Instruction Manual

XLComm

Data Acquisition Software
For XL Series Meters

(XL 15, 20, 25, 30, 40, 50 and 60 meters)

Fisher Scientific

ISO 9001 CERTIFIED

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Preface

This manual serves to explain the use of the XLComm Acquisition Software. The manual functions in two ways, firstly as a step by step guide to help the user work with software application. Secondly, it serves as a handy reference guide. It assumes that the user is familiar with setting up, calibrating & measuring with XLComm series meter. It is structured sequentially with illustration of active software screens and diagrams that explains the various functions and menus available.

This manual is written to cover as many anticipated applications and uses of the XLComm software. If there are doubts in the use of the software, please do not hesitate to contact Technical Support at 1-888-358-4706 for assistance.

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1. Getting Started

1.1 Overview

The **XLComm data acquisition software** is a Windows® based add-on application to **XL** series meters. It enables you to extend the use of XL meter by seamlessly integrating the meter to a personal computer and provides collaboration features for multi-user environment.

Key features of XLComm:

- User friendly interface to extend the XL features
- Easy synchronization of data between XL meter & XLComm
- Unlimited number of data logging (depending on hard disk capacity)
- Project base working environment lets users to organize their meter related activities
- Share standardization information among users and projects
- Provides extensive audit track of XLComm /XL user activities (accessible only for administrator)
- Keep records of electrode configuration and buffer configuration
- Provides graphical comparison of pH electrode properties
- User configurable reports
- Export data to Microsoft® Excel
- Report printing

1.2 Installing PC Communication Software

To install the PC Communication software:

1. Insert the *PC Communication software* installation CD into the CDROM drive of your PC. The installation wizard should automatically start a shown in Figure 1 & Figure 2 :.

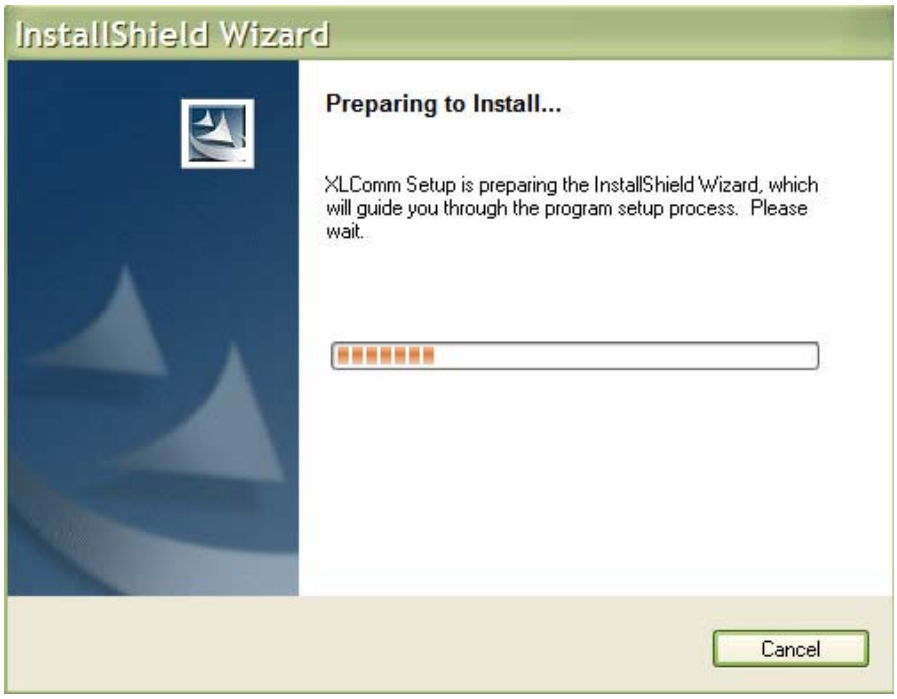


Figure 1 : Preparing to install

Figure 2 : Second screen of installation

2. In the second screen (Figure 2), click **Next** to continue.
3. You may optionally enter your name & your organization's name in the next screen (Figure 3). Click **Next** to continue.

Figure 3 : Customer information

4. By default, the program will be installed into '*C:/Program Files/ PC Communication/XLComm*' folder. Click **Install** to begin the installation.

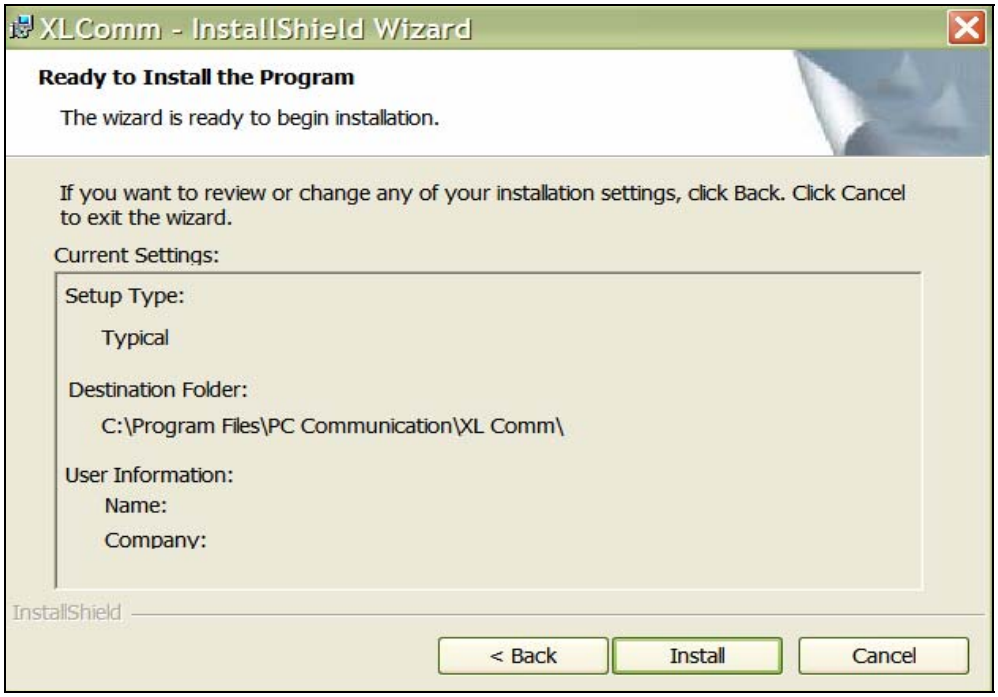


Figure 4 : Ready to begin installation

5. Once the installation successfully is completed, the following screen is shown. (Figure 5). Click **Finish** to exit the wizard.

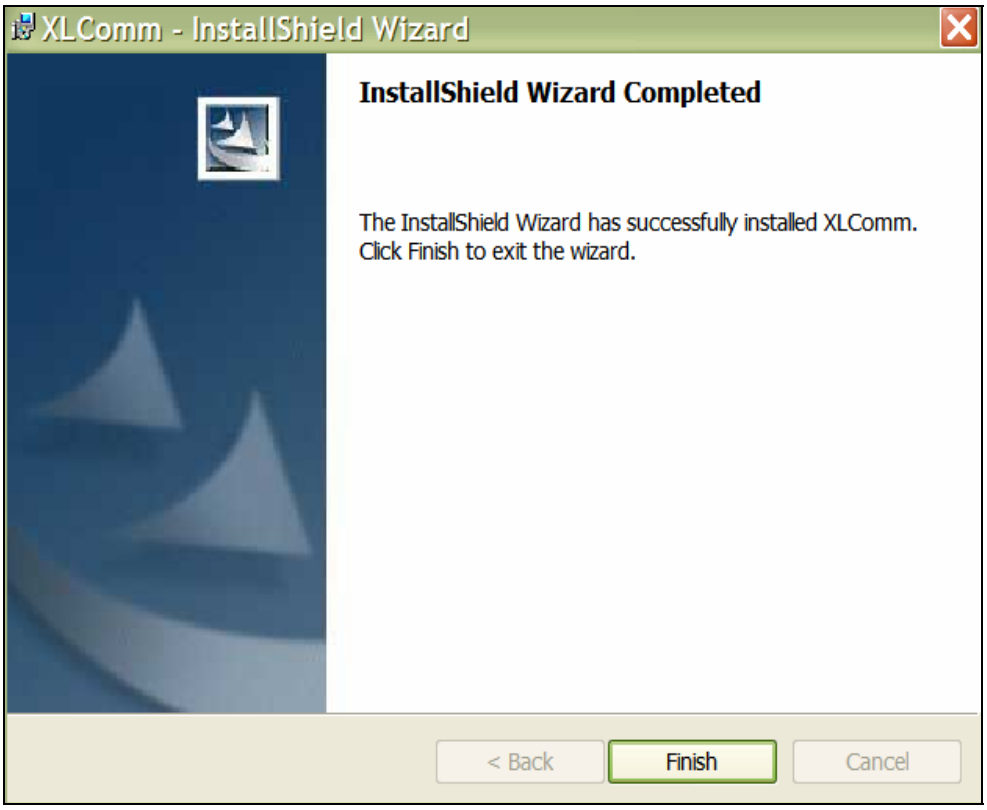


Figure 5 : Installation completed

6. The following icon will be available in your Desktop after the installation.

1.3 Connecting to XL Series Meter

The XLComm Data Acquisition software is able to communicate with any XL series meter (**XL15, 20, 25, 30, 40, 50 and 60 meters**) via RS232 serial port connection.

1.3.1 RS232 Serial Port Connection

1. Connect RS232 serial communication cable to RS232 port of the back panel of XL series meter.
2. Connect the other end of the cable to serial communication (COM) port of your PC. By default, XLComm tries to connect to COM1 port and fails to communicate with the meter if connected with other than COM1 port. If you use a serial communication port other than COM1, you need to specify it in XLComm configuration settings. Refer 'COM Port Configuration' in page 15.

> **Note:** If the user selects COM1 port and runs ActiveSync, the XLComm displays **'Failed, the port may be in use'**. You will need to free the COM1 port from ActiveSync before using it for XLComm. To resolve this problem, refer 'Trouble Shooting- Conflict with Active Sync' on page 60.

1.3.2 Prepare the Meter for Communication

1. Make sure the required pH, DO, Conductivity probes are connected to the back panel of the XL series meter. (Refer the instruction manual of the meter for more details)
2. Power on the meter. The **XL** application starts automatically.
3. Tap **Logoff** button to exit form **XL** application.

> **Note:** The meter cannot be connected to the XLComm software when the XL application is running. You need to exit the XL application before you can start communicating with XLComm.

4. Start **ADCServer**. Double-tap on '**ADCServer**' icon available in the Desktop of the meter. The ADC Server application window appears. (Figure 6)

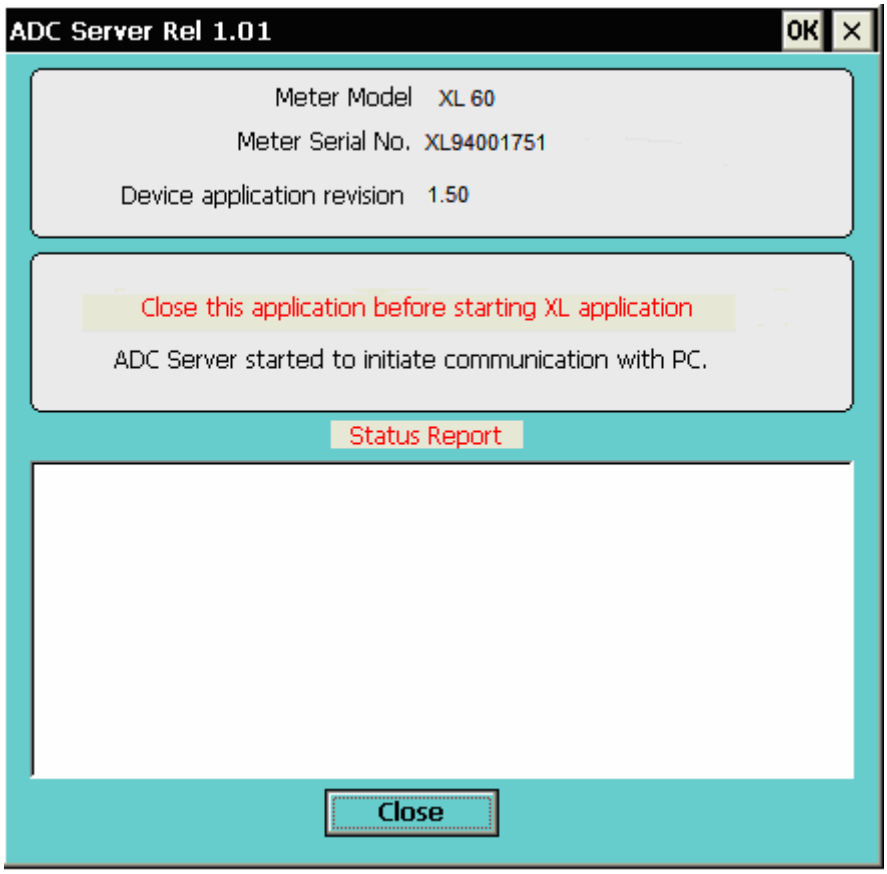


Figure 6 : ADC Server application window

Notes:

- The ADC Server is the communication interface between the meter and the XLComm software. Therefore, you need to run ADC Server before you can start communicating with the XLComm.
- **Do not close the ADC Server** while the meter is communicating with XLComm software.

1.4 Launching XLComm

1. Make sure the ADC Server is running in the meter.
2. Double-click on **XLComm** icon on the Desktop of your PC. The XLComm splash screen appears for few seconds and then the application starts.
3. In the meter, the ADC Server recognizes the XLComm connection and starts sending user information, hardware calibration & user database. The communication status information is shown in ADC Server window. (Figure 7)

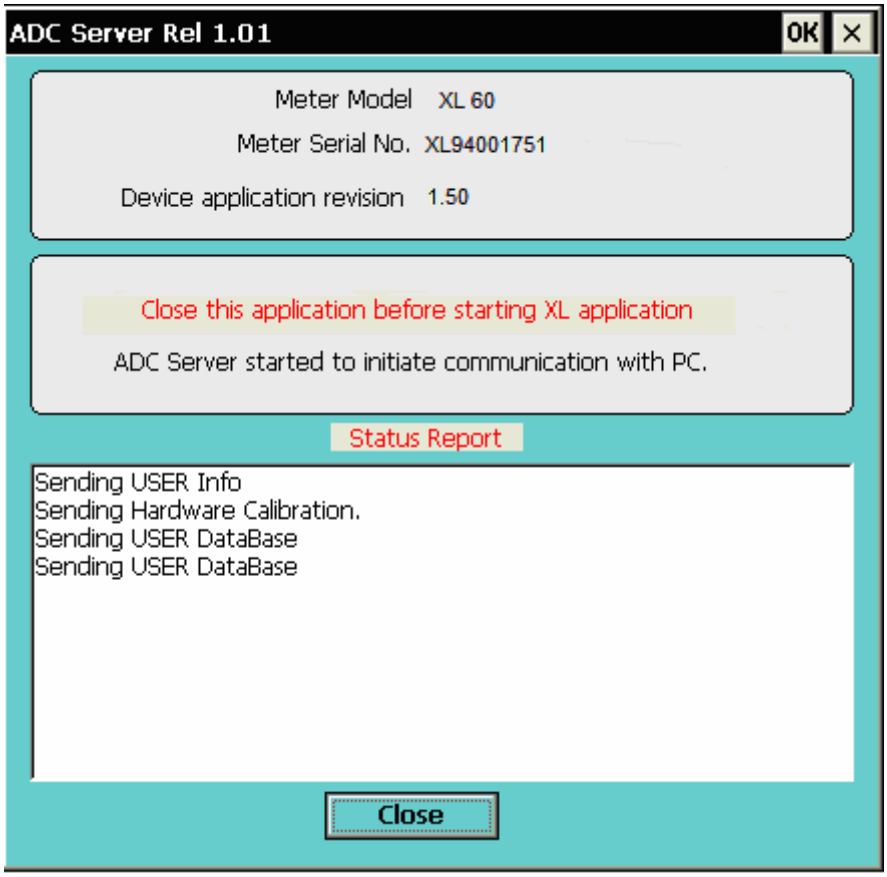


Figure 7 : ADC Server sending information

5. XLComm establishes connection with the meter and synchronizes basic information (user information, hardware calibration & user databases) with the meter. (Figure 8)

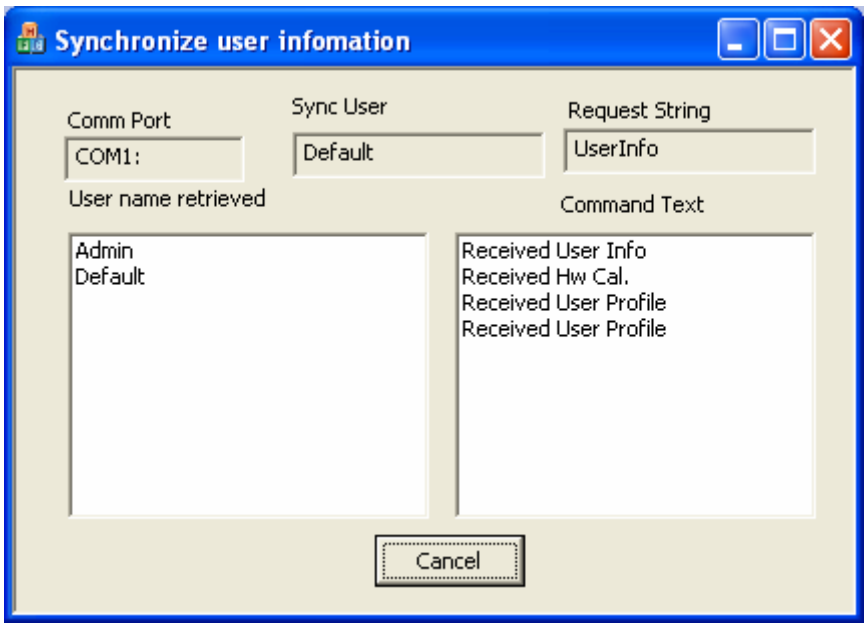


Figure 8 : XLComm synchronizes with meter

6. Once the synchronization is completed, the **User Login** screen appears. (Figure 9) XLComm accepts all user IDs & passwords configured in the meter. The user IDs available in the meter are listed in the **User ID** drop-down box. You can proceed with the 'Default' user or select a specific user ID and enter password. Click **Login** button to proceed

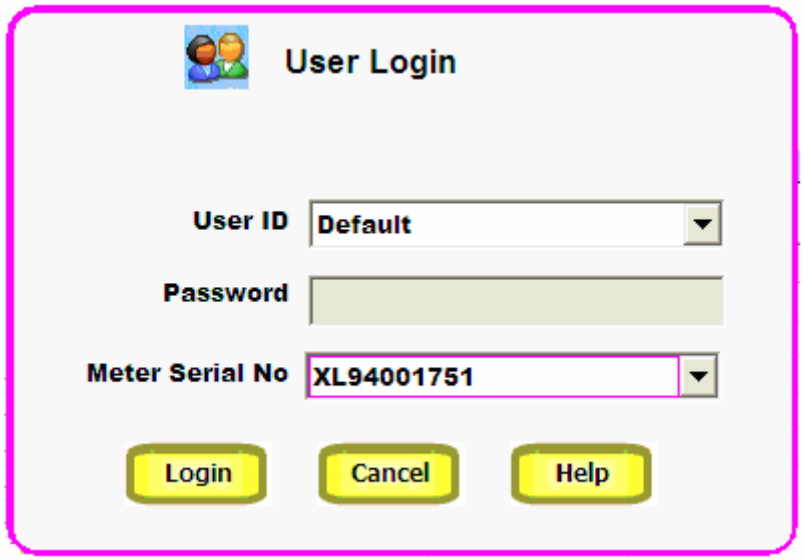


Figure 9 : User Login

Note: If a user enters an invalid password for a particular user ID for three consecutive attempts, XLComm will 'Lock' the user profile and the user will no longer be able to login to the system using that particular user ID. This is a security feature. Only the 'Admin' user is able to unlock such locked users. Refer 'Unlocking Users' in page 58.

