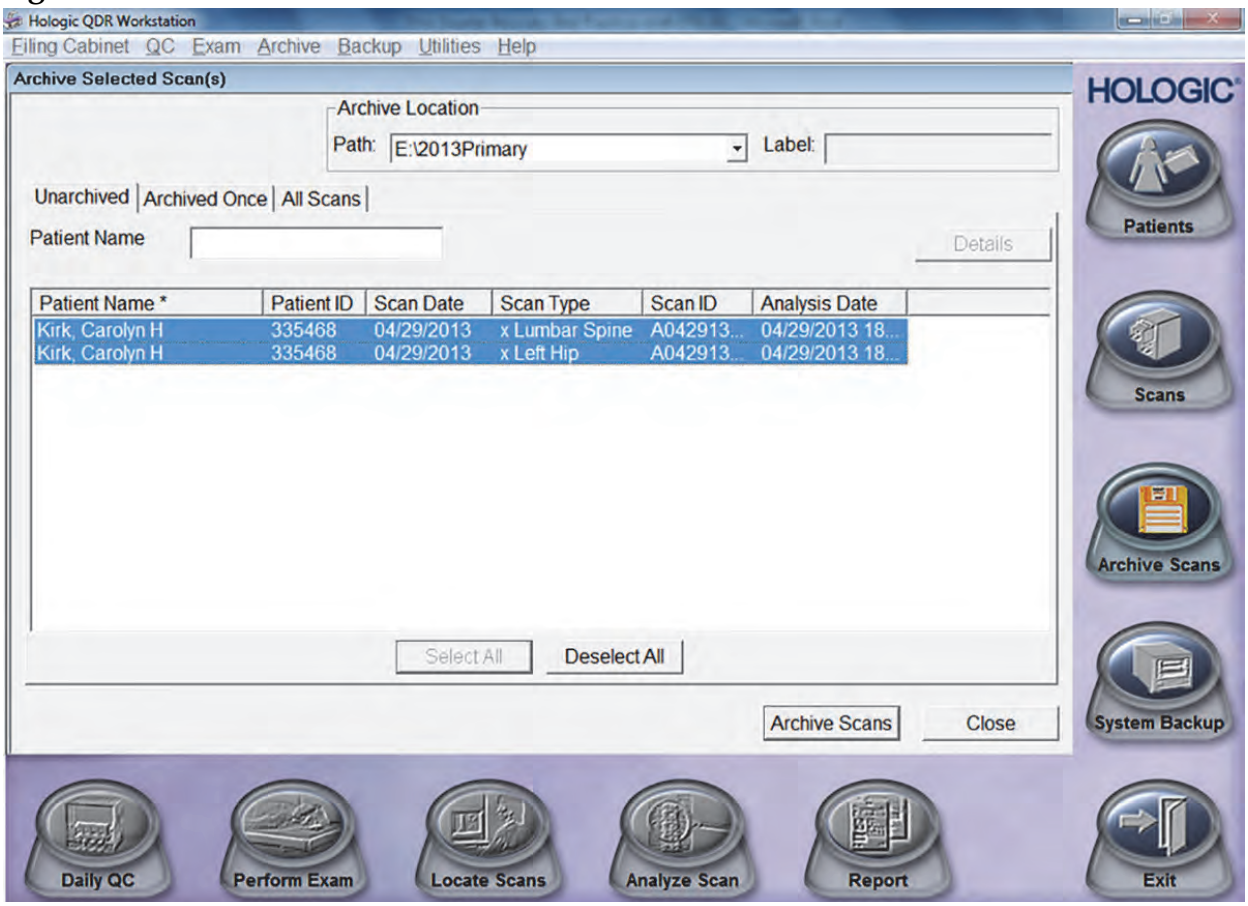
8. Click **OK**.
9. Click **OK**.

7.2 Archiving Scans

1. On main application screen, click **Archive Scans** icon.

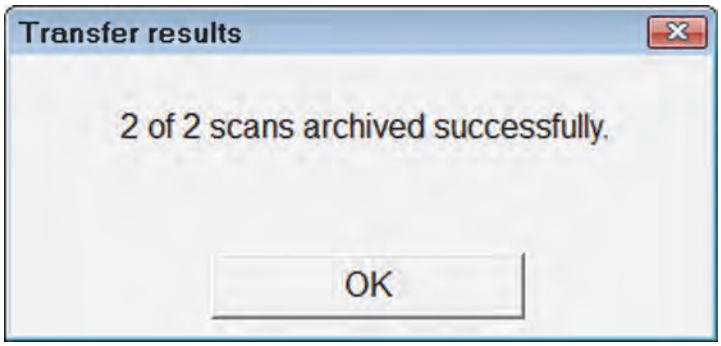
2. On the Un-archived tab, click **Select All**.
3. Click **Archive Scans** (Figure 6).

Figure 6 Archive Scans



4. Click **OK** (Figure 7).

Figure 7 Click OK

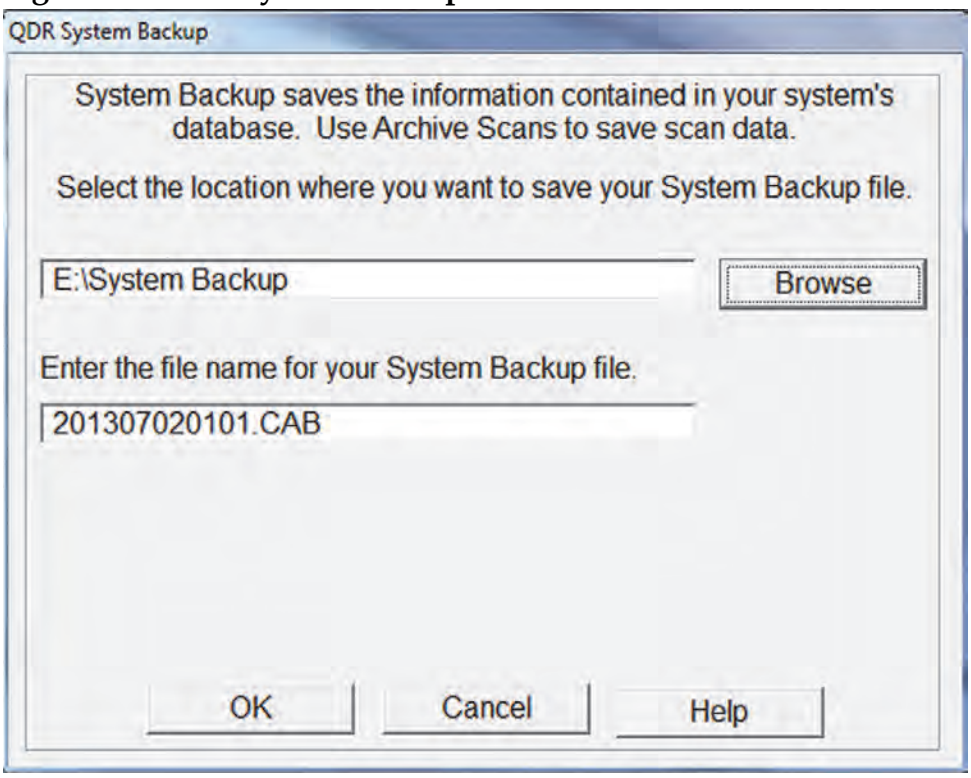


7.3 Performing an APEX System Backup

1. On the main application screen, click **System Backup** icon.

2. Click **Browse** and navigate to the **System Backup** folder on the 2nd drive.
3. Click OK (Figure 3).

Figure 8 APEX System Backup



4. Click **OK** (when complete).
5. Click **Exit** on the Main Application Screen.
6. Select **Exit without Shutdown.**

Note *If DXA computer requires replacement, the DXA Data Storage Kit must be removed and installed in the replacement PC.*

7.4 Windows 7 Backup

7.4.1 Create and Schedule the Backup of the Second Disk

Best Practices

- Backup the 2nd drive weekly to the USB-connected external drive.
- Do not perform Windows 7 Backup during patient scanning; it can result in aborted scans.
- Do not turn off the DXA PC during Windows 7 backup.

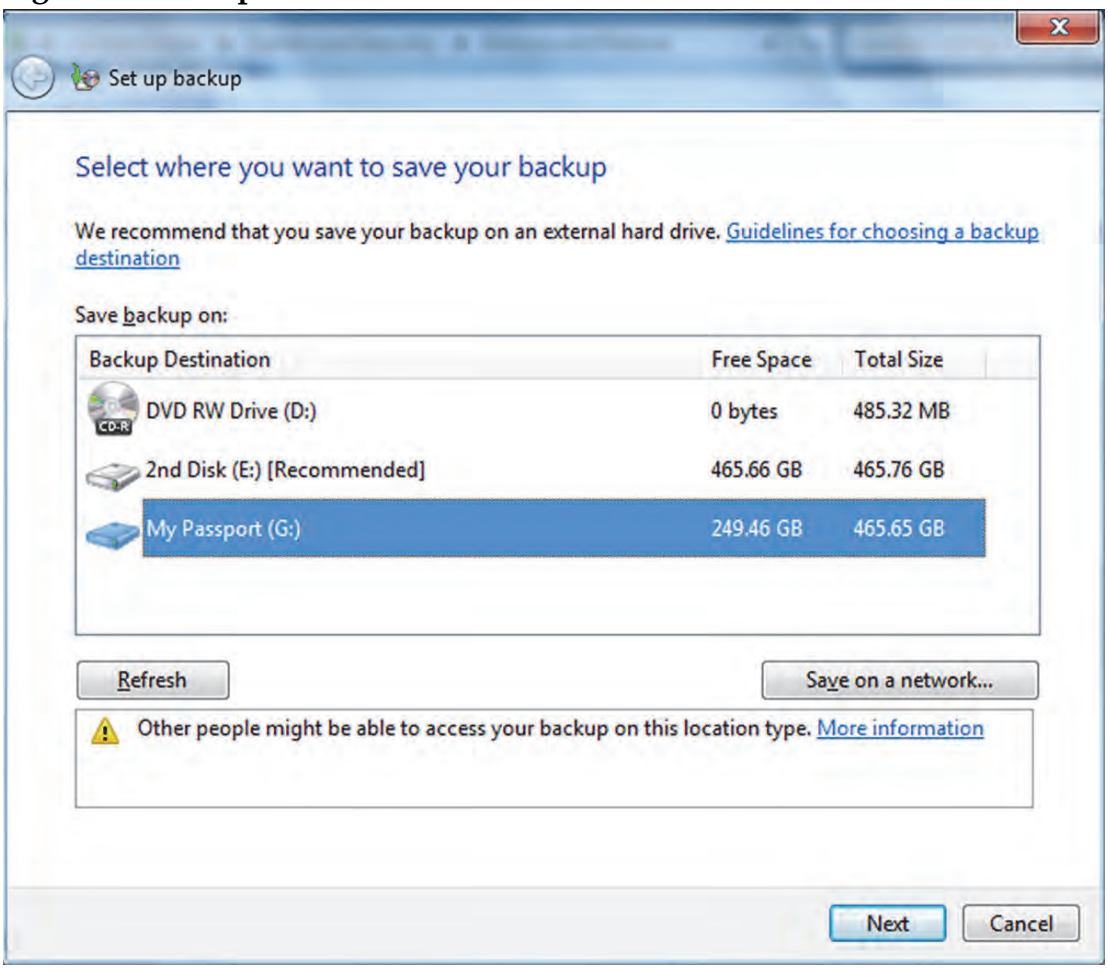
Procedure

1. Click the **Start** button, type **backup** in the search box and click **Backup and Restore**.
2. If you have never used Windows Backup before:
   - Click Set up backup, and then follow the steps in the wizard.
   - If you are prompted for an administrator password or confirmation, type the password or provide confirmation.

