EN

T24 System Manual

The HiRes Video Company

MOBOTIX

Part 1: System Overview And Mounting
Installation And Cabling
(For Installers)

Part 2: System Startup And Configuration
Software And Network
(For System Administrators)

Part 3: Operating Manual
Modules And Remote Stations
(For Users)

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Software zoom

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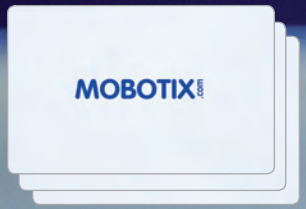

SYSTEM MANUAL PART 2 – SYSTEM STARTUP AND CONFIGURATION

This is Part 2 of the T24 System Manual (Operation And Configuration). The complete T24 System Manual also includes Part 1 (System Overview And Installation) and Part 3 (Operating Manual). All manuals can be downloaded as PDF files from the MOBOTIX website (www.mobotix.com > Support > Manuals).

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Notes And Copyright Information

The **Camera Software Manual** contains detailed information on the camera software. Download the latest version of this manual and the MxEasy and MxControlCenter manuals as PDF files from `www.mobotix.com` (Support > Manuals).

More information:
www.mobotix.com

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Note: T24 In Multiple-Family Houses (MFH)

The T24 system is designed to support the setup and use of multiple doorbells for different areas in single-family homes (e. g., areas for both personal and commercial use). For the purposes of data protection, we do not recommend using this product in multiple-family homes or multi-tenant buildings. Currently, it is still possible to use one remote station to access the camera recordings and voice mailboxes from all other remote stations and therefore from other users (families, tenants).

FOREWORD

Dear MOBOTIX customer,

The **T24 IP Video Door Station** is a complete outdoor system that includes a hemispheric door camera with built-in microphone, speakers, a voice mailbox function (T24-CamCore) and a keypad with integrated RFID card reader for keyless access (T24-KeypadRFID). The tamper-proof **T24-DoorMaster, which also serves as a doorbell, with backup power supply** is installed indoors. The **Grandstream GXV3140**, a sleek, high-quality VoIP video phone, makes the perfect remote video station.

T24 IP Video Door Station T24-DoorMaster Grandstream GXV3140

The entire MOBOTIX system was designed to allow it to be started up and configured quickly and easily by a single user. In the first section of the manual, "Overview Of Application Scenarios," we will familiarize you with the many ways in which you can use this flexible system. You can then decide for yourself which system functions you would like to use and configure.

The different operation steps correspond to the order of the chapters of this manual and you can simply skip the sections pertaining to functions that you do not need. The IP-based system is extremely flexible, meaning that you can easily change the configuration – and the range of available functions – at any time.

You can operate and configure the entire system without the need for a PC or any other special devices. Only the optional extensions listed in Section 4 require you to connect the T24 to a computer running MxEasy. The MxEasy video software is free of charge and can be downloaded directly from the MOBOTIX website (www.mobotix.com > Support > Software Downloads).

Our support and international sales staff are available at intl-support@mobotix.com from Monday to Friday, 8 a.m. to 6 p.m. (CET). We hope that you enjoy your new powerful MOBOTIX IP Video Door Station.

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1 OVERVIEW OF APPLICATION SCENARIOS

1.1 Standard Scenario

1.1.1 Description

The standard application scenario for the MOBOTIX IP Video Door Station is the simple one-party scenario (for example, a single-family home or doctor's office). This scenario involves one building or apartment with a door that is secured using the T24 system. At the door, visitors can ring the doorbell for one party (meaning one or more occupants).

Adm n card

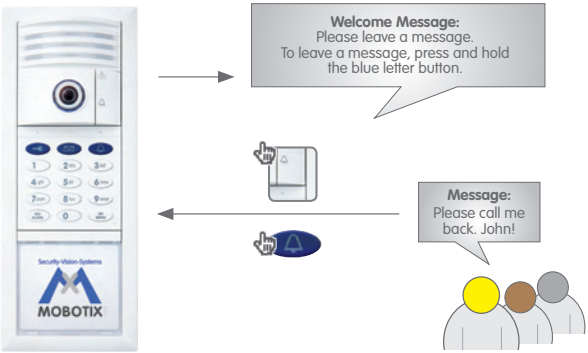
Hardware And Functions In The Standard Scenario:

- Outdoor station: One T24 Video Door Station with keypad and multiple transponder cards (blue user cards for day-to-day use, red admin card for system administration)
- Remote station in the house: Grandstream video phone &/or PC with MX Easy.
- Additional doorbell in the house: T24-DoorMaster (with connected door switch and door lock switch)

Visitors can press the bell button on either the camera or the keypad to ring the doorbell of the building or apartment. The video phone and the T24-DoorMaster then call the house phone or MX Easy.

The homeowner picks up the receiver in order to speak to the visitor. The live image of the door camera is displayed in the color display on the video phone. The homeowner can then press a button on the video phone to activate the electric door opener and, for example, switch on the light in the stairwell.

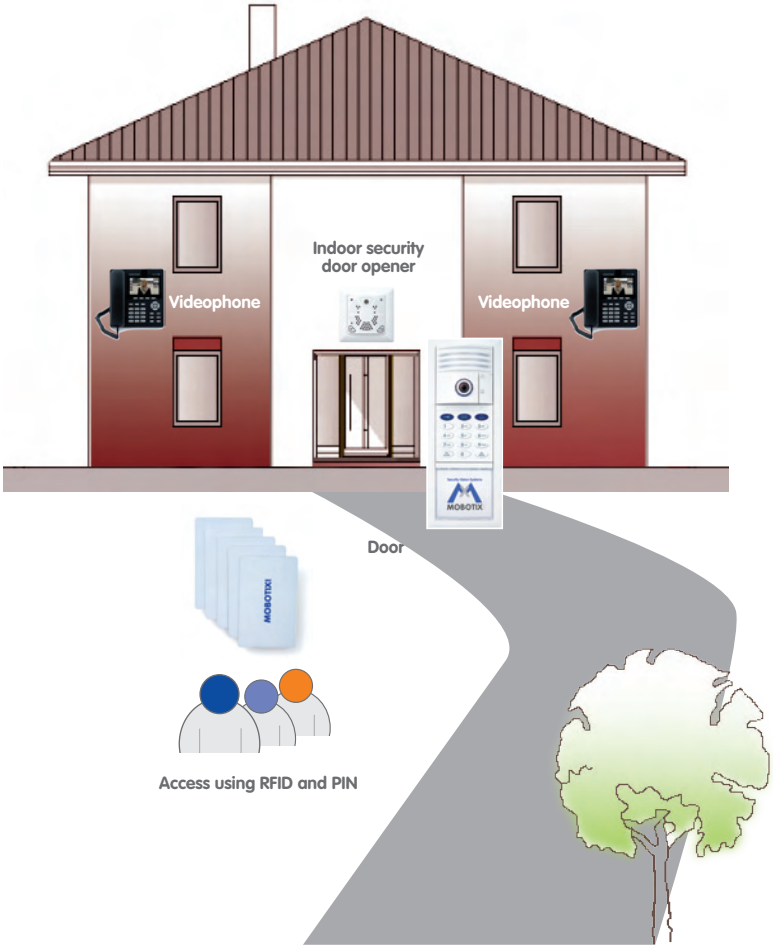
If the homeowner does not respond to the doorbell, and the **voice mailbox function** is activated, visitors can leave a message at the door – just as they would on a telephone answering machine. The homeowner can listen to these messages at the door station or at a video phone in the house.



Standard Scenario

User card

Homeowners can use the **blue user cards** to **open the door from the outside without a key** and listen to voice mailbox messages right at the door station. In addition to using the transponder cards, homeowners can also enter an access PIN that can be used to open the door via the keypad. It is possible to use up to 1,000 cards and PIN codes for a single door station!



1.1.2 Example

The Smith family consists of a husband and wife, John and Susanne Smith, and their 15-year-old daughter, Anna. The three of them live in a single-family home. The door to their house is secured with a T24 IP Video Door Station with a keypad and a T24-DoorMaster.

One Grandstream video phone located on the first floor and another Grandstream video phone located on the second floor near the parents' bedroom serve as the **remote stations** for the system. Anna lives on the third floor and has her own Grandstream video phone.

In addition to using the **red admin card**, Mr. Smith has registered a **blue user card** to enable keyless access for himself, his wife and his daughter. Admin and user cards can be registered during system startup. This can be done simply by holding the cards up to the keypad. Once the system is operational, the user can also enter an access PIN. This way, in an emergency in which the user has misplaced or forgotten his or her key or transponder, he or she can still enter the house without having to call a locksmith.

When a visitor rings the doorbell at the door station, all three video phones ring and display visual signals. In addition, the **T24-DoorMaster**, which is mounted in the entry area near the door, plays a bell sound that has been selected by the user. Thirty seconds after the visitor rings the doorbell for the first time, the system instructs the visitor to leave a message **(voice mailbox function)**. In addition, the visitor can choose to leave a message without ringing the doorbell by pressing the letter button. Anna sometimes uses this function to quickly let her parents know when she is on her way to a friend's house. In summary, the following functions are available:

Open Door/Keyless Access

- With the three user cards (or with the admin card as well)
- Or with the access PIN

Ringing The Doorbell For The Family

- By pressing the white bell button on the camera module
- Or by pressing the blue bell button on the keypad

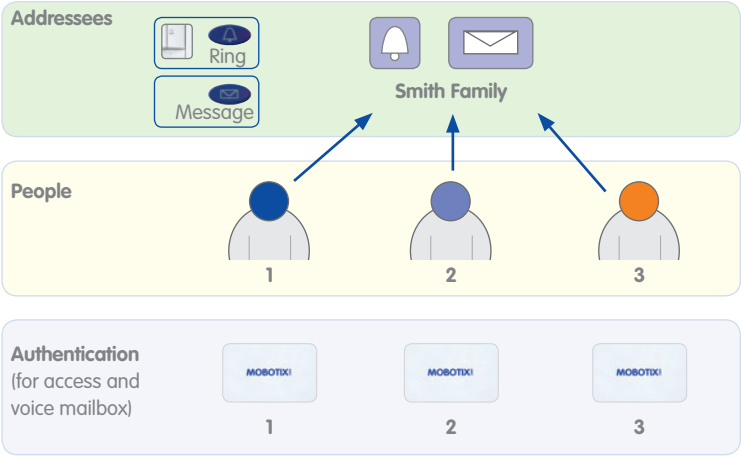
Leaving A Voice Mailbox Message

- By pressing and holding the blue letter button on the keypad
- After ringing the doorbell or without ringing the doorbell at all

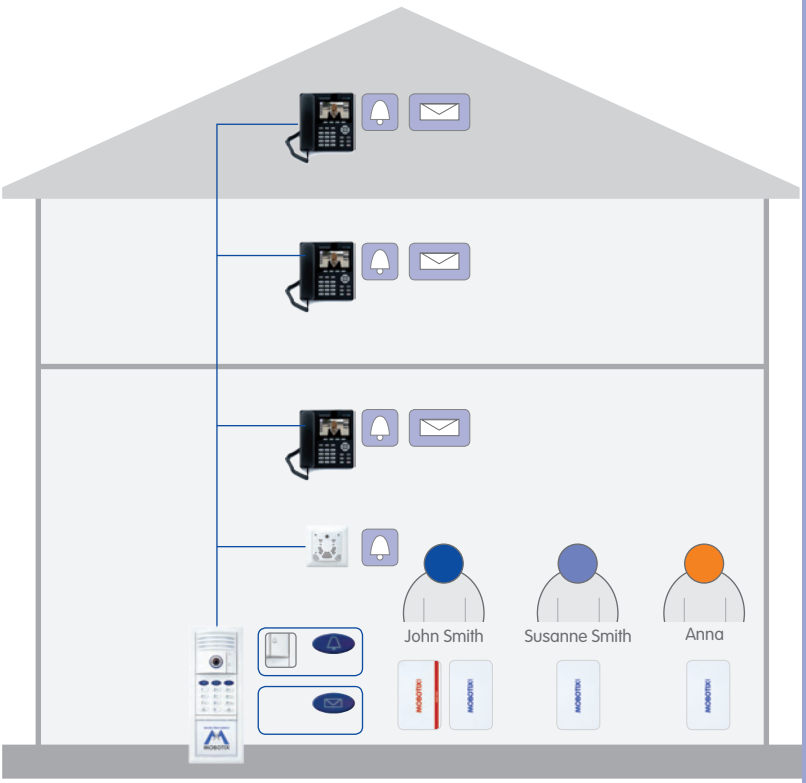
Listening To Voice Mailbox Messages

- On the keypad (possible in connection with a user or admin card only, function must be activated)
- On the Grandstream video phone (can be accessed by everyone in the house)

Standard Scenario



In addition, an Access PIN was trained (not shown)



1.2 Advanced Scenario

1.2.1 Advanced Access Control

Multiple user cards or an additional access PIN can be assigned to each user with advanced access control. These assignments, which are made based on a personal number when the cards/PINs are registered in the system, make it possible to quickly and easily remove users from the system at a later time.

Setup Cards Using The Keypad

The user cards are included with your MOBOTIX product. These cards allow you to enter the building without the need for a key and enable you to operate the voice mailbox using the keypad. However, the cards must first be registered in the system before they can be used. To set up a new user card, use the red admin card for authentication, enter a special key combination and then simply hold the card up to the keypad.

Setup With Automatic Number Assignment

The system automatically assigns two numbers to each new card for quick and easy setup: a personal number and a transponder number. The **personal number** represents the owner of the card. Using the **transponder number**, it is possible to erase a card from the system, even when the card is not available (for example, if it is stolen or misplaced). The transponder number is the current number of the card, which sequentially increases along with the total number of cards registered in the system.

The system automatically assumes that each user card will be assigned to a different user. Therefore, in this simplified system operation, the system automatically assigns personal number 1 and transponder number 1 to the first blue user card to be registered. The system then assigns personal number 2 and transponder number 2 to the second blue user card, etc.

The red admin card has a special status in the system. This card is used to carry out special administrative and configuration tasks. The admin card automatically receives personal number 0 and transponder number 0 from the system.

Automatic assignment of personal numbers and transponder numbers when registering the transponder cards using the keypad:

	Personal number	Transponder number	Serial card number
Admin card	0	0	Printed on card
First user card	1	1	Printed on card
Second user card	2	2	Printed on card
Third user card	3	3	Printed on card
Fourth user card	4	4	Printed on card
...	...	...	...

Registering User Cards With Custom Personal Numbers

As part of the advanced access control, you can also register user cards with custom personal numbers. If individual users require more than one user card or access PIN, multiple user cards and access PINs can be assigned to the same personal number.

Registering User Cards With Custom Transponder Numbers

Normally, it is not necessary to change the transponder number assigned by the system because this number simply represents the current number of the card. However, if you would like to user longer custom transponder numbers (up to eight digits), these numbers can be derived form the **serial card numbers** printed on the back of each card, at the bottom. We recommend making a note of this number along with the user of the card. This way you can use the serial card number to help identify each card.

T24 User Data Record Card

We recommend making a note of all numbers, regardless of whether they are custom numbers or numbers that have been assigned automatically by the system. The T24 User Data Record Card (see Section 3.2.2) is ideally suited for this task. Make sure that you store these records in a safe place.

EN

T24 Product Pass

The Hilltex Video Company MOBOTIX

Super PIN

Super PIN (8-16 digits)

Grandstream Web Password

Grandstream Web Password (Factory Setting: admin)

Admin Card

Transponder No. (1-8 digits, Factory Setting: 0)

Person No. (1-16 digits, Factory Setting: 0)

Card Serial No. (printed on card)

User Card

Card Holder

Transponder No. (1-8 digits)

Person No. (1-16 digits)

Contact No. (1-16 digits)

Card Serial No. (printed on card)

User Card

Card Holder

Transponder No. (1-8 digits)

Person No. (1-16 digits)

Contact No. (1-16 digits, optional)

Card Serial No. (printed on card)

User Card

Card Holder

Transponder No. (1-8 digits)

Person No. (1-16 digits)

Contact No. (1-16 digits, optional)

Card Serial No. (printed on card)

User Card

Card Holder

Transponder No. (1-8 digits)

Person No. (1-16 digits)

Contact No. (1-16 digits, optional)

Card Serial No. (printed on card)

User Card

Card Holder

Transponder No. (1-8 digits)

Person No. (1-16 digits)

Contact No. (1-16 digits, optional)

Card Serial No. (printed on card)

Display numbers of one card on keypad:

Person No.: Keep key „7" pressed until 2nd tone, then hold card up

Transponder No.: Keep key „2" pressed until 2nd tone, then hold card up

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1.2.2 Multiple Doorbells And Voice Mailboxes (Addressees)

In addition, the T24 system offers the visitor the option of entering a **special contact number** on the keypad (similar to a telephone number) to trigger the doorbell to ring at the remote station of one specific user or user group ("addressee"). If the addressee does not respond within a certain period of time, the visitor can leave a message on the voice mailbox (just like with a mobile phone).

Set Up Multiple Doorbells/Voice Mailboxes With Custom Contact Numbers

Contact numbers are important when you wish to set up additional doorbells and voice mailboxes in the system. When you set up the user cards, you can also create up to 16 different contact numbers in the system. You can set up multiple cards to employ the same contact number. They will be assigned to the same addressee.

In the example with the Smith family (see Section 1.1.2), a visitor can select to ring the doorbell for the entire family or specifically for the daughter, Anna, who lives on the third floor. In addition to the standard doorbell and voice mailbox, which do not have an extra contact number, Mr. Smith has set up another doorbell and voice mailbox for his daughter, Anna (by assigning contact number 1 to Anna's user card). This way, when visitors ring the doorbell with contact number 1 only the video phone in Anna's room rings.

Ringing The Doorbell For Mr. And Mrs. Smith:

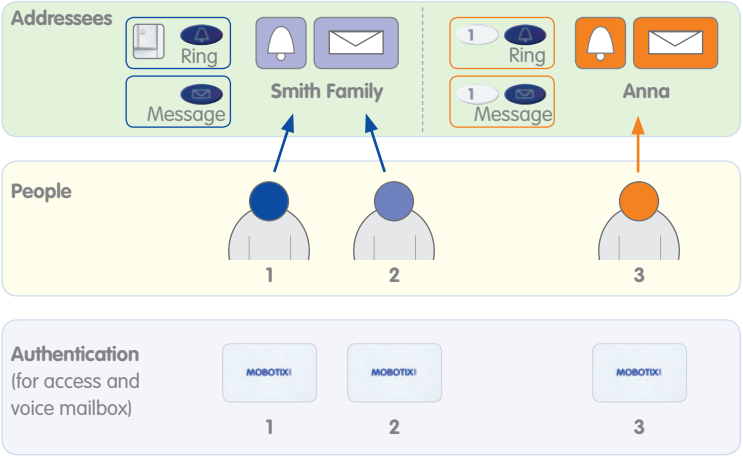
- Ring the doorbell by pressing the blue bell button on the keypad or the white bell button on the camera module.
- Leave voicemail messages after the welcome message or by pressing the blue letter button on the keypad.