7. XLComm goes to measurement mode in 'Untitled' project for the selected user. (Figure 10). You are ready to work with the meter. You can proceed with measurement using the meter.

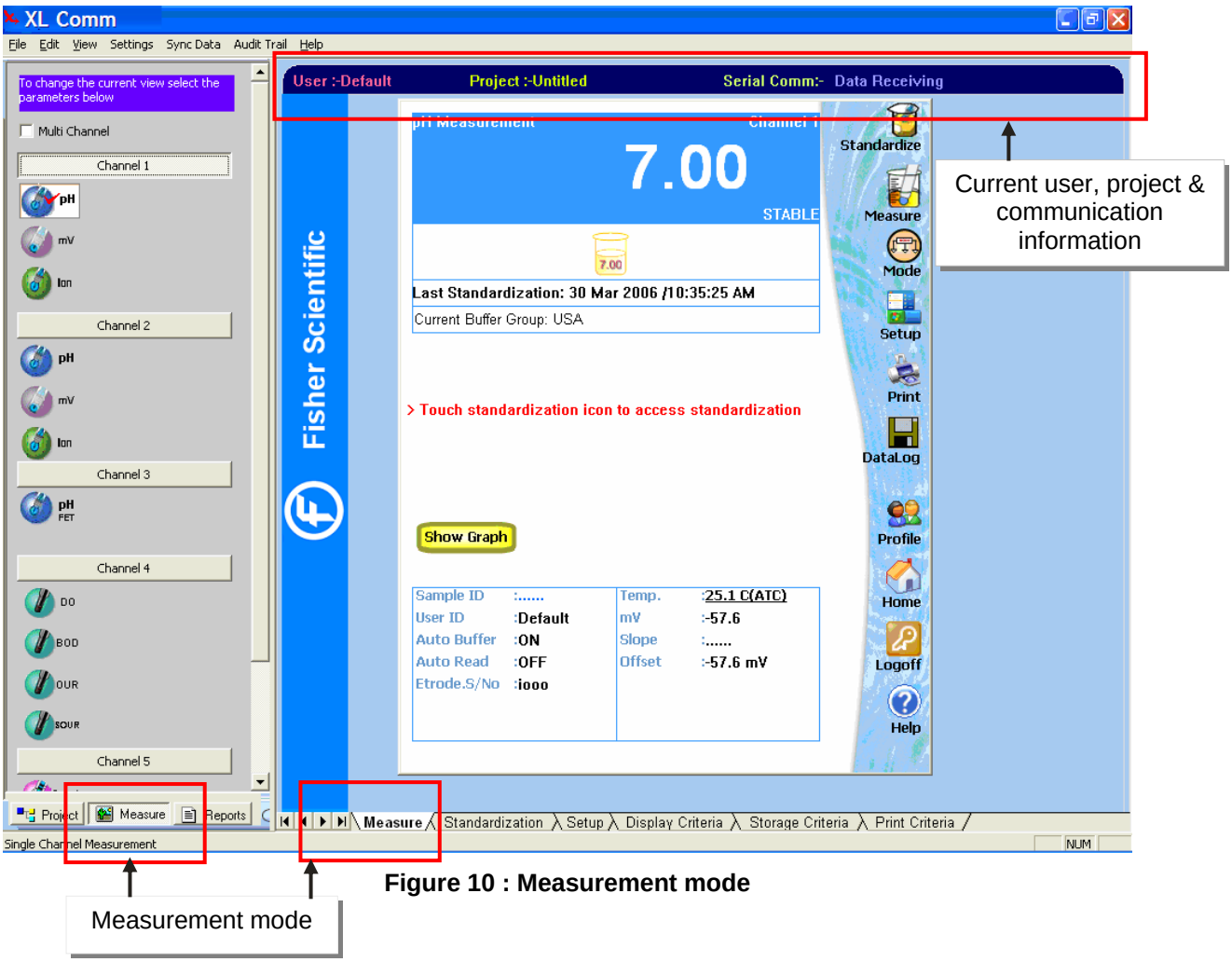


Figure 10 : Measurement mode

Note: All the activities you do with XLComm are bound to your user ID and project name.

You may perform any of the following activities:

- Create a new project (See page 18)
- Import setup data from the meter (See page 12)
- Import standardization (calibration) data from the meter (See page 12)
- Import logged data from the meter (See page 12)

1.5 Getting Familiar with XLComm

1.5.1 Overview

The user interface of XLComm has the following main sections.

- Menu bar
- Control tabs
- Workspace

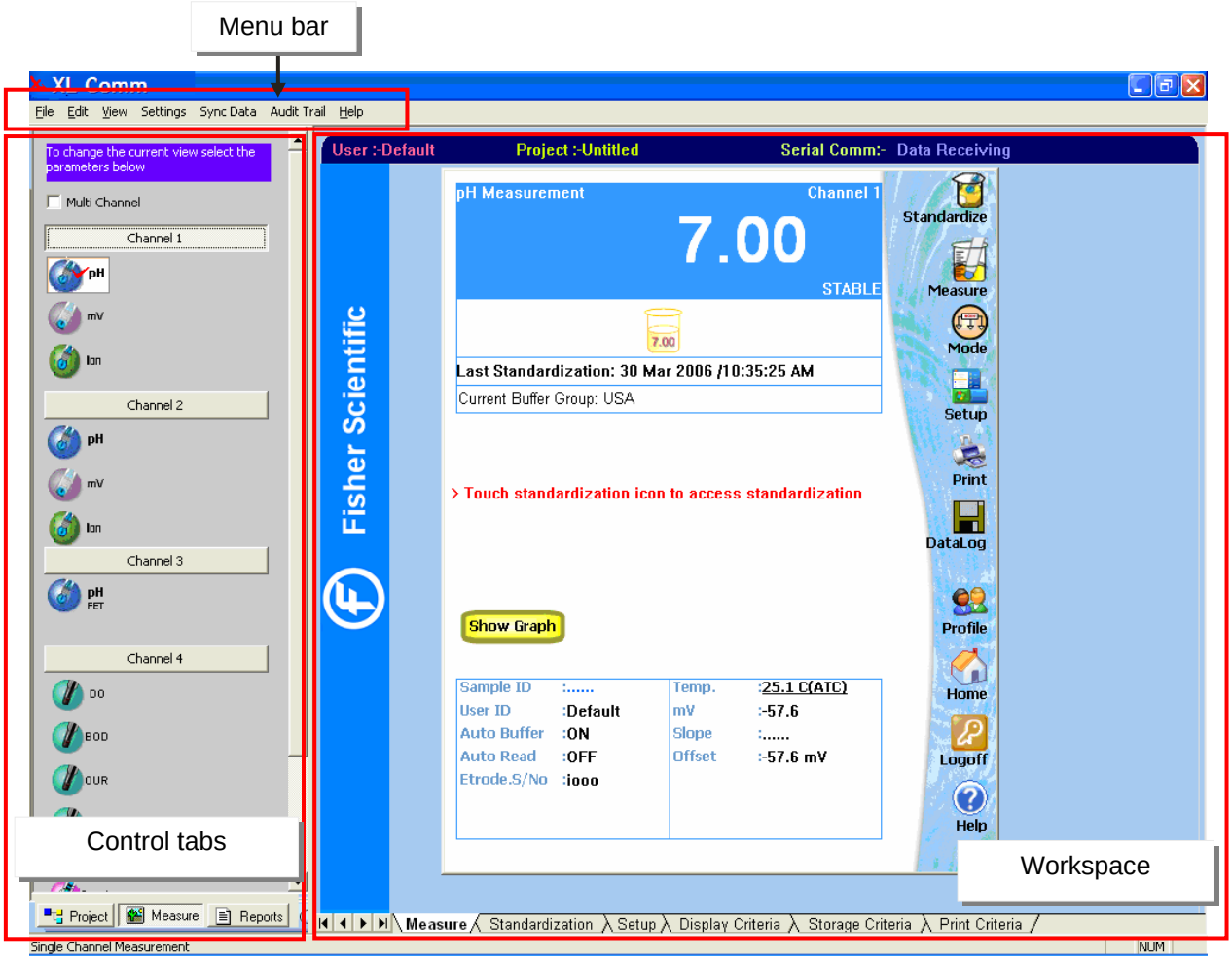


Figure 11 : Menu bar, Control tabs & Workspace

1.5.2 Menu bar

Menu bar has menus and sub-menus to perform common tasks

1.5.3 Control tabs

Control tabs consist of three tabs:

Project: Project related activities are carried out in this tab. Read more about projects (page 18)

Measure: Meter related activities are carried out in this tab. You can select multiple channels and measuring parameters form the left-pane. The right-pane (workspace) displays 6 tabs (Measure, Standardization, Setup, Display

Criteria, Storage Criteria and Print Criteria) for the selected channel (or channels) and a parameters. The functions and features available in your XL series meter are accessible from the measure tab.

Report: This tab provide access to various reports, graphs, view stored data & printing reports

1.5.4 Workspace

Workspace is the main display and working area of the XLComm. What is displayed in workspace depends on the selections in the control tab.

1.6 Synchronizing Data

XLComm allows you to synchronize data between the PC & the XL series meter. This involves **import** (from meter to XLComm) & **export** (from XLComm to meter)

1.6.1 Data Import

The following data can be transferred from the meter to XLComm.

- User information & hardware calibration (Automatically synchronized each time the meter is connected to XLComm)
- Setup data
- Standardization data
- Logged data

User information & hardware calibration data are synchronized automatically each time the meter is connected to XLComm. However, setup, standardization & logged data of the meter have to be synchronized with user intervention as described below.

To import Device Data:

1. Click on **Project** button to switch to Project tab.
2. In the menu bar, click **Sync Data** and then click on any of the following sub menus :
   - Import Setup Data
   - Import STD Data, or
   - Import Logged Data
3. **Sync Device Data** dialog appears (Figure 12). Click **Start Synchronization**. The progress bar shows the status of data synchronization.

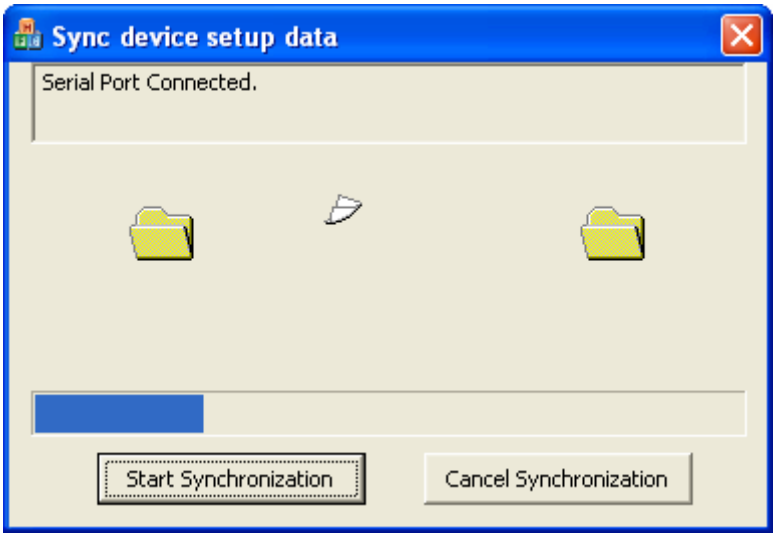


Figure 12 : Synchronizing device data

4. When the synchronization (import) is completed, system creates a new project named '**DeviceJob**' and attaches the imported device data to that project. (Figure 13). If there is 'DeviceJob' already available in the project list, then the imported data is automatically copied to it.

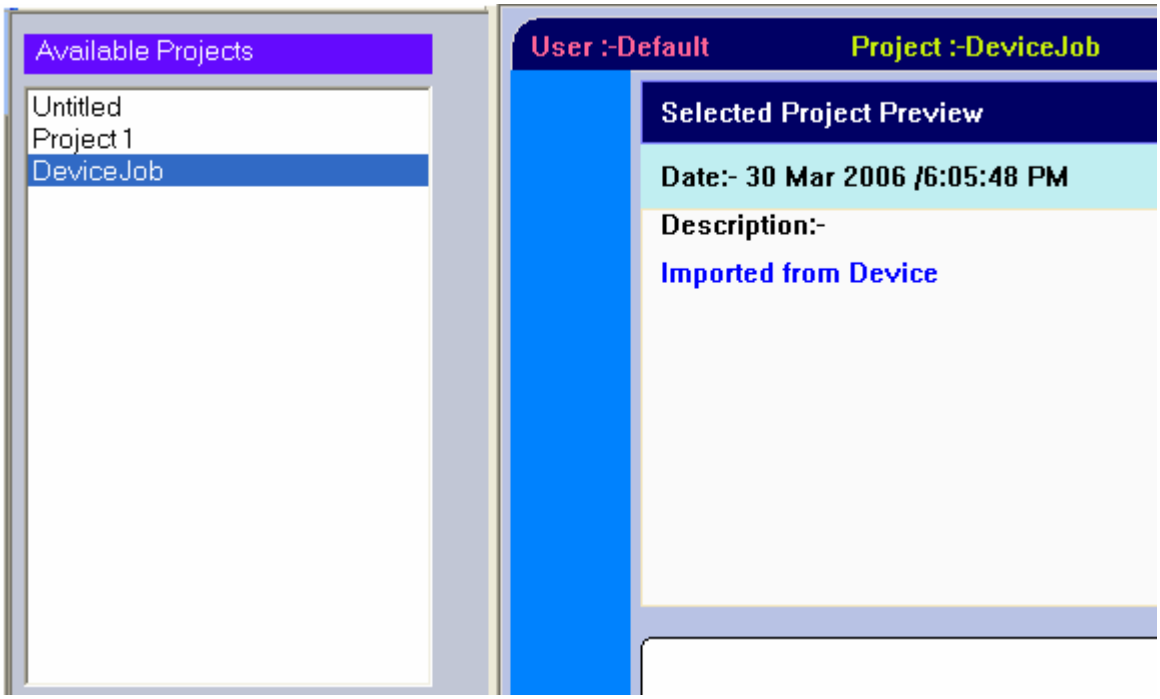


Figure 13 : DeviceJob

5. Repeat step 2 & 3 selecting rest of the two sub menus to import all the device data.

> **Note:** The imported **standardization data** is available for other projects you may create for the same XL meter. Other users who use the same XL meter can access the standardization data you imported from the meter. Thus, users do not need to calibrate the meter for each project they create.

1.6.2 Data Export

The following data can be transferred from XLComm to the meter.

- Setup data
- Standardization data

When you export setup and standardization data, only the data of the current project is transferred to the meter.

To export data:

1. Click on **Project** button to switch to Project tab.
2. In the menu bar, click **Sync Data** and then click on any of the following sub menus :
   - Export Setup Data, or
   - Export STD Data
3. **Sync Device Data** dialog appears (Figure 14). Click **Start Synchronization**. The progress bar shows the status of data synchronization.

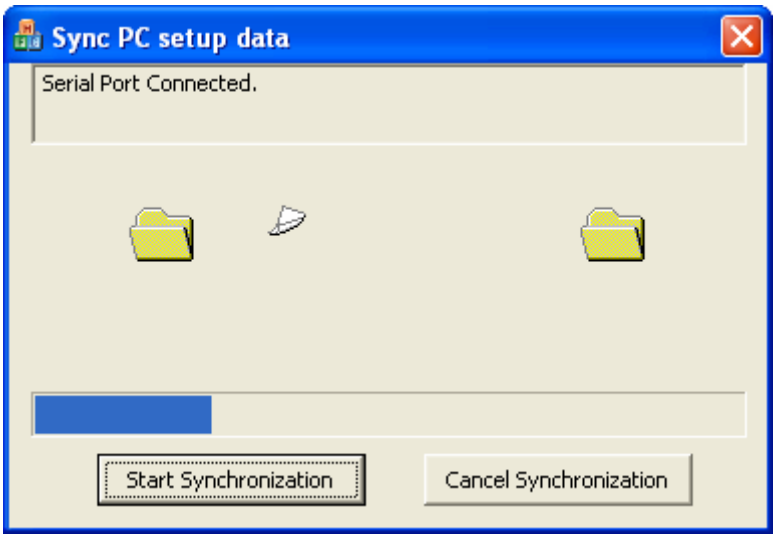


Figure 14 : Synchronizing XLComm data

4. When the data export is competed, the dialog box closes automatically and the selected data (setup or standardization) of the current project copied to the meter, replacing previously stored data of the meter (if any).

1.7 System Settings

1.7.1 Time Stamp

Time stamps are used in audit logs, data logs and standardization records. By default, XLComm uses the system date/time of the PC (host computer) for all time stamps. You can change this setting if you wish to use date/time of the device (XL meter) for all time stamps of XLComm.

To change:

1. On the menu bar, click **Settings** menu and then click **System Setting** sub menu. The System Setup dialog appears (Figure 15).
2. In **Time stamp source** group, select the required option.

