



## **Transfer of IOLMaster patient measurements to the Holladay IOL Consultant Professional Edition program (HIC – PRO)**

The IOLMaster® performs biometric measurements for the purpose of intraocular lens power calculation in preparation for cataract surgery. It also provides on-board lens power calculation capability as well as patient data management and lens constant personalization (also called optimization.)

The Holladay IOL Consultant Professional Edition (HIC – PRO) is a third-party software program developed, distributed and supported by Jack Holladay MD that runs on a separate computer and provides intraocular lens power calculation, lens constant personalization and surgical outcomes analysis. It also contains a proprietary lens power calculation formula called the Holladay 2 formula, which is not available on the IOLMaster. The HIC – PRO program cannot be loaded or run directly on the IOLMaster instrument at this time.

IOLMaster users wishing to use the HIC – PRO program for IOL power calculation must transfer IOLMaster patient measurement data into the HIC – PRO program. This document identifies several methods for this data transfer and provides setup and data transfer guidelines. These methods were developed from a collaborative effort between Carl Zeiss Meditec and Jack Holladay MD for the benefit of our mutual customers.

### **Disclaimer: Please Read**

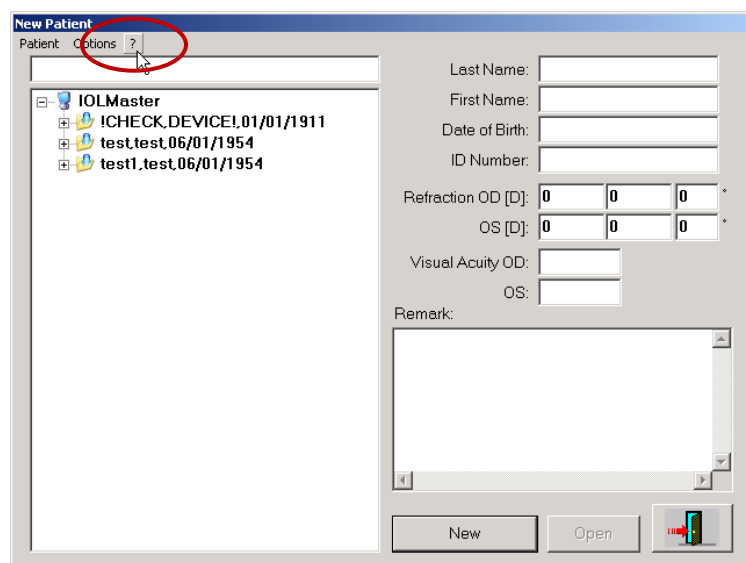
Carl Zeiss Meditec, Inc. (CZM) is not responsible for the results provided by the HIC-PRO Program. The HIC-PRO is a third-party application; users are advised to contact Jack Holladay MD at ([support@hicsoap.com](mailto:support@hicsoap.com)) for technical and clinical support.

This document does not represent or imply any commitment for sales, installation and setup, technical or clinical support of the HIC-PRO program. Our tech support team has very limited knowledge of the HIC-PRO program's operation. CZM does not provide sales, installation, setup, configuration, training or troubleshooting support for a customer's network. This document provides guidance to assist an IT professional when configuring the Holladay IOL Consultant Professional Edition to access patient data from an IOLMaster 500 via Ethernet. CZM may provide guidance on a best-effort basis but is not responsible for the setup and administration of a user's office network.



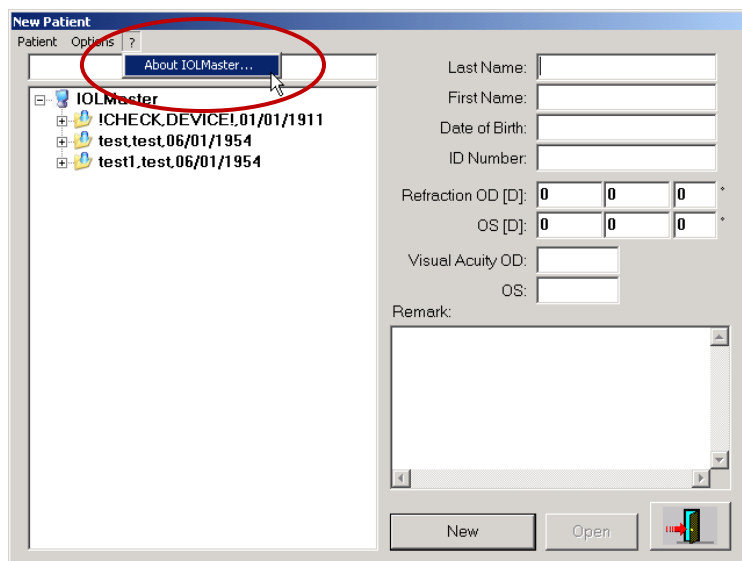
**NOTE:** Before you attempt to set up your IOLMaster it might be helpful to know what version of software your instrument is using. Below you will find the process for finding your software version for older IOLMaster systems (IOL's 1,2,3, XP systems running 4.X or 5.X software, and for the newer 5.5 system) as well as the IOLMaster 500.

For all IOLMaster instruments except the IOLMaster 500, find the question mark (?) on the "New Patient" screen, and click on it:

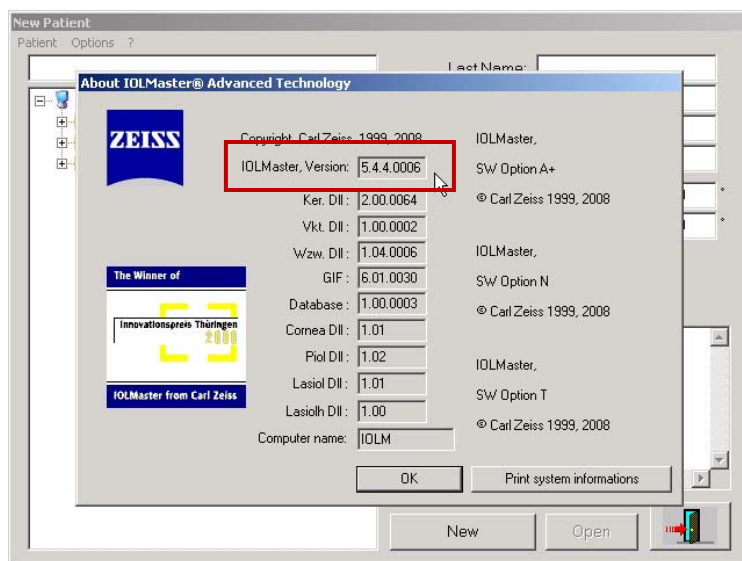




Now click on "About IOLMaster":



The IOLMaster informational screen will open, where you can verify the version of software installed on your instrument:





For IOLMaster 500 instruments, locate the “I” Icon in the upper right corner of the “Patient Manager” screen and click on it:

The screenshot shows the 'Patient Manager' window with three tabs: 'New patient', 'Patient list', and 'Ultrasound'. The 'New patient' tab is active. In the top right corner, there is an information icon (a lowercase 'i' inside a circle) which is circled in red. The form contains fields for patient information and refractive data for both eyes (OD and OS).

OD			OS		
Sph [D]	Cyl [D]	Axis [°]	Sph [D]	Cyl [D]	Axis [°]
0	0	0	0	0	0

Other fields include: Last name, First name, Date of birth (with a note 'Date has not been defined! MM/DD/YYYY'), Patient ID, Sex (dropdown menu), Remarks (text area), Eye status (dropdown menu, set to 'Phakic'), and Refractive corneal surgery (dropdown menu, set to 'not known').

The IOLMaster 500 informational screen will open, where you can verify the software version installed on your IOLMaster 500:

The screenshot shows the 'About IOLMaster Advanced Technology' window. It displays the ZEISS logo, copyright information (Copyright Carl Zeiss 1999, 2009), and the IOLMaster version (7.3.0.0048, highlighted with a red box). It also lists various software options and their versions, along with a list of awards and a 'Print system information' button.

Option	Version
Ker. DII	2.00.0064
ACD. DII	1.00.0002
Wzw. DII	1.04.0006
GIF	8.05.0002
Database	1.00.0003
Cornea DII	1.01
Piolo DII	1.02
Lasiol DII	1.01
Lasiolh DII	1.00
Computer name	IOLM

Software options listed on the right include: IOLMaster, SW Option Sono Link, © Carl Zeiss 1999, 2008; IOLMaster, SW Option N, © Carl Zeiss 1999, 2008; IOLMaster, SW Option T, © Carl Zeiss 1999, 2008.



Methods for data transfer from the IOLMaster to the HIC – PRO program

A. Export/Import Via Removable Media

B. Export/Import Via Network (Ethernet) connection

## **A. Export/Import Via Removable Media (Non – Networked Systems)**

The IOLMaster can export via 3 forms of removable media, depending on the model of the IOLMaster.

Floppy Diskette – Limited to older IOLMaster version 1, 2 & 3 (Windows 95/98) that are equipped with a Floppy Disk drive.

CD – RW Disc – Available on IOLMaster version 4 & 5 (Windows XP) that are equipped with a CD – RW drive.

USB Memory Stick – Available on newer IOLMaster systems (Windows XP) that are equipped with USB ports.

## **IOLMaster Setup (IOLMaster Versions 1,2,3,4.X, 5.X, 5.5)**

Prior to performing the Export function of the IOLMaster, you must ensure that the instrument is configured properly.