Backup Location

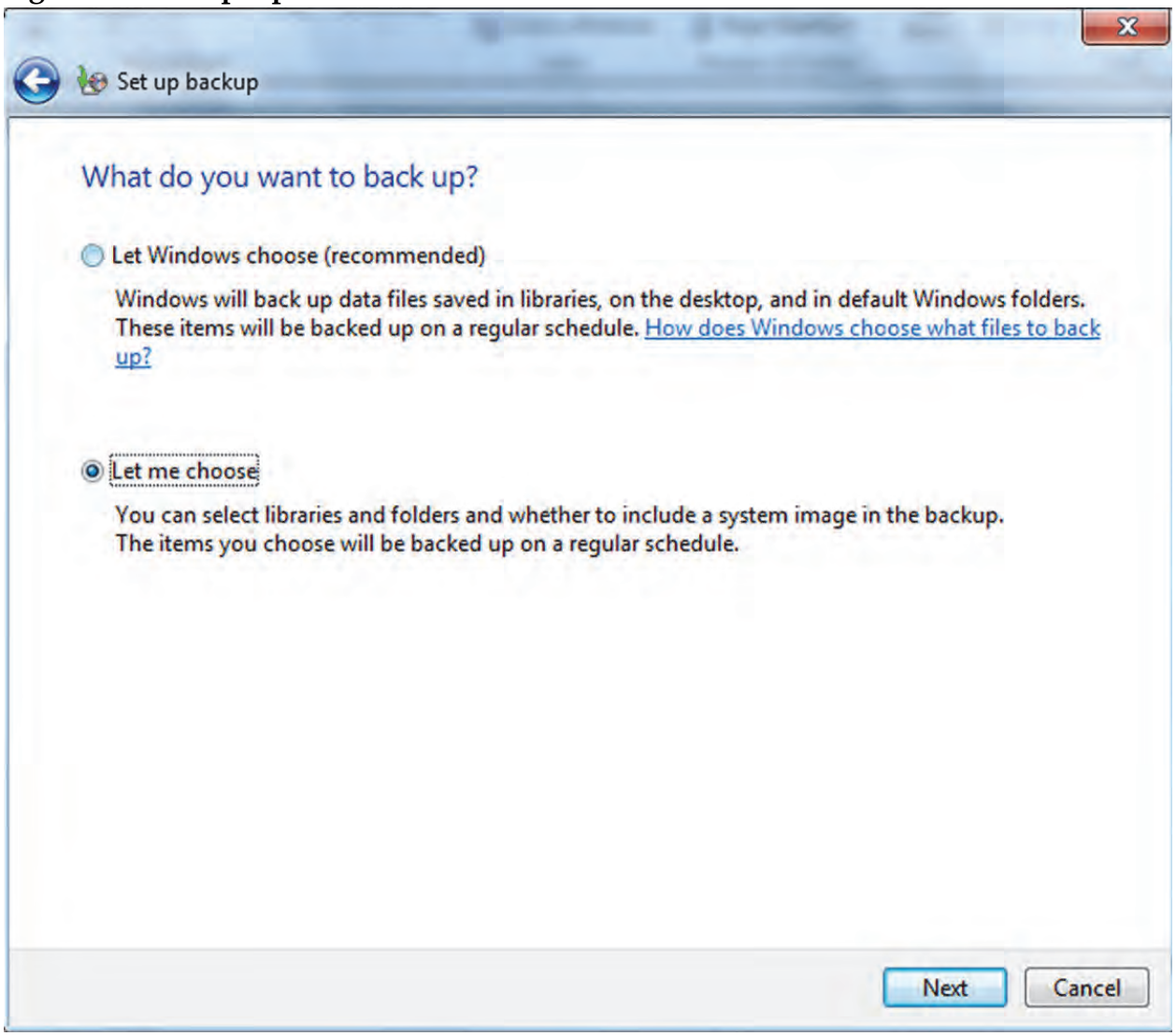
3. Select where you want to save your backup? - Select **My Passport** (Figure 9).

Figure 9 Backup Location



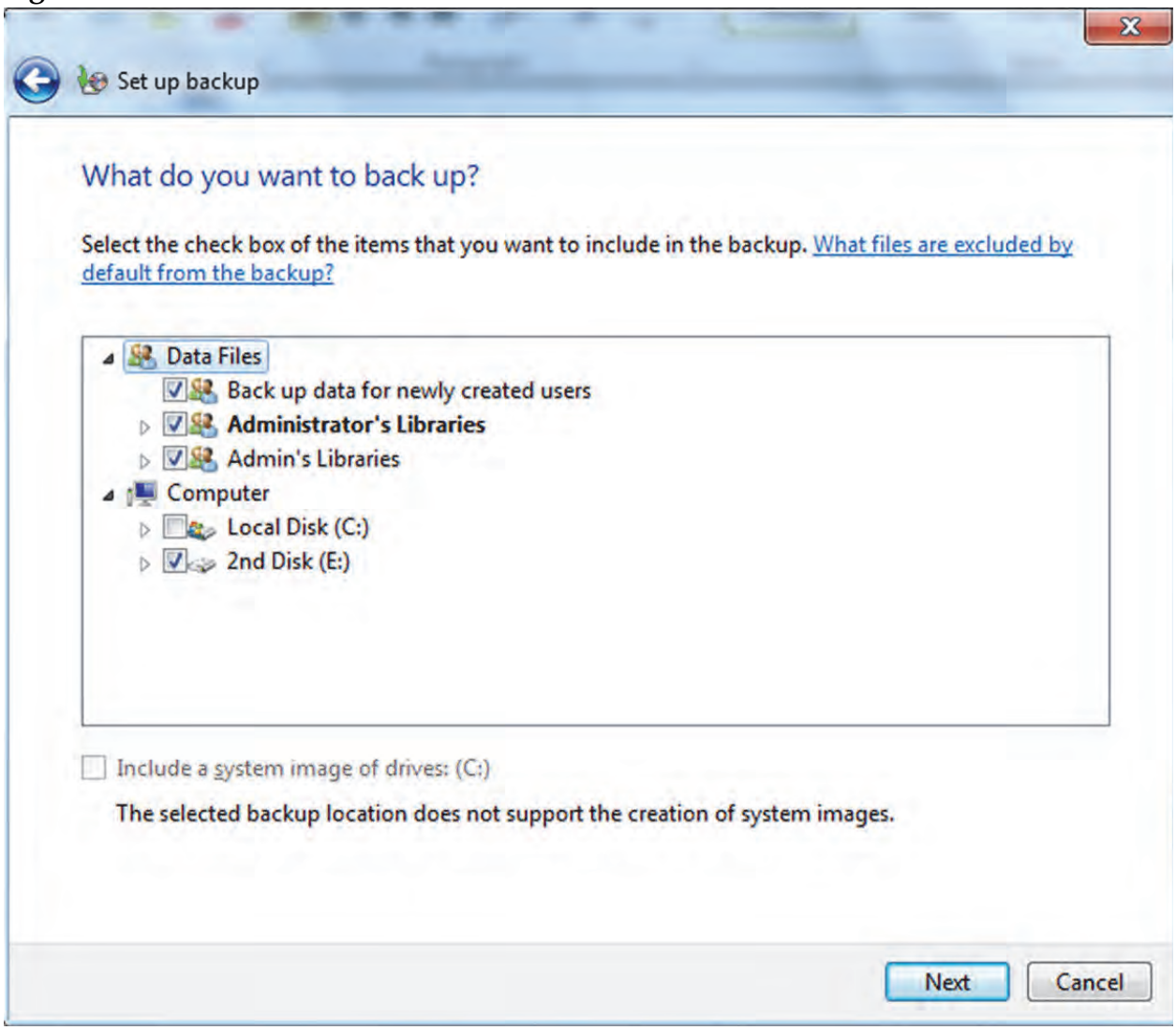
a. Click **Next**.
b. What do you want to back up? - Select **let me choose** (Figure 10).

Figure 10 Backup Options



c. Click **Next**.
d. Select **2nd Disk** (Figure 11).

Figure 11 Select Second Disk



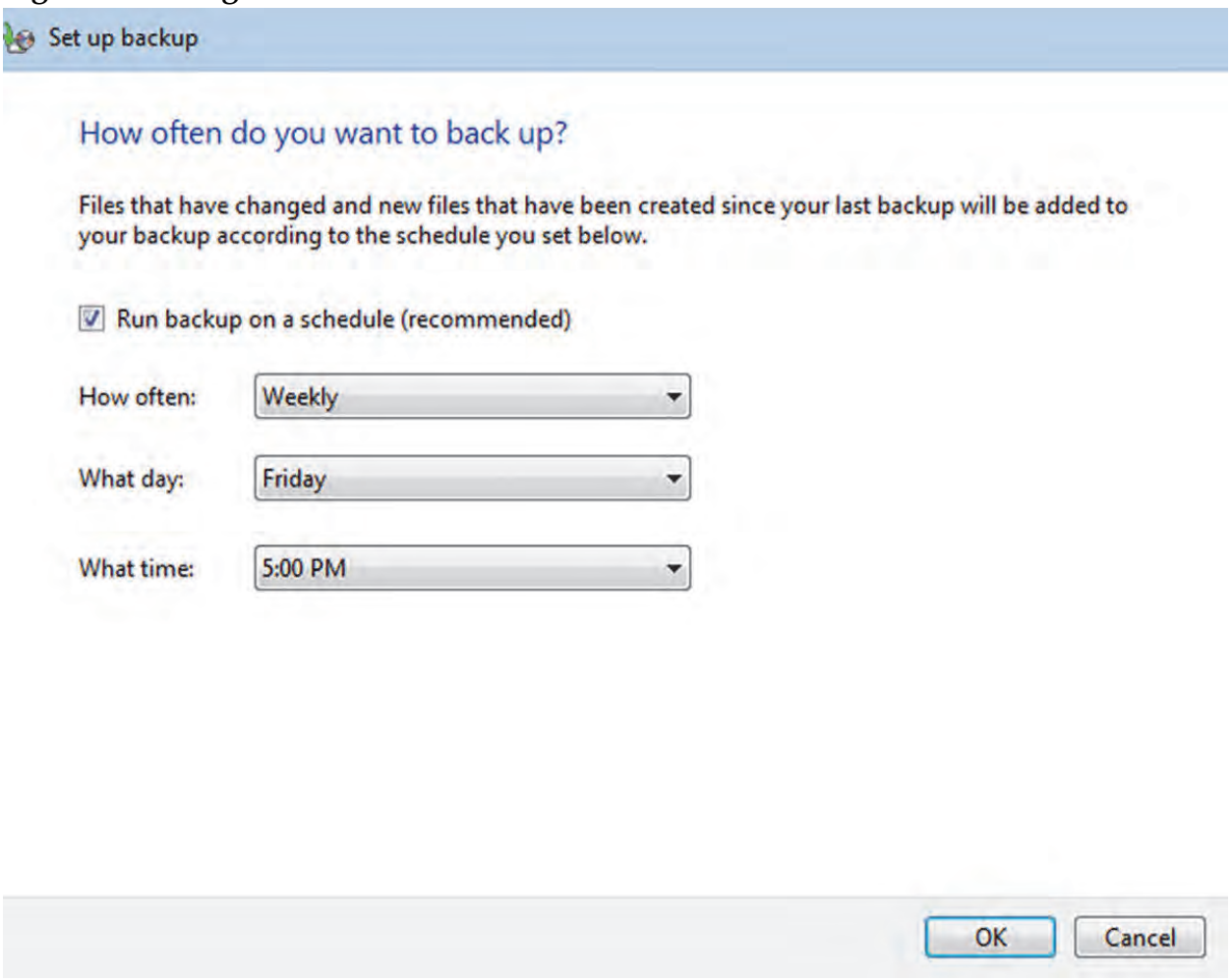
e. Click **Next**.

