MAGIC SDC

ETI/EDI Switch & Converter

Software Manual

Audio
Video
Technologies

A publication of

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Content

1 WINDOWS PC SOFTWARE

The configuration of the system is especially comfortable with the Windows PC Software included in delivery.

1.1 Hardware requirements

Any current PC with Windows 8 or higher can be used.

1.2 Software and firmware updates

Download software updates from our website. No registration required.

https://www.avt-nbg.de

Navigate to Downloads > Software.

1.3 Support

Our support is available on working days:

Monday to Friday from 09:00 - 16:30 CET.

Support portal:	**https://avt-nbg.zammad.com**
Email:	**support@avt-nbg.de**
Phone number:	**+49 911 5271-110**

To deal with your problem efficiently please note down the factory number of the unit as well as the software version that you use.
The factory number is visible in the software under
Administration > Registration.

If you bought the system via your local dealer, please contact them first.

1.4 Repairs

If your unit is defective, please contact us before sending in the device.

To send in the unit, please fill in the included Service Request and send the unit to the following address:

AVT Audio Video Technologies GmbH
- Repairs -
Nordostpark 91
90411 NÜRNBERG
GERMANY

1.5 Operation via the Windows PC Software

In the following chapter all functions of the PC Software are described in detail.

1.5.1 The MAGIC SDC main window

After starting the ***MAGIC SDC Software*** the main window is automatically displayed.

FIG. 3 MAIN WINDOW - ETI SWITCH

The connection status between the PC and the system is displayed in the upper right corner of the window:

PC ONLINE: Connection to the PC is ok

PC OFFLINE or ***NO CONNECTION***: Connection to the PC is faulty

The following status messages are also possible:

PC ONLINE ALARM: An alarm has occurred
(see ***System Monitor***)

BOOT MODE: No valid firmware on the system (orange). Please download the latest software.

TIP

If you click on the status message, the ***System Monitor*** is displayed which shows the system status in detail.

NOTE

If the connection is faulty, please check the following points:
- Power supply cable is plugged in
- Circuit switch of the system is in the ON position (display is available)
- Network cable is connected to the PC and the system
- Right IP address and right Control Port are selected in the software (***Configuration → Control Interface***

Layout

The main window is splitted into three parts:

- Left side: Information & alarms relevant for the Multiplexer connected to ***Interface 1***
- Middle part:Information & alarms relevant for MAGIC SDC
- Right side Information & alarms relevant for the Multiplexer connected to ***Interface 2***

Meaning of the LEDs

The LEDs can be displayed in three different colours:

- ***green:*** no error
- ***red:*** error
- ***blue:*** error has occured

To reset all LEDs to green, you need to press the ***Reset Counter*** button.

1.5.1.1 Interface 1 / Interface 2

Under ***Interface 1*** and ***Interface 2*** the status of the connected systems is displayed. The status message can be ***ACTIVE***, ***INACTIVE, VALIDATING*** or ***FAILED AND ACTIVE*** (manual selection).

1.5.1.2 E1 Input

The following alarms are displayed under ***E1 Input*** if the system is operated as ETI switch. Next to the LEDs you can see the number of the occured alarms.

- ***Signal***: No 2-Mbit/s signal is received.
- ***Sync***: No 2-Mbit/s framing can be found. This alarm is only signalled if „G.704-NA“ has been selected as ETI format.
- ***AIS*** (Alarm Indication Signal): Two or less „0“ are received within the last two frames. This alarm is only signalled if „G.704-NA“ has been selected as ETI format.
- ***NA TIST***: The NA TIST is not continuous.This alarm is only signalled if „G.704-NA“ has been selected as ETI format.
- ***Local D Alarm*** (Local Deferred Alarm): The local error bit rate is higher than $10e^{-03}$. If this alarm occurs, the 2-Mbit/s signal cannot be decoded anymore. This alarm is only signalled if „G.704-NA“ has been selected as ETI format.

- ***Local N Alarm*** (Local Nondeferred Alarm): The local error bit rate is higher than $10e^{-06}$. This corresponds to one bit error in four minutes. This alarm usually occurs, when the system is switched on and when the line interface is connected. The alarm should not last longer than four minutes. This alarm is only signalled if „G.704-NA“ has been selected as ETI format.

- ***C Reed Solomon***: Errors have been corrected by the Reed Solomon code.This alarm is only signalled if „G.704-NA“ has been selected as ETI format.

- ***F Reed Solomon***: Errors couldn't be corrected by the Reed Solomon code (Failure). This alarm is only signalled if „G.704-NA“ has been selected as ETI format.

1.5.1.3 EDI Input

The following alarms are displayed under ***E1 Input*** if the system is operated as EDI to ETI converter. Next to the LEDs you can see the number of the occured alarms.

- ***Signal***: No EDI signal is received.

- ***PFT Sync***: This alarm is set if the Sync PFT is faulty.

- ***PFT CRC***: This alarm is set if the CRC PFT is faulty.

1.5.1.4 ETI

Directly below the ***ETI*** bar it is displayed if and when a reconfiguration is pending.

In the next line the name of the ***Ensemble*** is shown followed by the detected ***Format***.

Additionally, the following alarms and status messages are displayed:

- ***ETI Framing***: This alarm occurs if the ETI frame cannot be found.

- ***Error Level 0***: This LED indicates that the Error Level is 0.

- ***Error Level 1***: This LED indicates that the Error Level is 1.

- ***Error Level 2***: This LED indicates that the Error Level is 2.

- ***Error Level 3***: This LED indicates that the Error Level is 3.

- ***Header CRC***: This alarm is set if the CRC header is faulty.

- ***MST CRC***: This alarm is set if the CRC MST is faulty.

- ***Frame Counter***: The frame counter is not continuous.

- ***Frame Phase***: The frame phase is not continuous.

- ***Frame Length***: The indicated frame length is wrong.

- ***LI TIST***: The LI TIST is not continuous.

The number of Audio and Data subchannels is displayed under ***No. Subchan.*** (Number of Subchannels).

Under ***FIC included*** you can see if the Fast Information Channel (FIC) is included into the ETI data stream.

Also displayed are the ***DAB Mode*** and the ***Frame Length***.

1.5.1.5 Output

The following alarms are displayed under ***Output***. Next to the LEDs you can see the number of the occured alarms.

- ***Output open***: There is no further processing unit.
- ***Output shorted***: 2-Mbit/s output is shorted.

NOTE

The output alarm messages can be disabled for ***Interface 2*** under ***Configuration → System → Operation Settings → E1 Interface***.

1.5.1.6 Operation

The operation mode of *MAGIC SDC* is indicated under ***Mode***.

Additionally, the following status messages are displayed:

- ***Seamless switching***: Seamless switching is possible as long as the LED is displayed in green.

1.5.1.7 Clocks

Under ***Clocks*** the following alarms and status messages are indicated:

- ***NTP***: Display of the IP address of the connected NTP Server. The alarm is set if both NTP servers are not available.
- ***1 PPS***: The 1 pps clock is faulty.
- ***10 MHz***: The 10 MHz clock is faulty.

1.5.1.8 System Clock

Here it is indicated which system clock is currently used.

- ***10 MHz***
- ***Recovered E1 In 1***
- ***Recovered E1 In 2***
- ***Internal***

1.5.1.9 Reset Counter

In the middle part of status window you will find the ***Reset Counter*** button. If you press this button, all LEDs will be reset to green and all error counters are reset to 0.

1.6 Menu File

1.6.1 Submenu Exit

Via the submenu ***Exit*** you can close the *MAGIC SDC* software.

1.7 Menu Configuration

1.7.1 Submenu Control Interface

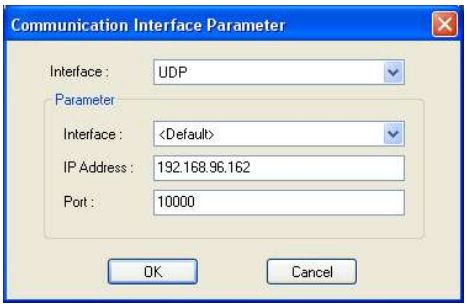
The system is configured and operated via the LAN interface.

