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# 1 Installation Instructions

## 1.1 Prior to install

- ✓ It is recommended you place a static ip address the workstation. If you are unfamiliar with this process, you may visit the following website for instructions:  
<http://www.howtogeek.com/howto/19249/how-to-assign-a-static-ip-address-in-xp-vista-or-windows-7/>
- ✓ It is recommended you use the following web browsers for optimum performance:
  - **Google Chrome 12**
  - **Firefox 5**
  - **Internet Explorer 9**
- ✓ Make sure you have your Firewall settings turned to OFF for the following inbound ports
  - Port **104**
  - Port **80** (particularly if PikoPACS should be accessible from outside your network)

## 1.2 Download the Software

1. Download PikoPACS executable file from [www.viztek.net](http://www.viztek.net) by clicking on the link provided.
2. Click RUN.
3. A window will pop up stating **PikoPACS by Opal {version#} Installed**. Click OK

◆Note: The OpalRAD Image Viewer will also install during this time. Please click OK on the pop up window once this is confirmed.

4. Once download has completed and PikoPACS by Opal has been installed, the desktop will display a newly created pOpal icon. See Figure 1.0.

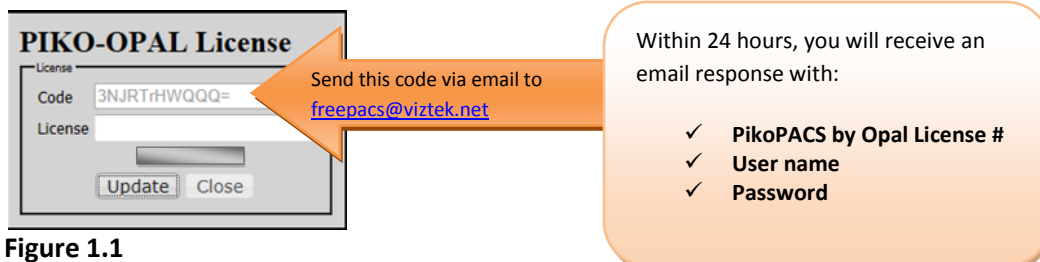


**Figure 1.0 – PikoPACS desktop icon**

5. Click on the desktop **PikoPACS by Opal** desktop icon.

## 1.3 PikoPACS by Opal License

To obtain the PikoPACS by Opal License, send an email to [freepacs@viztek.net](mailto:freepacs@viztek.net) with the subject line "License Request for PikoPACS by Opal" and copy the given code as indicated in Figure 1.1.



**Figure 1.1**

## 2 Introduction to PikoPACS by Opal

### 2.1 What is PikoPACS by Opal?

PikoPACS is a brand new PACS product released by Viztek, stemming from the reputable Opal product line, offered at no cost to customers. PikoPACS by Opal has been released as a free download from Viztek's website to the public. The Ultra-Thin PACS Viewer is available for access throughout your facility as well and is used in conjunction with PikoPACS for viewing study images. (See **Chapter 5 - Downloading the Viewer** for instructions on how to download the Opal Viewer).

### 2.2 Getting Started

1. Once you receive your requested PikoPACS by Opal License code, type that license code as indicated in Figure 2.0, then Click **Update**. \*This is a one-time procedure. You will now have the ability to use your user name and password combination to login to PikoPACS.

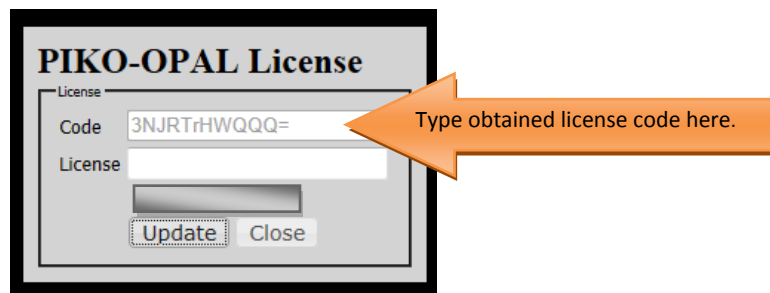


Figure 2.0

2. Please enter your user name and password into the field, as indicated in Figure 2.1.

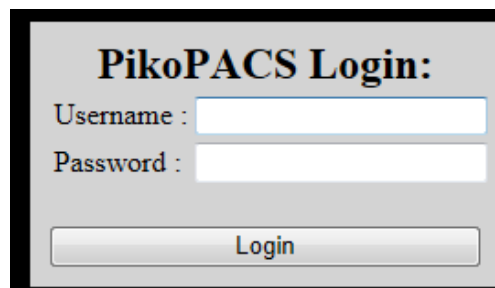


Figure 2.1

3. Click Login.

## 2.3 Introduction to the StudyList

Once logged in, your PikoPACS by Opal studylist will display (See Figure 2.2)