Review your Backup Settings

1. Select **Change Schedule** and choose how often you want to back up.

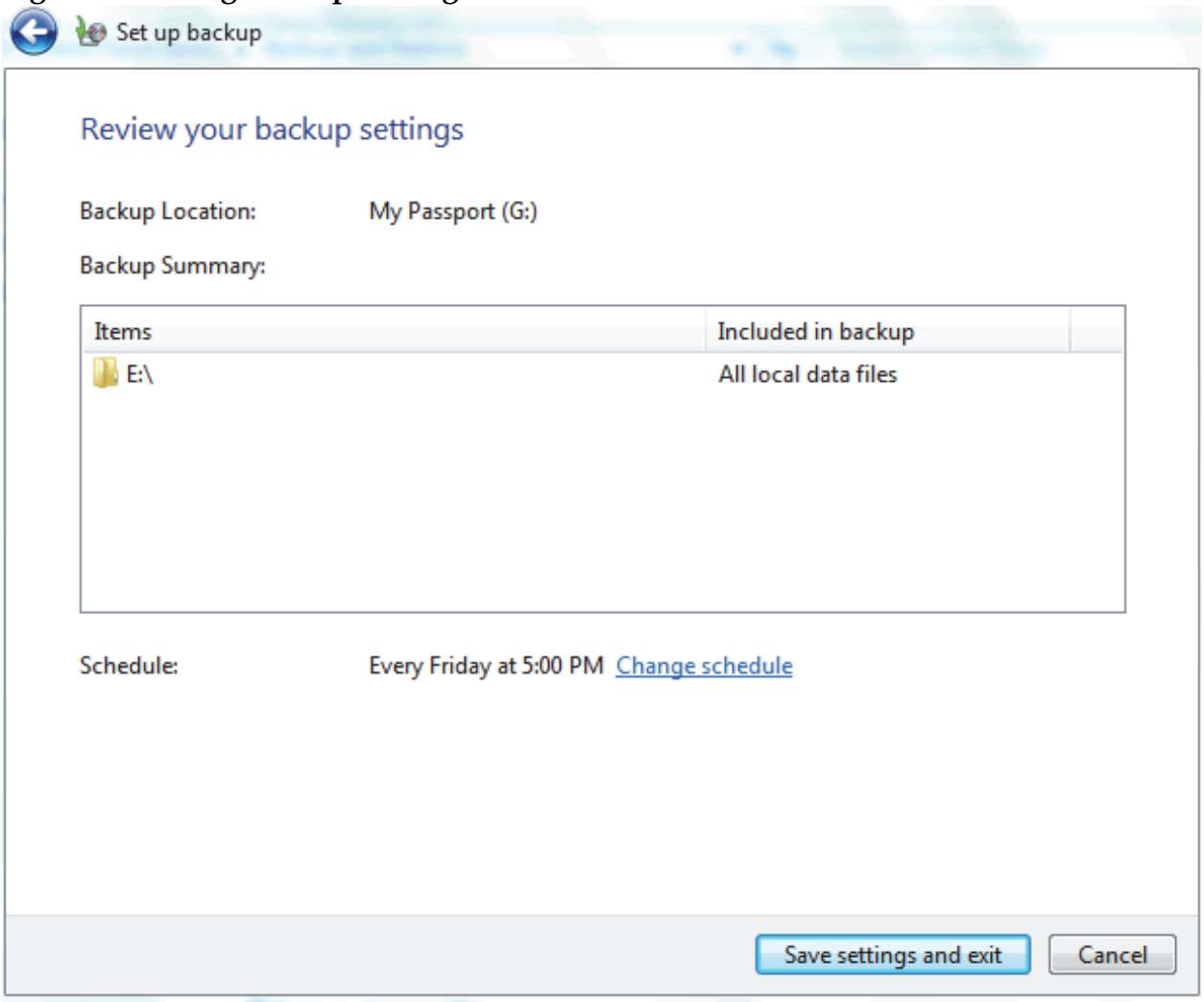
Note *Hologic recommends that you run Windows 7 Backup on a weekly schedule (Figure 12).*

Figure 12 Change Schedules



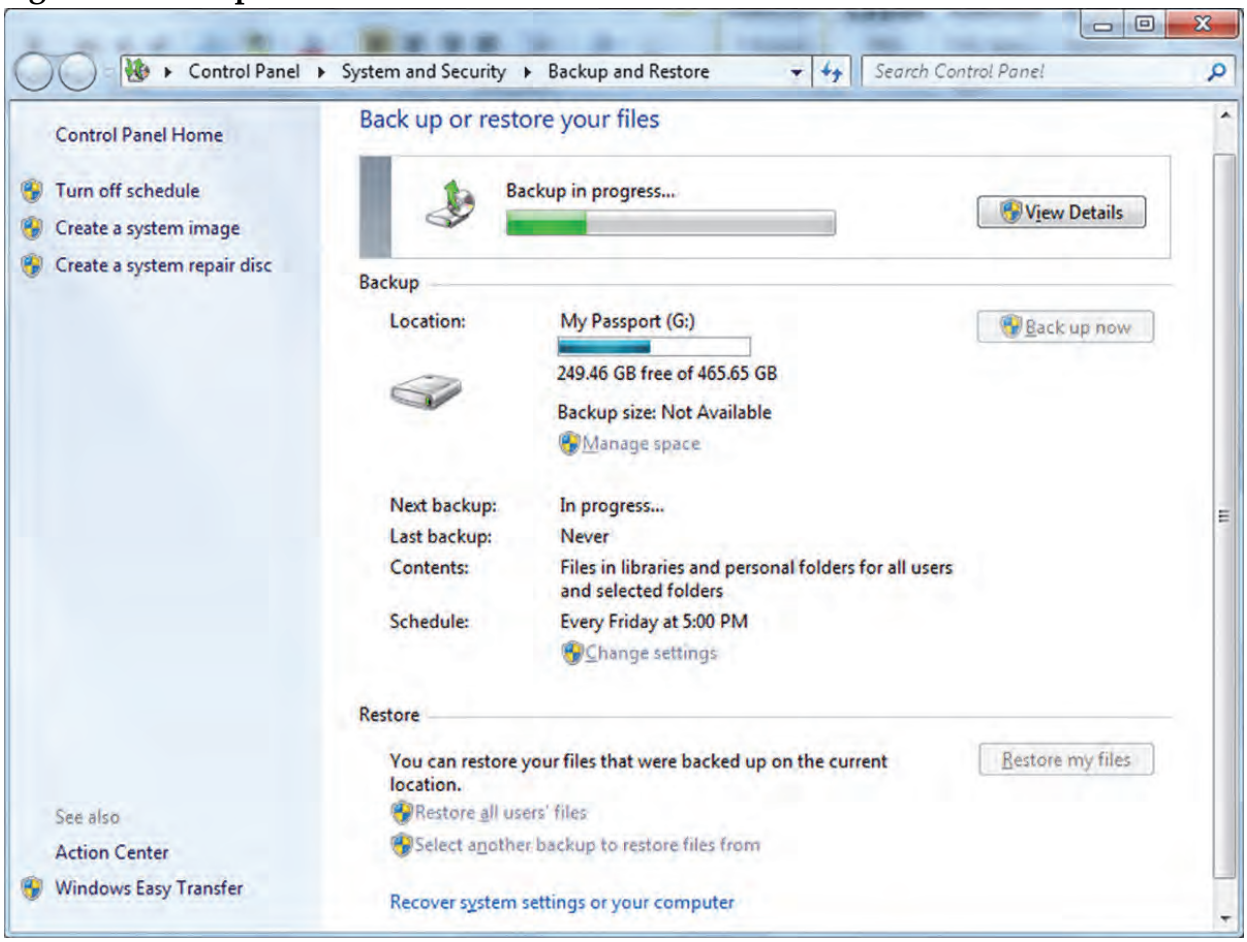
2. Click **OK** to save changes.

Figure 13 Saving Backup Settings



3. Click **Save Settings and exit** (Figure 13).
4. Click **Backup** now.
5. Close **Back up** or **restore your files** when it has completed (Figure 14).

Figure 14 Backup and Restore



Note *After you create your first backup, Windows 7 Backup will add new or changed information to your subsequent backups.*

7.5 Optional: Perform One-time Copy of Legacy Archive Media to the Second drive

7.5.1 Best Practices

The preferred way to preserve DXA scans archived on legacy media is to copy the scans to the 2nd drive.

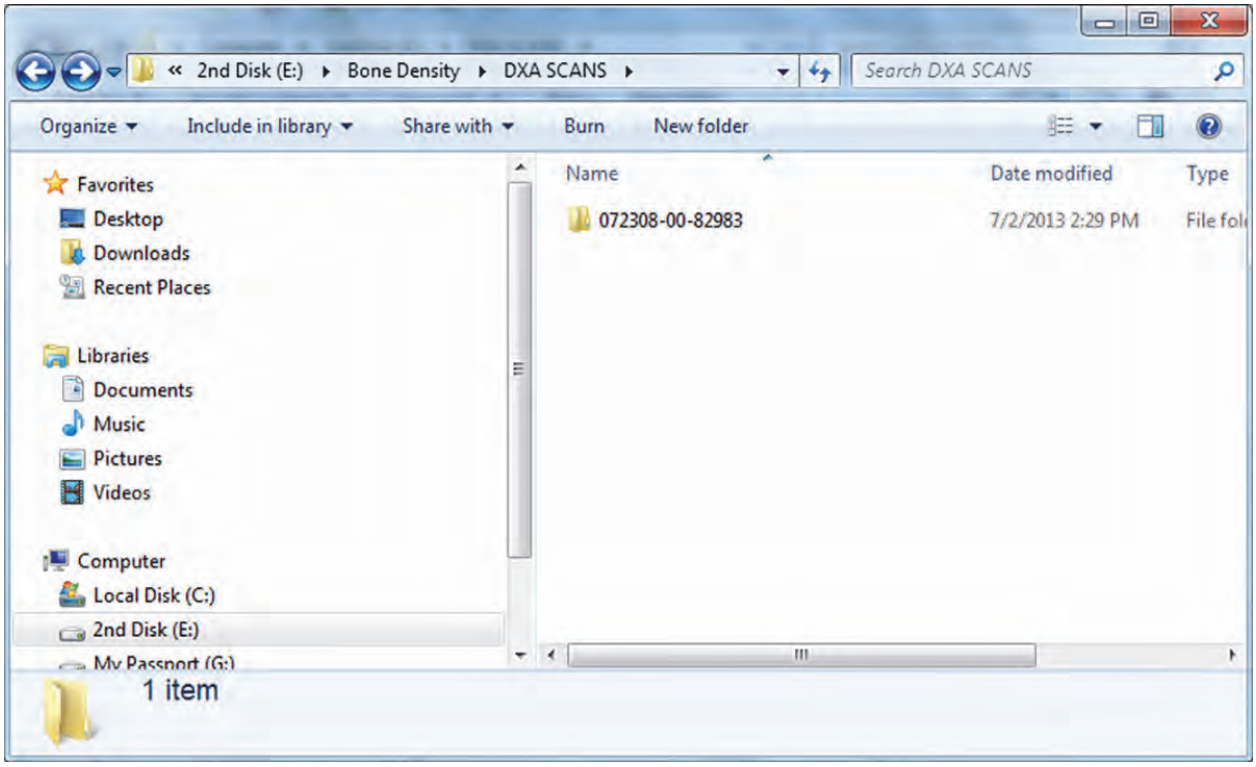
1. Write down the archive label of the archive media on paper (e.g., 072308-00-82983).
2. Insert the media in the drive.

7.5.2 Procedure

In Windows

1. Click the **Start** button > **Computer** and browse to the 2nd drive.
2. Create a folder named **Bone Density** on the 2nd drive.
3. Open the Bone Density folder and
4. create a new folder named **DXA SCANS**.
5. Open the DXA SCANS folder and create a folder. Use the same naming convention as the archive label that you wrote down in Step 1 (Figure 15).

