




**PIXAVI**

X series | User manual

X series by Pixavi .....	3	Software updates .....	19
Before use .....	4	Declaration of conformity .....	19
Introduction .....	4	Warnings and notifications .....	20
Main feature set.....	5	FCC information .....	20
Hardware explained .....	6		
User Interface.....	8		
Make a call .....	9		
Take a picture.....	10		
Record video .....	11		
View videos .....	11		
View pictures.....	12		
Photo & Video settings .....	12		
Streaming .....	13		
Address book.....	13		
Setup Menu.....	14		
Wireless setup.....	14		
IP address settings .....	15		
H.323 configuration .....	15		
Call settings .....	15		
Factory default .....	16		
Diagnostics .....	16		
Web interface .....	16		
Accessories.....	17		
Support forum.....	18		
Product Support.....	18		
Service and maintenance options.....	19		

## X series by Pixavi

All the X series products share the same electronics and base chassis. The differences between the products are in software, labeling and if the product has an integrated camera module or not.

	ST5000	EX5000	EX4000	VisiWear ST3500	VisiWear EX3500	Xcore EX6000	Xcore ST6000
 <b>Video conferencing</b>							
 <b>Video recording</b>							
 <b>Still image capture</b>							
 <b>Video streaming</b>							

## Before use

Congratulations with your purchase of an X series device by Pixavi. The product is produced with the strictest quality routines and procedures to ensure optimal reliability and quality.

Before the unit is booted the first time, please ensure that it is put on continuous charging for 5 hours. This will ensure that the battery life cycle remains optimal throughout the life span of the battery.

The Device is equipped with a redundant power circuit and can be operated while charging the battery. The battery will normally take 1 hour longer to charge when the unit is powered on while charging.

If the Device has been operated in high environmental temperatures (above 40° C), the battery might not start charging immediately. Lithium Polymer batteries are not designed to be charged above 50° C. To address this limitation, there is a temperature sensing circuit inside the camera that makes the charger wait until the battery has cooled down to an acceptable temperature level upon turning the unit off.

## Introduction

The Pixavi X series is a range of high end video and audio communication devices, capable of dialing and communicating via audio and video to any video conferencing endpoint.

The general idea of video conferencing today is based on face to face communication to enable participants in meetings to see each other from different locations. Pixavi has since 1999 offered a new way of utilizing video conferencing technology.

Integrating the latest wireless technology, video compression codec's and the fastest processing power in a compact, wearable design, Pixavi is able to offer its customers the ability to take the organizational expertise to wherever it is needed and transferring high quality audio, video and still images in real time and offline.

The X series cameras are utilized when there is a need for rich communication, beyond what telephones, mobile phones, PDAs, videophones and stationary video conferencing systems can offer. The X series brings the ability to share information with anyone, anywhere. High quality video (HD) , CD quality audio and high resolution still images (8 megapixels) are transferred in real time full duplex between users. The participants can also interact through image and application sharing. Due to the X series rugged properties they can be utilized in virtually any environments.

## Mobile Telepresence

Featuring a high performance video processor, with HD H.264 encoding and advanced camera sensor and optics, the X series is capable of offering Telepresence quality directly from the field to the end user. We have already successfully tested the product with several Telepresence products in the market.

## Main properties

The X series features a rugged aluminum housing and is waterproof according to IP68 (EX version) splash proof according to IP65 (ST version). The product is optimized for use in demanding environment, where normal cameras, mobile phones or laptop computers will not survive.

Through intensive testing, the product has been certified for a long range of industrial standards to ensure that the product can meet the most demanding requirements and applications.

- Compact design
- Rugged
- Easy to use user interface
- One hand operation
- 720p High Definition video support
- 8 Megapixel still images
- IP68 watertight
- Zone 1 explosion proof (EX series only)

## **Main feature set**

The X series has 4 main feature sets:

- Video conferencing (SIP and H.323)
- Advanced collaboration (laser / drawing)
- Internet streaming (stream to Windows media player, QuickTime)
- Recording and photo modes

### **Video conferencing**

The X series comes with both SIP and H.323 video conferencing support, including all the common sub standards. Pixavi has successfully tested the product with a range of video conferencing terminals:

- Cisco
- Lifesize
- Tandberg
- Polycom
- Sony
- Aethra
- Vcon
- Mirial
- Radvision

### **Advanced collaboration**

The Device has a built in Laser that helps both parties in the session collaborate in “real life” instead of using the display. This feature has several benefits over traditional “draw on video” systems.

### **Internet streaming**

With Support for the ISMA 2.0 streaming standard, the X series has the ability to stream real time HD video to both Windows media and QuickTime players.

### **Recording and photo modes**

The X series cameras can also operate as a standard camcorder and still

image camera, with support for 720p video recording and 8 Megapixel still image support.

**Hardware explained**

5000 & 4000 series



VisiWear EX3500 & Xcore EX6000



VisiWear ST3500 & Xcore ST6000















## User Interface








The Device can be independently operated via either the Keypad or the touch screen. The purpose behind is that the user can operate the unit with gloves.