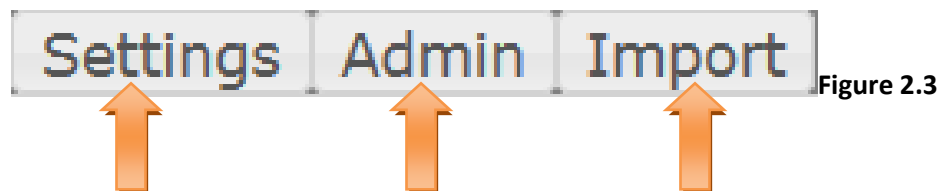
PikoPACS an Opal solution by Viztek							
Patient ID	Patient Name	DOB	Study Date	Modality	Description	Images	Series
58974	VALENTINE,VERUCA	1977-12-01	2011-06-06T08:40:11.437	CR	ABDOMEN	2	2
34687	SMITH,JOANNE	1949-07-01	2008-10-09T14:05:06	CR	KNEE	4	4
64105	DEATON,STEVE	1999-01-01	2011-06-08T16:46:29	CR	KNEE	2	2
456654	JARRELL,JACK	1958-12-19	2010-05-21T09:39:37	CR	HAND	1	1
507143	LUISTIE,LUKE	1927-03-28	2010-05-11T08:09:37	CR	CHEST	2	2
22458	DIRE,CRYSTAL	1961-08-08	2010-04-29T16:26:28	CR	SPINE	3	3
13578	COUSINEAU,ALEXIS	1941-02-28	2010-04-20T09:13:57	CR	KNEE	2	2
55462	JOHNSON,JERRY	1980-10-10	2010-02-18T16:16:23	CR	SHOULDER	1	1
29171	TALLEY,JOANNE	1946-10-10	2009-11-13T13:28:07.968000	CT	THORAX^CT CHEST_WO	131	3
34327	GODBOLD,KRISTINA	1977-11-19	2009-11-05T11:51:02.906000	CT	HEAD^CT HEAD_NON_CONTRAST	66	3
37235	ATCHESON,MARY	1971-06-16	2009-11-17T09:57:58.875000	CT	THORAX^CT CHEST_WO	101	3
61579	JORDAN,JOHN	1927-12-16	2010-11-18T10:55:16	DR	ANKLE	7	7
34672	HERREMA,SADIE	1900-01-01	2010-11-04T12:40:27.671000	MR	HEAD^ROUTINE	203	9
31204	PELLERIN,PORTER	2004-02-01	2010-11-02T08:19:56.468000	MR	SPINE^LUMBAR	414	22
91458	LACAGNINA,MUFFEY	2000-09-20	2010-10-27T10:58:00.031000	MR	SPINE^CERVICAL	195	11
50201	CURTIS,BLUE	2005-04-11	2010-11-01T10:27:35.515000	MR	HEAD^ROUTINE	336	7

Open Refresh All Send <<< < 1 > >>> Total:16 Wednesday, July 20, 2011 2:04:00 PM  
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Figure 2.2 –PikoPACS by Opal StudyList

We will break the studylist up into quadrants, for ease of reference and discussion:

- **Upper Left corner** of the studylist are a set of tabs: **Settings – Admin – Import** (Figure 2.3)



These tabs address the areas of Customization, Administrative functionality and Importing Study information, respectively.

**Settings** – Customization of your studylist

**Admin** – Here you can:

- 1) Create send destinations
- 2) Add/Edit/Delete user accounts
- 3) Edit port configuration as well as paths for database, cache and images.

**Import** – Use this feature to Import studies from an outside CD.

- **Lower Left corner** of the studylist are a set of buttons. **Open – Refresh – All – Send.** (Figure 2.4)



Figure 2.4

**Open** – Single click a study line item and it will turn yellow, indicating that study has been “activated”. (See Figure 2.5) Click the Open button, and that study will launch into the Opal Viewer module (See Chapter 5 – Opal Viewer) \*This process is the same as double-clicking on a study to launch the Opal Viewer module.

PikoPACS an Opal solution by Viztek							
Patient ID	Patient Name	DOB	Study Date	Modality	Description	Images	Series
58974	VALENTINE,VERUCA	1977-12-01	2011-06-06T08:40:11.437	CR	ABDOMEN	2	2
34687	SMITH,JOANNE	1949-07-01	2008-10-09T14:05:06	CR	KNEE	4	4
64105	DEATON,STEVE	1999-01-01	2011-06-08T16:46:29	CR	KNEE	2	2
456654	JARRELL,JACK	1958-12-19	2010-05-21T09:39:37	CR	HAND	1	1
507143	LUISTIE,LUKE	1927-03-28	2010-05-11T08:09:37	CR	CHEST	2	2
22458	DIRE,CRYSTAL	1961-08-08	2010-04-29T16:26:28	CR	SPINE	3	3
13578	COUSINEAU,ALEXIS	1941-02-28	2010-04-20T09:13:57	CR	KNEE	2	2
55462	JOHNSON,JERRY	1980-10-10	2010-02-18T16:16:23	CR	SHOULDER	1	1
29171	TALLEY,JOANNE	1946-10-10	2009-11-13T13:28:07.968000	CT	THORAX^CT CHEST_WO	131	3
34327	GODBOLD,KRISTINA	1977-11-19	2009-11-05T11:51:02.906000	CT	HEAD^CT HEAD_NON_CONTRAST	66	3
37235	ATCHESON,MARY	1971-06-16	2009-11-17T09:57:58.875000	CT	THORAX^CT CHEST_WO	101	3
61579	JORDAN,JOHN	1927-12-16	2010-11-18T10:55:16	DR	ANKLE	7	7
34672	HERREMA,SADIE	1900-01-01	2010-11-04T12:40:27.671000	MR	HEAD^ROUTINE	203	9
31204	PELLERIN,PORTER	2004-02-01	2010-11-02T08:19:56.468000	MR	SPINE^LUMBAR	414	22
91458	LACAGNINA,MUFFEY	2000-09-20	2010-10-27T10:58:00.031000	MR	SPINE^CERVICAL	195	11
50201	CURTIS,BLUE	2005-04-11	2010-11-01T10:27:35.515000	MR	HEAD^ROUTINE	336	7

Figure 2.5

**Refresh** – Refreshes the screen

**All** – By default, the studylist will display all studies performed in the last 30 days, by study date. To display ALL studies outside of this 30 day window, select **ALL**.

**Send** – Single click a study you wish to send. Click the **Send** button and select which send destination the study should be sent to. NOTE: A Send Destination must be created through the Admin Tab prior to using this feature (See **Chapter 4 – Administrative Functionality**>>Send Destinations)

- **Lower Right Corner** of the studylist, you will find:

- Page Orientation
- Total #count of studies per page
- Current date
- Current time

- **Upper Right corner** you will find the **SignOut** button.