Select under ***Configuration*** → ***Control Interface***.

LAN

For controlling the system via the LAN interface please select ***Interface*** → ***UDP***.

FIG. 4 LAN PARAMETERS



Under ***Parameter*** → ***Interface*** edit ***<Default>***. If there should be more than one network interface card in your PC, select the desired one.

The standard ***IP Address*** of the system is ***192.168.96.102*** and the standard control ***Port 10000***.

To enable a connection with your PC, you have to be in the same **subnet**. Therefore, please enter an IP address from your subnet[1].

To change the IP address at the front keypad of the system, press the softkey MENU → SYSTEM SETTINGS → LAN INTERFACES → IP ADDRESS. Enter now the desired IP address. When entering manually you have to be sure that the IP address is not already used by another unit[2].

NOTE

Maybe further settings are necessary (e.g. sub-net mask, standard: 255.255.255.000). In that case please contact your network administrator, who can tell you the correct settings.

TIP

The currently allocated IP address of the system can be displayed by pressing the right telephone button .

Please enter the correct IP address of the system under ***IP Address***.

[1] In this way you can find out your own subnet: Under *Windows XP* click on ***Start*** → ***Execute ...***. Enter ***cmd*** in the command line. An entry window is displayed in which you must enter ***ipconfig***. Your IP address is displayed (e.g. 192.168.12.35). Your subnet is accordingly 192.168.12.xxx.

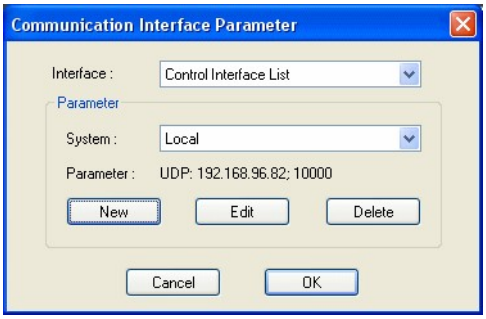
[2] To check if the IP address is already used in the network, follow the instructions: Under *Windows XP* click on ***Start*** → ***Execute ...***. Enter ***cmd*** in the command line. An entry window is displayed in which you must enter ***ping*** xxx.xxx.xxx.xxx. Whereas xxx stands for the IP address you want to check.

Control Interface List

If you want to manage several units with the PC Software, you can enter all systems by selecting under ***Interface*** the option ***Control Interface List***.

To create a new list entry, press the ***New*** button. Please enter the settings for the LAN parameters as described above. Additionally, you can enter a ***Name*** for the list entry.

FIG. 5 CONTROL INTERFACE LIST PARAMETER



By the key ***Edit*** you can edit the currently selected entry. With ***Delete*** you can cancel the list entry.

1.7.2 Submenu System

Via the submenu ***System*** *MAGIC SDC* can be configured completely.

After the configuration has been changed, the following options are available:

- With ***OK*** the configuration dialogue is closed and all settings are saved and applied to the system.
- The function ***Apply Now*** allows you to save the current settings without closing the configuration dialogue.
- ***Cancel*** cancels all settings made.

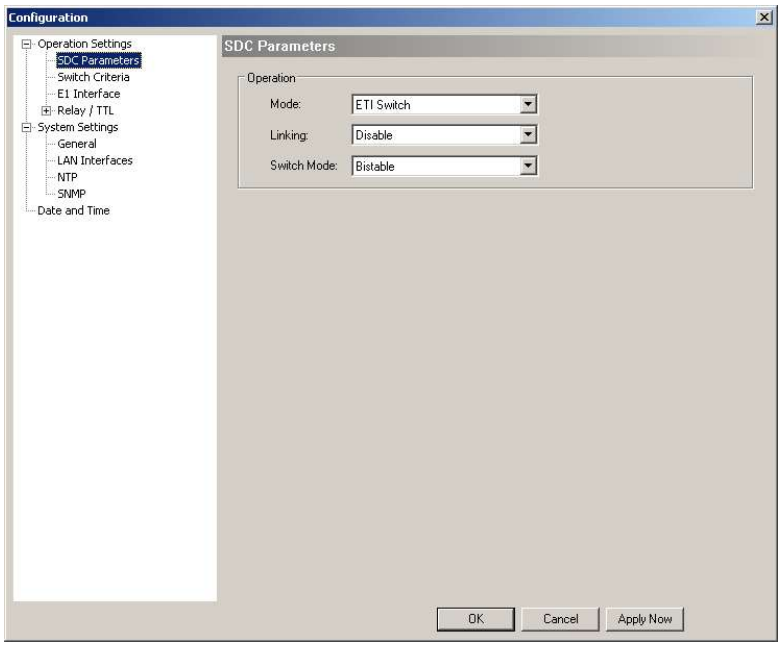
The configuration differentiates between ***System Settings***, which usually do not have to be changed during the operation and the actual ***Operation Settings*** for the current operational case.

1.7.2.1 Operation Settings

1.7.2.1.1 SDC Parameters

Under ***SDC Parameters*** the operating mode for *MAGIC SDC* is configured.

FIG. 6 SDC PARAMETERS



Operation

- Please select the desired operation mode for they system under ***Mode***. You can chose between
  - ***ETI Switch***
  - ***EDI Switch*** (optional)
  - ***ETI to EDI Converter*** (optional)
  - ***EDI to ETI Converter*** (optional)

- Under ***Linking*** you can select if you want to operate the system in redundancy mode. Currently, this function is not yet implemented.

- If you operate the system as switch, you can select under ***Switch Mode***, the operating mode of the switch. The following options are available:

  – ***Bistable***: In case of an alarm, *MAGIC SDC* switches to E1 Interface 2. Even if the alarm does not exist anymore, *MAGIC SDC* will not switch back to E1 Interface 1.

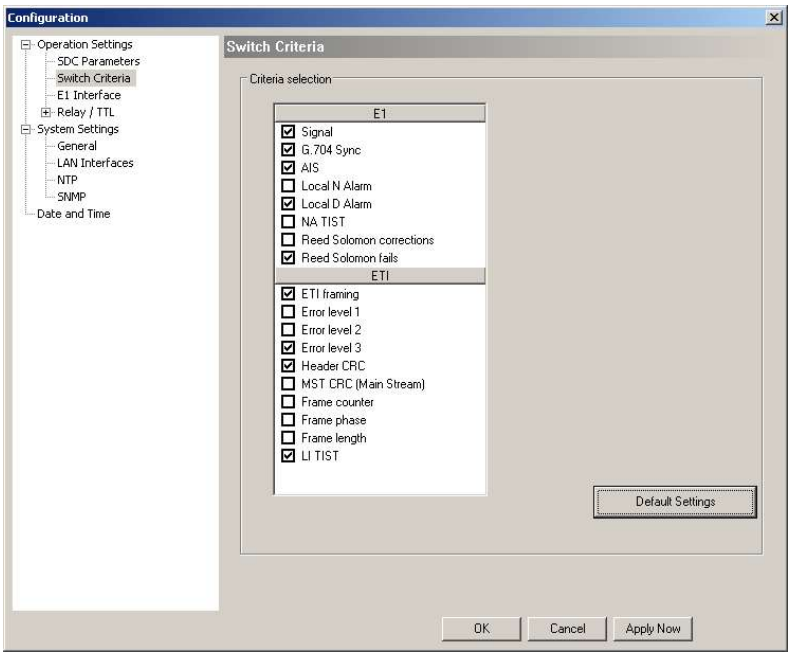
  – ***Monostable 1***: In case of an alarm, *MAGIC SDC* switches to E1 Interface 2. As soon as the alarm does not exist anymore, *MAGIC SDC* will switch back to E1 Interface 1.

