

# **XO SMART LINK FOR XO UNITS USER GUIDE**



## Intended use

XO Smart Link in combination with an XO Unit gives you the opportunity to:

Work with unit instrument programs - and improve quality of care.

Manage IT solutions and external instruments etc. during the treatment – concentrate on the work in the mouth of the patient – avoid cross contamination – and avoid extra foot controls etc.

Configure your unit to function according to your personal preferences.

## Starting XO Smart Link

Open the Microsoft Windows “start” menu / Programs / “XO CARE” / “XO Smart Link” / “Start XO Smart Link”.

For first time start-up and software licensing please refer to “XO Smart Link Installation Guide”.

# PC screen image

This picture is created for demo purposes. Actual screens may vary.

**XO Menu**  
Click on XO logo to open XO Menu

**Installed plug-ins**  
Right click on a cell to access the configuration menu

**XO Bar**  
Use foot control to navigate the cells

**Free plug-in space**  
Right click to add more plug-ins

**Instrument window**  
Appears automatically when activating a unit instrument. The window gives a complete overview of the active program

**XO Screen User Guide**  
Automatically displays the functions available

The interface includes a main window titled "Micro motor" showing a bar chart with values up to 200,000, a graph, and various control buttons like "W&H WA-99 A 1.5", "AUTO REV.", and "Max". The bottom status bar displays "XO Smart Link Version 4.4" and "Dr. Edith Thomson Treatment room 3".

# Navigating XO Smart Link

The main tools for navigating XO Smart Link are foot control and XO Bar.

XO Bar contains a number of cells:

- Each cell represents a plug-in - when all unit instruments rest.
- Each cell represents a unit instrument program - when a unit instrument is lifted forward.

A cell may be active , selected , or non selected .

The active cell defines the function of foot control (and joystick).

XO Screen User Guide shows how foot control (and joystick) functions in accordance with the active cell.

Deactivate a cell with .

Select the rightward cell with .

Select the leftward cell with .

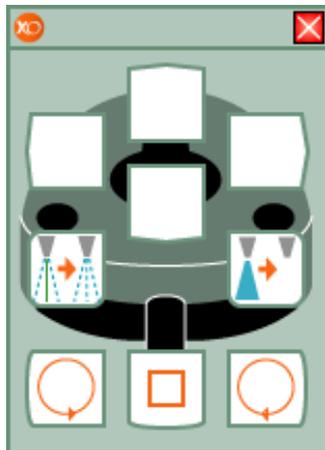
When the leftmost cell is selected  will select the rightmost cell and vice versa.

Activate a selected cell with .

# XO Screen User Guide

Each cell of XO Bar defines the function of foot control (and joystick). XO Screen User Guide shows you the available functions.

Example of XO Screen User Guide when using Micro Motor:



# Navigating using short-cuts

When no XO Bar cell is active shortcuts allow you to activate up to 8 different cells:

- With only two foot control “clicks” and
- Without looking at the screen.

Deactivate the active cell  with . Thereafter select a shortcut:



See page 14 for information about configuring shortcuts.

## Workflows

XO Smart Link has introduced the ability to use workflows for XO Osseo and micro motor.

A workflow is a set of programs (from this point on referred to as steps), which may be sequentially activated to perform a specific treatment - for example preparation for an implant.

Workflows are shown on XO Bar exactly as other programs. When you activate a workflow the steps will be shown to the right side of the program list. These steps have a red background when selected. Each workflow can contain a maximum of ten steps.