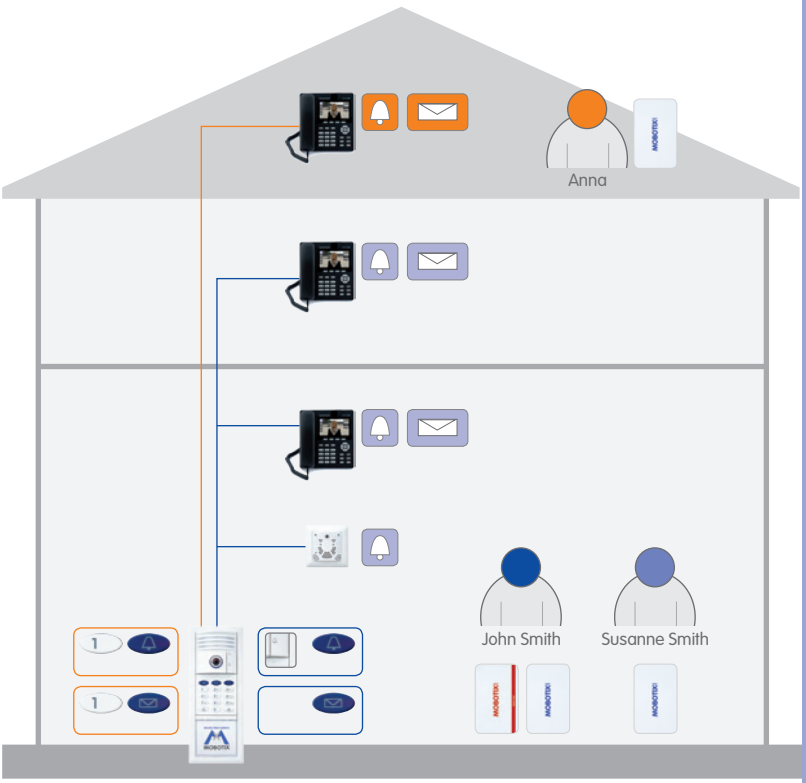
Ringing The Doorbell For Daughter Anna:

- Ring the doorbell by pressing 1 along with the bell button on the keypad
- Leave a voicemail message after the welcome message or by pressing 1 along with the letter button the keypad

Advanced Scenario

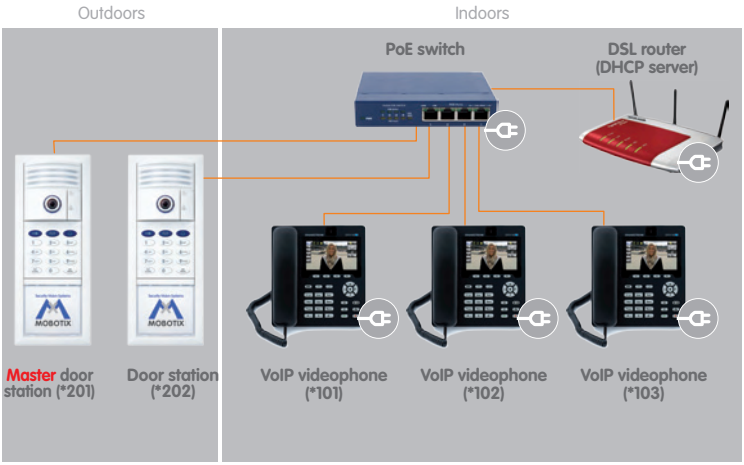
Additional Contact Number 1 for Anna (doorbell/vo ce mailbox)





1.2.3 Multiple Door Stations

You can also use multiple networked door stations to secure the main and side entrances of a house. To do so, select one of the door cameras as the master T24. This camera will be in charge of auto-configuration for all door stations and remote stations.

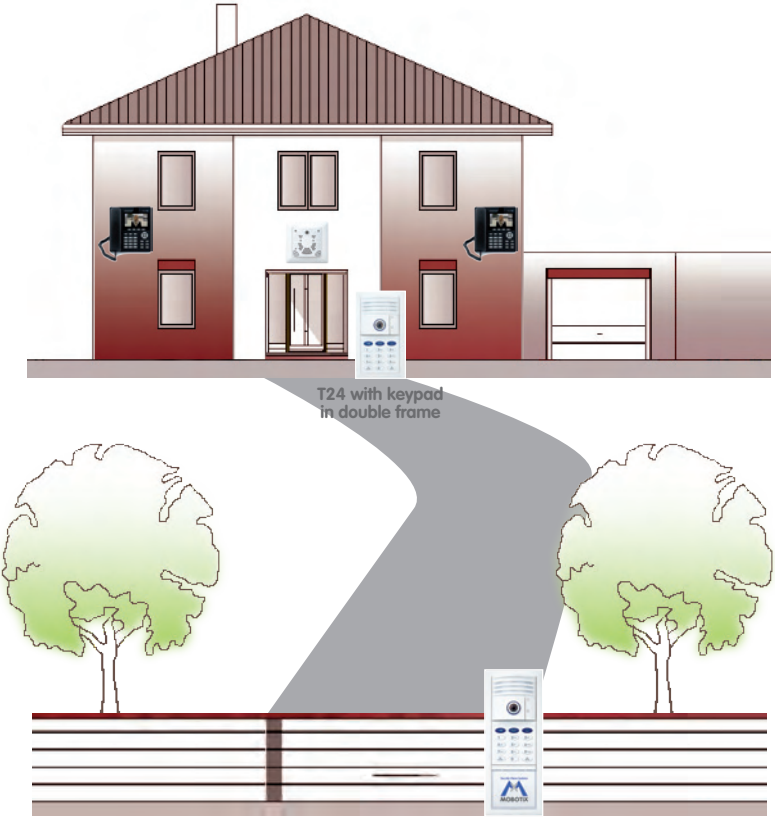


For system startup, carry out auto-configuration for the selected T24 device (and for this device only) once you have set up the network and ensured that all system components are supplied with power (see Section 2.1).

Then you must set up each individual keypad as described in Section 2.2 (by entering a Super PIN and adding cards). The numbers for each door station (Super PIN, personal number, transponder number and contact number) must be identical to the numbers for the master T24 device. We recommend using the same admin card to set up all of the door stations in the house or building.

Note
In order to erase a card that has been set up on multiple keypads from the system (for example, if it is lost or stolen or if the user has moved away), the card must be erased on all keypads.

Advanced Scenario



* Keypad soon to be released as standalone solution

1.3 Expand System With PC And MxEasy

1.3.1 PC As T24 Remote Station

* from version 1.5 on

In addition to using a Grandstream GXV3140 IP video phone, you can also use any standard PC connected to the network (in conjunction with the MOBOTIX video software MxEasy) as a T24 remote station. You can use MxEasy* to manage and operate up to 16 MOBOTIX cameras and/or door stations.

The program can run in the background of a PC screen or touchpad with a standard operating system and pop up automatically when someone rings the doorbell. Using the computer's microphone and speakers as a two-way communication intercom with lip-synchronous audio (full duplex), you can speak to visitors and by clicking on the corresponding buttons in the software, you can open the door or switch on the light. MxEasy also makes it easy to listen to voice mailbox messages or search through all of your camera recordings.

The current version of MxEasy (for Windows and Mac operating systems) can be downloaded directly from the MOBOTIX website (www.mobotix.com under Support > Software Downloads > MxEasy).

Before you launch MxEasy for the first time, set up the system for operation without a PC as described in Section 2 of this manual.

1.3.2 Worldwide Two-Way Communication Intercom

You will never have to miss an important visitor again – even when you are on-the-go outside of your local network. Using a computer with MxEasy, you can establish an Internet connection – for example, using a Wi-Fi access point or a UMTS modem – to your door station from anywhere in the world.

DynDNS (dynamic domain name system) is the perfect way to access your system. This protocol enables you to access your computer from anywhere in the world. DynDNS does not rely on one (frequently changing) IP address (for example, 213.117.53.215); instead, it utilizes a custom name that you can register with a DynDNS service provider (for example, www.dyndns.org). The integrated DynDNS client in your local router transmits the new IP address to the DynDNS service provider each time a change is made. This way, you can select the door station with your DynDNS name (for example, Name.dyndns.org:19801).

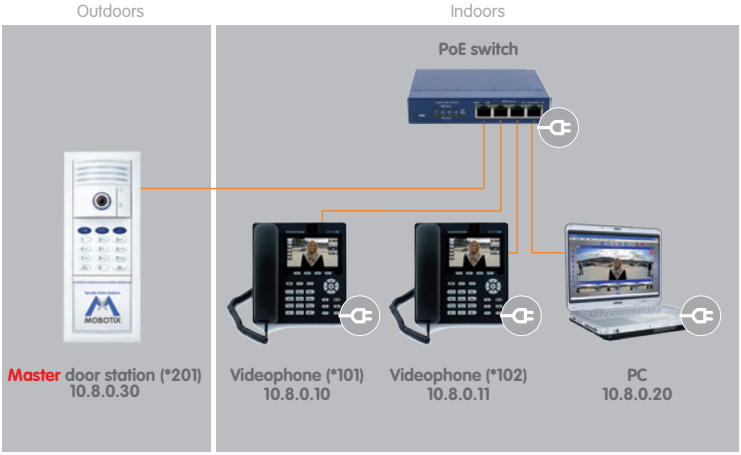
With (worldwide) access via internet, please be sure to use adequately secured and encrypted connections

When MxEasy is running, you can use an existing Internet connection to create a T24 remote station from which you can access all program functions. This way, you will receive video and audio signals when someone rings the doorbell at your house. You can view the live camera image on your monitor or display, speak with the visitor and operate the door lighting and the door opener remotely.

To set up this feature, you will need a computer with a sufficiently fast Internet connection and a router that is connected to the door camera (which has been set up without a PC). See the description in Section 4.2.

1.3.3 Network Without DHCP Server (Static IP Addresses)

If you are using a network with a static IP address and no DHCP server, you must manually set up all devices connected to the network. You must also configure these devices so that they are assigned to static IP addresses within the same range of addresses. This will enable the devices to communicate with one another.



You will need a PC with MxEasy and a LAN connection in order to carry out the setup. We describe the basic process of configuring one or more T24 Video Door Station devices in networks with static IP addresses in Section 4.3. With this configuration, you can only startup the system using a computer with MxEasy. It is not possible to operate the system by pressing the bell button on the camera module.

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2 SYSTEM STARTUP WITHOUT A PC

We recommend reading Chapter 2 carefully before starting with the initial system startup in Section 2.1 to avoid operating errors. Please first read this selection of frequently asked questions:

How Do I Initiate The System Startup Process Without A PC?

With the exception of the special case described in Section 1.3.3, in which static IP addresses are used, initial system startup always starts with the auto-configuration process, which is activated by **pressing the bell button on the camera module**. This procedure is described in Section 2.1 and ends with a short functional test.

What Do I Need To Do After Auto-Configuration?

If your door station has a keypad, all you need to do now is enter an **8- to 16-digit Super PIN of your choice and set up the supplied red transponder card (admin card)**, as shown in Section 2.2. You can also easily set up the blue user cards; however, it is not absolutely necessary to do this now.

As the owner of a door station with a keypad, you are free to choose how many of the supplied user cards you would like to set up. You can use a validated card to open the door without a key (passive RFID technology – transponders do not require a battery) and listen to messages recorded in your voice mailbox on the outdoor station.

If you choose, you can also use **individually-selected Personal, Transponder and Contact Numbers** to set up your cards. For further details and information on how to manage all your access media (cards and PINs), please refer to Chapter 3 of this manual (Access Configuration On The Keypad).

What Can I Do With My Door Station Now?

All the most important door station functions are now available:

- The bell button on the camera module and on the keypad (if present) are working.
- All the door station modules, including the T24-DoorMaster and videophones, are integrated and the basic settings have been configured.
- The live image of the master door camera is automatically displayed when you pick up the receiver on a Grandstream videophone.
- Two-way communication between the camera module and remote stations is initiated by pressing "7" on the videophone.
- You can open the door conveniently via a remote station, provided an electrical door opener has been connected.
- The basic settings for voice mailbox has also been configured. If no one responds to the door bell within 30 seconds (no one picks up the receiver and opens the door), the visitor is asked to leave a message, which is recorded by the camera module and can be played back later via the keypad or a videophone.

How Should I Hold A Transponder Card Up To The Keypad?

When setting up a transponder card, you should ideally hold the card between the thumb and index finger of one hand and move it as close as you can to the keypad until a beep sounds. Make sure that the card does not touch and inadvertently trigger any of the buttons.

During daily operation, you can usually gain keyless access by holding your user card up to the keypad while it is still in its protective case or in your wallet.

How Can I Protect My Door Station Against Unauthorized Access?

You can now leave the outdoor station and complete the initial system startup by protecting your system against unauthorized external access (see Sections 2.3 and 2.4).

Everything Has Been Set Up. How Do I Operate My Door Station And Remote Station(s) Now?

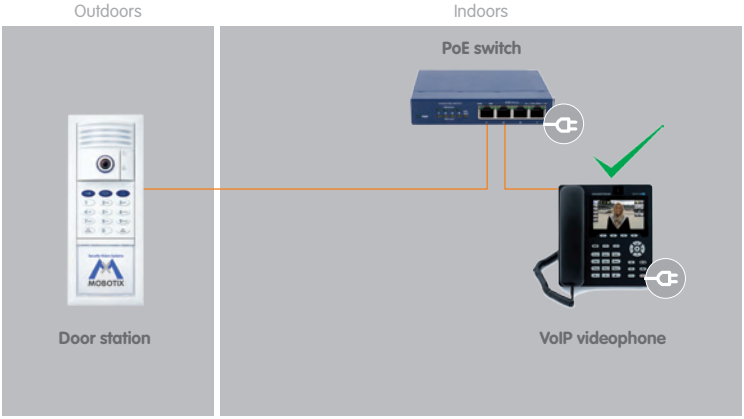
Please refer to Part 3 of the T24 Operating Manual, which you can download as a PDF file free of charge from the MOBOTIX website (www.mobotix.com > Support > Manuals) along with System Manuals Part 1 and Part 2.

2.1 Step 1: Performing Auto-Configuration

The following assumes that the T24 has been installed and checked in conjunction with section 2.8 of the System Manual part 1. First remove each required Grandstream videophone from its packaging, connect the receiver and perform the auto-configuration as described here.

2.1.1 Start The Videophone

Connect the **videophone** to the network via a **switch/router** or the NPA PoE set, **connect the power plug** and wait until the telephone has started up.

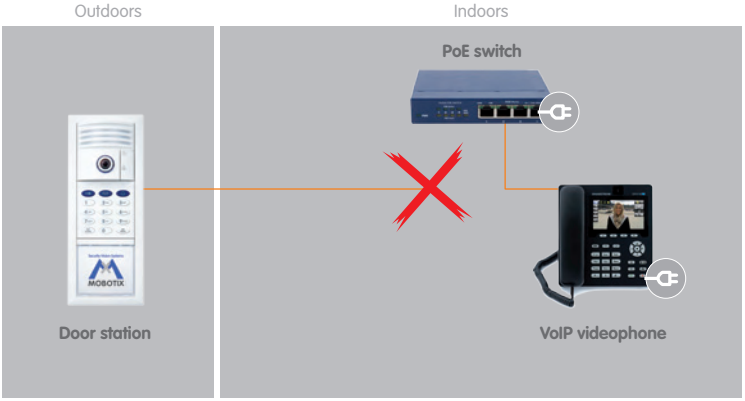


The display shows the **message "NO IP"** (no IP address). The time and date have not been updated. The preconfigured menu language is English.

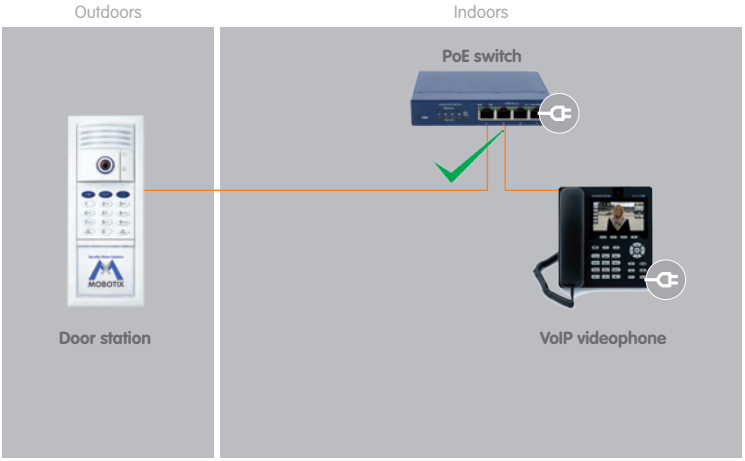
Videophone must be set to factory sett ngs

2.1.2 Start The Door Station

Disconnect the door station(s) for several seconds from the power supply (for example, remove the network plug).



Now reconnect the door stations power supply, (for example, plug in the network plug). This causes the door station(s) to reboot.



2.1.3 Start Auto-Configuration

The light and bell buttons on the camera module begin to light up white while rebooting. **Within four seconds of the buttons lighting up on reboot, press the doorbell button on the camera module** (lower button) until the two buttons start to flash briefly.

Press the bell button immediately after the buttons light up

This Starts The Auto-Configuration Process And The Following Happens:

- The lights on the camera module start to flash as the T24 starts up.
- The current T24 IP address and network data are announced automatically.
- Each Grandstream videophone is contacted and configured by the T24.
- Each Grandstream videophone is restarted automatically each time the configuration is updated.
- Each Grandstream videophone displays its newly assigned IP address (for example, 192.168.0.20) and SIP quick dial number (for example, MX_SIP *101) on the display.
- The SIP quick dial number for the first videophone is *101 and the T24 uses *201.

The auto-configuration process is complete when the camera LEDs light up, all the keypad* number buttons start to flash, the ESC/ALARM button flashes red and the OK/MENU button flashes blue.

* if present in the system

2.1.4 Functional Test Part 1

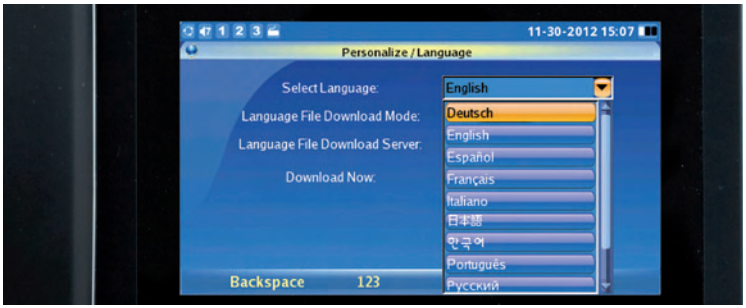
Once all the Grandstream videophones to be used have been detected in the network and integrated via the auto-configuration process, you should carry out a four-stage functional test.

1. Check The Start Display Of The Videophones

The T24 is the SIP server and has VoIP profiles for all the Grandstream videophones detected in the network. The videophones are assigned a sequential quick dial number beginning with *101 (*101, *102, *103 and so on). The new **quick dial number** and IP address of the telephone are shown on the left side of the display.

The system time supplied by the T24 is shown on the right side of the display. This system time is valid for all the videophones and door stations. The T24 is normally factory-set to CET (Central European Time). Otherwise, you can manually set the time zone, time and date on the keypad (see Section 2.2.4).

The **menu language** of both the videophone and the time and date are factory-set to English. You can change the language on the Grandstream menu (Menu > Personalize > Language > Select Language). :



Menu > Personalize > Language > Select Language

2. Check Connection Established From A Videophone To The T24

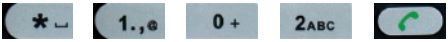
When you pick up the receiver on a videophone, a video and sound connection is established to the master door camera with the quick dial number *201.

3. Check Connection Established From One Videophone To Another (Intercom Function)

If you want to call another videophone rather than the door station, all you need is the videophone's quick dial number (start display).

Establishing a connection:

- **Press the "*"** button and then enter the **three-digit quick dial number** of the videophone you require (for example, *102).
- Pick up the receiver (press F4 to reject the call).



4. Check Connection Established From The T24 To Videophones By Ringing Doorbell

All the connected videophones will ring when you press the bell button on the camera module. Accept the call on any videophone (pick up the receiver).

You have now completed part 1 of the functional test. If the test was unsuccessful, check the connections and the power supply to all the components. Now repeat the entire auto-configuration process as described in Sections 2.1.1 to 2.1.3. If the functional test continues to fail, please contact your MOBOTIX partner or the MOBOTIX support team (for more information, visit www.mobotix.com > Support).

Continue

- with step 2 (Section 2.2) if your door station has a keypad or
- with step 3 (Section 2.3) if it does not have a keypad.

Operating Note: "Green Phone" And "Red Speaker" Buttons

If you press the green phone or red speaker button while the receiver is on the hook, you establish a hands-free connection. The hands-free connection remains active until you either pick up the receiver or press the red speaker button to terminate the connection to the T24.

Pressing the red speaker button when the receiver is already off the hook activates the hands-free function. After you have replaced the receiver, the hands-free connection remains active until you either pick up the receiver again or press the red speaker button to terminate the connection to the T24.

2.2 Step 2: Setting Up The Keypad

All the actions described here are carried out on the outdoor station keypad. If your door station does not have a keypad, proceed to step 3 (Section 2.3).