  – ***Monostable 2***: In case of an alarm, *MAGIC SDC* switches to E1 Interface 1. As soon as the alarm does not exist anymore, *MAGIC SDC* will switch back to E1 Interface 2.

1.7.2.1.2 Switch Criteria

The menu item ***Switch Criteria*** allows you to select the alarms which trigger a switching procedure.

FIG. 7 SWITCH CRITERIA - ETI



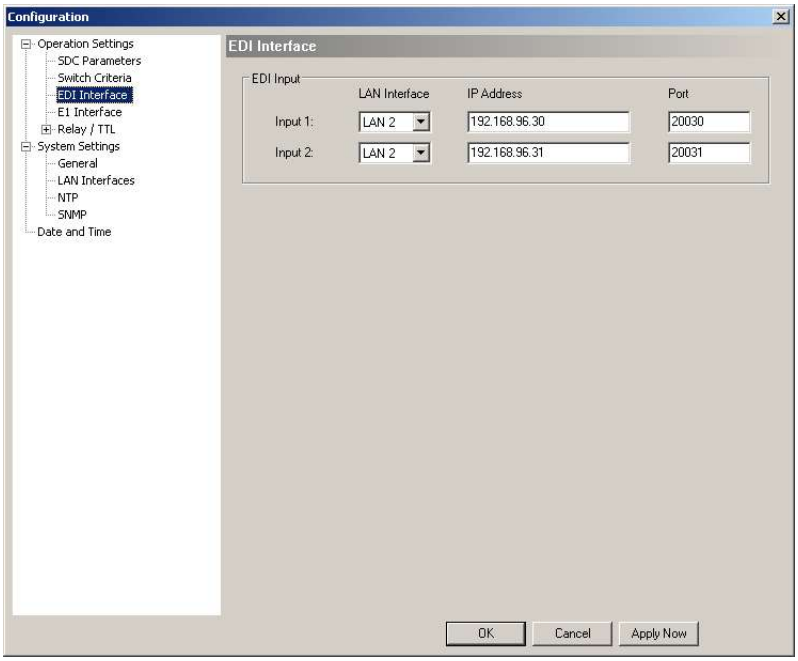
Criteria selection

The alarms are divided into ***E1/T1*** (for ETI Switch mode), ***EDI*** (for EDI to ET converter mode) and ***ETI*** alarms. If you want *MAGIC SDC* in case of an alarm, please select the relevant alarm from the list.

1.7.2.1.3 EDI Interface

This menu is only displayed if you have selected the ***EDI to ETI converter*** mode under ***SDC Parameters***.

FIG. 8 EDI INTERFACE



- Under ***EDI Input*** you need to enter the ***IP Address*** and the ***Port*** of ***Input 1*** and ***Input 2***. Additionally, you must select which ***LAN Interface*** you want to use for the EDI streams.

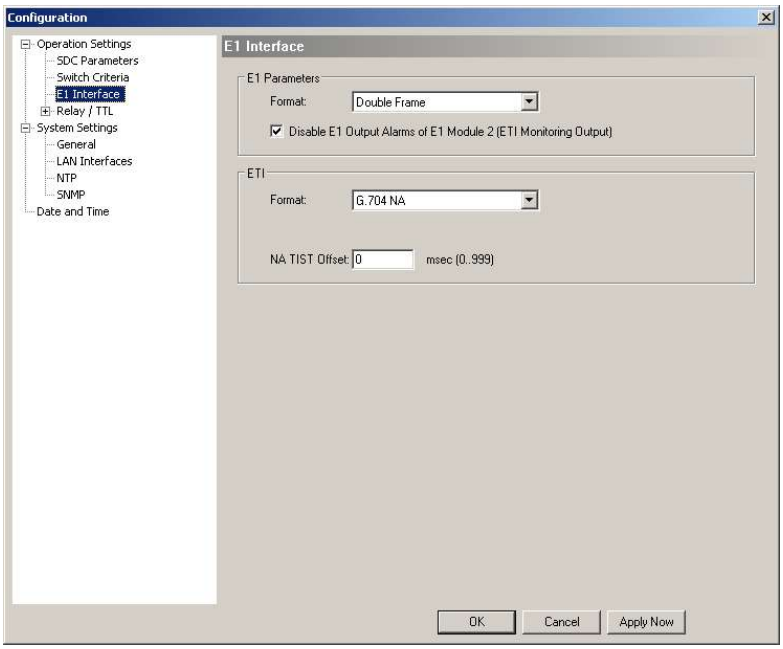
NOTE

Since the *MAGIC SDC* provides two LAN interfaces, you can use one for data and the other one for control. The configuration of the LAN interfaces can be done under the menu item ***LAN Interfaces***.

1.7.2.1.4 E1 Interface

The menu item ***E1 Interface*** allows a configuration of the E1 and the ETI parameters.

FIG. 9 E1 INTERFACE



E1 Parameters

- Please select the ***Format*** of your E1 (2-Mbit/s) network. You can choose between ***Double Frame*** and ***CRC Multi Frame***.

NOTE

This selection depends on the network and is a setting in the last E1 transmission equipment before it is connected to the ETI Switch. All countries except Germany are normally using *Double Frame* format. If you select the wrong format you will get immediately signal errors.
In case you do not know which E1 (2-Mbit/s) format you use, please ask your network provider.

- Via the option ***Disable E1 Output Alarms of E1 Module 2 (ETI Monitoring Output)***, you can deactivate the output alarms for the E1 Interface 2. If you select this option, the alarms will be no longer displayed in the main window.

ETI Parameter

- Please select which ETI ***Format*** you use. *MAGIC SDC* supports ***G.704-NA*** and ***G.703-NI***.

- Under ***TIST insertion*** (only in EDI to ETI converter mode) you need to enter if you want the EDI deti TAG item TSTA field to be inserted into the ***LI TIST and NA TIST***, ***LI TIST*** or ***NA TIST*** fields of the generated E1 output signal.

- Under ***NA TIST Offset*** you can select a value for the NA TIST Offset between ***0 ...999 msec***.

1.7.2.1.5 Relay/TTL

The *MAGIC SDC* has **eight GPIO Pins (TTL)** which can be programmed individually. Furthermore, eight **relays** are also available.

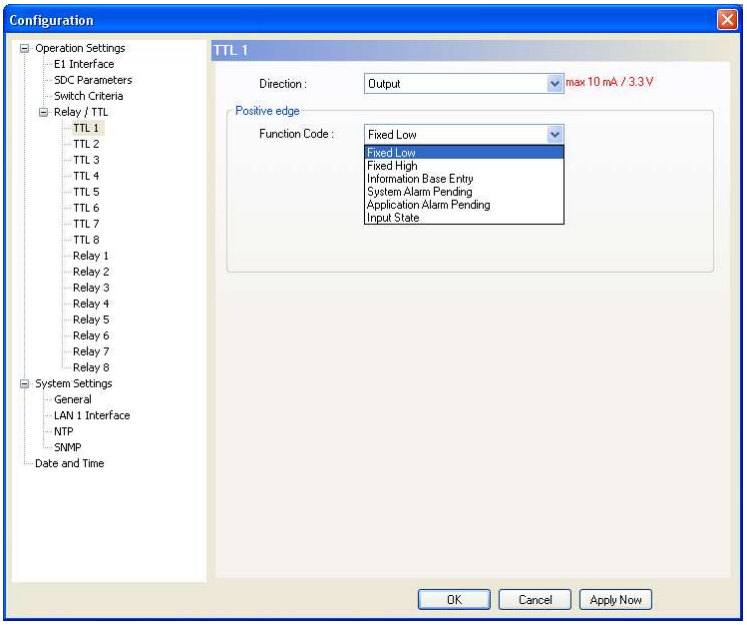
The following description applies to all eight configuration windows ***TTL 1 (Pin 1), TTL 2 (Pin 2), TTL 3 (Pin 3), TTL 4 (Pin 4), TTL 5 (Pin 5), TTL 6 (Pin 6), TTL 7 (Pin 7) and TTL 8 (Pin 8)***.