Navigating steps in Workflows:

Deactivate current step by pressing

Activate step by pressing

Go to next step and activate this step by pressing

Go to previous step and activate this step by pressing

Deactivate workflow (and get back to navigate the programs-/ workflowlist) by pressing

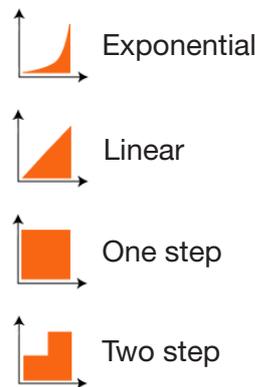
## Program/workflow icons

XO Smart Link allows use of the following icons in program/ workflow plug-ins:

-  Prophylaxis
-  Orthodontics
-  Jaw surgery
-  Implantology
-  Post system
-  Precision technique
-  Model casting technique
-  Acrylic technique
-  Crown and bridge technique
-  Cavity preparation
-  Removal of old fillings
-  Working on fillings
-  Crown preparation
-  Crown cutting
-  Root canal preparation
-  Root planning

## Activation curves

Different activation curves can be used for: motor, turbine and scaler instruments. XO Smart Link gives the option of 4 different activation curves:

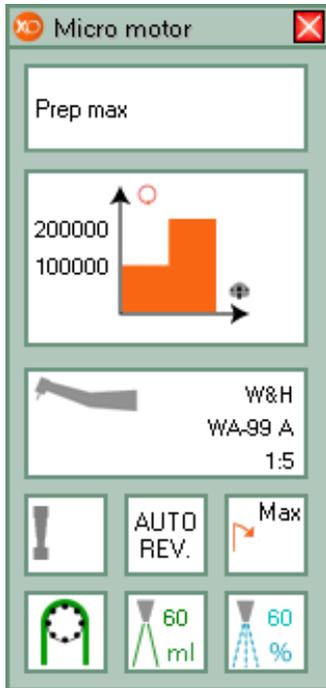


## Torque reduction

When configuring a specific program or workflow step of the attached micro motor(s) and/or XO OSSEO the maximum torque may be reduced.

If the maximum torque is reduced the absolute value of the maximum torque in Ncm is shown in XO Instrument Window. Please note that the indicated maximum torque value is calculated based on XO's experience with efficiency of different contra angles and is thus only to be used as a rough guide line.

# Micro motor



**Lift micro motor forward** and control it with foot control.

See relevant data on screen and display. Run motor clockwise with or counter clockwise with in the range specified by the active program.

See maximum speed on screen and on display when foot control is not activated. See actual speed on display when motor is running.

Change spray selection with : water & air, air only or no spray.

Enable/disable the automatic chip blow after stop of motor with spray water.

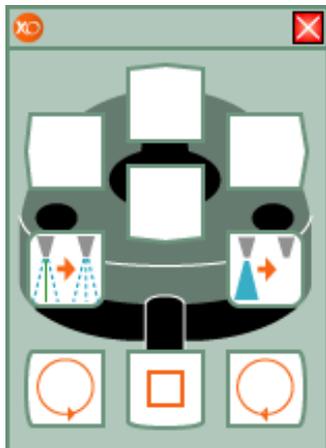
As an option the motor may be configured to work with XO Peristaltic Pump. is then shown.

## Standard actions

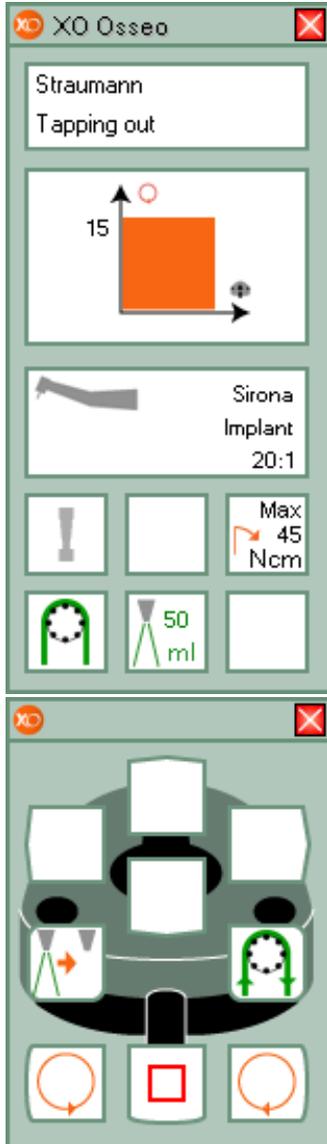
- Start rotation clockwise
- Start rotation counter clockwise
- Spray selection
- Enable / disable XO Chip Blow

## Configurable actions

- Increase spray water / irrigation level
- Decrease spray water / irrigation level
- Increase maximum speed
- Decrease maximum speed
- XO Peristaltic Pump
- Enable/disable auto reverse (motor will stop and reverse when maximum torque level is reached.)
- "Pediell" chip blow



# XO OSSEO



**Lift XO OSSEO forward** and control it with foot control.

See relevant data on screen and display.

