MOUNTING AND INSTRUCTION MANUAL

MOBA-STC Panel

Ship Time Control Panel

Certification of the Producer

STANDARDS

The Ship Time Control Panel was developed and produced in accordance with the EU Guidelines:

2014 / 30 / EU	EMC
2014 / 35 / EU	LVD
2008 / 57 / EU	Railway
2011 / 65 / EU	RoHS
1907 / 2006	REACH

CE

References to the Instruction Manual

1. The information in this Instruction Manual can be changed at any time without notice.
   The current version is available for download on www.mobatime.com.
2. This Instruction Manual has been composed with the utmost care, in order to explain all details in respect of the operation of the product. Should you, nevertheless, have questions or discover errors in this Manual, please contact us.
3. We do not answer for direct or indirect damages, which could occur, when using this Manual.
4. Please read the instructions carefully and only start setting-up the product, after you have correctly understood all the information for the installation and operation.
5. The installation must only be carried out by skilled staff.
6. It is prohibited to reproduce, to store in a computer system or to transfer this publication in a way or another, even part of it. The copyright remains with all the rights with BÜRK MOBATIME GmbH, D-78026 VS-Schwenningen and MOSER-BAER AG – CH 3454 Sumiswald / SWITZERLAND.

Installation and Handling Notice

This panel may only be transported in its original packaging and must be kept dry.

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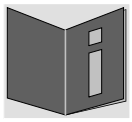
1 Safety

1.1 Safety instructions



Read this chapter and the entire instruction manual carefully and follow all instructions listed. This is your assurance for dependable operations and a long life of the device.

Keep this instruction manual in a safe place to have it handy every time you need it.

1.2 Symbols and Signal Words used in this Instruction Manual

	**Danger!** Please observe this safety message to avoid electrical shock! There is danger to life!
	**Caution!** Please observe this safety message to avoid damages to property and devices!

1.3 Observe operating safety!

Caution!

- Never open the housing of the device! This could cause an electric short or even a fire, which would damage your device. Do not modify your device!
- The device is not intended for use by persons (including children) with limited physical, sensory, or mental capacities or a lack of experience and/or knowledge.
- Keep packaging such as plastic films away from children. There is the risk of suffocation if misused.

1.4 Consider the installation site!

Caution!

- To avoid any operating problems, keep the device away from moisture and avoid dust, heat, and direct sunlight. Do not use the device outdoors.

Danger!
Make sure that you wait before using the device after any transport until the device has reached the ambient air temperature. Great fluctuations in temperature or humidity may lead to moisture within the device caused by condensation, which can cause a short.

1.5 Please observe the electromagnetic compatibility!

Caution!

- This device complies with the requirements of the EMC and the Low-voltage Directive.

2 Maintenance

2.1 Troubleshooting: Repairs

If you cannot rectify the problems, contact your supplier from whom you have purchased the device.

Any repairs must be carried out at the manufacturer's plant.

Disconnect the power supply immediately and contact your supplier, if …

- liquid has entered your device
- the device does not properly work and you cannot rectify this problem yourself.

2.2 Cleaning

- Please make sure that the device remains clean especially in the area of the connections, the control elements, and the display elements.
- Clean your device with a damp cloth only.
- Do not use solvents, caustic, or gaseous cleaning substances.

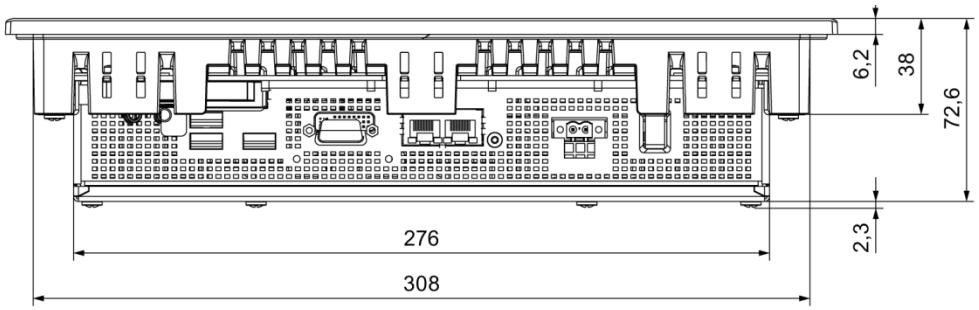
2.3 Disposing

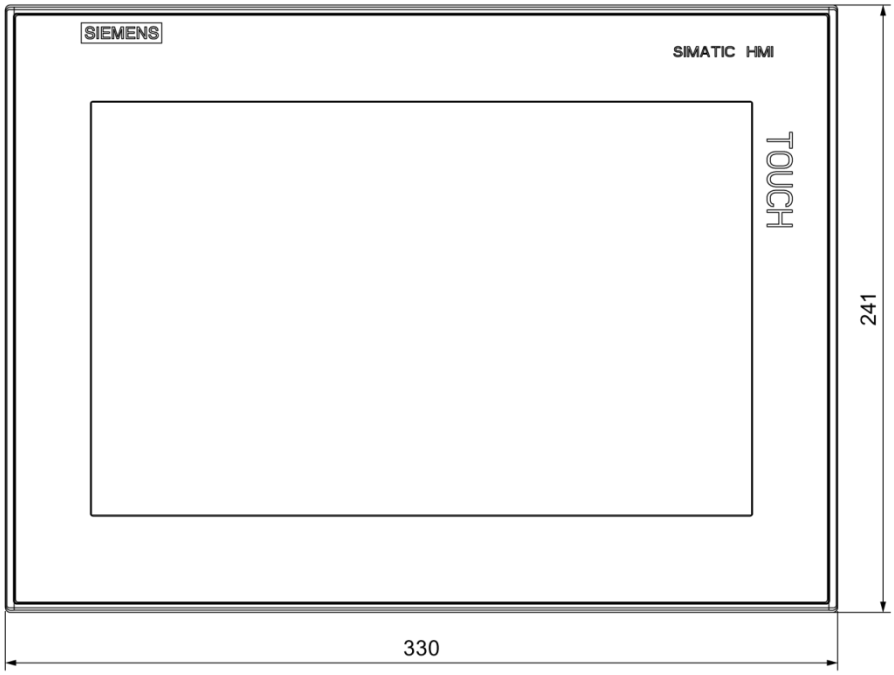
Device
At the end of its lifecycle, do not dispose of your device in the regular household rubbish. Return your device to your supplier who will dispose of it correctly.

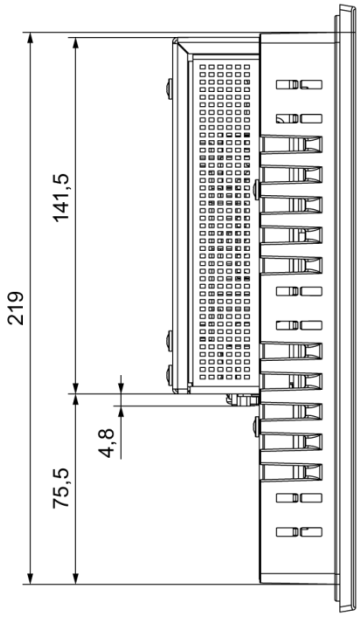
Packaging
Your device is packaged to protect it from damages during transport.
Packaging is made of materials that can be disposed of in an environmentally friendly manner and properly recycled.

3 General information: Introduction

3.1 Dimensions







All specifications in mm.

3.2 Function description

The MOBATime Ship Time Control (MOBA-STC) Panel is a touch screen operation terminal designed for ships. It provides an easy-to-use user interface for the local time adjustment of the entire ship time system. Together with MOBATime DTS / NTS devices the local time is set by simple plus / minus buttons.