The keypad displays the following after auto-configuration:

- **All the number buttons flash white**
- **The ESC/ALARM button flashes red**
- **The OK/MENU button flashes blue**

Blinking

Now you must **enter the Super PIN** and **add the admin card**.

Although you do not need to add user cards and set the time now (Sections 2.2.3 and 2.2.4), these actions are basic configuration steps that also need to be carried out (MOBOTIX recommendation).

2.2.1 Enter The Super PIN

You require the Super PIN during the initial startup of the keypad. The Super PIN is used to protect your system. In an emergency, the Super PIN can be used in place of the admin card for authentication on the keypad. The Super PIN therefore also allows you to erase cards or set up a new access PIN.

The Super PIN should **not** have a series of zeros only and it must be difficult for unauthorized persons to guess. Select a number that has at least eight and no more than 16 digits (using the digits 0–9). The more digits the number has, the more secure it is.

Make a note of your personal Super PIN immediately in your T24 User Data Record Card (see Section 3.2.2). Step 3 of the system startup process requires you to enter your Super PIN on the videophone for authentication purposes (see Section 2.3.2).

Enter The Super PIN

1. The keypad shows the flashing pattern of the successfully completed auto-configuration process (ESC/ALARM flashes red, OK/MENU flashes blue).
2. Enter your personal **Super PIN** and press the **OK/MENU button** (which then flashes blue even faster).

   0 ... 9 OK
   Super PIN

3. Re-enter your **Super PIN** and press the (quickly flashing) **OK/MENU button** again.

   0 ... 9 OK
   Super PIN

4. A flashing ring pattern on the keypad confirms entry of the Super PIN.
5. After approximately ten seconds, the number buttons on the keypad light up white continuously, the keypad bell button, key button and OK/MENU button flash blue and the ESC/ALARM button flashes red. Continue with Section 2.2.2.

Note
If you make an incorrect entry (for example, you enter two different Super PINs) or if you wait longer than 60 seconds between two entries, a warning beep will sound and the keypad will return to the original state it was in after auto-configuration (number buttons will flash white). Repeat the procedure for entering the Super PIN, as described here.

2.2.2 Add Admin Card

It is also necessary to set up the admin card during the initial startup of the keypad, in addition to the Super PIN. The card is required as a "T24 master key" for authentication purposes to allow you to set up and erase user cards and user access PINs and specify important system settings (time, changing the Super PIN) on the keypad.

You should keep the card in a safe place together with your T24 User Data Record Card. MOBOTIX recommends only using your blue user cards to avoid losing your safety-critical admin card for everyday use (open the door, access your voice mailbox from the keypad and so on).

General Information On Using Transponder Cards

When setting up a transponder card, you should ideally hold the card between the thumb and index finger of one hand and move it as close as you can to the keypad until a beep sounds. Make sure that the card does not touch and inadvertently trigger any of the buttons.

During daily operation, you can usually hold the user card up to the keypad while it is still in its protective case or in your wallet.

You can enter your Super PIN and press the OK/MENU button to avoid having to hold the admin card up to the keypad. However, for security reasons (people looking over your shoulder), you should only use this special function in an emergency, for example, if you have lost your admin card.

Add Admin Card:

Once you have entered your Super PIN, the number buttons on the keypad light up white continuously, the keypad bell button, key button and OK/MENU button flash blue and the ESC/ALARM button flashes red. You must set up the supplied red admin card on the keypad and add it to the system while the keypad is in this state.

1. Hold your **admin card** up to the keypad buttons for about 5 seconds until the beeping stops and the keypad shows a flashing ring pattern.

2. Afterwards, the bell button, key button, OK/MENU button and ESC/ALARM button all flash blue on the keypad. Your admin card has now been set up and automatically assigned the Personal and Transponder No. 0 by the system.

3. **You have now completed the steps that are necessary to set up the keypad. MOBOTIX recommends now setting up all the blue user cards** that you require for keyless access. Continue with the next section (Section 2.2.3.)
4. If you do not wish to set up any user cards now, press the **ESC/ALARM button** to exit the Add mode or wait 30 seconds until this happens automatically. Proceed to Section 2.2.4 (Set Time Zone, Time and Date) or Section 2.3 (Set Up The Videophone).

Notes
When you set up a card as part of an extended T24 scenario (see Section 1.2), you have the option of assigning an individually-selected Personal, Transponder and Contact No. For further information, refer to Section 3 of this manual. In case of a wrong entry or cancellation via the ESC/ALARM button, a low warning tone is sounded and the system will revert to the original mode it was in after auto-configuration (keypad number buttons will flash white). Enter your Super PIN again.

2.2.3 Add User Cards (Fast Setup)

Registered blue user cards allow a user to open the door without a key and listen to voice mailbox messages at the door station. This section describes how to set up user cards without assigning individually-selected Personal, Contact or Transponder Nos. (standard T24 scenario).

Immediately after you have set up the admin card, the keypad remains in Add mode for a further two minutes to allow you to set up additional cards (bell button, key button, OK/MENU button and ESC/ALARM button all flash blue). In this case, continue with the "Add User Card" section (see below). Otherwise, you must first switch on Add mode again.

Add User Card (Without Individual Number Assignment):

1. If you want a user of the specific card to have access to voice-mail at the T24 door station, press the blue bell button before registering that card as keyless entry. Regardless of this, you can always access your voice mailbox via your videophone.

2. Hold the first user card up to the keypad buttons until a beep sounds and the keypad shows a flashing ring pattern.

3. The first user card has now been set up and **automatically assigned the Personal and Transponder No. 1** by the system.
4. You can now **set up as many additional user cards as you require**. The next card is assigned the next sequential number, Personal and Transponder No. 2. The following cards are assigned the numbers 3, 4, 5 and so on.
5. If you do not wish to set up any more user cards, press the **ESC/ALARM button** to exit the Add mode or wait two minutes until this happens automatically. Proceed to Section 2.2.4 (Set Time Zone, Time and Date) or Section 2.3 (Set Up The Videophone).

Notes
When you set up a card as part of an extended T24 scenario (see Section 1.2), you have the option of assigning an individually-selected Personal, Transponder and Contact No. For further information, refer to Section 3 of this manual. In case of a wrong entry, cancellation of entry via the ESC/ALARM button, or a delay of more than two minutes, a low warning tone is sounded and the system reverts to the regular operating mode (all buttons light up white). If required, switch on Add mode again.

Switch On Add Mode Again (If Necessary):

1. Switching on Configuration mode: Press the **OK/MENU** button until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

2. Hold your **admin card** up to the keypad buttons until the OK/MENU button lights up blue continuously.

3. Switching on Access Configuration mode: Briefly press the **blue key button**, which then lights up blue.

4. Entering Add mode: Press the **OK/MENU** button until you hear the second beep again (button lights up blue again).

   OK
   hold (2nd beep)

2.2.4 Set Time Zone, Time And Date

The videophone display shows the current system time. If this is incorrect, you can manually set the time, date and time zone on the keypad.

You must first set the correct time zone* on the keypad to enable the switch from daylight saving time to standard time to take place automatically.

* Factory setting: GMT + 1 hour (Berl n, Germany)

Afterwards, date and time should be adjusted.

After you have completed these time settings,continue with Section 2.3 (Set Up The Videophone), if you have not done so already.

Set Time Zone Code:

For this, you need the three-digit code for your time zone. Please refer to the list of time zone codes at the end of this manual. The list is also available as a PDF document from the MOBOTIX website (www.mobotix.com > Support > Operating Manuals).

1. Switching on configuration mode: Press the **OK/MENU** button until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

2. Hold your **admin card** up to the keypad buttons until the OK/MENU button lights up blue continuously.

3. Switching on Time Zone mode: Press **9** until you hear the second beep and it flashes (reminder: The letter "z" on the button stands for "zone").

   9
   hold (2nd beep)

4. Now enter the **three-digit time zone code** for the location to which you are closest (for example, 452 for Europe/London). Confirm your entry by pressing the **OK/MENU** button.

   0 ... 9 OK
   Time Code

5. The respective number buttons on the keypad light up to show the time zone that you have set.

If you entered the **wrong time zone code**, repeat steps 1–5.

If your door station is not connected to the Internet, you still need to manually set the time and date.

Note
After the time zone has been displayed, you remain in Keypad Configuration mode for 60 seconds, before this mode switches off automatically (if you do not press any more buttons). Press the ESC/ALARM button to exit the mode immediately.

Set Time:

1. Switching on Configuration mode (again, if necessary): Press the **OK/MENU** button until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

2. Hold your **admin card** up to the keypad buttons until the OK/MENU button lights up blue continuously.

3. Switching on Time mode: Press **8** until you hear the second beep and it flashes (reminder: The letter "t" on the button stands for "time").

   8
   hold (2nd beep)

4. Now enter the **current time in the format hhmm** (always four digits long): The first two digits indicate the hour and the next two digits indicate the minutes (for example, 0804 = 8:04 a.m. and 2259 = 22:59 p.m.) Confirm your entry by pressing the **OK/MENU** button.

   0 ... 9 OK
   Time Code

5. The respective number buttons on the keypad light up to show the time (hhmm) that you have set. The time is also shown on the videophone display **after several minutes**.

If you made a mistake when entering the time, repeat steps 1–5.

Note
After the time has been displayed, you remain in Keypad Configuration mode for 60 seconds, before this mode switches off automatically (if you do not press any more buttons). Press the ESC/ALARM button to exit the mode immediately.

Set Date:

1. Switching on Configuration mode (again, if necessary): Press the **OK/MENU** button until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

2. Hold your **admin card** up to the keypad buttons until the OK/MENU button lights up blue continuously.

3. Switching on Date mode: Press **3** until you hear the second beep and it flashes (reminder: The letter "d" on the button stands for "date").

   3
   hold (2nd beep)

4. Now enter the **current date in the format yyyymmdd** (always eight digits long): The first four digits represent the year (for example, 2012), the next two digits represent the month (01 for January through to 12 for December) and the last two digits represent the day (01 to 31). Confirm your entry by pressing the **OK/MENU** button.

   0 ... 9 OK
   Time Code

5. The respective number buttons on the keypad light up to show the date (yyyymmdd) that you have set. The date is also shown on the videophone display **after several minutes**.

If you made a mistake when entering the time, repeat steps 1–5.

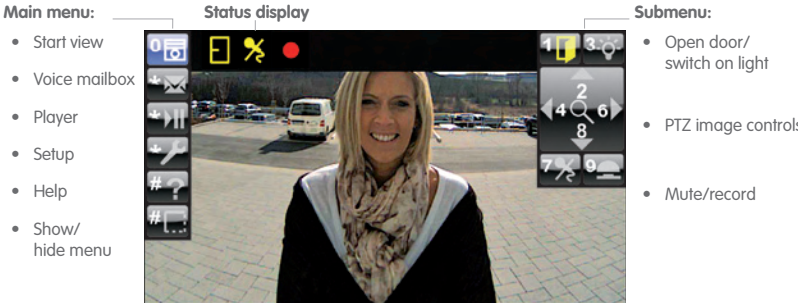
Note
After the date has been displayed, you remain in Keypad Configuration mode for 60 seconds, before this mode switches off automatically (if you do not press any more buttons). Press the ESC/ALARM button to exit the mode immediately.

2.3 Step 3: Configure The System Via A Videophone

These settings are specified on the remote station menu of a connected videophone. These settings apply throughout the system and only need to be specified on one remote station, even if several videophones are in use.

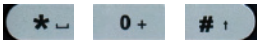
Remote Station Start View:

Once connection between a videophone and the T24 has been established (for example, by picking up the receiver), the live camera image appears with the remote station menu and following start view:



Main Menu Items (On The Left)

You select items on the main menu using the lower three buttons (*, 0, #) of the keypad on the telephone.



Submenu Items (On The Right)

Displays the subfuntions belonging to the main menu item that has been selected. To select a subfunction, press the number button that is displayed (for example, press 1 to operate the door opener).

Status Display (At Top)

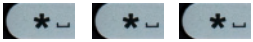
Icons are used to display the current door station statuses (for example, door opened/ closed/locked, telephone microphone disabled and so on).

A detailed description of the remote station menu and how to operate the videophone can be found in the Operating Manual (System Manual Part 3).

Step 3: Configure The System Via A Videophone

Open Setup Menu:

Press the "*" button three times to go from the start view to the Setup menu. Continue with the following sections.



The menu language is factory-set to English

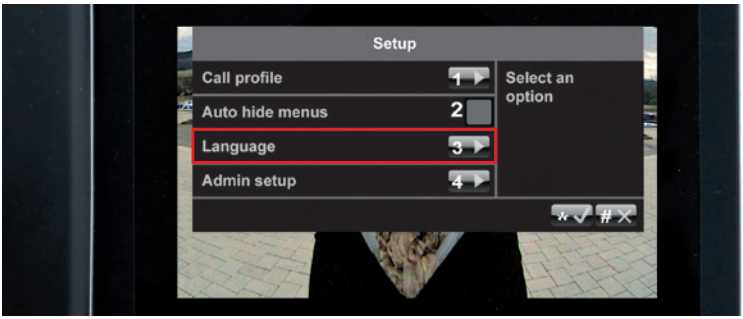
2.3.1 Change Menu And Voice Mailbox Greeting Language

This language setting also automatically selects the standard German/English voice mailbox greetings (for example, a prompt for a visitor to leave a message if the door is not opened).

To change the language, select Setup on the main menu.

Change Language:

1. On the Setup menu, press **3** to select the **Language** menu item.



2. Press **1 to select English** or **2 to select German**. Confirm your selection ("*" button) or cancel ("#" button).

Remain on the Setup menu and continue with Section 2.3.2.

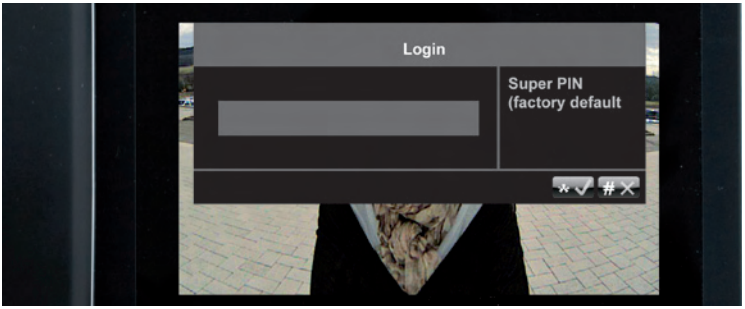
2.3.2 Open Admin Setup

To go to the Admin Setup menu, you require the Super PIN that you previously entered on the keypad (see Section 2.2.1).

Activate Admin Setup:

1. On the Setup menu, press **4** to select the **Admin Setup** menu item.
2. Enter your **Super PIN** and press the **"*" button** (appears after a few seconds) to confirm. If the Super PIN you entered is correct, the **Admin Setup menu** will open.

   If your door station does not have a keypad, you would not have been able to enter a Super PIN during the initial startup. Thus this prompt will not appear. Remain on this menu and continue with Section 2.3.3.



Note

If you enter your Super PIN incorrectly three times, you will be returned to the main menu. You will not be able to re-enter your Super PIN for up to 30 minutes (the time for the next possible PIN entry is displayed).

2.3.3 Change Your Super PIN

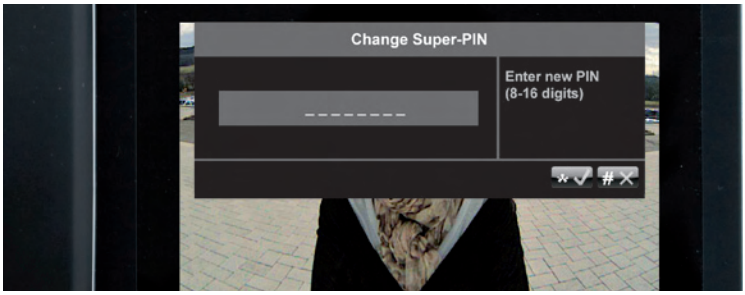
We recommend changing the Super PIN for security reasons (protection against manipulation or unauthorized access to the door station)

- if your door station does not have a keypad and therefore a Super PIN has not been entered yet,
- if you suspect that unauthorized persons may know your current Super PIN, or
- if you have taken over an existing door station that is still set up with the previous owner's Super PIN.

Change Your Super PIN:

1. Select a new, secure 8- to 16-digit Super PIN. Refer to the information at the beginning of Section 2.2.1.
2. On the Admin Setup menu, press **1** to select the **Super PIN** menu item.

3. Enter your **new Super PIN** and press the **"*" button** to confirm.



4. Enter your new **Super PIN again** and confirm once more by pressing the **"*" button**.

After you have changed your Super PIN, or pressed the "#" button to cancel, you are returned to the Admin Setup menu. Proceed to Section 2.3.4. and continue with the initial startup.

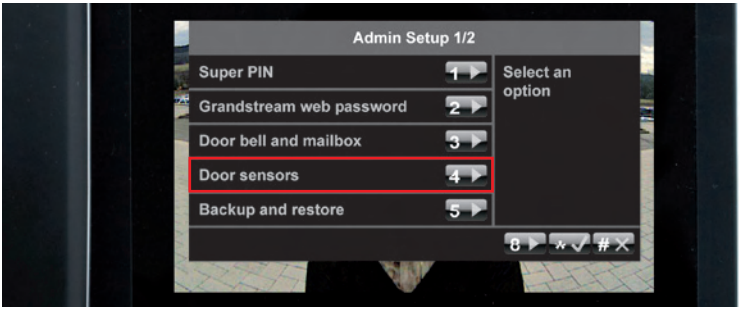
2.3.4 Set Door Status Display

To ensure that the status of the entrance door is displayed on the videophone,

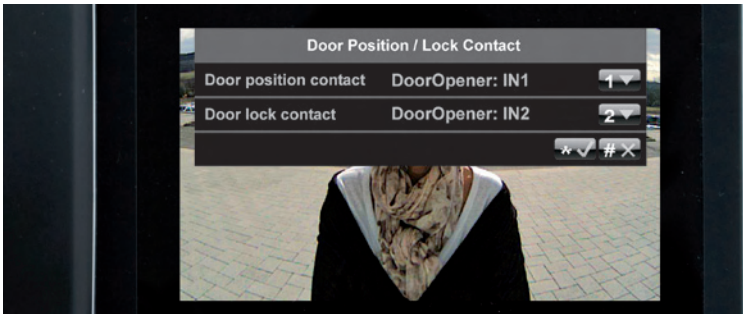
- A door contact (door opened/closed) and a door lock switch (door lock locked/ unlocked) must be connected to the T24-DoorMaster or the keypad (see Part 1 of the System Manual – Installation)
- And the installed door sensor connection options must be set correctly on the Admin Setup menu.

Set Door Status Display:

1. On the Admin Setup menu, press **4** to select the **Door sensors** menu item.



2. Select the required connection option for the door contact and door lock switch by repeatedly pressing **1 and 2, respectively**.



3. Confirm your selection or cancel ("#" button). You are still on the Admin Setup menu. Proceed to Section 2.3.5. and continue with the initial startup.

If you do not know whether and where door sensors are connected, simply try out the different options and check them using the the status display.

Info Icon	Description
	Door opened
	Door closed
	Door locked
	Door unlocked
	Door sensor error/tampering

2.3.5 Activate Video Recording

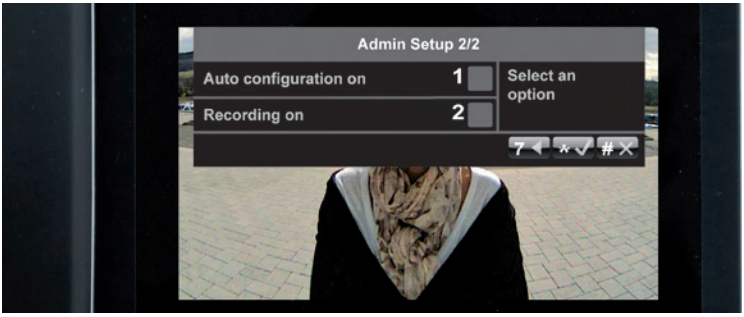
The system is set up at the factory so that only voice mailbox messages are recorded by the door camera.