TTL Pin as Output

ATTENTION

Please note that the maximum switching current is 10 mA and the maximum switching voltage is 3.3V per TTL output.

FIG. 10 TTL PIN AS OUTPUT



If a TTL Pin is configured as an ***Output***, the event is signalled when the voltage at the TTL Pin changes from 0V to +3.3V.

Under ***Positive edge*** you can select the following ***Function Codes***:

- ***Fixed Low***: The TTL Pin is fixed to 0V.
- ***Fixed High***: The TTL Pin is fixed to +3.3V.
- ***Information Base Entry***:
- ***System Alarm Pending***: This function signals a pending system alarm.
- ***Application Alarm Pending***: This function signals a pending application alarm. You can select up to three specific alarms or the options ***Any Clock Alarm*** or ***Any input Alarm***.

– ***Input State***: You can signal a certain ***Ínput State*** (***Failure***, ***Active***, ***Inactive*** or ***Validating***) for the E1 ***Module 1*** or ***2***.

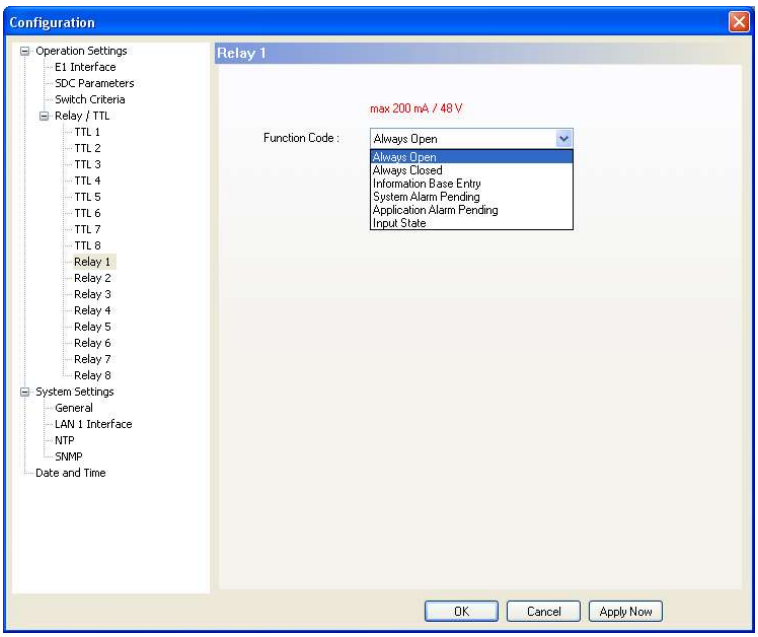
Relay

ATTENTION

Please note the maximum switching current is 200 mA and the maximum switching voltage is 48V per relay output.

The following description is valid for all eight configuration windows ***Relay 1 (Pin 14+15)***, ***Relay 2 (Pin 17+18)***, ***Relay 3 (Pin 19+20)***, ***Relay 4 (Pin 21+9)***, ***Relay 5 (Pin 22+10)***, ***Relay 6 (Pin 23+11)***, ***Relay 7 (Pin 24+12)*** and ***Relay 8 (Pin 25+13)***.

FIG. 11 RELAY



The functions for programming the relays are identical with the function codes for the TTL output. The following options (***Function Code***) are available:

– ***Always open***:The relay contacts are always open.

– ***Always closed***: The relay contacts are always close.

– ***Information Base Entry***:

– ***System Alarm Pending***: This function signals a pending system alarm.

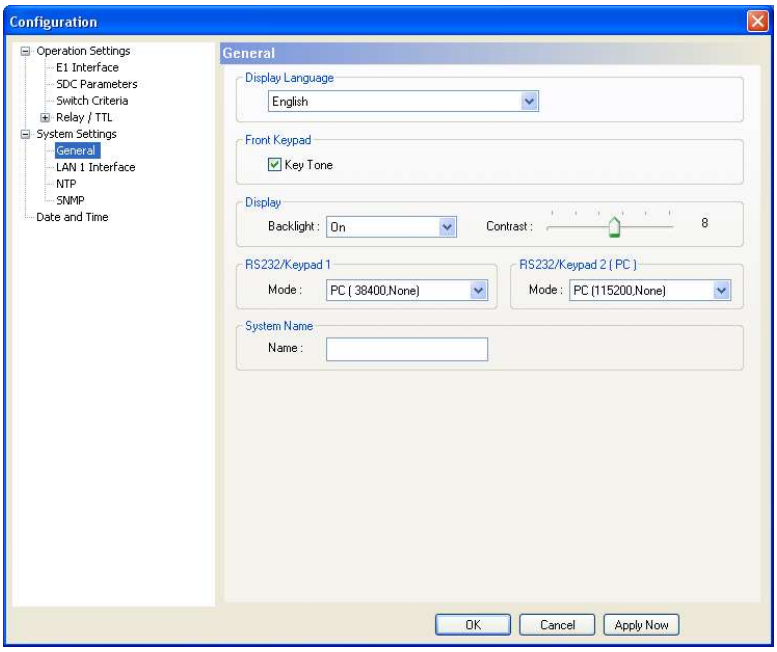
– ***Application Alarm Pending***: This function signals a pending application alarm. You can select up to three specific alarms or the options ***Any Clock Alarm*** or ***Any input Alarm***.

– ***Input State***: You can signal a certain ***Input State*** (***Failure***, ***Active***, ***Inactive*** or ***Validating***) for the E1 ***Module 1*** or ***2***.

1.7.2.2 System Settings

1.7.2.2.1 General

FIG. 12 GENERAL



Display Language

- Currently ***English*** and ***German*** are supported as display languages.

Key Tone

- To activate the key tone for the system, please select the check box ***Enabled***.

Display

- The ***Display*** has a backlight. Under ***Backlight*** you can set it on permanently if you select ***On***. If ***Auto off*** is selected, the backlight is automatically turned off **60** seconds after the last keystroke. The backlight can be activated again by pressing any key (e.g. *OK*).

NOTE Please notice that if the key lock is enabled, the backlight is not activated before you press the key sequence *MENU* ✱.

- With the slide controller ***Contrast*** you can set the desired contrast for the display within the range of ***-16 ... 15***. The default setting is 0.

RS232/Keypad 1

This interface is currently not in use.

RS232/Keypad 2 (PC)

Via the RS232 you can connect a PC via RS232 to configure the system with the Windows PC Software. Please select the right baud rate under ***Mode***.

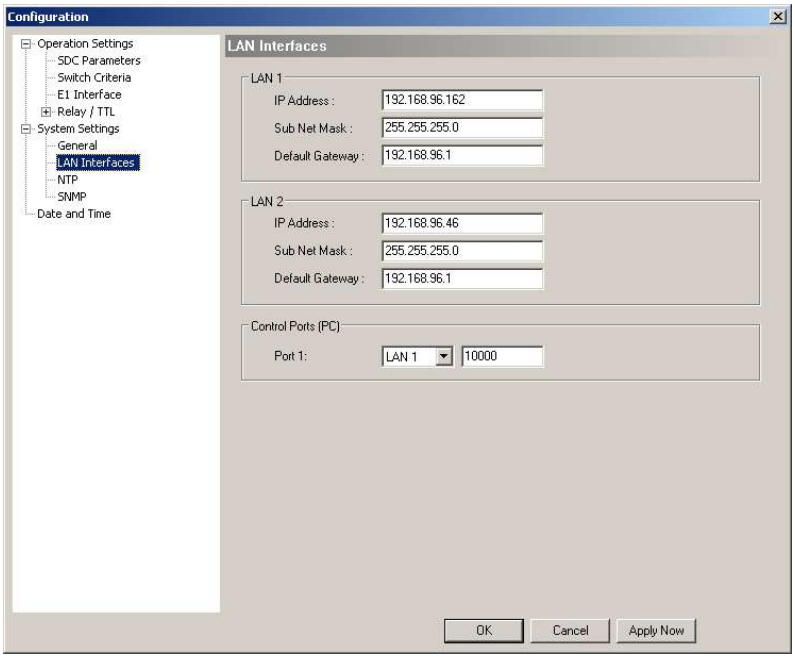
System Name

Under ***System Name*** you can enter a name for the system. The name is displayed in the headline of the PC software.