**Sign Out** **EVERY** time you would like to exit PikoPACS. This will ensure security.

- **Upper Right corner** you will find the **Download Viewer** button. The viewer gets downloaded and installed upon installation of pikoPACS.

## 3 The StudyList

### 3.1 Customizing the StudyList

PikoPACS an Opal solution by Viztek							
Patient ID	Patient Name	DOB	Study Date	Modality	Description	Images	Series
58974	VALENTINE,VERUCA	1977-12-01	2011-06-06T08:40:11.437	CR	ABDOMEN	2	2
34687	SMITH,JOANNE	1949-07-01	2008-10-09T14:05:06	CR	KNEE	4	4
64105	DEATON,STEVE	1999-01-01	2011-06-08T16:46:29	CR	KNEE	2	2
456654	JARRELL,JACK	1958-12-19	2010-05-21T09:39:37	CR	HAND	1	1
507143	LUISTIE,LUKE	1927-03-28	2010-05-11T08:09:37	CR	CHEST	2	2
22458	DIRE,CRYSTAL	1961-08-08	2010-04-29T16:26:28	CR	SPINE	3	3
13578	COUSINEAU,ALEXIS	1941-02-28	2010-04-20T09:13:57	CR	KNEE	2	2
55462	JOHNSON,JERRY	1980-10-10	2010-02-18T16:16:23	CR	SHOULDER	1	1
29171	TALLEY,JOANNE	1946-10-10	2009-11-13T13:28:07.968000	CT	THORAX^CT CHEST_WO	131	3
34327	GODBOLD,KRISTINA	1977-11-19	2009-11-05T11:51:02.906000	CT	HEAD^CT HEAD_NON_CONTRAST	66	3
37235	ATCHESON,MARY	1971-06-16	2009-11-17T09:57:58.875000	CT	THORAX^CT CHEST_WO	101	3
61579	JORDAN,JOHN	1927-12-16	2010-11-18T10:55:16	DR	ANKLE	7	7
34672	HERREMA,SADIE	1900-01-01	2010-11-04T12:40:27.671000	MR	HEAD^ROUTINE	203	9
31204	PELLERIN,PORTER	2004-02-01	2010-11-02T08:19:56.468000	MR	SPINE^LUMBAR	414	22
91458	LACAGNINA,MUFFEY	2000-09-20	2010-10-27T10:58:00.031000	MR	SPINE^CERVICAL	195	11
50201	CURTIS,BLUE	2005-04-11	2010-11-01T10:27:35.515000	MR	HEAD^ROUTINE	336	7

Open Refresh All Send <<< 1 >>> Total:16 Wednesday, July 20, 2011 2:04:00 PM  
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Figure 3.0 –PikoPACS StudyList

**3.1.1 Sorting** - You can sort the columns alphabetically or by date by simply clicking into one of the column headers and selecting the triangle to toggle between sort options.

DOB	Study Date	Modality ▲
-----	------------	------------

**3.1.2 Searching** - You can type key letters into any of the free space(s) under the column headers to search a specific patient by name, id, ect.

Patient Name
JAC
JARRELL,JACK

## 3.2 Settings Tab

Click the **Settings** tab. The following window will display (Figure 3.1)

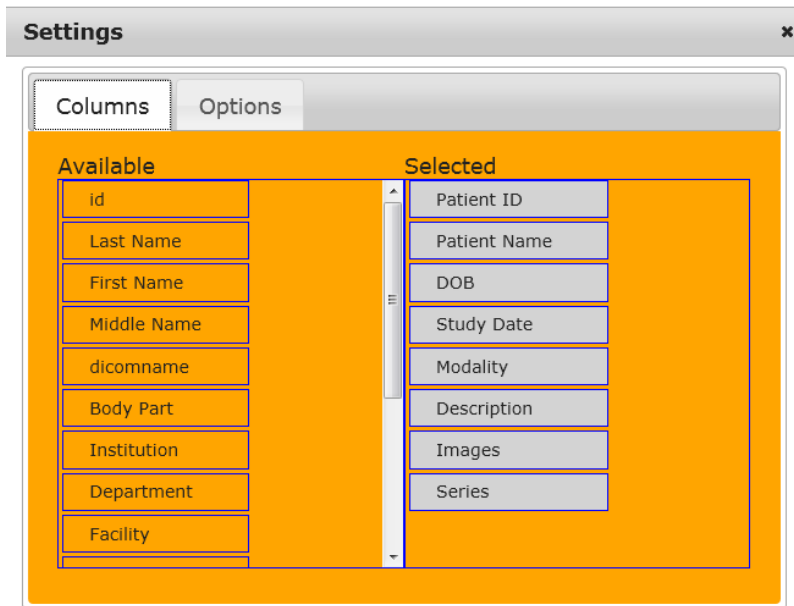


Figure 3.1

### 3.2.1 Columns Tab

The Columns tab allows you to customize **which fields you want to display** and **the order in which these fields display**. The **Available** column lists all possible fields you can choose to display. The **Selected** column indicates what fields are currently being displayed.

To customize *which* fields to display: Click, drag and drop the desired fields from the **Available** column >> **Selected** column, as shown in Figure 3.2.