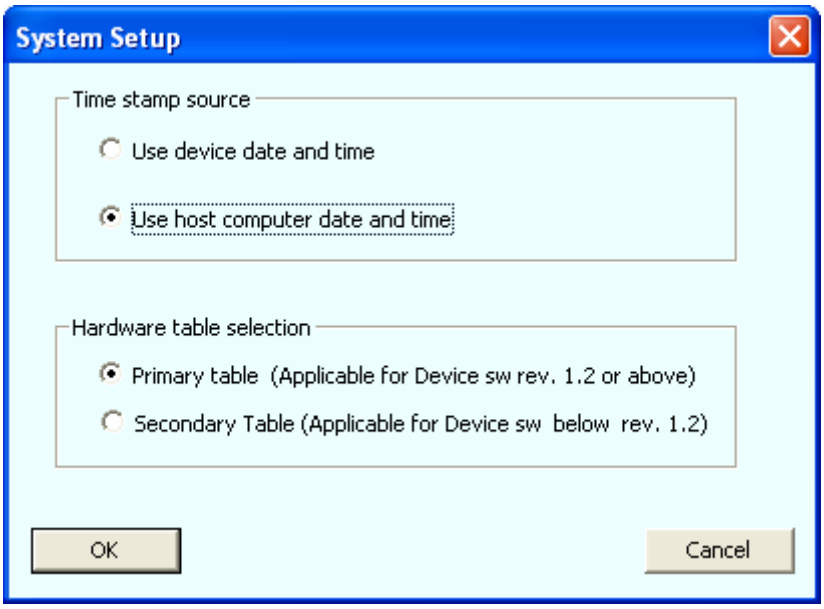


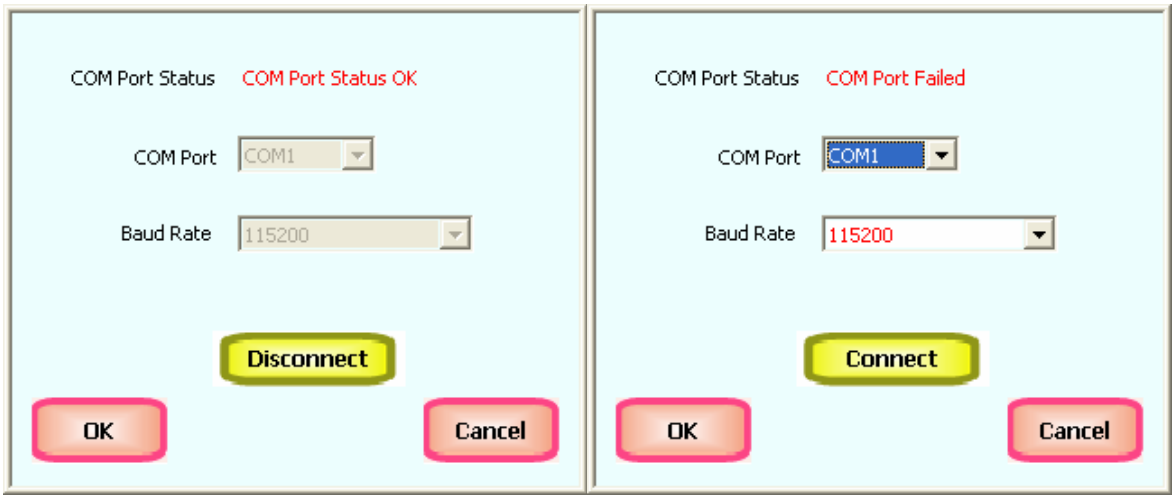
Figure 15 : System Setup

1.7.2 COM Port Configuration

XLComm communicates with XL meter through serial communication port of the PC. By default, XLComm tries to connect to COM1 port at a baud rate of 115200 bits per second. If you connect XL meter to your PC using a communication port other than COM1, XLComm fails to communicate with the meter. To rectify this, you need to specify the correct COM port in XLComm.

To change COM port configuration:

1. On the menu bar, click **Settings** menu and then click **COM Port configuration** sub menu. The following dialog appears. (Figure 16). Selected COM port and baud rate are shown in the dialog box.



(a) **(b)**

Figure 16 : COM Port Configuration

- If XLComm is already connected to the selected COM port, the 'COM Port Status' field shows '*COM Port is OK*' and the two drop-down boxes are read-only. [Figure 16 (a)]. To change COM port configuration, click **Disconnect** button.
- If the XLComm is not connected to the selected COM port, the 'COM Port Status' field shows '*COM Port Failed*'. [Figure 16 (b)]

2. Select the correct COM port from the **COM Port** drop-down box.
3. Click **Connect** button to connect to the selected COM port.

Note: If you are using a USB-to-Serial conversion cable to connect the meter to USB port of the PC, you may need to check the **Device Manager** of your PC to see what the exact port number is.

Right-click on **My Computer** icon. Click on **Properties** pop-up menu to open System Properties. Click **Hardware** tab and then click **Device Manager**. See the applicable COM port name under 'Ports (COM & LPT) as shown in Figure 17.

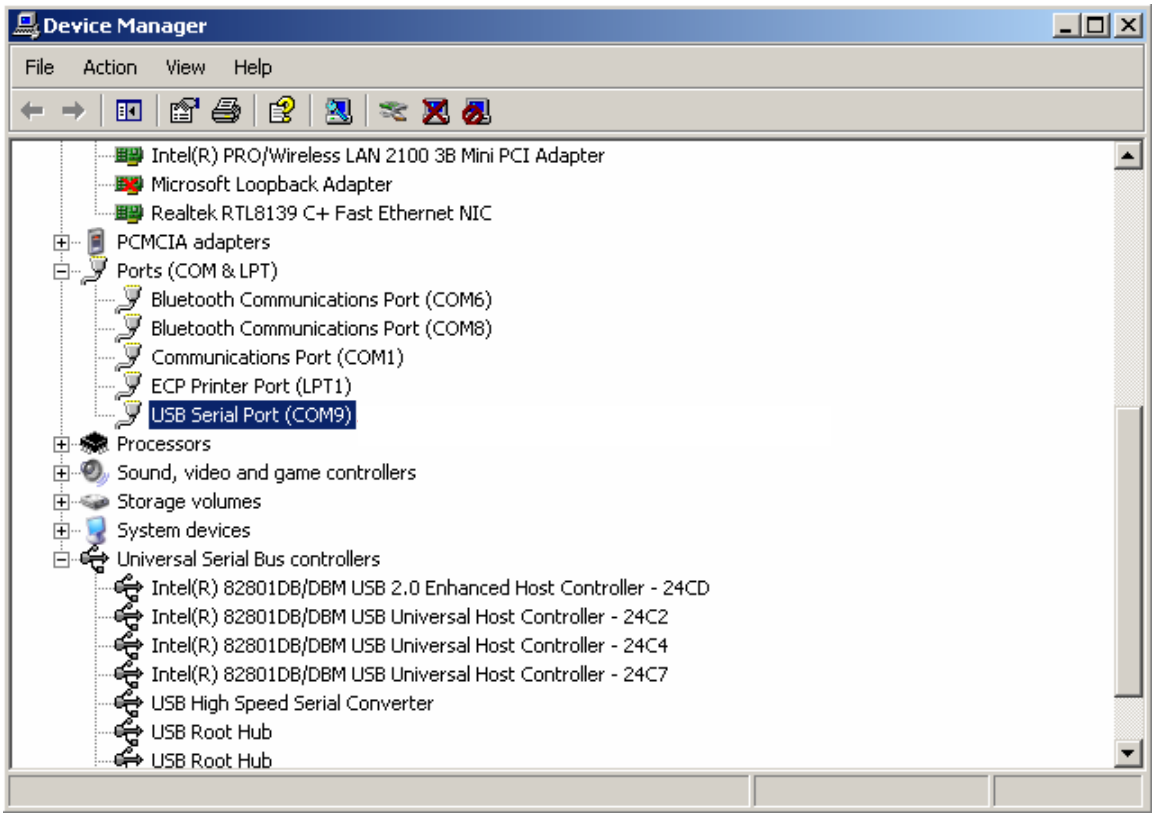


Figure 17 : Device Manger

2. Projects

2.1 Overview

XLComm is a project based application. What ever activities you do with XLComm is bound to a project. When XLComm starts working with a XL meter for the first time, it begins with a default project called 'Untitled'. You can proceed with the 'Untitled' project or you can create new projects of your own. Figure 18 shows relationship between a XL meter, user profile &
projects.

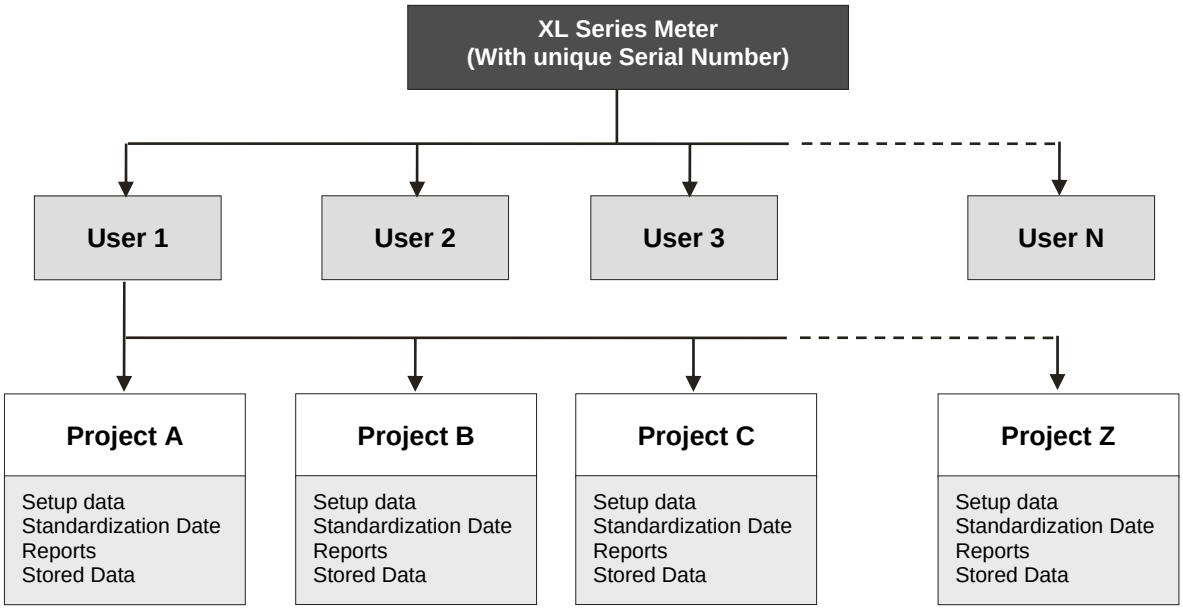


Figure 18 : Meter-User-Project hierarchy

A particular XL meter can have multiple users working with it. Each user can have his-own projects. Each project has a separate database to store its setup, standardization, reports and stored data which cannot be accessed by other uses.

Notes:

- Users have access to standardization (calibration) information of other users of the same meter. This allows sharing the same meter with multiple users without having to calibrate individually.
- Also, a particular user can share standardization data between his own projects

DeviceJob

DeviceJob is a special project created by the system when you import device data from the meter.

2.2 Adding a New Project

To add a new project:

1. Click 

button to switch to Project control tab. The available projects and project related buttons are displayed in the Project tab (Figure 19)
2. Click **Add New Project**. New project dialog box appears.
3. Specify **Project Name** of your choice (mandatory) & **Description** (optional). System automatically adds the system date/time and your user ID. (Figure 20)
4. Click **OK**.
5. The new project is added to **Available Projects** list.

Figure 19 : Project Tab

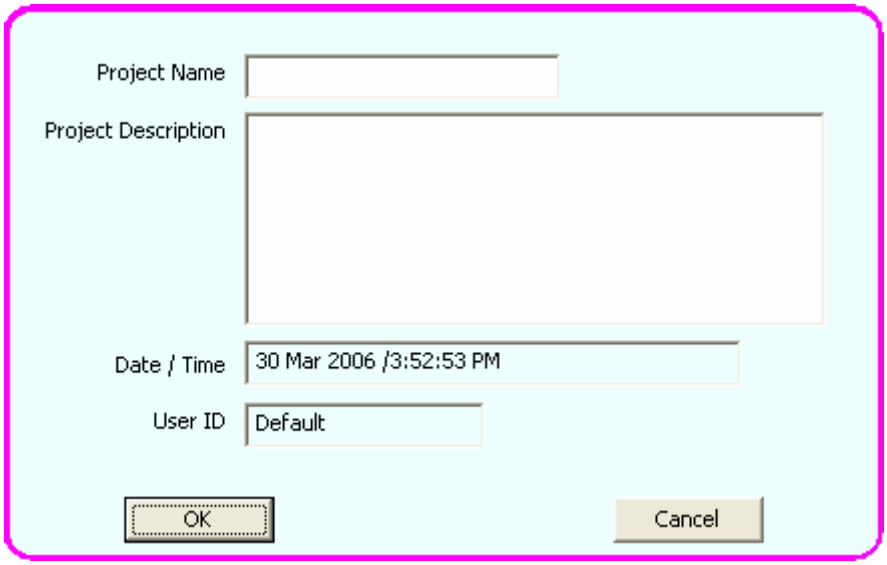


Figure 20 : Adding a New Project

2.3 Loading a Project

When you select an existing project from the **Available Projects** list, the upper area of the workspace shows the **Project Preview** which includes project description and date created. However, the project data are not loaded to the workspace. Before you can work with a project, you need to load it to the workspace.

To load a project:

1. Select the project from the **Available Projects** list.
2. Click **Load Selected Project**. The project details are loaded into the lower area of the workspace. The title bar shows the name of the loaded project (Figure 21)

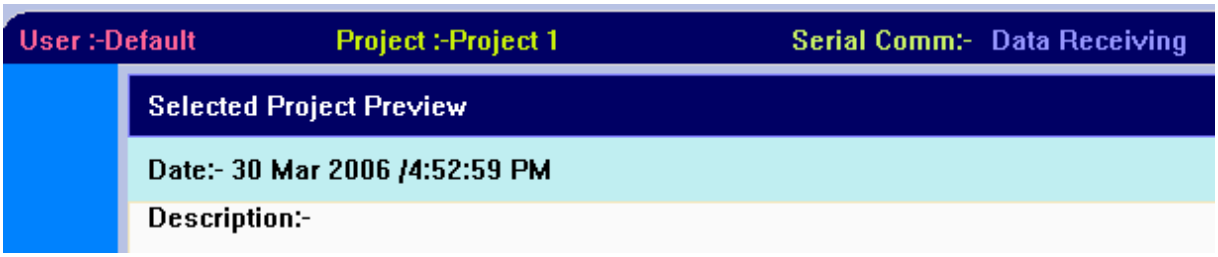


Figure 21: Title bar

2.4 Editing a Project

System allows you to edit the description of the project as long as it is not loaded into workspace.

To edit a project:

1. Make sure the project is not currently loaded in the workspace.

   Hint: If the project you wish to edit is currently loaded in the workspace, load another project.
2. Click **Edit Project**. Project properties dialog box appears. Only the description field is editable. Edit the description.
3. Click **OK**.

2.5 Deleting a Project

System allows you to delete a project as long as it is not loaded into workspace.

To delete a project:

1. Make sure the project is not currently loaded in the workspace.

   Hint: If the project you wish to edit is currently loaded in the workspace, load another project.
2. Click **Delete Project**. System shows a confirmation message.
3. Click **Yes**. The Project is permanently deleted.

3. Standardization

3.1 About Standardization

It is recommended that you standardize XLComm before you make any measurements. XLComm provides you flexibility in Standardization. You can either perform a fresh standardization or import existing standardization data from the XL meter or re-use standardization data of other users who have already performed standardization in the XLComm. At any time, you can switch your standardization without losing the previous standardization data.

In XLComm, standardization is available when you are in single-channel mode.

> **Note:** If you wish to use existing standardization data of the meter, you need to import **standardization data** from the meter. You will see 'DeviceJob' under Projects tab once you synchronized data. See page 12 for more details on importing standardization data.

Available options in standardization:

- Select existing standardization data of the meter and proceed with measurement
- Select existing standardization data of XLComm and proceed with measurement
- New standardization using an existing electrode
- Temperature standardization

Additional options:

- Add a new electrode to the project
- Remove an existing electrode from the project
- Clear standardization from an electrode
- Compare electrode characteristics

3.2 Select existing standardization data of the meter for measurement

Follow the steps below, if you wish to use standardization data, available in the XL meter. Note that you need to synchronize standardization data of the meter or any other user has already synchronized standardization data with the meter, before you can use the data. See page 12 for more details on importing standardization data.

To begin:

1. Make sure **Multi-channel** check box is not selected in the **Measure** control tab.
2. Select the channel and its parameter that you intend to standardize.
3. Click **Setup** tab and set appropriate standardization options.
   - For pH standardization, click on **Setup** tab and select the Buffer Group.
   - For conductivity standardization, click on **Setup** tab and select appropriate Standard Recognition.
   - For DO standardization, click on **Setup** tab and select appropriate Standardization mode.
4. Click on **Standardization** tab in the workspace.
5. **Electrode Configuration Dialog** appears. (Figure 22)
6. in **User** drop-down box, select :
   - **You user ID**: if you have already synchronized standardization data with the meter and you wish to use that info
   - **Any other user ID**: if any other user has already synchronized standardization data with the meter and you wish to use that info.
7. The **Project Name** (Job Name) drop-down box lists all the available projects for the selected user. Select **DeviceJob** from the list
8. The **Electrode Serial No** drop-down box lists available electrode list for the selected project (in this case it is ‘DeviceElectrode’)
9. Select ‘DeviceElectrode’. **Existing Standardization** grid shows standardization data for the selected channel, selected parameter, for the selected standardization buffer/range and for the selected electrode. Depending on the selected channel/parameter, it also shows related information such as standardization date, slope, offset, buffer expiry date etc.

> **Note:** If the selected electrode of the project does not have a matching standardization data for the selected channel/parameter/buffer/range, the **Existing Standardization** grid does not show any data.

10. If you wish to use the standardization data shown in the grid for your measurement, click **Load Selected Standardization** button.
11. The Electrode Configuration Dialog exists. XLComm copies the selected electrode to the current project. The selected standardization data is loaded to the selected channel/parameter and the XLComm is ready for measurement using the selected standardization.

