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Getting Started: TRM System

Getting started it is easy if you bought TRM/xx system together with XML code processor. The software is preinstalled on an internal compact flash card (CF card), the system is ready to run. Refer document getting started for the first steps:

AE-STARTUP-EN.pdf

<http://terminal-systems.de/docs/ae-startup-en.pdf>

Install PC Software TRM XML Code Generator

Install PC software at your desktop

Install PC software TRM CODE GEN at your local PC system in a folder of your choice. Copy all files from the ZIP file to your local computer. Also copy folder XML SAMPLES to get several sample files with predefined XML applications.

Start the trm-code-gen.EXE software.

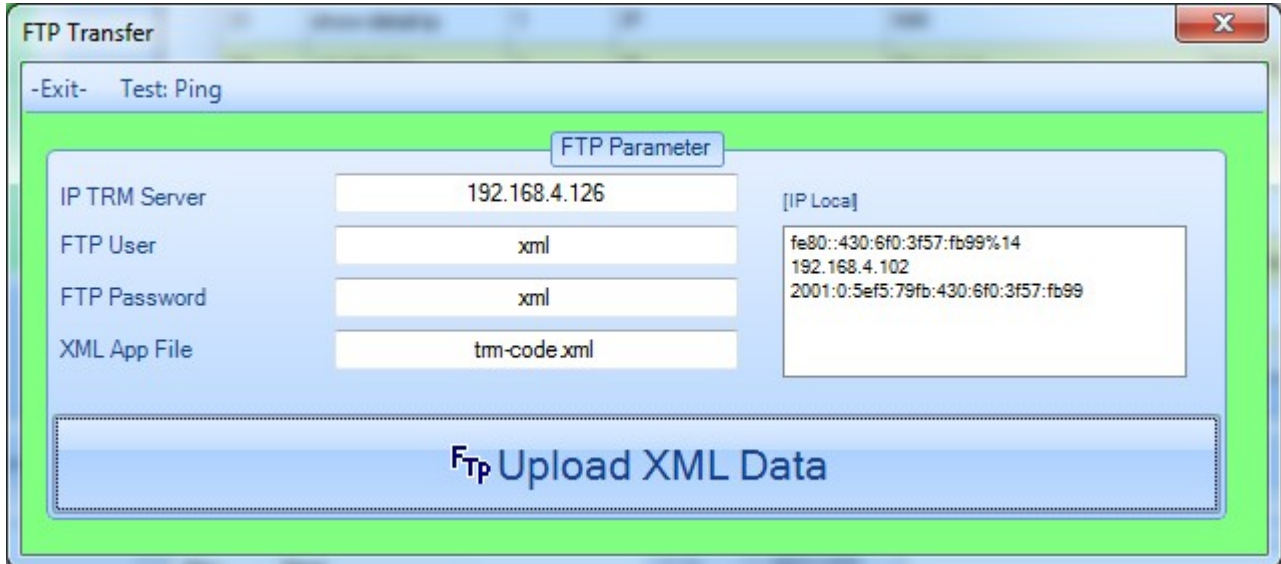
Start the EXE file with the language you prefer, use DE for german language, EN for english. Note: our software is a DOT NET software, you need the Microsoft DOT NET framework up from version 2.x (or newer) at your PC. If you do not have it, the software will not start. Please install the framework first! It is free and it is offered by Microsoft downloads!

Load a XML application sample file

We are offering a wide range for sample software to show how the XML feature works. They are stored inside samples. Open a sample XML application, e.g. the /XML SAMPLES / BasicVersion-AE, the basic file with the TRM CODE GEN

The software is easy to use and really self explaining. Try a bit to get a feeling how it works....

Use TRM SETUP / Upload XML application



This opens an internal FTP client for a fast and easy FTP upload of the XML file from your local computer to the TRM system.