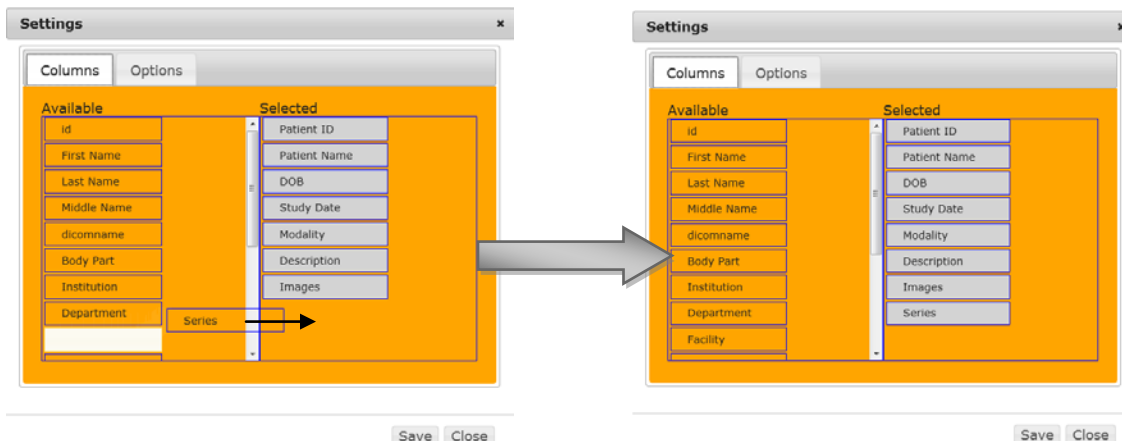
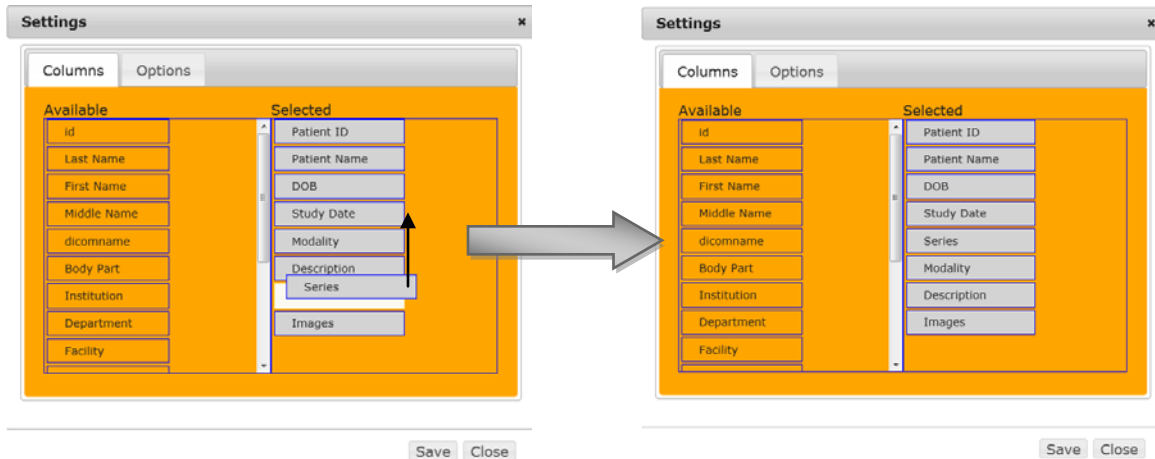


Figure 3.2

To customize the *order* in which the fields should display: Click, drag and drop the fields in the **Selected** column Up or Down to display the fields in the StudyList from Left to Right, respectively, as shown in Figure 3.3.

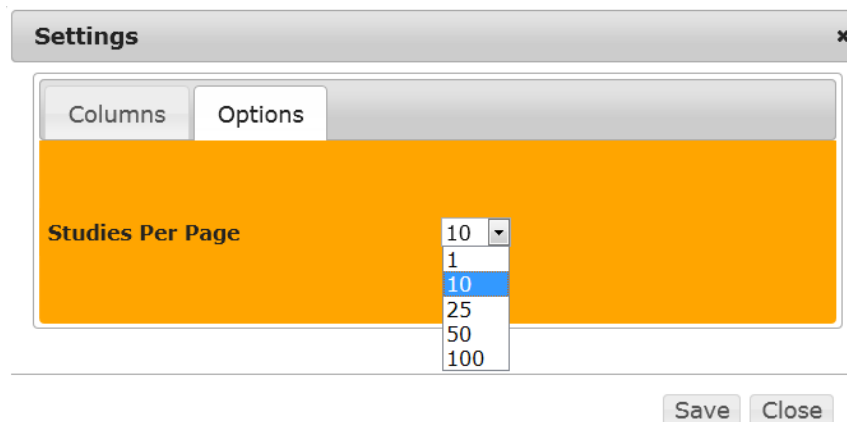


**Figure 3.3**

Click **SAVE** to save the changes made.  
Click **CLOSE**, to close the window and return to the studylist.

### 3.2.2 Options Tab

The Options tab allows you to customize *how many studies to display on your studylist per page*. Select the dropdown menu to select 1-10-25-50-100 studies per page. (See Figure 3.4)



**Figure 3.4**

Click **SAVE** to save the changes made.  
Click **CLOSE**, to close the window and return to the studylist.



### 3.3 Importing a CD

Click the **Import** tab. The following window will display: (Figure 3.5)