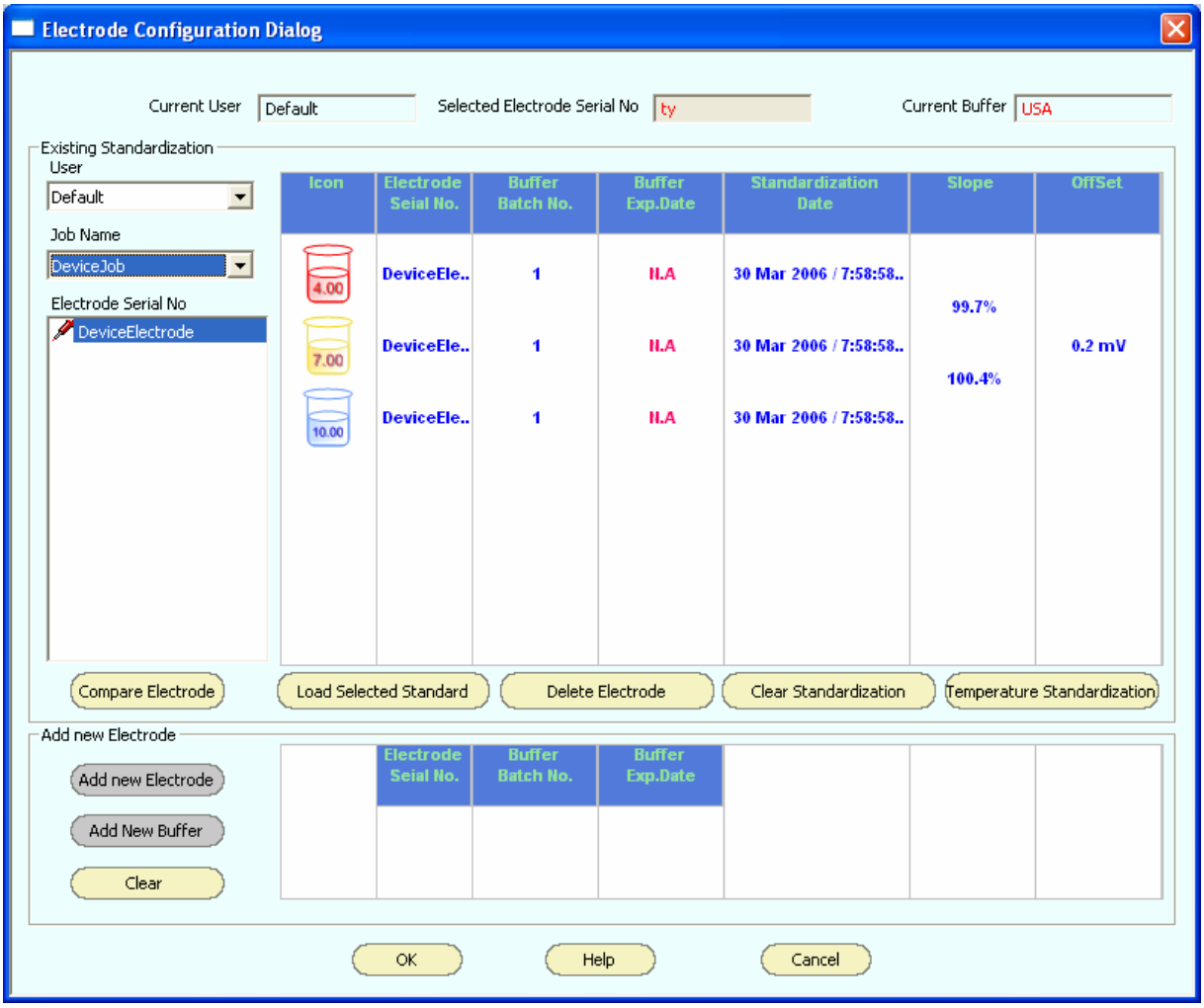


Figure 22 : Selecting standardization available in the meter

3.3 Select existing standardization data of XLComm for measurement

Follow the steps below, if you wish to use standardization data, available in the XLComm. This includes standardization done by you previously for the same meter and for the same channel/parameter or standardization done by other users for the same meter and same channel/parameter.

To begin:

1. Make sure **Multi-channel** check box is not selected in the **Measure** control tab.
2. Select the channel and its parameter that you intend to standardize.
3. Click **Setup** tab and set appropriate standardization options.
   - For pH standardization, click on **Setup** tab and select the Buffer Group.
   - For conductivity standardization, click on **Setup** tab and select appropriate Standard Recognition.
   - For DO standardization, click on **Setup** tab and select appropriate Standardization mode.
4. Click on **Standardization** tab in the workspace.
5. **Electrode Configuration Dialog** appears. (Figure 23)
6. in **User** drop-down box, select :
   - **You user ID**: if you have already performed standardization with this project or any other project and you wish to use that info
   - **Any other user ID**: if any other user has already performed standardization and you wish to use that info.
7. The **Project Name** (Job Name) drop-down box lists all the available projects for the selected user. Select required project from the list
8. The **Electrode Serial No** drop-down box lists available electrode list for the selected project.
9. Select required electrode'. **Existing Standardization** grid shows standardization data for the selected channel, selected parameter, for the selected standardization buffer/range and for the selected electrode. Depending on the selected channel/parameter, it also shows related information such as standardization date, slope, offset, buffer expiry date etc.

> **Note:** If the selected electrode of the project does not have a matching standardization data for the selected channel/parameter/buffer/range, the **Existing Standardization** grid does not show any data.

10. If you wish to use the standardization data shown in the grid for your measurement, click **Load Selected Standardization** button.
11. The Electrode Configuration Dialog exists. If you have selected standardization data from another project, XLComm copies the selected electrode to the current project. The selected standardization data is loaded to the selected channel/parameter and the XLpc is ready for measurement using the selected standardization.

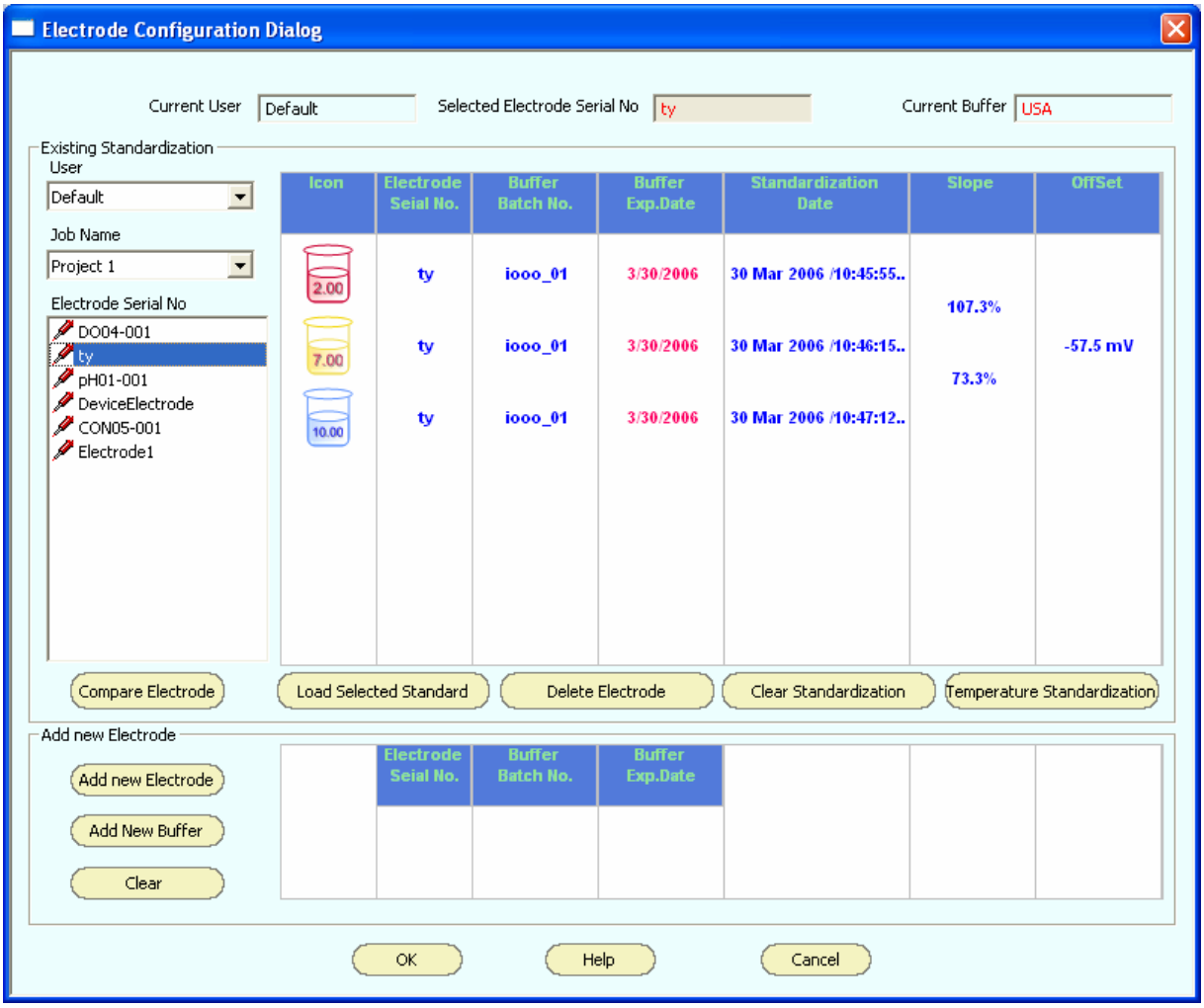


Figure 23 : Selecting existing standardization available in XLComm

3.4 New Standardization using an existing electrode

Follow the steps below, if you wish to perform a fresh standardization using an existing electrode. It is assumed that the electrode data has been already added to XLComm.

Prepare you standard buffer solutions in beakers. Make sure the electrode is attached to the meter and it is ready for standardization.

To begin:

1. Make sure **Multi-channel** check box is not selected in the **Measure** control tab.
2. Select the channel and its parameter that you intend to standardize.
3. Click **Setup** tab and set appropriate standardization options.
   - For pH standardization, click on **Setup** tab and select the Buffer Group.
   - For conductivity standardization, click on **Setup** tab and select appropriate Standard Recognition.
   - For DO standardization, click on **Setup** tab and select appropriate Standardization mode.
4. Click on **Standardization** tab in the workspace.
5. **Electrode Configuration Dialog** appears. (Figure 24)
6. Make sure your user name and your current project name are selected in **User** & **Project Name** (Job Name) drop-down box.
7. From **Electrode Serial No** drop-down box lists select the electrode you wish to use for standardization. (**Existing Standardization** grid shows standardization data for the selected channel, selected parameter, for the selected standardization buffer/range and for the selected electrode)

Note: If the selected electrode of the project does not have a matching standardization data for the selected channel/parameter/buffer/range, the **Existing Standardization** grid does not show any data.

Notes:

- You need to add buffer information to the system before you can use a new buffer for the standardization.
- You can add only one buffer at a time. Once standardization is completed, you need to come back to this screen if you wish to add a second buffer.

8. To add a new buffer, click **Add New Buffer** button. **Calibration standard solution info** screen appears. (Figure 25)
9. Enter **Batch No.** & **Expiry Date** of the buffer solution. This info will be used for identification purposes.

> **Note:** Optionally, you may select an existing batch number from the list, if you wish to re-use an exiting buffer.

10. Click **OK** to confirm the details of the new buffer. The added information is displayed in the lower grid until you proceed with standardization.
11. To proceed with standardization for the selected electrode using the new buffer, click **OK** button.

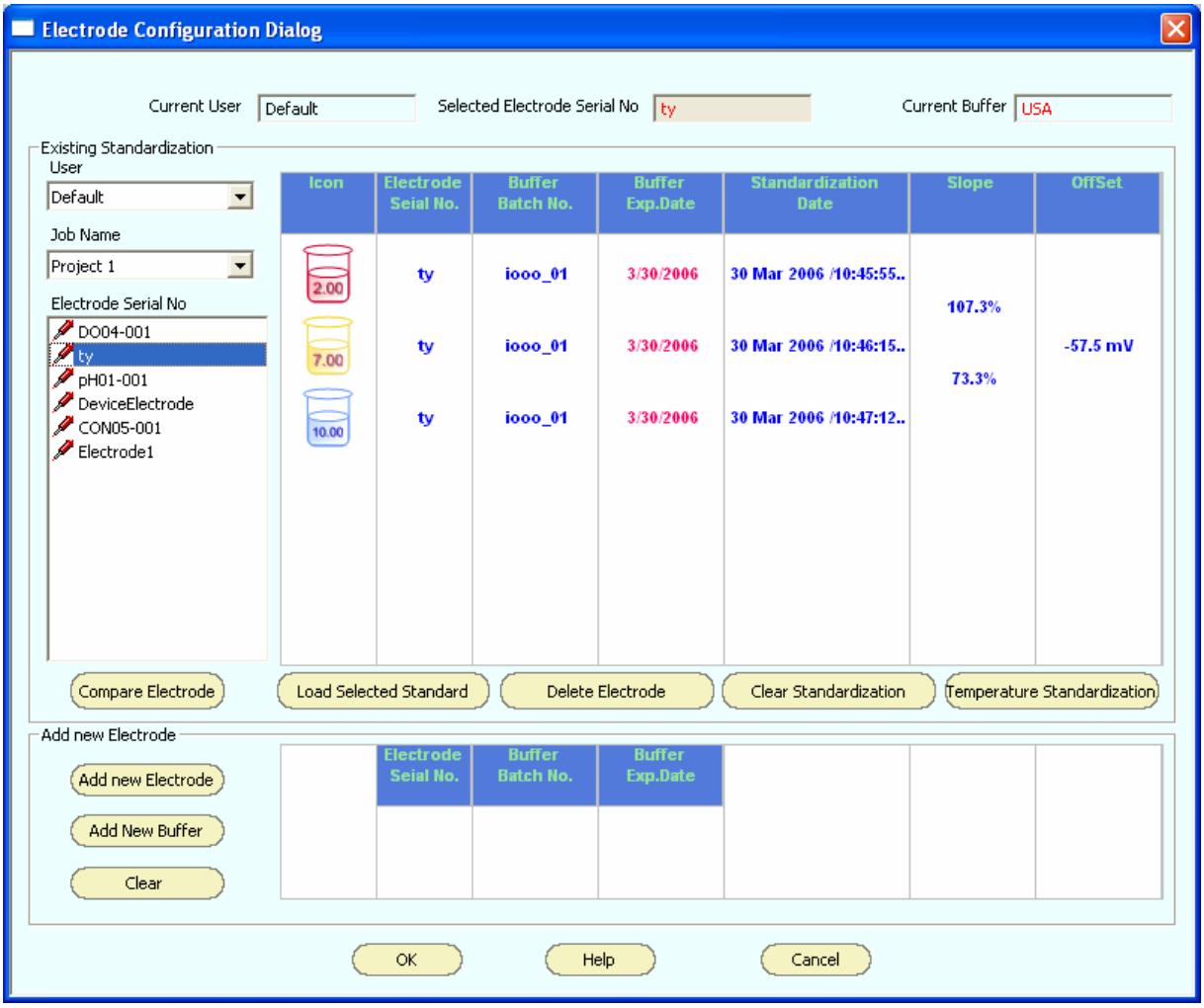


Figure 24 : New standardization using an existing electrode

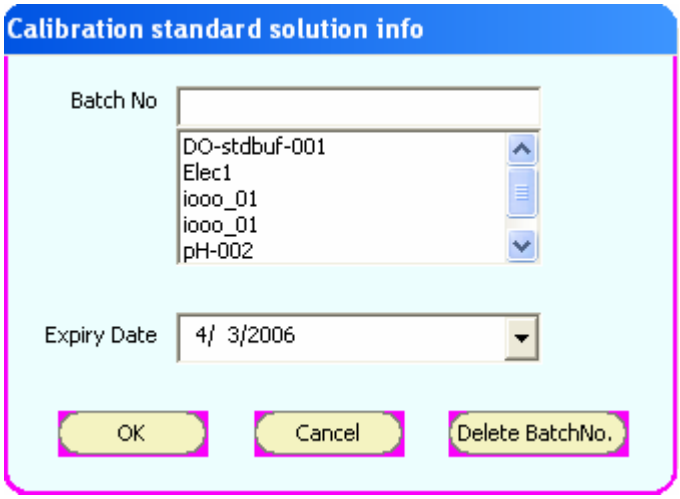


Figure 25 : Adding a new buffer

12. The **Electrode Configuration Dialog** closes. Standardization process begins for the selected channel/electrode using the selected buffer. (Figure 26)
13. If you wish to abort the standardization due to any reason, click **Cancel**. To confirm the standardization, click **Confirm**.
14. Once you confirm, you may proceed with standardization with another buffer by clicking on **Standardization** tab or proceed with measurement by clicking **Measure** tab.

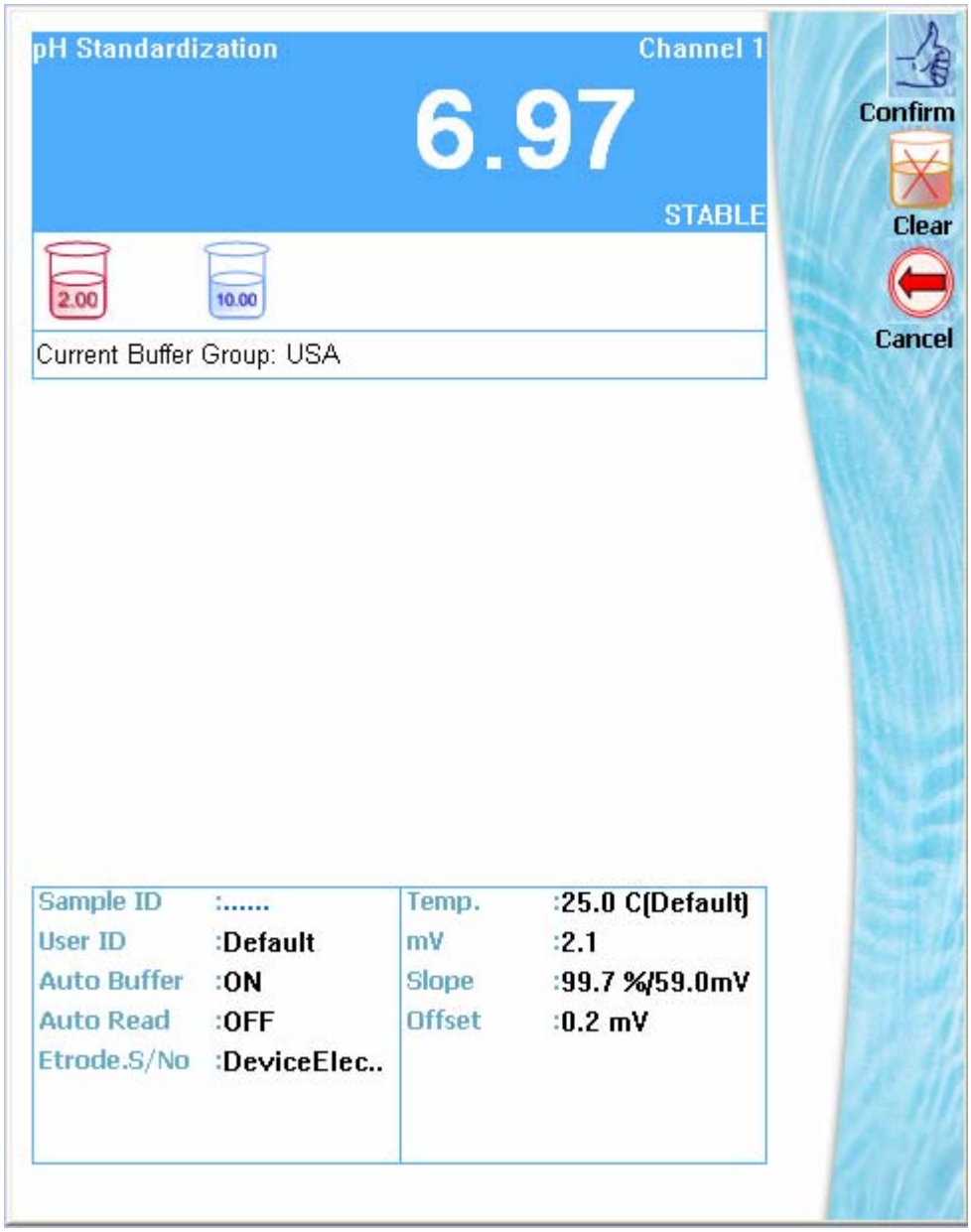


Figure 26 : Standardization in progress

3.5 Add a new electrode to the project

You need to add electrode serial number into XLComm before you can perform a standardization using that electrode. The serial number uniquely identifies the electrode. XLComm does not allow duplicating electrode serial number.