XO Osseo is configured to work with XO Peristaltic Pump .

Run motor clockwise with  or run motor counter clockwise with  in the range specified by the active program.

See maximum speed on screen and on display when foot control is not activated. See actual speed on display when motor is running.

Disable irrigation with  and enable with .

Activate XO Peristaltic Pump without having the XO OSSEO running for as long as it is activated .

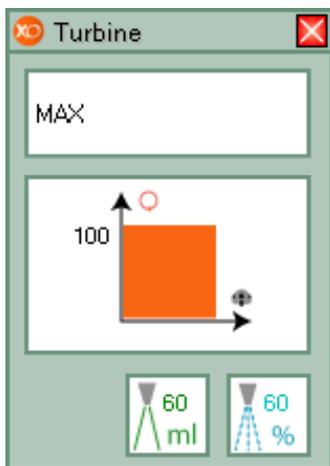
## Standard actions

-  Activate XO Peristaltic Pump (without running motor)
-  Enable irrigation
-  Disable irrigation
-  Rotate motor clockwise
-  Rotate motor counter clockwise

## Configurable actions

-  Increase irrigation flow by 5 ml per minute
-  Decrease irrigation flow by 5 ml per minute
-  Increase maximum speed level
-  Decrease maximum speed level

# Turbine



**Lift turbine forward** and control it with foot control.

See relevant data on screen and display. Current speed (in % of maximum) on display.

Start turbine with or .

Change spray selection: water & air or no spray with .

Enable/disable chip blow with .

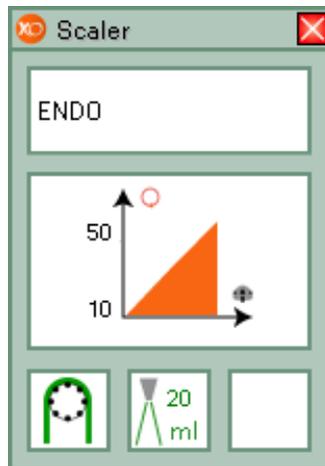
### Standard actions

- Start turbine
- Spray selection
- Enable / disable chip blow

### Configurable actions

- Increase spray water level
- Decrease spray water level
- Increase maximum speed
- Decrease maximum speed
- "Pediel" chip blow

# Scaler



**Lift scaler forward** and control it with foot control.

See relevant data on screen and display. Current power setting (in % of maximum) on display.

Start/stop oscillation (power) of scaler with or .

Switch cooling on/off with .

As an option the scaler may be configured to work with XO Peristaltic Pump is then shown.

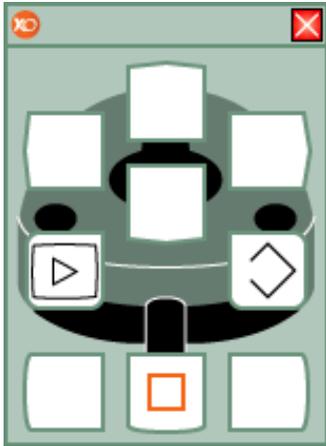
### Standard actions

- Power on
- Irrigation on/off Scaler

### Configurable actions

- Increase level of cooling water
- Decrease level of cooling water
- Increase power level
- Decrease power level
- Use XO Peristaltic Pump only while button is pressed

# Intraoral video camera



Unlike all other unit instruments you can use the video camera even when another instrument is active.

Lift camera forward and display a video image on a screen.

Control video camera with foot control when no other instruments are active.

Toggle between “still” and “live” mode with .