1.7.2.2.2 LAN Interfaces

Under ***LAN Interfaces*** you need to enter the configuration details of the LAN interfaces.

FIG. 13 LAN INTERFACE



IP Address

- Under ***IP Address*** please enter the IP address of your system.
- Under ***Subnet Mask*** you need to enter the correct subnet mask. The default value is ***255.255.255.0***.
- Under ***Default Gateway*** please enter the IP address of your default gateway.

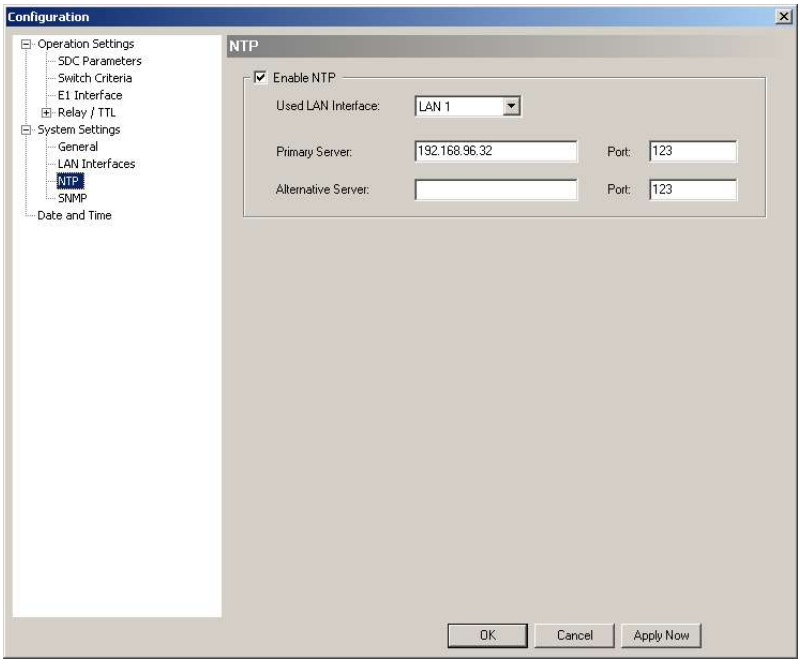
Control Port

- Please select the LAN interface which you want to use for the control of the system and enter the Control Port that is used.

1.7.2.2.3 NTP

Under the menu item ***NTP*** you can enable NTP and configure the NTP settings for your system.

FIG. 14 NTP

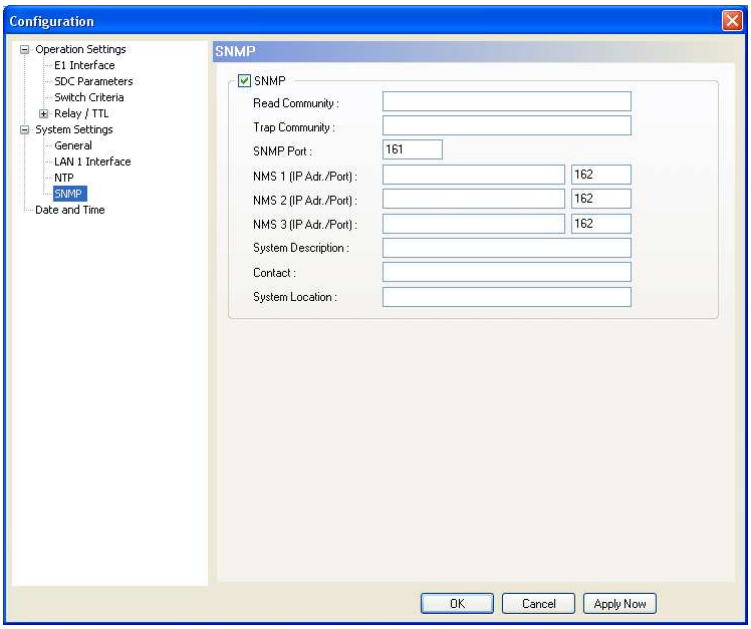


- To activate NTP, please select ***Enable NTP***.
- Under ***Used LAN Interface*** you must select which LAN interface you want to use for NTP.
- Enter the IP address and the port for your NTP Server under ***Primary Server***.
- If you want to add a second NTP Server as backup you can enter the IP address and port under ***Alternative Server***.

1.7.2.2.4 SNMP Parameter

To integrate the *MAGIC SDC* into a network management system, the SNMP function can be used. Currently, the system supports SNMP V2.

FIG. 15 SNMP PARAMETER



Under SNMP Parameter the function can be activated by enabling the option ***SNMP***.

Please ask your network management system administrator for the correct SNMP settings.

- The ***Read Community*** entry is an identifier to read data. The name has to be identical with the name in your Management System. By default, the name ***public*** is used.

- Under ***Trap Community*** you define the name for the trap datagrams. The name has to be identical with the name in your Management System.

- Please enter the port on which MAGIC AD1 ETI receives messages under ***SNMP Port***. The default setting is usually ***Port 161***.

- *MAGIC SDC* allows the addressing of up to three different Network Management Systems. Please enter the corresponding IP addresses and Ports under ***NMS 1 (IP Adr./Port)***, ***NMS 2 (IP Adr./Port)*** and ***NMS 3 (IP Adr./Port)***.

- Under ***System Description*** you can assign a name for *MAGIC SDC*.

- Under ***Contact*** an email address can be entered.

- Under ***System Location*** you can enter the location of the switch.

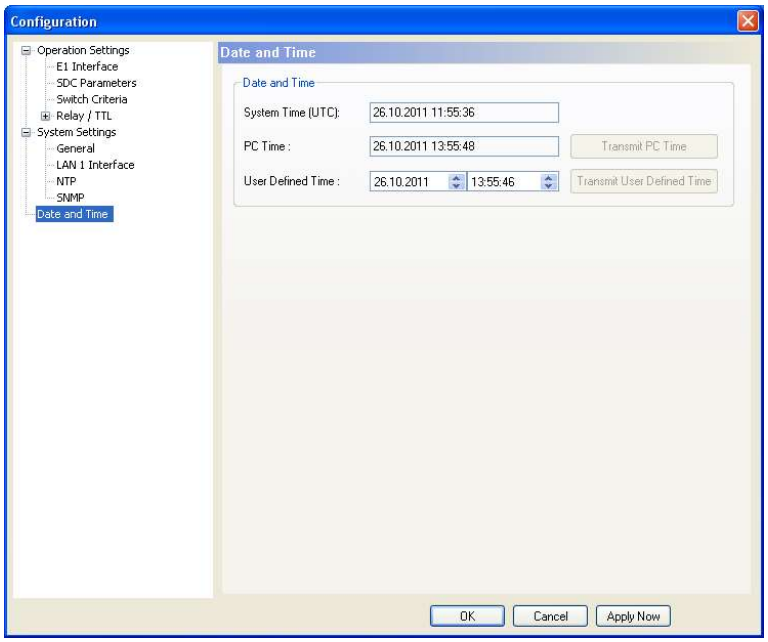
1.7.2.3 Date and Time

Via the dialogue ***Date and Time*** you can program the system date and time.