To add a new electrode:

1. Make sure **Multi-channel** check box is not selected in the **Measure** control tab.
2. Select the channel and its parameter.
3. Click on **Standardization** tab in the workspace.
4. **Electrode Configuration Dialog** appears.
5. Click **Add new electrode** button. A dialog box appears (Figure 27)
6. Enter serial number of the new electrode. Click **OK**.
7. The newly added electrode serial number appears in the **Electrode Serial No** list. Standardization data is empty for this electrode as no standardization is done yet. You may select this electrode and perform standardization at any time.

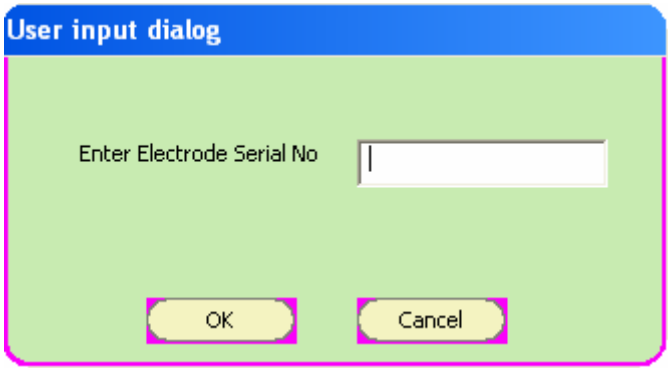


Figure 27 : Adding a new electrode

3.6 Remove an existing electrode from the project

You can delete an existing electrode from XLComm if you are no longer using it. The electrode and its standardization data is permanently removed from XLComm.

To delete an existing electrode:

1. Make sure **Multi-channel** check box is not selected in the **Measure** control tab.
2. Select the channel and its parameter
3. Click on **Standardization** tab in the workspace.
4. **Electrode Configuration Dialog** appears.
5. From **Electrode Serial No** list, select the electrode you intend to delete.
6. Click **Delete Electrode** button. XLComm shows a warning message.
7. Click **OK** to confirm. The electrode and its standardization data is permanently removed from XLComm. Standardization selected for measurement of the current channel/parameter is also removed. You need to select standardization for the current channel/parameter.

3.7 Clear standardization from an electrode

XLComm allows you to remove an existing standardization data from an electrode. This helps you to remove the current standardization from the electrode until you perform a fresh standardization at a later time.

To clear standardization from an electrode:

1. Make sure **Multi-channel** check box is not selected in the **Measure** control tab.
2. Select the channel and its parameter
3. Click on **Standardization** tab in the workspace.
4. **Electrode Configuration Dialog** appears.
5. From **Electrode Serial No** list, select the electrode for which you intend to clear standardization.
6. Click **Clear Standardization** button. XLComm shows a warning message.
7. Click **OK** to confirm. The standardization data is permanently removed from the electrode. Standardization selected for measurement of the current channel/parameter is also removed. You need to select standardization for the current channel/parameter.

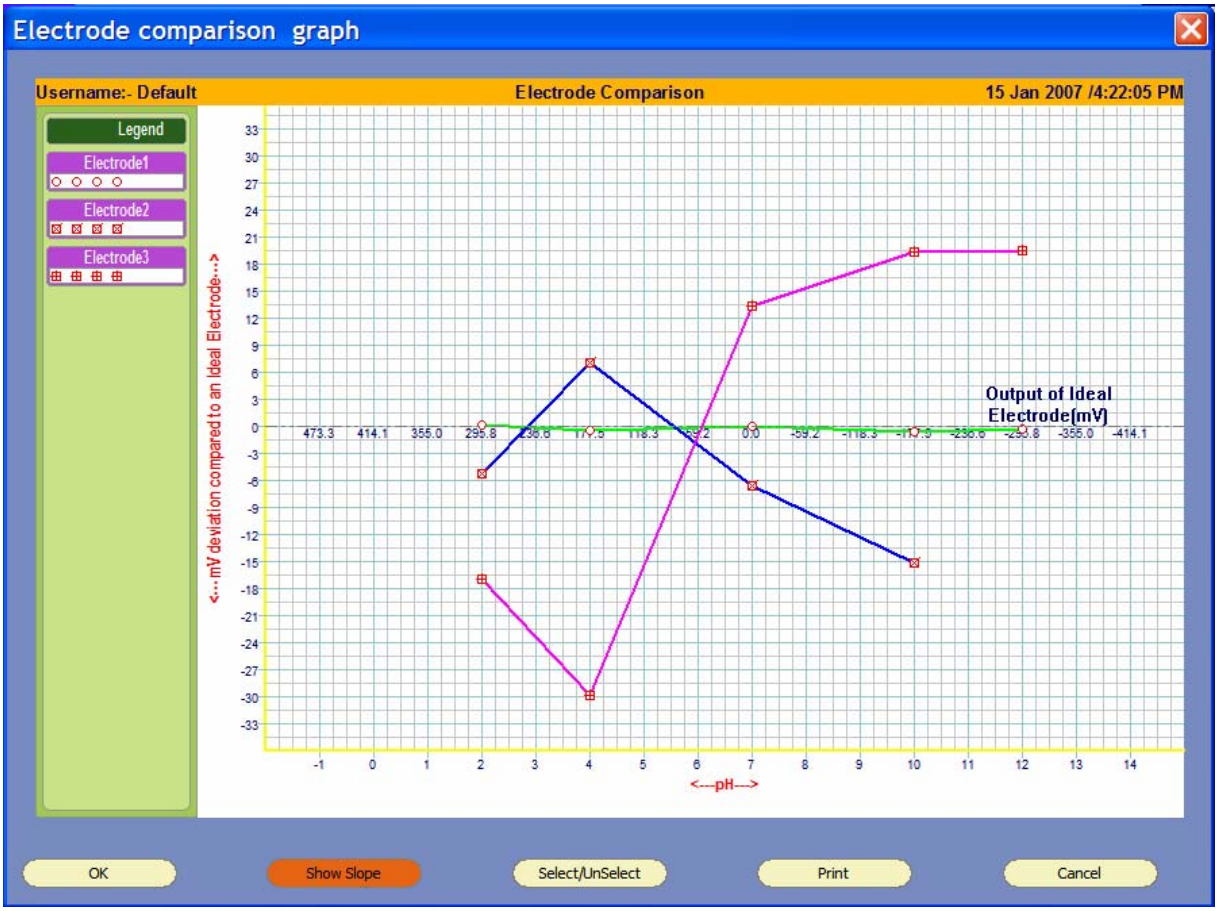
3.8 Compare Electrode Characteristics

XLComm allows you to graphically compare pH electrode characteristics. You need to add electrode serial number and perform standardization for each electrode before you can compare them.

To compare electrodes:

1. Make sure **Multi-channel** check box is not selected in the **Measure** control tab.
2. Select the channel and its parameter
3. Click on **Standardization** tab in the workspace.
4. **Electrode Configuration Dialog** appears.
5. Click **Compare Electrode** button. The Electrode Comparison Graph screen appears. (Figure 28) The graph shows electrode output characteristics against pH values for each pH electrode in your project. Calibrated points are marked with special symbols along the graph. The legend shows the serial number of each pH electrode and corresponding symbols used in the graph to identify them.
6. You can also select the pattern of the graph by selecting either a **Show Deviation** button {Figure 28 (a)} or **Show Slope** button {Figure 28 (b)}.

(a. Deviation)



(b. Slope)

Figure 28 : Electrode Comparison graph (deviation and slope)

7. You can select/unselect electrode form the graph. Click **Select/Unselect** button. Electrode Selection Dialog appears. (Figure 29)
8. A check box is available against each electrode serial number. Check to select or uncheck to deselect electrode for graph. Click **OK** to conform your selection.

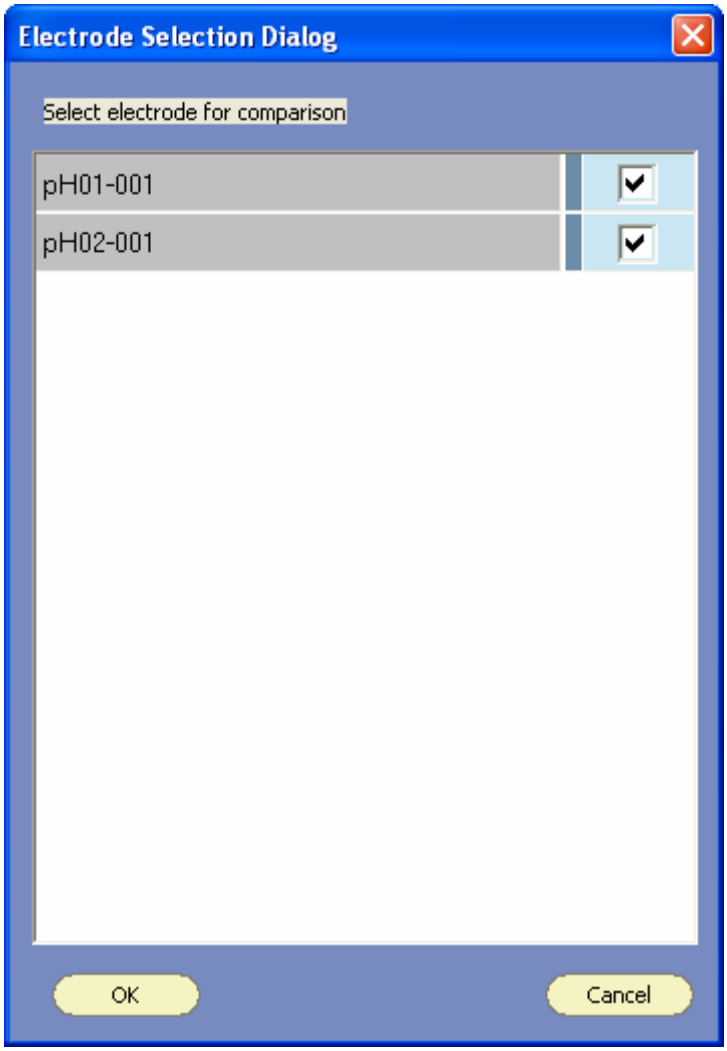


Figure 29 : Electrode selection for graph

Note: You can compare pH electrodes available in other projects with the electrodes of your current project. You need to add them to your current project before you can compare them.

3.9 Temperature Standardization

XLComm allows you to specify standardization temperature if you wish to perform standardization at a specific temperature other than the temperature reading shown by the meter.

To specify standardization temperature:

1. Make sure **Multi-channel** check box is not selected in the **Measure** control tab.
2. Select the channel and its parameter
3. Click on **Standardization** tab in the workspace.
4. **Electrode Configuration Dialog** appears.
5. Click **Temperature Standardization** button. A dialog box appears. (Figure 30)
6. Enter the temperature that you wish to perform standardization for the selected channel/parameter.
7. Click **OK** to confirm. You can proceed with standardizing the selected channel/parameter.

> **Note:** You can reset the standardization temperature back to the actual reading of the meter. Click **Standardization Temperature** button and then click **Reset**.

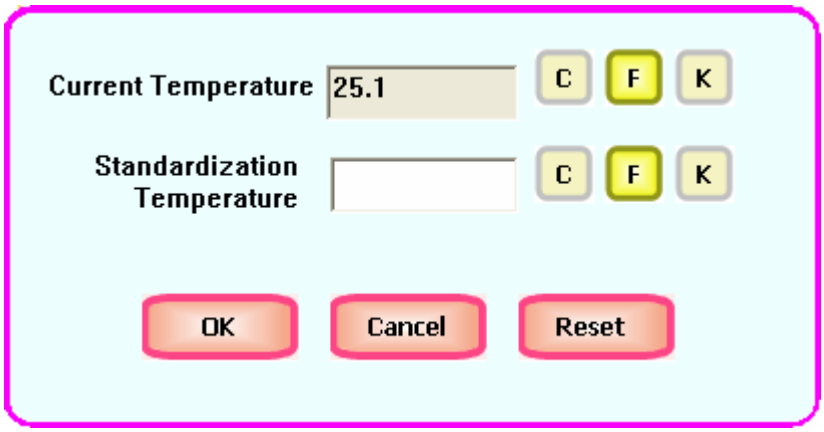


Figure 30 : Standardization Temperature

4. Measurements

4.1 About Measurement

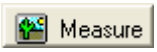
XLComm lets you carry out measurements just as if you were using your XL meter by providing the same look and feel screens & buttons. In addition, XLComm enables you to quickly access and switch between single-channel, multi-channel, standardization, setup, display criteria, storage criteria and print criteria screens.

With XLComm, you can keep records of multiple electrodes & standardization and switch between them whenever you need.

It is important to standardize the XL meter/electrode or import existing standardization data from the meter, before you start making any measurement.

4.2 Measure Tab

In **Measure** tab, you do your measurements, calibrations (standardizations), setting up channel parameters, configure display, storage & print criteria.

Click 

to switch to Measure control tab.

The measure tab lets you:

- Select between single-channel & multi-channel
- Select channels and their measuring parameters

4.2.1 Selecting a Single Channel

You can view single channel measurement screen, configure a single channel, setup display, storage & print criteria of a single channel by just selecting the channel and its parameter from the Measure tab.

To select a single channel:

1. Make sure that the **Multi Channel** check box is not selected in the Measure control tab.
2. Click on the channel button you want to select. (Click on the channel button again if you wish to unselect.)

   Example: 

3. Click on the parameter icon of which you wish to measure/standardize/setup.

   Example: 

4. The right-pane (workspace) displays the measuring screen of the selected parameter of the channel. (Figure 31). This screen is the same as the measurement screen of XL meter.
5. Click any of the tabs shown in the bottom of the workspace to switch to other screens (such as standardization, setup etc) of the selected parameter. (Figure 32).

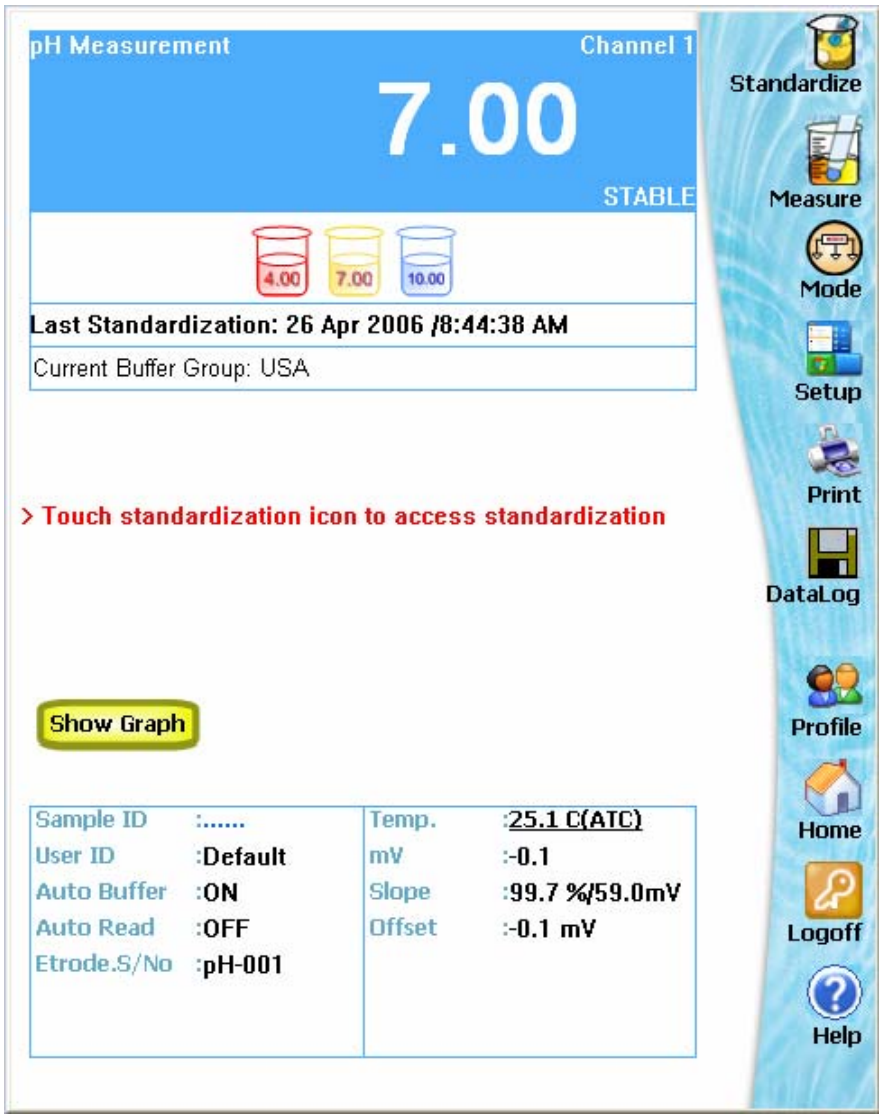


Figure 31 : Single channel measurement screen

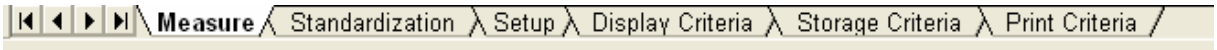


Figure 32 : Channel related tabs

You may perform any of the following activities for the selected channel/parameter:

- Carry out measurements
- Take a snap shot of a graph (Refer page 42)
- Perform a fresh standardization or switch to a different standardization
- Setup channel/parameter (Refer XL instruction manual)
- Configure display criteria (Refer XL instruction manual)
- Configure storage criteria (Refer XL instruction manual)
- Configure print criteria (Refer XL instruction manual)

4.2.2 Selecting Multiple Channels

You can view multiple channel measurement screens, configure channel/parameter, setup display, storage & print criteria of multiple channels by just selecting channels and its parameter from the Measure tab.

To select multiple channels:

1. In the Measure control tab, click on the **Multi Channel** check box to select it.
2. Click on the first channel you want to select. Click on the channel button again if you wish to unselect.

