

TestManager **CE**



(**C**lassic **E**dition)

Wir setzen Maßstäbe
mit Messtechnologie.

 Messtechnologie bis ins Detail

11/2005

Installation

Starting with MCD TestManager CE

Please follow the steps below to install the program.

1. Insert the MCD TestManager CE CD

- If the setup does not start automatically, you need to start it manually by opening the CD in Windows ® Explorer.

2. Follow the steps shown on your screen

- select .NET Framework install
- Click „TestManager CE“ install
(If any installation problems should occur, please read data file „Readme.txt on your CD)
- Select installation options and determine the installation directory

3. After installation is complete

- The password for Administrator is „Admin“. You can change the password in Menu (Intern/Password).

MCD Messtechnologie bis ins Detail

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What is the TestManager?

The TestManager...

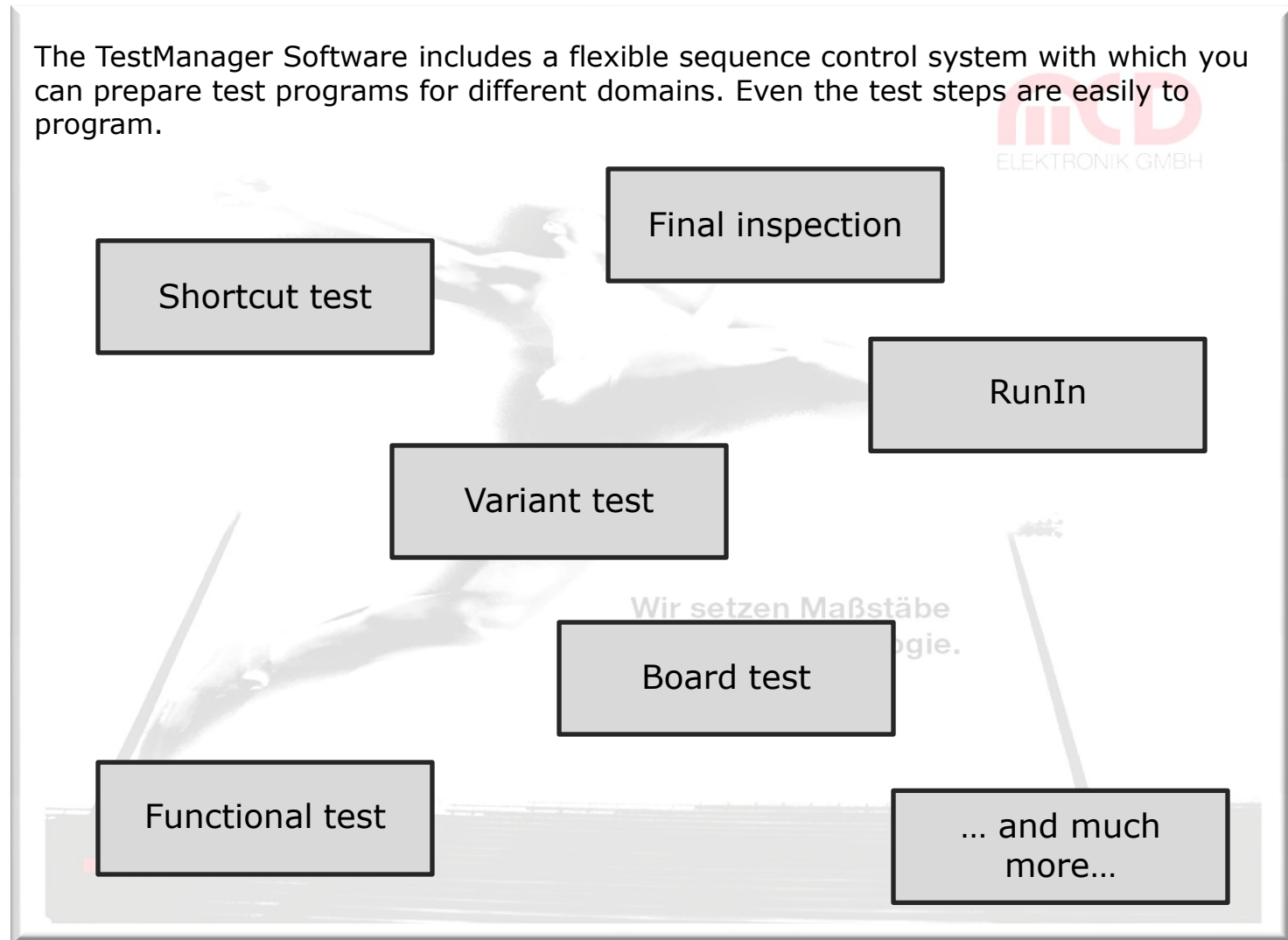
- is a software developing package for the design of application for the test systems.
- is used for endurance, board, final inspection, testing and process control.
- offer the generating of portable systems and sequences.
- contains a Graphical User Interface (GUI).
- includes a multiplicity of ports (IEEE-488, RS-232, TCP/IP,...).
- has an interpreter with connecting to: DLLs, COM, ActiveX, .NET assemblies.
- has a modular concept and supports new technologies (LINBus, .NET, ...).
- runs on a PC with Windows ® 2000/XP.
- is upgradeable based on customer specific needs.

Messtechnologie bis ins Detail

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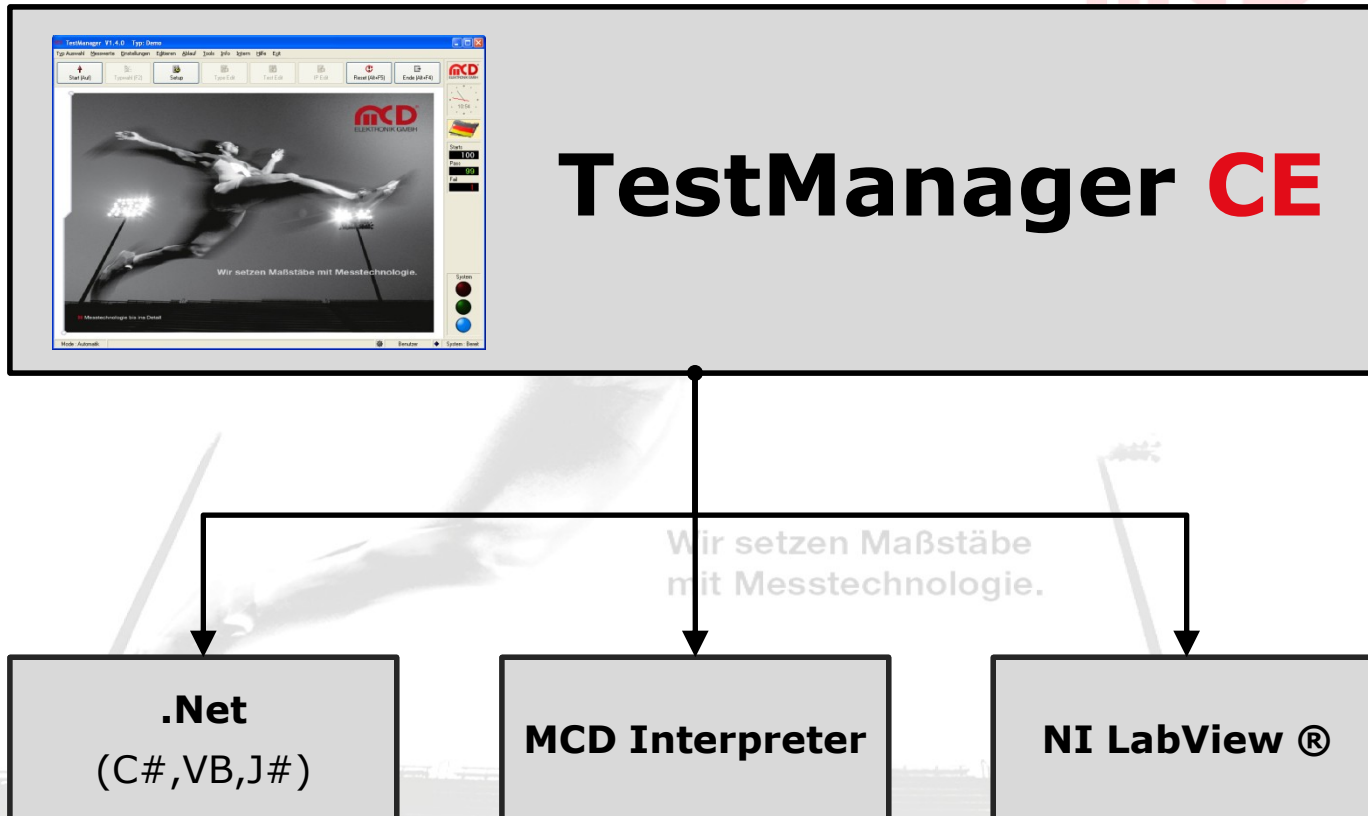
Application

