BeiJer

ELECTRONICS

Image Manual X2 base v2

English

User's Guide for Image Manual X2 base v2

Foreword

The information in this document is valid for the latest versions of the panel images at the time the document was released.

For information and updates, see *https://www.beijerelectronics.com*.

Order no: MAEN352

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Contents

1   Introduction

1.1   Safety Precautions

Both the installer and the owner and/or operator of the operator panel must read and understand the manual.

1.2   Warning, Caution, Information, and Tip Icons

This publication includes Warning, Caution, and Information where appropriate to point out safety related or other important information. It also includes Tip to point out useful hints to the reader. The corresponding symbols should be interpreted as follows:

⚡	Electrical warning icon indicates the presence of a hazard which could result in electrical shock.
⚠	Warning icon indicates the presence of a hazard which could result in personal injury.
❗	Caution icon indicates important information or warning related to the concept discussed in the text. It might indicate the presence of a hazard which could result in corruption of software or damage to equipment/property.
ℹ	Information icon alerts the reader to pertinent facts and conditions.
💡	Tip icon indicates advice on, for example, how to design your project or how to use a certain function.

1.3   Trademarks

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1.4 References

Name	Description
MAEN328	Installation Manual X2 base 5 v2
MAEN329	Installation Manual X2 base 7 v2
MAEN330	Installation Manual X2 base 7 v2 HP
MAEN331	Installation Manual X2 base 10 v2
MAEN332	Installation Manual X2 base 10 v2 HP
MAEN333	Installation Manual X2 base 15 v2 HP

The installation, technical data as well cutout and outline dimensions of the panels are described in the installation manual for each operator panel. Please refer to the Installation manuals and the iX Developer manual for further information.

Note:
Current documentation and software updates can be found on
http://www.beijerelectronics.com

1.5   Operating Systems

Panel family	Runtime Versions (licenses)	Description
X2 base v2 X2 base v2 HP	Windows Embedded Compact 2013 Runtime (General embedded)	Includes support of most existing features.

2   Boot

2.1   Welcome Screen

1. Apply power to the operator panel.
2. Within 10–15 seconds, the **Welcome Screen** will appear.

The following items about the operator panel are listed:

*   Size of internal memory card, if applicable
*   IP address
*   Panel image version

If a project has been downloaded to the panel, it will be loaded automatically.

If there is no project in the panel, touching the screen will display the Service Menu.

If there is an SD card inserted into the panel, and the project on the SD card differs from what is saved in the operator panel, then the user is asked if the project and IP-settings should be restored.
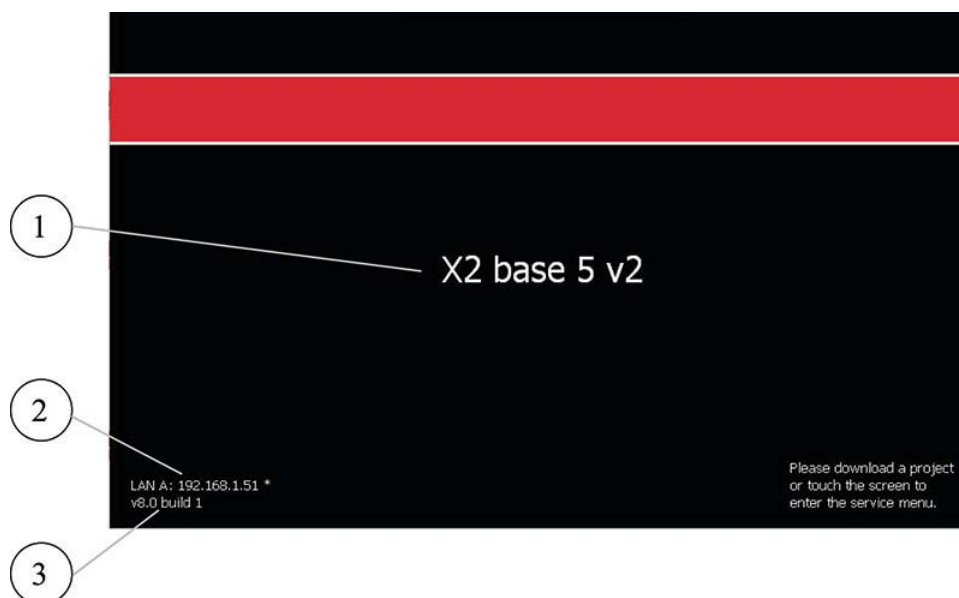
Position	Description
1	Panel type.
2	Network status. An attached network cable is indicated with an asterisk.
3	Panel image main version and build number.