   Example: 

3. Click on the parameter icon of your interest in the selected channel.

   Example: 

4. Repeat step 2 & 3 for other channels you wish to select.
5. The right-pane (workspace) displays the measuring screen of the selected parameters of each of the channels. (Figure 33).
6. Click any of the tabs shown in the bottom of the workspace to switch to other screens of the selected channel/parameters (Figure 32).

> **Note:** Standardization is available only in single-channel mode.

You may perform any of the following activities for the selected channels/parameters:

- Carry out measurements
- Log measurement data (Refer page 40)
- Setup channel/parameter (Refer XL instruction manual)
- Configure display criteria (Refer XL instruction manual)
- Configure storage criteria (Refer XL instruction manual)
- Configure print criteria (Refer XL instruction manual)

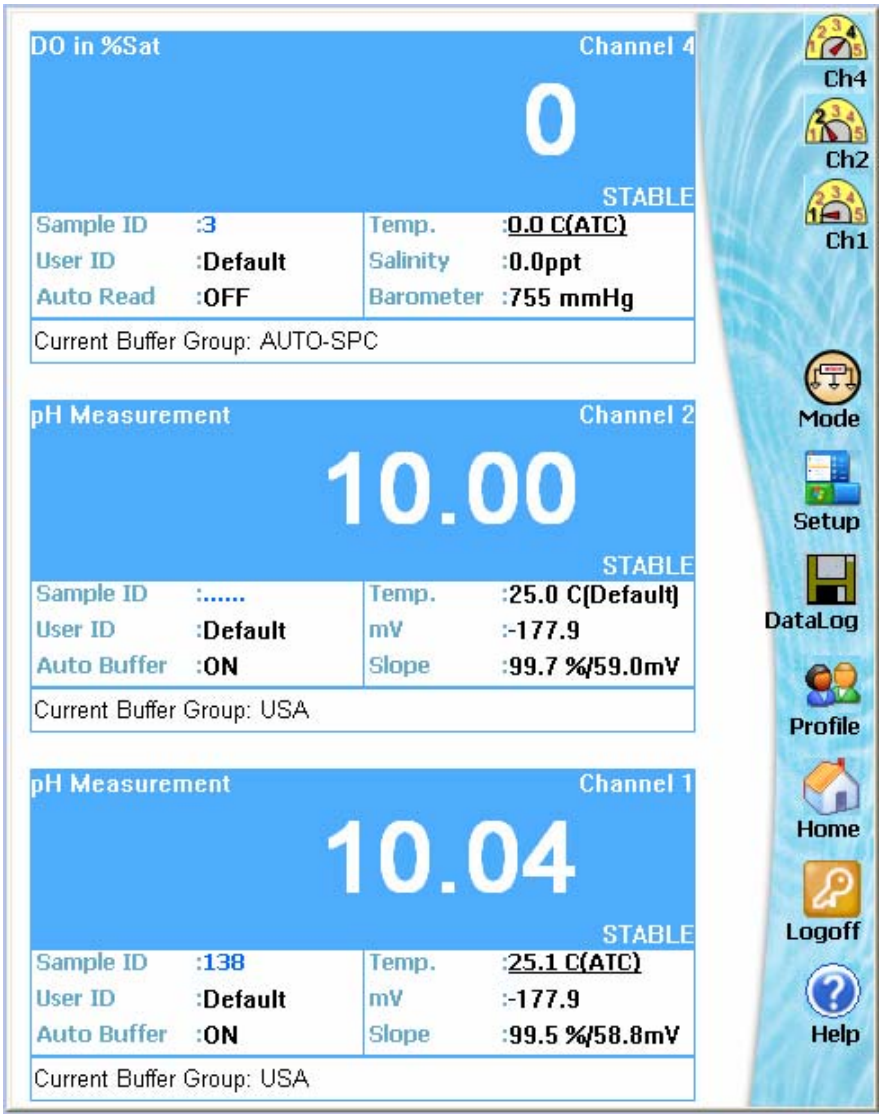


Figure 33 : Multi-channel measurement screen

4.2.3 Refresh Temperature Reading

'Refresh temperature' is applicable only for ATC (Automatic Temperature Compensation).

In some rare situations where you may notice that the temperature reading appears in XLComm is not accurate, click **Settings** menu in the menu bar and click **Refresh Temperature** submenu. XLComm reloads its temperature curve information and the ATC temperature is refreshed.

> **Note:** ATC mode is enabled when you connect a temperature probe to the meter. The measurement screen indicates the ATC mode by displaying '(ATC)' next to the Temperature ('Temp') field of the channel (Figure 33). When there is no temperature probe connected to the meter, or if the temperature probe is faulty, the measurement screen indicates '(Default)' next to the temperature field of the channel.

4.2.4 Log measurement data

You can enable logging data of a single or multiple channels. When logging is enabled, the readings are automatically stored in your PC. XLComm allows you to create extensive reports based on this stored data.

To enable data logging (Timed data logging):

1. Select channel & parameter you wish to log, from the **Measure** control tab.
2. Click on **Measure** tab in the workspace
3. Click on **Sample ID** field. A dialog appears (Figure 34)
4. Click **Start Data Log** button. Click **OK** to begin data logging.
5. A red square starts blinking next the Sample ID field, indicating the data logging is in progress.

To disable data logging:

1. Click on **Sample ID** field.
2. A message appears asking whether you wish to stop data logging. Click **OK** button to confirm.
3. A red square (next the Sample ID field) stops blinking, indicating the data logging is stooped.

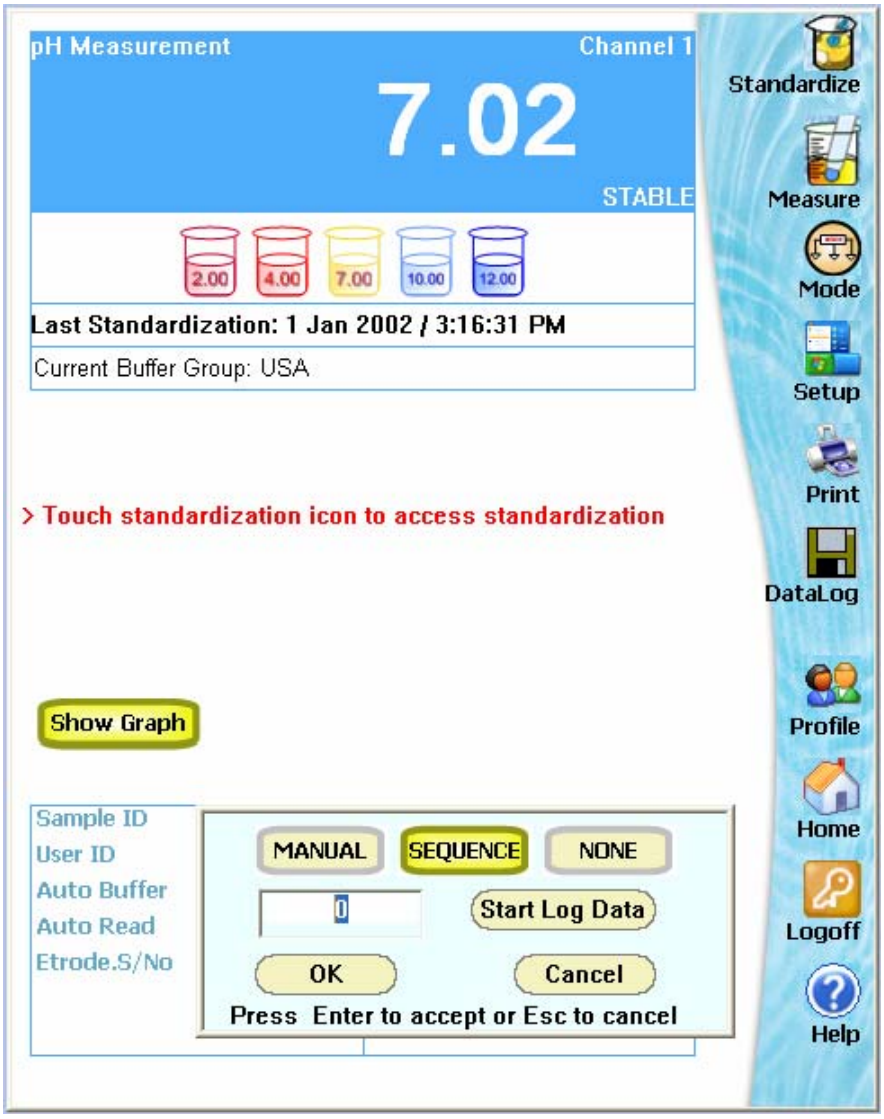


Figure 34 : Enable data logging

4.2.5 Taking a Snap Shot of Graph

In single-channel measurement mode, you can choose to view variations of the measurement in a graphical manner by clicking on **Show Graph** button (Figure 35). The graph plots the variations of the measured parameter continuously. You can take a 'snap shot' of the graph any time and save it for further analysis. These saved snap graphs can be viewed in **Reports** control tab.

To take a snap shot:

1. Select channel & parameter, from the **Measure** control tab.
2. Click on **Measure** tab in the workspace.
3. Click **Show Graph** button. The graph starts plotting the variations of the measured parameter.
4. When you wish to take snap shot of the graph, click **Snap Graph** button. XLComm saves the snap shot with a time stamp and then it shows you a confirmation message.
5. To view saved snap shots, click **Reports** control tab and then click **View Graph**.

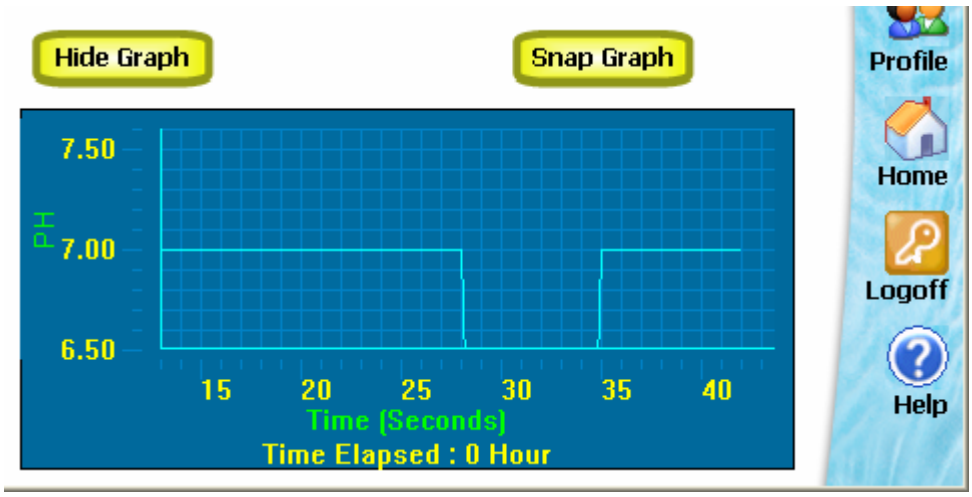


Figure 35 : Taking Snap shot of graph

5. Reports

5.1 About Reports

XLComm provides extensive reporting features. This includes creating graphical charts using stored data, exporting stored data into Microsoft Excel or HTML, View past readings and current readings on a graph and creating customized standardization reports.

To access the reports, click 

tab.

Options available in the Reports tab:

- Graphic sheet
- View Graph
- Stored Data
- Excel Sheet
- Standardization Report

5.2 Graphic Sheet

The Graphic Sheet allows you to create a customized graphical chart (Pie chart or Histogram) for a set of available data in XLComm. The chart is created for a selected parameter (mode) of a channel of your choice. Data selection criteria allow you to select data by date, range or sequence. You can create as many charts as you wish, save them and print.

To add a new Graphic Sheet:

1. Go to **Reports** control tab.
2. Click **Add Report**. The **New Report Object** dialog appears. (Figure 36)
3. Select the report type (Pie chart or Histogram) from the **Select Report Type** drop-down box.
4. From **Select Channel** drop-down box, select the channel number for which you wish to create graphical report.
5. From Select Mode drop-down box, select the parameter (mode) for which you wish to create graphical report.
6. In **Interval** field, specify data interval for the report.
7. In **Title** field, specify a title for the graphical report. This will be printed at the top of the report. (*Check any limitation on number of characters?*)

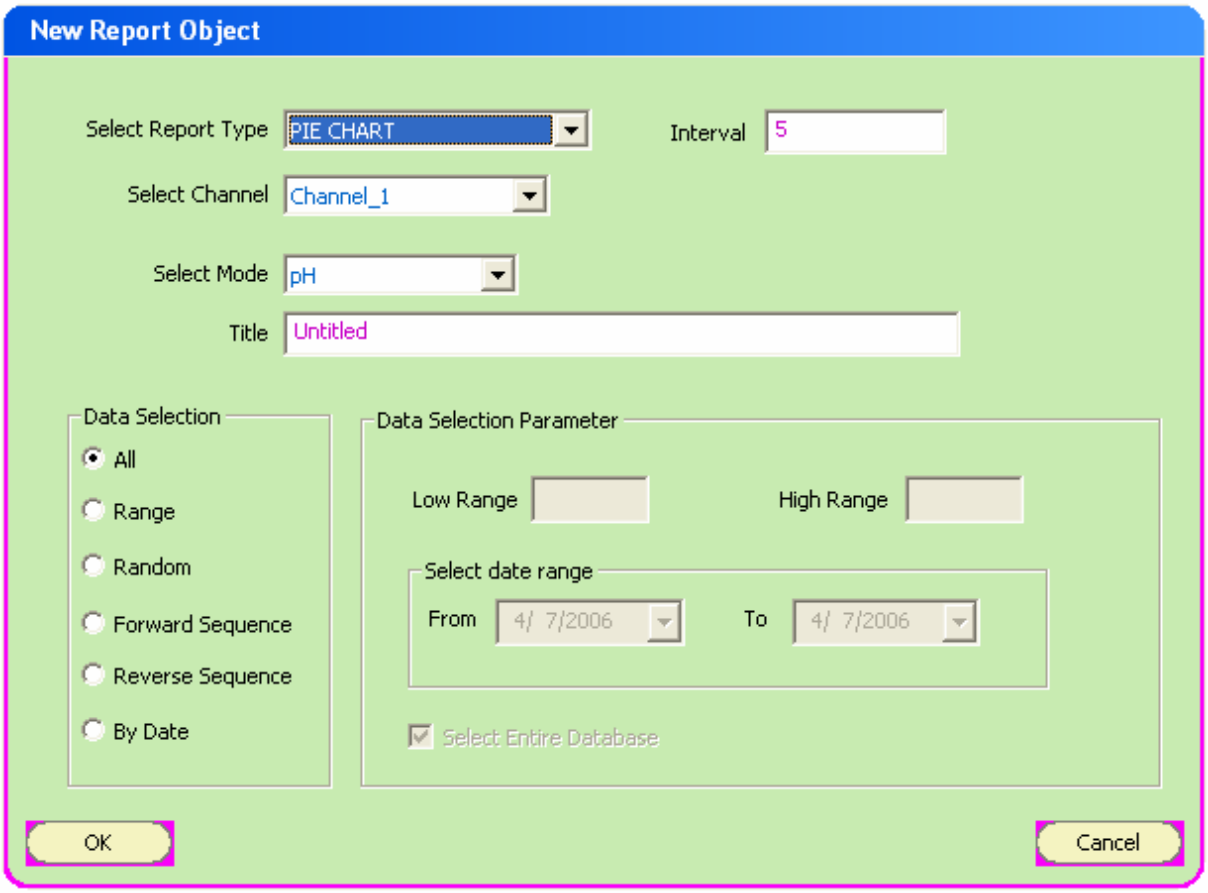


Figure 36 : Adding a new Graphic sheet

8. In **Data Selection** options, select your choice of data:
   - **All**: Selects all the available data in XLComm for the selected channel/parameter.
   - **Range**: Allows you limit the data selection for a particular data range. If you select this option you can specify your upper & lower boundaries in **Low Range** & **High Range** fields. (E.g. Select data range between pH1 to pH14)
   - **Forward Sequence**: Allows you to pick data from the very first sample logged in XLComm. In **Data Count** field, specify how many sample readings you wish to use in the graph from the very first sample.
   - **Reverse Sequence**: Allows you to pick data from the last sample recorded in XLComm. In **Data Count** field, specify how many sample readings you wish to use in the graph from last sample backward.
   - **By Date**: Selects available data for a given date range. (Provided that the data is available for the specified date range for the selected channel/parameter in the system). In **From** & **To** fields, specify the date range.
9. Click **OK** to conform your selections. The system generates the graphical report based on the selections you made. (Figure 37). The new graphical report is added to **Available Reports** list. System notifies you if there is no sufficient or matching data available in the XLComm for the selected channel/parameter or data selection criteria.

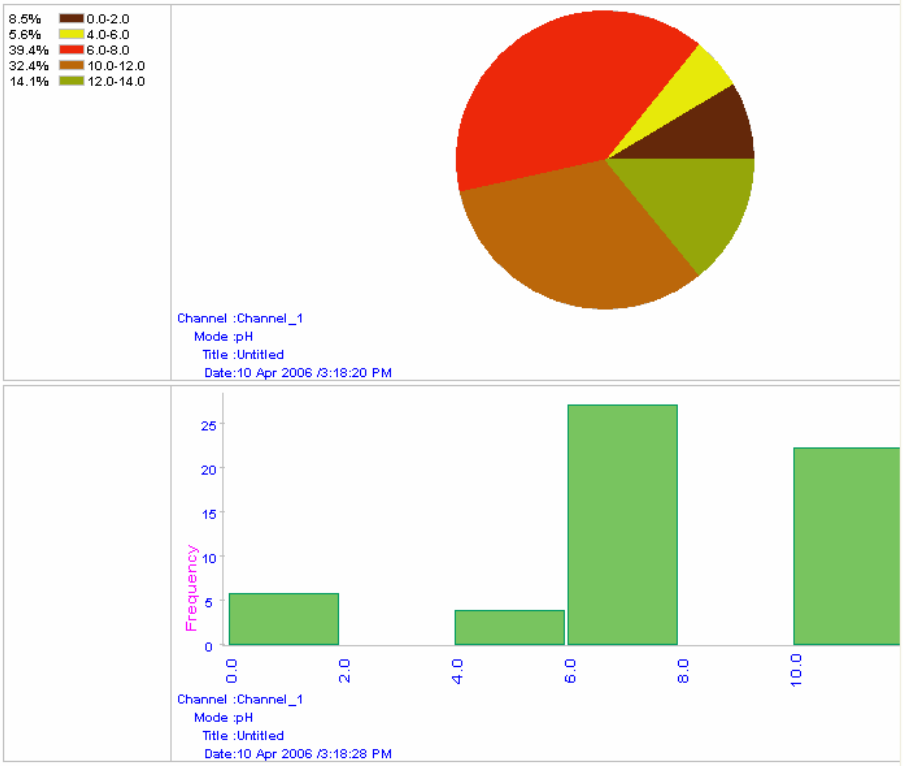


Figure 37 : Pie Chart & Histogram

10. Select a report name from **Available Reports** list and click **Print** button to print.

5.3 View Graph

The View Graph is an extension to the 'Show graph' feature available in XL meter for single channel measurement mode. Use this to view graphs (snap graphs) which have been previously captured at measurement screen or view current measurement graphs of a selected channel.

