

OmniArchive2

Installation & User Manual

MiniArchive2

Revision history:

Date	Revision	Comments
3/15/2013	А	Initial release
4/17/2013	В	Hardware specification updated.

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USER MANUAL

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Chapter Introduction

- Welcome to OmniArchive2
- How to Use this Manual
- Key Features
- Hardware Requirements

Introduction of OmniArchive2

Welcome to OmniArchive2

OmniArchive2 is PACS Server software. It enables OmniVue users to share patient's exam and primary diagnostic interpretations (Diagnostic Workstation) and Physicians to practice patient care (Clinical Workstation).

In addition, OmniArchive2 provides a compression setup for the outstanding image. OmniArchive2 is DICOM compatible including DICOM Storage and DICOM Query and Retrieve for easy networking with third vendors' PACS or modalities.

How to Use this Manual

The Next chapter offers a walkthrough for typical usage of OmniArchive2, which includes how to install and setup.

Appendix and FAQ's section should further assist or guide while working on OmniArchive.

Key Features

- 1) Multi-Thread for incoming and outgoing DICOM service, and archiving service.
- 2) Encrypted database access and image access.
- 3) JPEG Lossless Compression
- 4) DICOM Query and Retrieve SCP
- 5) DICOM Storage SCU and SCP
- 6) DICOM Modality Worklist SCP
- 7) HL7 Send and Receive.

Hardware Requirements

- 1) CPU: Intel i5 3rd Generation.
- 2) Memory: 8 GB or higher.
- 3) RAID1 or RAID5 System strongly recommended.
- 4) Gigabit Ethernet connection.
- 5) OS: Window 7 or 8 64-bit Professional

Chapter



How to use OmniArchive2

- How to monitor services
- Options
- How to add Query/Retrieve C-MOVE destination
- How to add OmniVue users
- How to add DICOM Send destination
- How to add Modality Worklist Client List

How to monitor services

OmniArchive2 is combined version of OmniArchive, OmniLink and OmniBroker, so it has multiple services. Each service will be enabled or disabled by license policy.

1. Home

A OmniArchive2					
					v1.0.1.45
Archive	Home				
Query/Retrieve	DICOM SCP(Archive):	Running	Start	Stop	
Modality Worklist Server	Archive:	Running	Start	Stop	
HL7 Receive	DICOM Router:	Stopped	Start	Stop	
DICOM Receive	Backup Service:	Running	Start	Stop	
DICOM Send	DICOM Receive:	Running			
File Send	File Receive:	Running	Start	Stop	
Options	DICOM Send:	Running	Start	Stop	
	File Send:	Running	Start	Stop	
	Modality Worklist Server:	Running			
	HL7 Receive:	Running	Start	Stop	
	HL7 Send:	Stopped	Start	Stop	
	Start A	All I	Stop A	All	
	70-	11.5	· · · · · · · · · · · · · · · · · · ·		

Home screen consist of three parts, one is name of service, another is service status, and the other is controls.

- Name of service: OmniArchive2 is multi-threaded application, so you can find each service's name in here.
- Service status: It shows you status of each thread. There are only two types of status which is "Running" and "Stopped'.
- Control: You can start and stop individually or you can start and stop all services by one click.
- Version: Software version will be on right-top of application.

2. Archive

Home Archive Archive Archive Query/Retrieve DICOM Router Modality Worklist Server Image: Comparison of the	ve2	x
Number of images in DICOM_IN: 0 images Images Archived: 0 of images DICOM_IN -> ARCHIVE Archive Import Speed: 0 images/sec Database Import Speed: 0.000 images/sec Images to be added to database: 0 records	Archive Archive Archive * Service Online Worklist Server eive d Receive Send eive d 1 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	
Import Failed Images: 0 images	Number of images in DICOM_IN: 0 images Images Archived: 0 of images DICOM_IN -> ARCHIVE Archive Import Speed: 0 images/sec Database Import Speed: 0.000 images/sec Images to be added to database: 0 records Import Failed Images: 0 images	•

Archive tab shows you log of DICOM Storage SCP process and others.