The TestManager Software includes a flexible sequence control system with which you can prepare test programs for different domains. Even the test steps are easily to program.



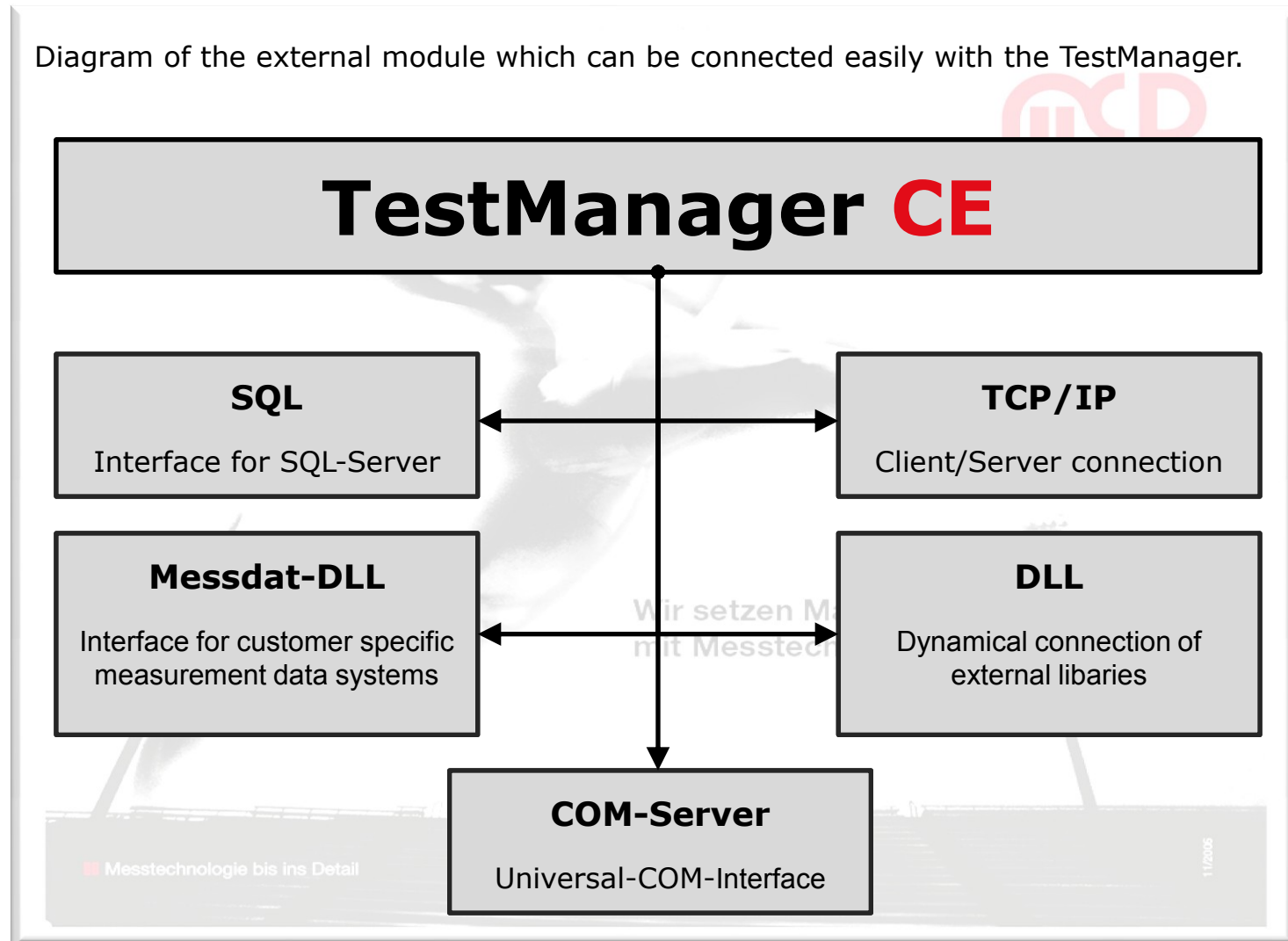
Software platforms

The TestManager offers a variety of software platforms to the programmer.



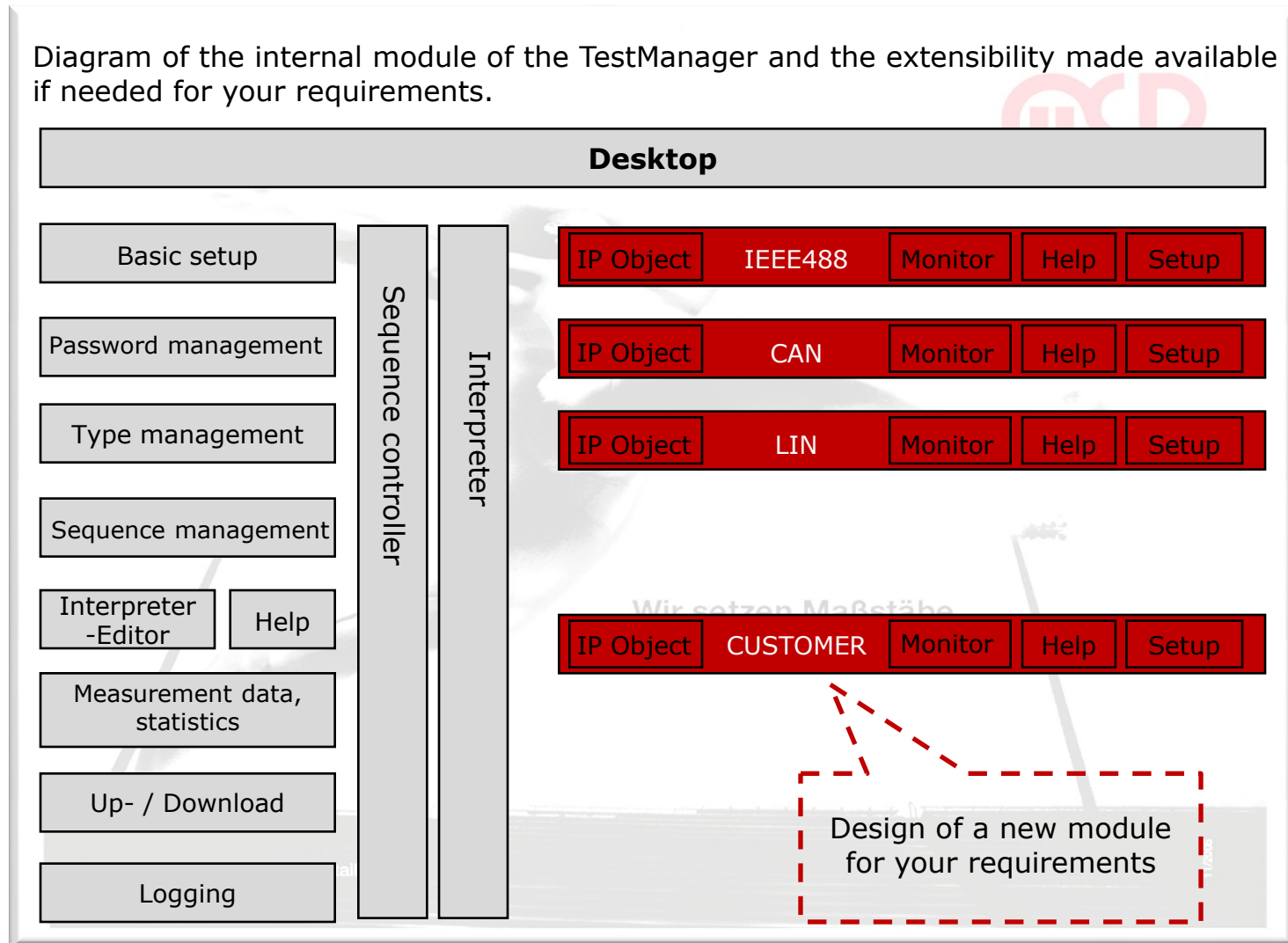
Modularity (external)