Configure IP parameter of your TRM

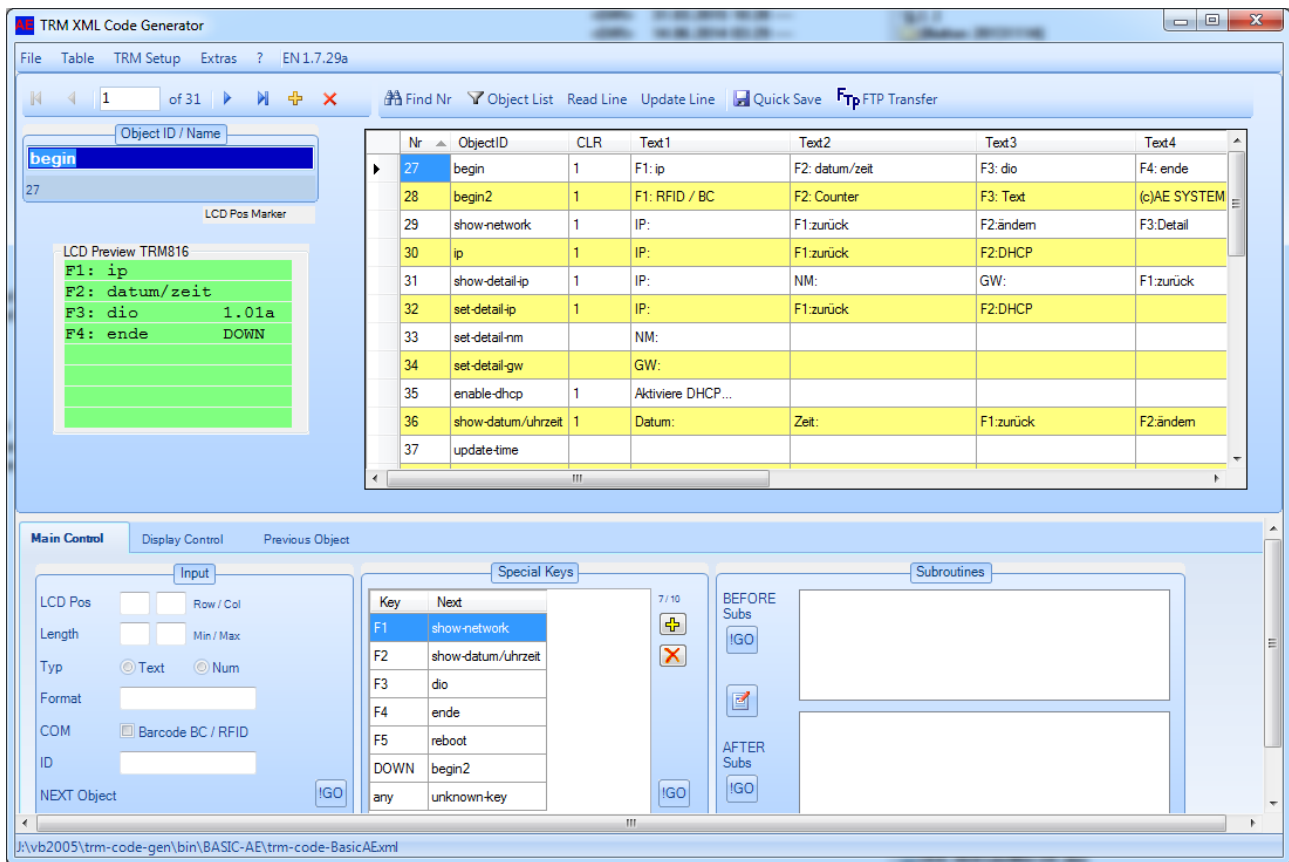
TRM and your PC has to be connected to the same network. The TRM system contains an FTP server for fast data transfer. The PC software contains an FTP client for direct communication with the TRM system. Most parameters are predefined, but you have to configure your IP network address always! Check transfer via ping!

Transfer active XML application into TRM system

TRM: exit running XML application, restart it!

You have to finish the app at the TRM system and to restart it. Because of this most of our software contains an exit point, a key how to leave the software and restart it if the user press any key.

XML Code GEN – Basics



The pc software XML TRM CODE GEN is a generator software which allows easily to create and change your XML application. With an integrated FTP client it is possible to upload the XML application into the TRM and run it there. It works with all features at one view to give you fast and good results for your efforts!

The display is divided into two parts: a table part above and a detailed panel object view below. Every line is called an object and has its own individual name. If you mark a line inside the table the inside parser will automatic parse the object line and show the details in the panels below.

In fact there are similar parts for every application on an embedded system as the TRM series:

- Display output. Some text which appears in the display
- User input when the user makes an input via keyboard for text or characters
- User menus with hotkeys, when the user press a key without any input
- Some subroutines which do helpful jobs for you, e.g. calculation, transfer and more. Result of some subroutines can be several variables.

Refer this page to get more information what works with the XML code processor.