Features:

Hardware

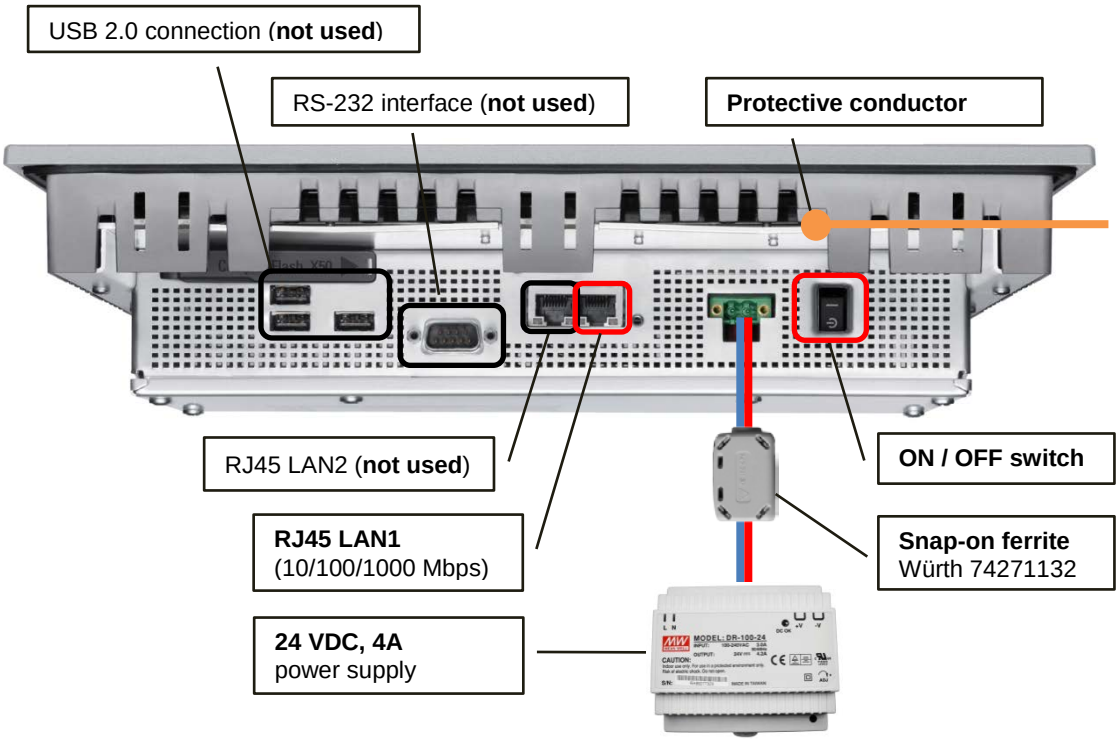
- 12” touch display provided by SIEMENS.
- Display resolution: 1280 x 800 pixels
- Compact design.
- Full-metal enclosure with high electromagnetic compatibility.
- High resistance to vibration and shock.
- Maintenance-free operation.
- Adjustable display brightness.

Software

- Simple, touch screen optimized user interface for local time adjustment.
- Display of UTC and current local (ship) time.
- Remote configuration by MOBA-NMS.
- Synchronization using an NTP server in the network.
- Support for multiple DTS / NTS devices.
- Device status supervision and display.

4 Mounting guidelines

4.1 Connections



Notice: The *Corcom 6FC10 filter*, as described in the SIEMENS SIMATIC IPC277D Compact Operating Instructions, is not required for the operation with the 24 VDC power supply provided by MOBATime.

4.2 Mounting

Please refer to the SIEMENS SIMATIC IPC277D Compact Operating Instructions (02/2012, **A5E03409489-3**).

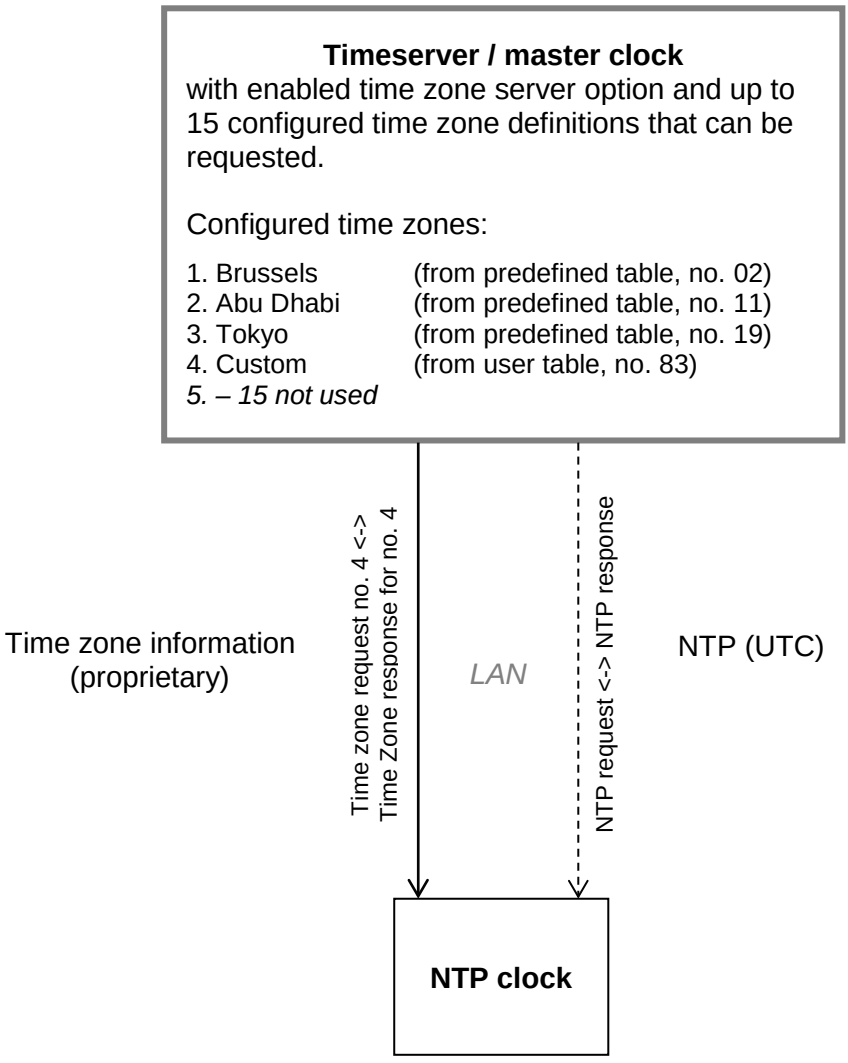
5 System description / basics

5.1 Local time handling

All MOBATime timeservers and master clocks have the possibility to provide UTC or local time for outputs like MOBALine, DCF, serial, etc. The local time information with time offset and DST (daylight saving time) is loaded from an internal time zone table. This table has 65 predefined definitions (numbers 0 - 64, see chapter 10) and can optionally contain up to 20 user defined entries (numbers 80 - 99).

The provided NTP time is by definition always UTC. That means, that devices that are synchronized by NTP have either to use a custom / internal time zone definition or, in case of the MOBATime network slave clocks, the time zone server. MOBATime network slave clocks have the same time zone table integrated as the timeservers and master clocks. In addition to this, they can also load the local time information from a time zone server. Such a server can be activated on all MOBATime timeservers / master clocks and is able to provide up to 15 different time zones from the predefined or user specific time zone table.