### Keypad buttons and status symbols

#### Buttons

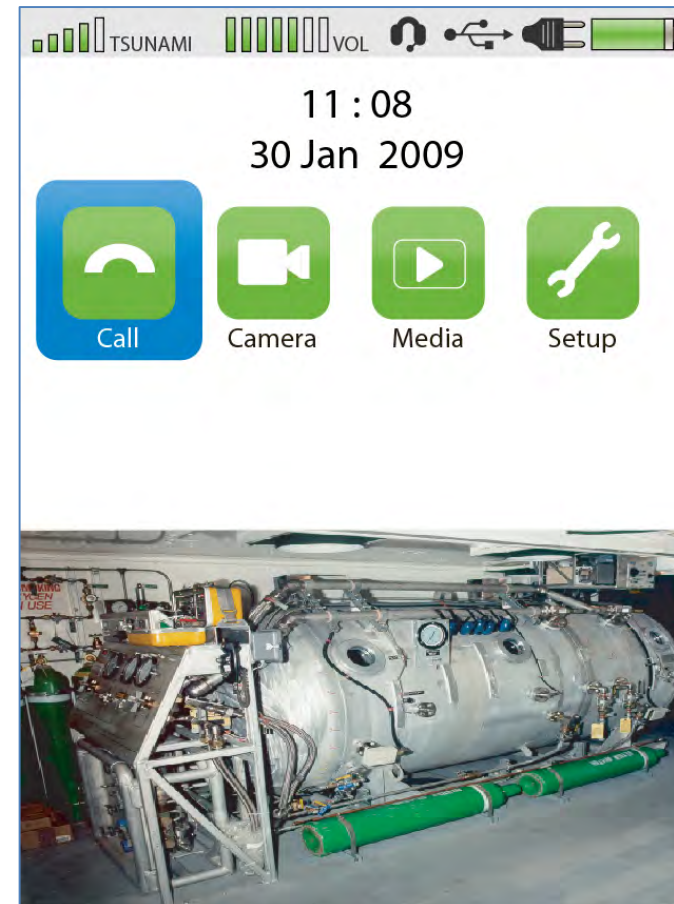
	ON / OFF
	Address book
	Call
	Hang up
	Snapshot
	Record
	Cancel
	Ok
	Mode
	Main menu
	Volume
	Zoom

#### Symbols

	AC connected
	Charging
	Full
	Battery status
	In Call
	Resetting
	WiFi connected

### The main menu screen

The main menu consists of the most essential icons for the end user of the product and a live video view.



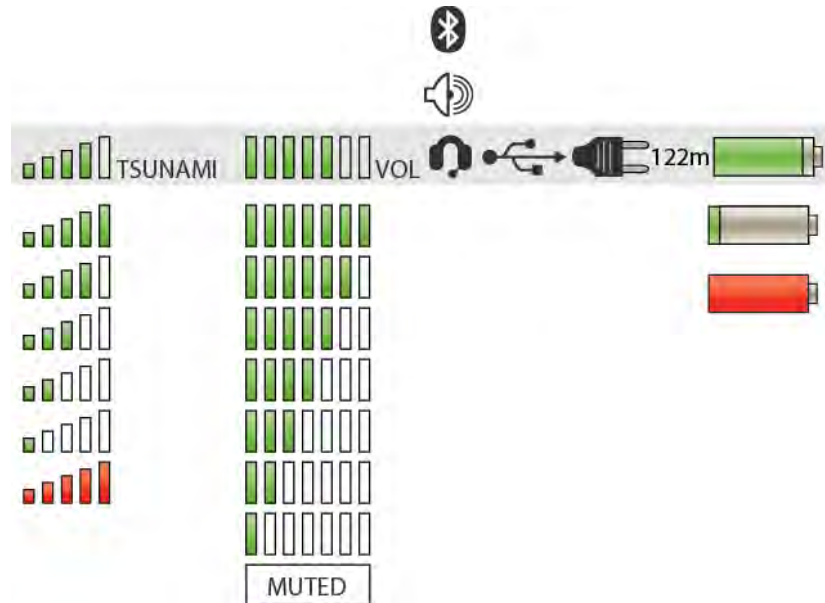
### The status bar

The status bar is located on the top of the screen. It gives the user a simple, visual overview over the overall status for the system.



The status bar contains the following information:

- Battery status
- Charging status
- Wi-Fi coverage status
- Volume level /muted
- Peripherals connected (audio /power/USB 2.0)



### The on screen keyboard

The onscreen keyboard (OSK) is designed to give the user a quick and easy way of inputting text and numeric data to the system. The OSK is mainly used when the system is being configured and is normally not accessed by the end user.

The OSK pops up only when required by an input field. You can use both the touch panel and the keypad to operate the OSK.