<http://www.terminal-systems.de/xml-cp/tabelle-was-geht-e.htm>

How to define Text output in LCD

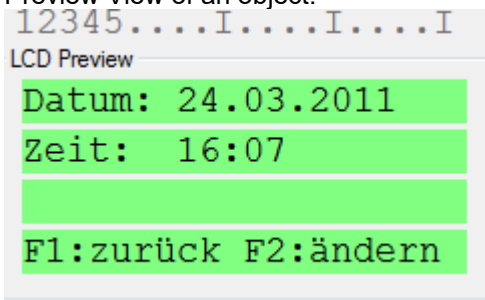
Text

CLR LCD LCD Preview

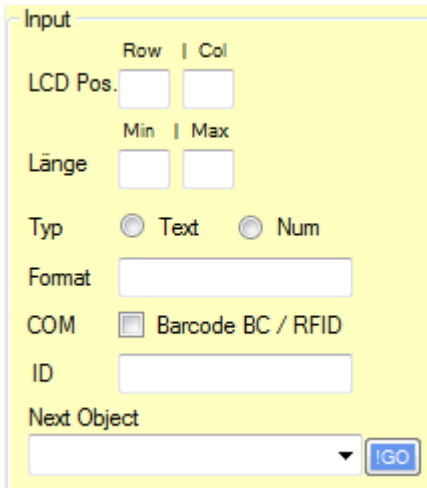
Row	Col	
1	2	F1: ip
2	2	F2: datum/zeit
3	2	F3: dio
4	2	F4: ende
4	17	DWN

Use block TEXT to define display texts. Every display text needs a start line and start position. You can check the design by pressing the PREVIEW button. Pressing preview will show the text in display simulator, so you can see how it will look at the TRM target system.

Preview View of an object:



How to get a user input from keyboard

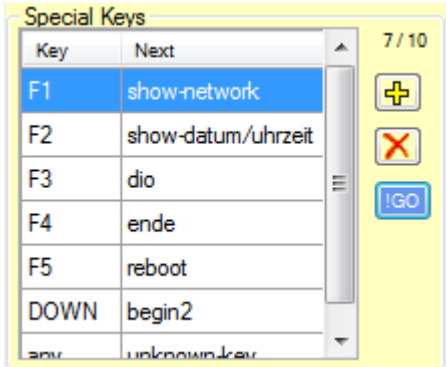


The screenshot shows a configuration window titled "Input" with a yellow background. It contains the following fields and controls:

- LCD Pos.:** Two input boxes for "Row" and "Col".
- Länge:** Two input boxes for "Min" and "Max".
- Typ:** Two radio buttons labeled "Text" and "Num".
- Format:** A text input field.
- COM:** A checkbox labeled "Barcode BC / RFID".
- ID:** A text input field.
- Next Object:** A dropdown menu with a blue "GO" button to its right.

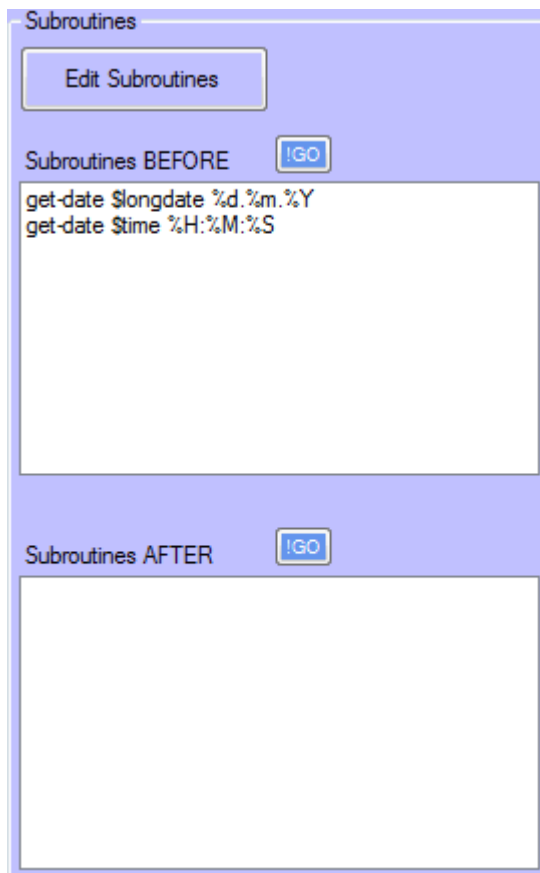
Use block INPUT for a user input from keyboard. A user input needs a mask e.g. _____ at the position where the user has to input characters or numbers. Specify the LCD position where the mask / the user input is allowed. Specify the Length and the input type (text + numeric or numeric only). After this the system will build a input mask automatically. You can change this with various submasks, e.g. __:__ for a time or others. COM is a special parameter which allows also serial RS232 communication – instead the user input via keyboard. ID is the variable name where the input will be saved and NEXT Object is the name of the object which is next if the user input is finished.