Figure 15 DXA Scans Folder



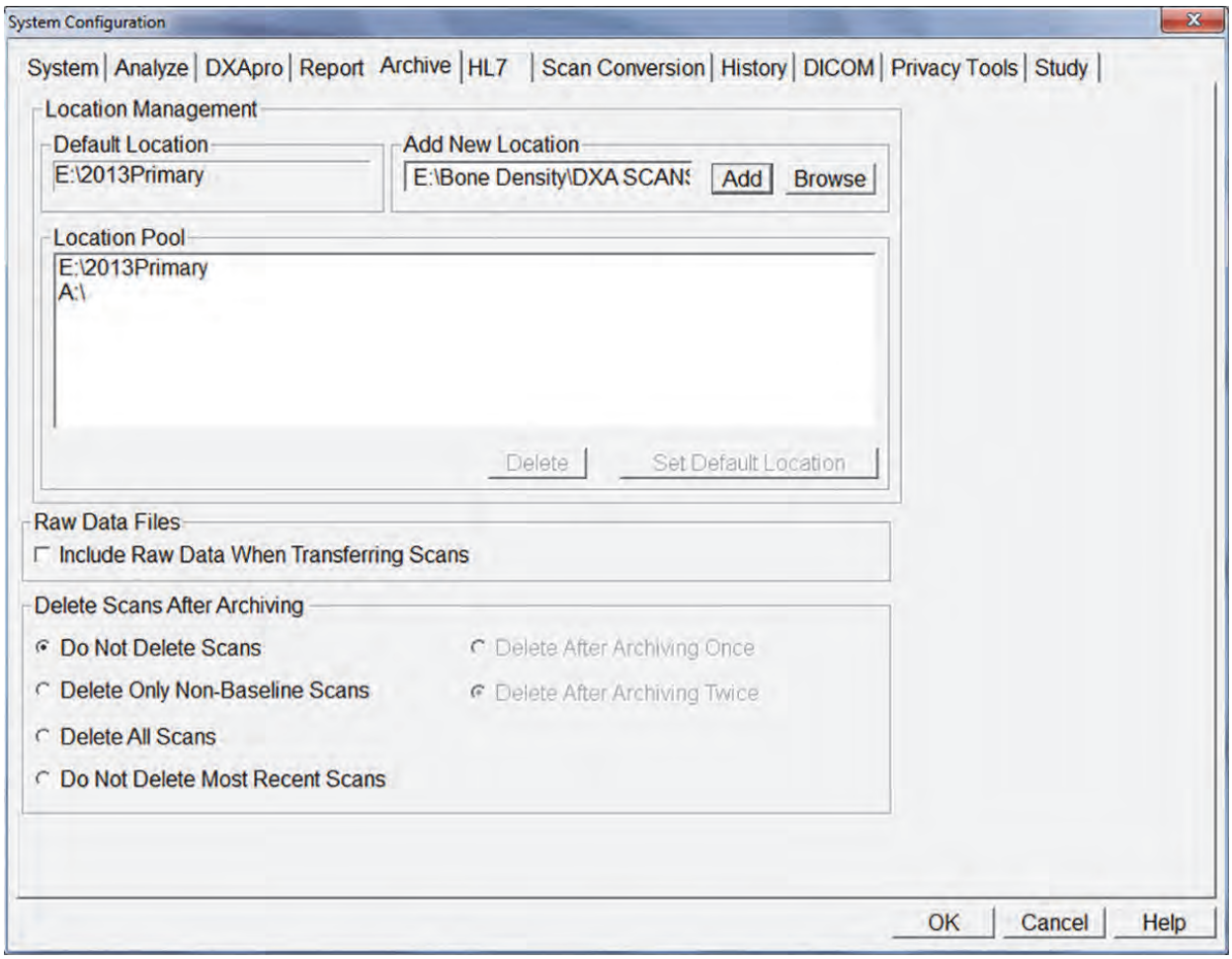
6. Open the **Legacy Archive Media** to view contents.
7. Hold down **Ctrl-A** — performs Select All of the media contents.
8. Hold down **Ctrl-C** — performs Copy of the media contents.
9. Open the **new folder** in DXA SCANS folder from Step 5 (e.g., 072308-00-82983).
10. Hold down **Ctrl-V** to paste of all the copied content.
11. Repeat steps 5 — 10 for all remaining legacy media.

In APEX

Add the new archive location to the archive location pool

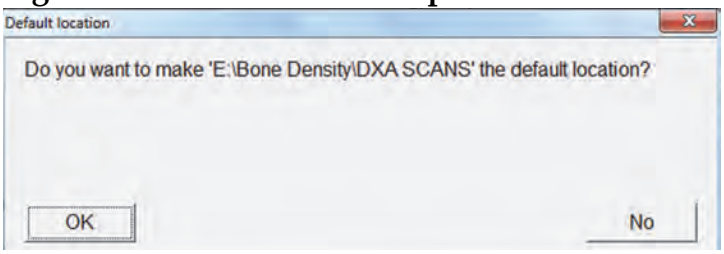
1. Select **Utilities > System Configuration**.
2. Click **Archive** tab.
3. In **Add New Location**, click **Browse** and select: **E:\Bone Density\DXA SCANS**.
4. Click **Add** (Figure 16).

Figure 16 Add a New Location



5. In the Window, **Do you want to make "E:\Bone Density\DXA SCANS" the default location?**, click **No** (Figure 17).
6. Click **No** (Figure 17).

Figure 17 Default Location Options



7. Click **OK** to save changes and exit.

8. From the **Main Application Screen**, use **Locate Scans** to restore scans.

8 Use Case 3: Hospital — 1 DXA, Managed IT Network: No Cost

Minimum Requirements

- Network drive is provided and backed up on a regular schedule by the facility

Best Practices

- Patient scans are archived daily to a network drive.
- APEX System Backup performed weekly to a network drive.
- Optional: Perform one time copy of legacy archive media to a network drive.

8.1 Configure the Network Drive

8.1.1 In Windows

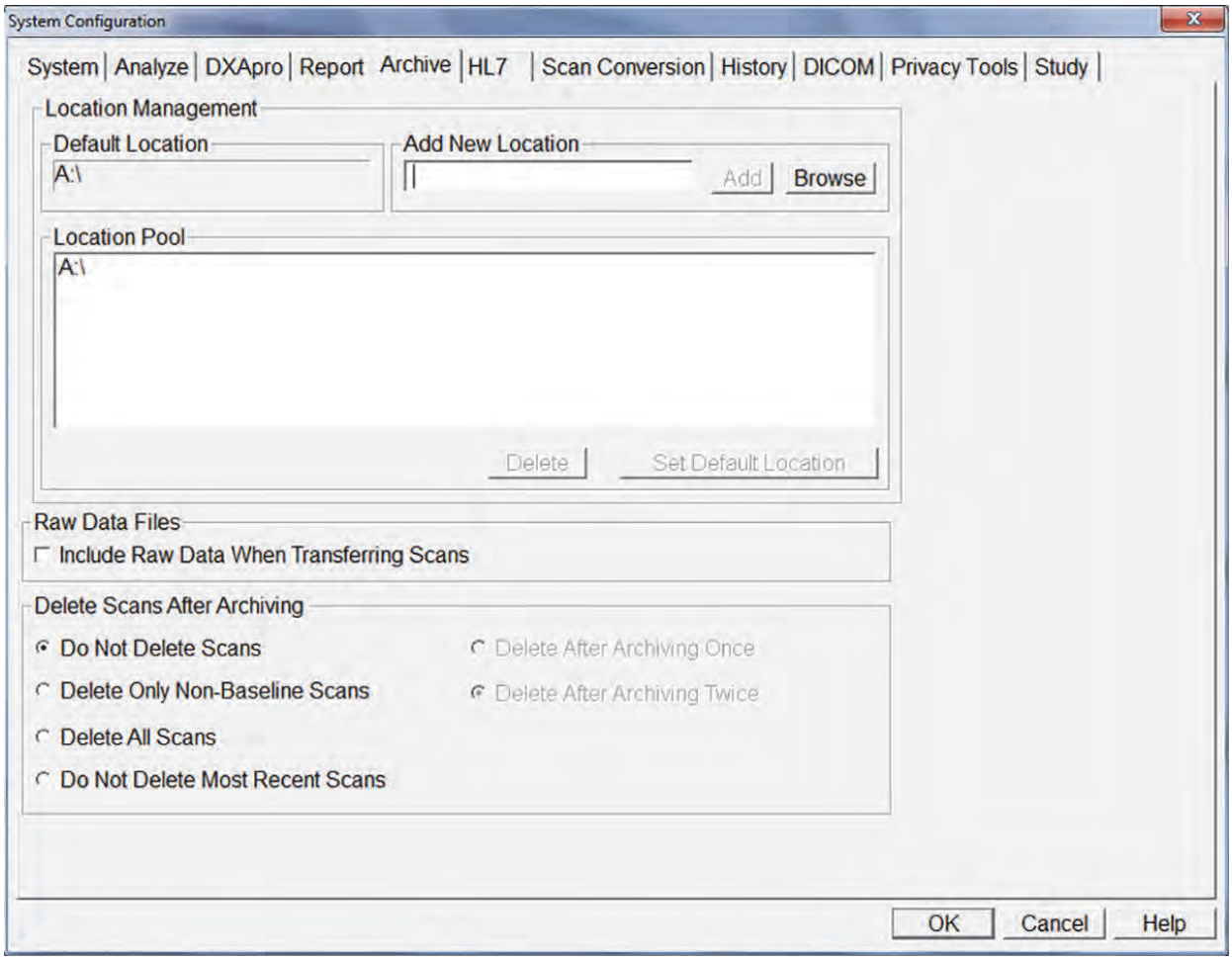
Map a Drive (e.g., **U:**)

1. Create folders.
2. Create a folder named **System Backup**.
3. Create a folder named **Bone Density**.
4. Open Bone Density Folder and create a folder named **DXA SCANS**.
5. Open DXA SCANS Folder.
6. Create a folder **YYYYPrimary** —(YYYY represents current year).

8.1.2 In APEX

1. Select **Utilities > System Configuration**.
2. Click **Archive** Tab (Figure 18).

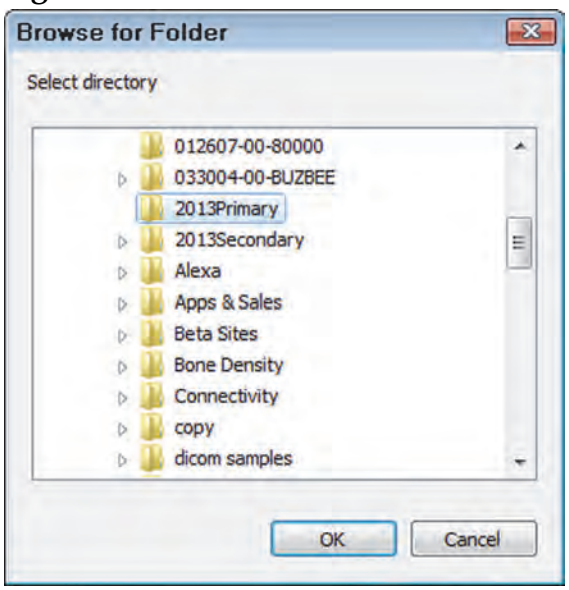
Figure 18 Archive Tab



3. In **Add New Location**, click **Browse** and select **YYYYPrimary**.

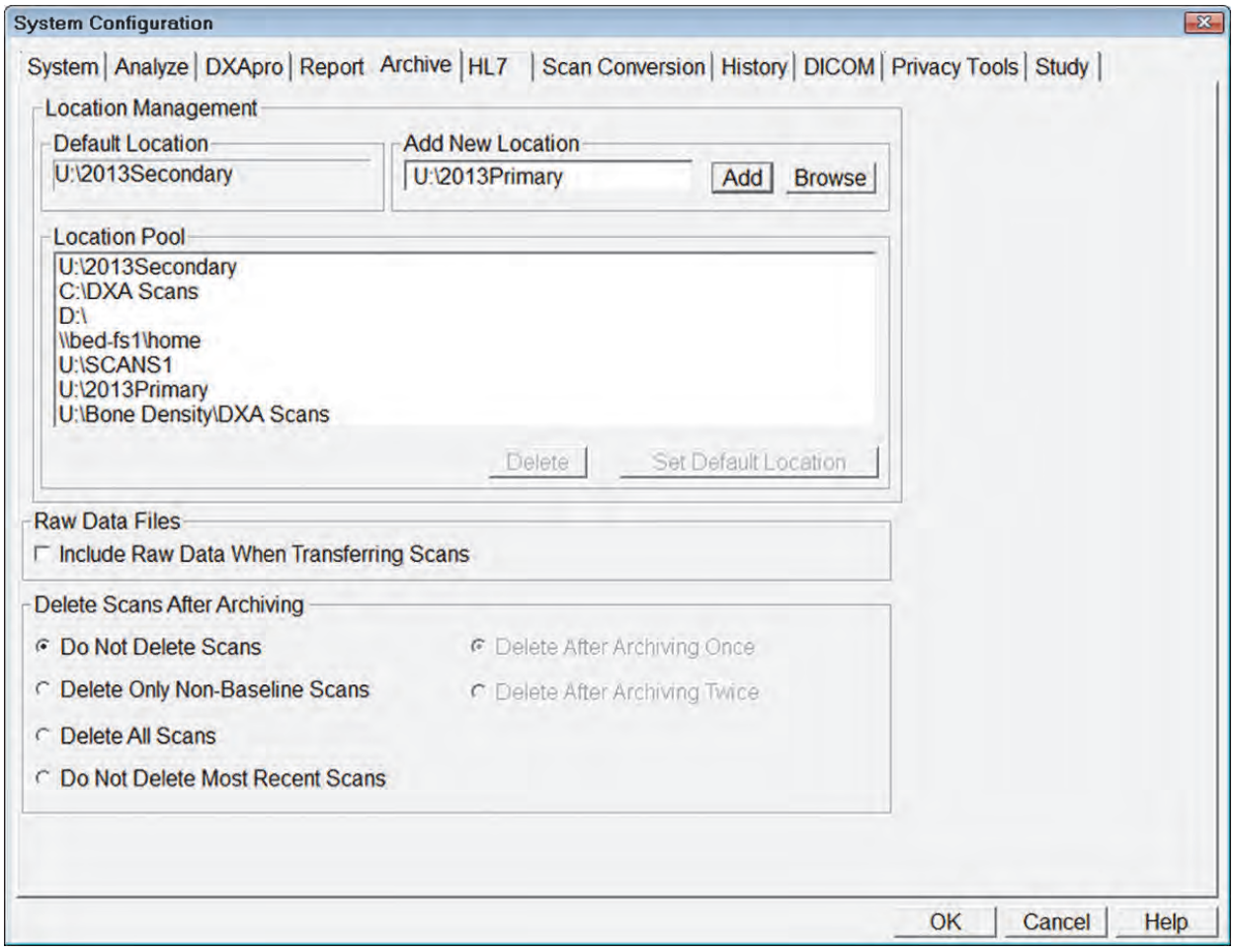
4. Click **OK** (Figure 19).