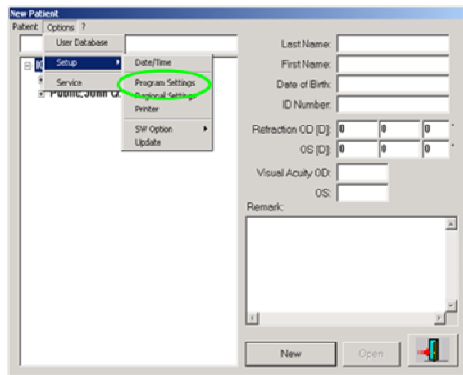
If the instrument is running Windows 95 or Windows 98, you must have the **Option A** software installed on the IOLMaster.

If the instrument is running Windows XP, you must have the **Option A+** software installed on the IOLMaster.

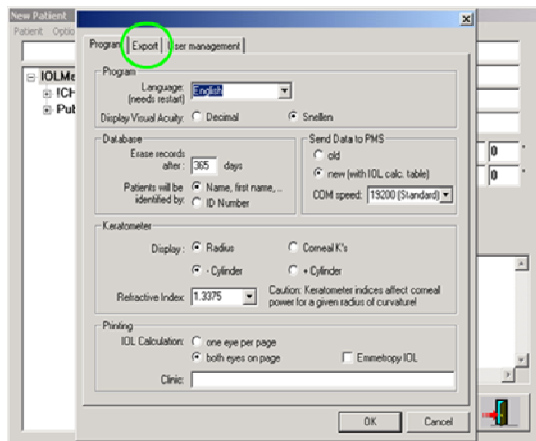
In addition, the type of data and the path for the export must be defined. On IOLMaster systems running Windows 95 or Windows 98, the path is predetermined to be the Floppy Disk Drive. No other selection is possible. For systems running Windows XP, the path may be selected to be either the CD – RW drive, or a USB memory stick.

To define the data and path, follow the procedure below:

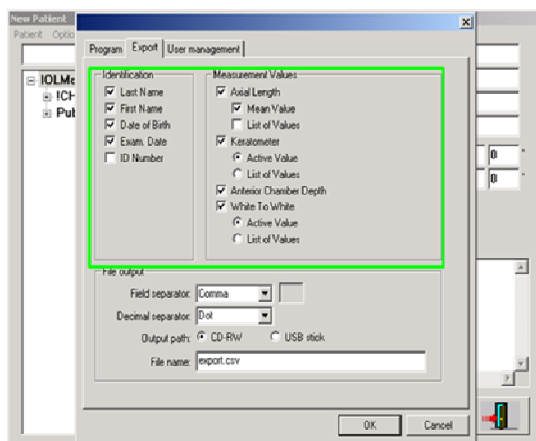
1. From the New Patient Menu, Click on “Options”, then point to “Setup”, and finally click on “Program Settings”:



2. The Program Settings window will open. Click on the "Export" tab:

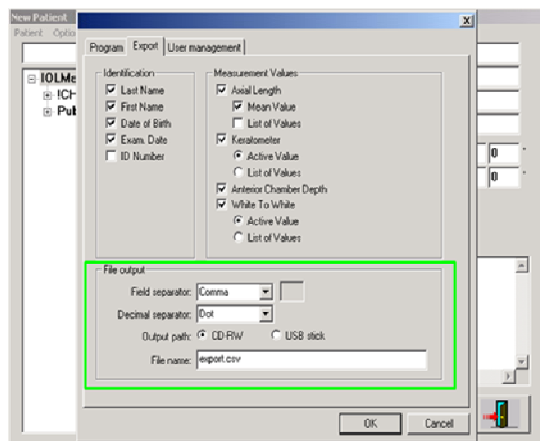


3. The Export tab screen will now be displayed. The upper portion of the screen has selectable options as to which measurements and patient demographics are to be included in the exported file. The picture below shows the default values. Leave the values as show for proper file formatting of the exported values:





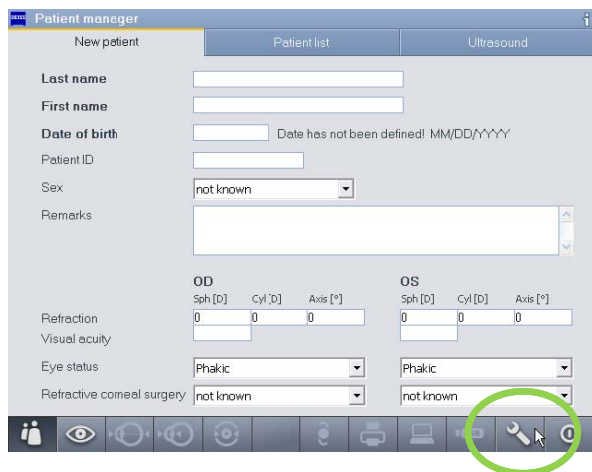
The lower section of the export screen will not be present on older Windows 95 and Windows 98 systems. These systems can only export to the floppy disk drive. On newer Windows XP systems you can select either the CD – RW drive or a USB memory stick. The other fields should be left as is:



To export a file from the IOLMaster (All models), follow the instructions for patient file export which may be found in the IOLMaster User Manual for your instrument.

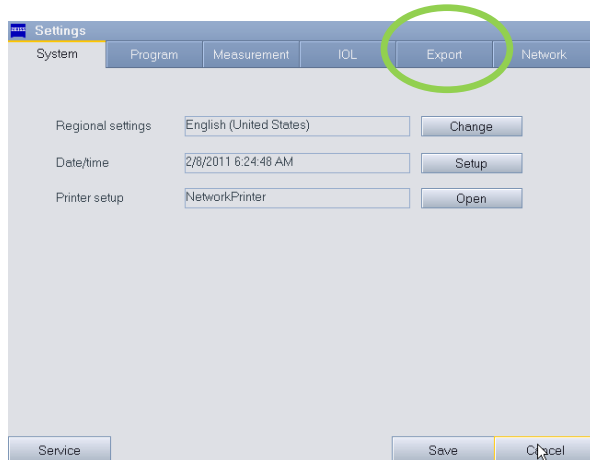
## IOLMaster 500 Setup (IOLMaster Version 7.X)

1. From the Patient Manager screen, click on the “Wrench” Icon (Settings):

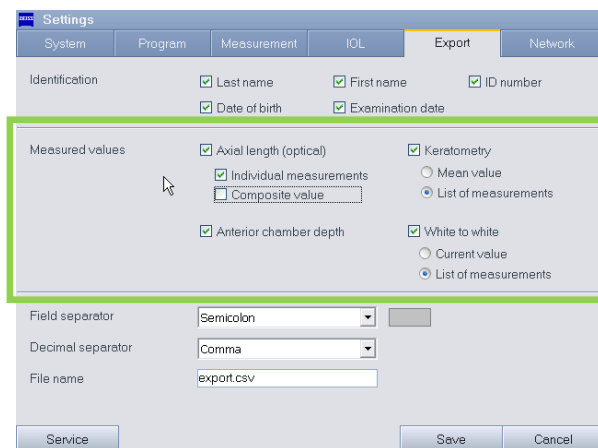




2. The Settings window will open. Click on the "Export" tab:



3. The Export tab screen will now be displayed. The middle portion of the screen has selectable options as to which measurements and patient demographics are to be included in the exported file. The picture below shows values that are INCORRECT:



**INCORRECT EXPORT**  
**SETTINGS!**





3. The Screen below shows the values set correctly for “export” to the Holladay software.

Settings

System Program Measurement IOL Export Network

Identification ☒ Last name ☒ First name ☒ ID number  
☒ Date of birth ☒ Examination date

Measured values ☒ Axial length (optical) ☒ Keratometry  
☐ Individual measurements ☒ Mean value  
☒ Composite value ☐ List of measurements  
☒ Anterior chamber depth ☒ White to white  
☒ Current value  
☐ List of measurements

Field separator Semicolon

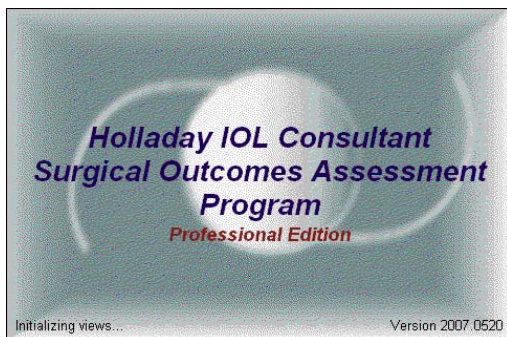
Decimal separator Comma

File name export.csv

Service Save Cancel

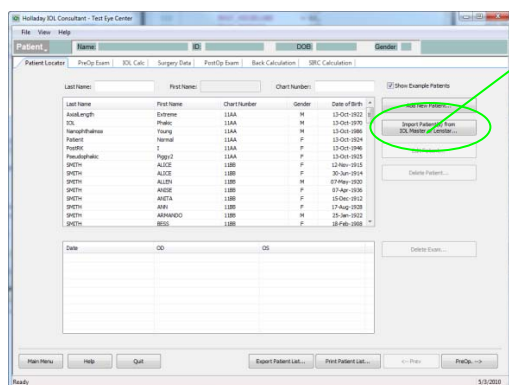
**CORRECT EXPORT**  
**SETTINGS!**

## Importing Patient Data into the HIC - PRO software from removable media

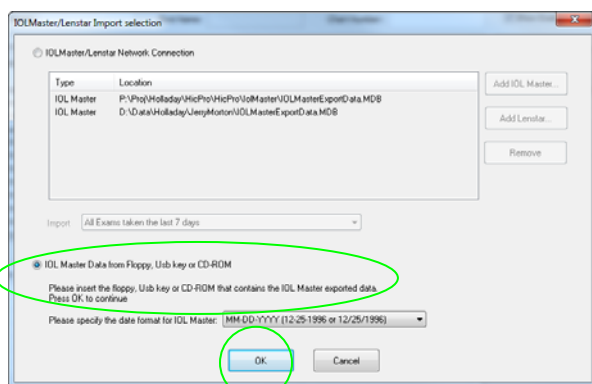




1. From the “Patient Locator Screen”, click on the “Import Patients from IOLMaster...” button:



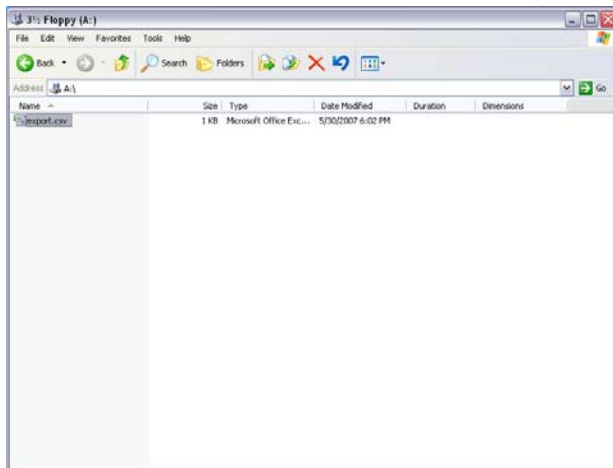
2. The program will display the “IOLMaster Import.....” selection screen. Click on the “IOLMaster Data from Floppy, USB key or CD – ROM” radio button, then click on the “OK” button:



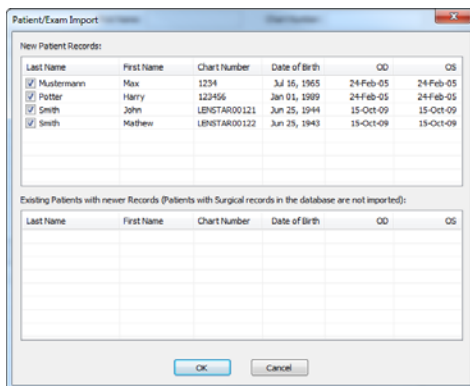
3. The HIC – PRO software will now check the various locations (Floppy drive, CD – Rom drive, USB ports) for a file entitled “export.csv”:



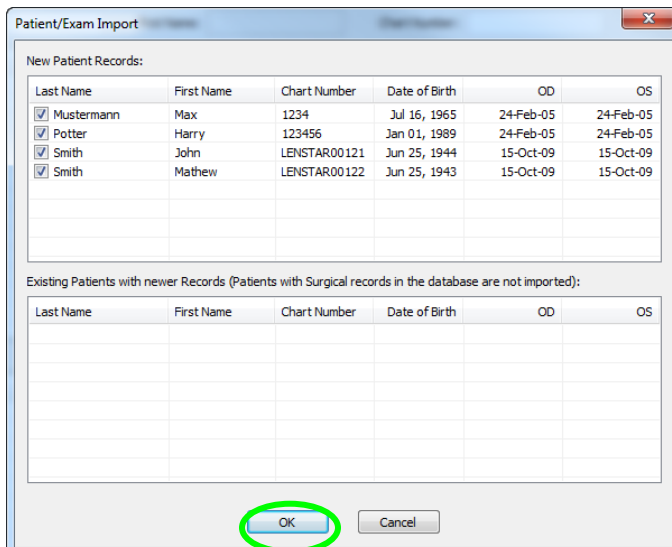
In the example pictured below, we have exported the file onto a Floppy Diskette:



4. When the HIC – PRO software finds the file, it will display all of the patients it finds within the file. In our example here, we had just one patient. If multiple records are found, you can select which records to import by checking or unchecking the box to the left of the record:



5. Once you have selected the patients you wish to import, click on the “OK” button:





6. As we can see from the example below, the selected patient record(s) have been imported and are available on the "Patient Locator" tab of the HIC – PRO application:

Last Name	First Name	Chart Number	Gender	Date of Birth
Avail, length	Extreme	11AA	M	13-Oct-1922
IOL	Phakic	11AA	M	13-Oct-1970
Namophthalmos	Young	11AA	M	13-Oct-1986
Patient	Normal	11AA	F	13-Oct-1924
PostRK	I	11AA	F	13-Oct-1946
Pseudophakic	Ppgrv2	11AA	F	13-Oct-1925
SMETH	ALICE	118B	F	12-Mar-1915
SMETH	ALICE	118B	F	30-Jun-1914
SMETH	ALLEN	118B	M	07-May-1920
SMETH	ANISE	118B	F	07-Apr-1936
SMETH	ANITA	118B	F	15-Dec-1912
SMETH	ANR	118B	F	17-Aug-1928
SMETH	ARMANDO	118B	M	25-Jan-1922
SMETH	BEISS	118B	F	18-Feb-1908

## B. Export/Import Via the Network (Ethernet) connection

Notes:

### Network Requirements

The IOLMaster is configured to use DHCP (Dynamic Host Configuration Protocol). The IP address and other network information needed to successfully connect the IOLMaster to your network and to access the shared network folder "Export" will be automatically provided by a DHCP server.

The data transfer is handled by a MS Jet database (version 4). This database is stored in the shared network folder "Export" located on the IOLMaster hard disk drive. The name of the export database is "IOLMasterExportData.mdb".



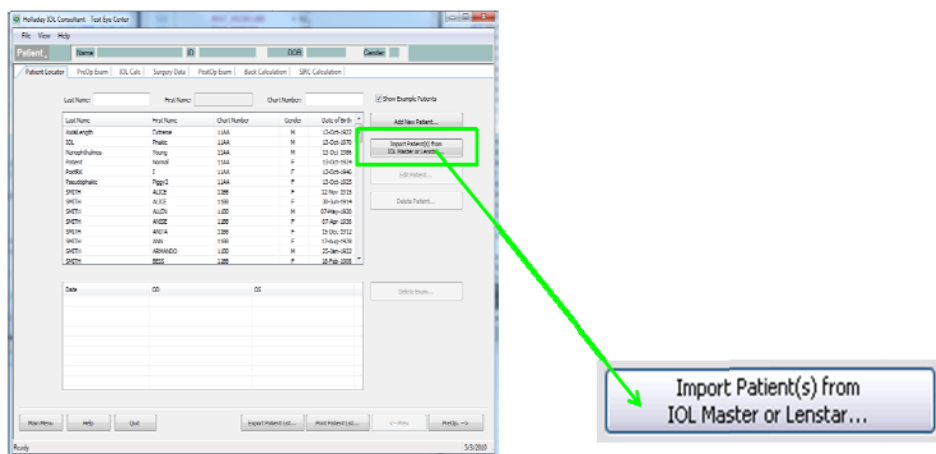
The IOLMaster shall only be connected to private networks, which are protected from public networks (Internet) by firewalls conforming to the latest technical standards! A standard patch network cable, Cat 5, with two RJ-45 connectors should be used to connect the IOLMaster with the network. A network isolator must be placed inbetween IOLMaster (NET) and network cable. A network isolator (part number 000000- 0448-931) can be ordered from Carl Zeiss for connection to the external network (NET). Attention should be paid to the specific safety regulations (EN 60601-1-1 / IEC 60601-1 (see IOLMaster Instruction Manual).

## IOLMaster Setup (IOL Software versions 4.X, 5.X, 5.5, and 7.X)

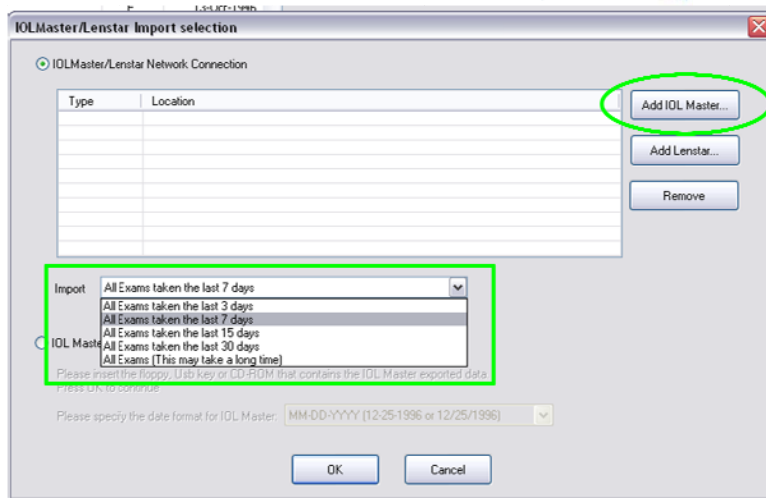
Import of Patient records via Ethernet is only possible on IOLMaster systems which are running Windows XP operating systems, and which have Option A+ installed on the IOLMaster. The IOLMaster comes factory configured for DHCP type networks. If the IOLMaster is connected to a network with other than DHCP protocols, it will be necessary for a factory trained Zeiss Field Engineer to be present during the setup time to grant a networking professional to access the network setup of the IOLMaster.