To view graph:

1. To see current measurement graph:
   - Make sure you are in single-channel mode. (**Multi-channel** check box should be unchecked)
   - From **Measure** tab, select the channel and its parameter you wish to view.
   - Click **Show Graph** button in the measurement screen. The graph starts plotting data.

> **Note:** In order to view the graph of the currently selected channel, you have to click **Show Graph** button in the measurement screen.

2. Click on **Reports** tab.
3. Click **View Graph** button. The plotted graph is shown. (Figure 38)

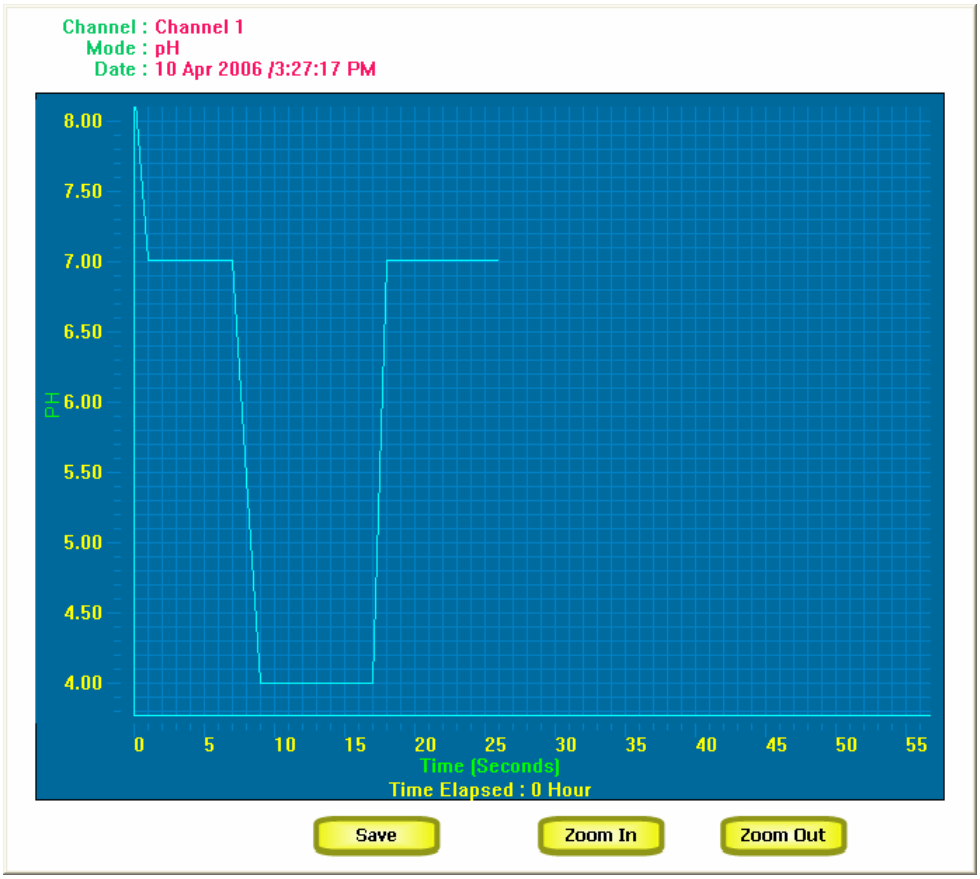


Figure 38 : View Graph

4. Click **Zoom In** or **Zoom Out** button to zoom in or out the graph.
5. Click on the graph and drag it horizontally or vertically to pan the graph. Panning is useful if you wish to see a graph which has been plotted for a long period of time or covering wide variations of data values.
6. Click **Save** button, if you wish to save the graph. A dialog appears. (Figure 39)
7. Enter a suitable name and click **OK**. The graph is saved. The new graph is added to **Available Reports** list. You may view graphs in this list by double-clicking on a name.

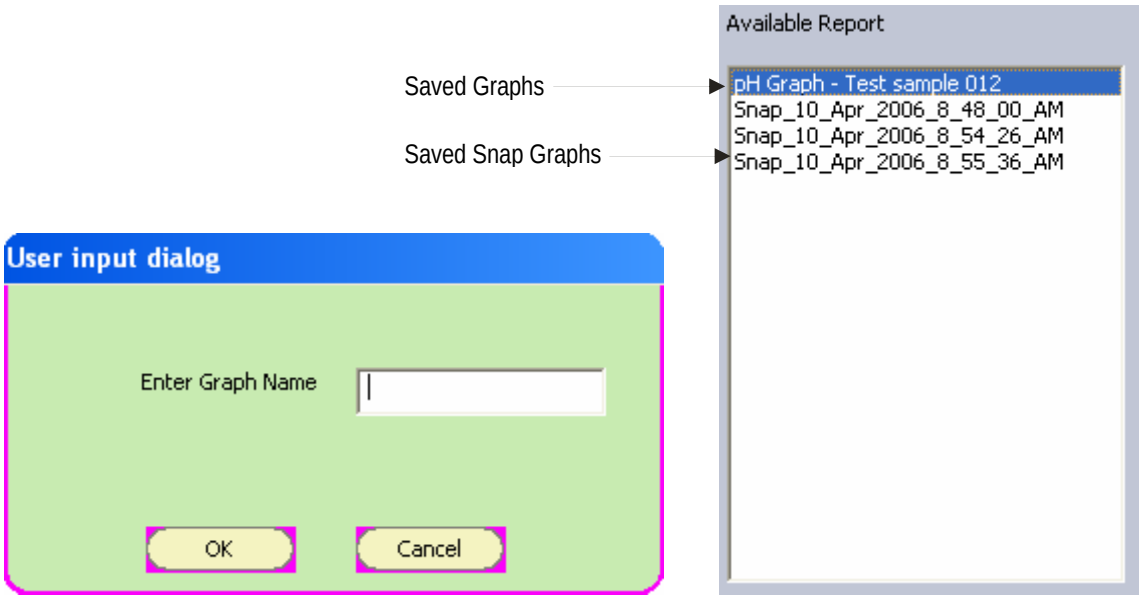


Figure 39 : Saving a graph

8. The ‘snap shot’ graphs saved from the measurement screen (using **Snap Graph** button) are listed in the **Available Reports** list. You can double-click on a snap graph to view.

> **Note:** Refer ‘Taking a Snap Shot of Graph’ in page 43 for more details on snap graphs.

5.4 Stored Data

This feature allows you to view data stored in your project. You can view data per channel/parameter. Additionally, you can delete selected records and export the data to HTML file.

To view stored data:

1. Go to **Reports** control tab.
2. Click on **Stored Data** button.
3. In **Available Reports** list, click on a channel and double-click on parameter you wish to view stored data.
4. The workspace shows the stored data in a tabular format.
5. Click **Refresh** button, if you need to refresh the screen with latest data. This is useful if automatic data logging is enabled.

To delete a single data record:

1. Select it by clicking on the record
2. Click Delete button
3. System shows you a confirmation message. Click OK to confirm deletion.

To delete all the records:

1. Click **Delete All** button
2. System shows you a confirmation message. Click **OK** to confirm deletion.
3. All data stored for the currently selected channel/parameter is permanently deleted.

To export data into HTML file:

1. Click **HTML Export** button.
2. File Save As dialog opens. Specify a name. You can save the HTML file in any location in your PC.
3. Click Save.

To print stored data:

1. Select a channel & parameter of which you wish to print data from **Available Reports** list
2. Click **Print** button to print.

5.5 Excel Sheet

XLComm allows you to export stored data in to a scaled down version of Microsoft® Excel format. The exported file is saved as .cyc file format and can be opened from Microsoft® Excel application. Most functions available in Excel such as formatting, plotting graphs & printing are also applicable for this file format.

> **Note:** Exporting to Excel feature is not available if Microsoft® Excel application has not been installed in your PC.

To Export to Excel:

1. Go to **Reports** control tab.
2. Click **Excel Sheet** button.
3. Click **Launch Excel Application** button in the workspace. **Parameter selection for Excel View** dialog appears.
4. In **Parameter selection for Excel View** dialog, select the channel & parameter for which you wish to select stored data.
5. Click **OK**.
6. The Microsoft® Excel application opens and data is exported to Excel spread sheet. You may work with the file as you would work with any other excel file (such as save the file, generate charts or print etc.)

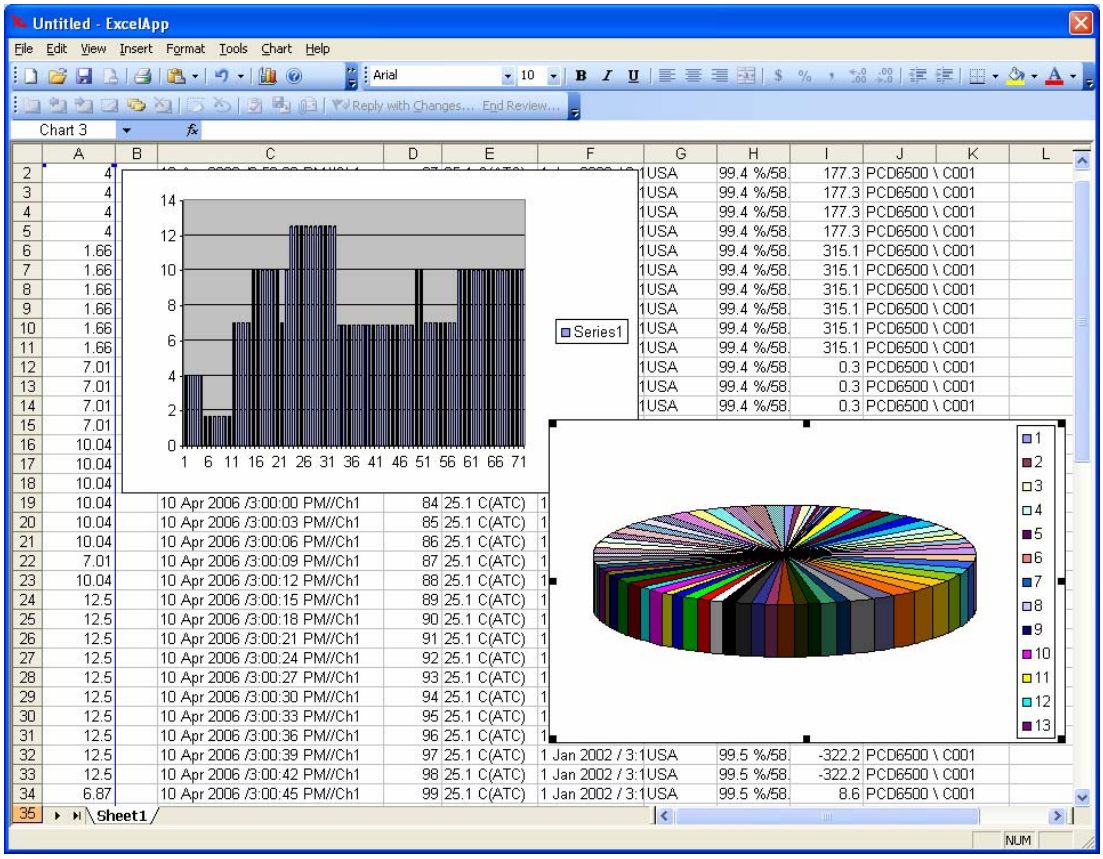


Figure 40 : Exporting to Excel

5.6 Standardization (STD) Report

XLComm allows you to create customized & detailed reports on standardization data. You can select multiple channels and their parameters to be included in the report, format data, insert any additional text, insert user information and define the paper sizes, save & print.

> **Note:** Standardization report is a single page document. You may create multiple pages and save them as individual reports.

Follow the steps below to create & format a report:

Select standardization data:

The first step is to select standardization data for the report.

1. Go to **Reports** control tab.
2. Click **STD Reports** button.
3. Click **Select** button in the workspace. A dialog box appears. (Figure 41)

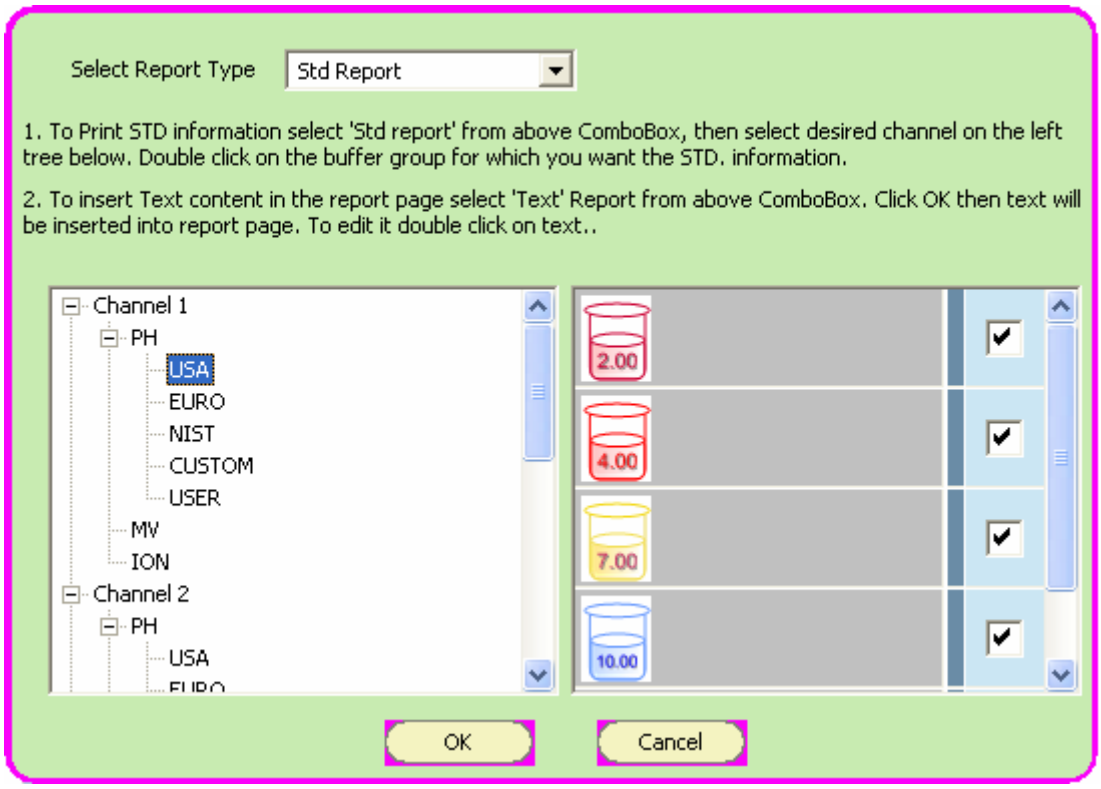


Figure 41 : Selecting standardization data

4. Make sure 'STD Report' is selected in the **Select Report Type** drop-down box. From the tree view on the left-pane, click on channel and parameter to expand the tree. Double-click on parameter of which you wish to select standardization data. (For pH, double-click on Buffer group.)

5. The right-pane displays standardization data available for the selected parameter/buffer group. You can unselect any of the standardization data by clicking on the check box against the data to de-select it.
6. Click **OK** to add the selected data to the report. The selected standardization data is added as a block of data. (Figure 42) You may format the look and feel of this block, if required.

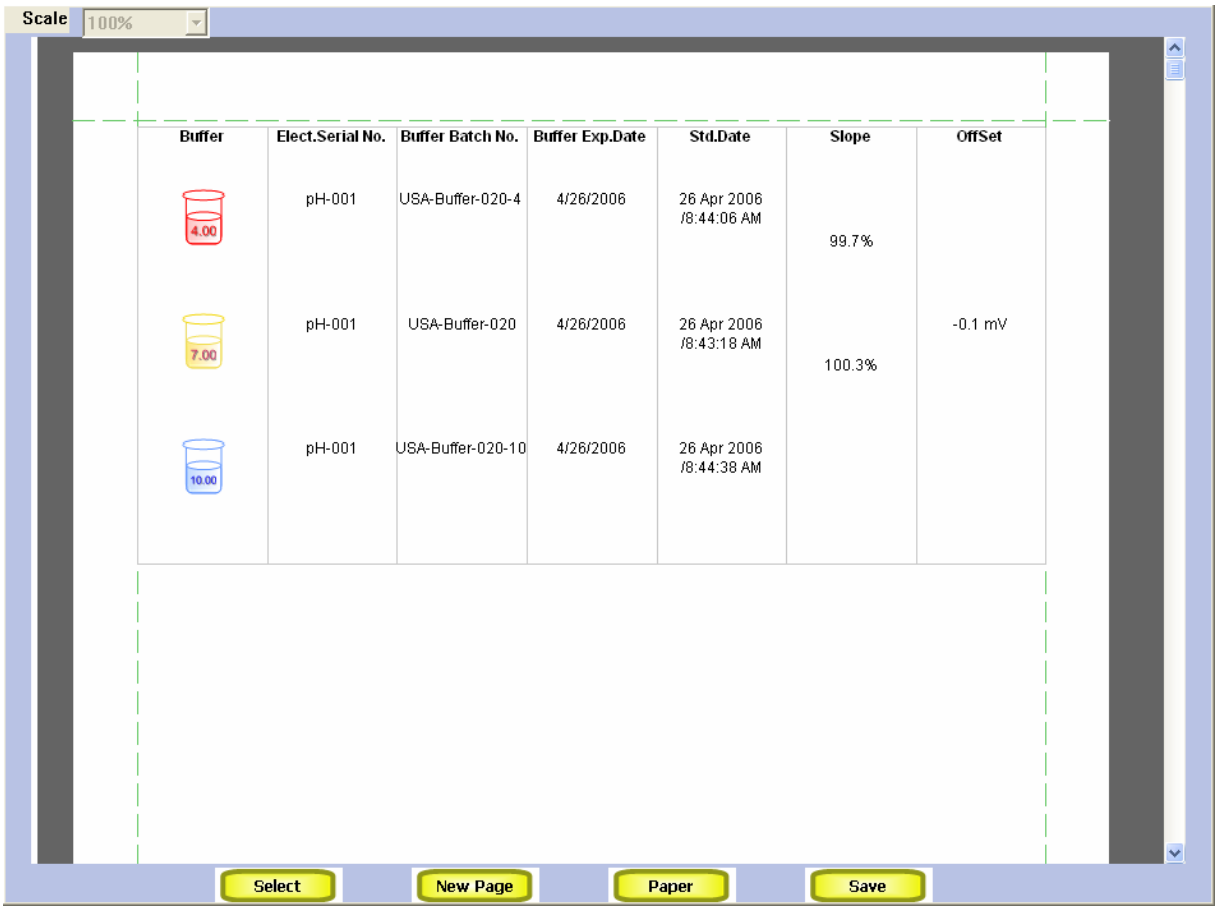


Figure 42 : Standardization data added as a block

7. You may add standardization data of another channel/parameter to the same report. Click on **Select** button and make your selection again and click **OK**. The newly added set of data is added to report as a separate block.
8. Optionally, you may select a block of data and press **Delete** keyboard button to delete a block, if you wish to remove them.