3 Service Menu

The service menu for the operator panel can be accessed before a project is downloaded.

3.1 Service Menu in an Empty Panel

When no project is loaded in the panel memory, the panel will boot, displaying the Welcome screen.

• Press anywhere on the panel display to enter the service menu.

3.2 Service Menu in a Panel containing a Project

Perform the following steps to enter the service menu:

1. Apply power to the panel.
2. When the hourglass appears, press a finger on the screen and hold for approximately 20 seconds.
3. If the service menu is password protected, you will be prompted for a pin code. Enter pin code.
4. The touch calibration screen will display the following message:
   "Tap anywhere on screen or touch calibrate will start in 10 seconds."
5. Press the screen once again to enter the service menu.
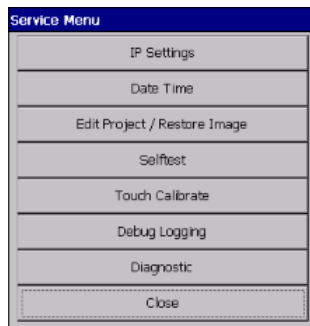
3.3 IP Settings

The following parameters can be set:
• IP address
• Subnet mask
• Default gateway
• DNS settings for the Ethernet port on the operator panel

The default setting for LAN A is: IP address 192.168.1.1, Subnet mask 255.255.255.0
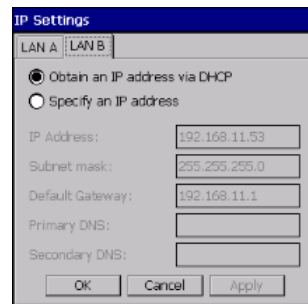
If the operator panel is equipped with two Ethernet ports, then a second tab is shown in the IP settings dialog. The default setting for LAN B is "Obtain an IP address via DCHP".
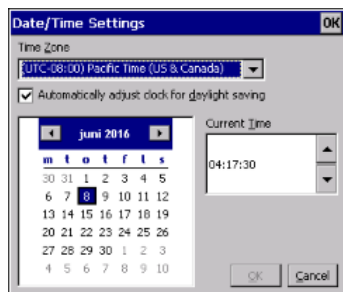
3.4 Date / Time

The date/time settings dialog allows setting of the Time zone, date, time and also setting automatic adjustment of clock for daylight saving.

3.5 Edit Project
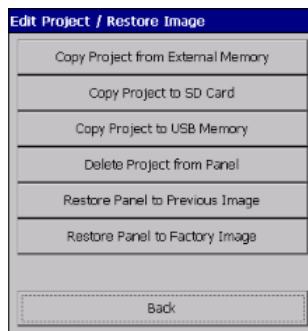
The edit project / restore image dialog allows modifying the project in an operator panel and, if needed, restore the panel image to a previous version.

3.5.1 Copy Project from External Memory

This option enables the function to copy an iX Developer project from an external memory, USB flash drive or storage device connected to one of the operator panels USB-ports.

3.5.2 Copy Project to SD Card

This option enables the function to copy the iX Developer project and all the files needed to run the application to an external SD Card.

3.5.3 Copy Project to USB

The iX Developer project and all the files needed to run the application are copied to an external USB flash drive or other USB connected storage device. Make sure that the storage device is connected before trying this option.