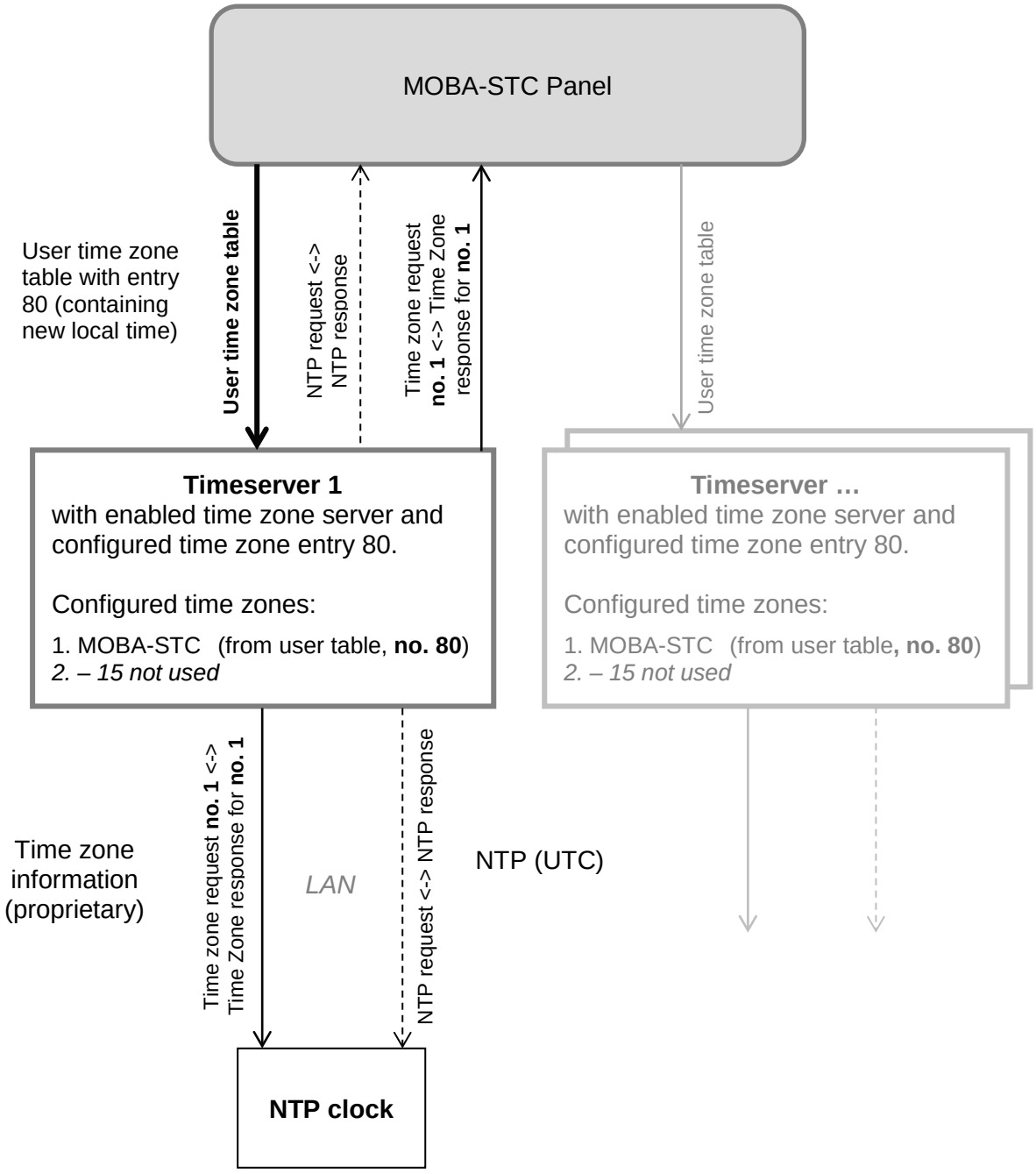
Local time handling with MOBATime network devices:



5.2 MOBA-STC panel operation

Based on the MOBATime local time handling (see chapter 5.1) the MOBA-STC panel is able to change the user defined time zone table for one or multiple timeservers or master clocks. By changing the local time, the panel writes the new local time offset to the user defined entry 80 and sends the user defined time zone table to all configured target devices. All outputs (MOBALine, DCF, serial, etc.) that are configured to use the entry 80 will immediately change the provided time. This is also the case for the time zone server. If one of the 15 configurable time zones is set to use entry 80, the provided local time will change automatically.

Local time adjustment with the MOBA-STC panel and NTP clocks:



Notice: **The NTP slave clocks run autonomously and request the time zone information in an intervall of one minute. That means, that the local time takeover will not occur at the same time and can take up to one minute!**

5.3 Device status supervision

In addition to the local time adjustment, the MOBA-STC panel is also able to supervise the status of all configured target timeservers and master clocks. The following information is requested (in an interval of one minute) for each device and displayed directly on the panel:

- Operation mode (master / slave device)
- GPS / Synchronization status
- NTP status
- NTP stratum
- Error message

All timeserver / master clock alarms can be categorized as **Warnings** or **Alarms**. If there is one device with an alarm, the MOBA-STC panel indicates that the whole system is in alarm status. If one or multiple devices have a warning, the system status is indicated as “Warning”.

6 Configuration

6.1 Overview

The MOBA-STC Panel has a pre-installed Windows 7 Ultimate operating system with two system users: **stcUser1** and **stcAdmin1**.

The user **stcUser1** is used for the normal operation of the panel and configuration over MOBA-NMS; a direct Windows login or remote access (RDP) with this user is not possible.

User **stcAdmin1** is used to get direct or remote access (RDP) to the Windows operating system for network configuration purposes.

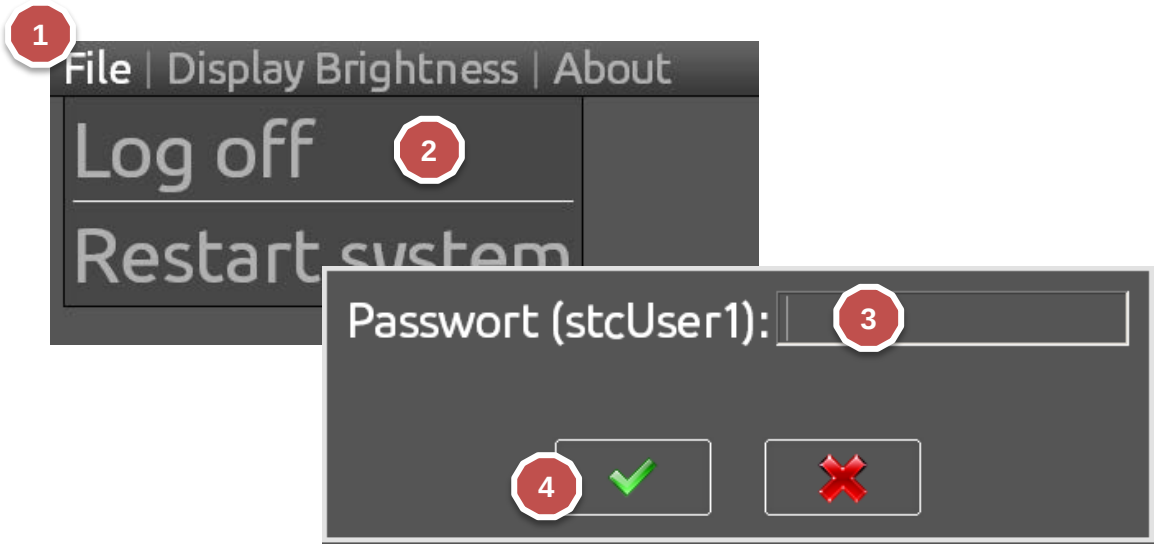
User overview:

Function / User	stcUser1	stcAdmin1
Local Windows login	- (Auto start of the MOBA-STC application)	✓
Remote Windows login (RDP)	-	✓
Configuration with MOBA-NMS	✓	-
Default password for Windows login	-	mobatime
Default password for configuration with MOBA-NMS	mobatime	-

- = Not available
✓ = Available

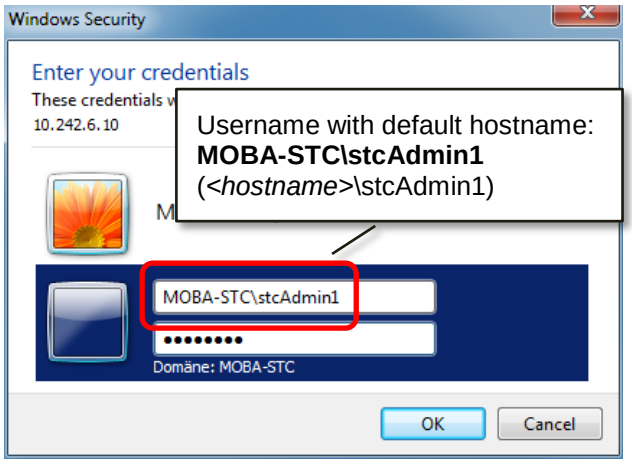
6.2 Windows login

The Windows is configured to automatically login with the user **stcUser1** and start the MOBA-STC application. To get to the Windows login screen select the menu entry "*File → Log off*" and type in the password for the user **stcUser1** (same password as used for the configuration with MOBA-NMS):



It is also possible to connect to the panel by Microsoft Remote Desktop Protocol (RDP).

The remote login is only possible with the user **stcAdmin1**. If the panel is in normal operation mode (MOBA-STC application running) the remote login can take up to 30 seconds because the user stcUser1 has to be logged out first.



Attention: The panel operation is halted while a remote session is active! The Windows operating system has to be restarted to resume normal operation!