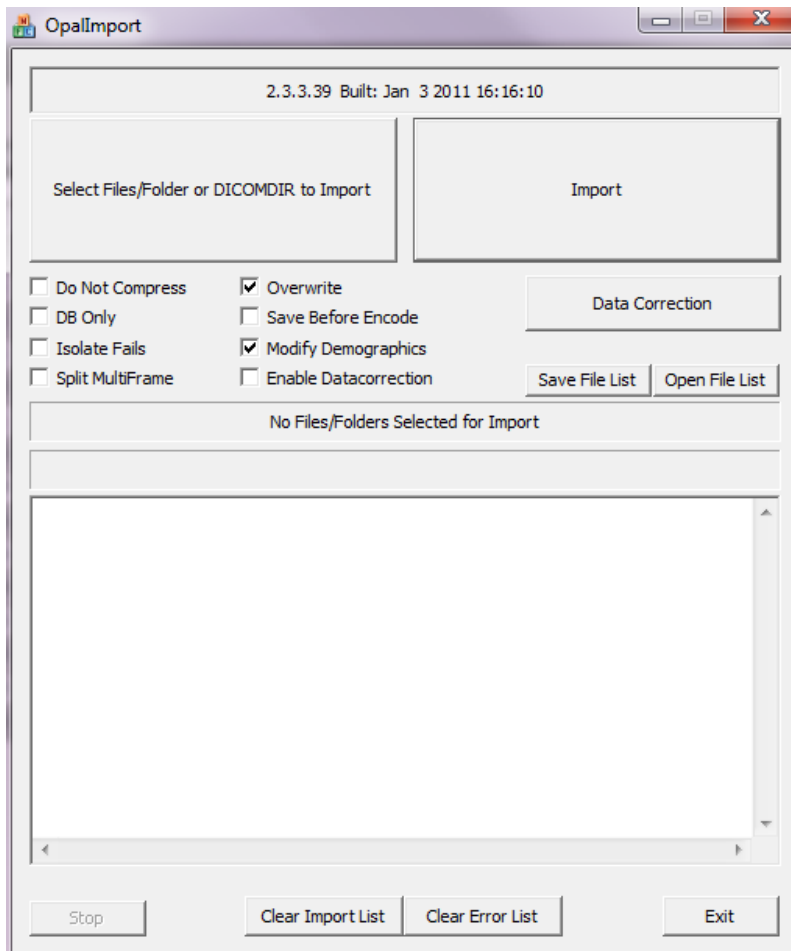


Figure 3.5

1. Insert the CD you wish to import and cancel any auto-run/viewers that pop up.
2. Click **Select File/Folder or DICOMDIR to Import** button.
3. From the pop window, highlight the file(s)/folder(s) you wish to import, and click **Select**.
4. Click **Import** button.
  - ♦ A CD not only has DICOM images, but also other files associated with the viewer (.EXE, .DLL, .BMP files, ect) and WILL fail on import. Do not be alarmed if there are a few errors on the CD as these files are NOT DICOM images/files.
  - ♦ **Modify Demographics** is checked by default. If PIKO-PACS identifies the patient as existing, you will get a pop up confirming this.
5. You will see a message indicating **Importing (#) files finished**.

The studylist will now display the newly imported study.

### 3.4 Edit a Study/Edit a Patient

Using the Right Click>> Dropdown functionality, a user can Edit Patient demographic information or edit information pertaining to the study.

#### 3.4.1 Edit a Study

1. Right click on the study you wish to edit. A dropdown menu will display, as shown in Figure 3.6.

29171	TALLEY,JOANNE	1946-10-10	2009-11-13T13:28:07.968000CT	
34327	GODBOLD,KRISTINA	1977-11-19	2009-11-05T11:51:02.906000CT	
37235	ATCHESON,MARY	1971-06-16	2009-11-17T09:57:58.875000CT	
61579	JORDAN,JOHN	1927-12-16	2010-11-18T10:55:16	DR
456654	JARRELL,JACK		9	2010-05-21T09:39:37 CR
507143	LUISTIE,LUKE		8	2010-05-11T08:09:37 CR
22458	DIRE,CRYSTAL		8	2010-04-29T16:26:28 CR
13578	COUSINEAU,ALE		8	2010-04-20T09:13:57 CR
55462	JOHNSON,JERRY		0	2010-02-18T16:16:23 CR

Figure 3.6

2. Click **Edit Study**. (See Figure 3.7 shown below)

Edit Study

Study Info

Patient ID

61579

Patient Name

First Name

JOHN

midlename

Last Name

JORDAN

sname

Sex

Male

DOB

1927-12-16

StudyUID

1.3.6.1.4.1.11157.2010.11.18.11.1.4.33

Study Date

2010-11-18T10:55:16

StudyID DICOM

Accession #

Modality

DR

readingphy

referringphy

Description

ANKLE

Institution

20/20 Imaging

Body Part

Department

Facility

History

Update

Cancel

Figure 3.7

3. Enter/edit *study information*.
4. Click **Update** to save the information and return to the studylist.
5. Click **Cancel** to return to the studylist without accepting any changes made.

### 3.4.2 Edit a Patient

1. Right click on the patient you wish to edit. A dropdown menu will display, as shown in Figure 3.8.

29171	TALLEY,JOANNE	1946-10-10	2009-11-13T13:28:07.968000CT
34327	GODBOLD,KRISTINA	1977-11-19	2009-11-05T11:51:02.906000CT
37235	ATCHESON,MARY	1971-06-16	2009-11-17T09:57:58.875000CT
61579	JORDAN,JOHN	1927-12-16	2010-11-18T10:55:16 DR
456654	JARRELL,JACK		2010-05-21T09:39:37 CR
507143	LUISTIE,LUKE		2010-05-11T08:09:37 CR
22458	DIRE,CRYSTAL		2010-04-29T16:26:28 CR
13578	COUSINEAU,ALEX		2010-04-20T09:13:57 CR
55462	JOHNSON,JERRY		2010-02-18T16:16:23 CR

- Edit Study
- Edit Patient
- CD Burn
- Delete Study

Figure 3.8

2. Click **Edit Patient**. (See Figure 3.9 below)

Edit Patient

Patient Info

Patient ID

61579

Prefix

First Name

JOHN

Middle Name

Last Name

JORDAN

Suffix

Sex

Male

DOB

1927-12-16

Update

Cancel

Figure 3.9

Edit/enter *patient information*.

3. Click **Update** to save the information and return to the studylist.
4. Click **Cancel** to return to the studylist without accepting any changes made.