Via the button ***Transmit PC Time*** you can synchronise the system time with the PC time.

The button ***Transmit User Defined Time*** allows you to set a different time. This function is helpful, if you want to use the system later on e.g in a different time zone.

FIG. 16 DATE AND TIME



ATTENTION

During a power breakdown the integrated system clock is buffered by an internal battery[a]. The life time of a battery is typical ca. 7 years. The replacement should only be done by the AVT Service.

[a] Type: 3V Lithium Battery Renata CR1220

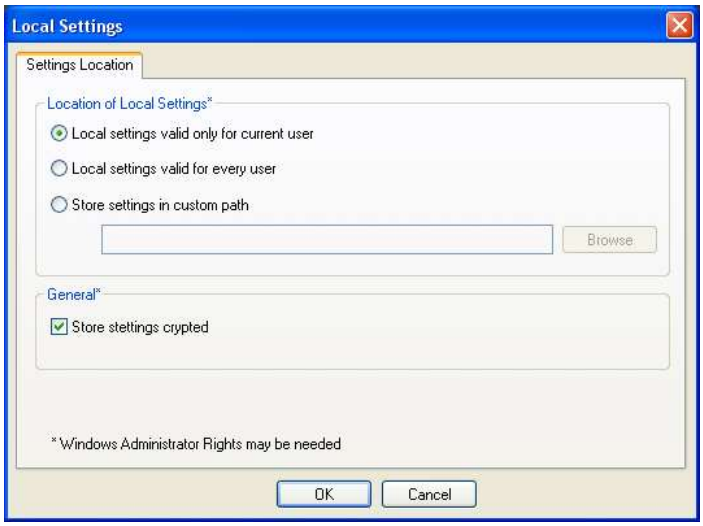
NOTE

If the FIG 0/10 is transmitted by the Ensemble Multiplexer, the time will be adjusted automatically.

1.7.3 Submenu Local Settings

Under ***Local Settings*** you can decide if you want to store the settings of your configuration only for the current user or globally for all users.

FIG. 17 LOCAL SETTINGS



Location of Local Settings

- To store your settings only for the current user, select the option ***Local settings only valid for current user***.
- To store the settings globally for all users, select the option ***Local settings valid for every user***.
- Alternatively, you can select the option ***Store settings in custom path*** to define a specific folder in which your settings are stored.

General

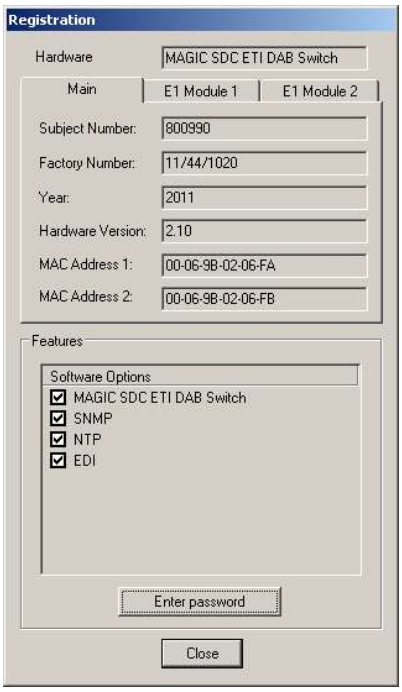
- To store your settings encrypted, you can activate the option ***Store settings crypted***.

1.8 Menu Administration

1.8.1 Submenu Registration

Via the submenu ***Registration*** you can check the activated Firmware options.

FIG. 18 REGISTRATION



Under ***Hardware*** the system type (here: ***MAGIC SDC ETI DAB Switch***) is displayed. On the tab ***Main*** all relevant features for identification like ***Subject Number***, ***Factory Number***, ***Year***, ***Hardware Version*** as well as the ***MAC Addresses*** are displayed.

Under the ***E1 Module 1/2*** tabs you find the identification features for the E1 modules.

Under ***Features*** all available software options are listed.

Upgrade of Firmware Options

NOTE

We need the serial number (***Factory Number)*** of the system for an upgrade. Please read out the serial number **always** from the ***Registration***, since the serial number on the system label could be different.

To activate further **Firmware options** later, please enter the password, which you received from us, in the dialogue which opens when you click on the button ***Enter Password***.

FIG. 19 PASSWORD ENTRY

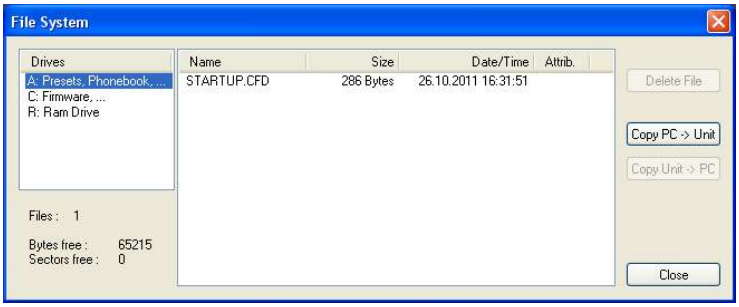
1.8.2 Submenu File System

By selecting the submenu ***File System*** the file directory of the system (similar to the harddisk of a PC) is displayed.

ATTENTION

Please do not carry out any actions under ***File System*** unless our support asked you to. All user import/export functions can be found under the menu ***File***..

FIG. 20 SUBMENU FILE SYSTEM



Via the button ***Delete File*** the currently selected file is deleted from the system.

ATTENTION

Do not delete a file unless our service told you to delete the file. Otherwise a malfunction of the system can occur.

The button ***Copy PC -> Unit*** allows you to copy a file from a PC to the system.

ATTENTION

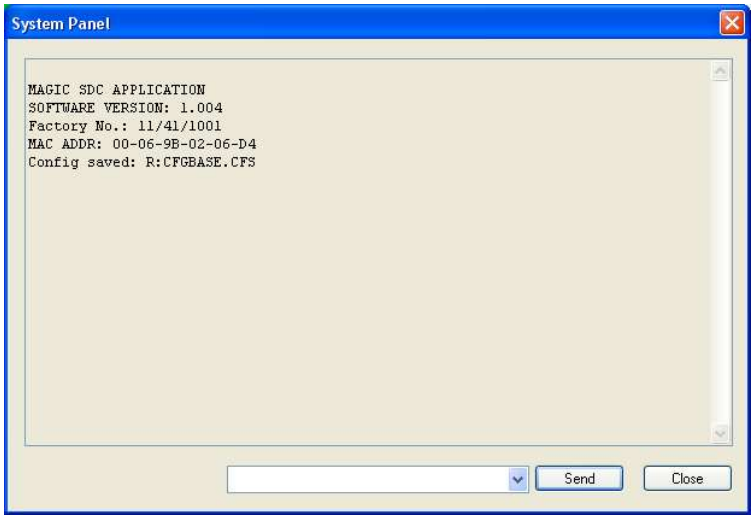
Please use only the function ***Firmware Download*** respectively the import functions in the menu ***File*** to copy files to the system.

The button ***Copy Unit -> PC*** allows you to copy a file from the system to the connected PC

1.8.3 Submenu System Panel

The ***System Panel*** is only for service purposes. Please only enter commands in the prompt, if our support ask you to do so.

FIG. 21 SUBMENU SYSTEM PANEL



1.8.4 Submenu Firmware Download

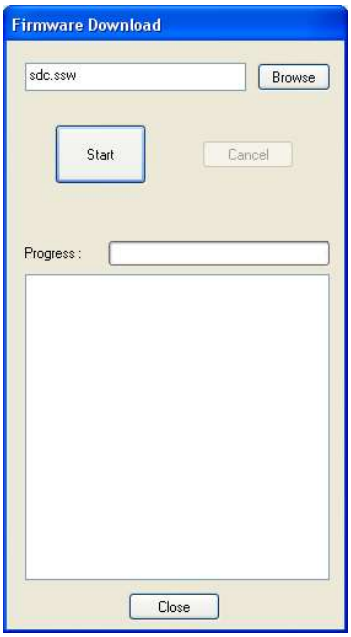
The firmware required for the *MAGIC SDC* Switch is always included in the PC software. Via the ***Firmware Download*** the firmware can be comfortably loaded on the system.