- Number of images in DICOM_IN: It shows you total number of files in *DICOM_IN* folder.
- Images Archived: You can find total number of files copied over to *ARCHIVE* folder while running time.
- Archive Import Speed: It shows you how many images are compressed or copied in a second.
- Database Import Speed: After copying or compressing images, OmniArchive2 adds patient's demography and study information in database, so that OmniVue user can review images. This item shows you how many images are processed in a second.
- Images to be added to database: It shows you how many images are left to be processed, so that OmniVue user can review images.
- Import Failed Images: It shows you how many images are failed while processing.

3. Query/Retrieve

A OmniArchive2			
Home Archive DICOM Router Modality Worklist Server HL7 Receive HL7 Send DICOM Receive DICOM Send File Receive File Send Options Information	Query / Retrieve		v1.0.1.46
		The second secon	and the second se

It shows the status of DICOM Query/Retrieve SCP's status.

4. DICOM Router

OmniArchive2	NUMBER AND A	100	
A OmniArchive2 Home Archive Query/Retrieve DICOM Router HL7 Receive HL7 Send DICOM Receive DICOM Send File Receive File Send Options Information	DICOM Router		v1.0.1.46

User can find a log for DICOM Routing service.

5. Modality Worklist Server

OmniArchive2	AND A DESCRIPTION OF A	
 ▲ OmniArchive2 Home Archive Query/Retrieve DICOM Router Modality Worklist Server HL7 Receive HL7 Send DICOM Send File Receive File Send Options Information 	Modality Worklist Server	v1.0.1.46

OmniArchive2 will write the result of Modality Worklist Server SCP service.

6. HL7 Receive



OmniArchive2 has built-in HL7 message parsing engine. User can see the log and MLLP status in this window.

7. HL7 Send

v1.0.1. Home HL7 Send Archive Query/Retrieve DICOM Router Modality Worklist Server HL7 Receive DICOM Receive DICOM Send File Receive File Send Options Information	A OmniArchive2	A DE ANDRESS AND A DE CO	100	
	OmniArchive2 Home Archive Query/Retrieve DICOM Router Modality Worklist Server HL7 Receive DICOM Receive DICOM Receive DICOM Send File Receive File Send Options Information	IL7 Send		v1.0.1.46

OmniArchive2 can generate HL7 ORU message, and it can be transferred to EMR. You can find the log in this window.

8. DICOM Receive

A OmniArchive2	BALLA AND AND AND AND AND AND AND AND AND AN	
A OmniArchive2 Home Archive Query/Retrieve DICOM Router Modality Worklist Server HL7 Receive HL7 Send DICOM Receive DICOM Send File Receive File Send Options Information	DICOM Receive	v1.0.1.46

OmniArchive2 includes OmniLink features, and this is the place that DICOM Receive service displays its status.

DMR: QA-OA2-005. Rev B. Genesis Digital Imaging, Inc. www.genesisdigital.com

9. DICOM Send

If DICOM Send service is enabled, you can find current status of service here.

10. File Receive



This is the place that display File Receive service's log.

11. File Send

OmniArchive2		
OmniArchive2 Home Archive Query/Retrieve DICOM Router Modality Worklist Server HL7 Receive HL7 Send DICOM Receive DICOM Send File Receive File Send Options Information	File Send	v1.0.1.46

It shows you the status of File Send service. If the license is disabled, then service status stays Offline.

12. Options

A OmniArchive2	-	IN DESCRIPTION OF THE OWNER, MILL		
			v1.	0.1.46
Home	Đ	Archive Options		
Archive	•	OmniLink Options		
Query/Retrieve	Œ	Broker Options		
DICOM Router				
Modality Worklist Server				
HL7 Receive				
HL/ Send				
DICOM Receive				
File Receive				
File Send				
Options				
Information				
1				
			Modify	Save

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			v1.0.1.46	
III Home	(±	Archive Options		
Archive Archive	Đ	OmniLink Options		
Query/Retrieve	Ŧ	Broker Options		
DICOM Router				
Modality Worklist Server				
HL7 Receive				
HL/Send				
DICOM Sena				
Eilo Sond				
	-		Modify Save	

The system administrator can change settings from here. To change the options, click on 'Modify', and click on + of each service to expand options.