### 3.5 Delete a Study

1. Right click on the study you wish to delete. A dropdown menu will display, as shown in Figure 3.10

29171	TALLEY,JOANNE	1946-10-10	2009-11-13T13:28:07.968000CT	
34327	GODBOLD,KRISTINA	1977-11-19	2009-11-05T11:51:02.906000CT	
37235	ATCHESON,MARY	1971-06-16	2009-11-17T09:57:58.875000CT	
61579	JORDAN,JOHN	1927-12-16	2010-11-18T10:55:16	DR
456654	JARRELL,JACK		2010-05-21T09:39:37	CR
507143	LUISTIE,LUKE		2010-05-11T08:09:37	CR
22458	DIRE,CRYSTAL		2010-04-29T16:26:28	CR
13578	COUSINEAU,ALE		2010-04-20T09:13:57	CR
55462	JOHNSON,JERRY		2010-02-18T16:16:23	CR

Edit Study  
Edit Patient  
CD Burn  
Delete Study

Figure 3.10

2. Click **Delete Study**. (See Figure 3.11 below)

Delete Study

Study Info

Patient ID
61579
Prefix

First Name
JOHN
Middle Name

Last Name
JORDAN
Suffix

Sex
Male
DOB
1927-12-16

StudyUID
1.3.6.1.4.1.11157.2010.11.18.11.1.4.33
StudyID DICOM

Study Date
2010-11-18T10:55:16
Modality
DR

Accession #

Delete
Cancel

Figure 3.11

3. Click **Delete**, to delete the study from the studylist.
4. A box will pop to confirm deletion. Click **OK**, if you would like to proceed with deletion.
5. Click **Cancel** to return to the studylist and exit the Delete a Study function without deleting.

### 3.6 CD Burn

1. Right click on the study/patient you wish to burn to a CD. A dropdown menu will display, as shown in Figure 3.12.

34672	HERREMA,SADIE	1900-01-01	2010-11-04T12:40:27.671
31204	PELLERIN,PORTER	2004-02-01	2010-11-02T08:19:56.468
91458	LACAGNINA,MUFFI		2010-10-27T10:58:00.031
50201	CURTIS,BLUE		2010-11-01T10:27:35.515
29171	TALLEY,JOANNE		2009-11-13T13:28:07.968
34327	GODBOLD,KRISTIN		2009-11-05T11:51:02.906
37235	ATCHESON,MARY		2009-11-17T09:57:58.875

Figure 3.12

2. Click **CD Burn** (See Figure 3.13. below)

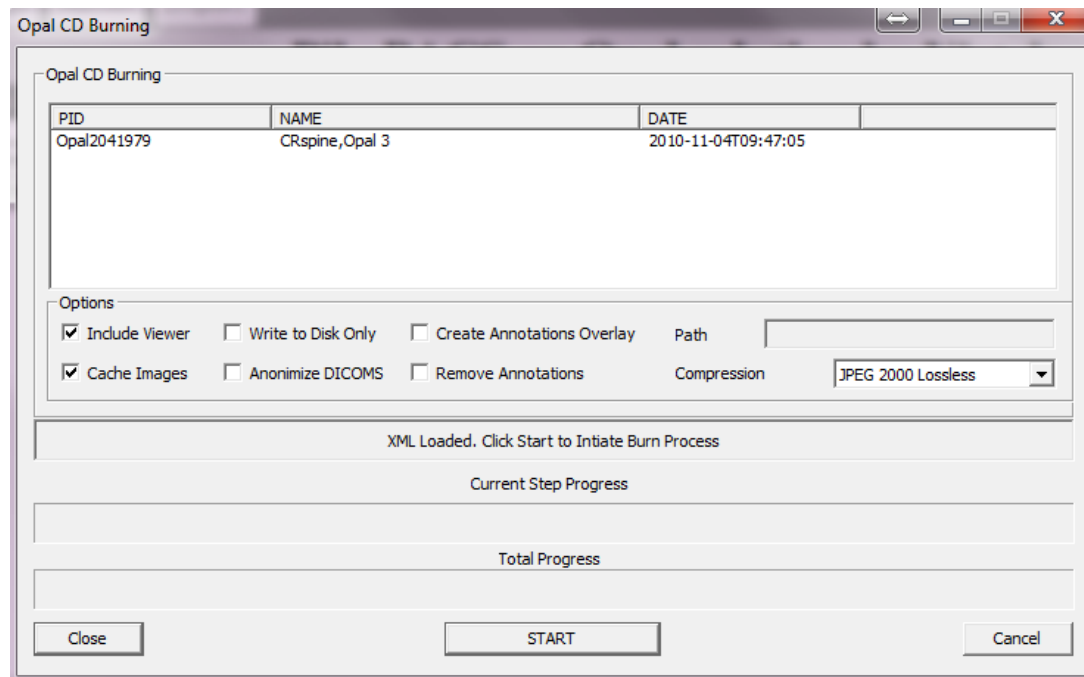


Figure 3.13

3. Insert a blank CD into the workstation disc drive.
4. Make the following selections:

**Include Viewer** –When checked, will burn the study to the CD with Opal Viewer Lite.

**Cache Images** - When checked, will cache the images to the local workstation under Temporary Files.

**Write to Disk Only** – When checked, will give the option to save the study in a selected folder of the local workstation.

**Anonymize DICOMS** – When checked, will strip all patient demographic information from the study and burn the study as “anonymous”.

**Create Annotations Overlay** – When checked, will burn the study with all existing saved annotations.

**Remove Annotations** – When checked, will remove all existing saved annotations before burning the study to CD.

- Once selections have been made, click **START**.
- The study will be retrieved, burned and the CD will eject when complete.

## 4 Admin Tab

The Admin tab houses all administrative functionality of PikoPACS by Opal. Functionality available includes:

- ✓ Managing Send Destinations
- ✓ Managing User Accounts
- ✓ System Settings
- ✓ PIKO-PACS by Opal License Renewal

### 4.1 Send Destinations

Create and edit send destinations for the purpose of sending studies electronically, via DICOM standards through this PikoPACS portal, as described below in Figure 4.0.