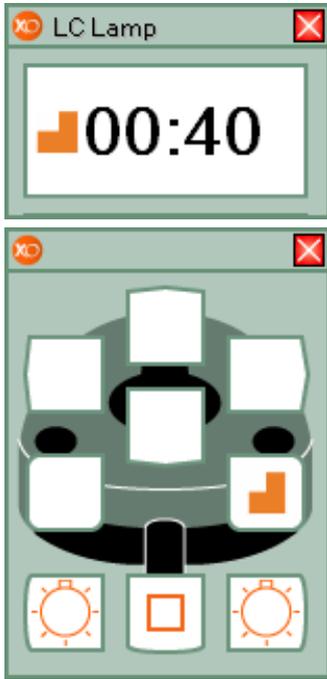
Save a “still” image to memory with .

Please note that the functions available vary depending on the imaging software used.

## Standard actions

-  Still / Live mode Video Camera
-  Save image to memory - Video camera

# Light curing lamp



**Lift light curing lamp forward** and control it with XO Foot Control.

See current exposure time on screen and on display before foot control is activated.

Start curing process with  or .

See elapsed curing time on screen and display during the process.

You will hear a beep after each 5 seconds.

When the curing expires you will hear a sound.

Enable/disable Softstart with .

Softstart is a feature which adds from 1 to 300 seconds to the selected exposure time. In the selected time a reduced power is provided.

When Softstart is enabled,  will be shown in the left side of the display.

## Standard actions

 Start LC Lamp

## Configurable actions

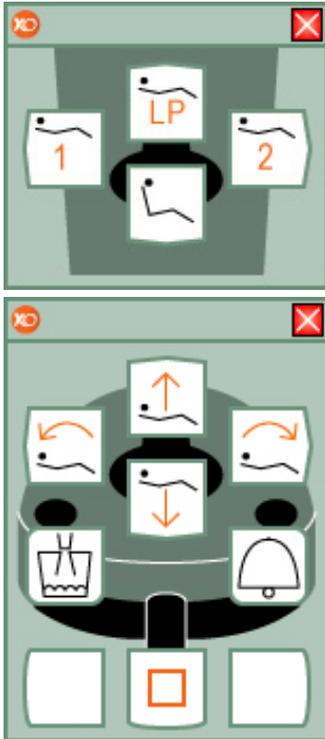
 Increase exposure time / LC Lamp

 Decrease exposure time / LC Lamp

 Softstart

# Unit & Chair cell selected

## All unit instruments rest



Unit & Chair cell operates the basic functions of XO Unit.  
The Unit & Chair cell is only available when all instruments are resting.

### Chair functions

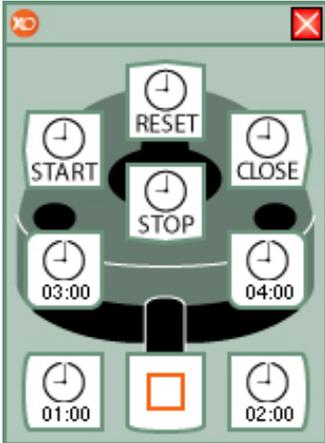
- Move backrest down
- Move backrest up
- Move seat down
- Move seat up
- Go to position 1
- Go to position 2
- Go to exit position
- Go to last position

### Unit functions

- Start/stop glasfiller
- Flush bowl
- Operating lamp on/off
- Start/stop big suction
- Start/stop small suction
- Assistance call

# Timers & Stopwatch cell selected

All unit instruments rest



The Timers & Stopwatch cell allows you to control up to 4 configurable timers and a stopwatch.

## Using the Timer



The timestamp (01:00) on the icon shows the countdown time in minutes and seconds. Use Foot control to start the countdown. A timer window will appear.



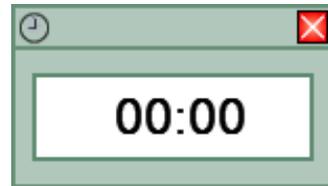
When the countdown is finished the unit will play an alarm sound. The ti-

mer window disappears automatically after 10 seconds.