Alphabetical mode:

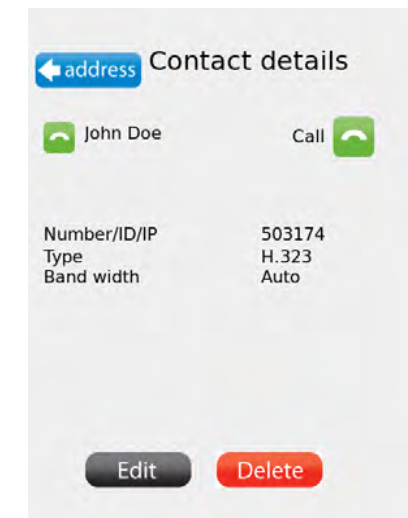
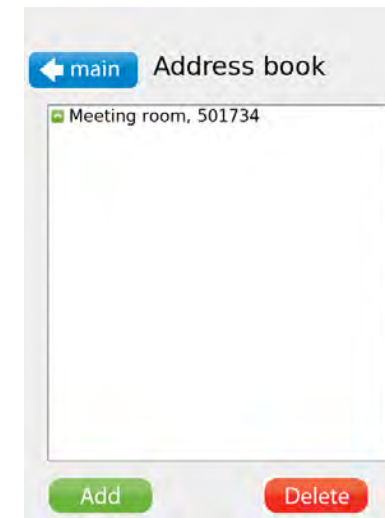


Numeric mode:



### Make a call

When pressing the call icon or the address book button, the user is navigated to the address book:



For navigating in the address book, the user can either use the keypad up/down buttons, or move the on-screen scroll bar. To call one of the contacts, either click on the contact using the touch screen, or press the green Ok button on the keypad. You will then be presented with the contact details of this contact, including information about dialing number (IP address or alias), and default bandwidth. The contact details can then be edited, or a call can be placed by clicking the "Call" button.

Once you have dialed, you will have the option of cancelling the call by clicking the “hang up button” or the OK button again. The “Call in progress” window will display the recipient information.

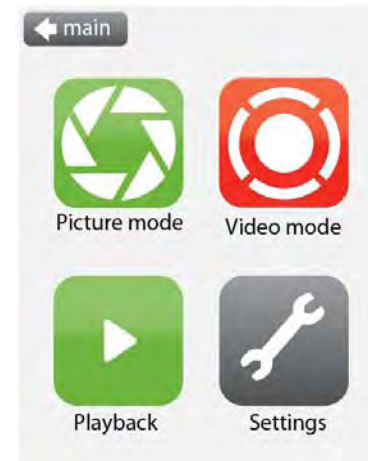
**In call screen**

Once connected, you will get both the local video (top) and remote video (bottom) on the screen. Each video window is scaled down to 270p resolution. At the bottom you will see a window indicating the call info.

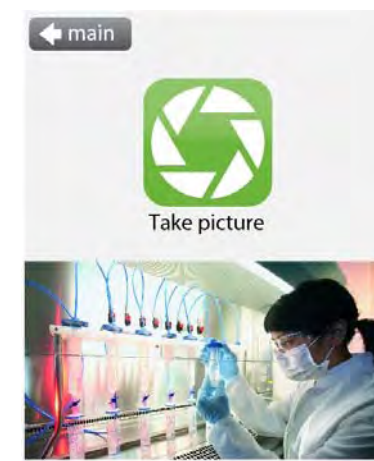


**Take a picture**

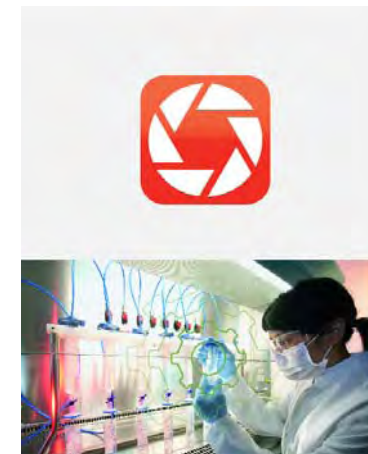
**1 Select Picture mode.**



**2 Select Take picture**



**3 Picture is taken**

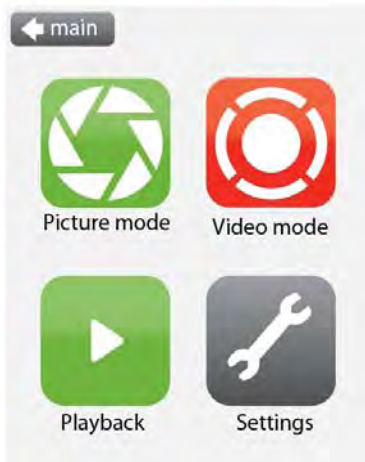


**4 Select arrow icon after review**



## Record video

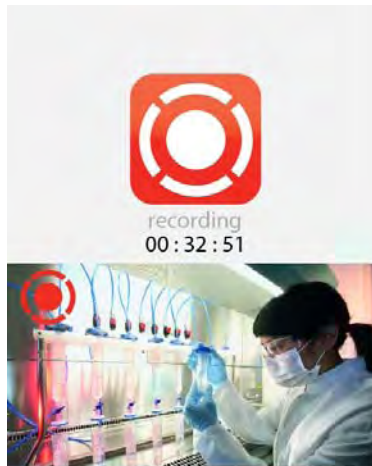
1 Select Video mode.