To obtain additional video clips of other door events (for example, ringing doorbell, access granted or denied, door opened), go to the Admin Setup menu and proceed as follows:

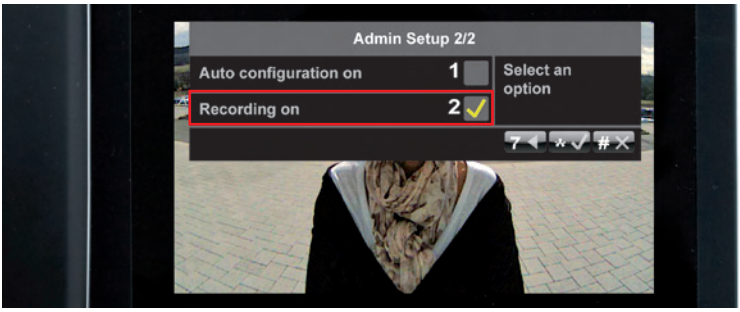
Activate Recording

1. Press **8** to go to page 2 of the Admin Setup menu.

A description of the door events can be found n the T24 System Manual Part 3 (Operating Manual)



2. Press **2** to either activate recording (yellow check mark) or deactivate it again (no check mark). Press the **"*" button** to confirm.



3. Now exit the Admin Setup menu by pressing the **"#" button** and complete the videophone setup by carrying out a short functional test (see Section 2.3.6).

Caution

If you have activated recording, please see the relevant legal guidelines for video surveillance.

2.3.6 Functional Test Part 2

After you have set up your keypad and videophones (Sections 2.2 and 2.3), you should carry out a final functional test:

1. Check That Your Blue User Cards Open The Door

Hold each blue user card that you previously set up up to the keypad to check that the door opening mechanism is triggered.

If the mechanism is not triggered, set up the cards again on the keypad, as described in Section 2.2.3.

2. Check Date And Time Settings

Check the current settings on one of the videophone displays (receiver must be on the hook).

If the date and/or time is incorrect, modify the settings on the keypad, as described in 2.2.4.

3. Check Door Status Display

Check that actual **entrance door statuses** are displayed correctly on one of the videophones.

If they are not displayed correctly, modify the settings on the videophone, as described in Section 2.3.4.

4. Check The Short Recording Function (If Video Recording Is Activated)

Test the manually triggered short recording function by picking up the receiver on a videophone and pressing **9** when the live image of the door camera appears. The door camera will now record with sound and will stop recording automatically after two minutes (factory setting, can be changed via MxEasy). During recording, the red recording icon is displayed in the status bar.

You can only use 9 to trigger the short recording function if the system's video recording function has been previously activated (see Section 2.3.5).

If part 2 of the functional test continues to fail despite the measures recommended, please contact your MOBOTIX partner or the MOBOTIX support team (for more information, visit www.mobotix.com > Support).

Continue now with step 4 (Section 2.4) to complete the system startup.

2.4 Step 4: Protect Your System Via A Videophone

You have now reached the last crucial step of the system startup process. By protecting your system, you can prevent unauthorized persons from accessing the door station and its remote station(s).

As network devices, the T24 door camera and the Grandstream videophone generally allow access to their configuration by entering the IP address in the address bar of a web browser on a networked computer.

The Door Camera Has The Following Access Data (Important For Using MxEasy):

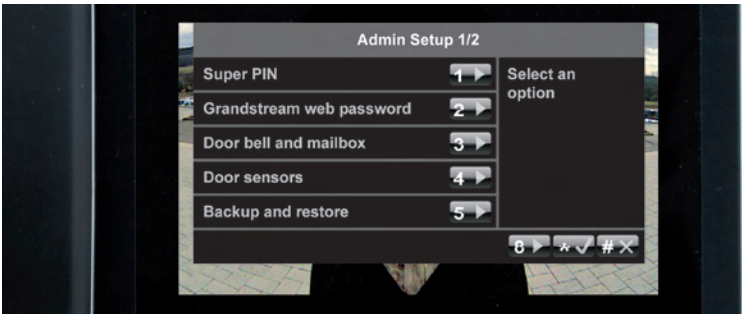
- User name: **admin**
- Camera admin password: ***current Super PIN***

Each Grandstream Videophone Has The Following Default Factory-Set Access Data:

- User name: **admin**
- Grandstream web password: **admin**

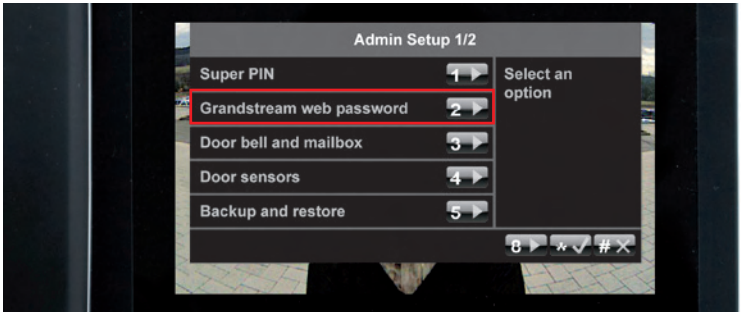
MOBOTIX recommends changing the web password of the videophones to protect against unauthorized remote access. The door camera is already protected by the Super PIN, which only you know. For both devices, leave the user name as "admin".

To protect your system, open the **Admin Setup** menu on a videophone (as described in Section 2.3.2). Continue with the following sections.



2.4.1 Change Grandstream Web Password

Open the first **page (1/2) of the Admin Setup menu** and press **2** to select the **Grandstream web password option**.



Press **7** to generate a new password that includes letters and numbers. Make a note of the new password in your T24 User Data Record Card (see Section 3.2.2). Exit this menu by pressing the **"*"** twice (only possible a few seconds after you have changed the password).

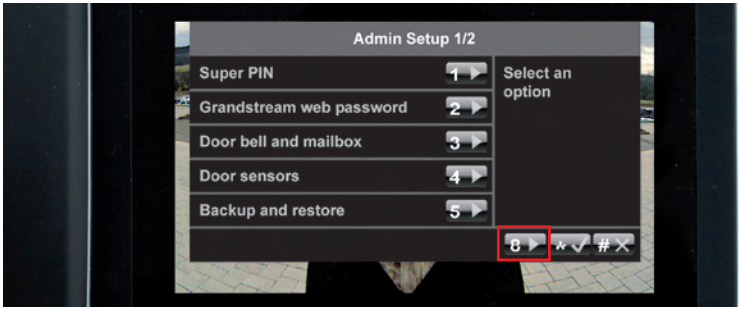
Note

The web password is changed simultaneously for all the Grandstream videophones connected to the network. Therefore, make sure that all the videophones are properly connected and switched on.

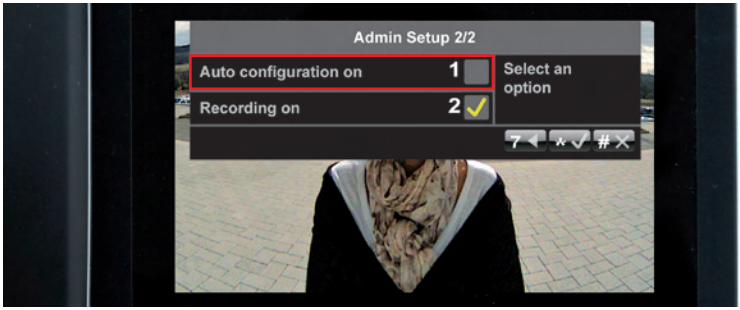
2.4.2 Disable Auto-Configuration

By disabling auto-configuration, you can prevent access to the door station from the outside. Otherwise, auto-configuration could be activated again by pressing the camera bell button, allowing anyone to set up a new Super PIN and admin card and open the door.

To prevent this kind of tampering, open the second **page (2/2) of the Admin Setup menu by pressing 8**.



Press **1** to remove the yellow check mark next to the Auto-configuration on option.

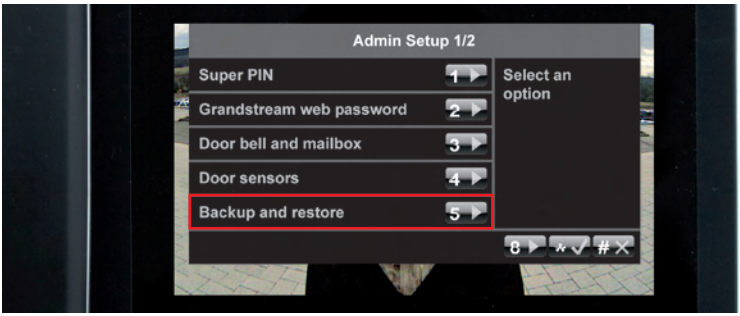


2.4.3 Save Your System Configuration

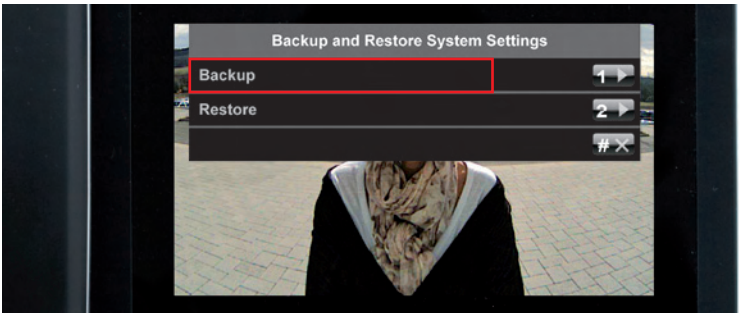
The initial startup and protection steps for the system are now complete. MOBOTIX recommends saving your current system configuration,

- so as to be able to easily reset inadvertent or unwanted changes made to the system configuration,
- and easily integrate a new door station module (T24-CamCore, T24-KeypadRFID, T24-DoorMaster) after replacement without having to run through the system startup process again.

The system restore procedure is described in Section 5 of this manual. To save your current system configuration, open the **first page (1/2) of the Admin Setup menu** and press **5** to select the Backup and restore option.



Now press **1** to save your settings. Press the **"*" button** to confirm and exit the menu.



3 ACCESS CONFIGURATION ON THE KEYPAD

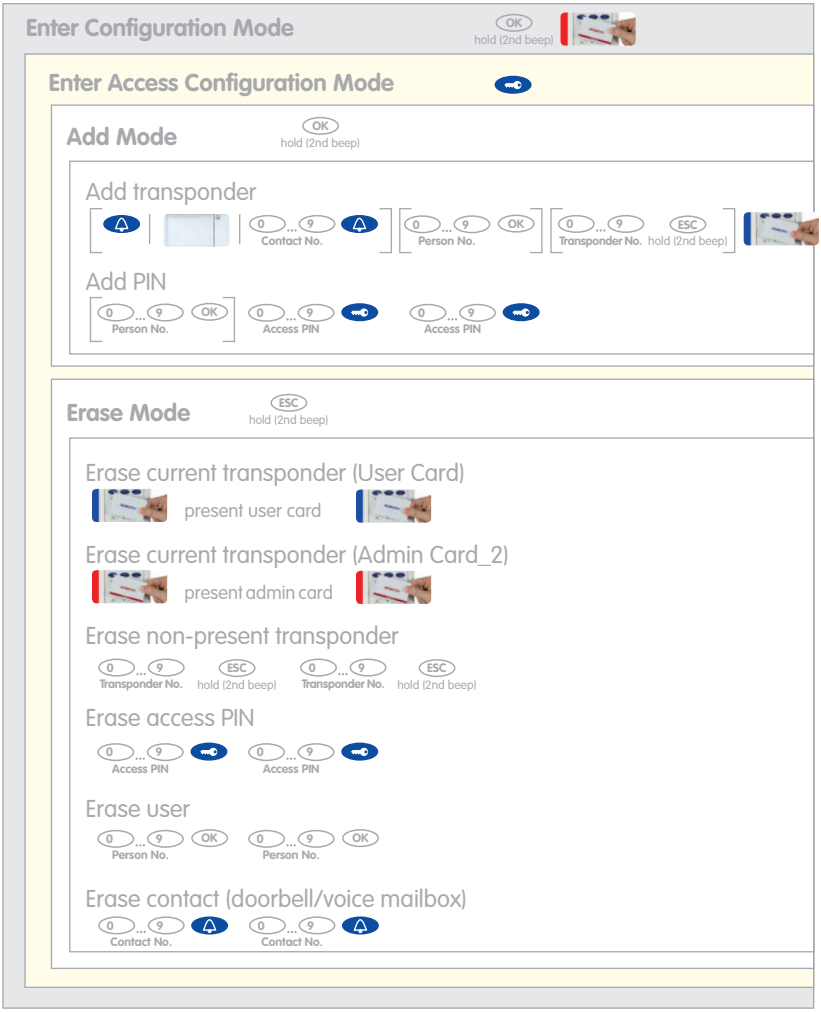
3.1 Quick Start: Access Configuration

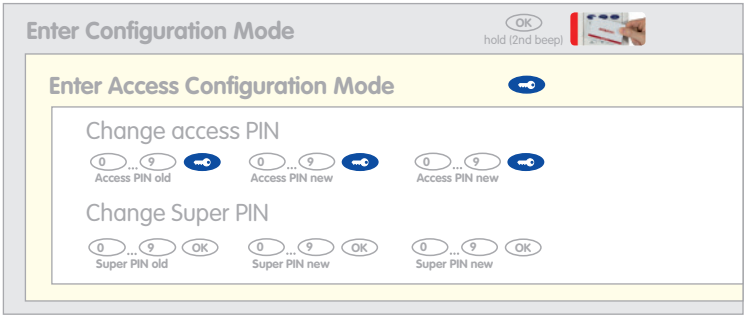
The Quick Start guide supports your configuration work and helps you to learn the main features. It DOES NOT cover everything stated in Sections 3.3. and 3.4 of this manual. You should read them, too.

Add, Erase, Change

Reader's guide to the diagram: Enable Configuration mode first and then Access Configuration mode in order to add a transponder

Square brackets indicate optional entr es (only required if so des red) and the "|" symbol stands for "or"

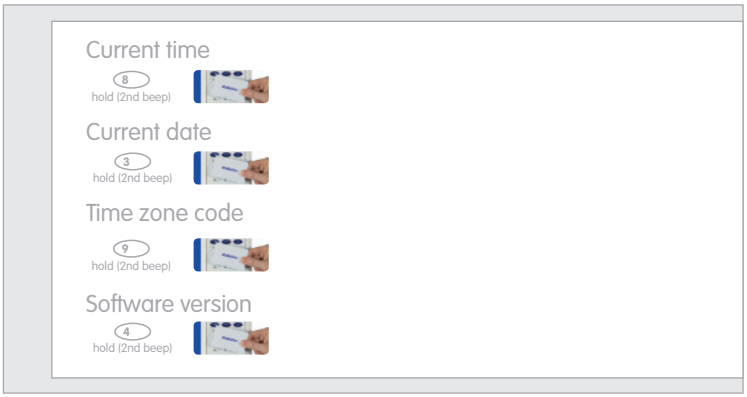




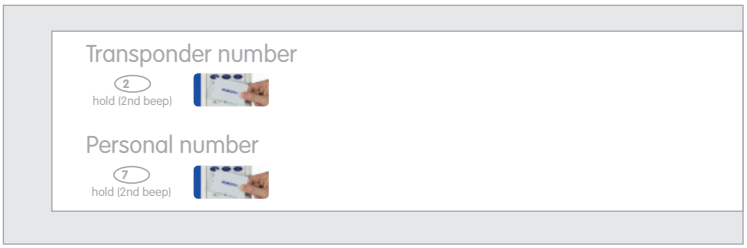
Time-Restricted Access (Set Up "Tradesman Card"), 1–48 Hours

You do not need to be n a specific system mode to set up the "Tradesman Card" and to view system details

Recall System Information (With Admin Or User Card)



Recall Transponder Information (With Admin Or User Card)



Function not available with the tradesman card

3.2 Individual Configuration Of Access Media

As described in the extended application scenario in Section 1.2, the MOBOTIX transponder cards can also be set up with individually-selected personal, transponder or contact numbers. On the following pages, you will find out how to do this and how to manage cards and PINs directly via the keypad.

3.2.1 Personal, Transponder And Contact Numbers

The system automatically assigns every new card a sequential personal and transponder number during a quick card setup. The (first) red admin card is assigned personal number 0 and transponder number 0. The first blue user card is assigned personal number 1 and transponder number 1. The second blue user card is assigned personal number 2 and transponder number 2, etc.

When setting up the cards, you can also allocate these numbers individually. Any number of user cards can share the same personal number, but only one transponder number can be assigned to each door station or keypad.

Personal Number

With an individually-selected personal number, you can set up multiple transponder or an additional access PIN for a single user. Additionally, you can erase all the access media connected to a personal number from the system at once ("Erase user from system").

Transponder Number

With the transponder number, you can erase a card without having it be physically present (theft, loss).

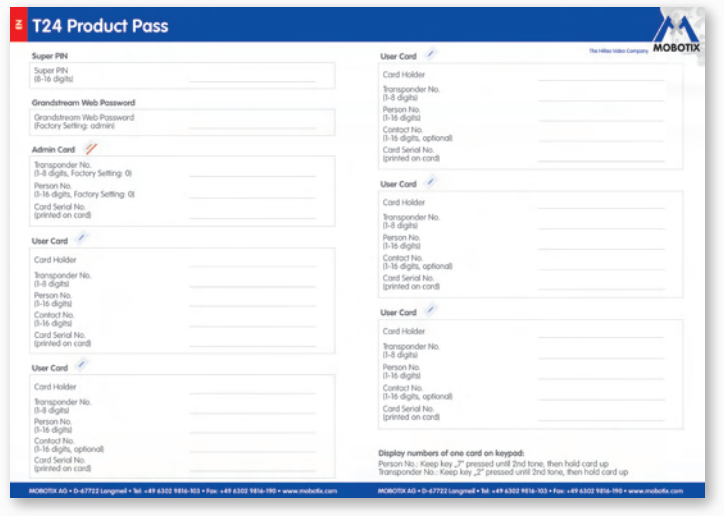
Contact Number

A contact number works like a telephone number that is entered on the keypad to contact specific users or user groups in the building. Only the remote station(s) of the selected user(s) will ring, and/or their voice mailbox will be accessed. For user cards, you can set up up to 16 different contact numbers.

Note
Should you want to assign new individual numbers to a user card that has already been set up previously, for example, when initially starting up a system, first erase the card as described in Section 3.3.2 and the proceed as described in 3.3.1.

3.2.2 T24 Data Record Card (To Be Completed By Installer/Admin Setting Up The System)

You will find the T24 User Data Record Card shown below in the appendix of this manual. Here, you should enter all user data and passwords that occur during configuration. Store the record card in a safe place.



To check the personal and transponder numbers of a card, simply view them on the keypad:

Personal Number:

7
hold (2nd beep)

Press button 7 (p = person) or 2 (c = card) until the second beep sounds, then hold up the card

Transponder Number:

2
hold (2nd beep)

3.3 Managing Transponders

3.3.1 Add User Card (Individual Number Assignment)

You need the red admin card to set up a blue user card.

Proceed As Follows:

1. Specify the individually-selected personal, contact and/or transponder numbers as required and immediately enter them on your T24 User Data Record Card (see 3.2.2).
2. Enter Configuration Mode: Press the **OK/MENU button** until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

3. Hold your **admin card** up to the keypad buttons until you hear a beep and the OK/MENU button lights up blue continuously.

4. Enter Access Configuration Mode: Briefly press the **blue key button**, which then lights up blue.

5. Enter Add Mode: Press the **OK/MENU button** until you hear the second beep (button lights up blue).

   OK
   hold (2nd beep)

6. **Assign contact – method 1 (quick setup without contact number):** Press the blue bell button to enable the new card for checking and using the standard voice mailbox directly via the keypad. If you wish to exclude the user card from voice mailbox interaction via the keypad, do not press the bell button.

Assign contact – method 2 (with contact number): If you have specified a contact number, enter it now and press the blue bell button. This sets up a new doorbell with a voice mailbox that can be checked with the user card by holding it up to the keypad.

Assign contact – method 3 (with additional bell button module): If you are using an additional bell button module (such as from the Siedle Vario range), press the bell button that you wish to assign to the new user card as a contact.

7. Assign individual personal number: If you have specified a **personal number, enter it now and press the OK/MENU button**. If not, skip this step and the card will automatically be assigned a new personal number.