Format data:
You may format a block of data to modify its appearance by removing one or more columns, change font types and colors or modify column widths.

1. Right-click on block of data which you wish to format. A dialog box appears (Figure 43)
2. The following formatting options are available:
   - Click on **Column Name** check box to unselect it, if you wish to remove a column from the report.
   - Change column **width** of a data column
   - Click button to change font properties of a particular column
   - Click **Data Font** button to change font properties of all the data columns
   - Click **Header Font** button to change font properties of the header row.
3. Click **OK** to conform the formatting changes. The formatting is applied to the selected block of data.

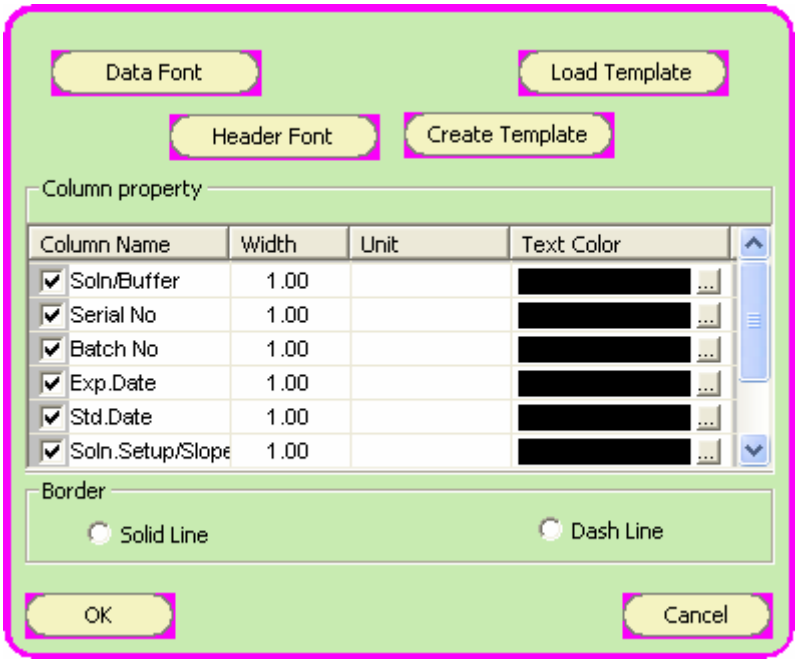


Figure 43 : Formatting data

Insert additional text:
You may add any additional text to the report such as a Title, page number or footer note etc.

1. Click **Select** button. A dialog box appears (Figure 41).
2. In **Select Report Type** drop-down box, select 'Text' and click **OK**.
3. A text filed is added to the report. (Figure 44).
   - Double-click on the text field to edit it.
   - Right-click on the text field to change its font properties
   - Drag it to move the text field to any place on the report

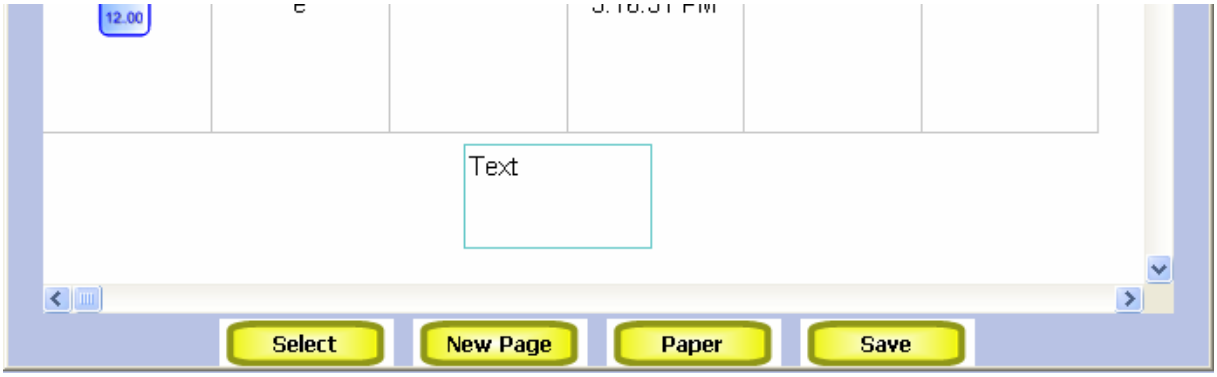


Figure 44 : Adding an addition text field

Insert user information:
You may add user related information to the report. This includes user name, project name, date created and meter serial number.

1. Click **Select** button. A dialog box appears (Figure 41)
2. In **Select Report Type** drop-down box, select 'User Info' and click **OK**
3. A user info filed is added to the report. (Figure 45).
   - You are not allowed to edit the user info
   - Drag it to move the user info field to any place on the report

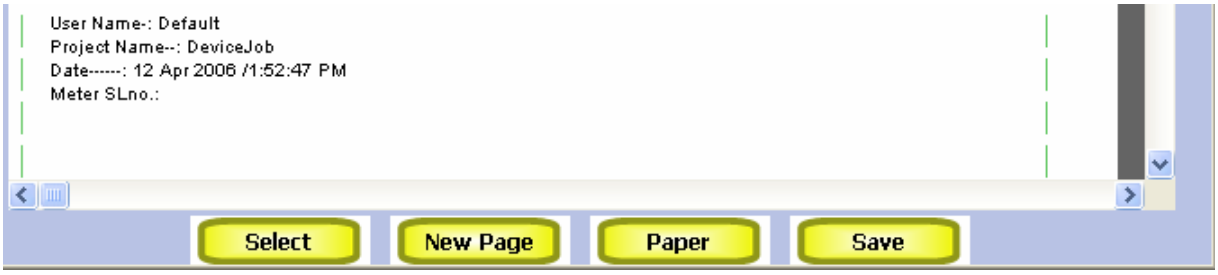


Figure 45 : Adding user information

Setup paper size:
You may modify the paper size of the report, add a custom paper size, change paper orientation or modify margin of the report to suit your printing requirements.

1. Click **Paper** button. A dialog appears. (Figure 46)
2. From **Paper** drop-down box, select an existing paper size or define a custom size.
3. Change orientation or margins.
4. Click **OK** to confirm the changes.

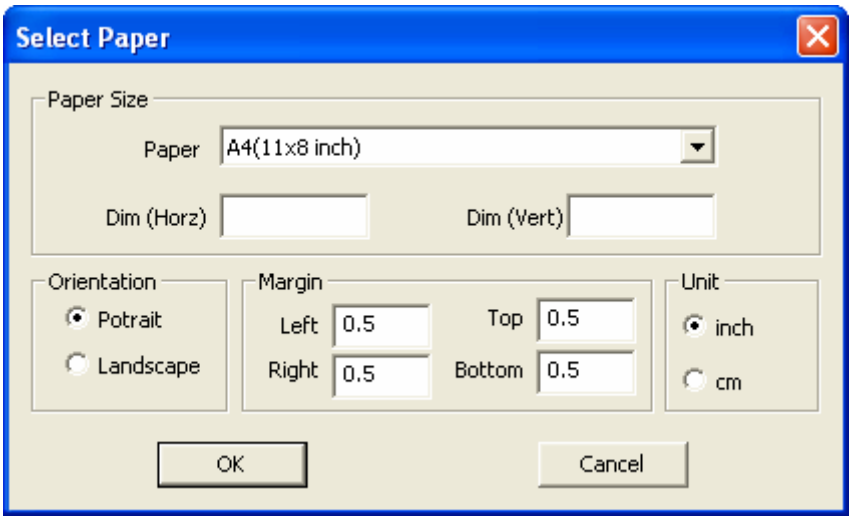


Figure 46 : Setup paper size

Save a report:
Once you customize and format the report, you can save it for future reference or print it later.

1. Click **Save** button. A dialog box appears. (Figure 47)
2. Specify a name for the report. Click **OK**. The new report is added to **Available Reports** list.

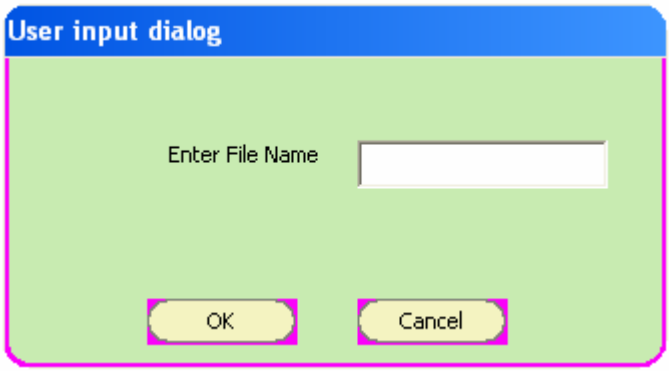


Figure 47 : Saving STD report

Adding a new report:

To add a new page, click **New Page** button. A blank page appears. You may add standardization data, format and save.

Printing a report:

Select a report name from **Available Reports** list and click **Print** button to print.

6. Administrative Functions

XLComm provides special functions exclusively for administrator. XL meter is shipped with a default ‘Admin’ user account which has the administrator privileges. You need to log into XLComm using the ‘Admin’ user account to perform the following administrative functions:

- View audit log file
- Backup audit log file
- Delete audit log file
- Unlock users

6.1 Audit Log

XLComm maintains an audit log to record all the user activities carried out in XLComm application.

6.1.1 View audit log file

1. On the menu bar, click **Audit Trial** menu and then click **View Application log file** sub menu.
2. **Audit Trial** dialog appears. (Figure 48)
3. By default the entire audit log records are shown. To view logged activities of a specific time period, select **Date From** & **Date To** and click **Refresh** button.
4. Click **Print** button to print the audit log file.

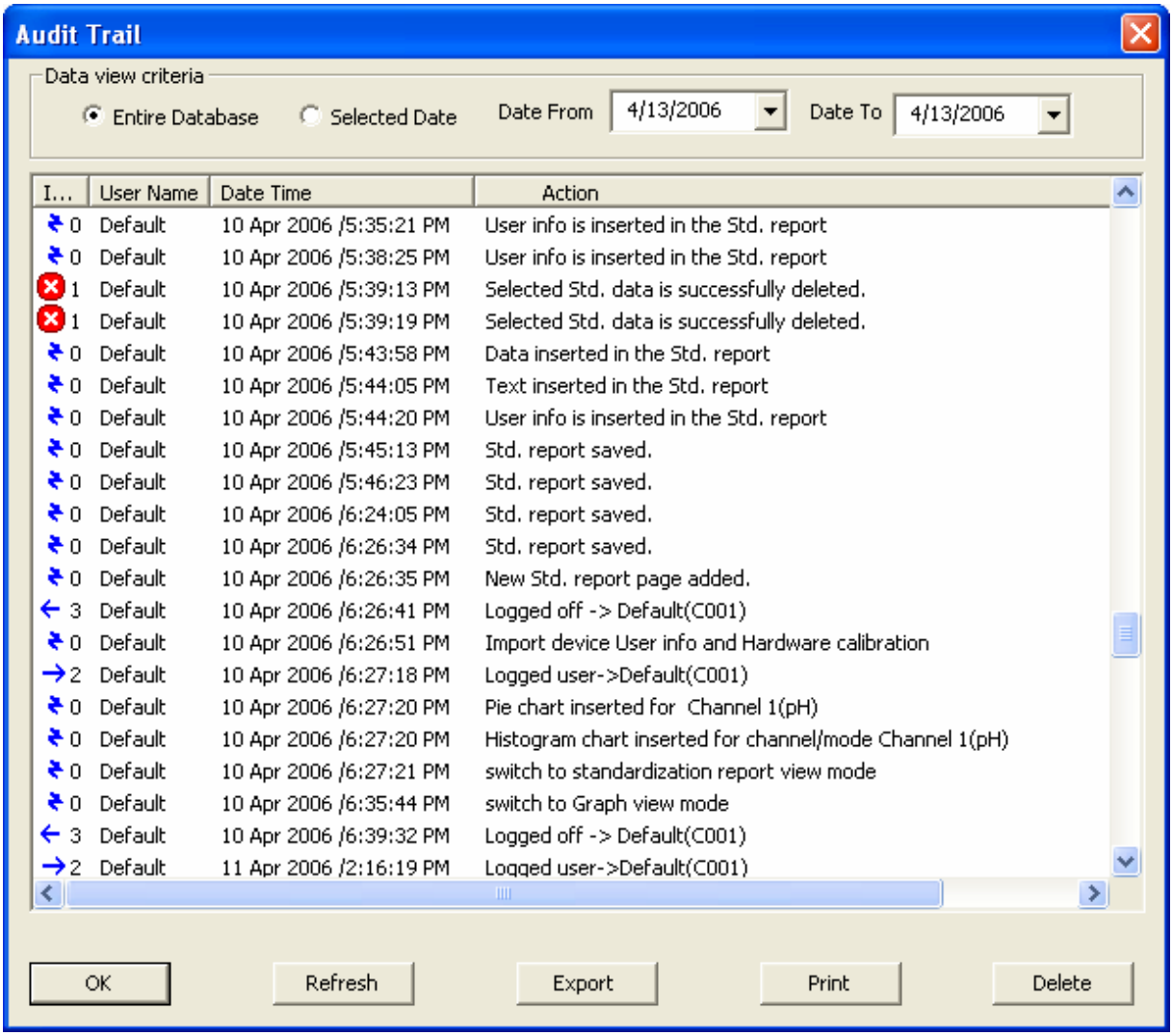


Figure 48 : Audit Log

6.1.2 Backup audit log file

XLComm allows you to back up the audit log file in case if you wish to keep a back up. When backed up the audit logs are exported to a text file.

1. Click **Export** button. The **Save As** dialog appears.
2. Select a folder and specify a name for the file.
3. Click **Save** button. The audit log file is exported to a text file.

6.1.3 Delete audit log file

Deleting the audit log file is not recommended. However, if you wish to delete the audit log file due to special reasons, it is recommended that you make a backup before you deleting.

1. Back up the audit log file as described in the above section.
2. Click **Delete** button. System shows you a confirmation dialog box.
3. Click **OK** to confirm deleting.

6.2 Unlocking Users

If a user enters an invalid password for three consecutive attempts while logging in to XLComm application, the user will be 'locked' by XLComm and will not allow the user to login again. This is a security feature. Only the administrator can unlock these users.

To unlock a specific locked user:

1. On the menu bar, click **Settings** menu and then click **Unlock User** sub menu. The Unlock User dialog appears (Figure 49).
2. All the 'locked' users currently available in the system are listed in the dialog. Select the user you wish to unlock and then click **Unlock**.
3. The dialog closes and the selected user is unlocked.

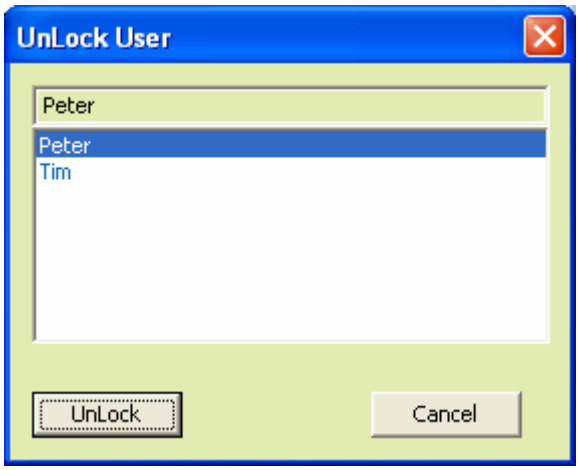


Figure 49 : Unlocking a user

To unlock all locked users:

1. On the menu bar, click **Settings** menu and then click **Unlock all locked user** sub menu.
2. System unlocks all locked users and shows a notification message (Figure 50).

Figure 50 : All users unlocked

7. Trouble Shooting- Conflict with Active Sync

By default, XLComm tries to connect to COM1 port, so you will need to free the COM port from ActiveSync before using the COM1 port for XLComm. Make sure the 'Allow serial cable or infrared connection to this COM port' is disabled in Active Sync connection settings as shown in Figure 51 . It is recommended to restart the PC after changing the connection settings in Active Sync.

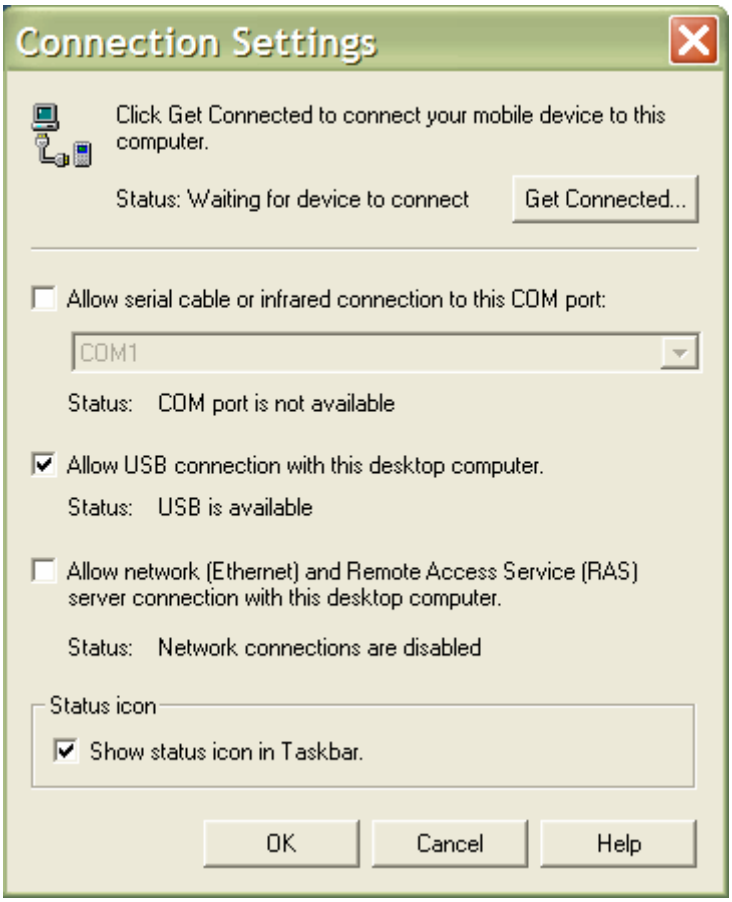


Figure 51: Connection Settings (Active Sync)

Electrochemical Questions?

call our Technical Specialists at:

1-888-358-4706

MODEL NUMBER _____

SERIAL NUMBER _____

PURCHASE DATE _____

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