Provided that both the IOLMaster and the host PC running the HIC – PRO software are connected to a DHCP network, the IOLMaster can be located on the customer's network using the following instructions:

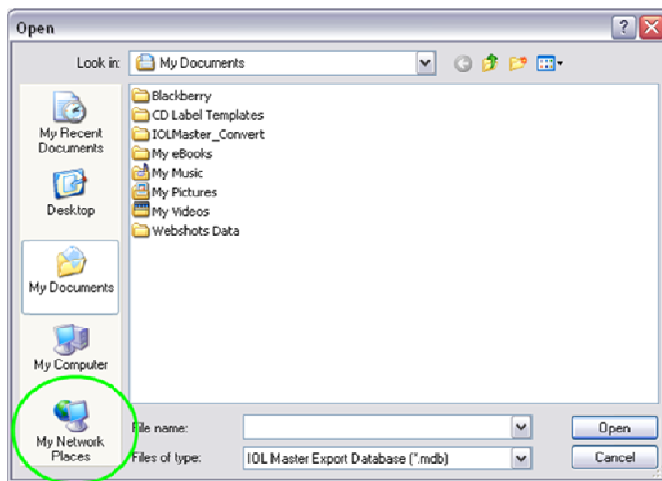
1. In order for the HIC – PRO software application to import patient files across the Ethernet connection, it must first “find” the IOLMaster on the network.
2. From the “Patient Locator Screen” click on the “Import Patients from IOL Master...” button:



3. The “IOL Master/Lenstar Import selection” window will open. Click on the “IOL Master..... Network Connection” radio button to select it. Also select the date range of the exams you wish to import from the drop menu, then click on the “Add IOL Master” button:

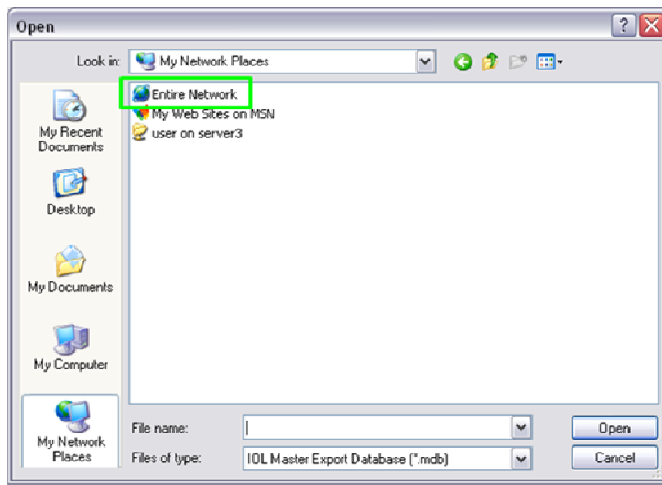


4. A Microsoft Windows Explorer window will open. Find and Double – Click on “My Network Places”:

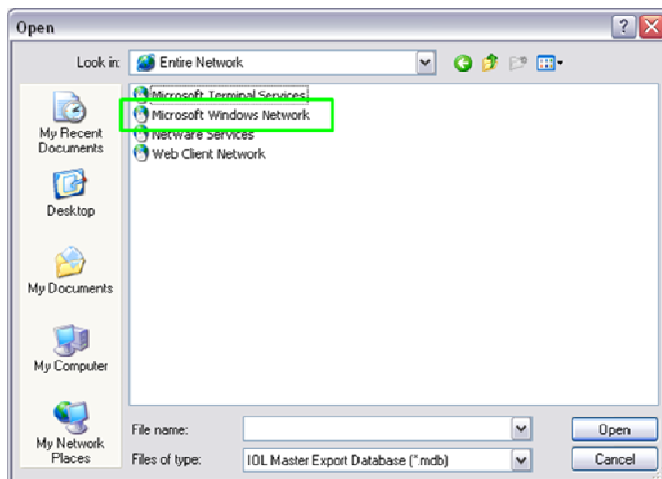




5. When the “My Network Places” window opens, locate and Double – Click on “Entire Network”:

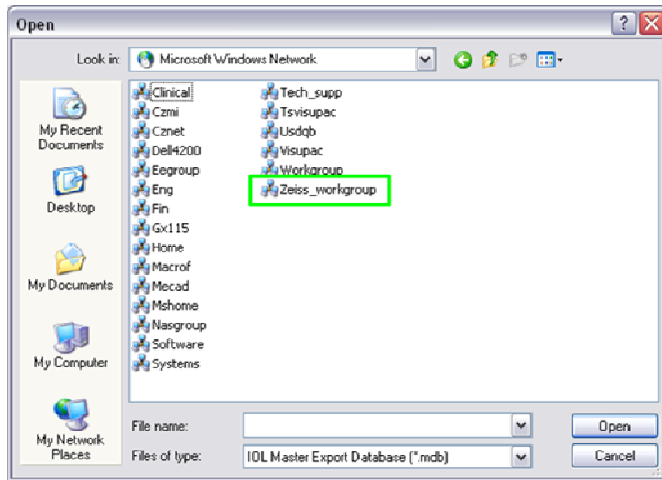


6. All of the various networks that your system may connect to are displayed. Find and Double – Click on “Microsoft Windows Network”:

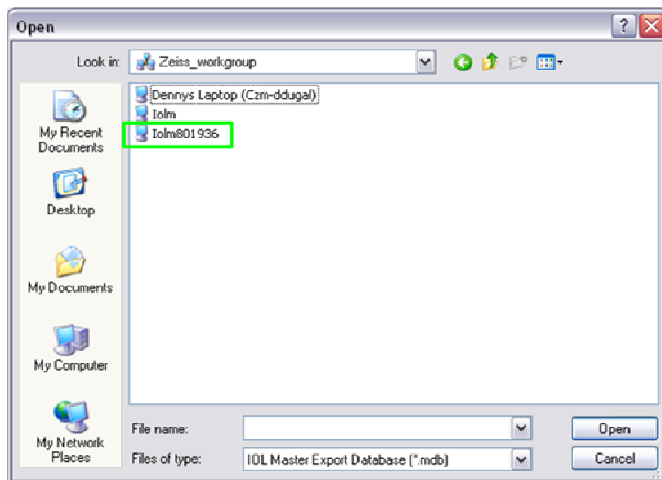




7. All of the “workgroups” which are part of your Microsoft Windows Network will now be displayed. Locate the workgroup entitled “Zeiss\_workgroup”. Double – Click on this workgroup:



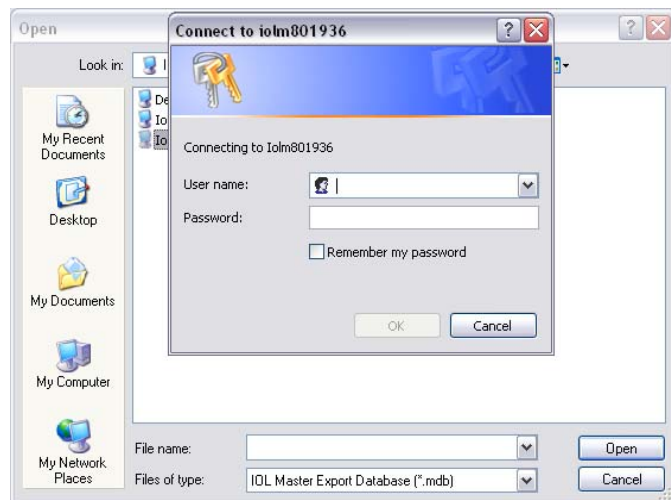
8. All of the computers which are part of the “Zeiss\_workgroup” will now be displayed. In our example, we have two different IOLMaster's, and the computer that we have the HIC – PRO software loaded on. Double – Click on the IOLMaster that you wish to connect to and import from:







9. If this is the first time you have connected to this IOLMaster, you will be prompted for a User name and Password:



10. Type in the following, EXACTLY as shown:

User Name --- IOLMaster

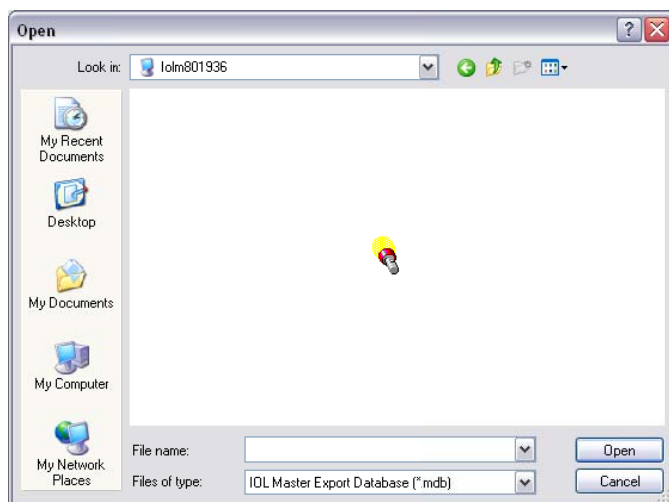
Password --- Iolm\_XP

NOTE: You will not see what you are typing as a password, as it will only display dots, so be very careful when typing the password.