6.3 Network configuration

By default, the MOBA-STC Panel has the following network configuration:

IP address: *No default IP. DHCP enabled.*

Hostname: **MOBA-STC**

Workgroup: **WORKGROUP**

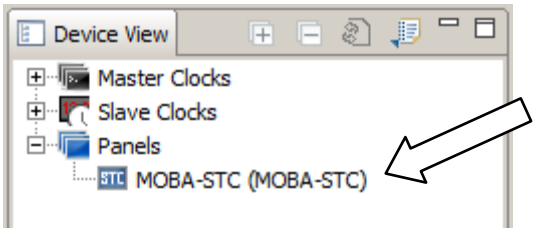
To change the network parameters, login directly or by remote access (RDP) with the user **stcAdmin1** to Windows and change the corresponding settings. See chapter 6.2 for more details about the local / remote Windows login.

6.4 Configuration with MOBA-NMS (Network Management System)

MOBA-NMS is a Java-based PC program used for configuration and status requests of NTP clocks, network time servers and MOBA-STC panels. This software allows for all configurations for one or several devices to be carried out centrally.

Further information, manuals and the software itself can be found on our website http://www.mobatime.com. If desired, it can also be sent out on a USB stick (must be ordered separately).

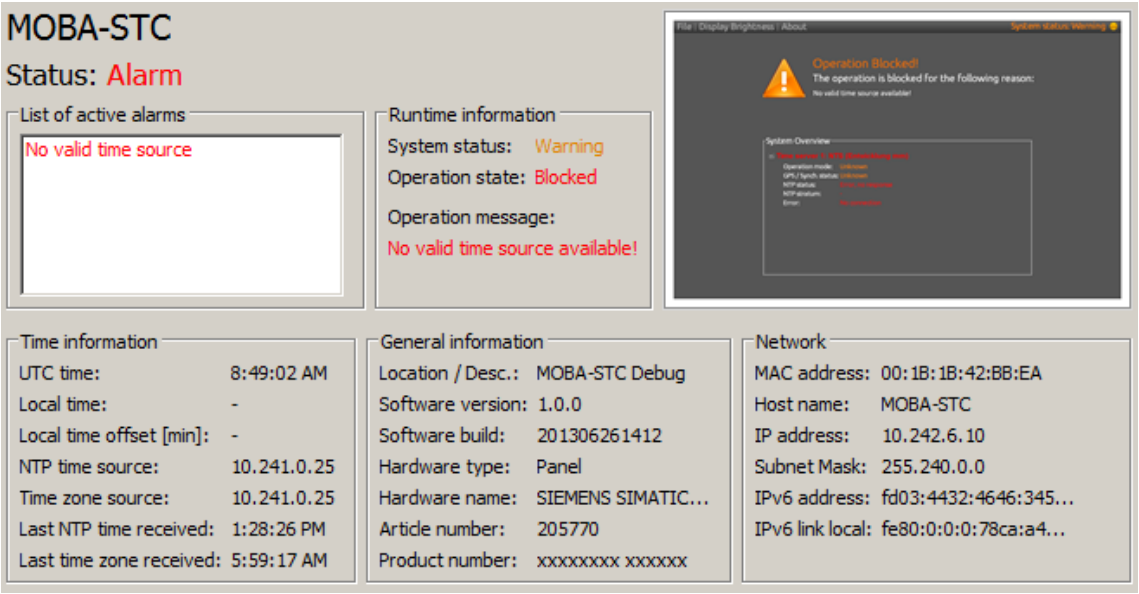
Notice: This manual assumes that MOBA-NMS is already installed and the MOBA-STC panel is added to the device view. Check the MOBA-NMS online help for more details about how to add devices to the device view.



6.4.1 Overview page

Status of the panel itself

Print screen



The overview page shows all available status and configuration information and is divided into the following groups:

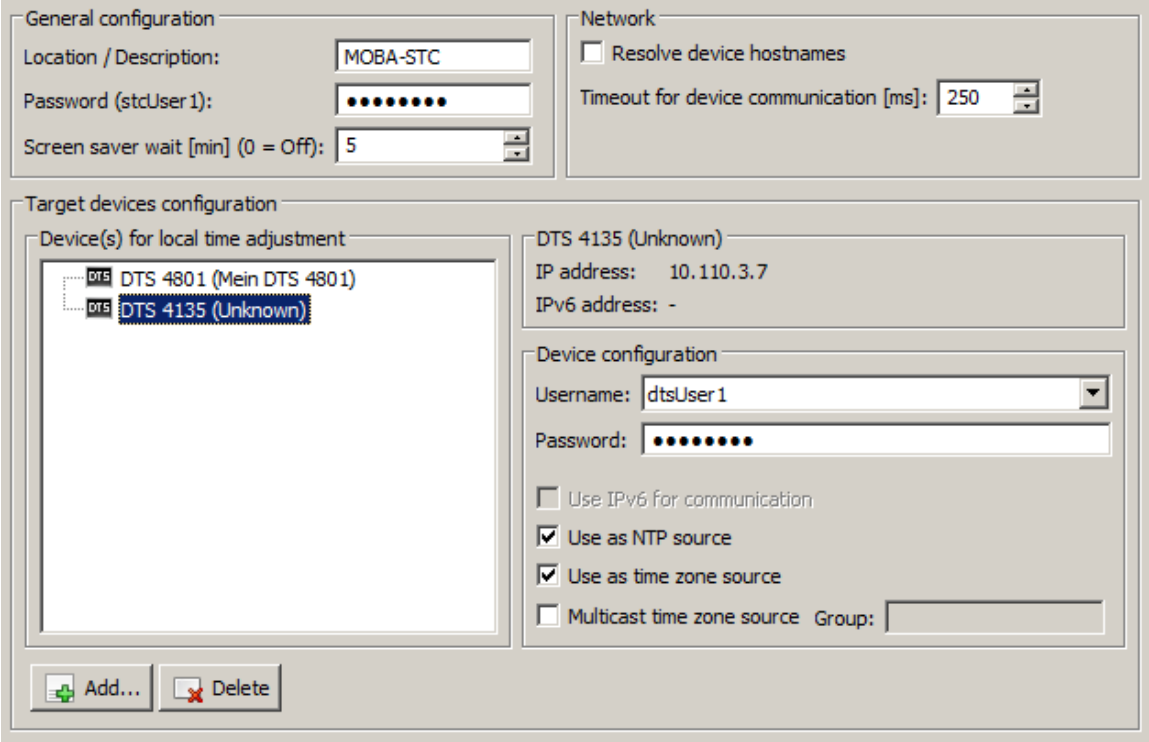
- **List of active alarms**
  Active alarms of the MOBA-STC panel itself. Note: This list doesn't contain alarms of the supervised devices.
- **Runtime information**

  System status: Whole system status that is displayed also in the upper right corner of the panel. Value is set to "Alarm" if one of the supervised devices is in alarm state or the panel itself has a fatal error. If the value is set to "Warning", there is one supervised device with a warning or the panel itself has a configuration / runtime problem. In normal operation, the value should be "OK".

  Operation state: Represents the operation status of the panel. The value is set to "Blocked" if there is a configuration / runtime problem and the local time adjustment is not possible. In normal operation, the value should be "Running".

  Operation message: Message displayed on the panel in case the operation state is set to "Blocked".
- **Time information**
  Information about the panel time, synchronization source and local time source.
- **General information**
  Panel location, software version and hardware information.
- **Network**
  IPv4 / IPv6 information.

6.4.2 Configuration page



The configuration page contains the main configuration options and target device settings.

- **General configuration**

  Location / Description: User-defined string containing the panel location or description.

  Password (stcUser1): Password for the MOBA-NMS access. (stcUser1). Important: This is not the password for the Windows system user!

  Screen saver wait [min]: Timeout in minutes to wait before activating the screen saver. Value 0 disables the screen saver completely.

- **Network**

  Resolve device hostnames: By default, the MOBA-STC panel uses the configured IPv4 / IPv6 address for the communication with the target devices. If this option is set, the panel tries to resolve the IP address by hostname. (For all target devices!)

  Timeout for device communication [ms]: Timeout in milliseconds that is used for the communication between MOBA-STC and the target devices. Increase this value if there are communication problems or the local network is slow.