13. Information

A OmniArchive2	10. 11 AND 10		and the second	
 ▲ OmniArchive2 Home Archive Query/Retrieve DICOM Router Modality Worklist Server HL7 Receive HL7 Send DICOM Receive DICOM Send File Receive File Send Options Information 	Information Hasp ID : License Status : Max Storage Limit : Storage Usage : # of Viewer License : # of Input Modalities : Query / Retrieve : CD / DVD Backup : DICOM Receive : File Receive : # of DICOM Send Destination :	1505521686 Enabled 1500 GB 604 GB 2 0 Enabled Disabled Enabled Enabled S		v1.0.1.46
	# of File Send Destination : HL7 Broker : Heart beat with license server :	3 Enabled 0		
	Grace period remaining :	2	Recheck License	

This is the place that you can verify the license status. If the license is corrupted, click on Recheck License. It will reinitialize license data.

Options

1. Archive Options

			v1.0.1.46	
Home		Archive Options		
Archive	Ŧ	Database	Please configure database info.	
Query/Retrieve	÷	FTP	Please configure FTP info.	
DICOM Router		Working Directory	C:₩Program Files (x86)₩Genesis Digital Imaging₩OmniArchive2₩	
Modality Worklist Server		Import Type	Check all file extensions for DICOM	
HL7 Receive	Ξ	DICOM Server	Please insert DICOM Server AE, IP and Port here.	
HL7 Send		Server AE	OmniArchive2	
DICOM Receive		Server IP	127.0.0.1	
DICOM Send		Server Port	104	
File Receive File Send Options		Compression Opt	JPEG Lossless Keep Original Uncompressed	
Information	•	DICOM Routing	Enable DICOM Router	
		Query/Retrieve	Click here to add C-MOVE destination.	
	+	Backup Service	Disable backup	
		Backup Path	D:₩Backup₩	
		Custom DICOM Tag	Click here to add custom DICOM tags.	
		New User	Click here to add new user.	
	Đ	OmniLink Options		
		Omnicink Options		
	<u>.</u>		Modify Sa	ave

Archive Options provides a way to change DICOM SCP's AE-Title, listening IP address and port, and compression type.

- Database: OmniArchive2 will automatically fill this up. *No user action required.*
- FTP: OmniArchive2 will automatically fill this up. *No user action required.*
- Working Directory: This option is read-only.
- Import Type: There are two rules how OmiArchive2 handles files in DICOM_IN folder
 - o .dcm files only: OmniArchive2 will import .dcm extension files.
 - Check all file extensions for DICOM: OmniArchive2 will check all the files in DICOM_IN folder and archive only DICOM image file.
- DICOM Server: Administration can change DICOM Server's AE-Title, IP address and port here.
- DICOM Routing: One of OmniArchive2 feature is DICOM Routing, which means OmniArchive2 will automatically route received images.
- Query/Retrieve: Administrator can add C-MOVE destination here.
- Backup Service: OmniArchive2 provides two types of backup.
 - Schedule Backup: Backup job will be started on certain time.
 - Real-Time Backup: OmniArchive2 will create duplication to backup path while receiving thru DICOM.

- Custom DICOM Tag: OmniArchive2 provides custom tags for OmniVue.
- New user: Administrator can add new user and set privileges.

2. OmniLink Options

	-			v1.().1.46
I Home	(±	Archive Options			
Archive		OmniLink Options			
Query/Retrieve		Public IP Address	0.0.0.0		
DICOM Router			Click here to get public IP.		
Modality Worklist Server		Add Destination Wizard	Click here to add destination.		
HL7 Receive	+	DICOM Receive	DICOM Receive Configuration		
HL/ Send	±.	DICOM Send	DICOM Send Configuration		
DICOM Receive	Ŧ	File Send	File Send Configuration		
File Deceive	÷	File Receive	File Receive Configuration		
File Cond	Đ	Broker Options			
Information					
	-	1.			

OmniLink Options are same as stand-alone OmniLink's options. Each service will be enabled or disabled by license, and your change may not be applied due to the license.