Figure 19 New Location



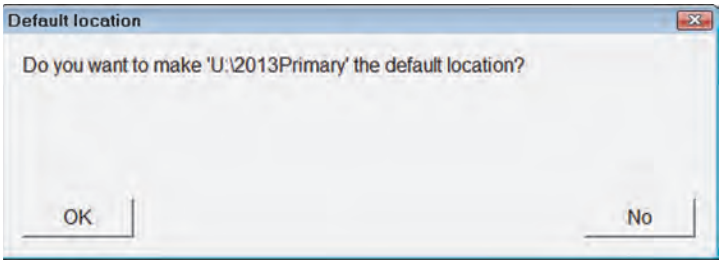
5. Click **Add** (Figure 20).

Figure 20 Add New Location



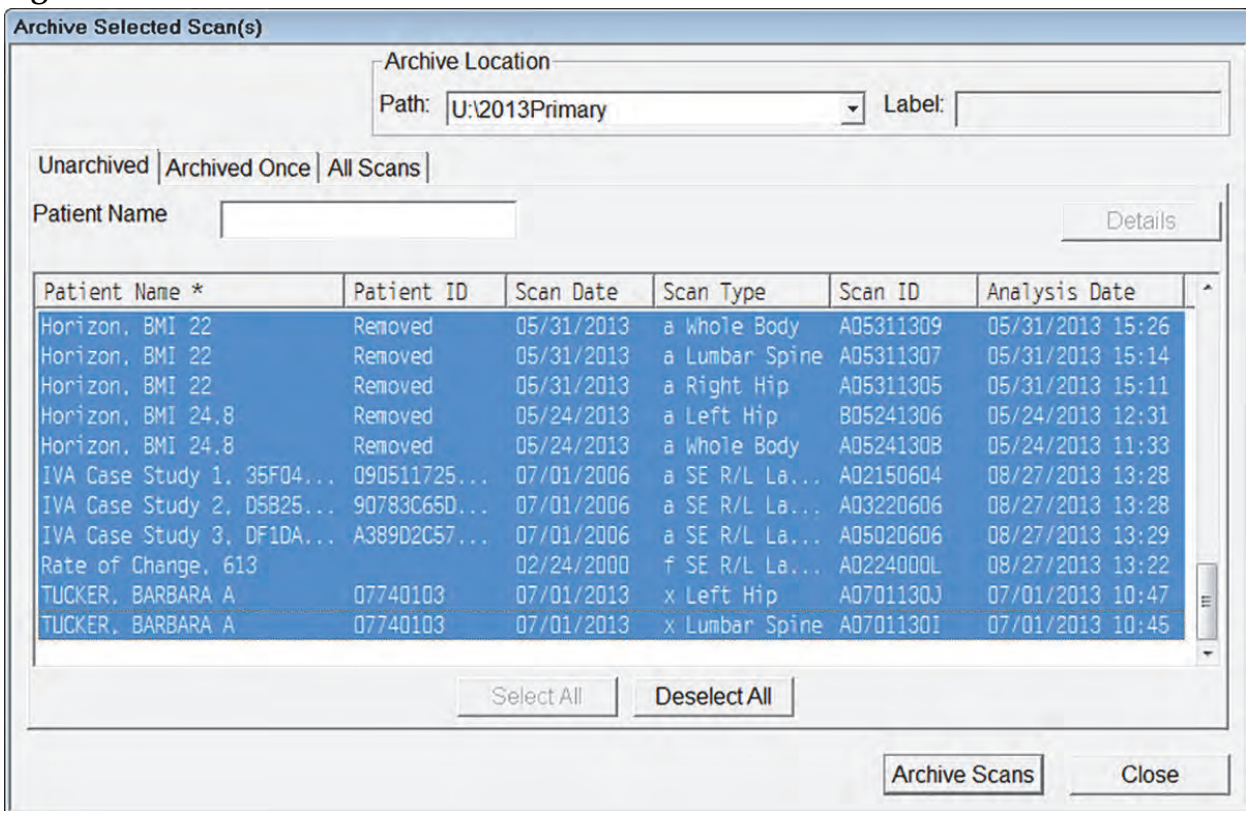
6. Click **OK** to make **YYYYPrimary** the default location (Figure 21).

Figure 21 Default Location



7. Click **Archive Scans** icon.
8. On the Unarchived tab, click **Select All**.
9. Click **Archive Scans** (Figure 22).

Figure 22 Archive Location



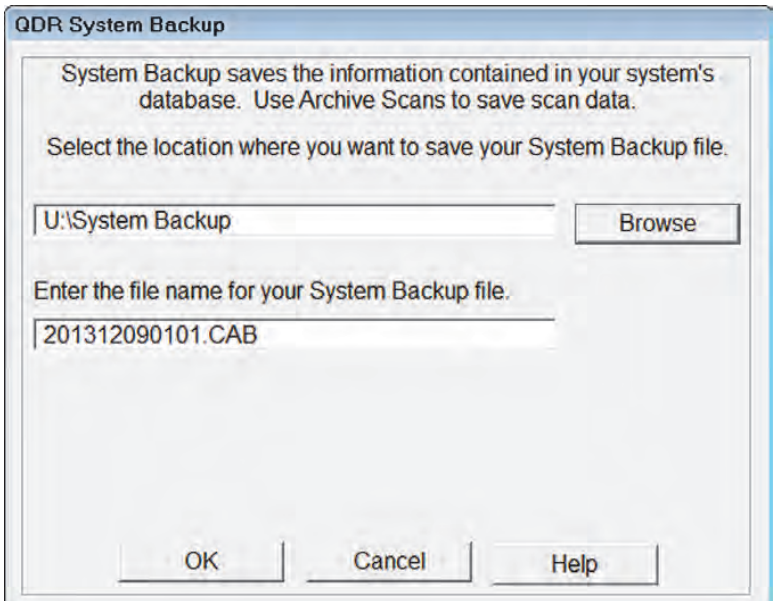
10. Click **OK**.

8.2 Perform an APEX System Backup Weekly to the Network Drive

8.2.1 In APEX

1. On the **Main Application** Screen, click the **System Backup** icon.
2. Click **Browse** and navigate to the **System Backup** folder on the mapped drive.
3. Click **OK** (Figure 23).

Figure 23 System Backup



4. Click **OK** (when complete).
5. Exit without Shutdown.

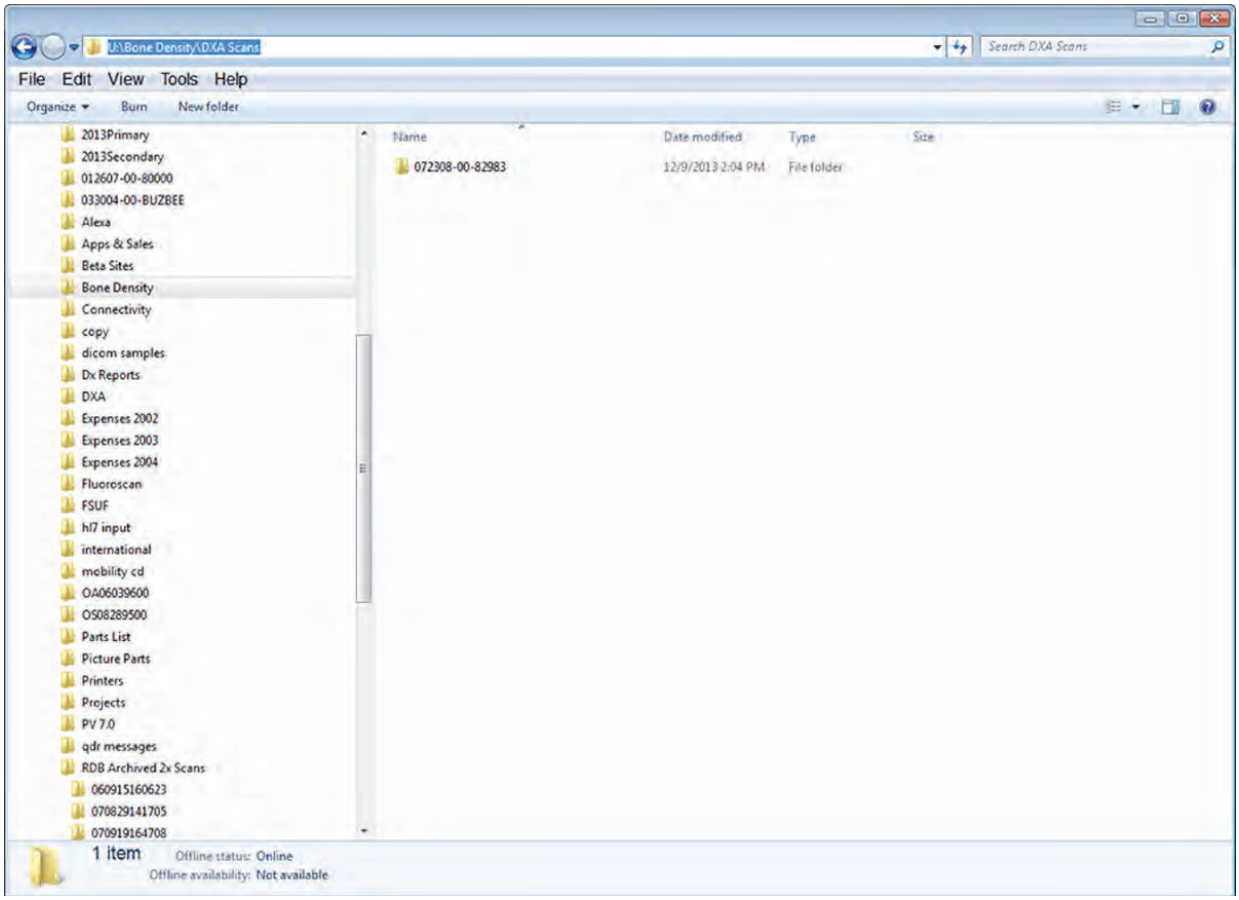
8.3 Optional: Perform One-time Copy of Legacy Archive Media to a Network Drive

8.3.1 In Windows

The preferred way to preserve DXA scans archived on legacy media is to copy the scans to a network drive.

1. Click the **Start button> Computer** and browse to the network drive.
2. Create a new folder on the mapped network drive, name the folder **Bone Density**.
3. Open the folder Bone Density and create a folder named **DXA SCANS**.
4. Write down the archive label of the archive media on paper (e.g., 072308-00-82983).
5. Insert the legacy media in the drive.
6. Open the **DXA SCANS f**older and create a folder. Use the same naming convention as the archive label that you wrote down in Step 4 (Figure 24).