Diagram of the external module which can be connected easily with the TestManager.

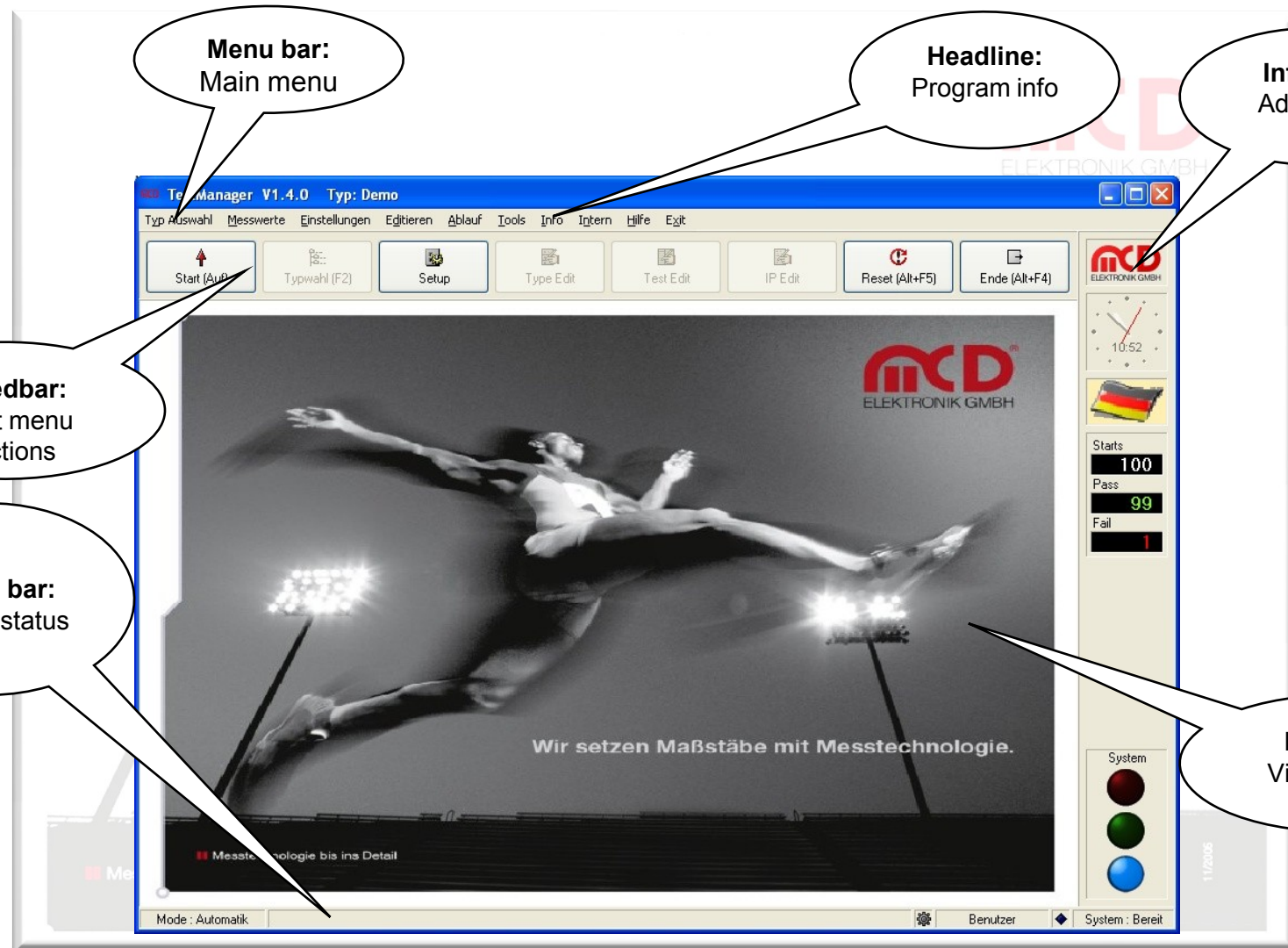


Modularity (internal)

Diagram of the internal module of the TestManager and the extensibility made available if needed for your requirements.