With the ***Browse*** button you select the firmware file. The file is always stored in the directory in which you installed the *MAGIC SDC* application. The standard installation directory is:

C:\Programme\MAGIC SDC

The name of the firmware file is „***sdc.ssw***".

FIG. 22 FIRMWARE DOWNLOAD



Please press the ***Start*** button to load the firmware on your system. The ***Progress*** bar shows the status of the download. After about three minutes the download will be finished. If the download had been successful, a message is displayed. After a confirmation the system executes a reset.

NOTE

If a download had been faulty, you can simply switch off the unit and then switch it on again. The new software is only written in the flash memory, if a download had been successful. Otherwise the old firmware is maintained.

1.8.5 Submenu Set Factory Settings

Via the submenu ***Factory Settings*** all settings are reset to the factory settings.

For safety reasons a confirmation is required.

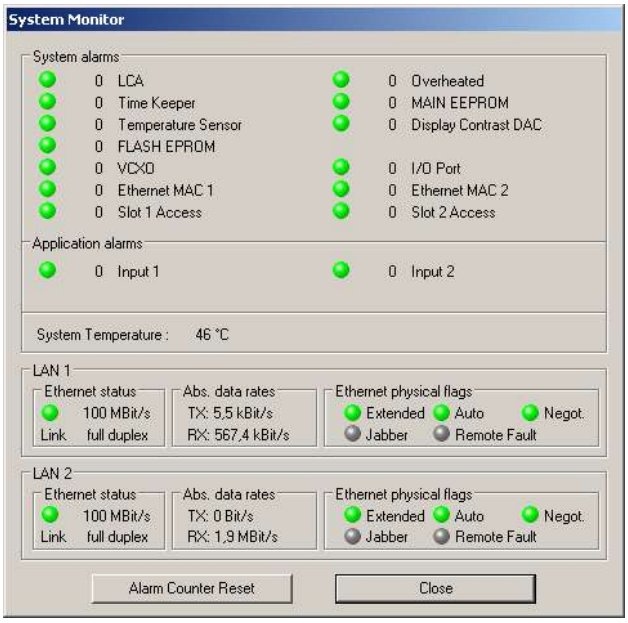
FIG. 23 CONFIRMATION TO SET FACTORY SETTINGS

1.9 Menu Extras

1.9.1 Submenu System Monitor

Via the menu ***System Monitor*** you receive all information about the status of the system.

FIG. 24 SUBMENU SYSTEM MONITOR



- Under ***System alarms*** all possible system alarms are displayed. A red LED signals a currently existing alarm. It is also displayed how often the alarm occured since the unit has been switched on. You can reset the alarm counter by pressing the ***Alarm Counter Reset*** button.

NOTE

If an alarm occurs several times or for a longer period of time, please disconnect the system from electricity. If you switch on the unit and the alarm occurs again, there is probably a hardware defect.

The following alarms are signalled:

- ***LCA (Logic Cell Array)***: FPGA error; the communication with a programmed component is faulty.
- ***Overheated***: The system sets this alarm, if the system temperature is higher than 57°C. Please disconnect the system from electricity or cool down the ambient air temperature.
- ***TIME KEEPER***: The communication with the integrated clock module is faulty.
- ***MAIN EPROM***: The communication with the permanent memory is faulty. Configurations cannot be stored or read anymore.
- ***Temperature Sensor***: The communication with the temperature sensor is faulty.
- ***Display Contrast DAC***: The communication with the display contrast DAC is faulty.

- ***FLASH EPROM***: The communication with the permanent memory is faulty. Configurations cannot be stored or read anymore.
- ***VCXO***: The communication with the voltage-controlled oscillator is faulty.
- ***I/O Port***: Currently not in use (Audio).
- ***Ethernet MAC 1***: The initialization of the ethernet module 1 has failed.
- ***Ethernet MAC 2***: The initialization of the ethernet module 2 has failed.
- ***Slot 1 Access***: The communication with the E1 interface 1 is faulty.
- ***Slot 2 Access***: The communication with the E1 interface 2is faulty.

TIP

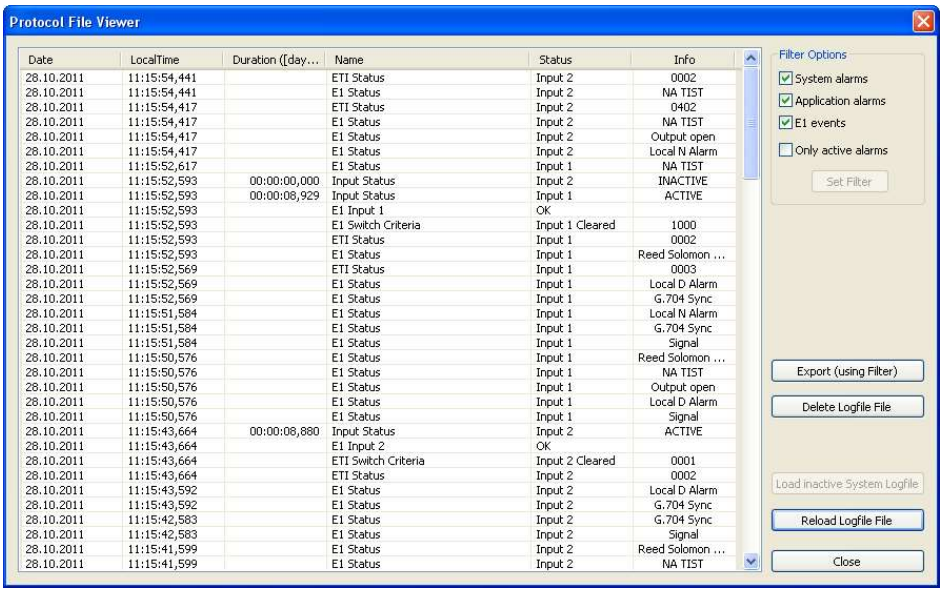
You can also configure a system alarm as relay output (see PAGE 37).

- Under ***Application alarms*** all possible application alarms are displayed. A red LED signals a currently existing alarm. It is also displayed how often the alarm occurs since the unit has been switched on. You can reset the alarm counter by pressing the ***Alarm Counter Reset*** button .
  - ***Input 1***: The E1 or EDI input signal fulfils a switching criteria
  - ***Input 2***: The E1 or EDI input signal fulfils a switching criteria
- The actual system temperature can be found under ***System Temperature***. The temperature is measured in °C. A normal system temperature lies around 30...45°C.
- Under ***Ethernet status*** you can find information about your ethernet connection.
- Under ***Abs. data rates*** the absolute data rates of your ethernet connections are displayed. TX stands for transmit direction and RX for receive direction.
- Under ***Ethernet physical flags*** the following ethernet flags are displayed:
  - ***Extended***
  - ***Auto***
  - ***Negot.***
  - ***Jabber***
  - ***Remote Fault***

1.9.2 Submenu Protocol File Viewer

Via the menu ***Protocol File Viewer*** you can display the Protocol File.

FIG. 25 PROTOCOL FILE VIEWER



In the window the alarms are listed with the following information:

- ***Date***
- ***LocalTime***
- ***Duration***
- ***Name***
- ***Status***
- ***Info***

Under ***Filter Options*** you can select which alarms and errors are to be displayed in the window. To apply your selection, please press the ***Set Filter*** button.

With the button ***Export (using Filter)*** you can export the protocol file with your selected Filter options.

With the button ***Delete Logfile File*** you can delete the protocol file of the system.