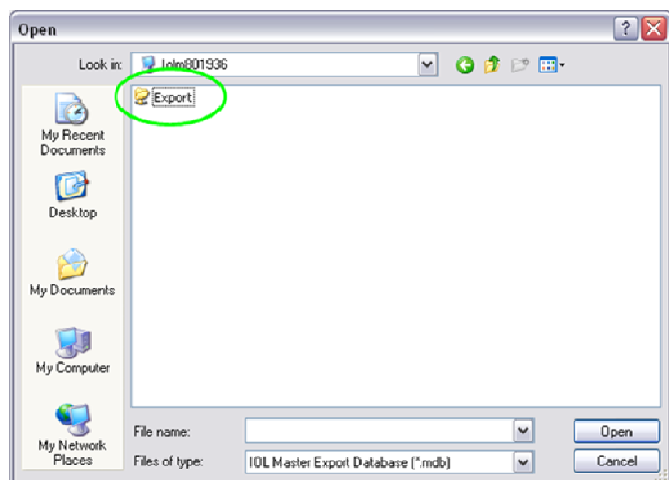




11. If you have correctly entered the proper User Name and Password, the software will display this screen while it searches for “shared” folders on the IOLMaster:

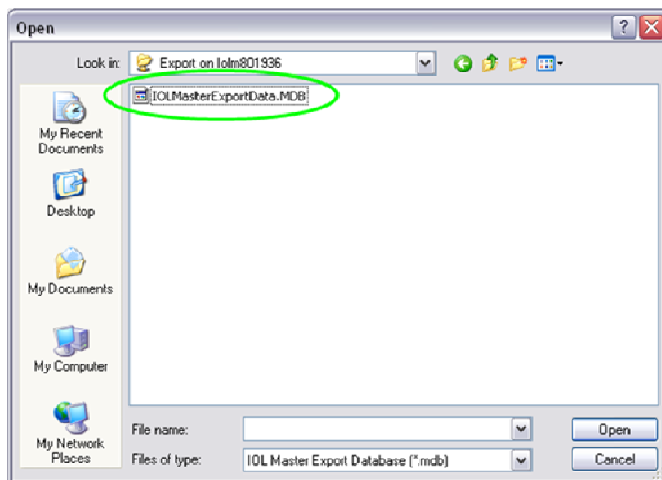


12. The software should find the default shared “Export” folder. Double – Click on this folder:

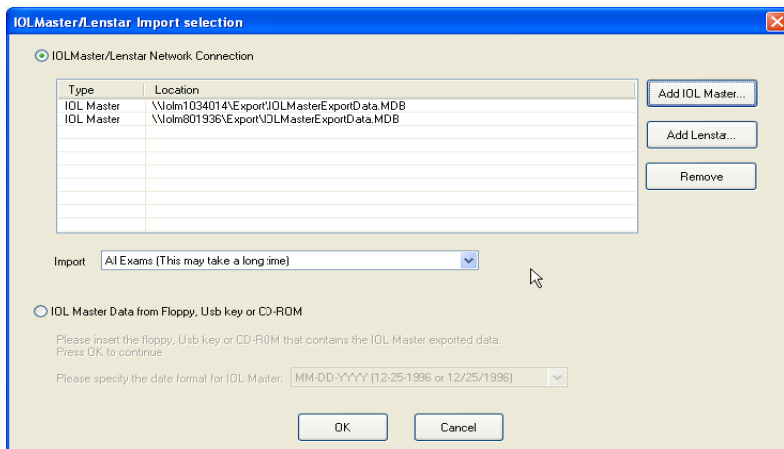




13. The contents of the “Export” shared folder will now be displayed. We can see the desired database file, which is entitled “IOLMasterExportData.MDB”. Double – Click on this file to open it and return to HIC – PRO:

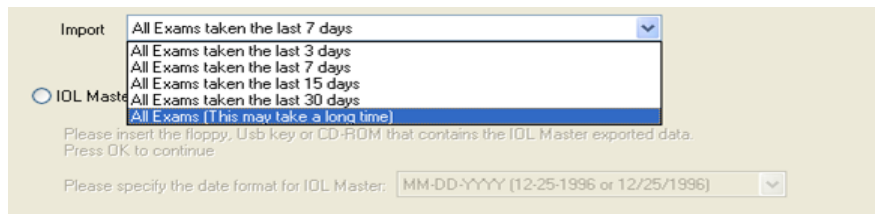
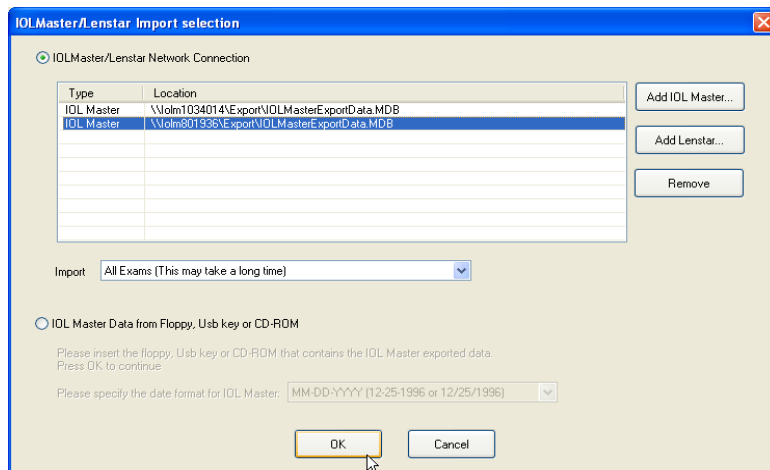


14. The program will return to the “IOL Master Import selection” window, and the IOL Master will be shown in the list of networked IOL Masters. Note that in our example, we have connected to two different IOL Masters:

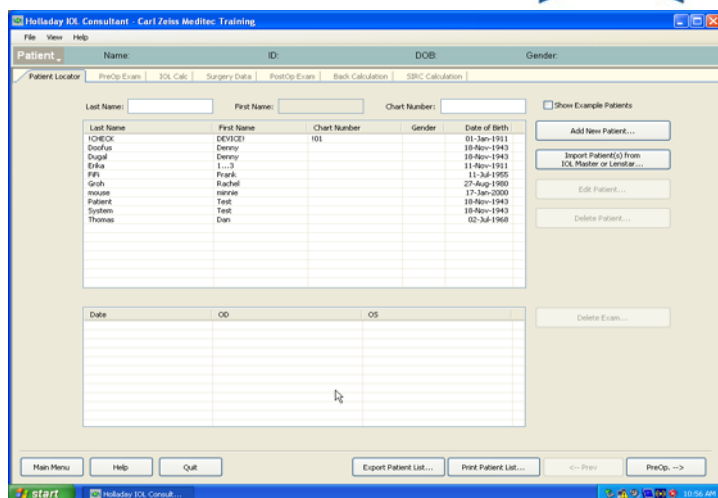




15. Highlight the IOLMaster that you wish to import patient files from. If necessary, also select the desired date range from the drop menu, then click "OK":



16. Depending on the number of patients that the system has to import, several minutes might go by while the patients are being imported from the selected IOL Master. After the import has been completed, the system will return to the patient selection menu:



The above procedure assumes that the customer has connected both the computer with the Holladay IOL Consultant software (HIC – PRO) AND the IOL Master XP to their network, and that the network is a DHCP configured network.

If the network settings are different, a CZMI Field Engineer will have to grant access to the configuration of the IOLMaster network connection.

This procedure has been presented for informational purposes only. CZMI does not provide technical support for the Holladay IOL Consultant software. For support of this product, please contact Dr. Holladay at [www.docholladay.com](http://www.docholladay.com)

## IOLMaster 500

### NOTE:

The IOLMaster 500 is pre-configured for a DHCP network.

If a Static IP address is needed for the IOLMaster XP, it will require a visit by a CZMI Field Engineer to obtain access to the network configuration files in Control Panel.

The *Professional Edition* of the IOL Consultant program is required for the import feature to work. For details on obtaining the IOL Consultant program, contact [www.docholladay.com](http://www.docholladay.com)

### NOTE:

This presentation addresses only a *NETWORK* type connection between the IOLMaster XP system and a remote PC that has the Holladay Consultant software installed. Older IOLMasters, or IOLMasters which are NOT connected to a network, utilize the export features of the IOLMaster to export patient data to either a floppy diskette, a CD-RW disc, or a USB memory stick, and the import features of the Holladay Consultant software.

The IOLMaster shall only be connected to private networks, which are protected from public networks (Internet) by



firewalls conforming to the latest technical standards! A standard patch network cable, Cat 5, with two RJ-45 connectors should be used to connect the IOLMaster with the network. A network isolator must be placed between IOLMaster (NET) and network cable.

A network isolator (part number 000000-0448-931) can be ordered from Carl Zeiss for connection to the external network (NET). Attention should be paid to the specific safety regulations (EN 60601-1-1 / IEC 60601-1 (see IOLMaster Instruction Manual)).

To ensure that the Holladay II software will import the correct parameters from the IOLMaster 500, please verify that the "Export" tab settings on the IOLMaster 500 are set as shown below:

The screenshot shows the 'Settings' dialog box with the 'Export' tab selected. The dialog has six tabs: System, Program, Measurement, IOL, Export, and Network. The 'Export' tab contains the following settings:

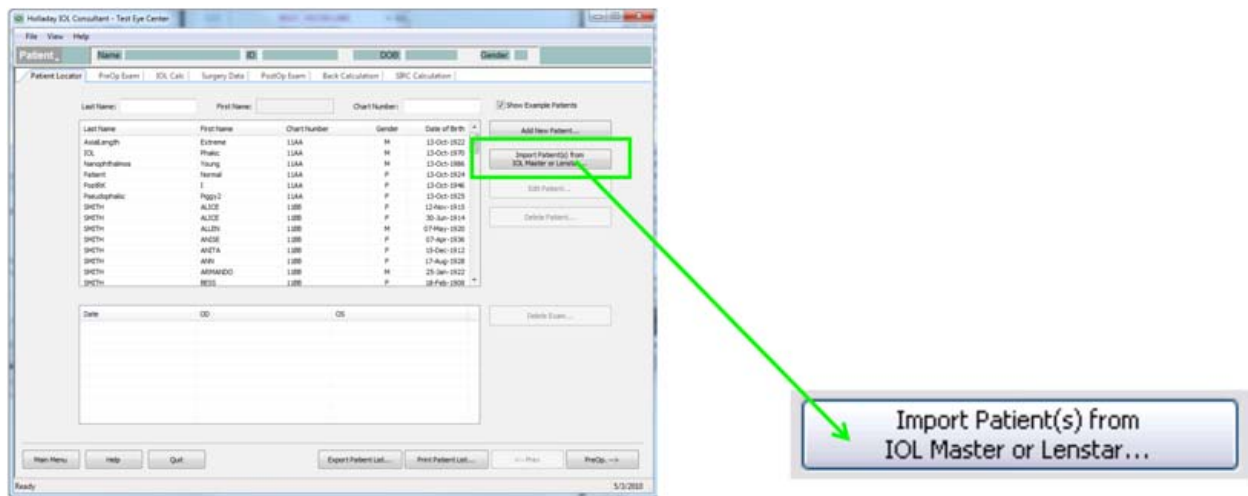
- Identification:** ☒ Last name, ☒ First name, ☒ ID number, ☒ Date of birth, ☒ Examination date.
- Measured values:** ☒ Axial length (optical), ☐ Individual measurements, ☒ Composite value, ☒ Anterior chamber depth, ☒ Keratometry, ☒ Mean value, ☐ List of measurements, ☒ White to white, ☒ Current value, ☐ List of measurements.
- Field separator:** Semicolon (dropdown menu).
- Decimal separator:** Comma (dropdown menu).
- File name:** export.csv (text field).