3.5.4 Delete Project

The iX Developer project and all its corresponding files are deleted from the operator panel. There is no way of undeleting a project, make sure that the project should be deleted before confirming the deletion.

3.5.5 Restore Panel to Previous Image

The operator panel image can be restored to the panel image version the operator panel was using **before** a new panel image was loaded into the operator panel. This option is used to restore a panel to a known working condition.
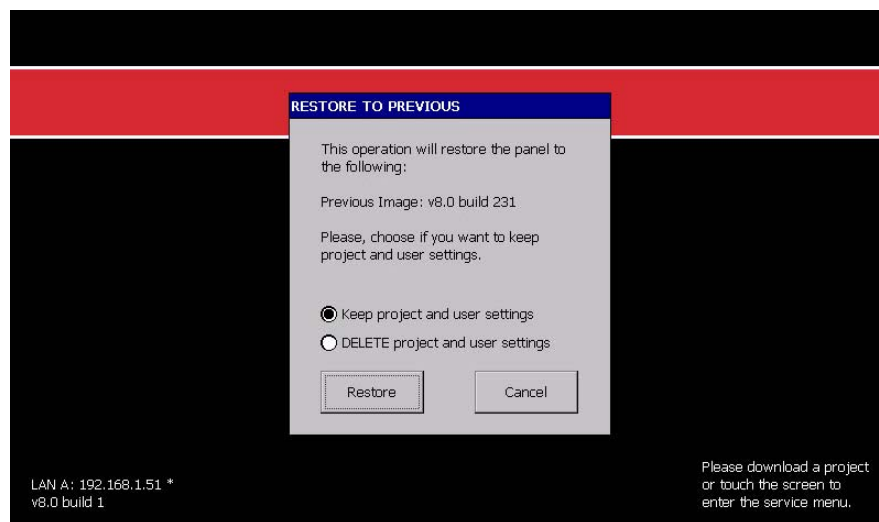
3.5.6 Restore Panel to Factory Image

The operator panel image can be restored to the panel image version that the operator panel was shipped with from the factory. Use this option if all else fails, this will downgrade the operator panel to its initial state.

3.6 Self Test

The self test screen looks a little different depending on operator panel type.

To be able to fully test the Carrier unit, a complete set of test plugs, SD-card and a USB flash drive is needed.
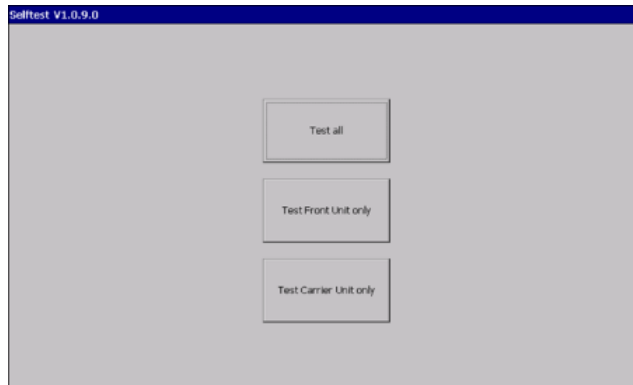
3.7 Touch Calibrate

The touch calibration screen enables the function to recalibrate the touch screen. The recalibration consists of five steps, where a crosshair on the screen is pressed and held. Take care and try to do this as precise as possible, an incorrect calibration makes it hard to use the operator panel.

3.8 Debug Logging
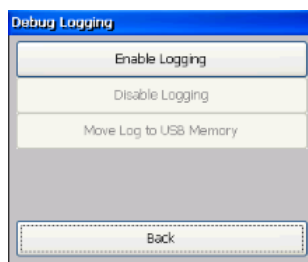
The Debug Logging dialog enables the function to enable and disable the debug logging on the operator panel. It also enables the function to move a previously created set of debug log files from the operator panel to an USB flash drive.