With the button ***Reload Logfile File*** you can reload the protocol file and in this way update the displayed list.

With the button ***Close*** the window will be closed.

1.10 Menu Help

1.10.1 Submenu About MAGIC SDC

In the ***About MAGIC SDC*** dialogue, you can find the software versions of the PC software (***PC Version***) and of the system (***Firmware Version***). Furthermore you can find our contact information.

FIG. 26 SUBMENU ABOUT MAGIC SDC

2 OPERATION VIA DISPLAY AND KEYPAD

In this chapter all basic configurations for the operation of the ***MAGIC SDC*** Switch via the front keypad and display are explained.

A few settings are not adjustable on the unit. All settings can also be made comfortably via the ***MAGIC SDC*** Windows PC Software included in delivery.

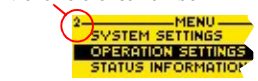
NOTE

For the details of most functions please see the PC Software description from CHAPTER 1.

2.1 Basic configuration

In the following some basic configuration of ***MAGIC SDC*** are described in detail.

Menu reference number



NOTE

All menus can be reached directly via a ***QuickMenu key*** sequence. For this purpose each menu item is marked with a number in the upper left corner (in the example on the left it is e. g. *3*). To reach a certain menu directly please enter from the main menu the key sequence *MENU* <*DIGIT*> <*DIGIT*> whereby <digit> marks the respective menu reference number. Please note that the menu reference number can change depending on the configuration.

2.1.1 Setting the menu language

In delivery status *ENGLISH* is selected as standard menu language. In order to select *GERMAN* as menu language, please follow the instructions below:

NOTE

If you are not in the main menu, please press the ☎ key first.

First press the softkey ❮ *MENU* and select *SYSTEM SETTINGS* using the softkey ❮ *SELECT*. Press the cursor key ^ once until the option *LANGUAGE* is displayed in the menu. Via the *SELECT* softkey you directly reach the options for the desired language. With the help of the cursor keys ^ and v please choose the language and press again *SELECT*.

Please confirm your entry be pressing the *OK* button or the *OK* softkey.

To get back to the main menu, please press the ☎ key. Now you are asked if you want to *SAVE SETTINGS*? Via the *YES* softkey the settings are stored permanently in the system.

NOTE

If you press *NO*, all settings that you have made are lost when the unit is switched off.

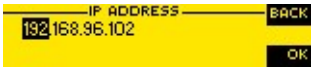
2.1.2 Configuration of the LAN interface

To configure the LAN interface follow the instructions below:

– Press the *MENU* softkey.

– Please mark the option *SYSTEM SETTINGS* via the cursor keys ^ and v and press the *SELECT* softkey.

– Use the cursor keys ^ and v to get to the option *LAN 1* or *LAN 2* and press the *SELECT* softkey.

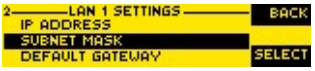


– To enter or change the IP Address of the system, mark the option *IP ADDRESS* and press the *SELECT* softkey.

– Now you can enter the correct IP Address via the numerical keypad.

– Confirm your entry by pressing the *OK* button or the softkey *OK*.

– Now press the cursor key *BACK* to get back to the menu *LAN 1* or *LAN 2*.



– Please mark the option *SUBNET MASK* via the cursor keys ^ and v and press the *SELECT* softkey.

– Now you can enter your Subnet Mask via the numerical keypad. The default value is *255.255.255.0*.

– Confirm your entry by pressing the *OK* button or the softkey *OK*.

– Now press the cursor key *BACK* to get back to the menu *LAN 1*.

– Please mark the option *DEFAULT GATEWAY* via the cursor keys ^ and v and press the *SELECT* softkey.

– Now you can enter the IP Address of your Default Gateway via the numerical keypad.

– Confirm your entry by pressing the *OK* button or the softkey *OK*.

– Now press the cursor key *BACK* to get back to the menu *LAN 1* or *LAN 2*.

– Please mark the option *UDP CTRL PORT* via the cursor keys ^ and v and press the *SELECT* softkey.

– Now you can enter the UDP Control Port via the numerical keypad.

– Confirm your entry by pressing the *OK* button or the softkey *OK*.

– Press the key to get back to the main menu. Now you are asked if you want to *SAVE SETTINGS?* . Via the *YES* softkey, the configuration is stored in the system

2.1.3 Setting the ETI format

To select the ETI format please follow the instructions below:

– First press the softkey MENU and select OPERATION SETTINGS by using the cursor keys and . Confirm your selection by pressing the softkey SELECT.

– Now select the submenu ETI FORMAT. To view the available options, please press the softkey SELECT .

– Select the desired format (ETINI, G.703 or ETINA, G.704) with the cursor keys and and confirm it by pressing the softkey SELECT.

– Confirm your entry by pressing the OK button or the softkey OK.

– To get back to the main menu please press the button. Now you are asked if you want to SAVE SETTINGS? Via the softkey YES the setting is stored permanently in the system.

2.1.4 Configuration of the NTP Server

First you need to activate NTP:

– Press the MENU softkey.

– Please mark the option SYSTEM SETTINGS via the cursor keys and and press the SELECT softkey.

– Use the cursor keys and to get to the option NTP PARAMETERS and press the SELECT softkey.

– Please mark the option NTP ACTIVATION via the cursor keys and and press the SELECT softkey.

– Confirm your entry by pressing the OK button or the softkey OK.

– Press the key to get back to the main menu. Now you are asked if you want to SAVE SETTINGS? . Via the YES softkey, the configuration is stored in the system.

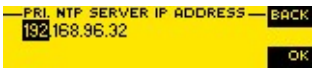
Now you can enter the IP address and the port for the primary NTP Server:

– Press the MENU softkey.

– Please mark the option SYSTEM SETTINGS via the cursor keys and and press the SELECT softkey.

– Use the cursor keys and to get to the option NTP PARAMETER and press the SELECT softkey.

– Please mark the option PRI. NTP SERVER IP ADDRESS via the cursor keys and and press the SELECT softkey.



– Now you can enter the IP Address of your primary NTP Server via the numerical keypad.

– Confirm your entry by pressing the OK button or the softkey OK.

– Now press the cursor key BACK to get back to the menu NTP PARAMETER.

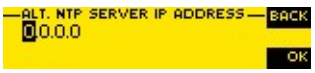
– Please mark the option *PRI. NTP SERVER PORT* via the cursor keys ^ and v and press the *SELECT* softkey.

– Now you can enter the Port Address of your primary NTP Server via the numerical keypad.

– Confirm your entry by pressing the *OK* button or the softkey *OK*.

– Press the ☎ key to get back to the main menu. Now you are asked if you want to *SAVE SETTINGS?* . Via the *YES* softkey, the configuration is stored in the system.

Additionally , you can also enter an alternative NTP Server in case the first one cannot be reached:



– Press the *MENU* softkey.

– Please mark the option *SYSTEM SETTINGS* via the cursor keys ^ and v and press the *SELECT* softkey.

– Use the cursor keys ^ and v to get to the option *NTP PARAMETER* and press the *SELECT* softkey.

– Please mark the option *ALT. NTP SERVER IP ADDRESS* via the cursor keys ^ and v and press the *SELECT* softkey.

– Now you can enter the IP Address of your primary NTP Server via the numerical keypad.

– Confirm your entry by pressing the *OK* button or the softkey *OK*.

– Now press the cursor key *BACK* to get back to the menu *NTP PARAMETER*.

– Please mark the option *ALT. NTP SERVER PORT* via the cursor keys ^ and v and press the *SELECT* softkey.

– Now you can enter the Port Address of your primary NTP Server via the numerical keypad.

– Confirm your entry by pressing the *OK* button or the softkey *OK*.

– Press the ☎ key to get back to the main menu. Now you are asked if you want to *SAVE SETTINGS?* . Via the *YES* softkey, the configuration is stored in the system.