Figure 24 DXA SCANS Folder



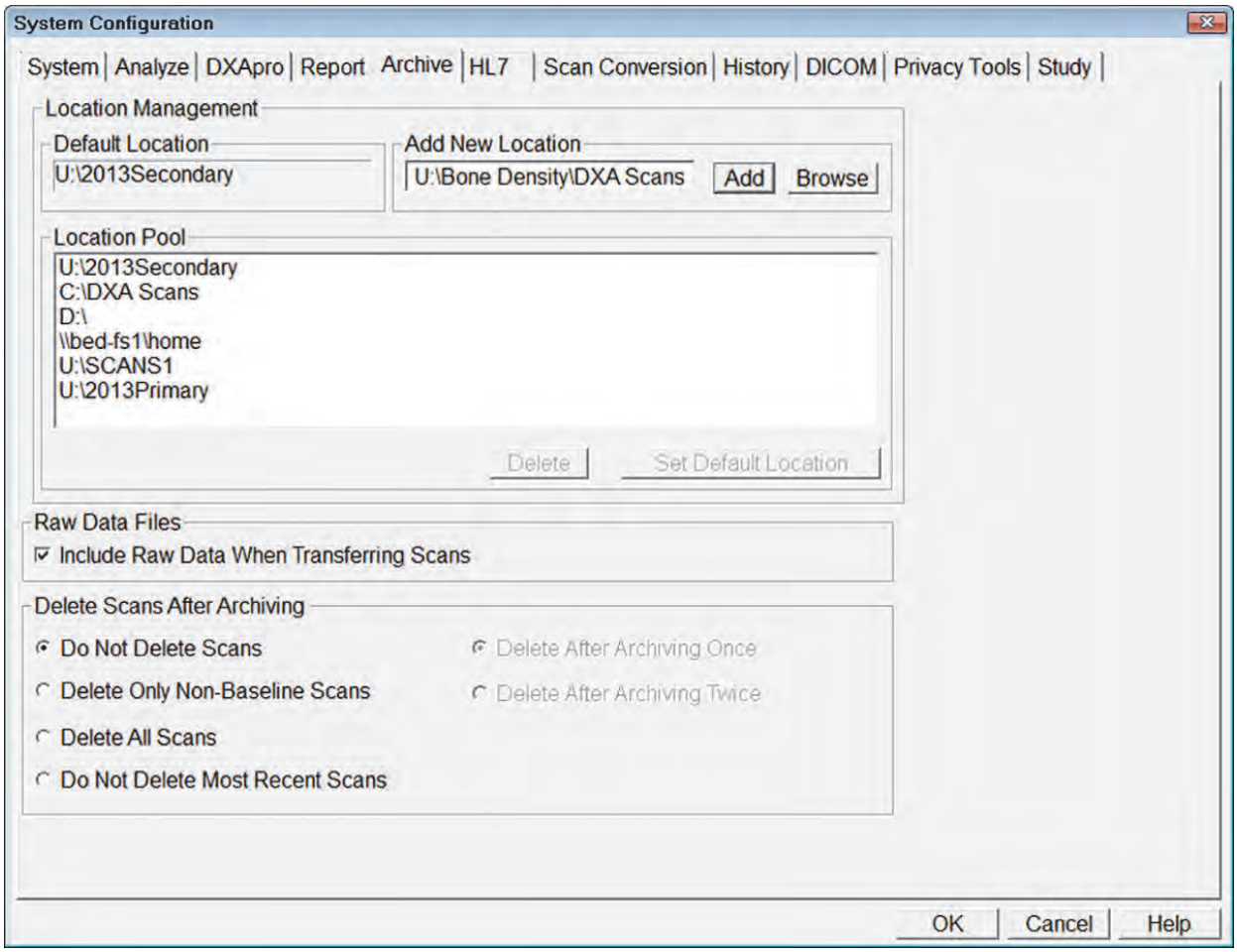
7. Open the **Legacy Archive Drive** to view contents.
8. Hold down **Ctrl-A** to Select All of the media contents.
9. Hold down **Ctrl-C** to Copy the media contents.
10. Open the **new folder** in DXA SCANS folder from Step 6 (e.g., 072308-00-82983).
11. Hold down **Ctrl-V** to Paste of all the copied content.
12. Repeat steps 4 – 11 for all remaining legacy media.

8.3.2 In APEX

Add the new mapped drive archive location to the Archive Location Pool.

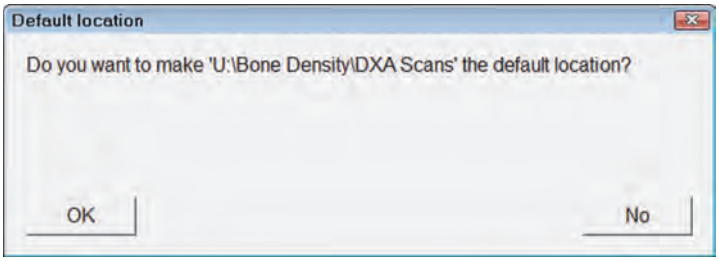
1. Select **Utilities > System Configuration**.
2. Click **Archive** Tab.
3. In the Add New Location, click **Browse** and search for **U:\Bone Density\DXA SCANS** folder and select it.
4. Click **Add** (Figure 25).

Figure 25 System Configuration



5. Click **No** in the **Do you want to make "U:\Bone Density\DXA SCANS" the default location?** window (Figure 26).

Figure 26 Default Location Option



6. Click **OK** to save changes and exit.
7. From the main application screen use **Locate Scans** to restore legacy scans.

9 Use Case 4: Hospital — 1 or more DXA, Managed Radiology Network: Some Cost

Minimum Requirements

- IRIS-ENTERPRISE-APEX Option
- PACS that supports Query Retrieve
- Network drive provided and backed up on a regular schedule by the facility

Best Practices

- Patient scans are archived daily to the primary location on PACS.
- Patient scans are archived daily to a secondary location on a network drive.
- APEX System Backup performed weekly to a network drive.
- Optional: Perform a one-time copy of legacy archive media to a network drive.

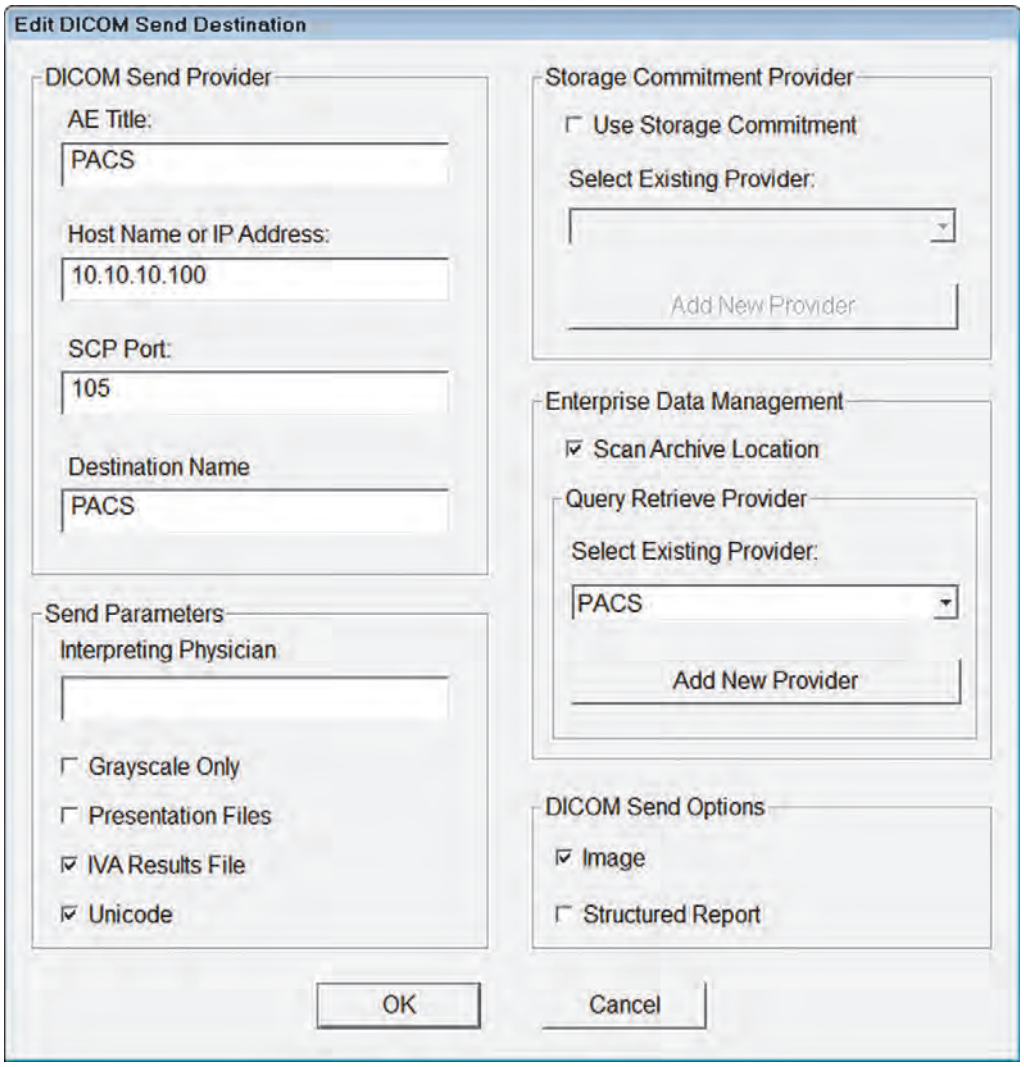
Caution *Hologic recommends that scans be archived (saved) twice when the archive system is not backed up to ensure that a scan is not lost.*

9.1 Patient scans will be archived daily to primary location to PACS

9.1.1 In APEX

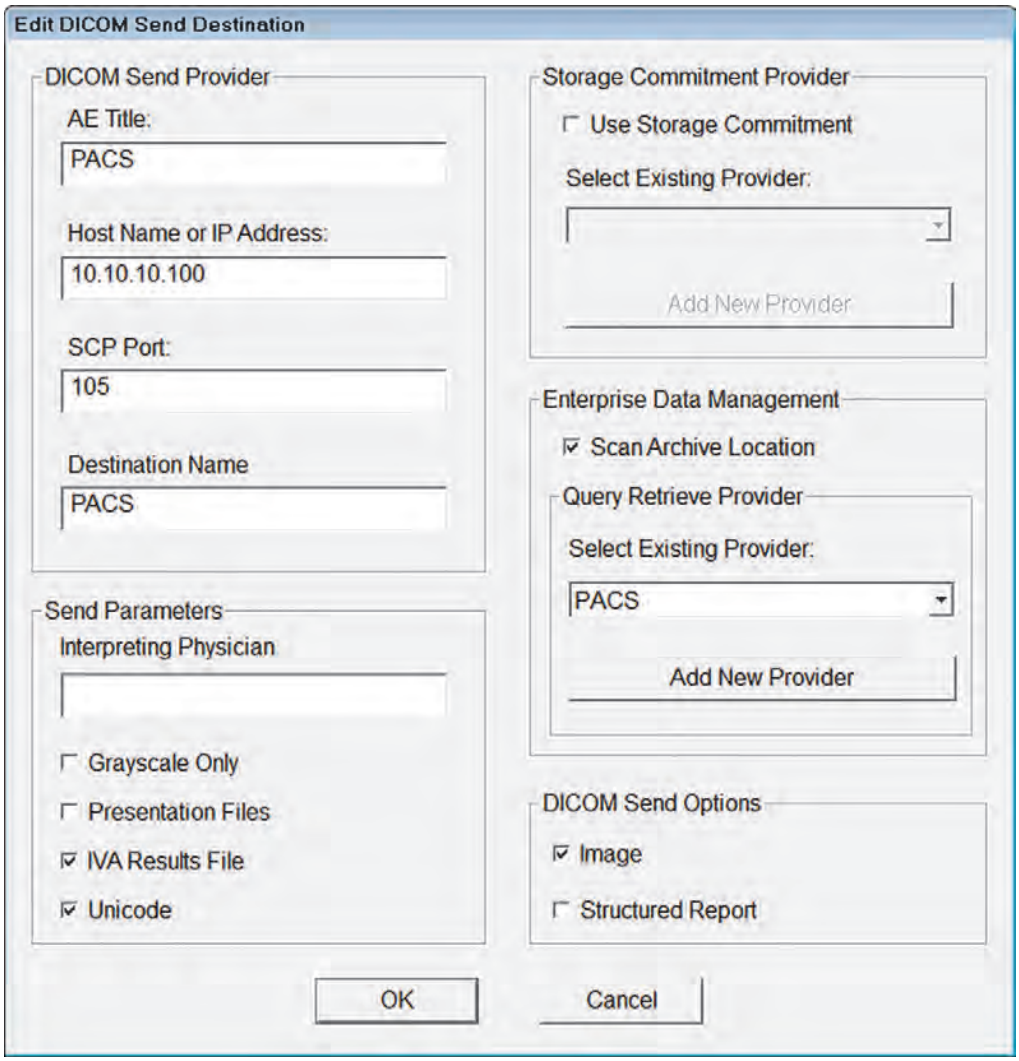
1. Select **Utilities > System Configuration**.
2. Click **DICOM Tab**.
3. Click **Send**.
4. Select configured DICOM Send Destination for the PACS and Click **Edit Destination** or click **Add Destination** (Figure 27).