How to make a user menu (without input) or using special keys



Special keys are keys which allows something without a user input. Maybe it is an exit key or a program jump somewhere else in the XML application. Use the block SPECIAL KEYS for defining special keys inside your XML applicaton.

How to use subroutines



Subroutines are small helpful ghosts we create for you. Every linux programmer can create own subroutines for the TRM XML code processor. It is small linux programm with defined interfaces to the XML application. See template subroutine at XML CP CD for details how to make an own subroutine.

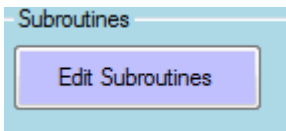
For often used processes we are offering a wide field of existing subroutines e.g.

- Mathematic and variable working
- Digital IN / OUT
- Digital Counters (if the hardware supports this)
- Date / time processing
- System / hardware configuration e.g. IP and network
- Special network communication e.g. sending a file via UDP port
- Working with files and lists (read data, write data...)
- SQL database communication with clients for Microsoft SQL server and mySQL server

If you miss a subroutines, you can add your own subroutine to the XML CP, or ask our programmers for a new subroutine of your wish.

Every subroutine contains its own format how to start and what the result is. See CD ROM XML CODE PROCESSOR, folder / DOC for a detailed information how a subroutines works, about parameters and results.

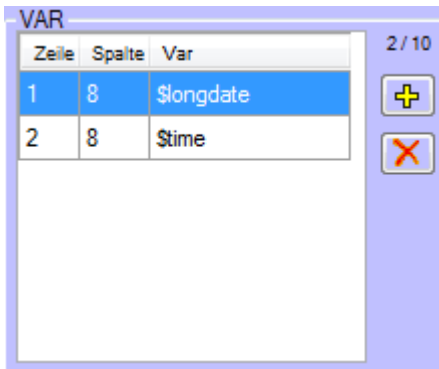
Inside PC software you can work with 2x10 subrutines for every object. We call them BEFORE and AFTER subroutines. A BEFORE subroutine will be executed before an user input, an AFTER subroutine will be excecuted after an user input.



Use button EDIT SUBROUTINES inside PC application to get a new form with existing subroutines and for using them inside your object.

How to use variables

Nothing to write here – only 2 things: first of all you can use variables without defining them. It is the work of the subroutines to convert them as good format. (For programmers: See them as string!). Second: variables contains values, maybe a user input, maybe the result of a subroutine. You can show the values of a variable inside the display. Use the VAR block for this job.