2 Select Start recording



3 Press icon to stop recording

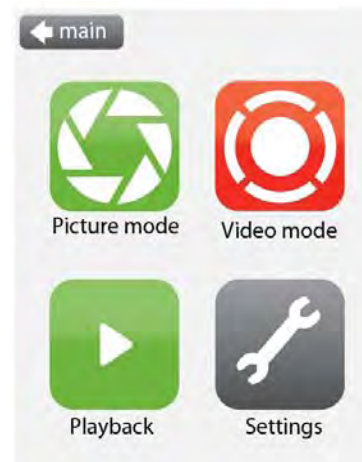


4 Video is saved

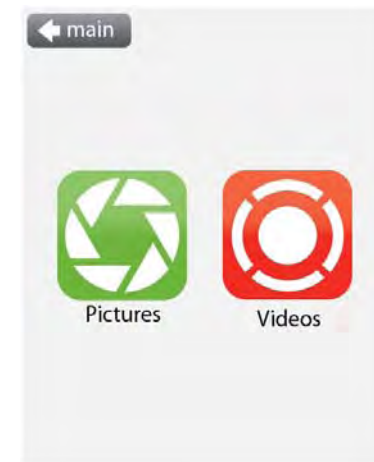


## View videos

1 Select Playback mode.



2 Select Videos



3 Browse with next and previous

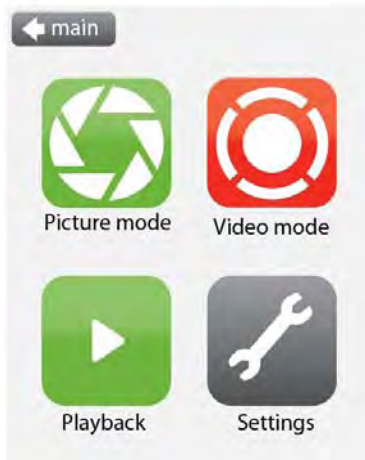


4 Play by selecting the play icon

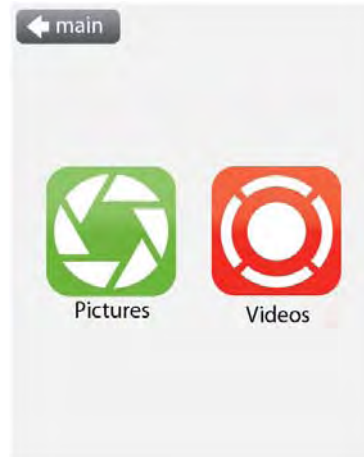


## View pictures

1 Select Playback mode.



2 Select Pictures



3 Browse with next and previous



## Photo & Video settings

### Automatic preview

Enable if you want the camera to display a preview of the picture after it is captured.



### Storage

Here you can set up the storage destination of your pictures and video. You can choose between two different options:

- Local flash memory
- Network share

When selecting Network share, you are prompted for a network path, a user name and a password.

### Picture quality

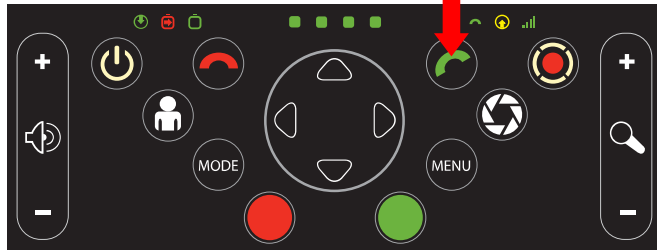
Allows you to define the detail grade of your captured pictures.

### Video quality

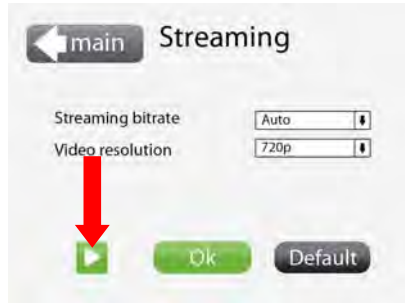
Allows you to define the detail grade of your recorded video.

## Streaming

1. Press the green call button on the keypad. This takes you to a screen where you can choose between making a call or starting the streaming server.