Figure 27 DICOM Send Destination



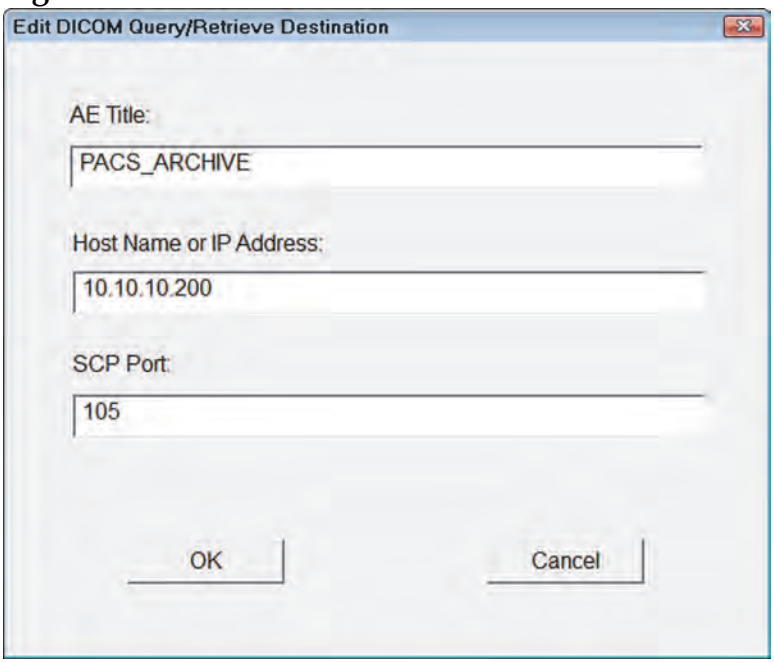
5. In the **Enterprise Data Management** section **Enable Scan Archive Location**.
6. In **Query Retrieve Provider**, select the existing PACS (Figure 28).

Figure 28 Query Retrieve Provider



7. Or, Click **Add New Provider** to configure Query Retrieve Provider, if different from PACS (Figure 29).

Figure 29 Add New Provider



9.2 Patient Scans will be Archived Daily to a Secondary Location to a Network Drive

9.2.1 In Windows

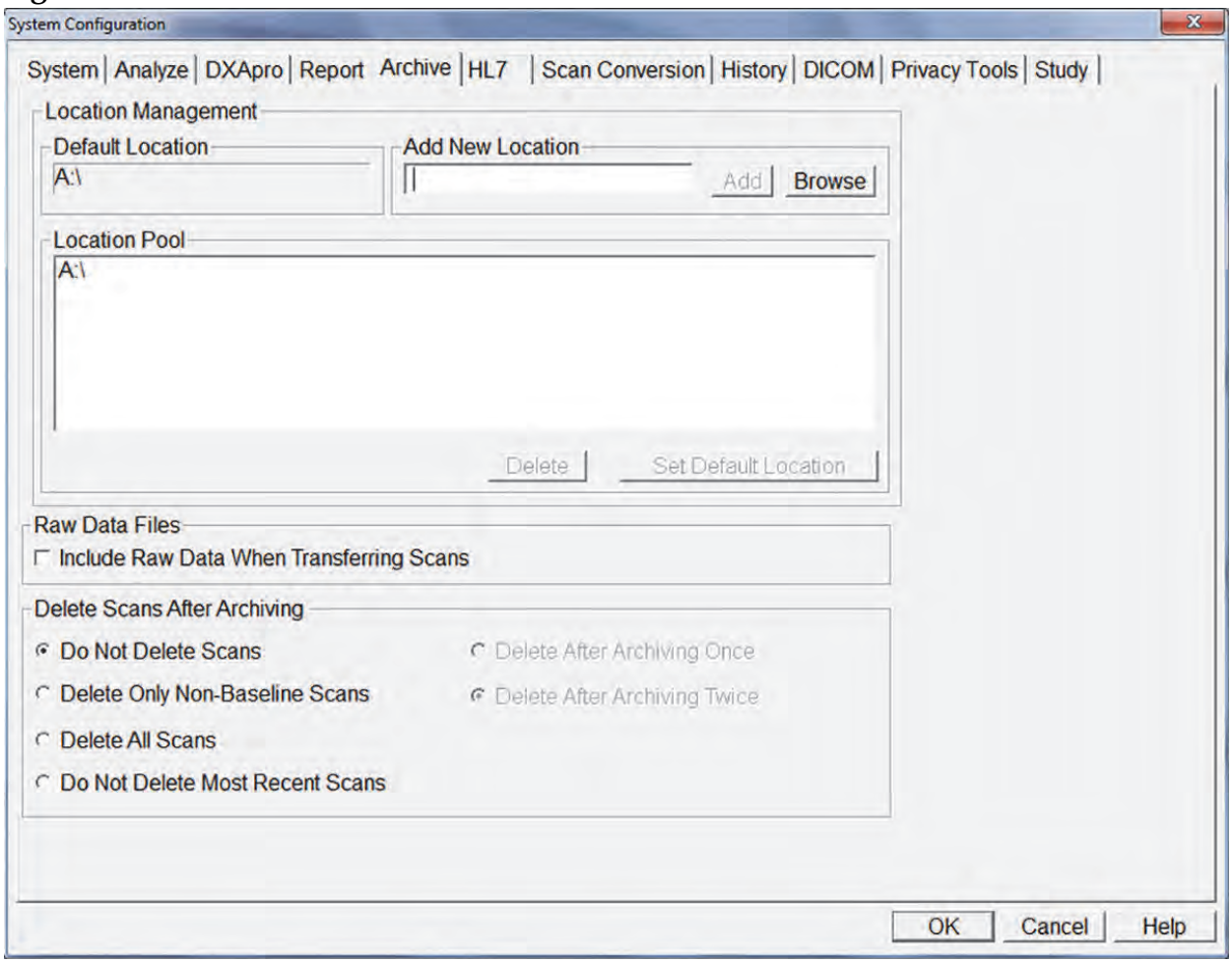
Map a drive (Ex. U:)

1. Open **DXA Scans** Folder.
2. Create a folder **YYYYSecondary** — (YYYY represents current year).

9.2.2 In APEX

1. Select **Utilities > System Configuration**.
2. Click **Archive** Tab (Figure 30).

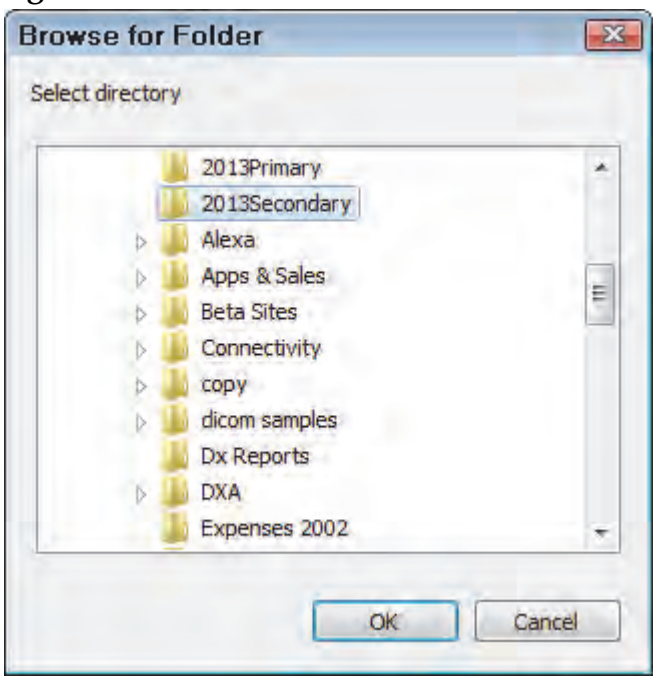
Figure 30 Archive Tab



3. In the **Add New Location**, click **Browse** and select **YYYYSecondary**.

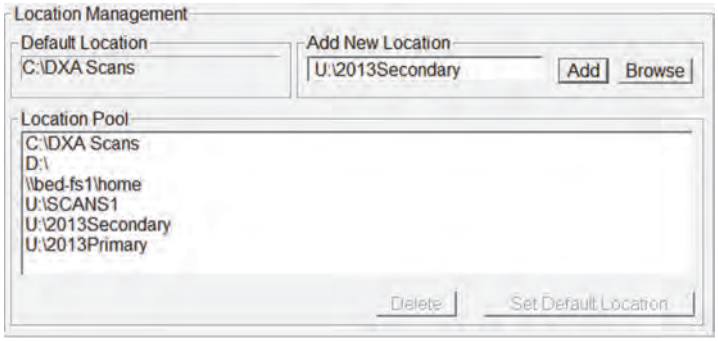
4. Click **OK** (Figure 31).

Figure 31 Add New Location



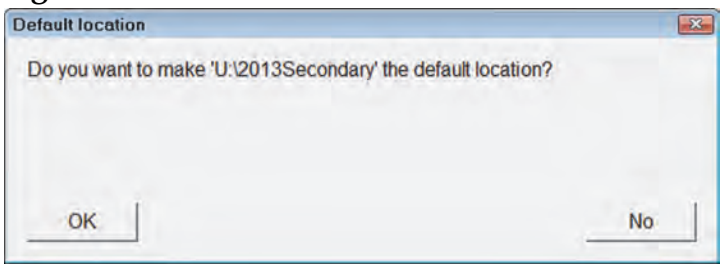
5. Click **Add** (Figure 32).

Figure 32 Location Management



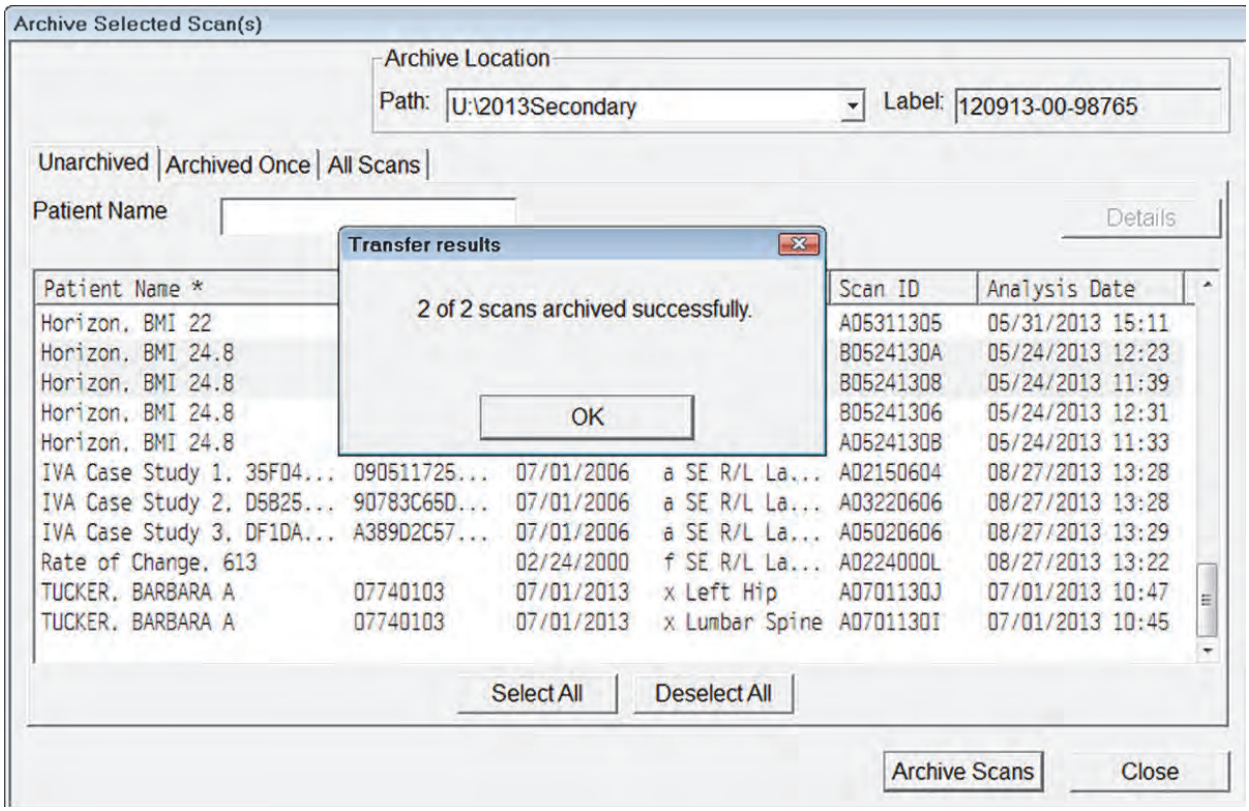
6. Click **OK** to make YYYYSecondary the default location (Figure 33).