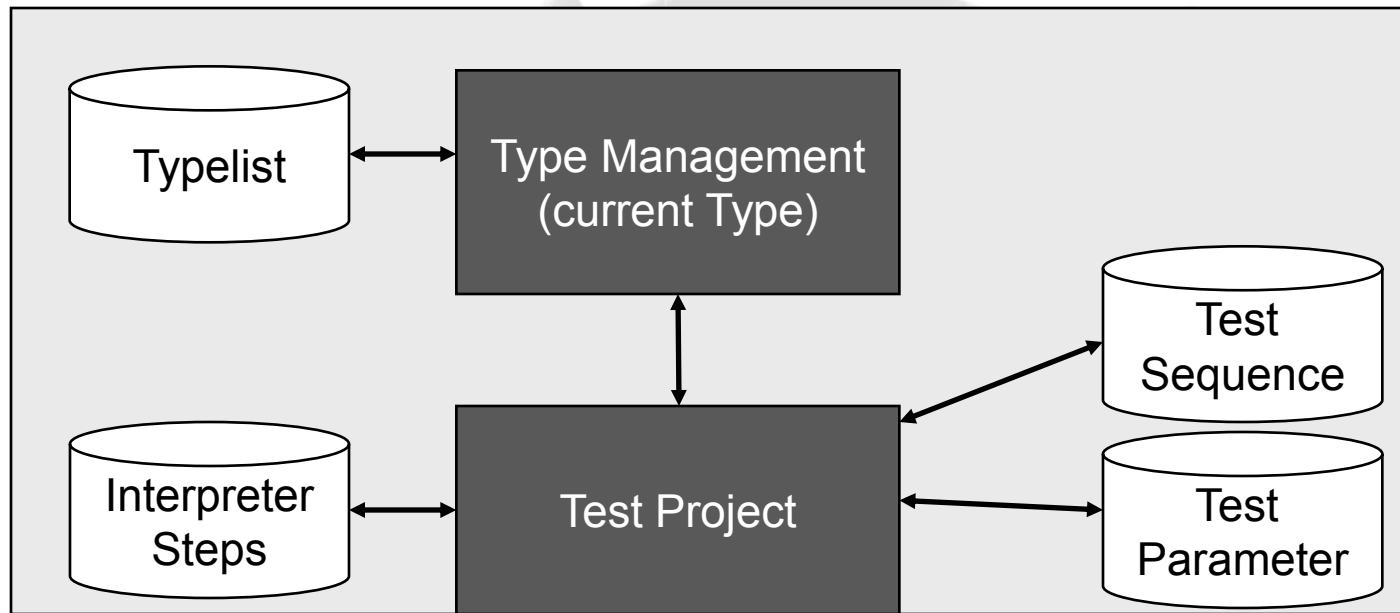
Application development system



Project

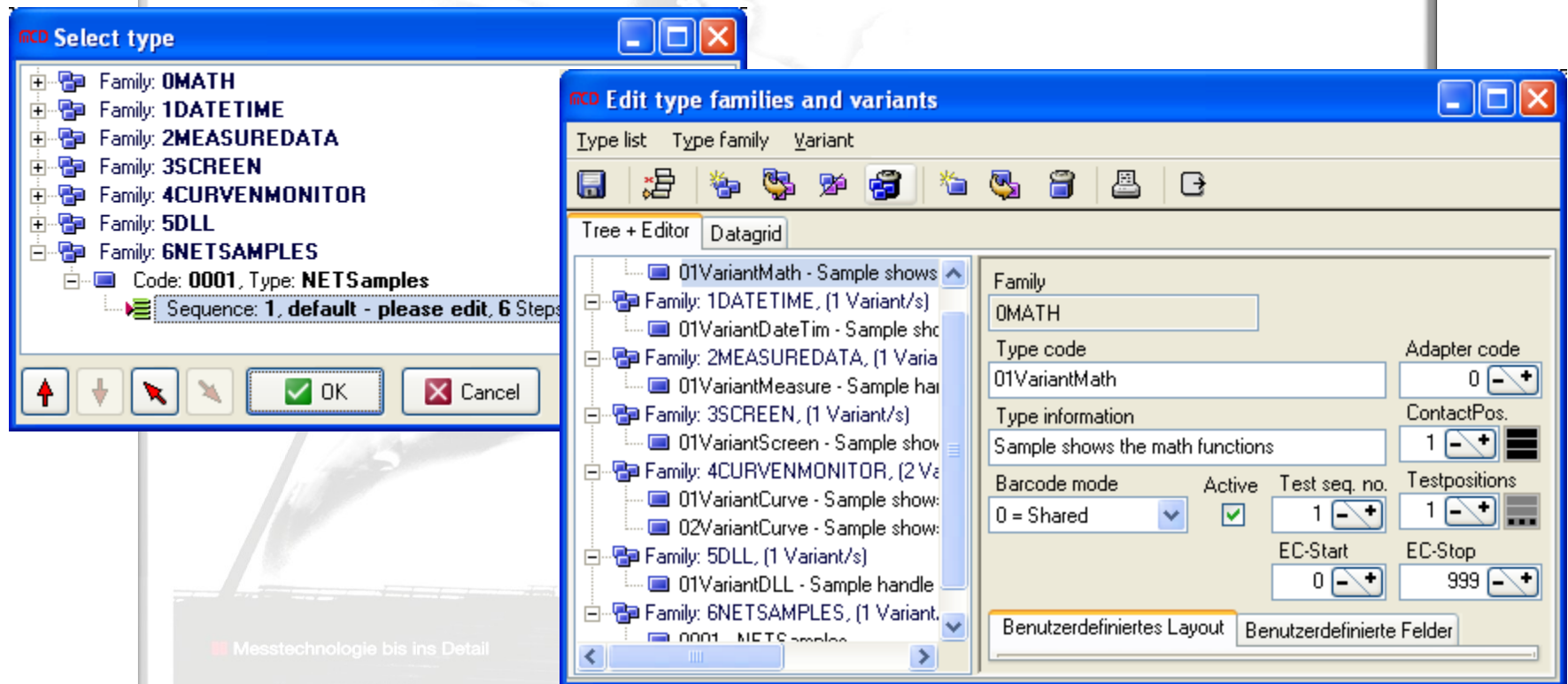
Specifying a Test project and its data:

- The Type-Management manages data for the selected test item type.
- The different types are managed in the type menu
- During the test the order and branching of the to be performed test steps is defined
- The test parameter includes the settings (Threshold, Units,...) of every test step.
- The interpreter steps are single test steps, which are stored in their own editable data.