Option	Description
Enable Logging	The operator panel will start or continue to store additional debug log information in log files. A total of 10 log files of a maximum of 100 kB per file will be kept in the operator panel internal memory. If the log files are filled to the limit, the oldest file will be over written first. This function should only be used for a limited time, as it will continuously write data to the flash memory and by that add to the flash memory wear.
Disable Logging	The operator panel stops storing debug log data. The data will remain in the operator panel internal memory.
Move Log to USB Memory	Moves the debug log files in the operator panel to an external USB storage device.

3.9 Diagnostic

```
                                    Diagnostics
DIAGNOSTICS:                          SYSTEM BOARD:
    Boot count:         864              Type:        T15F3EXT (5)
    Running time:       850.1 h          Variant:     High Performance (1)
    Backlight time:     706.5 h          HwRevision:  2
    CPU temperature:    50°C             CPU type:    AM3352 (4)
    CPU temp. range:    -72°C to 83°C    Feature bits: 0x001F
    Board temperature:  40°C             Mbrd. Serial-#: 1009194473
    Board temp. range:  -71°C to 60°C
    CPU overtemp. time: 0.0 h         DISPLAY CARD:
    Board overtemp. time: 0.0 h          Panel resolution: 1360x768 px
    Image restore count: 1
    Flash memory life used: 0% - 10% SELFTEST:
    Battery status:     GOOD             CPU prod.temp. range:  49°C to 79°C
                                         Board prod.temp. range: 41°C to 60°C
IMAGE/BOOT LOADER INFORMATION:        Front test
    Factory image:      v8.0 build 249    [PASSED]  Display
    Previous image:     v8.0 build 249    [PASSED]  Touch
    Current image:      v8.0 build 249    [PASSED]  Backlight
    Current boot loader: v8.0 build 249   [PASSED]  EEPROM

PANEL INFO:
    Hardware ID:        95            System board test
    Hardware version:   N/A              [PASSED]  RS232
    Brand ID:           8                [PASSED]  RS422
    Brand name:         iX Panel         [PASSED]  RS485
    Brand type:         X2 base 15 v2 HP [PASSED]  USB
    Product ID:         0                [PASSED]  Ethernet 1
    OS version:         8                [PASSED]  SD Card
    Device type:        6                [PASSED]  Configuration
    OEM ID:             0
    Serial number:      123456-00014  Summary
    Thing ID:           XX-XXXX-XXXX-XXXX-16B2  [PASSED]  RS232

Settings  Licenses                              <-   ->   Save to USB memory  Close
```

Category	Description
Diagnostics	Shows how many times the operator panel has been started, how long the operating panel has been running, measured temperatures and the wear of the flash memory.
Image Information	Displays a list of the panel images available on the operator panel.
Panel Information	Shows the make, model and revision of the operator panel.
System Board	Shows hardware information of the System board in the operator panel.
Display Card	Shows hardware information of the Display card in the operator panel.
Selftest	Shows the result of the last selftest.

```
                                    Diagnostics
    [PASSED]  RS422                  IP address:    N/A
    [PASSED]  RS485                  IP mask:       N/A
    [PASSED]  RAM/NVRAM              Gateway:       N/A
    [PASSED]  Real Time Clock        DHCP:          Enabled
    [PASSED]  EEPROM                 MAC address:   00-50-6C-0F-82-93
    [PASSED]  Core temperature
    [PASSED]  Touch                SERIAL PORTS:
    [PASSED]  Backlight              COM1: [ RS232 ] [None]
    [PASSED]  Display                COM2: [<unknown>] [None]
    [PASSED]  USB                    COM3: [ RS485 ] [None]
    [PASSED]  Ethernet 1             COM4: [ RS232 ] [None]
    [PASSED]  SD Card                COM5: [<unknown>] [None]
    [PASSED]  Configuration          COM6: [ RS485 ] [None]

                                   Virtual COM ports (FTDI) [serial no]:
FOLDERS:                             COM7: [A105QJ04]
    Path            Size      Free Free
    \           127.77 MiB 127.51 MiB  99%
    \FlashDrive   3.26 GiB   3.26 GiB   99%

MEMORY:
    RAM:        275.53 MiB 252.29 MiB  91%

NETWORK INTERFACES:
    Adapter name:  LAN A
       IP address:   192.168.1.51
       IP mask:      255.255.255.0
       Gateway:      N/A
       DHCP:         Not enabled
       MAC address:  00-50-6C-0F-82-92

    Adapter name:  LAN B

Settings  Licenses                              <-   ->   Save to USB memory  Close
```