   0 ... 9 OK
   Person No.

MOBOTIX recommends setting up all the cards and access PINs associated with one person to share the same personal number

8. Assign individual transponder number: If you have specified a **transponder number***, enter it now and press the **ESC/ALARM button** until you hear the second beep. If not, skip this step and the card will automatically be assigned a new transponder number.

   0 ... 9 ESC
   Transponder No. hold (2nd beep)

* For example, the last digits of the mprinted card serial no.

9. Present card: Hold the **user card** up to the keypad buttons until a beep sounds and the keypad shows a flashing ring pattern. Make sure that the card does not touch and inadvertently trigger any of the buttons.

10. As soon as the flashing pattern stops, setup for the new user card is finished. You are now back in configuration mode (the OK/MENU button lights up blue). **Press the ESC/ALARM button** to exit. After 60 seconds, the mode is exited automatically.

    ESC

Note
In case of a wrong entry, cancellation of entry via the ESC/ALARM button, or a delay of more than 60 seconds, a low warning tone is sounded and the system reverts to the regular operating mode (all buttons light up white). If required, re-enter into Add mode as described above.

3.3.2 Erase User Card

If you no longer require a previously set-up blue user card, if the card is no longer available (loss, theft), or if you want to set up the card afresh with individual numbers, e.g., for a different user or voice mailbox, you should erase the card.

To do so, you will need the red admin card (or Super PIN) and the transponder number of the user card to be erased, if you no longer have the card itself. If you still have the card, you can erase it by holding it up to the keypad without requiring a transponder number.

Proceed As Follows:

1. Ready the admin card and the user card to be erased or its transponder number.
2. Enter Configuration Mode: Press the **OK/MENU button** until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

3. Hold your **admin card** up to the keypad's buttons (**or enter the Super PIN** and then press the **OK/MENU button**) until you hear a beep and the OK/MENU button continuously lights up blue.

4. Enter Access Configuration Mode: Briefly press the **blue key button**, which then lights up blue.

5. Enter Erase Mode: Press the **ESC/ALARM button** until you hear the second beep (button lights up blue). You can now erase the user card (step 6), or if you do not have the card, use its transponder number to erase it (step 7).

   ESC
   hold (2nd beep)

6. **Erase current user card:** Hold the **card** up to the keypad until you hear the first beep (the key button's flashing pattern will change) and pull the card away again. Next, **confirm the card** by again holding it up to the keypad until you hear a beep.

Erase non-present user card: Enter the **card's transponder number** and press the **ESC/ALARM button** until the second beep sounds. **Re-enter the transponder number** to confirm and again press the **ESC/ALARM button** until you hear the second beep.

7. The card details have now been erased from the system and, if required, the card can be set up afresh. You are now back in configuration mode (the OK/MENU button lights up blue). Press the **ESC/ALARM button** to exit. After 60 seconds, the mode is exited automatically.

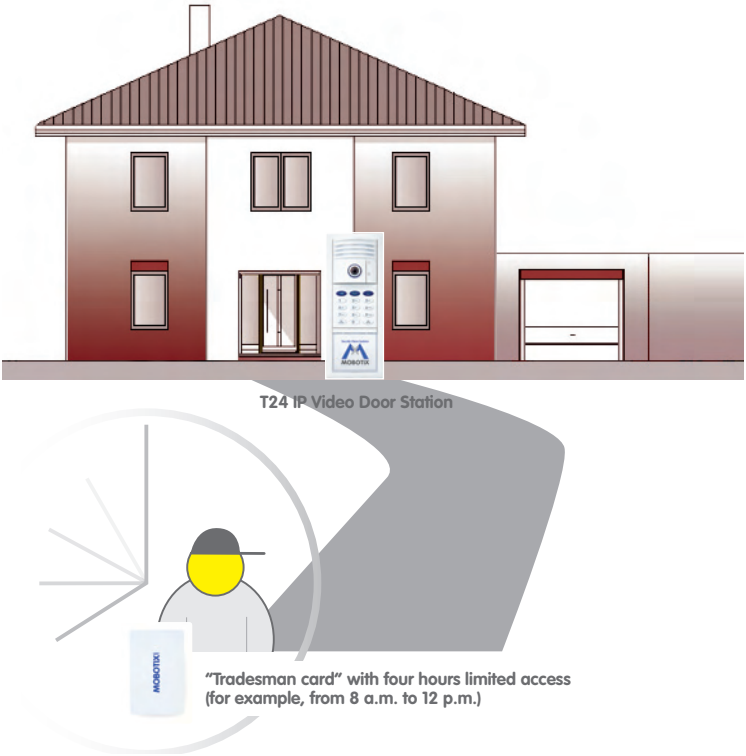
Notes
In case of a wrong entry, cancellation of entry via the ESC/ALARM button, or a delay of more than 60 seconds, a low warning tone is sounded and the system reverts to the regular operating mode (all buttons light up white). If required, re-enter into Erase mode as described above.

3.3.3 Time-Restricted Access ("Tradesman Card")

With the keypad, you can configure a user card to provide keyless entry (without voice mailbox access via the keypad) for a time span of up to 48 hours. However, this card cannot be set up for use as a regular user card.

A time-restricted card is useful, for example, for times when a tradesman you trust will be working in your apartment while you are away and he/she needs to enter/exit the building several times during the day.

When the preset time span has elapsed, you can reset the card as a tradesman card, or if you wish to turn it into a regular user card, you can erase it and then set it up as needed.



To Set Up A Time-Restricted User Card, You Need The Red Admin Card. Proceed As Follows:

1. Press the **blue key button until you hear the second beep** (button flashes blue).

   hold (2nd beep)

2. Hold your **admin card** up to the keypad buttons until you hear a beep and the blue key button lights up blue continuously.

3. Set the validity period (1–48 hours): Enter the **desired validity period in hours** via the keypad: (min. 1, max. 48).

4. Present time-restricted user card: Hold the **user card** up to the keypad buttons until a beep sounds and the keypad shows a flashing ring pattern.

5. The system then returns to regular operating mode and setup of the time-restricted card is complete. The entered time span commences immediately; the card can be used for keyless access until the end of the validity period.

Note
In case of a wrong entry, cancellation of entry via the ESC/ALARM button, or a delay of more than 60 seconds, a low warning tone is sounded and the system immediately reverts to the regular operating mode (all buttons light up white).

3.3.4 Add Further Admin Cards

As part of the initial system startup, you have already set up a red admin card via the keypad (see 2.2.2). If needed, you can also set up additional admin cards via the keypad (e.g., as backup cards or for other users wanting to manage the system). Contact your MOBOTIX dealer to purchase red admin cards.

To set up an additional red admin card, you need a previously set-up admin card or the Super PIN. Proceed as follows:

Proceed As Follows:

1. Enter Configuration Mode: Press the **OK/MENU button** until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

2. Hold your **previously set-up admin card** up to the keypad's buttons (or enter the Super PIN and then press the OK/MENU button) until you hear a beep and the OK/MENU button continuously lights up blue.

3. **Enter Access Configuration Mode:** Briefly press the **blue key button**, which then lights up blue.

4. **Enter Add Mode:** Press the **OK/MENU button** until you hear the second beep (button lights up blue).

   OK
   hold (2nd beep)

5. Hold up new admin card to be set up: Hold the **new admin card** up to the keypad buttons until a beep sounds and the keypad shows a flashing ring pattern. Make sure that the card does not touch and inadvertently trigger any of the buttons.

6. As soon as the flashing pattern stops, setup for the new admin card is finished. You are now back in configuration mode (the OK/MENU button lights up blue). Press the **ESC/ALARM button** to exit. After 60 seconds, the mode is exited automatically.

7. To check the transponder number of the new admin card, hold it up to the keypad and make a note of the number. Press the **"2" button** (c = card) until you hear the second beep and then hold the new admin card up to the keypad.

Note
In case of a wrong entry, cancellation of entry via the ESC/ALARM button, or a delay of more than 60 seconds, a low warning tone is sounded and the system reverts to the regular operating mode (all buttons light up white). If required, re-enter into Add mode as described above.

3.3.5 Erase Admin Card

If you no longer require a previously set-up red admin card, or if the card is no longer available (loss, theft), you should erase the card for security reasons.

To do so, you will need one previously set-up admin card (or Super PIN) and the transponder number of the admin card to be erased, if you no longer have another admin card. If you still have the card, you can erase it by holding it up to the keypad without requiring a transponder number.

Proceed As Follows:

1. Ready the set-up admin card and the admin card to be erased or its transponder number and the Super PIN.
2. Enter Configuration Mode: Press the **OK/MENU button** until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

3. Hold a **red admin card not to be erased** up to the keypad buttons (or enter the **Super PIN** and then press the **OK/MENU button**, if there is no remaining admin card) until you hear a beep and the OK/MENU button continuously lights up blue.

4. Enter Access Configuration Mode: Briefly press the **blue key button**, which then lights up blue.

5. Enter Erase Mode: Press the **ESC/ALARM button** until you hear the second beep (button lights up blue). You can now erase the admin card at hand (step 6), or if you no longer have the admin card, use its transponder number to erase it (step 7).

   ESC
   hold (2nd beep)

6. **Erase current admin card:** Hold the **card to be erased** up to the keypad until you hear the first beep (the ESC/ALARM button lights up red) and pull the card away again. Next, confirm the card by again holding it up to the keypad until you hear a beep.

Erase non-present admin card: Enter the **transponder number of the card to be erased** and press the **ESC/ALARM button** until you hear the second beep (ESC/ALARM button flashes red). Re-enter the **transponder number for confirmation** and press the **ESC/ALARM button** until you hear the second beep.

0 ... 9 Transponder No. | ESC hold (2nd beep) | 0 ... 9 Transponder No. | ESC hold (2nd beep)

7. The admin card details have now been erased from the system and, if required, the card can be set up afresh. You are now back in configuration mode (the OK/MENU button lights up blue). Press the **ESC/ALARM button** to exit. After 60 seconds, the mode is exited automatically.

ESC

Note
In case of a wrong entry, cancellation of entry via the ESC/ALARM button, or a delay of more than 60 seconds, a low warning tone is sounded and the system reverts to the regular operating mode (all buttons light up white). If required, re-enter into Erase mode as described above.

3.4 Manage Access PINs

The electrical door opener can also be triggered by entering an access PIN and then pressing the blue key button. You first need to set up an access PIN in the system to activate this function for a user. You can freely choose the PIN. Every user can have their own PIN.

Notes On How To Use Access PINs Securely
In general, there is an increased security risk in using an access PIN instead of a card, because a potential burglar can find out the code. PIN access should therefore be using sparingly, such as in emergencies, and they should always involve long PINs (never 1-1-1-1, date of birth, etc.) and only be used for non-critical doors (such as garage doors, inside doors of a building, etc.). An access PIN needs to have at least four and no more than 16 digits, and it may not consist of zeros only. MOBOTIX recommends changing your access PINs on a regular basis. Always make a note of your access PINs on your T24 User Data Record Card, which should be stored in a secure location (see 3.2.2).

3.4.1 Add PIN

One way to set up access PINs is to assign them to specific users via their personal numbers. This is useful in cases where you wish to erase all the access PINs (and user cards) of a user without having to enter the access PINs (see 3.5).

You need the red admin card to set up an access PIN.

Proceed As Follows:

1. Select an access PIN and enter it on your T24 User Data Record Card.
2. Enter Configuration Mode: Press the **OK/MENU button** until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

3. Hold your **admin card** up to the keypad buttons until you hear a beep and the OK/MENU button lights up blue continuously.

4. Enter Access Configuration Mode: Briefly press the **blue key button**, which then lights up blue.

5. Enter Add Mode: Press the **OK/MENU button** until you hear the second beep (button lights up blue).

hold (2nd beep)

6. Assign access PIN: Enter the **personal number** of the user to whom you wish to assign the access PIN and press the **OK/MENU button**. Otherwise, you can skip this step and continue with step 7.

Person No.

7. Enter PIN: Enter the **access PIN** on the keypad and press the **blue key button** (which then displays a blue flashing pattern). Re-enter the **access PIN for confirmation** and press the **blue key button**. A beep sounds and the keypad displays a flashing ring pattern.

Access PIN Access PIN

8. Setup of the new access PIN is complete. You are now back in configuration mode (the OK/MENU button lights up blue). Press the **ESC/ALARM button** to exit. After 60 seconds, the mode is exited automatically.

Note

In case of a wrong entry, cancellation of entry via the ESC/ALARM button, or a delay of more than 60 seconds, a low warning tone is sounded and the system reverts to the regular operating mode (all buttons light up white). If required, re-enter into Add mode as described above.

3.4.2 Delete PIN

You need the red admin card as well as the PIN itself to erase a previously set-up access PIN.

Proceed As Follows:

1. Enter Configuration Mode: Press the **OK/MENU button** until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

2. Hold your **admin card** up to the keypad buttons until you hear a beep and the OK/MENU button lights up blue continuously.

3. Enter Access Configuration Mode: Briefly press the **blue key button**, which then lights up blue.

4. Enter Erase Mode: Press the **ESC/ALARM button** until you hear the second beep (button lights up blue).

   ESC
   hold (2nd beep)

5. Enter access PIN: Enter the **access PIN to be erased** and briefly press the **blue key button** (the button's flashing pattern will change). **Re-enter the PIN for confirmation** and again press the **blue key button** briefly, which then lights up blue continuously.

   0 ... 9
   Access PIN

   0 ... 9
   Access PIN

6. The access PIN has now been erased from the system and, if required, another PIN can be set up afresh. You are now back in configuration mode (the OK/MENU button lights up blue). Press the **ESC/ALARM button** to exit. After 60 seconds, the mode is exited automatically.

   ESC

Note

In case of a wrong entry, cancellation of entry via the ESC/ALARM button, or a delay of more than 60 seconds, a low warning tone is sounded and the system reverts to the regular operating mode (all buttons light up white). If required, re-enter into Erase mode as described above.

3.4.3 Change PIN

You require the user's old and new PINs to change an access PIN previously set up for a user. The personal number of the user to whom the access PIN may have been assigned during the original setup is not required.

Proceed As Follows:

1. Select the new access PIN and immediately make a note of it on your T24 User Data Record Card (see 3.2.2). The **new access PIN also needs to have at least four and no more than 16 digits**, and it **may not consist of zeros only**.
2. Enter Configuration Mode: Press the **OK/MENU button** until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

3. Hold your **admin card** up to the keypad buttons until you hear a beep and the OK/MENU button lights up blue continuously.

4. Enter Access Configuration Mode: Briefly press the **blue key button**, which then lights up blue.

5. Enter old PIN: Enter the **previous access PIN** and briefly press the **blue key button** (button flashes blue).

   0 ... 9
   Access PIN

6. Enter new PIN: Enter the **new access PIN** and briefly press the **blue key button** (button flashes blue). Re-enter the **new access PIN for confirmation** and briefly press the **blue key button** (button lights up blue). A beep sounds and the keypad displays a flashing ring pattern.

   0 ... 9
   Access PIN

   0 ... 9
   Access PIN

7. The access PIN is changed. You are now back in configuration mode (the OK/MENU button lights up blue). Press the **ESC/ALARM button** to exit. After 60 seconds, the mode is exited automatically.

Notes
In case of a wrong entry, cancellation of entry via the ESC/ALARM button, or a delay of more than 60 seconds, a low warning tone is sounded and the system reverts to the regular operating mode (all buttons light up white). If required, re-enter into Add mode as described above. You require the old and new PINs as well as the user's personal or contact number to change an access PIN previously set up for a user.

3.5 Erase All Access Privileges Of A User (Cards/PINs)

By using the red admin card and the keypad, you can erase all the access media set up for a specific user at once, i.e., all blue user cards and access PINs assigned to the same personal number. The invalidated user cards can be set up again from scratch at any time.

To invalidate all user cards and PINs sharing the same personal number, you need the red admin card.

Proceed As Follows:

1. Procure the personal number of the user for whom keyless access is to be removed.
2. Enter Configuration Mode: Press the **OK/MENU button** until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

3. Hold your **admin card** up to the keypad buttons until you hear a beep and the OK/MENU button lights up blue continuously.

4. Enter Access Configuration Mode: Briefly press the **blue key button**, which then lights up blue.

5. Enter Erase Mode: Press the **ESC/ALARM button** until you hear the second beep (button lights up blue).

   ESC
   hold (2nd beep)

Erase All Access Privileges Of A User (Cards/PINs)

6. Identify user: Enter the **personal number of the user to be erased** and briefly press the **OK/MENU button**. **Re-enter the personal number for confirmation** and again press the **OK/MENU button briefly**.

   0 ... 9 OK
   Person No.

   0 ... 9 OK
   Person No.

7. All user cards, PINs and data associated with the user are now erased. The system is returned to its regular operating mode (all buttons light up white).

Note

In case of a wrong entry, cancellation of entry via the ESC/ALARM button, or a delay of more than 60 seconds, a low warning tone is sounded and the system immediately reverts to the regular operating mode (all buttons light up white). If required, re-enter into Erase mode as described above.

3.6 Erase Contact (Doorbell/Voice Mailbox)

The steps described here are only available if you have created new contacts in the system by setting up contact numbers.

Every setup contact number represents a contact and works like a telephone line to specific user or user groups in the building. After the user has entered the contact number on the keypad, the remote station(s) of the selected user(s) will ring, and/or their voice mailbox will be accessed. You can set up up to 16 different contacts with contact numbers.

When a contact is erased from the system, the associated keypad button combinations for ringing the bell and using the voice mailbox are also erased. Users whose user cards were linked to a contact during setup (see 3.3.1) continue to have access to the building; however, their voice mailbox and voice mailbox access data are erased from the system.

You require the red admin card to erase a contact or a contact number from the system.

Proceed As Follows:

1. Enter Configuration Mode: Press the **OK/MENU button** until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

2. Hold your **admin card** up to the keypad buttons until you hear a beep and the OK/MENU button lights up blue continuously.

3. Enter Access Configuration Mode: Briefly press the **blue key button**, which then lights up blue.

4. Enter Erase Mode: Press the **ESC/ALARM button** until you hear the second beep (button lights up blue).

   ESC
   hold (2nd beep)

Erase Contact (Doorbell/Voice Mailbox)

5. Enter Contact Number: Enter the **contact number to be erased** and briefly press the **blue bell button** (the button's flashing pattern will change). **Re-enter the contact number for confirmation** and again press the blue bell button briefly.

6. **The contact is now erased (no bell connection or voice mailbox remain for this contact number).** The system is returned to its regular operating mode (all buttons light up white).

Note
In case of a wrong entry, cancellation of entry via the ESC/ALARM button, or a delay of more than 60 seconds, a low warning tone is sounded and the system immediately reverts to the regular operating mode (all buttons light up white). If required, re-enter into Erase mode as described above.

3.7 Change Super PIN Using The Keypad

We recommend changing the Super PIN for **security reasons** (protection against manipulation or unauthorized access to the door station)

- if you suspect that unauthorized persons may know your current Super PIN, or
- if you have taken over an existing door station that is still set up with the previous owner's Super PIN.

The other method for changing the Super PIN (by video phone) is described in Section 2.3.3.

To change the Super PIN, you need the old (i.e. the current) Super PIN, a new secure Super PIN (8–16 digits) and the red admin card.

Proceed As Follows:

1. Select a new Super PIN and immediately make a note of it on your T24 User Data Record Card (see 3.2.2). The new Super PIN also needs to have at least eight and no more than 16 digits, and it should be selected with security in mind (no obvious number combinations).
2. Enter Configuration Mode: Press the **OK/MENU button** until you hear the second beep (button flashes blue).

   OK
   hold (2nd beep)

3. Hold your **admin card** up to the keypad buttons until you hear a beep and the OK/MENU button lights up blue continuously.

4. Enter Access Configuration Mode: Briefly press the **blue key button**, which then lights up blue.

Change Super PIN Using The Keypad

5. Enter old Super PIN once: Enter the **old Super PIN** and briefly press the **OK/MENU button** (the button's flashing pattern will change). **Please note:** If the module software of your keypad (T24-KeypadRFID) is **release number 1.0.1.4 or older**, you do not need to enter the old Super PIN. Proceed to step 6**.**

   0 ... 9 OK
   Super PIN old

6. Enter new Super PIN twice: Enter the **new Super PIN** and briefly press the **OK/MENU button** (the button's flashing pattern will change). **Re-enter the new Super PIN for confirmation** and briefly press the **OK/MENU button** (button lights up white). A beep sounds and the keypad displays a flashing ring pattern.