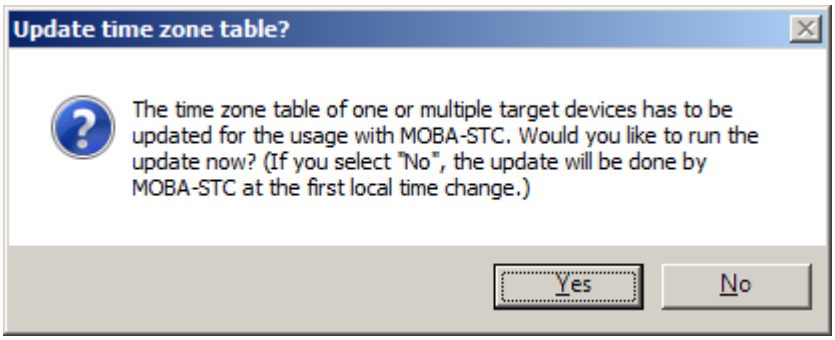
- **Target devices configuration**
  Add all target timeservers / master clocks that should receive the local time provided by the MOBA-STC panel. All configured devices will also be supervised by the panel. Important: To be able to add a device to the list, it has to be already added to the MOBA-NMS device view!
  The following settings / options are available for each device:

  Username: Username required for the SNMPv3 communication. (e.g. dtsUser1, dtsUser2, ntsUser1, etc.)

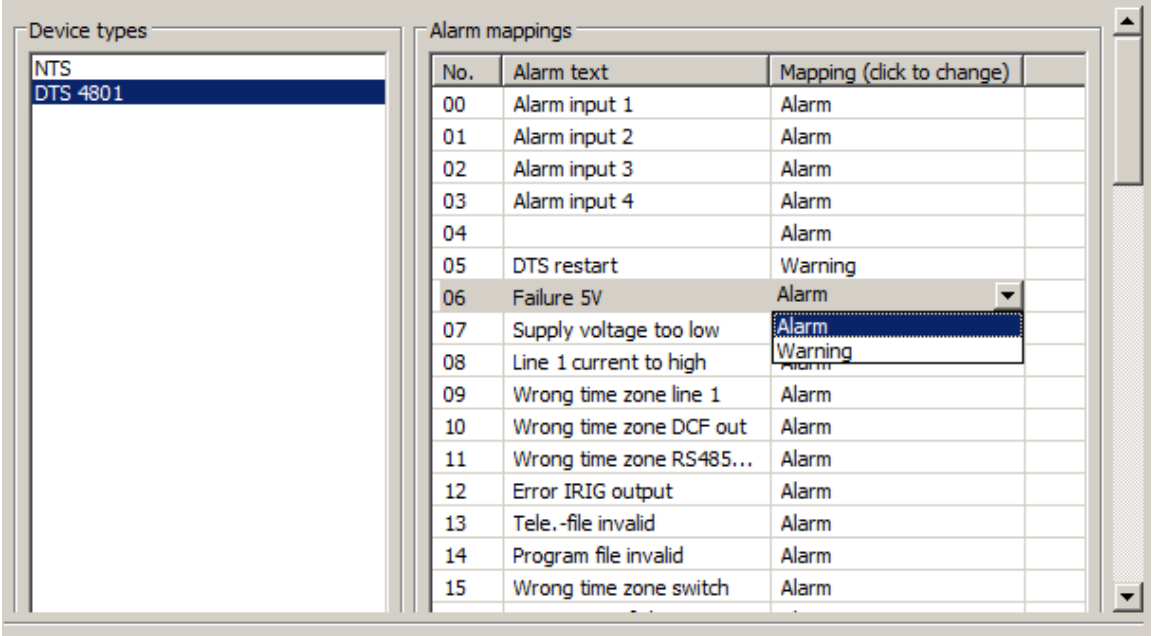
Password:	Password for the configured SNMPv3 user.
Use IPv6 for communication:	By default, the MOBA-STC panel uses IPv4 for the communication with the devices. Enable this option to use IPv6 only. Important: This option is only available if the target devices are also connected to MOBA-NMS over IPv6. If the target devices are connected to MOBA-NMS with IPv6 only, this option is set automatically and cannot be changed.
Use as NTP source:	Use the target device as NTP source for the MOBA-STC panel itself. By default, this option is enabled for all new added devices. If there are multiple devices configured as NTP source, the panel will use the one with the best stratum level.
Use as time zone source:	Use the target device as time zone server for the MOBA-STC panel itself. (Required for the local time display.) By default, this option is enabled for all new added devices. If there are multiple devices configured as time zone source, the panel will use one of them and switch to the others if there is no response. Important: Please make sure that the time zone server option is enabled on the target device! (“Time zone server on request” option; see chapter 6.5 for more details.)
Multicast time zone source:	The time zone server can also be configured to only send out multicast time zone packets. In this case, the panel cannot request the time zone information but has to listen on the specific multicast group. Set this option and enter the multicast group if the time zone server is not configured to answer to time zone requests. This operation mode is not recommended for MOBA-STC because the time zone takeover may take a long time.

Notice: By adding target devices for the first time to the list and saving the configuration, you will be asked to update the device(s) time zone table. This is required to have the predefined time zone entry 80 available on the devices. It is recommended to run the update, otherwise you will not be able to configure the devices outputs / time zone server to use the local time provided by MOBA-STC.

If you select “No”, the update will be done by MOBA-STC at the first local time change.



6.4.3 Alarm Mappings page

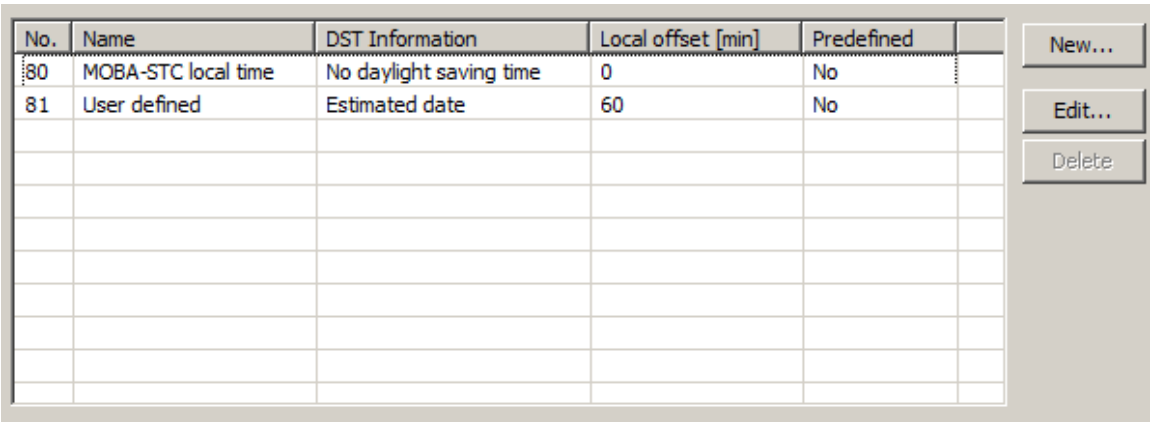


All alarms of the configured target timeservers / master clocks can be categorized as “Alarm” or “Warning”. The mapping between alarm number and severity is done by selecting the corresponding device type at the left and alarm severity at the right.

Display behaviour on the panel:
If there is one target device with an alarm, the whole system status is set to “Alarm”. If one or multiple devices have a warning, the system status is indicated as “Warning”.

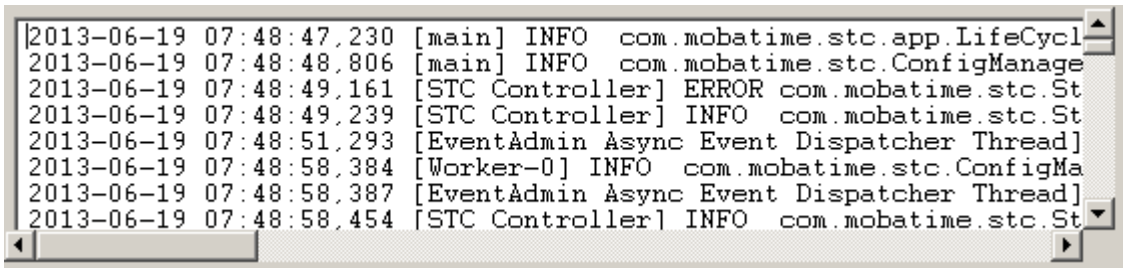
Notice: The alarm mappings are set for each configured device type and not for each single device! That means if you have e.g. 3 devices of the same type, there will be only one entry in the “Device types” list (at the left).