To adjust the timers right click on the timer cell on XO Bar and choose / "Configuration" / "General configuration". Set each of the 4 timers to the desired value.

## Using the Stopwatch

Use foot control to start the stopwatch. The stopwatch window will appear.

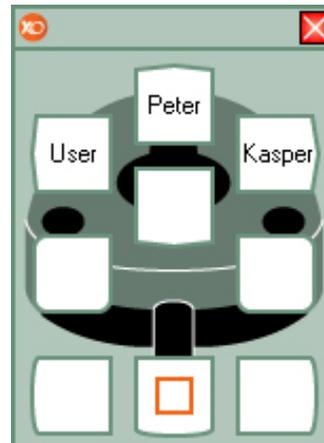


You can stop and restart a running stopwatch as many times as desired. Reset the stopwatch by pressing the reset button.

- Start stopwatch
- Stop stopwatch
- Reset stopwatch
- Timer 01:00

# User Management cell selected

All unit instruments rest



The User Management cell allows you to switch between different XO Smart Link users without using keyboard or mouse.

XO Smart Link handles up to 6 users, each with a complete set of individual settings.

## Changing users

Select the User Manager Plug-in. Look at XO Screen User Guide and activate the foot control function corresponding to the user you wish to switch to.

Allow up to 10 seconds for XO Smart Link to reconfigure XO Unit.

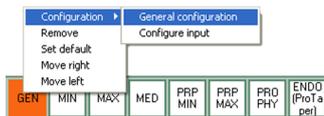
# Configuration of XO Smart Link

**Configuration of instrument activation curves**  
To change the activation curve lift the instrument forward and right click on the program you wish to change.

Select / "General configuration" / "Speeds, torque & contra angle" / "Activation curve".

On the page "Speeds, torque & contra angle" the maximum and minimum speed values can be set.

The "Minimum speed" value defines the start speed of the instrument. The "Maximum speed levels" fields define the 3 maximum speeds.



**Configuration of maximum torque of micro motor and XO OSSEO**

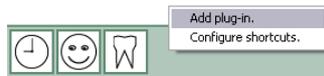
To configure reduction of the maximum torque select: / "General configuration" / "Speeds, torque & contra angle" / "Torque reduction".

The efficiency of different contra angles differs. Please consult the table in the "more..." label in "Rotating instruments tab" in the configuration box.

**Configuration of XO Bar**

A core element in XO Smart Link is XO Bar. XO Bar facilitates the following functions.

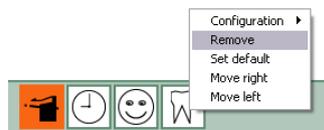
**Create plug-in:**



Right click on an empty spot on the XO Bar (green area). Choose "Add plug-in".

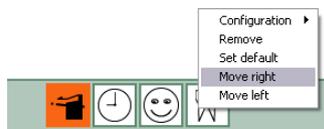
Select the desired plug-in from the list.

**Remove plug-in:**



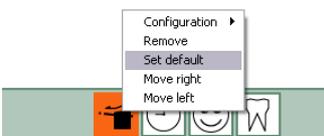
Right click on the plug-in to remove. Select "Remove" from the menu.

**Rearrange cells:**



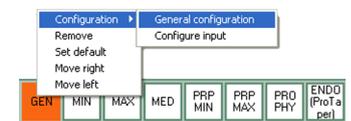
To rearrange the cells on XO Bar right click on the cell to move and select "Move right" or "Move left".

**Set default program:**



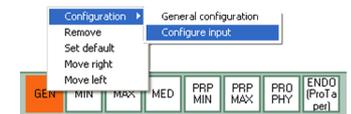
The default cell is the cell first available when XO Smart Link is started. To set the default cell right click on the cell. Select "Set default".

**Access the program configuration mode:**



Right click on the cell to be changed. Select "Configuration" / "General configuration". The configuration window will now appear.

**Access the input configuration mode:**



Right click on the cell to be changed. Select "Configuration" / "Configure input". The input configuration window will now appear.