   0 ... 9 OK 0 ... 9 OK
   Super PIN new Super PIN new

7. As soon as the pattern stops flashing, the new Super PIN has been changed. You are now back in configuration mode (the OK/MENU button lights up blue). Press the **ESC/ALARM button** to exit. After 60 seconds, the mode is exited automatically.

   ESC

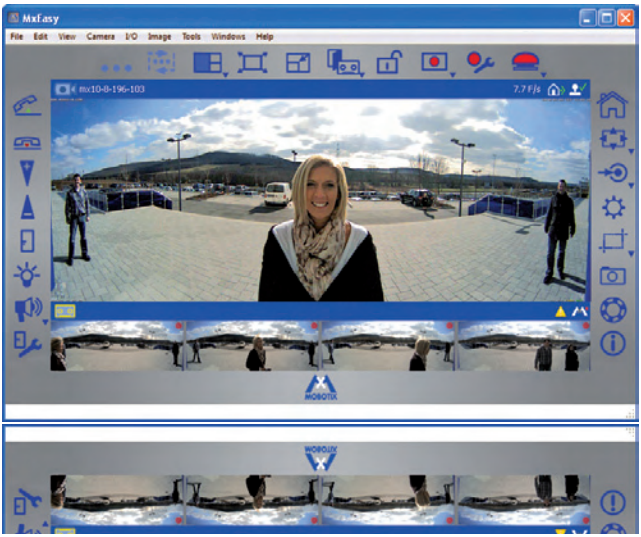
Note
In case of a wrong entry, cancellation of entry via the ESC/ALARM button, or a delay of more than 60 seconds, a low warning tone is sounded and the system reverts to the regular operating mode (all buttons light up white). If required, re-enter into Add mode as described above.

4 SYSTEM EXPANSION WITH MXEASY

This chapter provides an overview of the extended functions offered by your Door Station when used in conjunction with MOBOTIX video software MxEasy. For detailed information, please refer to the MxEasy user manual, which can be downloaded as a PDF free of charge from www.mobotix.com in the Support > Manuals section.

The current version of MxEasy is also available to download from the MOBOTIX website (www.mobotix.com under Support > Software Downloads > MxEasy).

MxEasy: Completely free of charge



Before you launch MxEasy for the first time, you should have set up the system for operation without a PC as described in Section 2 of this manual. In general, this is always possible when a DHCP server is in use in the network (T24-CamCore camera module or external server). Then follow the descriptions in Section 4.1.

Only in networks without a DHCP server (with static IP addresses) is it not possible to set up the system for operation without a PC. In this case, the system is set up for operation and auto-configuration launched using MxEasy; only the supervisor PIN and the transponder cards have to be entered or set up using the Keypad. See Section 4.2 for a description of how to set up a T24 for operation in a network with a static IP address.

Global Connectivity Between Door Station And MxEasy

The Door Station can be accessed and operated over the Internet by assigning a DynDNS name. Live two-way communication over the intercom or opening the door is therefore possible from anywhere in the world where Internet access is available. If the remote station (e.g., a laptop) is also registered with a DynDNS service, a connection with MxEasy is automatically established when someone calls at the door. System setup is described in Section 4.3.

When access ng the Internet (wherever you are n the world) make sure the connection is sufficiently secure (encrypted)

Mobile T24 Remote Station: MOBOTIX App For iPad, iPhone And iPod touch

The MOBOTIX App serves as a powerful mobile remote station for all T24 Door Stations and newer MOBOTIX camera models. The app will be available in the app store from 2012 and can be used both in the local WLAN and while you are out in the UMTS network.

The app is the perfect mobile T24 remote station:
- Two-way communication ntercom
- Live camera images
- Alarms
- Event player
- and much more

Note

After the first successful use, the T24 Door Station **with Keypad** will have been given the following access data during auto-configuration:

- **User name: admin**
- **Password: [supervisor PIN]**

This data is needed if you are using a computer with MxEasy as the remote station or would like to directly access the software integrated in the T24 camera module via a Web browser (see www.mobotix.com > Support > Manuals > Camera Software Manual).

For Door Stations **without Keypad** it is not necessary to enter an individual supervisor PIN during auto-configuration. Unless the password is changed (urgently recommended!) – e.g., by video phone, see Section 2.3.3 – the default password assigned at the factory **meinsm** continues to apply (user name remains: admin).

This access data protects the T24-CamCore, door camera and control unit for the ent re Door Station aga nst unauthorized access

4.1 Setting Up PC As T24 Remote Station

Apart from a Grandstream GXV3140 videophone, any computer (available in the network) can be used as a T24 remote station if MxEasy is installed on it. You can use this handy video software to manage and operate up to 16 MOBOTIX cameras and/or Door Stations easily and conveniently.

The MOBOTIX program can run in the background on a PC or touchpad with a standard operating system (Windows or OS X) and pops up automatically when someone rings the doorbell. Using the computer's microphone and speakers as a two-way communication intercom (full duplex), you can speak to visitors and you can open the door or switch on the light by clicking on the corresponding buttons in the software. MxEasy also makes it easy to listen to voice mailbox messages or search through all of your camera recordings.

4.1.1 System Requirements

To get the best out of the T24 with MxEasy as a computer remote station you need the following equipment:

- Computer with a current operating system (Windows XP SP3 or higher, Mac OS X 10.6 or higher). The processor must have a speed of at least 2 GHz and 1 GB RAM must be available. Macintosh computers with PowerPC architecture are not supported.
- Monitor with a minimum resolution of 1280 x 1024 pixels to be able to properly use the full-screen display of one or more cameras.
- The PC with MxEasy must have (like a Grandstream videophone) a network connection to the Door Station (e.g., via switch/WLAN). For the connection options available to you in this respect, see Section 2.2, Remote Station and Network Connection, in Part 1 of the T24 System Manual (System Overview and Mounting). The **MxEasy manual** can be downloaded **free of charge** from **www.mobotix.com** in the **Support > Manuals** section.
- The T24 system was set up for operation using auto-configuration (as described in the second section of this manual).

4.1.2 Downloading And Installing MxEasy

If you have not already done so, register as a new user through the MOBOTIX website and log on. It is free to register, download and use MxEasy. As a registered user, you have access to the entire range of MOBOTIX software and you can choose to keep yourself up-to-date with the latest product developments through our newsletter.

The convenient video management software MxEasy is available to download as a Windows or Apple version here:

www.mobotix.com > Support > Software Downloads > MxEasy

Windows

Download the file MxEasy_*_Setup.exe (release: MxEasy Windows), and save it on your PC. Run the file for automatic installation (MxEasy_*_Setup.exe), and follow the instructions in the installation wizard. Once the installation is complete, double-click on the desktop shortcut to launch the application.

Apple Mac OS X

Download the file MxEasy *.mpkg.zip from the MOBOTIX website (release: MxEasy Macintosh), and save it on your computer. Unpack the file by double-clicking on it. Run the file for automatic installation MxEasy *.mpkg, and follow the instructions in the installation wizard. Once the installation is complete, double-click on the application in the Programs folder to launch it.

Note
If you have received an installation medium (CD, DVD, USB stick), you can launch the corresponding installation file directly from the storage device.

4.1.3 Connecting Door Station With The MxEasy Wizard

Step 1: Select Door Station

When you start MxEasy for the first time on a computer, the MxEasy Wizard automatically begins to search for MOBOTIX cameras and Door Stations with integrated camera modules, and displays all devices found in a list.

A Door Station already set up for operation without a PC, which is in the local network, is shown with the 'Green dot with lock' icon. This means that the Door Station can, in principle, be accessed (green), but it is protected by a password (lock). This password is (normally) the supervisor PIN that was assigned to this T24 when the system was set up for operation (see Section 2.2.1 or 2.3.3 of this manual).

Step 2: Enable Access To Door Station

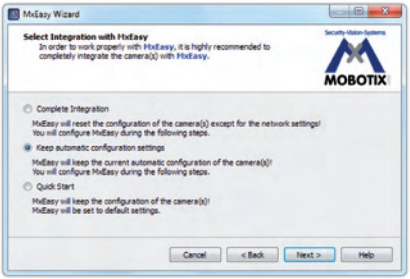
Right-click on the Door Station (or the T24-CamCore camera module) and enter the currently valid data in the **User and password** window (see note at beginning of Section 4):

- **User name: admin**
- **Password: [supervisor PIN]**

After the data is entered correctly and confirmed the status display changes to a green dot without a lock. The **Select Integration with MxEasy** window opens.

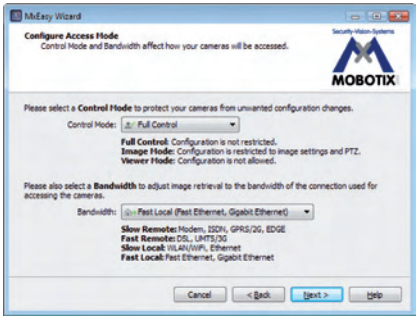
Step 3: Select Integration With MxEasy

Because the T24 was already auto-configured successfully (by pressing the lower button on the camera module during startup), you should keep the settings made automatically by the system during this process. Click on the center option field **Keep automatic configuration settings** and then **Continue**. The **Configure Access Mode** window opens.



Step 4: Configure Access Mode

The **Control Mode** can be used to prevent (accidental) configuration changes.



Setting the **Control Mode to Image Mode** for example, means that the type of recording cannot be changed.

Bandwidth determines how, in environments with connections of different speeds, frames are retrieved by the cameras and shown as live images or provided for searching. Choosing a Bandwidth enables you to determine the display quality of the camera image in MxEasy.

Click **Continue**. The **Change Camera Access** window opens.

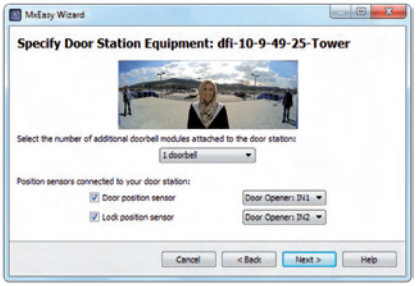
More information on this can be found n the MxEasy manual at www.mobotix.com

Step 5: Skip The Camera Access Dialog

It is no longer necessary to enter a new password or user name because the supervisor PIN has already changed the default access data and the system is therefore securely encrypted. **Click Continue without completing the fields.** The next window, **Specify Door Station Equipment**, opens.

Step 6: Specify Door Station Equipment

The T24 includes a fixed bell button on the camera module and – if it exists for your system – one on the Keypad. These two bell buttons have the same function and are already integrated into the system during auto-configuration. The presence of additional equipment bell buttons (e.g., Siedle module with 1 to 4 buttons) is recognized by the system during auto-configuration. Select the **actual number of doorbells** being used, **without counting the fixed bell button on the camera module.**

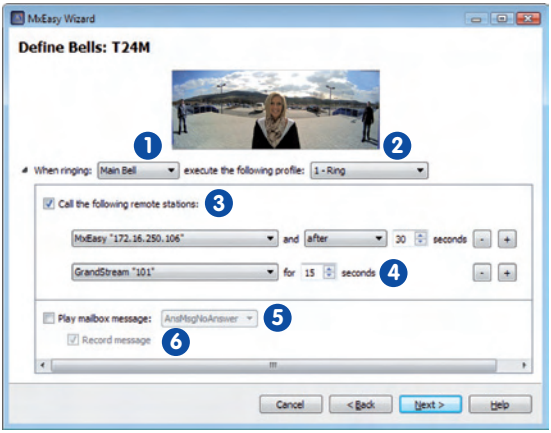


Check whether the **door sensors** in the system are activated and the **connection terminals** are correctly assigned, in order to obtain correct **door status displays** (Door open/closed/locked) in MxEasy. To designate the door sensor connections see also Section 2.3.4 of this manual (Set Door Status Display).

Confirm your settings by clicking **Continue**. The **Define Bells** window opens.

Step 7: Define Bell Actions And Close Wizard

You can also select here **which actions are to be performed when the doorbell rings at the Door Station (except on a Grandstream videophone)**. The addressees, which can be reached at the Door Station, are the equipment bell buttons and (optionally) the contact numbers set up with the blue user cards.



1. Select the **Addressee** for which an action profile is to be entered (bell button or contact number).
2. Select the **Bell Profile** to enable quick switching during everyday operations. This means that you define how a **ring** at the Door Station is to be answered (e.g., with ringing or a message).
3. When selecting the **Ringing and message** profile, select the **Remote Station** or enter a new remote station where the ringing is to be signaled. To select **MxEasy as Remote Station**, the IP address of the computer on which MxEasy runs must be actively entered or selected from the list. For a Voice over IP call, either the SIP quick-dial number allocated during auto-configuration or an IP address for the VoIP telephone to be called must be entered or selected, depending on the configuration. The SIP quick-dial number for a Grandstream videophone is displayed in the format "*101" (or *102, *103 etc.). These numbers are specified on the SIP server for the Grandstream videophones during auto-configuration of the T24 and are automatically resolved in the real IP addresses of the devices.
4. Select how much time should elapse without the doorbell being answered before a **message should be played to the visitor**.
5. Select the **Message** that should be played.
6. Activate the **Record Message checkbox** if the visitor should have the option of leaving a message themselves.

Once everything is configured, click **Continue** The door camera selected is listed in the **Overview** window. Click **Finish** to exit the MxEasy Wizard.

The Door Station is now integrated and the live image from the door camera is displayed in MxEasy. Detailed information on using MxEasy and the individual program settings (e.g., image optimization, recordings, Door Station options) can be found in the MxEasy user manual. Download free of charge from: www.mobotix.com > Support > Manuals.

User Tip: The MxEasy Mini Viewer

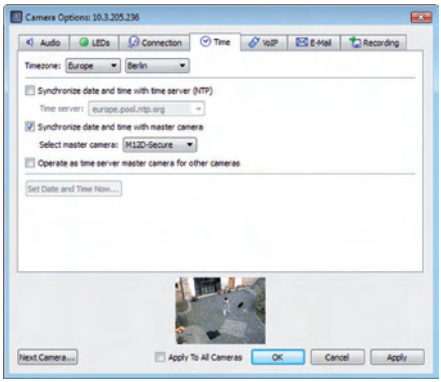
If you use your computer primarily for other applications (such as Office programs, Internet, etc.) yet always want to remain informed about door activity without having to switch back and forth between program windows, then just open the Mini Viewer in MxEasy. The Mini Viewer is a smaller preview window with live camera images, important Door Station features and status display for doors and lights.

You can easily switch to the Mini Viewer by clicking on the appropriate **button in the center of the toolbar above the live image**.

If someone rings the doorbell, a large doorbell icon is shown and the pre-configured sound generated through the computer's speakers. The two-way communication intercom function can be activated or deactivated using the telephone handset icons. The volume of the visitor (or the Door Station microphone) can be changed using the slider. An electronic door opener connected to the Door Station and/or a light can be activated by clicking on the corresponding icons.

4.1.4 Setting Date And Time

After you have completed the MxEasy Wizard, you should make sure that all integrated Door Stations, cameras and devices are running **in a synchronized manner**. You can do this by using a **time server** that synchronizes the system to a particular time.



MxEasy Camera Options dialog box

1. Open the **Time** tab under the **Camera > Camera options** menu item.
2. Select the required **time zone** (time at the location of the T24). This allows the system to automatically switch between summer and winter time.
3. Activate the desired checkbox:
   - **Synchronize date and time with Internet time server (NTP)**
     Select a time server from the list or enter the name of your preferred NTP time server. If the camera/Door Station does not automatically fetch its network data via DHCP, a valid DNS server must also be entered (Connection tab).
   - **Synchronize date and time with master camera/Door Station**
     If there is no Internet connection and you have several MOBOTIX cameras or Door Stations simultaneously in one network, you should make one master camera/ Door Station be the time server for all devices. This ensures that the system runs in a synchronized manner and that saved video sequences can be replayed in a synchronized format.
4. Activate the checkbox **Use as master time server camera for other cameras** to use the currently selected (door) camera as the time server.
5. If an NTP time server has not been entered and the camera/Door Station is not being used as a master time server camera, you can set the **camera time to the computer's clock**:
   - **Uncheck the synchronizing options** and click **Apply**.
   - The camera/Door Station is reconfigured and restarted.
   - Wait until the restart (or reboot) of the Door Station is complete. The time of the computer on which you are working right now will be displayed.
   - Click **Set Date and Time Now** to synchronize the camera's/Door Station's time with the computer's local time for the first time.
6. Click **OK** to confirm.

Note

The time display in the title bar of the main window will blink if the system time of an active camera (Live view) in the main window deviates from the system time of the computer by more than 15 seconds. In this case, check the computer to see if it is also synchronized with a time server. Try to set up the same time server for both the computer and the cameras/Door Stations.

4.2 Integrating Door Station Into Network With Static IP Addresses

If there is no DHCP server in the network or this is not to be used, all network devices must have a static IP address in the same address range to be able to communicate with one another. This also applies to the T24 and its remote stations, which are to be newly integrated into the network (LAN – Local Area Network). You have to know the IP addresses and subnet mask currently in use on the network.

A PC that is already configured to work on the network is necessary for configuration. The MOBOTIX software MxEasy must be installed on this PC (free to download from www.mobotix.com > Support).

Note
For Steps 4 and 5 described here, which must be carried out with MxEasy, please also refer to Section 2.3.3 (Integrating An IP Video Door Station) in the MxEasy manual (free to download from www.mobotix.com > Support > Manuals).

Configuration Comprises The Following Steps:

- Integrate T24 including remote stations into network
- Assign static IP addresses to videophones (on the videophone)
- Assign static IP address to operation PC (on PC)
- Assign static IP address to T24 (with MxEasy)
- Further configure T24 and initiate auto-configuration (with MxEasy)
- Set up supervisor PIN and admin card (on Keypad)

Step 1: Integrate T24 Including Remote Stations Into Network

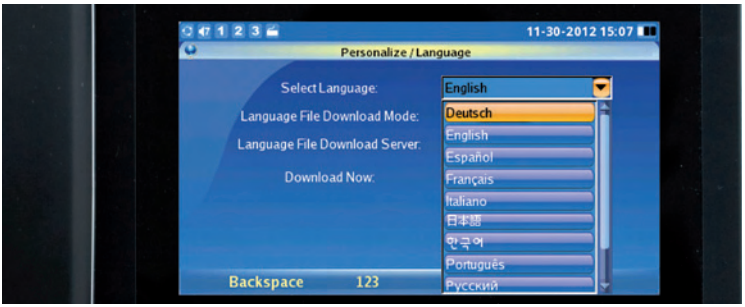
Connect (one or more) T24, the videophones being used and, if not already done, a PC with the router/switch into the network. Each T24 must have a (PoE) power supply.

Step 2: Assign Static IP Addresses To Videophones (On The Videophone)

Please note: The following settings refer to the menu of the Grandstream GXV3140 videophone. The settings must be made in the relevant menus for IP videophones from other manufacturers.

When first operating the **Videophone**, we recommend configuring the desired **Menu language** on the display first:

- **Menu > Personalize > Language > Select Language**



Next, change the configuration of each **Grandstream telephone** from the default DHCP settings to a user-defined **static IP address** appropriate for the existing LAN. For example, here, the address range is from 10.x.x.x (10.0.0.1 to 10.0.0.254) with the subnet mask 255.0.0.0.

- **Menu > Settings > Network**
- **Activate static IP**
- **Enter IP address 10.0.0.10**
- **Subnet mask 255.0.0.0 > Save**

Caution: Values specified are only placeholders or examples

Restart the Grandstream telephone:

- **Menu > Settings > Maintenance**
- **Restart > Select and activate restart**

The new static IP address of the Grandstream telephone (10.0.0.10) will now appear on its display and is ready for use.