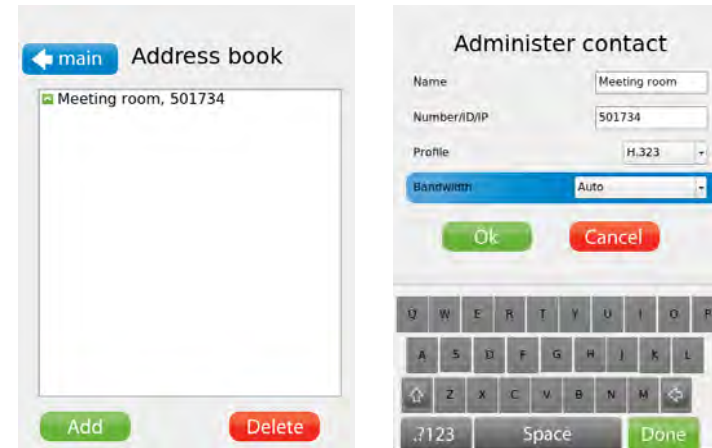
2. From this screen, click the "Streaming" button on the GUI. This will take you to the streaming screen where you can change resolution or bitrate if necessary.
3. To start the server, press the "play" icon on the left of the screen. This will not start streaming, only start the streaming server.



4. To start actual streaming, you need to connect using VLC media player.
5. Open the streaming application (e.g. VLC media player), choose "Media -> Open network stream". Enter the address of the Camera on the form: `rtsp://<Xcaster IP address>`
6. Streaming should now start, and you should see video locally on the Camera GUI as well as in the VLC player.

## Address book

To add a new contact in the address book, press Add in address book menu.



In the administer contact menu you can add the following information:

- **Name:**  
This is the name which the contact will appear under in the address book.
- **Number/ID/IP:**  
This is the dialing number of the contact. For H.323 calls using a Gatekeeper, this will be the E.164 Alias of the contact. For direct H.323 calls, this will be the IP address.
- **Profile:**  
The protocol being used.
- **Bandwidth:**  
The default bandwidth for this contact. This can be set to a custom value to take into account the network connection for this contact.

## Setup Menu

The setup menu gives access to the following sub menus.

### WiFi:

- Available networks
- Preferred networks

### Settings:

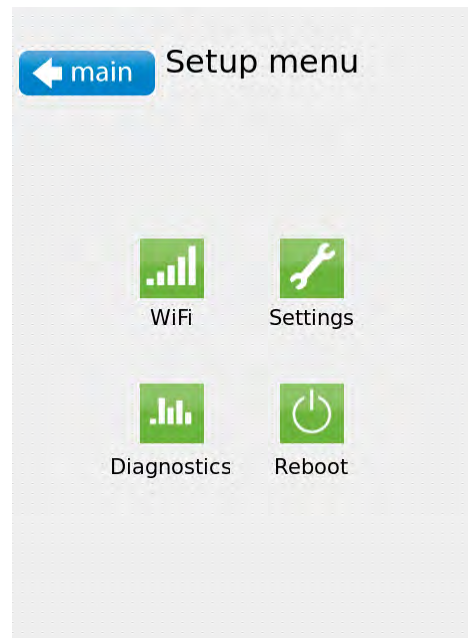
- General
- Network settings
- Call quality
- Restore factory defaults

### Diagnostics:

- System information

### Reboot:

- Reboot of unit



## Wireless setup

To set up a wireless network, first click the WIFI button. This will take you to the Wireless settings menu.



By clicking available networks will present a list of currently available networks.

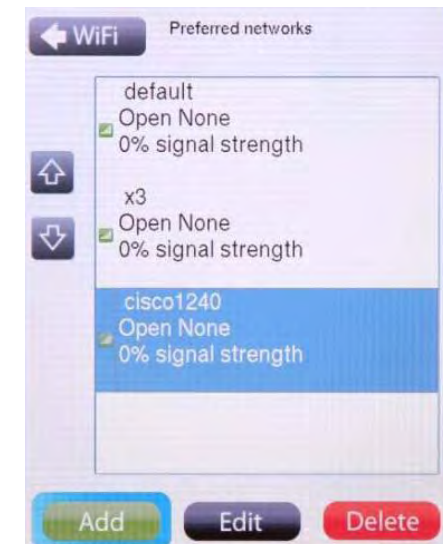
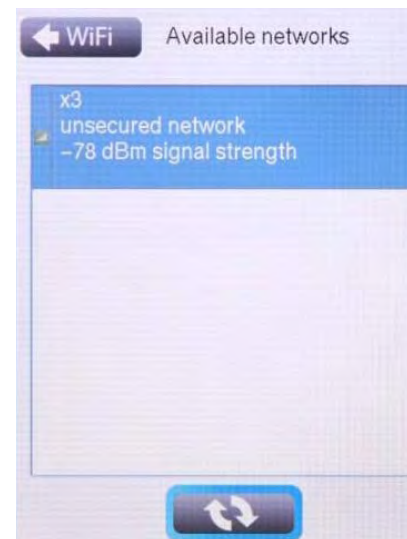
To associate with one of these, click on the network name.

If the network is one of the already configured preferred networks, association will happen immediately. Otherwise, the user is prompted for a WPA/WPA2 passphrase or a WEP key before trying to associate.

If association is successful, the SSID will appear in the status bar after a few seconds.