Figure 33 Default Location



7. Click **Archive Scans** icon.
8. On the Unarchived tab, click **Select Scans**.
9. Click **Archive Scans** (Figure 34).

Figure 34 Archive Scans



10. Click **OK**.

9.3 Perform an APEX System Backup Weekly to a Network Drive

9.3.1 In Windows

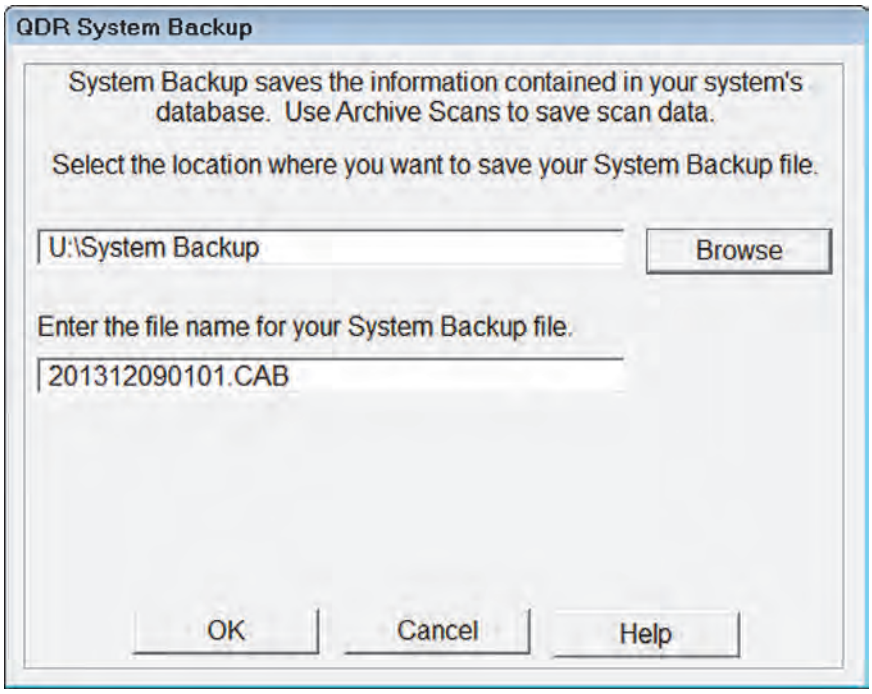
Map a drive (e.g., Drive **U:**)

Create a folder named **System Backup**.

9.3.2 In APEX

1. On the Main Application Screen, click **System Backup** icon.
2. Click **Browse** and navigate to the **System Backup** folder on the mapped drive.
3. Click OK (Figure 3).

Figure 35 DXA System Backup



4. Click **OK** (when complete).
5. Exit without Shutdown.

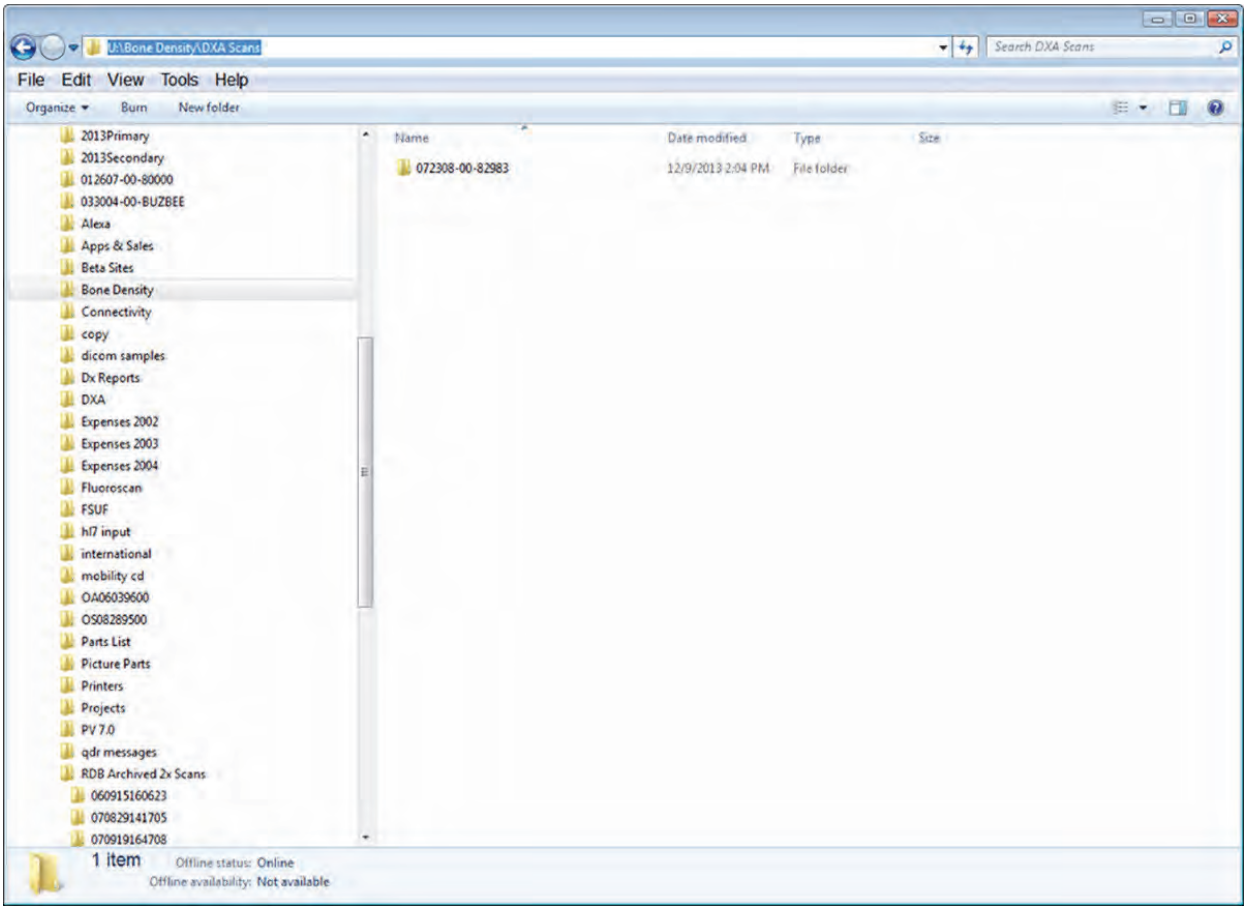
9.4 Optional: Perform One Time Copy of Legacy Archive Media to a Network Drive

9.4.1 In Windows

The preferred way to preserve DXA scans archived on legacy media is to copy the scans to a network drive.

1. Click the **Start button > Computer** and browse to the network drive.
2. Create a new folder on the mapped network drive. Name the folder **Bone Density**.
3. Open the folder Bone Density and create a folder named **DXA SCANS**.
4. Write down the archive label of the archive media on paper (e.g., 072308-00-82983).
5. Insert the legacy media in the drive.
6. Open the DXA SCANS folder and create a folder. Use the same naming convention as the archive label that you wrote down in Step 4 (Figure 36).

Figure 36 Creating a DXA SCANS Folder



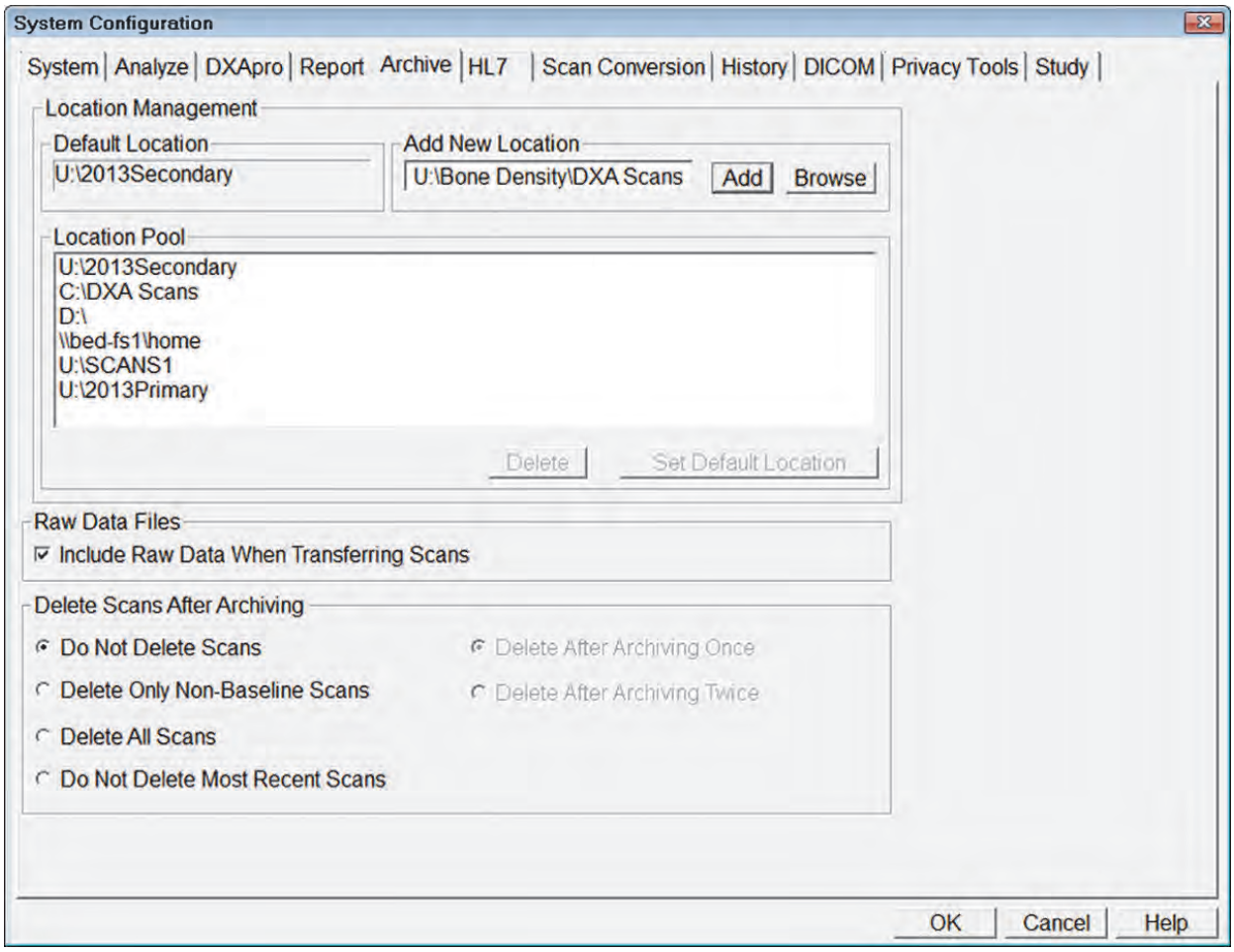
7. Open the **Legacy Archive Drive** to view contents.
8. Hold down **Ctrl-A** to Select All of the media contents.
9. Hold down **Ctrl-C** to Copy of the media contents.
10. Open the **new folder** in DXA SCANS folder from Step 4. (e.g., 072308-00-82983).
11. Hold down **Ctrl-V** to Paste of all the copied content.
12. Repeat steps 4 – 11 for all remaining legacy media.

9.4.2 In APEX

Add the new mapped drive archive location to the Archive Location Pool.

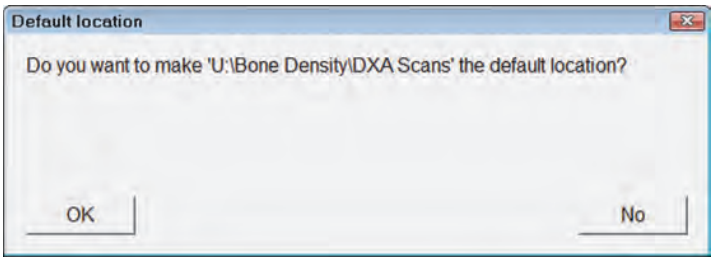
1. Select **Utilities > System Configuration**.
2. Click **Archive** Tab.
3. In the Add New Location, click **Browse** and search for **U:\Bone Density\DXA SCANS** folder and select it.
4. Click **Add** (Figure 37).

Figure 37 System Configuration



5. Click **No** in **Do you want to make "U:\Bone Density\DXA SCANS" the default location?** (Figure 38).

Figure 38 Default Location Selection



6. Click **OK** to save changes and exit.
7. From the main application screen use **Locate Scans** to restore legacy scans.