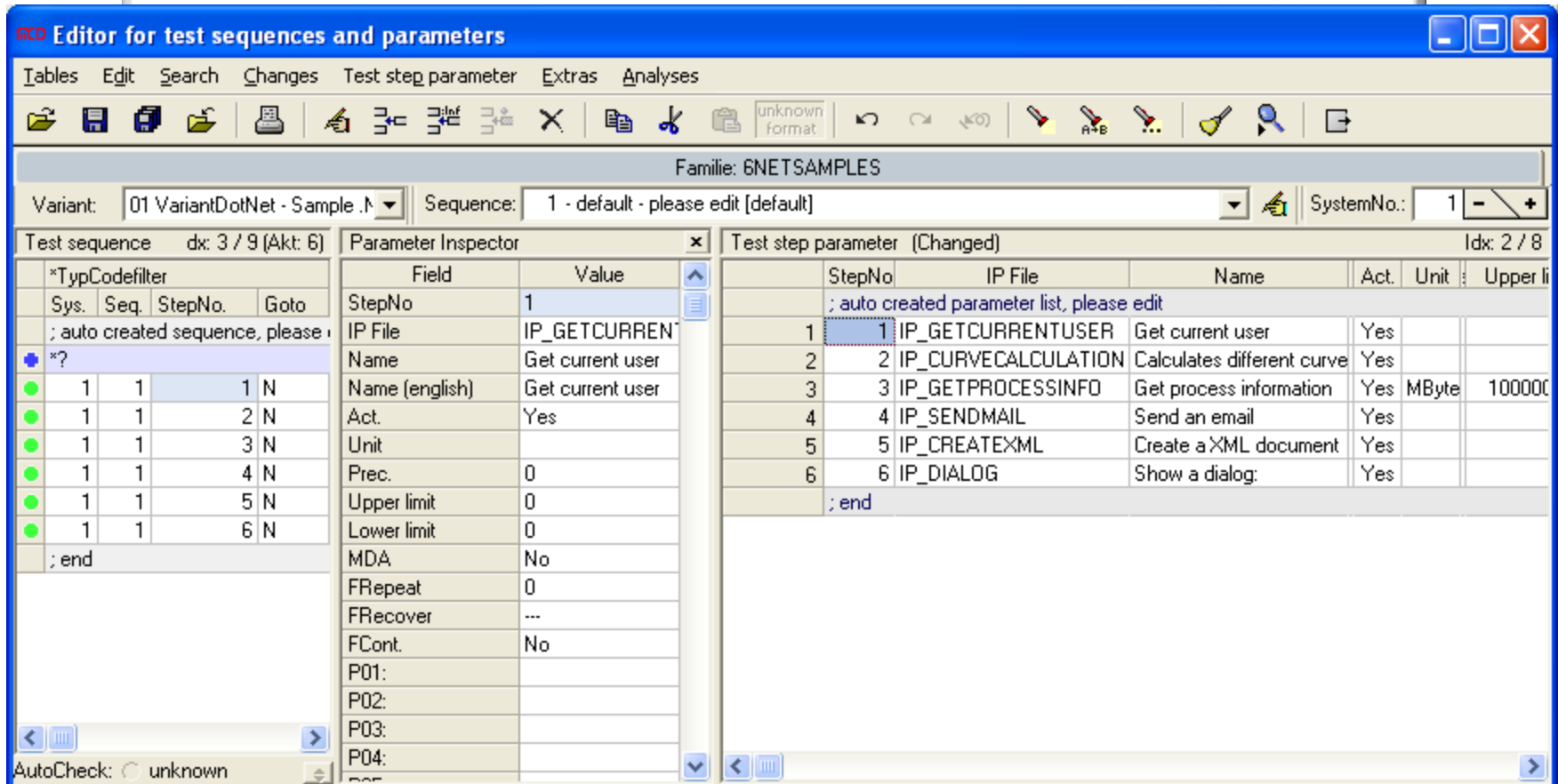
Project - Administration

In the project administration tool single types of test items can be created and parameterized. Should the number of types be too great, they can be summarized to type families within the same type of testing. With this the administration tool work steps can be reduced to a minimum.



Project - Editors

The Project editors allow for a comfortable design and administration of the test development and its parameters. All data is available in an open data format and can be conveyed over to different projects.



The screenshot shows the 'MCD Editor for test sequences and parameters' window. The interface includes a menu bar (Tables, Edit, Search, Changes, Test step parameter, Extras, Analyses), a toolbar with various icons, and a main workspace divided into several panes.

Variant: 01 VariantDotNet - Sample... **Sequence:** 1 - default - please edit [default] **SystemNo.:** 1

Test sequence dx: 3 / 9 (Akt: 6)

*TypCodefilter	Sys.	Seq.	StepNo.	Goto
; auto created sequence, please				
*?				
1	1	1	1	N
1	1	1	2	N
1	1	1	3	N
1	1	1	4	N
1	1	1	5	N
1	1	1	6	N
; end				

Parameter Inspector

Field	Value
StepNo	1
IP File	IP_GETCURRENT
Name	Get current user
Name (english)	Get current user
Act.	Yes
Unit	
Prec.	0
Upper limit	0
Lower limit	0
MDA	No
FRRepeat	0
FRrecover	---
FCont.	No
P01:	
P02:	
P03:	
P04:	

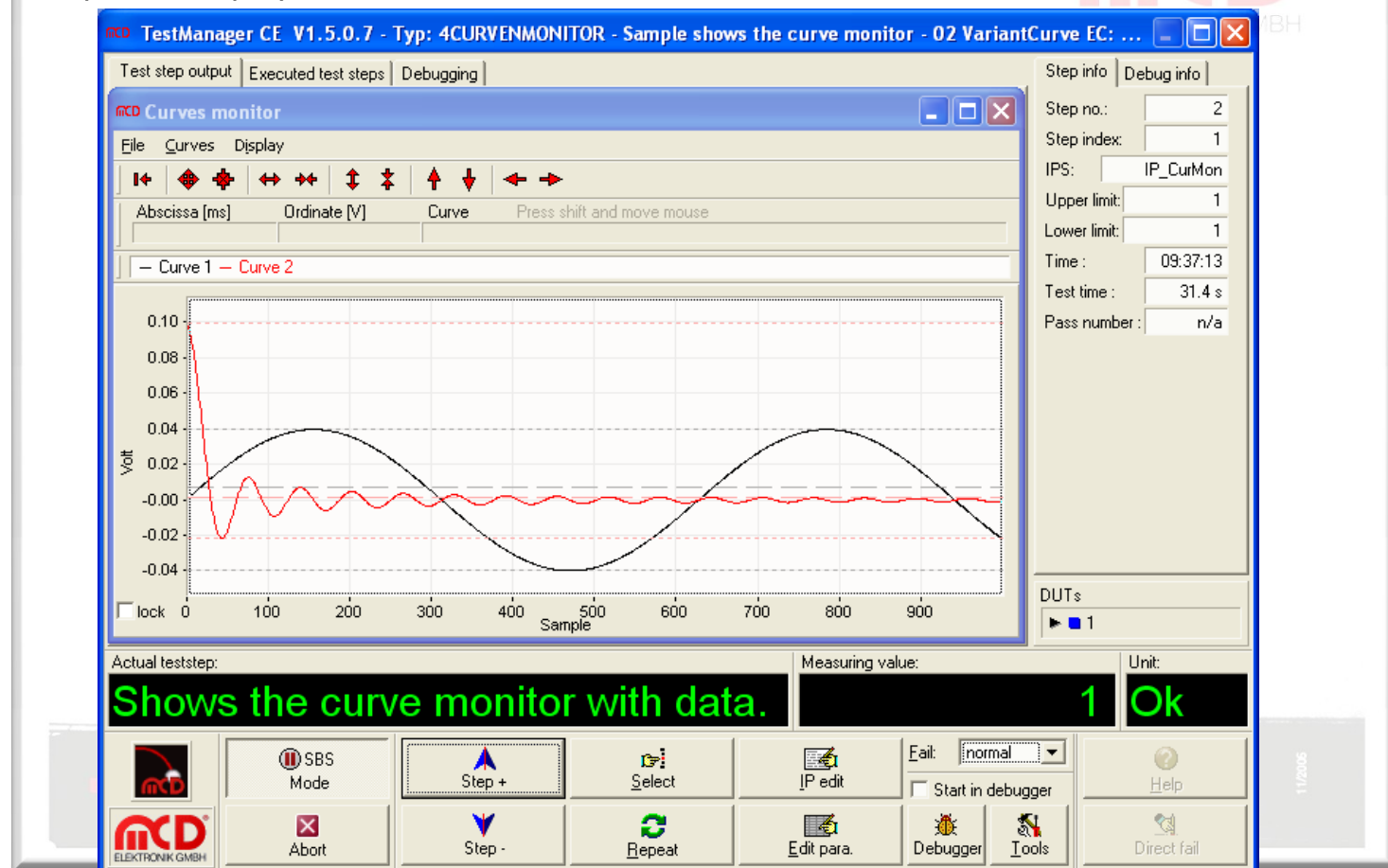
Test step parameter (Changed) Idx: 2 / 8

StepNo	IP File	Name	Act.	Unit	Upper li
; auto created parameter list, please edit					
1	1 IP_GETCURRENTUSER	Get current user	Yes		
2	2 IP_CURVECALCULATION	Calculates different curve	Yes		
3	3 IP_GETPROCESSINFO	Get process information	Yes	MByte	100000
4	4 IP_SENDEMAIL	Send an email	Yes		
5	5 IP_CREATEXML	Create a XML document	Yes		
6	6 IP_DIALOG	Show a dialog:	Yes		
; end					