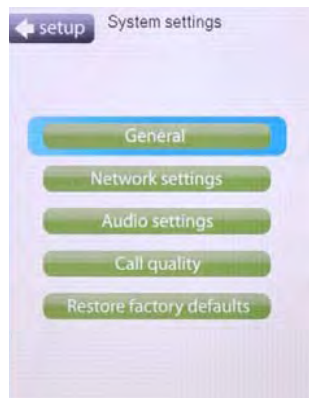
The X series cameras are by default configured to associate to an unencrypted network called "default".

When the camera connects to a new network, the SSID will automatically be added to the list of preferred networks."The preferred networks menu allows you prioritize, edit, or delete the stored SSIDs".



## IP address settings

The Settings button takes the user to the system settings menu.



The "Network settings" button provides choices for configuring WIFI IP settings.

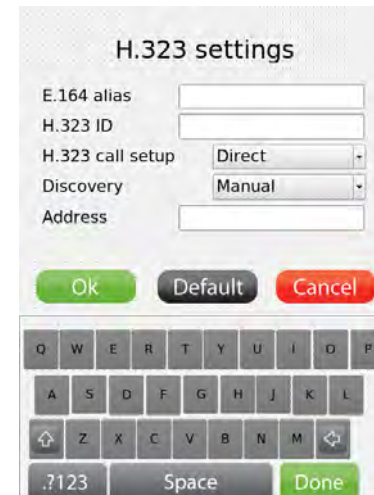


The IP settings menu lets the user choose between using DHCP or a static IP. The default IP address is set to 192.168.0.20

## H.323 configuration

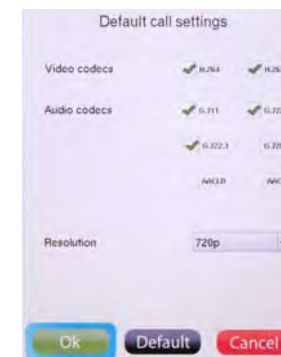
If no gatekeeper is used, the "H.323 call setup" option must be set to "Direct". If the Camera should connect to a gatekeeper, this option should be set to "Gatekeeper". The E.164 field (numeric) is the number used for dialing the camera, and the H.323 ID is the name used to identify it. Both these fields should be filled in when using a gatekeeper. When using a

gatekeeper, the "Discovery" option can be set to "Auto" if the gatekeeper is discoverable. If not, "Discovery" must be set to "Manual", and "Address" must contain the IP address of the gatekeeper. In order to make a direct call (not Gatekeeper routed) to an endpoint, using its IP address, H.323 call setup must be set to "Direct".



## Call settings

The X series cameras can be configured to function with several video conferencing codecs and is also easy to adapt to various types of infrastructures with different bandwidth.

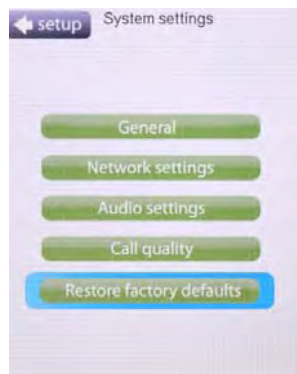


In the default call settings menu you can select what types of codecs the unit will use when communicating. Not all endpoints support the Pixavi

H.264 codec. This is especially relevant for older endpoints and endpoints using older implementations of the H264 codec. For communication towards such endpoints, please use the H263 codec. You can also select the default video resolution (CIF or 4CIF) to be used in conference calls. If you choose 4CIF, but the remote party does not support this, it will use CIF instead.

### Factory default

By selecting restore factory defaults, you can set the device back to its factory settings. If the factory defaults are restored, all the contacts, settings and media on the device are deleted permanently.



### Diagnostics

The diagnostics screen displays various useful information.



### Web interface

The X series products can also be configured via web interface.

#### Log in

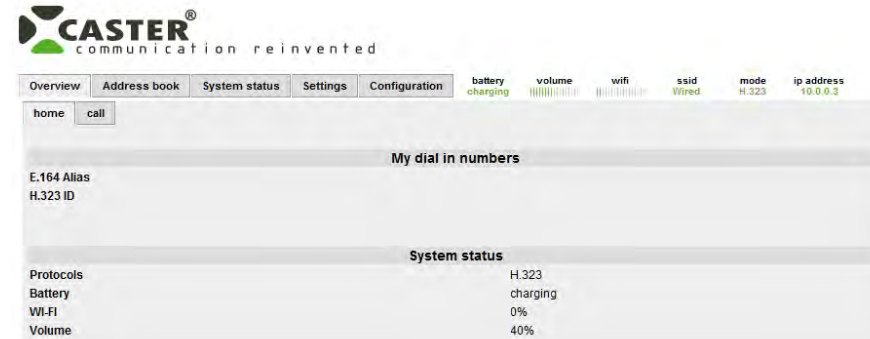
To logon to the web interface, simply enter the IP address of your camera in the address field in your web browser.



With default settings, you don't need to enter a password to login. Just click the login button two times.