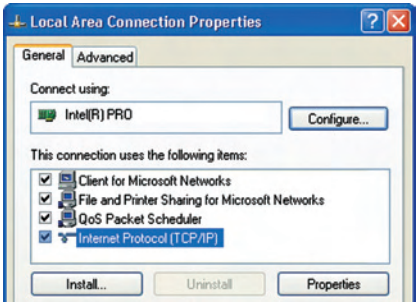
Step 3: Assign Static IP Address To Operation PC (On PC)

If a PC already integrated into the network is used to set up the T24, proceed directly to Step 4.

The MOBOTIX T24 and Grandstream telephones are set up for operation using a PC, the network parameters of which must be set up in the same IP address range. The computer's network parameters usually have to be changed for this purpose.

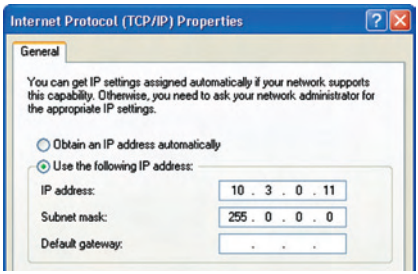
Windows

1. Open **Start > Settings > Control Panel > Network Connections**. Clicking **Properties** opens the dialog shown.



2. **Double-click Internet Protocol (TCP/IP)**. Select the option **Use the following IP address** under General and enter a static IP address (e.g. 10.3.0.11) with the subnet mask 255.0.0.0.

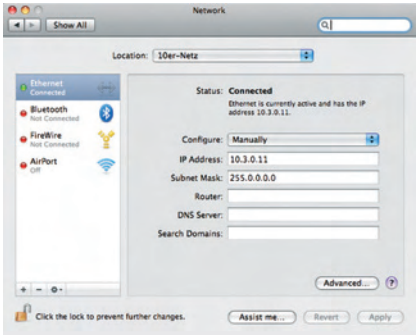
Caution: Values specified are only placeholders or examples



3. After closing all dialogs, the PC will now use the 10.0.0.20 IP address.

Mac OS X

1. Open **System Properties > Network.**.

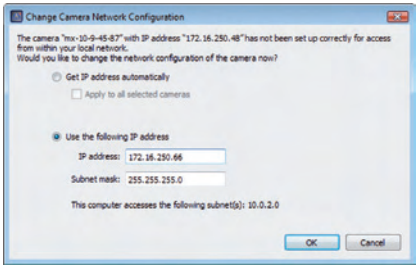


2. Select **Ethernet**. Select the option **Manual** under **Configuration** and enter a static IP address (e.g., 10.3.0.11) with the subnet mask 255.0.0.0.
3. After you have clicked **Apply**, the PC uses the IP address 10.0.0.20.

Step 4: Assign Static IP Address To T24 (Also See Section 2.3.2 Of MxEasy Manual)

Install MxEasy on a PC and start the program. The **MxEasy Wizard** opens (see Section 4.1.3):

Select your T24 door camera. The **Network status icon** will probably be blue. This color indicates that even though the operation PC and the Door Station are in the same physical network, they are still in different IP address ranges and therefore cannot communicate with one another (yet). Click **Continue**. The **Network Configuration prompt** window opens. Click **OK** to confirm.



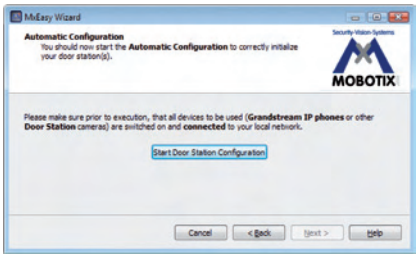
In the **Change Camera Network Configuration** dialog box that opens next, enter a static IP address appropriate for the LAN and a subnet mask for your Door Station under the activated **Use this IP address** option. Click **OK** to finish. If you have more than one T24, repeat the process for entering the IP address. The T24 is now reconfigured and the **Select Integration with MxEasy** window opens.

Step 5: Further Configure T24 (Also See Section 2.3.3 Of MxEasy Manual)

Now run through the next steps of the MxEasy Wizard. For the settings in the **Select Integration with MxEasy** and **Configure Access Mode** windows follow the description given above in Section 4.1.3. Then the new window **Start Automatic Configuration** opens.

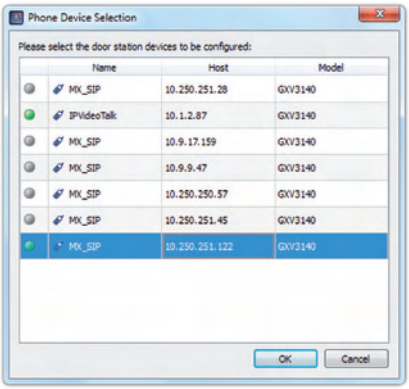
Start automatic configuration

Click **Start Door Station Configuration**.



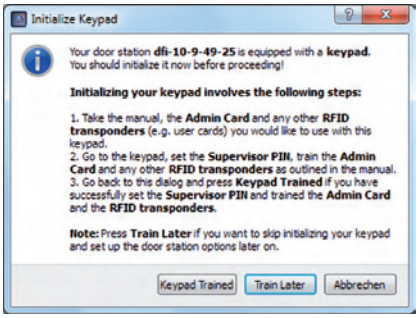
The remote stations found are listed in a **Phone Device Selection** overview.

Select the telephone devices that are to be integrated into the system and click **OK**. This starts the automatic configuration. This might take several minutes.



Cl ck **OK** to start the auto-configuration for the selected devices

The **Initialize Keypad** window opens. Now enter the supervisor PIN **on the Door Station Keypad** and **set up the admin card**, as described in Section 2.2 of this manual. Next, click **Keypad Set Up**.



The **Specify Door Station Equipment window opens**. Now proceed as described above in Section 4.1.3 from Step 6 onwards.

4.3 Setting Up Global Connectivity Between MxEasy And Door Station

To be kept informed anywhere in the world of what is happening at the door back home, you can establish a connection over the Internet to your Door Station – which is also connected to the Internet and registered with a DynDNS service – using a PC installed with MxEasy. When the program is open (e.g., as Mini Viewer) and a connection is available, you can see live camera images with or without sound, you can speak with the visitor and you can operate the door lighting and the door opener remotely. And, of course, you can also use all the other functions offered by MxEasy.

MOBOTIX recommends purchasing **flat-rate** Internet access for the T24 and router; other access plans could result n high connection costs

Please note, however, that the quality of the two-way intercom connection and the live images depends on the capability of your Internet connection.

Technical Specifications: Registering The T24 With A DynDNS Service

MxEasy cannot automatically detect Door Stations that are located outside the local (WLAN) network; these must be added manually in the Camera List.

In most cases, a T24 or its camera module (T24-CamCore) is connected over the Internet with a changing IP address. DynDNS (dynamic domain name system) is the perfect way to access your system. In this way, the T24 is accessed via a self-assigned name that can no longer be changed, which was registered with a DynDNS provider. The integrated DynDNS client in your local router (e.g., Fritz!Box) transmits the new IP address to the DynDNS provider each time a change is made. The camera can therefore always be accessed with the same DynDNS name (e.g., Fritz-Mueller.dyndns.org), regardless of the current IP address.

You need a computer with Internet access and a router connected to the Internet to set up this service. The Door Station must also be connected to this router. **Proceed as described below (also see Section 4.8.3 of the MxEasy manual):**

Step 1: Registering A DynDNS Name

Register with a suitable DynDNS service (e.g., dyndns.org) and reserve a DynDNS name for the router, which you want to use for accessing the T24 (e.g., 'Fritz-Mueller' for your Fritz!Box). DynDNS providers typically provide several domains that come after the period after the DynDNS name. In our example, we chose 'dyndns.org.' The name used to access the door camera(s) therefore always begins with 'Fritz-Mueller.dyndns.org.' Keep the DynDNS access data (user name and password) that you are given in a safe place.

Step 2: Setting Up A DynDNS Dlient On The Router (e.g., Fritz!Box)

Open your router's user interface by entering its IP address or DNS name in the web browser (e.g., 'http://192.168.178.1' or 'http://fritz.box'). Open the configuration page for setting up the DynDNS client. Enter the DynDNS name that you registered with the DynDNS provider.

Step 3: Setting Up Port Forwarding

Open the configuration page for port forwarding in your router's user interface. Link a port to each local IP address for the Door Station(s) that should be accessible anywhere in the world:

e.g., Port 19801 -> 192.168.178.201 (router port and IP address for Door Station)

Step 4: Testing The DynDNS Configuration

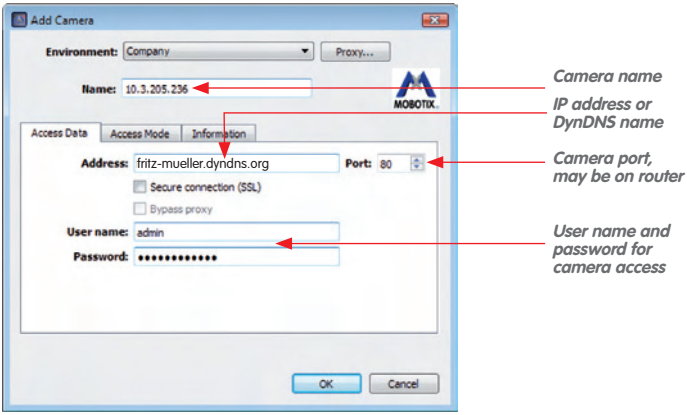
Each T24 is equipped with integrated software, the interface for which can be called up as a website in a standard Web browser (e.g., Internet Explorer, Firefox). To do this, just enter the IP address or the DynDNS name for the T24 **in the address line of your Web browser** on a networked computer. You still need the current access data for the T24 (user name and password, see Note at beginning of this Section 4) to enable the website.

To test the DynDNS configuration, enter the DynDNS name and the port of the required T24 in your Web browser (example: http://Fritz-Mueller.dyndns.org:19801). You should now see the **T24 Web interface** and be prompted to enter the access data. Use the same procedure to test all of the other Door Stations/cameras that you have set up for port forwarding.

Step 5: Integrating Door Stations Over The Internet In MxEasy

Launch MxEasy as described in Section 4.1. You now have to manually add the T24 in MxEasy using your DynDNS name:

1. If this is not automatically displayed when the program starts, open the **Camera List** in MxEasy (e.g., under the menu item Camera >Add Cameras). Click on the **+ button** to the lower left of the list. The **Add MOBOTIX Camera** window opens.



2. Enter the **DynDNS name for the router** in the **Address** field and the corresponding **Port** for the Door Station (as defined in the router).

   Data from the example above:

   - Address: fritz-mueller.dyndns.org
   - Port: 19801

3. Now enter the **user name and password for the Door Station**:
   - **User name: admin**
   - **Password: [supervisor PIN]**
4. Click **OK** to confirm and finish. If everything is set up correctly, the network status of the Door Station automatically switches to accessible (symbolized by a green dot without lock) and MxEasy displays a live preview image.

Step 6: Setting Up SSL Encryption

SSL encryption means that data sent to and from the cameras is always transmitted in an encrypted format. This technique makes the recording of data and spying on access data (nearly) impossible. To activate SSL encryption on the camera, proceed as follows:

1. Open the **Properties** window via the **Camera > Edit Cameras** menu.

2. Or: Open the Camera List via the **Camera > Show Cameras** menu. Open the shortcut menu for the desired camera. Click **Edit**. The **Properties** window opens.

3. Activate the checkbox **Use secure connections (SSL)** in the **Access data** tab.

4. Click **Apply** or **OK** to complete the changes on the camera.

5. Reboot your camera when you are prompted to do so.

The camera can now only be reached via an SSL-encrypted connection. You can also use the encrypted connection from a Web browser by entering the camera's address, as in the following example:

```
https://Fritz-Mueller.dyndns.org:19801
```

Now proceed as described above in Section 4.1.3 from Step 3 onwards. You have now integrated a T24 into MxEasy via the Internet.

Please note: For a computer with MxEasy that is remotely connected to the T24 via the Internet, any **ringing on the door will only be signaled acoustically and optically if** the computer (and the T24) are registered with a DynDNS service with the host name and the port of its Internet router in MxEasy as the remote station. If this function (doorbell message) is also required while you are out for unknown ports (e.g., in the WLAN network of a hotel or hotspot), we recommend using the MOBOTIX App for iPhone, iPad and iPod touch, which has been developed specially for mobile use.

Notes

The IP addresses given here for cameras, routers, the ports and the DynDNS name 'Fritz-Mueller.dyndns.org' are only intended as examples. They should not be used **under any circumstances** in order to protect your system from tampering. Specify your own names and ports.

Access to the **password-protected T24 website** e.g., if you want to view live images or open the door, is also possible in the browser of mobile Internet devices. The **remote-controlled door opening function** is extremely practical if, for example, your T24 is not equipped with an RFID or PIN-controlled access module (T24 KeypadRFID), but you do not have the door key with you at the moment.

Make sure that you have changed the default **Access data for the Door Station** (user name 'admin' and password 'meinsm') when using the system for the first time: User name remains admin, new secure password becomes the supervisor PIN for your system (also see the Note at the beginning of Section 4).

5 SYSTEM RESTORE

5.1 Error Messages And Reboot

If any errors are encountered during the initial operation, they are announced as a numerical code via the door station's loudspeaker. The table below outlines possible reasons for errors and troubleshooting solutions. If none addresses your issues, please contact the MOBOTIX support team.

How to reboot the system:

Disconnect the door station from the power supply for approx. 30 seconds (for example, by removing the network plug) and then repeat the operating steps you tried to carry out previously (e.g. initiate the system startup process).

Error code	Error	Solution
1	The door station's internal battery is empty	Ensure the door station is charged continuously for at least one hour and then reboot the system
2	Auto-configuration is deactivated	Activate auto-configuration (via video phone. See 2.4)
3	Internal error	Reboot system. If this does not resolve the issue, contact MOBOTIX support
4	Error during number entry (e.g., Super PIN) – number too short or too long	Repeat your entry
5	Processing error – card could not be read	Repeat your entry
6	Card is not an admin card	Use an admin card
8	Connection to card was interrupted – card could not be set up completely	Repeat your entry and hold the card up to the keypad longer
9 or higher	Communication error (for example, loose connection)	Check cabling. Reboot system or initiate the system startup process again

5.2 Backup And Restore

MOBOTIX provides functions for you to store a backup of the door station's system configuration via a Grandstream video phone, as well as to restore the original settings in case the configuration has been accidentally changed.

Backup

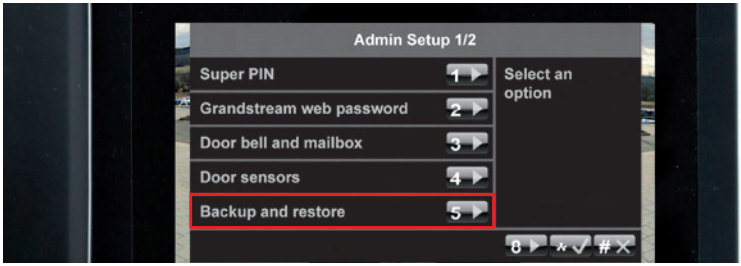
Follow the instructions outlined in Section 2.4.3 of this manual (Save Your System Configuration).

Restore

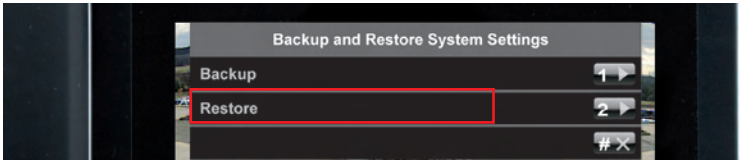
This function lets you restore the last version of the system configuration you backed up.

Proceed As Follows:

1. Using a Grandstream video phone, open the Admin Setup menu as described in 2.3.2. You will need the Super PIN for this.
2. Open the first page (1/2) of the Admin Setup menu and press 5 to select the "Backup and restore" menu item.



3. Now press 2 to restore the settings. The date and time of the last backup are shown on the display. Press the "*" button to confirm.



4. The system restore process is now running. Do not hang up the receiver until the blue start screen appears on the video phone. After this, the door station is operational again.

A special system restore procedure is required after exchanging modules. It is described in 5.2.1 – 5.2.6 below.

5.2.1 Exchanging T24KeypadRFID – With System Restore

Contact your MOBOTIX support team to exchange a (used) T24-KeypadRFID and T24-DoorMaster that no longer have factory default condition (the devices will need to undergo a hardware reset)

You need to disconnect the door station's power supply before exchanging the keypad. To restore the system after exchanging it, you will need an up-to-date backup of the system configuration.

Proceed As Follows:

1. Disconnect the door station from the power supply (for example, remove the network plug).
2. Remove the keypad to be exchanged from the module frame as described in the T24 System Manual Part 1/Section 2.4.6 (Removing And Exchanging Modules).
3. Exchange the keypads. Take care not to damage the cabling or mix up the connections. The connection diagrams are provided in the T24 System Manual Part 1.
4. Reconnect the power supply, wait until the system has booted and run a system restore via the video phone, as described in 5.2. The door station is now ready for operation and can once again be used with the PINs and transponder cards set up for your system.

5.2.2 Exchanging T24-DoorMaster – With System Restore

You need to disconnect the door station's power supply before exchanging the T24-DoorMaster. To restore the system after exchanging it, you will need an up-to-date backup of the system configuration.

Proceed As Follows:

1. Disconnect the door station from the power supply (for example, remove the network plug).
2. Exchange the T24-DoorMaster. Take care not to damage the cabling or mix up the connections. The connection diagrams are provided in the T24 System Manual Part 1.
3. Reconnect the power supply, wait until the system has booted and run a system restore via the video phone, as described in 5.1. The door station is now ready for operation and can once again be used with the PINs and transponder cards set up for your system.

Notes

After installation and initial startup, the batteries of the Th24-DoormAster should be charged continuously for the first 12 hours. This takes place automatically via the PoE-powered T24 door station using the MxBus two-wire cable.

During this time, the electrical door opening function should not be used (except for functional testing). This will maximize and extend the battery life of the high-quality NiMH batteries (industry standard) to several years at normal use.

When a battery has been completely drained, a functional test can only be carried out after the red LED has turned off (after approx. 15 minutes).

When replacing the batteries, always be sure to use original batteries. You can purchase these directly from MOBOTIX or your MOBOTIX partner.

5.2.3 Exchanging T24-Info Info Module

The door station remains operational despite the info module malfunctioning or being exchanged. Because of this, you do not need to run a system restore after exchanging it.

Proceed As Follows:

1. Disconnect the door station from the power supply (for example, remove the network plug).
2. Remove the defective info module from the module frame as described in the T24 System Manual Part 1/Section 2.4.6 (Removing And Exchanging Modules).
3. Exchange the info modules. Take care not to damage the cabling or mix up the connections. The connection diagrams are provided in the T24 System Manual Part 1.
4. Power up the system again. After an automatic reboot, the door station is ready for operation again.

5.2.4 Exchanging T24-Info2wire+ Components

The T24's two-wire cabeling set always consists of two devices: the outdoor station's T24-Info2wire+ info module and a second indoor unit installed inside the building.

When you exchange them, the door station's power supply is disconnected automatically. The door station is automatically ready for operation again once the power supply has been reconnected. A system restore is not required.

Proceed As Follows:

1. Disconnect the door station and T24-Info2wire+ components from the power supply.
2. Remove the T24-Info2wire+ info module to be exchanged from the module frame as described in the T24 System Manual Part 1/Section 2.4.6 (Removing And Exchanging Modules).
3. Exchange the old info module and indoor unit with the new devices. Take care not to damage the cabling or mix up the connections. The connection diagrams are provided in the T24 System Manual Part 1.
4. Power up the system again. After an automatic reboot, the door station is ready for operation again.

Notes
The two T24-Info2wire+ units are matching pairs and preconfigured at the factory. Matched units share the same network ID (see labels on the back of the info module and on the indoor unit's circuit board). In case of a defect, both units must always be exchanged for a new Mx2wire pair that has been configured by MOBOTIX and shipped in its original packaging.

5.2.5 Exchanging T24-CamCore Camera Module – With System Restore

To restore the previous system environment after a door camera has failed or been removed, contact your MOBOTIX dealer or the MOBOTIX support team. The contact details are provided on the MOBOTIX website (www.mobotix.com) in the "Support" section.