- Public IP Address: If you use File Receive service over Internet, you must enter public IP or click on 'Click here to get public IP.' .
- Add Destination Wizard: You can add File Send destination and DICOM Send destination via wizard.
- DICOM Receive: OmniArchive uses multiple AE-Titles for OmniArchive2 PACS service, OmniLink service, and Modality Worklist Server. You can setup AE-Title of OmniLink Service here.
- DICOM Send: You can setup DICOM Send destination information or File Export path here.
- File Send: You can setup File Send destination information here.
- File Receive: This is the place to setup File Receive service's listening IP, port and others.

3. OmniBroker Options

				v1.(0.1.46
Home	(+)	DICOM Receive	DICOM Receive Configuration		
Archive	Ŧ	DICOM Send	DICOM Send Configuration		
Query/Retrieve	+	File Send	File Send Configuration		
Modelity Workligt Server	Đ	File Receive	File Receive Configuration		
HI 7 Receive	Ξ	Broker Options			
HI7 Send	Ξ	DICOM Modality Worklist	DICOM Modality Worklist Server Configurat	ion	
		MWL AE-Title	MWL_SERVER		
DICOM Send		MWL Client List	Click here to add MWL Client.		
File Receive	Ξ	HL7 Receive	HL7 Receive Configuration		
File Send		IP Address	192.168.0.13		
Options		Port	8002		
Information		Message Type	ORM		
		Send ACK Message	Reply ACK Message		
	Đ	Message Block	Message Block Character		
	Ξ	HL7 Send	HL7 Send Disabled		
	+	Use MLLP	Use MLLP		
	(±)	Export	Export HL7 message		
	+	FTP	FTP Upload		
	H	L 7 Receive .7 Receive Configuration			
	1-			Modify	Save

OmniBroker Options is for HL7 interface and providing modality worklist management service class. OmniArchive2 uses multiple AEs, so you must set up AE-Title for modality worklist service.

- DICOM Modality Worklist: This is the place user can set up AE-Title for Modality Worklist.
- HL7 Receive: HL7 Receive service uses MLLP based on TCP/IP socket, so the system administrator can set up IP address and port here. OmniArchive2's broker feature provides custom message mapping feature, which means OmniArchive2 will match HL7 message fields into corresponding DICOM header.
- HL7 Send: if EMR requests radiologist's report, then you can set up destination information here. OmniArchive2 provides three ways to transfer HL7 message.
 - Use MLLP: TCP/IP socket based transmission protocol.
 - Export: File drop to the path.
 - FTP: File upload via FTP.

How to add Query/Retrieve C-MOVE destination

1. Click on **Options.**

A OmniArchive2	-	A DESCRIPTION OF A DESC		
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Home	Đ	Archive Options		
Archive	Đ	OmniLink Options		
Query/Retrieve	Ŧ	Broker Options		
DICOM Router				
Modality Worklist Server				
HL7 Receive				
HL7 Send				
DICOM Receive				
DICOM Send				
File Receive				
File Send				
Options				
Information				
1				
	1		Modify	Couo

2. Click on **Modify**, click on **+** to expand Archive Options, and click on **Click** here to add C-MOVE destination.

			v1.0.1.46	
Home		Archive Options		
Archive	Đ	Database	Please configure database info.	
Query/Retrieve	+	FTP	Please configure FTP info.	
DICOM Router		Working Directory	C:₩Program Files (x86)₩Genesis Digital Imaging₩OmniArchive2₩	
Modality Worklist Server		Import Type	Check all file extensions for DICOM	
HL7 Receive	Ξ	DICOM Server	Please insert DICOM Server AE, IP and Port here.	
HL/Send		Server AE	OmniArchive2	
DICOM Receive		Server IP	127.0.0.1	
DICOM Send		Server Port	104	
File Receive File Send Options		Compression Opt	JPEG Lossless Keep Original Uncompressed	
Information	(±)	DICOM Routing	Enable DICOM Router	
		Query/Retrieve	Click here to add C-MOVE destination.	_
	٠	Backup Service	Disable backup	
		Backup Path	D:₩Backup₩	
		Custom DICOM Tag	Click here to add custom DICOM tags.	1
		New User	Click here to add new user.	
	Đ	OmniLink Options		