Admin Settings

Send Destinations

Users

System Settings

Demo - DICOM

Demo - OPAL

Send Type:

OPAL

Description:

My AE Title:

Remote AE Title:

Hostname/IP:

Port:

Start Time:

Maxconcurrent Sends:

Options:

Add

Cancel

Close

Figure 4.0

#### 4.1.1 To create a NEW Send Destination

1. Click **ADD**.
2. Complete the following:

##### Send Types -

Select **OPAL** if sending to another Opal PACS

Select **DICOM** if sending to any other non-Opal PACS

##### Description –

Enter send destination **name as you want it to appear** in drop down box when sending.

##### My AE Title –

Enter **Name of Box you are sending FROM**.

##### Remote AE Title –

Enter **Name of box you are sending TO**.

##### Hostname/IP –

Enter **IP Address of box you are sending TO**

##### Port –

By default if:

**OPAL = 33336**

**DICOM = 104**

**Start Time** – Enter what time you want the study to send. Enter **NOW** if immediate manual send.

**MaxConcurrent Sends** - Enter number of times for a resend in the event the first attempt fails. (OPTIONAL field)

**Options** –Enter miscellaneous information (OPTIONAL field)

1. Click **SAVE** to save the entered information
2. Click **CLOSE** to exit and return to the studylist.

#### 4.1.2 To edit an existing Send Destination

1. Click on the existing send destination in the left column and edit the information.
2. Click **SAVE** to save the updated information.

3. Click **CANCEL** to cancel the transaction.
4. Click **CLOSE** to exit and return to the studylist.

## 4.2 Users

Click on **Users** tab

**Admin Settings** [X]

Send Destinations | **Users** | System Settings

viztek - Superuser, Viztek  
admin - Admin, Admin  
aris - Basic, Aris

UUID: [ ]  
Username: [ ]  
Password: [ ]  
First Name: [ ]  
Middle Name: [ ]  
Last Name: [ ]  
Settings: [ ]  
Viewer Settings: [ ]  
Last Login: [ ]  
Created On: [ ]

[Add] [Delete] [Cancel]

[Close]

Figure 4.1

### 4.2.1 How to Create a PikoPACS User Account

1. Click **ADD**
2. Enter the following information:
  - Username** – Create a unique user name the user will enter at login.
  - Password** – Create a unique password for this user account
  - Note:** User names and passwords are case sensitive.
  - First Name/Last Middle Name/Last Name** – Enter user information
  - Settings** – *future use*
  - Viewer Settings** – *future use*
3. Click **Save** to save the settings/Click **Cancel** to close without saving.

### 4.2.2 How to Edit an Existing PikoPACS User Account

1. Select the user from the left column that you would like to edit.
2. Make the necessary changes to the account information.
3. Click **Update**.

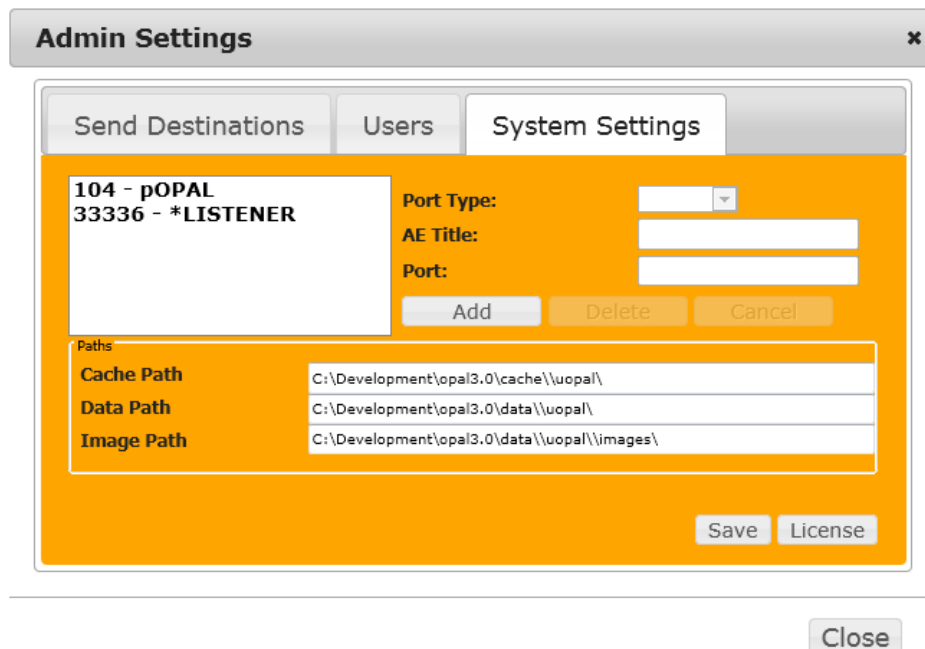


### 4.2.3 How to Delete an Existing PikoPACS User Account

1. Select the user from the left column that you would like to delete
2. Click **Delete**.

## 4.3 System Settings

Click on the **System Settings** tab. (See Figure 4.2).



The screenshot shows the 'Admin Settings' dialog box with the 'System Settings' tab selected. The dialog has a title bar with a close button. Inside, there are three tabs: 'Send Destinations', 'Users', and 'System Settings'. The 'System Settings' tab is active and has an orange background. It contains a text area on the left with the text '104 - pOPAL' and '33336 - \*LISTENER'. To the right of this text area are three input fields: 'Port Type:' (a dropdown menu), 'AE Title:' (a text box), and 'Port:' (a text box). Below these fields are three buttons: 'Add', 'Delete', and 'Cancel'. Below the 'Add', 'Delete', and 'Cancel' buttons is a section titled 'Paths' with three input fields: 'Cache Path' (C:\Development\opal3.0\cache\\\uopal\), 'Data Path' (C:\Development\opal3.0\data\\uopal\), and 'Image Path' (C:\Development\opal3.0\data\\uopal\\images\). At the bottom right of the dialog are two buttons: 'Save' and 'License'. Below the dialog box is a 'Close' button.