AutoCheck: unknown

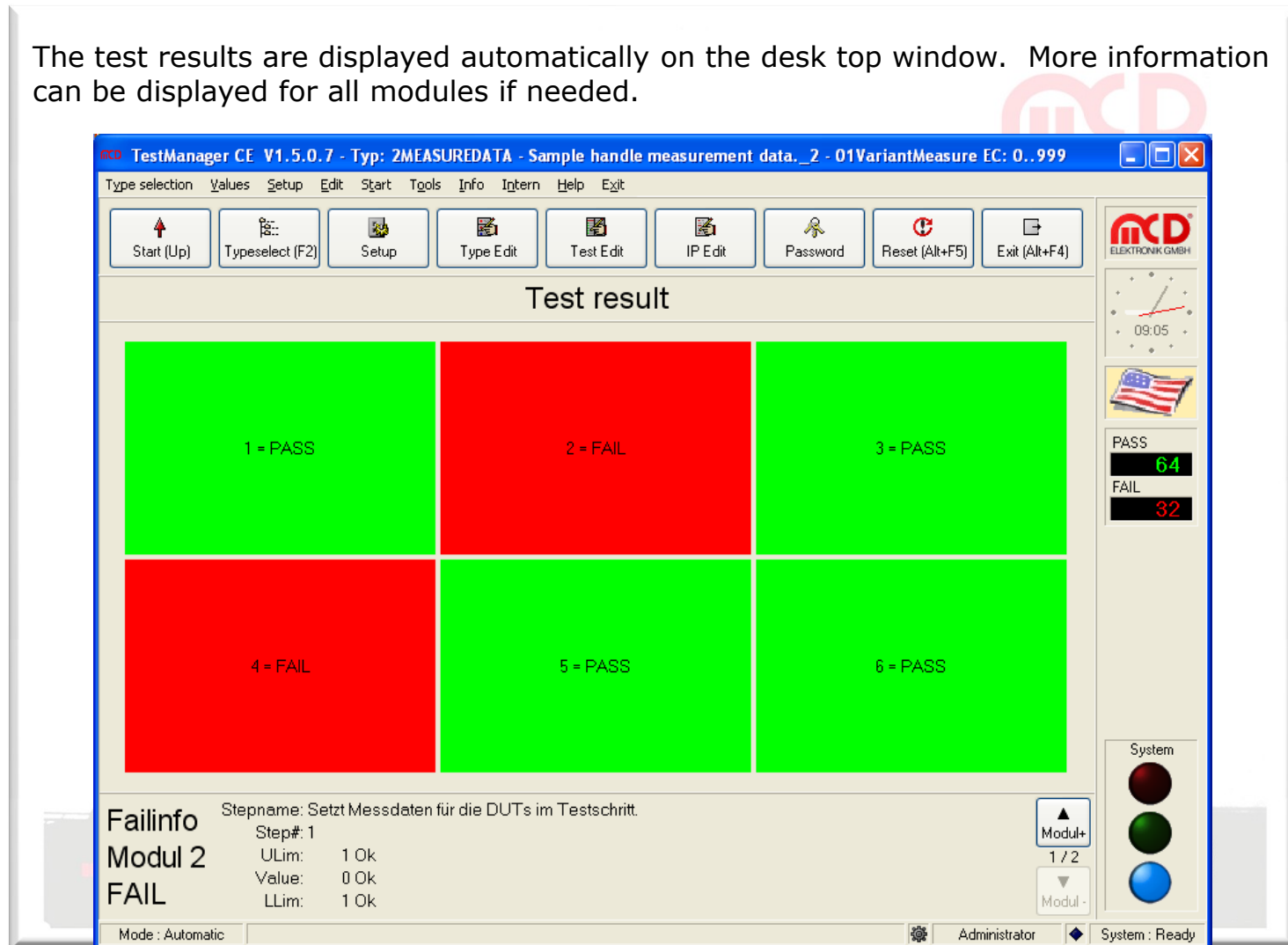
Test Window

The test window controls and displays test developments. From here every test step can be modified and be tested. The measurement results and all parameters of the test steps are displayed on the window.



Display of test results

The test results are displayed automatically on the desk top window. More information can be displayed for all modules if needed.



Interpreter Specification

The interpreter carries out the interpreter steps. Interpreter steps is text data which can be designed and edited by the user. From the interpreter steps you can have access to the entire system. The following list contains a short summary of the interpreter features:

Interpreter

- Developing test steps
- Special steps for the development control
- Integrated syntax testing with error indicator
- Parameter for threshold, units, ...
- Modification of test steps during development
- Integrated debugger
- Simple programming language
- Extensive object library

Editor for test steps

- Cut - Copy - Paste - Delete
- Development of own libraries
- Syntax-help
- Context-Help for syntax
- Example for all Objects

Control structures

- If - Else
- Select - Case
- For - Next
- Repeat - Until
- Do - While
- Exit

Date types

- Double, String
- Variants, Arrays, Vectors

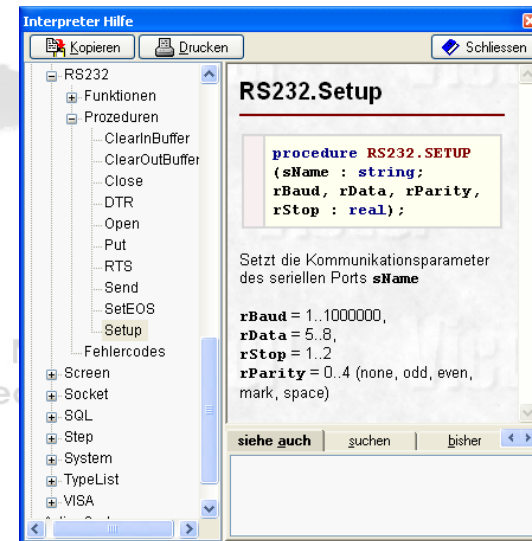
Source Level Debugging

- Step Into/Over/Out (Single step)
- Breakpoints
- Modification of variables and parameters
- Reset
- Abort