3. Enter AE-Title, IP address, port, and select compression type, and click on **Add**.

c.	Move D	estination	-		1000	(gen)	-	6	x
1	No.	AE Title OmniV	e ue	IP Address 192.168.0.13	Port 7104	Com	press ompre		_
	А	E-Title:	Omni	Vue		IP:	192.16	8.0.13	
		Port:	7104		Compres	sion:	Uncom	pressed	-
					Add		Modify	Delete	
								Close	

How to add OmniVue users

1. Click on **Options**.

A OmniArchive2	-	CALIFORNIA (MALEO, MIL		
			v1.	0.1.46
III Home	Ð	Archive Options	 	
Archive	Đ	OmniLink Options		
Query/Retrieve	Ŧ	Broker Options		
DICOM Router				
Modality Worklist Server				
HL7 Receive				
HL7 Send				
DICOM Receive				
DICOM Send				
File Receive				
File Send				
Options				
Information				
	2		Modify	Save

2. Click on **Modify**, click on **+** to expand Archive Options, and click on **Click here to add new user**.

			v1 0 1 46	
Home		Archive Options		
Archive	+	Database	Please configure database info.	
Query/Retrieve	+	FTP	Please configure FTP info.	
DICOM Router		Working Directory	C:₩Program Files (x86)₩Genesis Digital Imaging₩OmniArchive2₩	
Modality Worklist Server		Import Type	Check all file extensions for DICOM	-
HL7 Receive	=	DICOM Server	Please insert DICOM Server AE, IP and Port here.	
HL7 Send		Server AE	OmniArchive2	1
DICOM Receive		Server IP	127.0.0.1	-
DICOM Send		Server Port	104	
 File Receive File Send Options 		Compression Opt	JPEG Lossless Keep Original Uncompressed	
Information	+	DICOM Routing	Enable DICOM Router	
		Query/Retrieve	Click here to add C-MOVE destination.	-
	+	Backup Service	Disable backup	
		Backup Path	D:₩Backup₩	
		Custom DICOM Tag	Click here to add custom DICOM tags.	-
		New User	Click here to add new user.	
	(F)	OmniLink Options	d-	

3. Fill it up all of fields and click on Add.

User ID	User Group User Name	ý.
Genesis	Administrator	
e [
User ID:	Passwords:	
-User Group	Allow password change.	
View Only C Rea	Allow password change.	ustom
User Group View Only Rea imeout Interval:	Allow password change.	ustom rs to 0
imeout Interval: 0 1 Description: 0	Allow password change. Only C Radiologist C Administrator C Cu Enable multi login. Limit number of concurrent user First Name:	ustom rs to 0
User Group © View Only © Real imeout Interval: 0 1 Last Name: 0 1 User Restriction 0 1	Allow password change.	ustom rs to 0

How to add DICOM Send destination

1. Click on Options.

A OmniArchive2	-	CALMANDER, MILLER, MIL		
			v1.0.1	.46
II Home	(±	Archive Options		
Archive	Ŧ	OmniLink Options		
Query/Retrieve	Ŧ	Broker Options		
DICOM Router				
Modality Worklist Server				
HL7 Receive				
HL/ Send				
DICOM Receive				
Eilo Pocoivo				
File Send				
Information				
	1		Modify	Save

2. Click on **Modify**, click on **+** to expand OmniLink Options, and click on **Click** here to add destination.

OmniArchive2			
Home	Đ	Archive Options	v1.0.1.46
Query/Retrieve		Dublic ID Address	0.0.0.0
DICOM Router		Fublic IF Address	Click here to get public IP.
Modality Worklist Server	1	Add Destination Wizard	Click here to add destination.
HL7 Receive	Ξ	DICOM Receive	DICOM Receive Configuration
HL7 Send		AE-Title	DICOM_RECEIVE
DICOM Receive		Message Pop-up	Show balloon message.
DICOM Send		DICOM Receive Rule	Click here to add a routing rule.
File Receive	+	DICOM Send	DICOM Send Configuration
	+	File Send	File Send Configuration
	•	File Receive	File Receive Configuration
a montation	Ŧ	Broker Options	
			Modify Save