**Access XO Menu:**

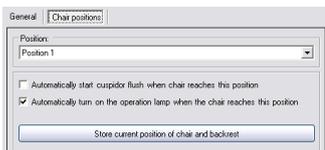


To access XO Menu click on XO logo on the left side of XO Bar.

## Programming chair positions

Right click on the Unit & Chair cell. From the menu select “Configuration” / “General configuration”.

“XO Unit plug-in options” window appears.



Select “Chair positions”. From the “positions” drop-down menu select the position to program. Use foot control to move the chair to the desired position. Press “Store current position of chair and backrest”. The programming is now complete.

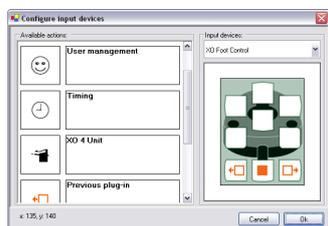
## Configuration of shortcuts

To create a shortcut use the mouse to right click on a free spot on XO Bar.



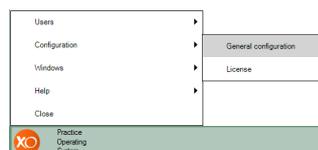
Select “Configure shortcuts”. The shortcut configuration will now appear.

From the list “Available actions” select the action to which you wish to create a shortcut. Use the mouse to drag the action symbol to the desired location on foot control palette on the left. Click “OK” to save and exit.



## Activating Auto Hide

In order to maximise screen space for other software application XO Smart Link has a build in “Auto Hide” function. The “Auto Hide” function automatically removes (all or some) XO Smart Link windows from the computer screen when XO Unit is not being used.



Select / “Configuration” / “General Configuration”.

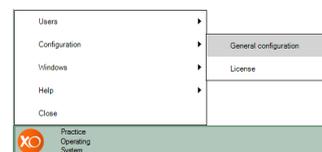
The General Configuration window will appear:



On the page “Screen & Appearance” click “Hide XO bar when inactive”. Set desired idle time.

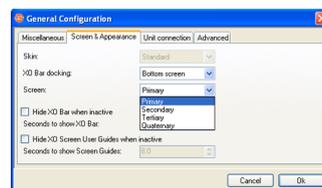
## Multiple screens

For true multi screen installations XO Smart Link supports up to four screens. To select the screen to be used by XO Smart Link:



Select / “Configuration” / “General Configuration”.

The General Configuration window will appear:



On the page “Screen & Appearance” click “Screen”. Select screen to be used by XO Smart Link.

NOTE ! The specific functions of a multi screen setup depends on the software and the hardware installed. Functionality will vary with different configurations.

# Errors

## **Please note:**

1. In case of connection problems check that PC and XO Unit are switched on and that the RS 232 cable connection is intact.
2. If the connection from XO Unit to PC fails, the unit will automatically return to XO Unit mode.
3. If correct operation of the PC cannot be verified, please shutdown the PC and run the unit in XO Unit mode. Contact your PC supplier.
4. If an error occurs please check your installation and then restart XO Unit and XO Smart Link. If the problem still occurs contact your supplier. Do not run XO Smart Link until the problem is solved.

# Installation

## **Warning:**

- XO Smart Link must be installed by qualified personnel. See installation guide for more information about installing XO Smart Link.
- Please be aware that running processor intensive applications, in combination with XO Smart Link, can slow down the system significantly and might cause XO Smart Link to malfunction. Always make sure that your PC hardware is scaled according to the applications installed.

Manufacturer  
**XO CARE A/S**  
Copenhagen  
Denmark



**CE 2460**

Ref.No.: YB-440  
Ver. 3.50  
Valid for XO SL ver. 4.4

XO is a registered trademark.  
XO Smart Link is a trademark  
belonging to XO CARE A/S.

Subject to change.

Usserød Mølle  
Håndværkersvinget 6  
DK 2970 Hørsholm  
+45 70 20 55 11  
info@xo-care.com  
**xo-care.com**