As a safeguard against unwanted manipulation, you cannot exchange the door camera yourself with a subsequent reboot or new startup of a protected system.

5.2.6 Exchanging Or Adding Video Phone

To restore a previous system configuration after exchanging or adding a Grandstream video phone, you need a computer on which MxEasy is installed and a network connection to the door station.

If you do not have such a computer, you can reset all the Grandstream video phones connected to the network and auto-configure them with a new system startup. Note that in this case, you will have to set up all your PINs and transponder cards afresh.

If you have any questions about how to proceed with this, contact your MOBOTIX dealer or the MOBOTIX support team. The contact details are provided on the MOBOTIX website (www.mobotix.com) in the "Support" section.

6 ADDITIONAL NOTES

6.1 Weatherproofing And Care

T24 Outdoor Station Modules

Thanks to its robust, meticulously crafted design, the T24 outdoor station modules excel in terms of weather resistance and protection against dust and humidity. It does not require any further accessories to be mounted. As is certified by the outdoor station's compliance with protection class IP65 (–30°C to +50°C/–22°F to + 122°F), it is fully dustproof and resistant to water jets. Additionally, the housing is protected against being accessed by a wire.

The lens cover should be cleaned regularly in order to ensure a consistently high image quality. Use a soft, lint-free cotton cloth for this purpose. Use a mild, alcohol-free detergent without abrasive particles to clean the housing.

A lens cover can be purchased as an accessory from MOBOTIX. It ships with a special tool for removing and exchanging it.

T24-DoorMaster And T24-Info2wire+ Indoor Unit

Although these devices have a robust exterior and are assembled to a very high standard, their usage should be restricted to protected interior settings (operating temperatures: T24-Info2wire+ indoor unit: –30°C to +50°C/–22°F to +122°F, T24-DoorMaster –5°C to +40°C/+23°F to +104°F).

Use a slightly moistened soft cloth for cleaning, making sure that no liquid enters the unit through the holes in the front panel. Never use aggressive cleaning agents or cleaning agents with abrasive particles (scouring agent). As the devices do not have any mechanical moving parts, regular servicing and maintenance is not required. MOBOTIX recommends, however, occasionally checking that the devices are functioning both reliably and properly.

6.2 Surge Protection

Electrical surges can be induced by other electrical appliances, improper wiring or also by external impact (for example, lightning strikes to phone or power lines). MOBOTIX devices are protected against the effects of small electrical surges by numerous measures. These measures, however, cannot prevent damage when stronger electrical surges occur. Particular care should be taken when installing the devices outdoors to ensure proper protection against lightning, as this also protects the building and the entire network infrastructure.

6.3 AVC Video/H.264

Within the license of the AVC patent portfolio, this product is licensed solely for personal use by private users or for other non-commercial purposes to encode videos according to the AVC standard ("AVC Video"), and/or to decode AVC videos that were previously encoded by private users for personal/non-commercial purposes and/or that were purchased from a licensed video seller.

Beyond these terms of use, no other implied rights or licenses for other purposes are granted. Information on other purposes of use are available from MPEG, LLC (see www.mpegla.com).

6.4 Warranty And Repair Service

As legally required, MOBOTIX supplies a 24-month warranty and provides an original equipment repair department at its headquarters in Langmeil, Germany. This is available for all MOBOTIX customers.

When sending in a defective door station to MOBOTIX, please contact your point of sale where you purchased the product from, or an alternate MOBOTIX Distributor in your region, for an RMA number. Returned materials without an RMA number will NOT be accepted by the MOBOTIX Service Department.

MOBOTIX GLOSSARY

Bonjour
Also known as Zeroconf networking. Bonjour enables automatic identification of computers, devices and services in IP networks. Bonjour also enables the automatic detection of devices among one another, without the user having to enter IP addresses or configure the DNS server. Bonjour was developed by Apple, Inc.

CCTV
Abbreviation for Closed Circuit Television. A television system in which the analog video signal is only transmitted to monitors in a specific environment (for example, within a building). The term CCTV is often used for video surveillance systems.

CIF, 2CIF, 4CIF (in accordance with PAL TV standard)
Common Intermediate Format: CIF = 1/4 TV image with 288 lines and 352 pixels (0.1 megapixel); 2CIF = 1/2 TV image, also with 288 lines but 704 pixels (0.2 megapixel); 4CIF = quality of a conventional TV image with 576 lines and 704 pixels (0.4 megapixel).

CMOS Sensor
Abbreviation for Complementary Metal Oxide Semiconductor sensor. Sensor for energy-efficient digitalization of image information. CMOS sensors are used as image sensors in digital cameras.

DHCP
Abbreviation for Dynamic Host Configuration Protocol. Allows a server to automatically assign devices in the network with the appropriate configuration (including the IP address, DNS server and gateway), as opposed to static IP addresses on the individual network devices.

DNS
Abbreviation for Domain Name Service. Allows the domain names of servers on the Internet (for example, www.mobotix.com) to be linked ("resolved") to their corresponding IP addresses (for example, 212.89.150.84).

Door Opener
The door opener (also known as e-opener or electric door opener) is installed as a counterpart to the door lock. The door opener has a closing latch, which connects with the door closer and keeps the door locked until contact is made from the interior of the building. This contact raises the lock of the door opener latch, and the latch is unlocked electromagnetically. The door at the exterior entrance can now be opened. As soon as the door is fully closed again, the latch in the door opener is automatically blocked. The door is locked again.

The approval to open the door can be indicated by various means (e.g., dialing tone). Door openers are primarily intended for daytime use. At night, the door in question should be locked using the bolt lock.

DVR
Abbreviation for Digital Video Recorder.

DynDNS
Abbreviation for Dynamic DNS (or DDNS, Dynamic Domain Name Service). Similar to DNS, this links domain names (e.g., mydomain.com) with IP addresses, whereby the IP addresses may change at any time. This service provides a convenient method to access your MOBOTIX cameras from home or work if the camera Internet connection is not through a router that assigns a fixed IP address, but instead over a DSL connection with a dynamically-assigned IP address from the provider. A well-known provider of this service is www.dyndns.org.

Ethernet
Ethernet is the most widely-used LAN technology. Ethernet LANs are usually based on twisted pair cabling with special characteristics. The most widely-used Ethernet systems are 10BASE-T and 100BASE-T10, which enable data transfer rates of up to 10 Mbps and 100 Mbps, respectively.

Factory Settings
These are the default settings with which a device leaves the manufacturer's factory when it is shipped. If it is necessary to restore a device to its factory default settings, all the settings changed by the user will usually be lost.

fps
Abbreviation for "frames per second." See Frame rate.

Frame Rate
The frame rate specifies how many frames per second (fps) are generated and sent by the camera. 16 fps and higher is perceived by the human eye as a fluid video sequence.

G.711
Refers to the process(es) by which analog audio signals are encoded and decoded. This codec (= enCOder-DECoder) is used in classic telephone systems and IP telephony.

H.264
The process by which the video image is encoded/compressed and decoded.

HDTV
Abbreviation for High Definition TV.

HiRes
Abbreviation for High Resolution. Refers to high-resolution images (above 1 megapixel).

Image Compression
Image compression reduces the file size of an image. This is particularly important when transferring and saving files.

IP address

An IP address describes the address of a computer or device in an IP network. IP addresses are used by all the computers/devices connected to a network to identify each other and transfer data in both directions. Every IP address must be unique to the network in question in order to prevent conflicts. IP addresses can be assigned as static addresses, meaning they always remain the same, or they can be allocated dynamically (and automatically) via DHCP.

Each IP address consists of four groups (or quads) of decimal digits separated by periods, such as 130.5.5.25. Each part of the address represents different types of information. One part represents the network number or address; another represents the local computer's address.

IP Camera

An IP camera is a special type of video camera. This kind of camera differs from other video cameras in that it forwards its images via IP networks. Network cameras also include a computer in addition to the actual camera components. This built-in computer compresses the image data and transmits it over the network. The computer basically consists of a CPU, a flash memory chip and a DRAM memory chip. The installed network camera software enables the networked device to act as a web server or FTP server, and also as an FTP client or e-mail client.

IP Network

Data network based on the Internet protocol (TCP/IP).

JPEG

Abbreviation for Joint Photographic Experts Group, responsible for the development of the JPEG standard method for image compression. JPEG is the most common lossy image format for photos on the Internet. Loss in image quality is barely noticeable at compression rates lying between 60 and 99 percent.

LAN (Local Area Network)

A LAN consists of a group of computers and associated devices that share the same communication resources within a physical space.

LED

Abbreviation for Light Emitting Diode. Refers to an electronic semiconductor component built into MOBOTIX cameras and add-on modules that emits light when a current flows through the component in the correct direction.

Lighting

In general, a camera does not require any additional lighting for daylight operation. However, some basic rules must be observed for use in the dark or under artificial light. A suitable light source or support lighting system should be chosen based on whether the camera is used for a general overview or for the exact identification of persons and/or objects.

Lux

The standard unit for measuring light intensity.

Mbps (Megabits Per Second)

The standard unit for measuring bit rates, i.e., the speed at which bits are transferred at specific points. Network speeds are usually specified in Mbps. LANs are frequently operated at speeds of 10 or 100 Mbps. Also see "Bit rate."

Mediator Lock
A self-locking door lock with an electrical door opener. Can also be retrofitted on existing doors. People can exit through the door at any time, despite the fact that the door is constantly locked. Exiting is possible in the case of danger, during normal operations, and without a key (safeguarding of escape routes).

Megapixel
Images that have more than 1 million pixels.

MicroSD Card
SD Memory Card (Secure Digital Memory Card). A digital storage medium based on flash storage modules.

Motion Detection
Action of detecting a movement within a particular area. MOBOTIX cameras use algorithmic methods to detect changes from image to image in predefined areas, while taking preset conditions into account. If a camera detects a movement, it signals an event and triggers an alarm.

MPEG
Motion Pictures Expert Group. Standard for compressing and saving image and video data, resulting in quality loss. Originally created for playing entertainment content on computers, MPEG concentrates on displaying still image material and compromises the quality of moving image material in order to increase the transmission speed.

MxControlCenter
MOBOTIX video management software for professional control of medium and large-sized camera networks.

MxEasy
Free MOBOTIX video management software for small and compact camera networks of up to 16 cameras/door stations.

MxPEG
Method developed by MOBOTIX to compress and store image and video data with low network load and high image quality. The MxPEG ActiveX control element allows video and audio data from MOBOTIX cameras to be displayed in other applications (including Internet Explorer).

Network
A group of end devices, such as computers, that are connected via various cables and share access to data and devices such as printers and IP cameras.

Opening Switch

On movable building elements such as doors and windows, a magnetic switch (Reed switch) is attached to the fixed part, and a magnet is attached to the moveable part. When the door is closed, the magnet is located in direct proximity to the switch and keeps it closed. When the door is opened, the magnet is removed and the switch opens.

Perimeter Protection

Perimeter protection (outdoor area protection) serves to protect a property through measures installed in its vicinity, usually including the property boundary line. This includes mechanical/building measures (perimeter security), electronic/detection measures and/or organizational/staffing measures (perimeter surveillance).

PIR Sensor

Passive infrared sensor for motion detection.

Pixel (Picture Element)

One of the numerous tiny dots that make up a digital image. Each pixel determines through its color and intensity a tiny part of the overall image.

PoE (Power-over-Ethernet)

Power-over-Ethernet enables network devices to be powered via the same cable that provides the network connection. This is particularly beneficial in the case of IP and remote surveillance in places where laying a power cable from the nearest outlet would be too costly or time-consuming.

Product Liability

Under the German Product Liability Act, the manufacturer or retailer is liable for the product that they have brought to market. Claims are only possible when the product is used in accordance with its intended use and there is no evidence of misuse. The technical specifications and information described in the T24 System Manual must be observed. Otherwise, the manufacturer is released from their product liability in accordance with the German Product Liability Act.

PTZ

Abbreviation for Pan/Tilt/Zoom. Refers to the movement of a video camera to the left and right, up and down, and to the camera's ability to enlarge an image.

Resolution

Indicates the number of pixels used to produce an image. The more pixels an image has, the more recognizable the details remain when the image is enlarged. The resolution is expressed as the number of pixel columns by pixel rows or as a total number of pixels. A VGA image has 640 columns and 480 rows (640 x 480), which equals 307,200 pixels or approximately 0.3 megapixels. The T24 has 3.1 megapixels.

RFID (Radio Frequency Identification)

RFID enables data to be transferred contact-free and out of sight using radio waves. An RFID system infrastructure comprises a transponder, a transceiver device and an IT system operating in the background.

The transponder, a tiny computer chip with an antenna, is at the heart of this technology. It is integrated into a carrier object, for example, an adhesive label or a plastic card. The chip is normally used to store a numerical code. This encrypts information that is stored in a database. As a result, every object with an RFID transponder has a unique identity.

When close to the antenna of a reading device, passive transponders that do not have their own power supply are powered by means of inductive or capacitive coupling. The data is also read out by means of coupling in the inductive field.

RoHS

Abbreviation for Restriction of Hazardous Substances Directive and refers to EC Directive 2002/95/EC, which prohibits the use of certain hazardous substances when manufacturing products and components. The goal of this directive is to prevent these substances from harming the environment when the products are disposed of later.

Router

A device that determines the next network node to which a package is to be forwarded on its way to the target participant. The router creates or maintains a special routing table, which provides information on how particular destinations can be best reached. Routers are sometimes integrated into network switches.

Search

Monitoring of recordings or searching for a particular event.

Server

Generally speaking, a server is a computer program that provides services for other programs, either on the same computer or on a different one. A computer on which a server program is running is often also known as a server. In practice, the server computer can run a very large number of server and client programs. The program that provides the requested HTML pages or files for the client (browser) is known as a web server.

(Signal) Inputs and Outputs

Using the digital inputs and outputs on the T24, any device that can switch between an open and closed circuit can be connected.

Signatures for Video Images

Digital video images can be transferred, as well as jointly edited and deleted, via data networks. In order to prevent unwanted manipulation and to ensure the validity of digital video sequences in the case of investigations, it is necessary to faultlessly identify the time of recording, the origin of the images (camera ID) and the authenticity of the images (no changes after recording). This is only possible if the images are encrypted for identification. Digital video cameras with integrated evaluation make it possible to embed a unique camera ID and the precise time of day in the images, and to encrypt this data so that any modification or manipulation of the video sequence is exposed during later analysis.

SIP

Session Initiation Protocol. Network protocol for setting up, controlling and terminating a communication connection via a computer network. SIP is frequently used in conjunction with IP telephony.

Structured Cabling

Structured cabling is a standardized schematic diagram for the cabling of different services (voice or data). It facilitates the extension of a data network to allow for the subsequent installation of new components, and therefore supports current and future communication systems. This is generally based on a validated structure that contains reserves and can also be used independently of a particular application. Structured cabling must be failsafe to ensure data protection and data security.

Subnet, Subnet Mask

A subnet is an identifiable separate part of an organization's network. A subnet often represents all the computers within a geographical location, building or LAN. By dividing a network into subnets, every subnet can be connected to the Internet using the same shared network address.

The subnet mask is that part of the IP address that is used by a network router to identify the subnet to which a data package is to be transferred. The subnet mask saves the router from having to process the entire 32 bits of the IP address; this way, it can very quickly process only the bits indicated by the mask.

Switch

Hardware used to connect multiple network devices (computers, cameras, printers, etc.) within a network. A PoE switch can also supply the (door) cameras with power over an Ethernet cable. Certain switches also function as routers.

Transponder

A transponder is a device used for wireless communication (for example, as a key fob or a check card). The device detects the incoming signal and automatically responds to it or forwards it. The term "transponder" is made up of the terms "transmitter" and "responder." Passive transponders do not require their own power source, but they only work over short distances.

USB (Universal Serial Bus)

Plug-and-Play interface between the computer and peripheral devices (scanners, printers, etc.).

UPS

Uninterruptible Power Supply. Refers to devices that temporarily continue to supply power in the event of a sudden power failure. These devices usually operate using a battery. UPS is installed on the power lines of devices and systems in order to protect them in the event of a power failure.

Video Voice System

The video voice system is usually able to capture outdoor areas visually. The system has an intercom or a two-way video communication option as well as an electrical door opening device. The basic hardware consists of the door station (exterior), monitoring station (interior) and control center.

In the broadest sense, it is an access control system that can be extended to include several door and/or monitoring stations, but always requires human intervention. It is intended for use in visitor control, predominantly for entrances and gateways in private areas and medium-sized business premises. The most important usage options are residential buildings, apartment buildings, offices and business premises, as well as other entrance and gateway areas that are not visible or are difficult to see from inside (personal security checks for public authorities, institutions and for other exposed areas, for example, data processing).

VoIP
Voice over IP. Telephony using computer networks.

Wizard
Refers to a software component that helps the user to install or set up a particular program, and guides the user through the configuration process by means of simple questions.

WLAN (Wireless LAN)
A wireless LAN that transfers data over the mobile radio network. The end user is wirelessly connected to the network, while data transfer across the network's main structure usually remains cable-based.

The declarations of compliance for all other T24 modules are available on the MOBOTIX website under www.mobotix.com > Support

DECLARATION OF COMPLIANCE

Konformitätserklärung
Declaration of Conformity
Déclaration de conformité

Hersteller: **Manufacturer:** **Fabricant :**	MOBOTIX AG
Produkt: Product: Produit :	Netzwerk-Kamera Network camera Caméra de réseau
Typ: Type: Type :	T24M (inkl. evtl. verbautem IO-Modul oder Ethernet-Anschlussplatine) (incl. optionally installed IO module or Ethernet connector board) (avec module IO ou platine de connexion Ethernet installée optionnellement)

Bei bestimmungsgemäßer Verwendung erfüllt das bezeichnete Produkt die Bestimmungen der im Folgenden aufgeführten Richtlinien:
The product identified above complies with the essential requirements of the relevant standard, when used for its intended purpose:
Le produit désigné ci-dessus est conforme aux exigences fondamentales des normes s'y rapportant :

EMV-Richtlinie **EMC directive** **Directive CEM**	2004/108/EG
Angewendete harmonisierte Normen: Harmonised standards applied: Normes harmonisées :	EN 55022:2006+A1:2007; CISPR 22:2005+A1 EN 55024:1998+A1:2001+A2:2003 EN 50121-4:2007 EN 61000-6-1:2007 EN 61000-6-2:2005
Weitere angewendete Normen: **Other harmonised standards applied:** **Autres normes harmonisées :**	CFR 47, FCC Part 15B C-Tick AS/NZS 3548

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Ort, Datum
Place & date of issue (day/month/year)
Lieu et date

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Vorstand/CEO, MOBOTIX AG

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Name and signature
Nom et signature

MOBOTIX - The HiRes Video Company

Security-Vision-Systems

MOBOTIX

To demonstrate our confidence in the quality of our products, MOBOTIX cameras were used to capture all the images that appear in this manual.

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CE

Technical specifications subject to change without notice!

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EN

T24 System Manual

The HiRes Video Company

MOBOTIX

Part 1: System Overview And Mounting
Installation And Cabling
(For Installers)

Part 2: System Startup And Configuration
Software And Network
(For System Administrators)

Part 3: Operating Manual
Modules And Remote Stations
(For Users)

HiRes
3 Megapixel
2048 x 1536
Software zoom

Skyline
Format free
Each image format freely definable

30 Frames/s
VGA (640 x 480)
30 F/s Mega

Virtual PTZ
Digital pan, tilt, zoom

Backlight
Safe using CMOS without mechanical iris

Internal DVR
Internal via Flash, external via Network

Win/Lin/Mac
Recording
via Network on PC up to 1 Terabyte

Microphone & speaker
Audio
bi-directional via IP, variable framerates

SIP-Client with video
IP Telephony
Alarm notify, cam remote control

VideoMotion
Multiple windows precision pixel-based

-22 to +140 °F
Weatherproof
-30 to +60 °C, IP65, no heating necessary

IEEE 802.3af
PoE
Network power even in winter

Robust
No moving parts fiber glass housing

MxCC/MxEasy
Licence free
Video-Management-Software

06/2012

www.mobotix.com

HiRes Video Innovations

The German company MOBOTIX AG is known as the leading pioneer in network camera technology and its decentralized concept has made high-resolution video systems cost efficient.

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