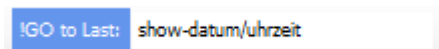


Zeile	Spalte	Var
1	8	\$longdate
2	8	\$time

Simulate XML application at your PC

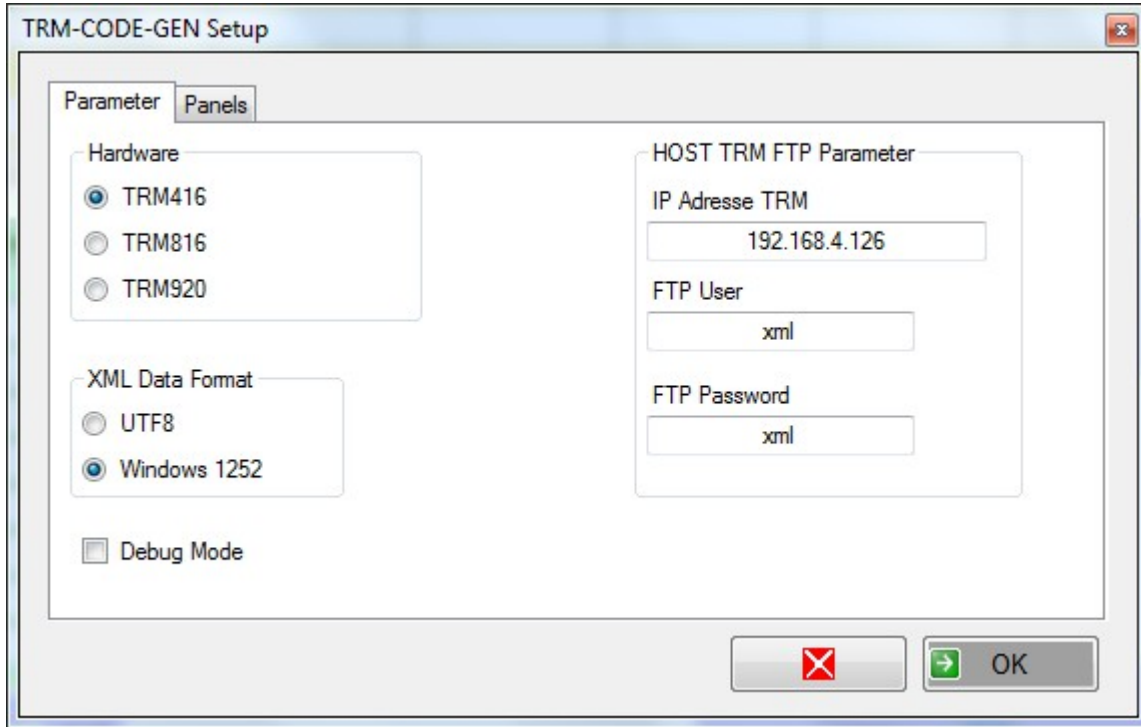


Use the small blue GO buttons all over the form for a simulation jump into specified NEXT OBJECT module. Next objects can be inside the input block, in the special keys (mark your favourite key before pressing GO) or inside the subroutine blocks (mark your favourite line before pressing GO). The simulator inside the PC software TRM CODE GEN will work as TRM and will start a new object and create display output if possible. It is very helpful to simulate the software before FTP upload into a TRM system.



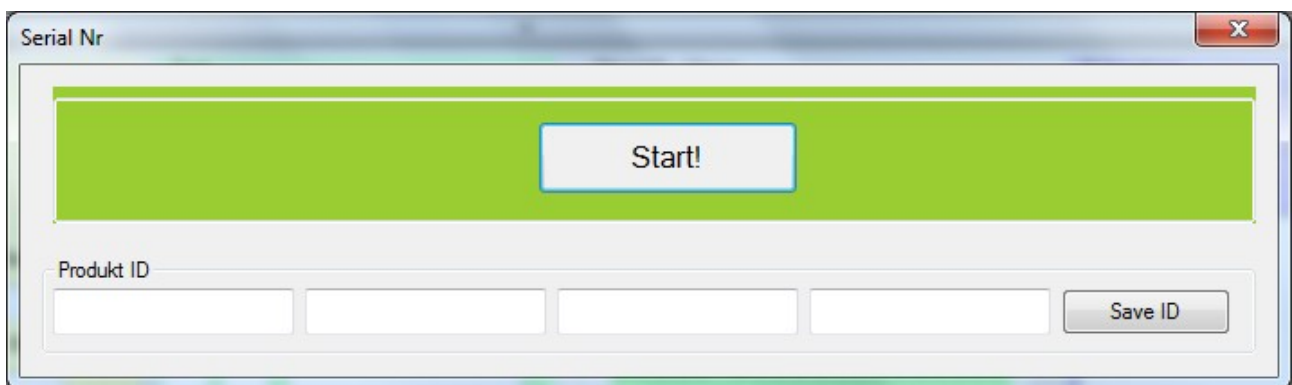
If you want to simulate backwards, use the !GO to last block.

TRM CODE GEN Setup



Choose the type of hardware you want to configure! Also specify the IP adress of the TRM system. All the other values can be unchanged!

TRM Code GEN Demo Version



You will find latest version of the PC software TRM CODE GEN for Windows inside our support center. You can download it. If you do not have bought a serial number the software will start in demo mode. Demo mode is restricted with some details. To change demo version into full version please input your serial number and the software will work as full version.

Basic Definitions

1) The name of the XML configuration file inside TRM/xx has to be "trm-code.xml" always!

It does not matter how you name the XML configuration file on your PC - but if it is in TRM/xx the code processor looks and starts a file named TRM-CODE.XML.

2) The configuration file is always on the compact flash card in TRM/xx (CF card).

Buying a TRM/xx with XML code processor indicates you have an installed compact flash card CF card inside the system. We will do this for you.

3) The CF card is mounted as /mnt/cf. FTP User Access is possible with user xml and password xml.

4) After changing your XML application, download it into the TRM and restart XML code processor

5) Integrate an exit in every XML application for exit and restarting the XML code processor

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All given information without any warrantys. Technical changes are possible. Pictures show samples.
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