6.4.4 Time Zone Table page



As described in chapter 5.2, the MOBA-STC panel uses the user defined time zone entry 80 for the local time adjustment. By changing the local time, the whole time zone table (witch entries 80 – 99) is sent to the target devices. When additional entries are required, they can be defined at the positions 81 – 99. In the example above, the user defined entry 81 is sent without changes to all configured target devices each time the local time is changed.

6.4.5 System Log page



The system log page shows the internal log file of the MOBA-STC panel. This file can be helpful for troubleshooting purposes and should be attached to support requests.

6.4.6 Device commands

The following device commands are supported:

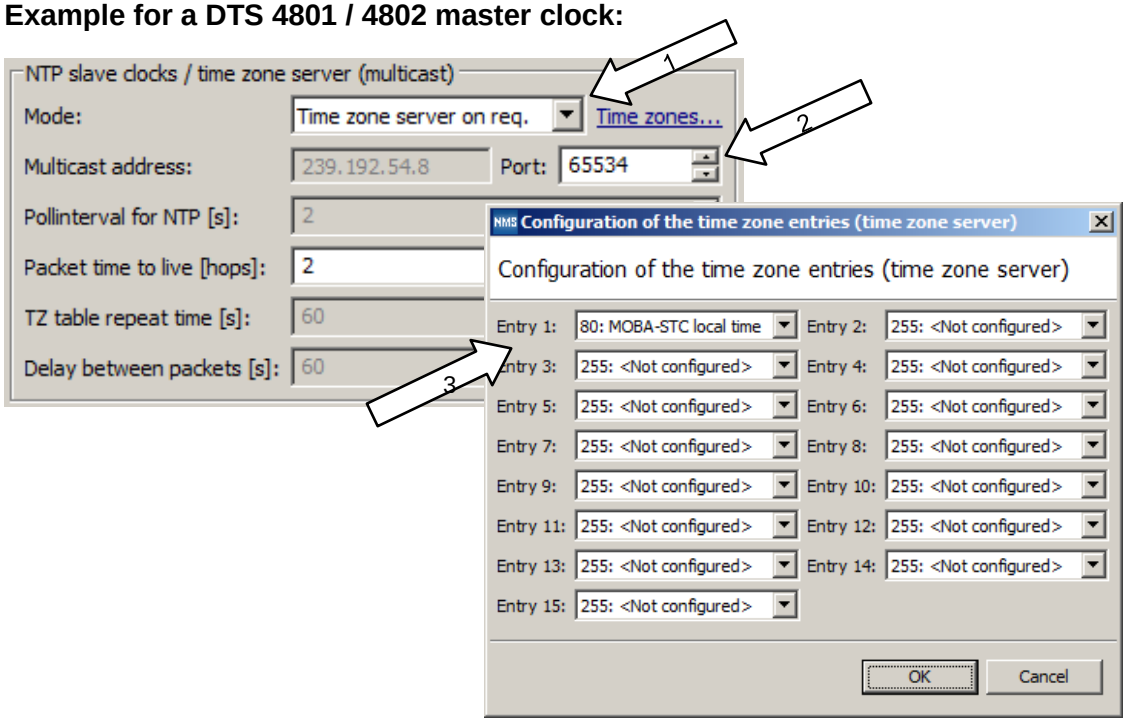
- **Software reset** (Restart MOBA-STC application)
- **Factory reset** (Reset the configuration to factory defaults)
- **System restart** (Restart Windows operating system)

6.5 Timeservers / master clocks configuration for NTP slave clocks

After the MOBA-STC panel configuration and update of the devices time zone table, each target device has to be configured as follows:

1.	*Time zone server*	Enabled, Mode: On request
2.	*Time zone server port*	65534
3.	*Time zone server entry 1*	Set to time zone definition 80 (MOBA-STC local time). **Important! MOBA-STC will request the time zone entry 1 for local time display and adjustment checks!**

Example for a DTS 4801 / 4802 master clock:

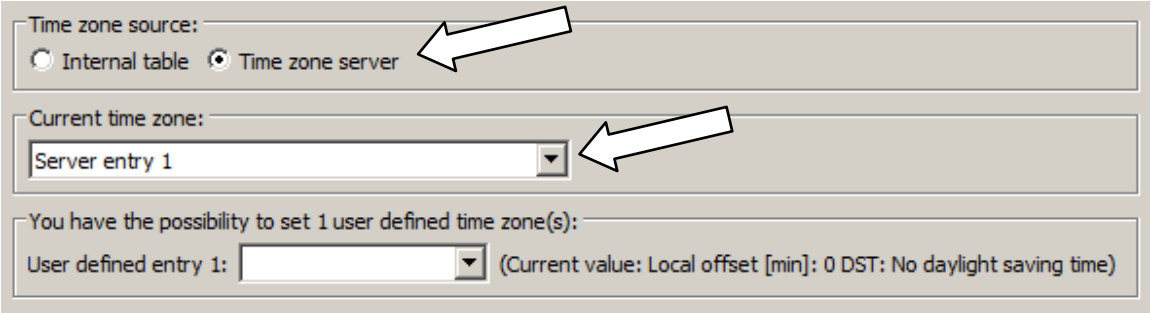


Notice: Please refer to the corresponding device manuals for detailed configuration instructions.

6.6 NTP slave clocks configuration

All NTP slave clocks have to be configured to use the time zone server for the local time calculation and not the internal time zone. Based on the slave clock type, this configuration is set either by DIL-switches or directly over MOBA-NMS. The time zone entry has to be set to 1.

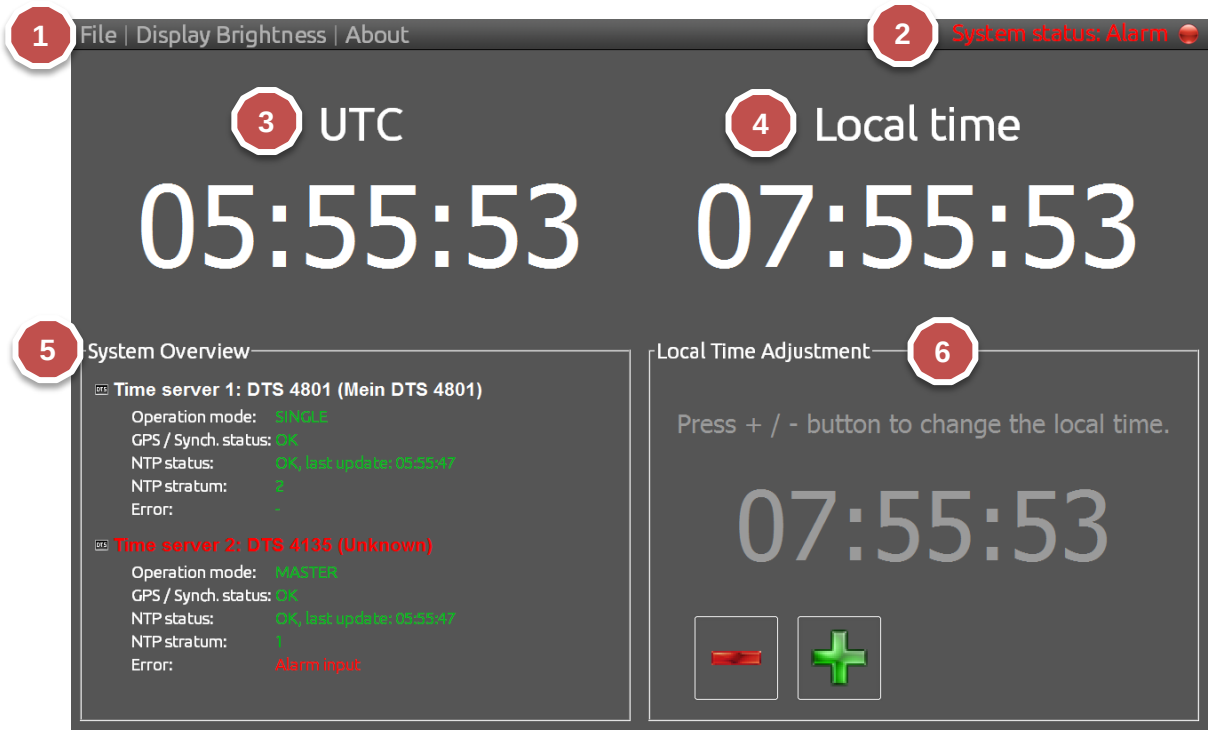
Example configuration for a TREND NTP slave clock:



Notice: Please refer to the corresponding device manuals for detailed configuration instructions.