Category	Description
Selftest cont.	Shows the result of the last self test.
Summary of flash drive storage	Shows a summary of the flash drive storage status.
Network adapters	Shows IP configurations and MAC addresses for the network adapters in the operator panel.

Note:

The information (layout and number of screens) on the diagnostic screen pages appear differently depending on screen size. The screenshots above are taken from a X2 base 15 v2 HP operator panel.

3.9.1 Export Diagnostic Information

Click **Save to USB memory** to export the diagnostic information to an external USB flash drive or other USB connected storage device. Make sure that the storage device is connected before trying this option.

4 Image Update

The operator panel comes pre-loaded on delivery with an image.

iX Runtime can be updated via Ethernet using a PC.

The Image Loader utility is used to create Image Loader SD-cards and USB-sticks or to transfer a panel image to an operator panel over Ethernet.

The IML can be updated in the following ways:

Update method	iX Developer project remains	IP adress remains
Ethernet	X	X
USB	X	X
SD	X	X
Recovery SD Card	-	-

If you want a complete system update, choose Make Recovery SD Card. The iX Developer will then be set to default settings, except for touch.
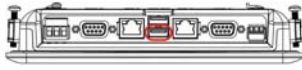
4.1 Updating the Panel Image using USB or SD-Card

4.1.1 Preferred Way

Using a USB flash drive or SD-card to update the image in an operator panel is the preferred method of updating the panel. This makes it possible to upgrade the panel image without the use of a PC.

Note:
It is only the primary USB-port that can be detected during start-up and therefore this USB-port must be used. For HP models this is the port closest to the display. See figure.

4.1.2 Image + New iX Developer Project

It is possible to upgrade both the panel image and the iX Developer project on an operator panel. This is done in two steps:

1. Create a panel image USB flash drive or SD-card using the Image Loader utility.
2. Export the iX Developer project from within iX Developer, to that same USB flash drive or SD-card.

Note:
It is only the primary USB-port that can be detected during start-up and therefore this USB-port must be used. For HP models this is the port closest to the display. See figure.

## 4.2 Updating the Panel Image over Ethernet

The Image Loader utility can be used to upgrade the panel image over Ethernet.