Figure 4.2

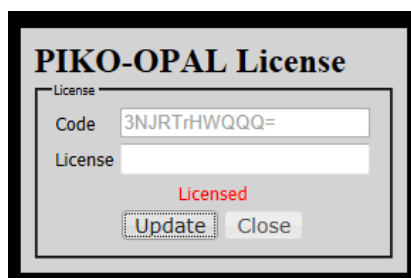
### 4.3.1 Paths

**Cache Path:** Indicates the path where studies are processed.

**Data Path:** Indicates the path where the database is stored.

**Image Path:** Indicates the path where images are stored.

### 4.3.2 License



The screenshot shows the 'PIKO-OPAL License' dialog box. It has a title bar with the text 'PIKO-OPAL License'. Inside, there is a section titled 'License' with two input fields: 'Code' (3NJRTtHWQQQ=) and 'License' (empty). Below these fields is a red text label 'Licensed'. At the bottom are two buttons: 'Update' and 'Close'.

## 5 Opal Viewer

The Opal-RAD Image Viewer (Figure 5.1) features a vast array of image manipulation tools to assist in diagnostic interpretation of medical images. Most of these tools have easy, one-click toolbar buttons to activate them. They are also available from the Images or Tools menu located at the top of your viewer screen.



Figure 5.1

### 5.1 Downloading the Opal Viewer

During install, PikoPACS will automatically download the Opal Viewer as part of the complete install process. However, there may be instances where a manual download may be required. (ie: an available upgraded version). To do so, please click on the **Download Viewer** tab and follow the prompts .

## 5.2 Viewer Icon Functionality

♣ If there are areas or icons in the Opal Viewer that are not activated and you would like further information on these available functions, please contact your Viztek Sales Representative for functionality options and costs associated.



1. **RESET IMAGE:** Resets the image properties back to their original state.
2. **INVERT CONTRAST:** Inverts black and white pixel data, giving image a “negative” appearance.
3. **ROTATE LEFT:** Rotates image 90° to the left
4. **ROTATE RIGHT:** Rotates image 90° to the right
5. **FLIP VERTICAL:** Flip image vertically
6. **FLIP HORIZONTAL:** Flip image horizontally
7. **1 TO 1:** Displays image in its true size (1 pixel on CR plate = 1 pixel on the viewer screen)
8. **FIT TO WINDOW:** Expands/shrinks an image so that it fits in the image viewing window
9. **MAGNIFY:** Use this tool to magnify *parts* of the image. Activate by holding down left mouse button, then drag mouse and magnify area.
10. **ZOOM:** Use this tool to change the size of the *entire* image. Activate by holding down left mouse button, then Drag UP = Zooms IN, Drag DOWN = Zooms OUT
11. **PAN:** Use this tool to move an image around within its display window. Activate tool by holding down left mouse button, then drag image to pan around.
12. **\*EDIT ANNOTATIONS:** Allows annotations to be edited when selected.
13. **\*ACTIVATE/DEACTIVATE ANNOTATION:** When enabled (highlighted), each annotation is activated only once. When disabled (non-highlighted), a selected annotation remains active for multiple uses, until deactivated.
14. **LINE TOOL:** Use this tool to draw a line on the image
15. **FREE HAND TOOL:** Allows free hand drawing on image
16. **CIRCLE TOOL:** Applies a circle to the image.
17. **SQUARE TOOL:** Applies a square to the image.
18. **\*ARROW:** Creates an arrow (or “pointer”) that will point at an area of the image. To create, left click to place the head of the arrow, move mouse in desired direction, then left click to place the tail.
19. **\*MEASUREMENT:** Used to measure straight line distance of an area on the image (in millimeters). To create, left click the starting point, move mouse in desired direction, left click the end point.
20. **\*LEFT MARKER:** Creates a LEFT marker label. To create, left click icon then place marker on spot.
21. **\*RIGHT MARKER:** Creates a RIGHT marker label. To create, left click icon then place marker on spot.
22. **ROI:** Elliptical tool which contains Hounsfield units/pixel value of an enclosed area.
23. **\*TEXT BOX:** Allows you to place typed text anywhere on the image. To create, left click icon then place on area of image, enter text in the “Enter Annotation Text” box provided, then click OK.
24. **SPINE 3D:** Custom spine label function that generates location labels on corresponding views.
25. **\*SHUTTER BOX:** Allows you to create a boxed area of interest. To create, left click on top left area to be shuttered, move mouse down/right, left click bottom right of shutter. The area *outside* of the box is masked out.
26. **\*MAGNIFY AREA:** Creates a stationary, magnified region of an image. To activate, left click on the top left of the area to be magnified, move mouse down/right, left click to place bottom right of box. The area *inside* the box is magnified.
27. **VERTICAL LINE:** Applies a vertical line to the image.
28. **HORIZONTAL LINE:** Applies a horizontal line to the image.
29. **\*AUTO W/L ROI:** Adjusts the window and level, or simply the brightness and contrast of an image inside a box. To activate, left click on the top left of the area to be W/L, move mouse down/right, left click to place bottom right of shutter. The area *inside* the box is windowed and leveled using the average ROI.

30. **BONE ENHANCEMENT:** Reprocesses an image into a more defined resolution by increasing the contrast. Activate by left clicking the icon and from the dropdown menu select anywhere from “OFF” (no bone enhancement/soft) - 100% (most bone enhancement/bone)

**\*NOTE:** The Image Viewer includes the ability to select, edit and delete previously created annotations. Before you are able to edit or delete an annotation you must first select it, and to do this requires that you enable the “Annotation Edit Mode” button.

There is also an available Static Toolbar shown in Figure 5.1 located below the Icon header to allow a user to select a variety of viewing displays. Click a window configuration, then Click>Drag>Drop from the thumbnail images to the desired location.



Figure 5.2