7 Operation

7.1 Panel display overview



1. Manu bar
2. Overall system status
3. UTC time information
4. Local time information
5. System overview (Status information for all configured target devices)
6. Controls for the local time adjustment

7.2 Display of UTC and local time

The MOBA-STC panel itself is synchronized by NTP (UTC) from the configured timeservers / master clocks. From the same devices, the time zone information is loaded and used to display the local time.

Notice: If the target devices are not reachable in the network or not configured to provide the time zone, the panel operation is halted with a corresponding error message.

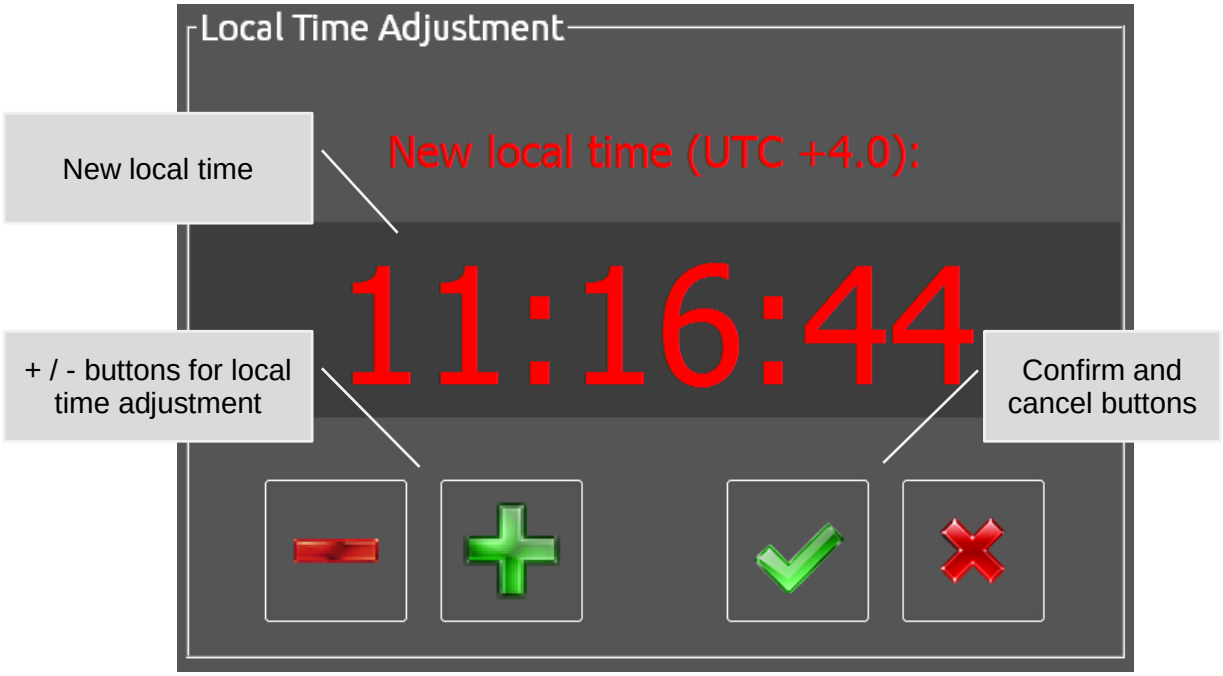
7.1 System status and system overview (device supervision)

The status at the upper-right corner indicates the overall system status including all supervised devices. If there is at least one device with an alarm, the overall status is set to “Alarm”. The status is set to “Warning” if there is a device with a warning or the panel itself has a wrong configuration or runtime problem. In normal operation mode the system status should be “OK”.

The system overview shows detailed status information for each device. See chapter 5.3 for more details.

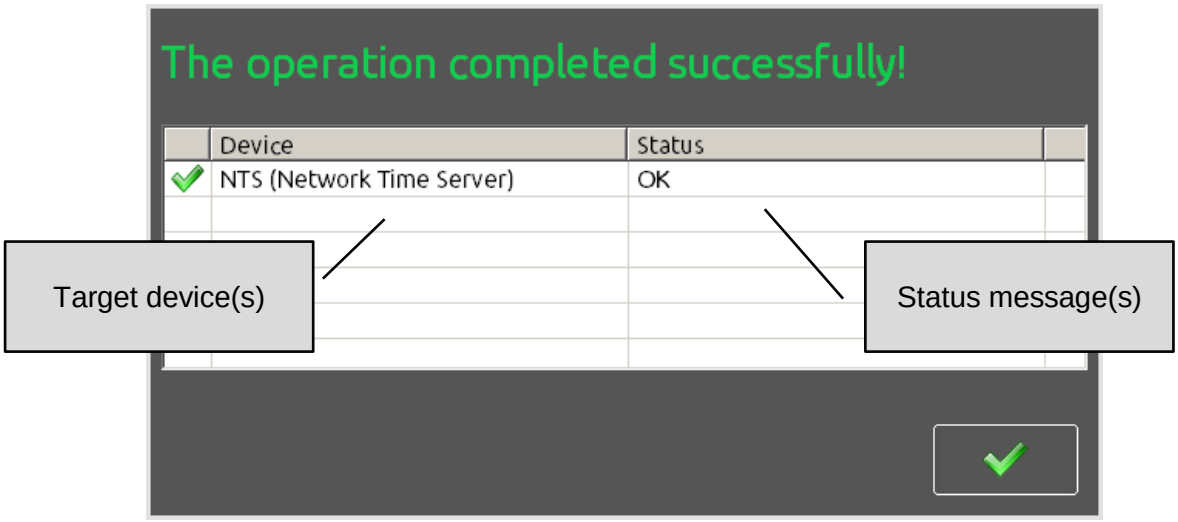
7.2 Local time adjustment

To set a new local time for all configured target devices, simply push the + / - buttons until the new time is reached and displayed in red color. By pushing the + / - buttons, the new time is increased / decreased in ½-hour steps.



By pushing the green confirm-button, the user defined time zone table with entry 80 (containing the configured local time) is sent to all target devices. The operation progress is displayed in a new dialog.

After a successful time zone table distribution, the MOBA-STC panel checks the new local time by requesting the time zone information from one of the target devices. If the received local time is correct, the process is completed and a corresponding message is displayed, otherwise an error message is shown.



Notice: **The NTP slave clocks run autonomously and request the time zone information in an intervall of one minute. That means, that the local time takeover will not occur at the same time and can take up to one minute!**

7.3 Display brightness

To adjust the panel display brightness simply select the menu entry "*Display Brightness*" and change the setting by pushing the + / - buttons.

The brightness can be adjusted in a range of 10% to 100%.

7.4 System operations

7.4.1 Log off

Select the menu entry "*File → Log off*" and enter the password for the user stcUser1 to close the MOBA-STC application and get to the Windows login screen.

Warning: The configuration by MOBA-NMS is not possible if the MOBA-STC application is not running! To resume normal operation you will have to login with the stcAdmin1 user account and restart the Windows operating system. (Windows will automatically login with the user stcUser1 and start the MOBA-STC application.)

7.4.2 Restart system

To do a Windows system restart select the menu entry "*File → Restart system*" and enter the password for the user stcUser1.

A system restart can also be executed over MOBA-NMS.

8 Firmware update

8.1 Updating with MOBA-NMS

Important: Newer versions of NMS are only compatible with STC version 2.0 or greater. If you update from version 1.0 to version 2.0 or greater, use the procedure described in chapter 8.2 (*"Updating with setup file"*).

Steps for updating the panel using MOBA-NMS:

1. Select MOBA-STC panel(s) in the device view.
2. Menu "*Edit → Commands*", select "*Firmware Update….*"
3. Enter the path to the file "moba-stc-x.x.x.jar" or select it using the "*Browse…*" button.
4. By clicking the "*OK*" button, the update is initiated.

Important: The update procedure (item 4) can take some time (<2 min.) and may not be interrupted under any circumstances. In case of an interruption, the software on the panel is destroyed and it can only be repaired by installing it manually or with a setup file.