IP Objects

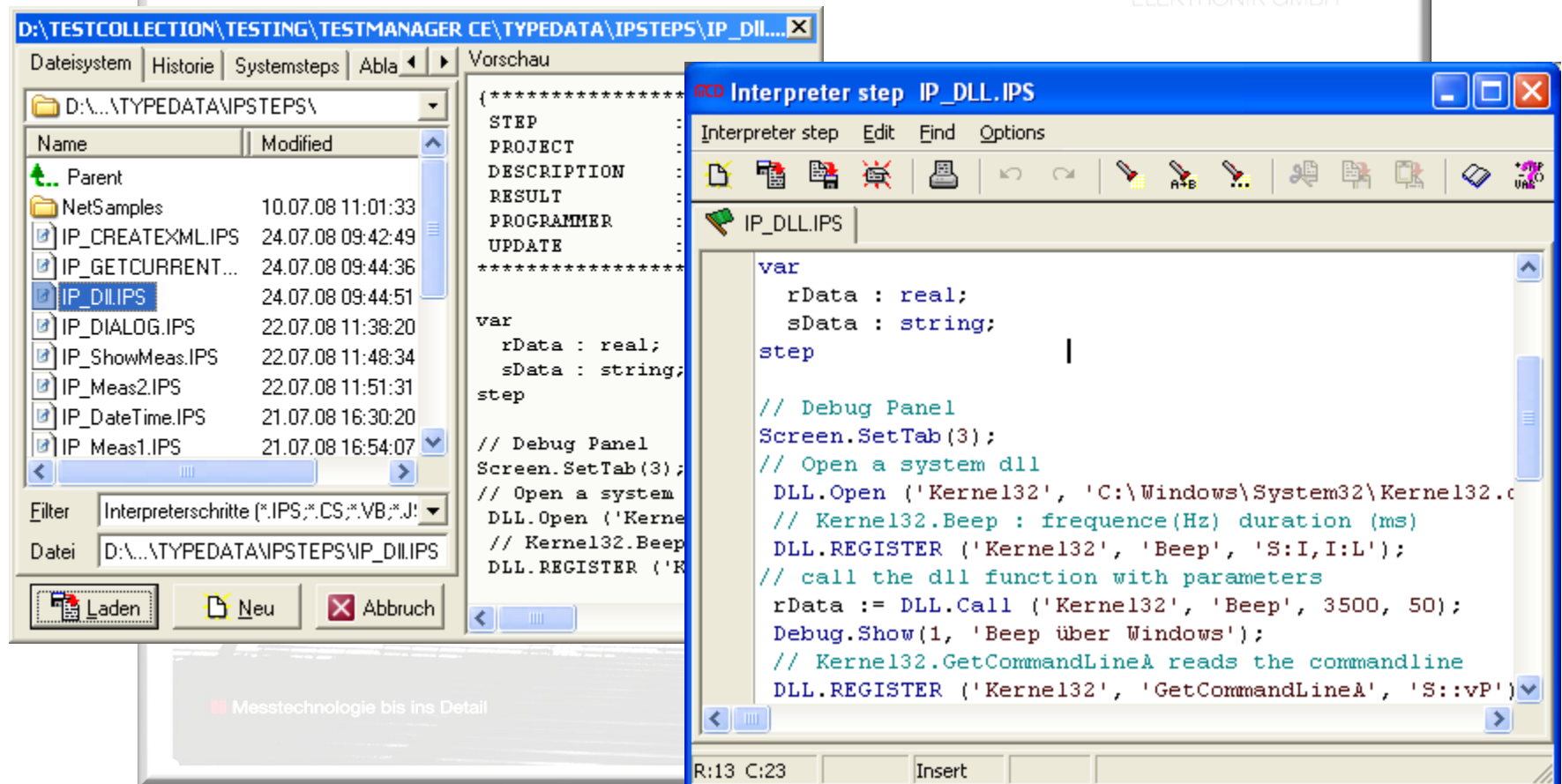
The Interpreter Objects tool contains an extensive collection of functions, classified by range of application. With every program update the number of functions and objects increases. Detailed help with applicable examples simplifies using the Interpreter.

Domain	Object
System, Test, Calibration	AutoRun, Calibartion, ContactUnit, RegForm, Step, System, TypeList
Hardware	DigIn, DigOut, ExacqDA, IMEAS, PIOCARD, MUX, NFGGen, ADC, PCF8574, RCMeas, RNet, DAC,
Communication	CAN, I2C, IEEE488, KW2000, LIN, RS232, SerIO, Sockets
General	Math, DateTime, GlobalVar, Strings
File access	File, HexFile, IniFile
Input	Keyboard, KeyScanner, RegForm
Output	Screen, Printer
Debug, Logging	Debug, Log
Measurement data, data base	MeasData, SQL
Curve analyse	Curve
DLL,COM-Access	DLL, COM
Shortcut test	ShortCircuit



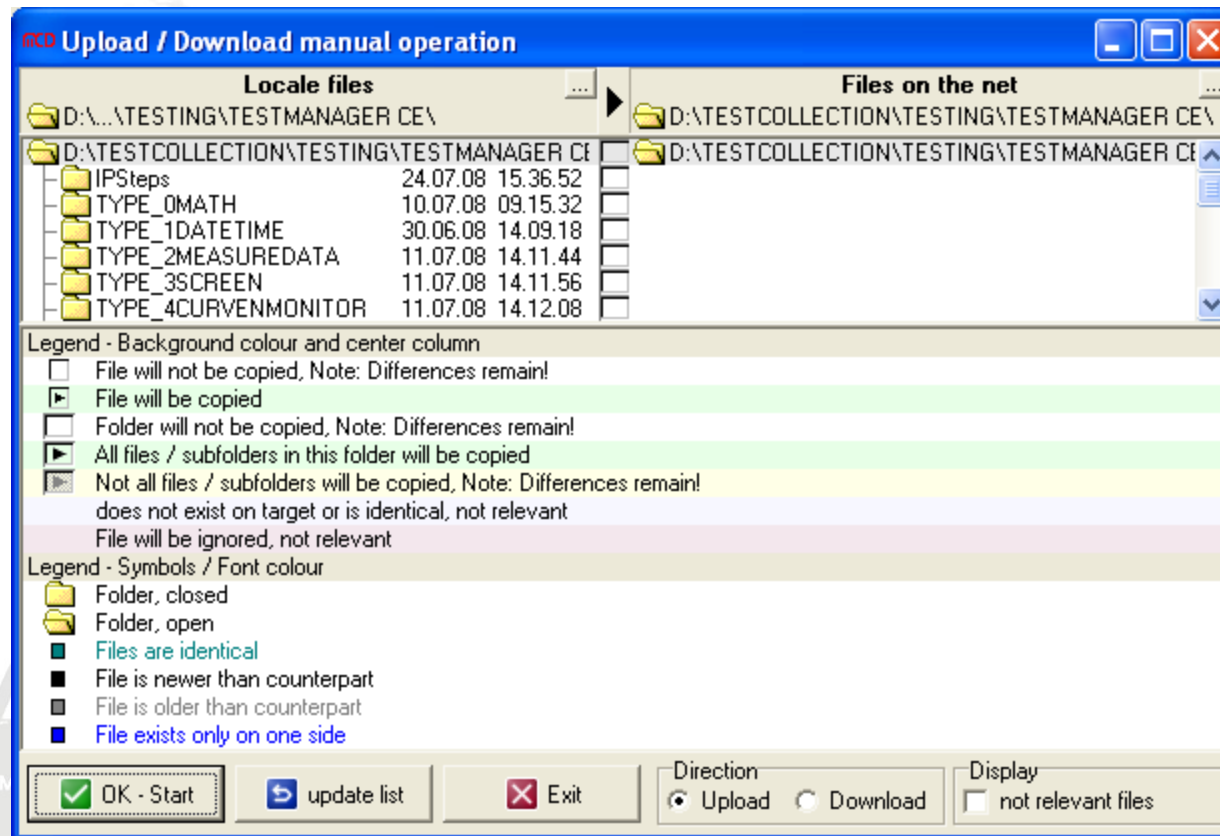
IP Editor

The steps can be easily generated, arranged, and tested with the Interpreter Editor. A large variety of tools (Syntax control, Search functions, ...) are available. All data is stored in text format.