3. Enter Rule Name. You can put any alphabetical letters and less than 16 letters.

Rule Name: Main_Cer	iter
Please select routing pr	otocol type.
OmniLink Send	
Send to another	Add New Destination 💌
C DICOM Send (Sen	d to a DICOM destination)
Send to a DICOM	Add New Destinatio 👻
C Export DICOM File Destination: Enter	(Use one of DICOM Send license.) new destination name
Path: D:₩Work₩	OmniAlO₩OmniAlO_WBrowse

4. Click on DICOM Send(Send to a DICOM destination), and click on Next.

Rule Name: Main_Center		
Please select routing protoco	ol type.	
C OmniLink Send		
Send to another	Add New Destination 🚽	
DICOM Send (Send to	a DICOM destination)	
Send to a DICOM	Add New Destinatio 💌	
C Export DICOM File (Use	one of DICOM Send license.)	
Destination: Enter new	destination name 🚽	
Path: D:\Work\WOmn	IAIO₩OmniAIO_W Browse	

5. Fill it up all of fields and click on **DICOM Ping** for test. Click on **Next** if DICOM Ping is successfully finished.

Please in here. To	sert DICOM server / verify your informatio	AE, IP address ar on, click 'DICOM	id Port Ping' .	
D	estination: MainCe	nterOmniVue		
	AE: OmniVu	ie		
	IP: 192.16	8.0.13		
	Port: 4810			
	D	ICOM Ping		

6. Select receiving type. If you want to forward receiving images via File Receive, then click on **Receive from OmniLink-Send**. Click on **Receive from DICOM modality (DICOM SCU)**, if your images are coming thru DICOM network. Click on **Next**.



6.1 If you select **Receive from DICOM Modality (DICOM SCU)**, then follow 6.1.1. Otherwise follow 6.2

6.1.1 Receive from DICOM modality: Select **Custom AE-Title**, and enter the AE-Title you want to use. Click on **Finish**.

Receive from DICO Pleas (•	e select AE-Title Default AE-Title Custom AE-Titl AE-Title:	of DICOM Serve	ar.:	
	< <u>B</u> ack	Finish	Cancel	Help

6.2.1 Receive from OmniLink Send: Enter incoming passcode ID and click on **Finish**.



How to add Modality Worklist Client List

A OmniArchive2	-	IN AND MALE AND A STATE		
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🛄 Home	(H	Archive Options		
Archive .	Ŧ	OmniLink Options		
Query/Retrieve Query/Retrieve Query/Retrieve Query/Retrieve Query/Receive HL7 Receive DICOM Receive QUECOM Send File Receive File Send Query/Retrieve Information		Broker Options		
			Modify	Save

1. Click on **Options**.

2. Click on **Modify**, click on **+** to expand Broker Options, and click on **Click here** to add MWL Client.

A OmniArchive2				x
			v1.0.1.46	
Home	(t)	DICOM Receive	DICOM Receive Configuration	^
Archive	÷	DICOM Send	DICOM Send Configuration	_
Query/Retrieve	+	File Send	File Send Configuration	
DICOM Router	Đ	File Receive	File Receive Configuration	
INIODAIILY WORKISL Server	Ξ	Broker Options		
HI 7 Send	Ξ	DICOM Modality Worklist	DICOM Modality Worklist Server Configuration	
		MWL AE-Title	MWL_SERVER	
DICOM Send		MWL Client List	Click here to add MWL Client.	
File Receive		HL7 Receive	HL7 Receive Configuration	
File Send		IP Address	192.168.0.13	
Options		Port	8002	E
Information		Message Type	ORM	
		Send ACK Message	Reply ACK Message	
	Đ	Message Block	Message Block Character	
	Ξ	HL7 Send	HL7 Send Disabled	
	÷	Use MLLP	Use MLLP	
	(±)	Export	Export HL7 message	
	•	FTP	FTP Upload	
	HI	L 7 Receive .7 Receive Configuration		
	2		Modify Save	Э

3. Enter AE-Tile and IP address of client, and click on Add.

Add
AE-Title: OmniVue PAddress: 192.168.0.13 Delet

4. Click on Save.

	AE-Title	IP Address	
	OmniVue	192.168.0.1	3
A	AE-Title:		Add Modify