Note:
Before trying to update the panel over Ethernet, make sure that your PC is on the same IP-subnet as the operator panel. If your panel has an IP address of 192.168.1.1, and a netmask of 255.255.255.0 , then your PC has to have an IP address in the range of 192.168.1.2 – 192.168.1.254 and a netmask of 255.255.255.0, in order to be able to communicate with the panel.
To enter the update mode on a iX TxA or X2 base, press a finger on the screen and apply power to the panel.
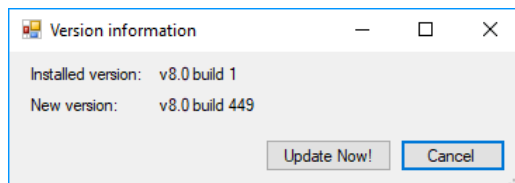
1. Enter the panel target IP address in the dialog and click on **Update** to start the update.
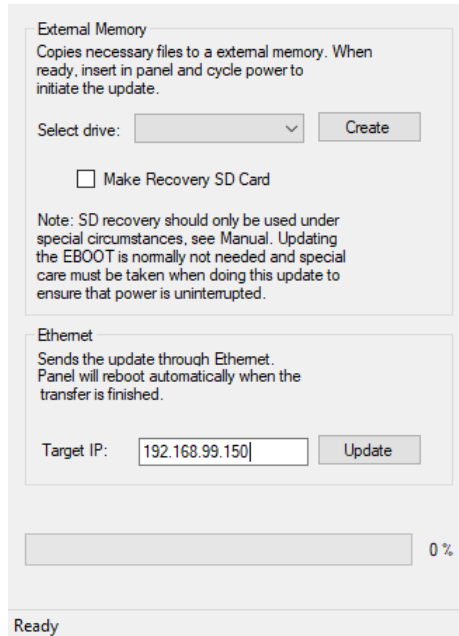
2. Make sure that the IP address of the panel matches the actual panel that you want to upgrade.
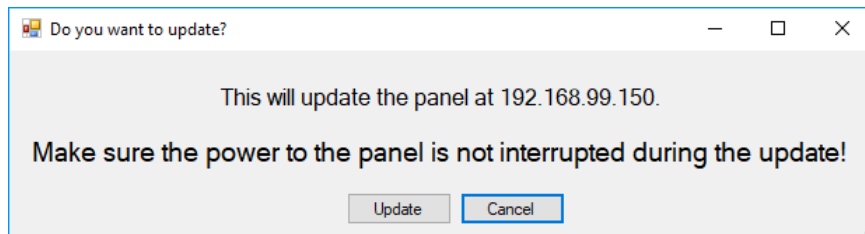
3. The dialog shows the current installed image and the new image the panel will be updated to after the upgrade. Click on **Update now!** to confirm the update.

4. The progress bar shows the upgrade status. When the upgrade is done, the panel will restart.

External Memory
Copies necessary files to a external memory. When ready, insert in panel and cycle power to initiate the update.

Select drive: [⌄]   [Create]

☐ Make Recovery SD Card

Note: SD recovery should only be used under special circumstances, see Manual. Updating the EBOOT is normally not needed and special care must be taken when doing this update to ensure that power is uninterrupted.

Ethernet
Sends the update through Ethernet. Panel will reboot automatically when the transfer is finished.

Target IP: [192.168.99.150]   [Update]

37947/70645 kB   2037 kB/s

53 %

Sending files...

4.3　iX Developer Project Status after Panel Image Update

On X2 base v2 the iX Developer project is unchanged after a panel image update is performed. If the panel image upgrade is made over Ethernet, an additional dialog will pop up to confirm an erasing of the current iX Developer project. The default setting is not to erase the iX Developer project.

5   Creating a custom Welcome Screen

The default Welcome Screen on an X2 operator panel, with the exeption of X2 base, can be replaced with a custom picture.

1. Create a start-up picture with the following characteristics:
   – Size: The exact same resolution as the panel the picture will be used in
   – Name: iXCustomSplash.bmp
   – Picture format: .bmp

2. Create a iX Developer project for the panel you want to replace the Welcome Screen on.

3. Add the picture to the project's **Project Files**.
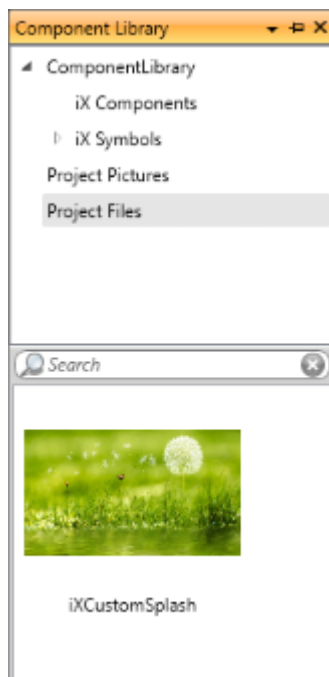
4. Download the project to the operator panel.

5. Reboot the panel to load the new Welcome Screen.

Tip:
To check the panel resolution, start iX Developer, and in the wizard select the correct panel type, and then check the technical data displayed for the operator panel.

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