8.2 Updating with setup file

Steps for updating the panel with a setup file:

1. Login with the local Windows system user **stcAdmin1** (see chapter 6.2).
2. Transfer the setup file "moba-stc-x.x.x-setup.x86.exe" to the local disc of the panel. (Over the network or by USB memory stick.)
3. Execute the setup file and install the MOBA-STC application to the directory **c:\MOBA-STC**
4. Restart Windows.

9 System recovery

9.1 Recovery using USB memory stick

Steps to recover the complete operating system and reset the panel to the factory state:

1. Connect the MOBA-STC Panel Recovery USB stick to any USB port of the panel.
2. Restart / power on the panel and wait for the recovery application (*Redo Backup & Recovery*) to boot. **Important: The boot process can take up to 4 minutes! Don't power off the device!**
3. Select the "*Restore*" button.

4. Select **Drive 2, Part 2 (casper-rw)** as source drive and click to "*Next* >".
5. Select the following image: /restore/mobatime-system-image.backup
6. Select the local hard disk of the panel (**Drive 1**) as destination and start the recovery process.
7. Wait until the recovery operation is completed, shutdown the panel and remove the recovery USB stick.
8. Recovery is completed. Power on the panel and set configuration with MOBA-NMS.

10 Time zone table

Time zone entries standard season table (version 10.2).

No.	City / State	UTC Offset	DST	Standard → DST	DST → Standard
00	UTC (GMT), Monrovia	0	No		
01	London, Dublin, Lisbon	0	Yes	Last Sun. Mar. (01:00)	Last Sun. Oct. (02:00)
02	Brussels, Amsterdam, Berlin, Bern, Copenhagen, Madrid, Oslo, Paris, Rome, Stockholm, Vienna, Belgrade, Bratislava, Budapest, Ljubljana, Prague, Sarajevo, Warsaw, Zagreb	+1	Yes	Last Sun. Mar. (02:00)	Last Sun. Oct. (03:00)
03	Athens, Helsinki, Riga, Tallinn, Sofia, Vilnius	+2	Yes	Last Sun. Mar. (03:00)	Last Sun. Oct. (04:00)
04	Bucharest	+2	Yes	Last Sun. Mar. (03:00)	Last Sun. Oct. (04:00)
05	Pretoria, Harare, Kaliningrad	+2	No		
06	Amman	+2	Yes	Last Thu. Mar. (23:59)	Last Fri. Oct. (01:00)
07	UTC (GMT)	0	No		
08	Istanbul, Kuwait City, Minsk, Moscow, Saint Petersburg, Volgograd	+3	No		
09	Praia, Cape Verde	-1	No		
10	UTC (GMT)	0	No		
11	Abu Dhabi, Muscat, Tbilisi, Samara	+4	No		
12	Kabul	+4.5	No		
13	Adamstown (Pitcairn Is.)	-8	No		
14	Tashkent, Islamabad, Karachi, Yekaterinburg	+5	No		
15	Mumbai, Kolkata, Chennai, New Delhi, Colombo	+5.5	No		
16	Astana, Thimphu, Dhaka, Novosibirsk	+6	No		
17	Bangkok, Hanoi, Jakarta, Krasnoyarsk	+7	No		
18	Beijing, Hong Kong, Singapore, Taipei, Irkutsk	+8	No		
19	Tokyo, Seoul, Yakutsk	+9	No		
20	Gambier Island	-9	No		
21	South Australia: Adelaide	+9.5	Yes	1st Sun. Oct (02:00)	1st Sun. Apr. (03:00)
22	Northern Territory: Darwin	+9.5	No		
23	Brisbane, Guam, Port Moresby, Vladivostok	+10	No		
24	Sydney, Canberra, Melbourne, Tasmania: Hobart	+10	Yes	1st Sun. Oct. (02.00)	1st Sun. Apr. (03:00)
25	UTC (GMT)	0	No		
26	UTC (GMT)	0	No		
27	Honiara (Solomon Is.), Magadan, Noumea (New Caledonia)	+11	No		
28	Auckland, Wellington	+12	Yes	Last Sun. Sep. (02:00)	1st Sun. Apr. (03:00)
29	Majuro (Marshall Is.), Anadyr	+12	No		
30	Azores	-1	Yes	Last Sun. Mar. (00:00)	Last Sun. Oct. (01:00)
31	Middle Atlantic	-2	No		
32	Brasilia	-3	Yes	3rd Sun. Oct. (00:00)	3rd Sun. Feb. (00:00)
33	Buenos Aires	-3	No		
34	Newfoundland	-3.5	Yes	2nd Sun. Mar. (02:00)	1st Sun. Nov. (02:00)
35	Atlantic Time (Canada)	-4	Yes	2nd Sun. Mar. (02:00)	1st Sun. Nov. (02:00)
36	La Paz	-4	No		
37	Bogota, Lima, Quito	-5	No		
38	New York, Eastern Time (US & Canada)	-5	Yes	2nd Sun. Mar. (02:00)	1st Sun. Nov. (02:00)

39	Chicago, Central Time (US & Canada)	-6	Yes	2nd Sun. Mar. (02:00)	1st Sun. Nov. (02:00)
40	Tegucigalpa, Honduras	-6	No		
41	Phoenix, Arizona	-7	No		
42	Denver, Mountain Time	-7	Yes	2nd Sun. Mar. (02:00)	1st Sun. Nov. (02:00)
43	Los Angeles, Pacific Time	-8	Yes	2nd Sun. Mar. (02:00)	1st Sun. Nov. (02:00)
44	Anchorage, Alaska (US)	-9	Yes	2nd Sun. Mar. (02:00)	1st Sun. Nov. (02:00)
45	Honolulu, Hawaii (US)	-10	No		
46	Midway Islands (US)	-11	No		
47	Mexico City, Mexico	-6	Yes	1st Sun. Apr. (02:00)	Last Sun. Oct. (02:00)
48	Adak (Aleutian Is.)	-10	Yes	2nd Sun. Mar. (02:00)	1st Sun. Nov. (02:00)
49	UTC (GMT)	0	No		
50	UTC (GMT)	0	No		
51	UTC (GMT)	0	No		
52	UTC (GMT)	0	No		
53	UTC (GMT)	0	No		
54	Ittoqqortoormiit, Greenland	-1	Yes	Last Sun. Mar. (00:00)	Last Sun. Oct. (01:00)
55	Nuuk, Qaanaaq,Greenland	-3	Yes	Last Sat. Mar. (22:00)	Last Sat. Oct. (23:00)
56	Not used				
57	Western Australia: Perth	+8	No		
58	Caracas	-4.5	No		
59	CET standard time	+1	No		
60	Not used				
61	Not used				
62	Baku	+4	Yes	Last Sun. Mar. (04:00)	Last Sun. Oct. (05:00)
63	UTC (GMT)	0	No		
64	UTC (GMT)	0	No		

In countries where the DST switch date changes annually (e.g. Iran, Israel), the time zone has to be defined manually in the user time zone table (entries 81 – 99).

Legend:

UTC:	Universal Time Coordinate, equivalent to GMT
DST:	Daylight Saving Time
DST Change:	Daylight Saving Time changeover
Standard → DST:	Time change from Standard time (Winter time) to Summer time
DST → Standard:	Time change from Summer time to Standard time (Winter time)

Example:

2nd last Sun. Mar. (02:00)	Switch over on the penultimate Sunday in March at 02.00 hours local time.

Notice: As usual, the time table is adapted each year. You can download the newest time table from our homepage: *www.mobatime.com* ➔ *Downloads* ➔ *Moba-Software* ➔ *Time Zone Table*. If the delivered device contains a newer version as showed in this manual, it's recommended to check the time zone entries.

11 Technical data

Software

Synchronization	Network Time Protocol (NTP), UTC	
Operation	MOBA-NMS	
Network ports	FTP:	21
	SFTP:	22
	NTP:	123
	SNMP:	161
	MOBA-NMS:	8081, 8082 and 8083
	Time Zone Server:	65534

Hardware

Panel type	12”, SIEMENS SIMATIC IPC277D
Power supply	DC 24V ⎓ 4A
Weight	2750 g
Degree of protection	IP 20 to IEC 60529
Quality assurance	In accordance with ISO 9001

Please refer to the SIEMENS SIMATIC IPC277D Compact Operating Instructions (02/2012, **A5E03409489-3**) for more hardware related specifications.

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