At the bottom of the dialog are three buttons: 'Service', 'Save', and 'Cancel'.

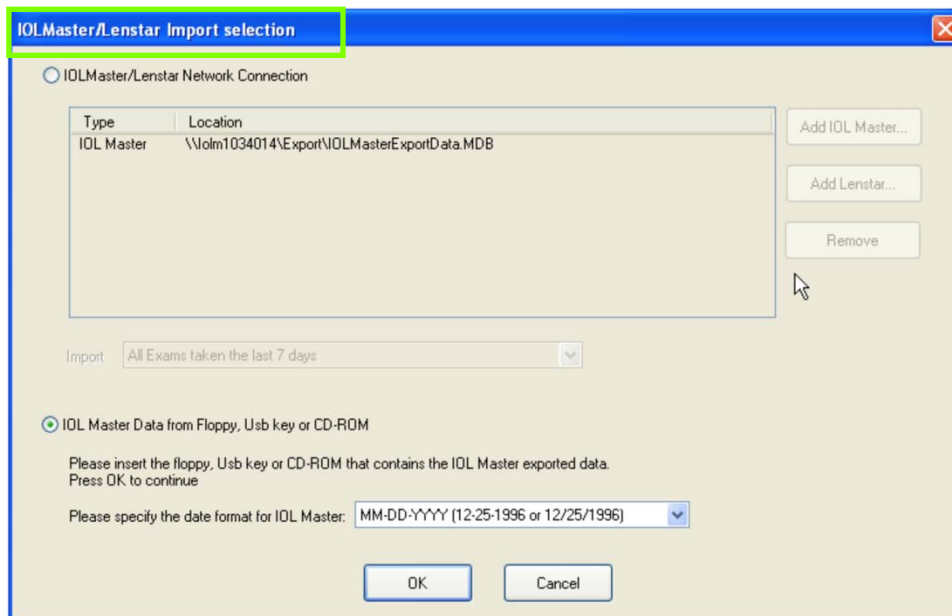
In order to access the patient database on the IOLMaster 500 the Holladay IOL Consultant software must "find" the IOLMaster 500 on the network.



From the **Patient Locator Screen**, click on the **Import Patient(s) from IOLMaster...** button:

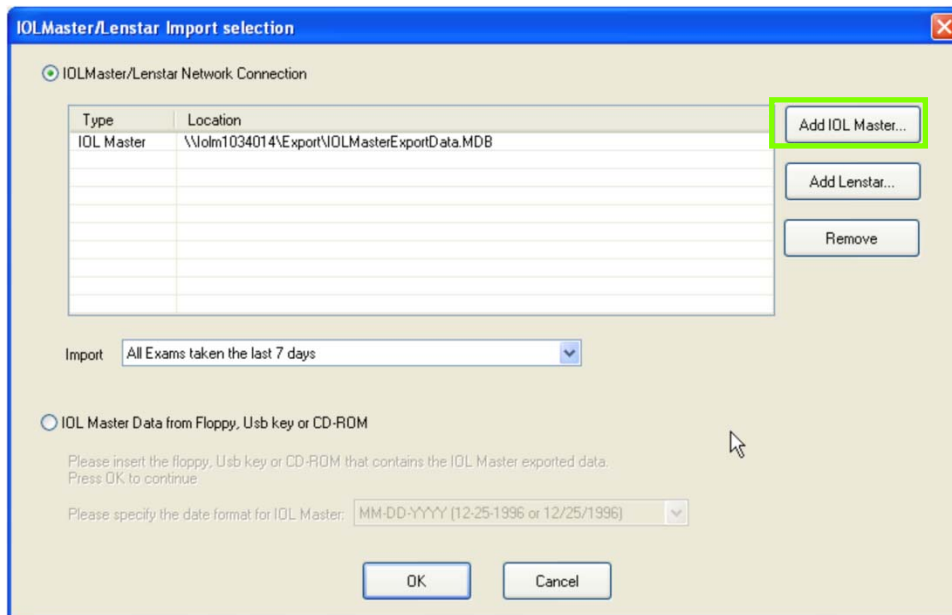


The **IOLMaster/Lenstar Import selection** screen will appear as shown below. Check the radio button for **IOLMaster Network Connection**. Note that in this example there is already an IOLMaster that has been added to the Holladay II program. We will now demonstrate how to add a new one:

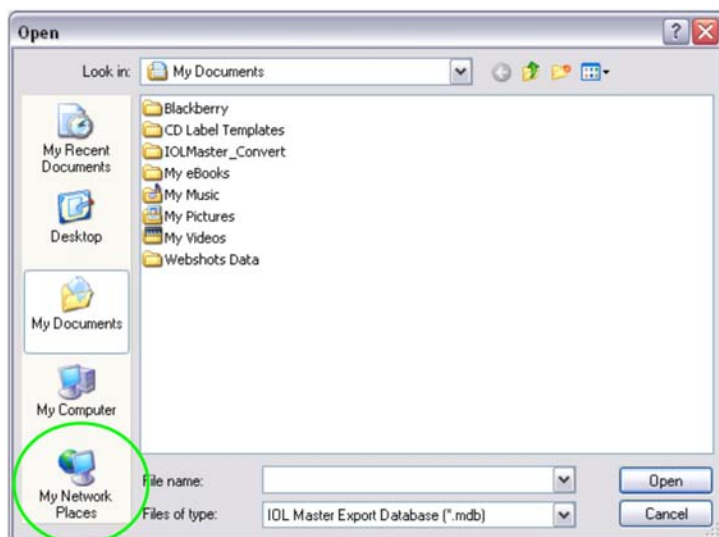




With the **IOLMaster/Lenstar Network Connection** radio button checked, click on **Add IOLMaster**:



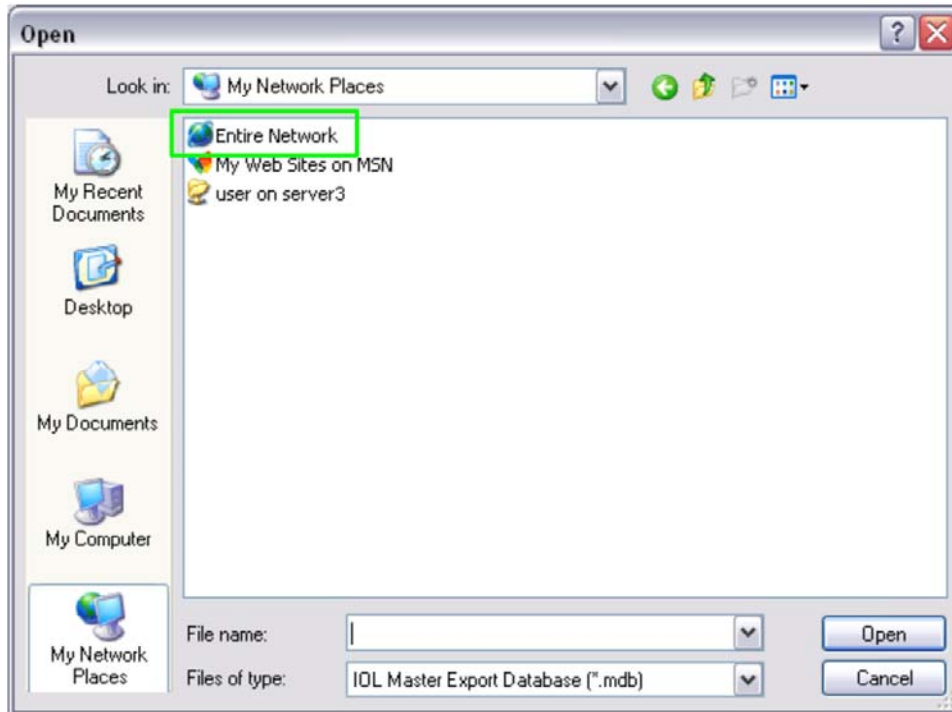
A Windows file explorer will open. Click on **My Network Places**:



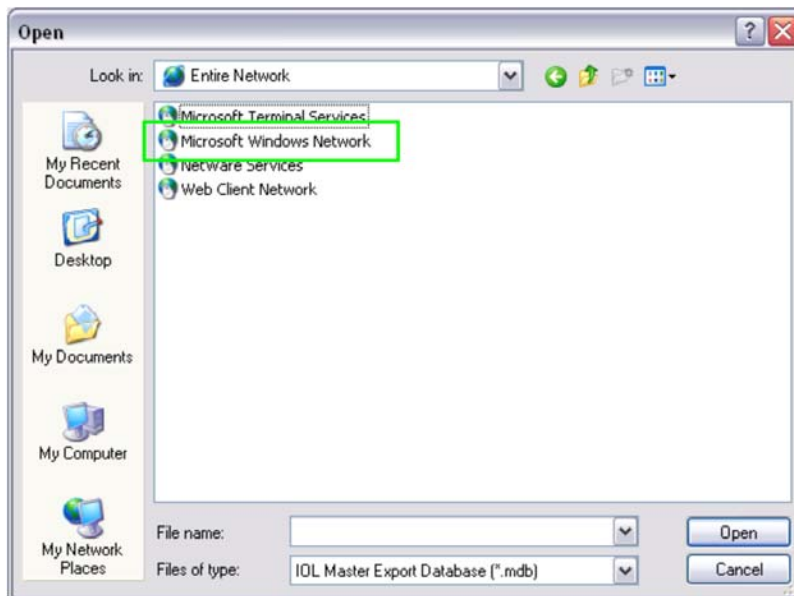




Double click on **Entire Network**:

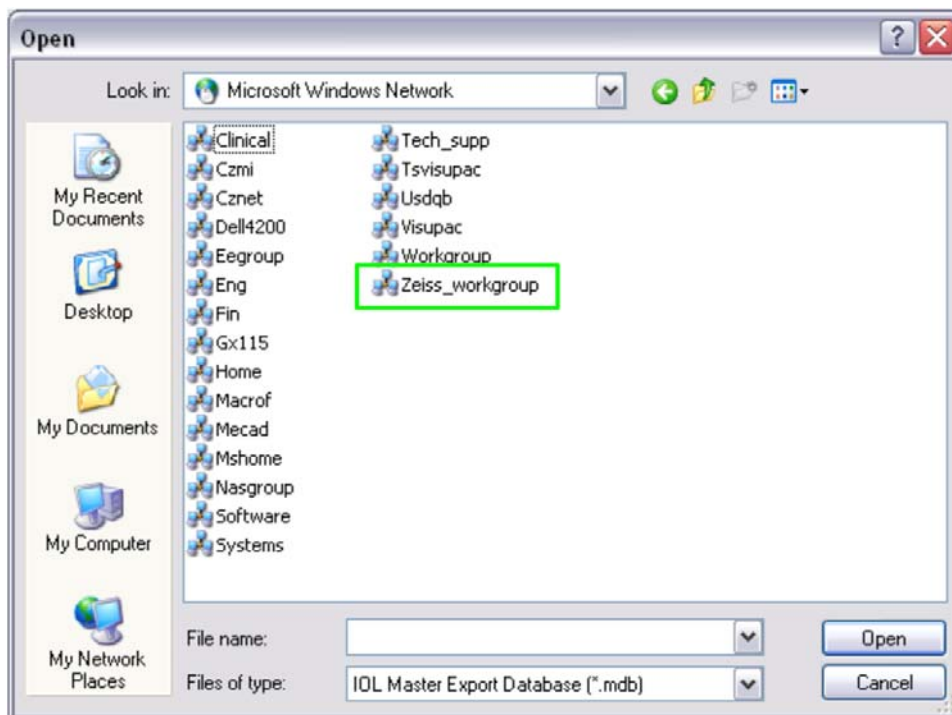


Double click on **Microsoft Windows Network**:

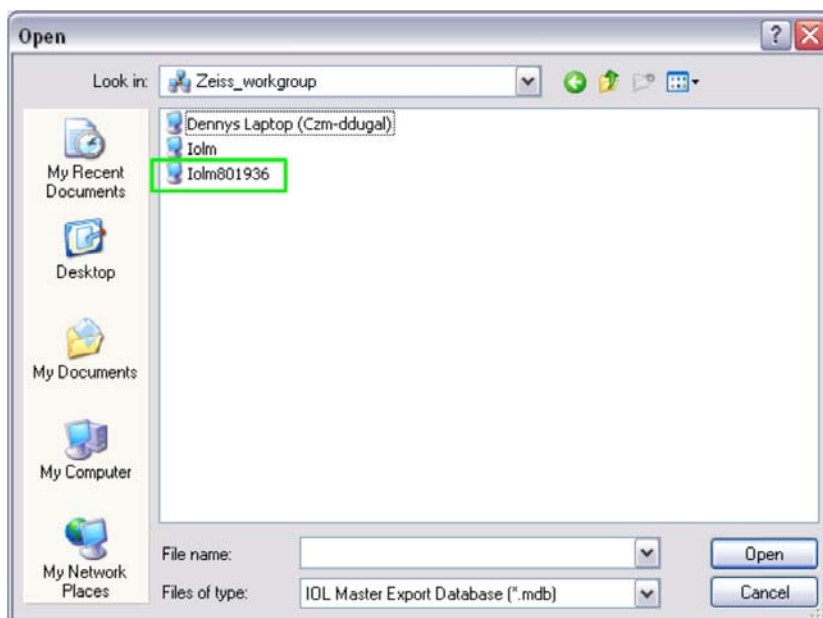




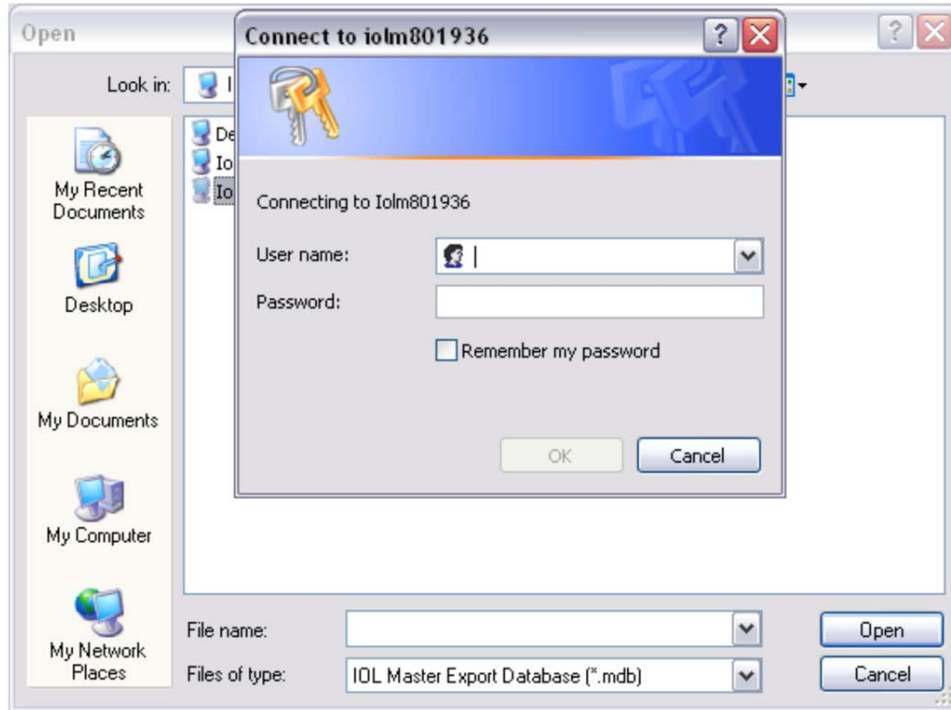
Double Click on Zeiss\_workgroup:



Any and all computers which are attached to the "Zeiss\_Workgroup" will be displayed. Double click on the IOLMaster where the desired database is located:



If this is the first time you are trying to connect to this IOLMaster, the "Connect to iolmXXXXXX," where XXXXXX is the serial number of the desired IOLMaster dialogue box will open. You must enter the correct User Name and Password in order to connect to the database:



In the **User Name** dialogue box, type **IOLMaster** EXACTLY as shown:

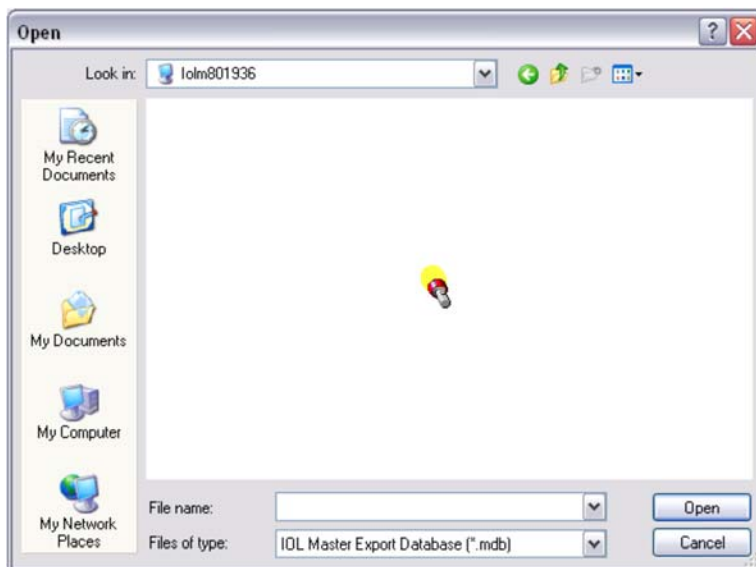




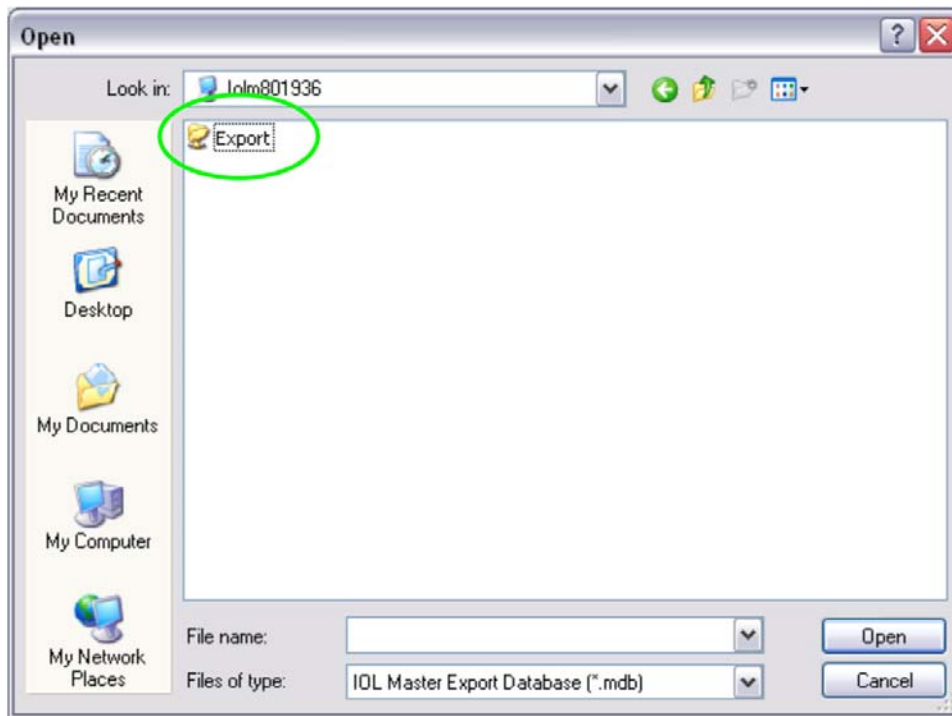
In the **Password** dialogue box, type ***Iolm\_XP*** EXACTLY as presented here. The actual password you entered will appear as dots, so be very careful as you type:



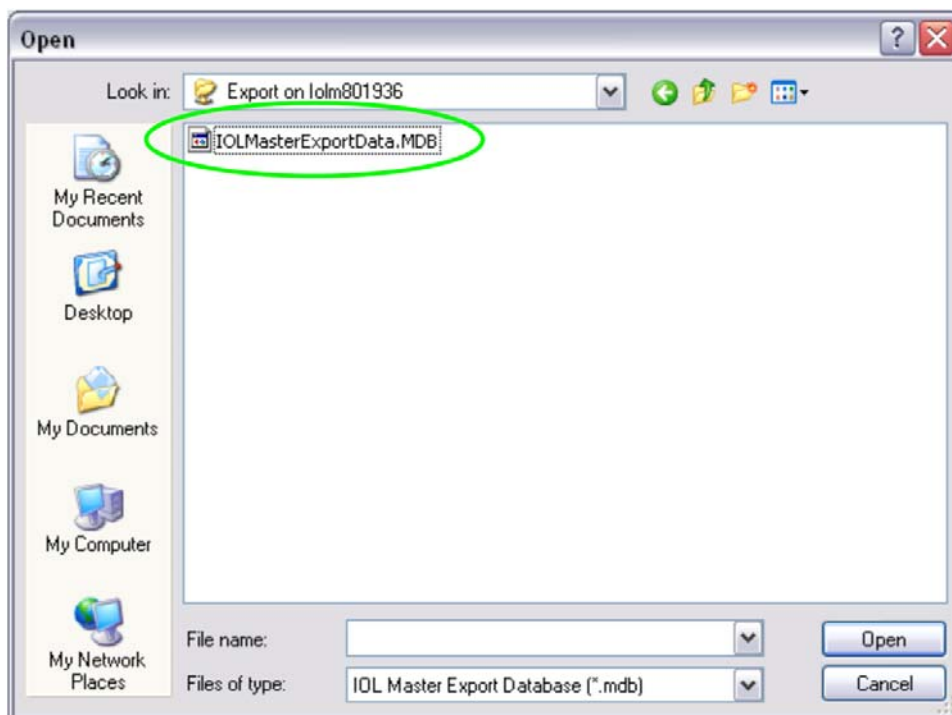
If you have entered the User Name and Password correctly, the software will now search for shared folders on the selected IOLMaster:



Here we see that the program found a shared folder called "Export." This is the default folder for the IOLMaster export database. Double click on the **Export** folder:



The **IOLMasterExportData.MDB** is the export database that we wish to import the patient files from. Double click on this file:





The program will return to the **IOLMaster/Lenstar Import selection window**, and the added IOLMaster will appear in the listing:

Type	Location
IOL Master	\\Volm1034014\Export\IOLMasterExportData.MDB
IOL Master	\\Volm801936\Export\IOLMasterExportData.MDB

Import: All Exams (This may take a long time)

☐ IOL Master Data from Floppy, Usb key or CD-ROM

Please insert the floppy, Usb key or CD-ROM that contains the IOL Master exported data. Press OK to continue

Please specify the date format for IOL Master: MM-DD-YYYY (12-25-1996 or 12/25/1996)

OK Cancel

Highlight the IOLMaster you wish to import patients from, and also select which exams you wish to import from the drop-down menu:

Type	Location
IOL Master	\\Volm1034014\Export\IOLMasterExportData.MDB
IOL Master	\\Volm801936\Export\IOLMasterExportData.MDB

Import: All Exams taken the last 7 days

☐ IOL Master Data from Floppy, Usb key or CD-ROM

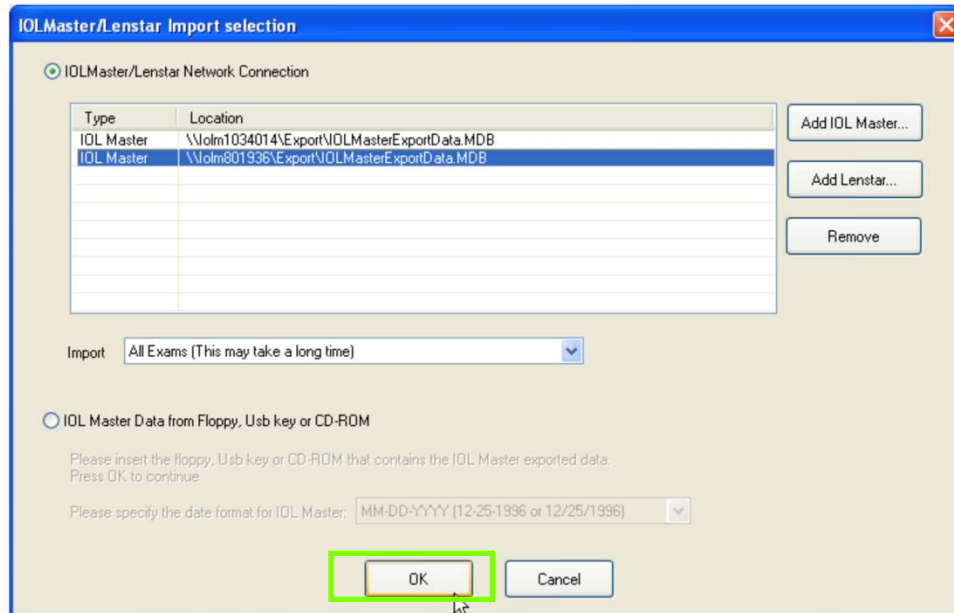
Please insert the floppy, Usb key or CD-ROM that contains the IOL Master exported data. Press OK to continue

Please specify the date format for IOL Master: MM-DD-YYYY (12-25-1996 or 12/25/1996)

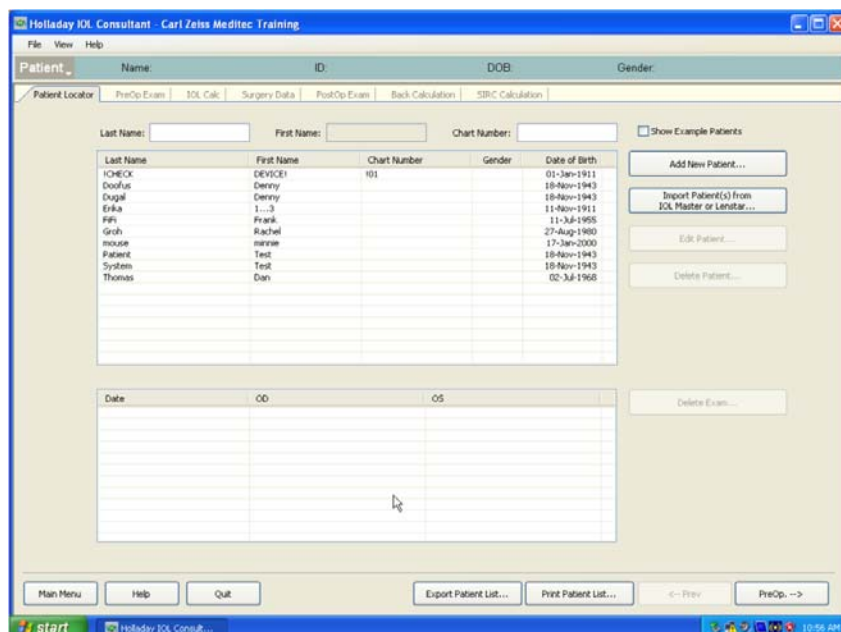
OK Cancel



Click on **OK**:



Depending on the number of patients the system has to import, several minutes might go by while the patients are being imported from the selected IOLMaster. After the import has been completed, the system will return to the patient selection menu:





This process assumes that the customer has connected both the computer with the Holladay IOL Consultant software AND the IOLMaster 500 to their network, and that the network is a DHCP configured network.

If the network settings are different, a CZMI Field Engineer will have to grant access to the configuration of the IOLMaster 500 network connection.

This procedure has been presented for informational purposes only. CZMI does not provide technical support for the Holladay IOL Consultant software. For support of this product, please contact Dr. Holladay at **[www.docholladay.com](http://www.docholladay.com)**