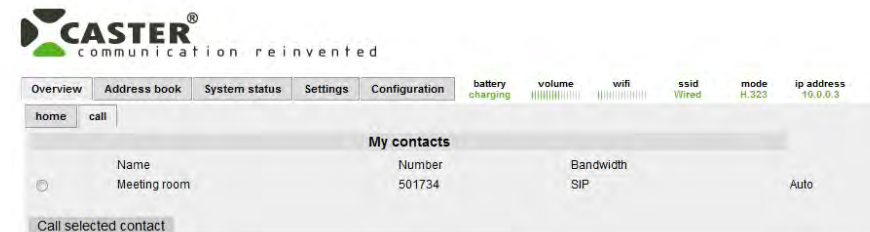
#### Overview

In the overview menu you can find a quick system status overview and the dial in numbers for the camera.



#### Call

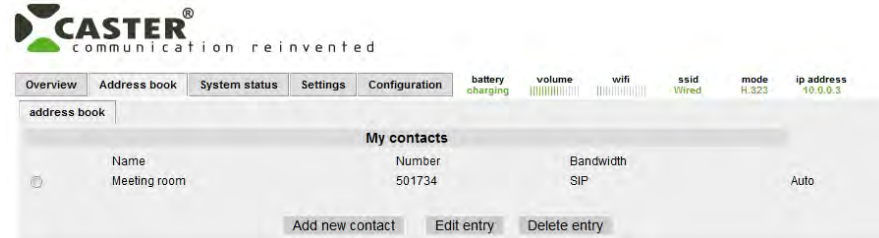
By selecting the call tab, you can initiate calls to contacts in your contact list.





## Address book

In the Address book tab you can add, edit or delete entries in contact list.



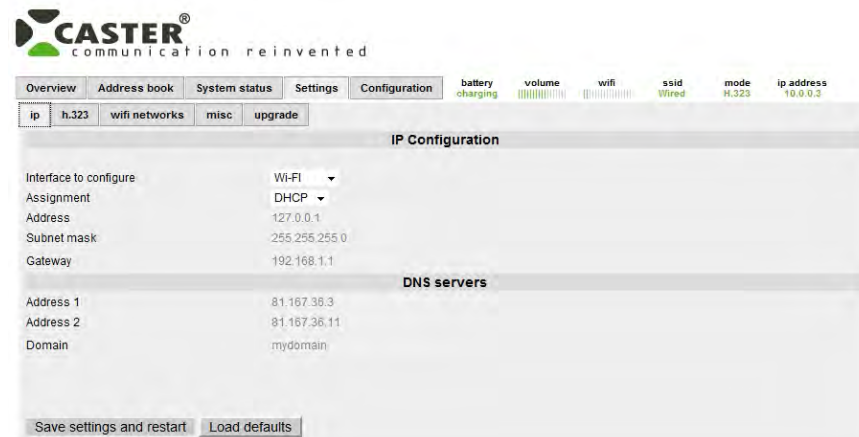
## System status

The system status tab provides a summary on the camera configuration.



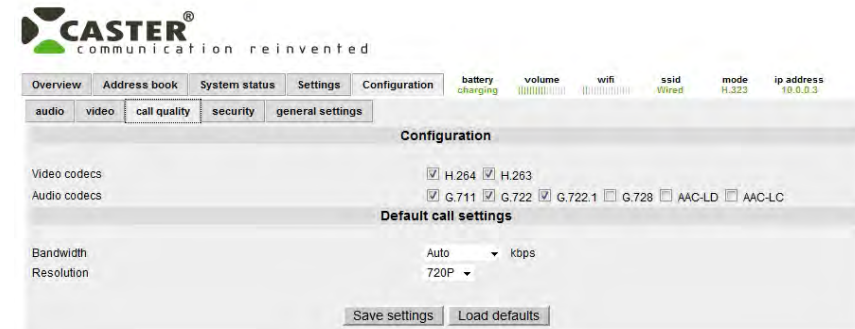
## Settings

In the settings tab you can configure the IP, H323, WIFI, Username/ passwords and also update the camera firmware.



## Configuration

Using the configuration tab allows you to configure the settings for video, call quality, security and answer mode.



## Accessories

Pixavi offers a range of accessories in order to maximize the value of your investment. The accessories will open up for new applications and can help you expand the usage areas of your product.

### Headsets

Supporting both wired and wireless audio headsets, the X series opts for different choices for headset connections. The most common options are illustrated below:



### External cameras and displays

When the internal camera and display does not suit your application, Pixavi can offer external cameras and displays. The most common options are illustrated below:



External zoom camera



External miniature camera



Head mounted display

### Tripods and brackets

The X series products can be placed on wall, table or floor using these tripods that are offered by Pixavi:



CCTV mount



Table top tripod



Floor tripod

### Storage

At time of order, you specify the storage capacity you want for your Camera. The options are listed below:



### Borescope

Through third party partners, we can offer a borescope with a custom connector to the Camera video input. This enables a live connected bore scope



### IR camera

Through third party partners, we can offer a IR camera with a custom connector to the Camera video input. This enables a live connected IR inspection camera.

### Support forum

Support forum is available here:

<http://www.pixavi.com/community/>

### Product Support

Pixavi provides support via phone, email and our online support forum

More information here:

<http://www.pixavi.com/support-site-pixavi.php>

### Warranty disclaimer

#### Limited Warranty

Pixavi AS complements its quality line of products with a limited warranty. The Pixavi limited warranty comes free of charge with the purchase of all Pixavi manufactured goods.

Pixavi states that the purchased product is free from defects or other abnormalities that would otherwise hinder proper working order of the equipment. This warranty extends to only those individuals, groups or organizations that have purchased from Pixavi AS directly or from an authorized vendor. The limited warranty does not cover other parties that subsequently purchase the product from the original purchaser.

#### Warranty Procedure

In the event that the Pixavi product fails under the warranty period, and the warranty is found valid according to the warranty statement, Pixavi will repair or replace the equipment at no extra expense to the purchaser. Should an exchange be necessary, Pixavi will after its opinion and review, return to the purchaser a completely unused model or refurbished model in perfect working order. The return of this model to the purchaser, will be covered by the warranty should this still be applicable.

### Warranty validity

The X series products comes with a 1 year warranty

### General Conditions

- When a component is replaced by Pixavi AS, a new 90 days warranty is given on the new component. This new warranty is restricted to and covers only the component replaced.
- Failure/Malfunctions due to neglect of the precautions given in the user manual is not covered by the warranty.
- Should any item fail after the warranty period, applicable charges for both repair/replacement and shipping will be added.
- Warranty is no longer valid if the warranty seals are broken.
- The Warranty is only valid if the product has been used with original Pixavi components, chargers, cameras and recommended headsets as described in the manual through the lifespan of the product.
- An additional 6 month battery warranty is granted when signing up with the Pixavi Level 2 Service Package.
- A continuous warranty can be obtained through signing up with the Pixavi service level 3.

### Service and maintenance options

Pixavi offers 3 levels of support:

Level 1	<ul style="list-style-type: none"> <li>• Included with your Xcaster purchase</li> <li>• Basic phone / email support</li> </ul>
Level 2	<ul style="list-style-type: none"> <li>• Extended warranty</li> <li>• extended phone /email support</li> </ul>
Level 3	<ul style="list-style-type: none"> <li>• Continuous warranty</li> <li>• extended phone/email support</li> <li>• Go Live 2.0 services subscription</li> </ul>

Contact Pixavi for pricing and more information about the service and support programs.

### Software updates

Software updates for this product can be downloaded here:

[www.pixavi.com](http://www.pixavi.com)

The firmware upgrade is carried out using the web interface on a pc connected to the same LAN as the unit.

#### Step by step description:

1. Connect the power adaptor to the unit and turn it on.
2. Enter the IP address of the unit in your internet browser address field.
3. Select "login" 2 times.
4. Select the "settings" tab.
5. Select the "upgrade" subtab (this will display the current software version). Click the "browse" button, and select the software upgrade file (\*.tar). When clicking "send", the file will be uploaded to the unit.
6. After successful upload, the LCD screen will show a warning saying that the firmware upgrade is taking place.
7. Do not use the unit until this process is complete. The upgrade will take approximately five minutes, after which the unit will reboot. *(If the unit has not rebooted within ten minutes after the upgrade started, try to power cycle the unit.)*

### Declaration of conformity

*This device has been evaluated and found to conform to the European Directives:*

**1999/5/EC** for ST3500, ST5000 and ST6000

**1999/5/EC** and **94/9/EC** for ST3500, ST5000 and ST6000

*A letter of conformity for this product can be found here:*

<http://www.pixavi.com/support-site-pixavi.php> (login: declaration / password: conformity)



## Warnings and notifications

### Warning:

*This is a class A product. In a domestic environment this product may cause radio interference, which may require the user to take adequate measures.*

### Important Radio frequency notifications:

*In case of using external third party antennas, the maximum gain allowed for an attached antenna is 5dBi*

*Please note that certain limitations applies to the use of the WLAN radio of this product in France, Italy and Latvia.*

*Pixavi recommends checking with local authorities for the latest status of their national regulations for wireless LANs when selecting antennas and access points.*

## FCC information

### NOTICE:

*This device complies with Part 15 of the FCC Rules [and with RSS-210 of Industry Canada].*

*Operation is subject to the following two conditions:*

- (1) this device may not cause harmful interference, and*
- (2) this device must accept any interference received, including interference that may cause undesired operation.*

### NOTICE:

*Changes or modifications made to this equipment not expressly approved by Pixavi may void the FCC authorization to operate this equipment.*

### Radiofrequency radiation exposure Information\*

*This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.*

*This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.*

*This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.*

### NOTE:

*This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.*

*\* Only valid for models ST5000, EX5000 and EX4000.*