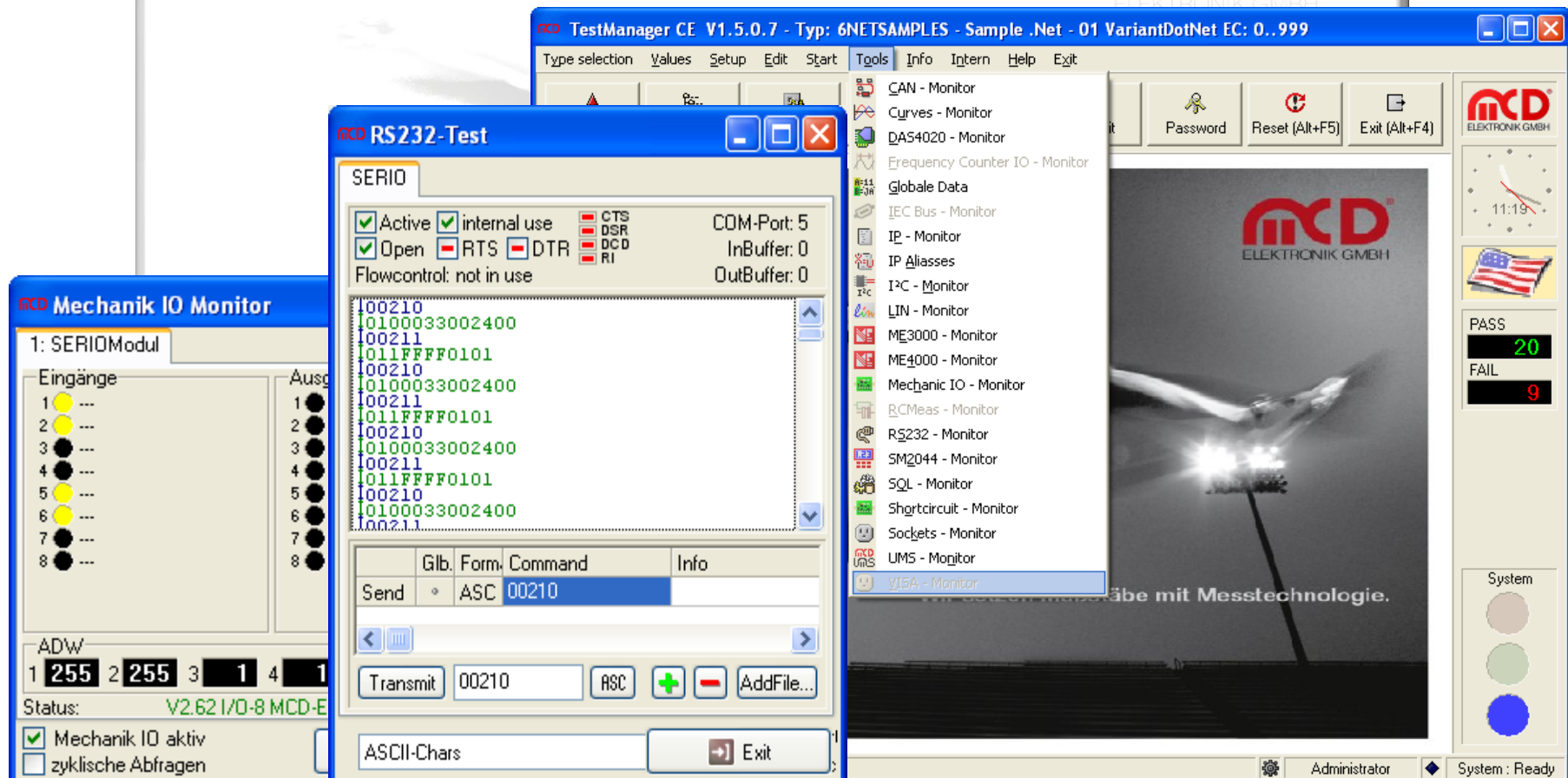
Upload / Download

The Upload/Download module assures that the same test data is used on multiple test stations. All test stations are matching up the type data and compare it to a set of type data located in a central reference file on the network. Several setting options are available in order to match your specific processing needs.



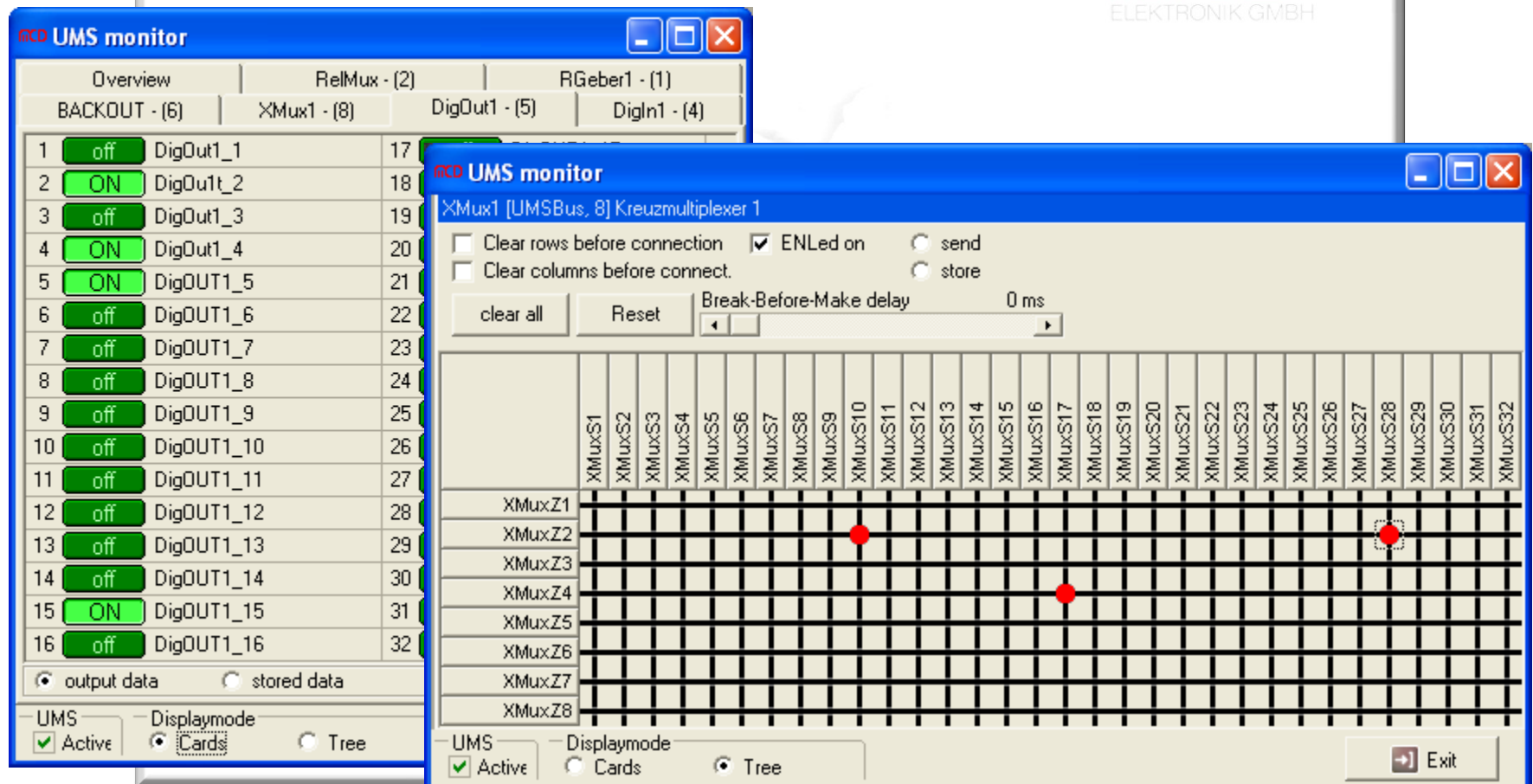
Tool Monitor

The Tool Monitor fades in an additional window for every module activated in "Set Up". These windows display specific settings in a clearly arranged graphic format. The parameters can be modified immediately for testing purposes and optimization.



UMS Monitor

The UMS Monitor fades in a new window for each card defined in the system. These windows display specific settings in a clearly arranged graphic format. The parameter can be modified immediately for testing purposes and optimization.

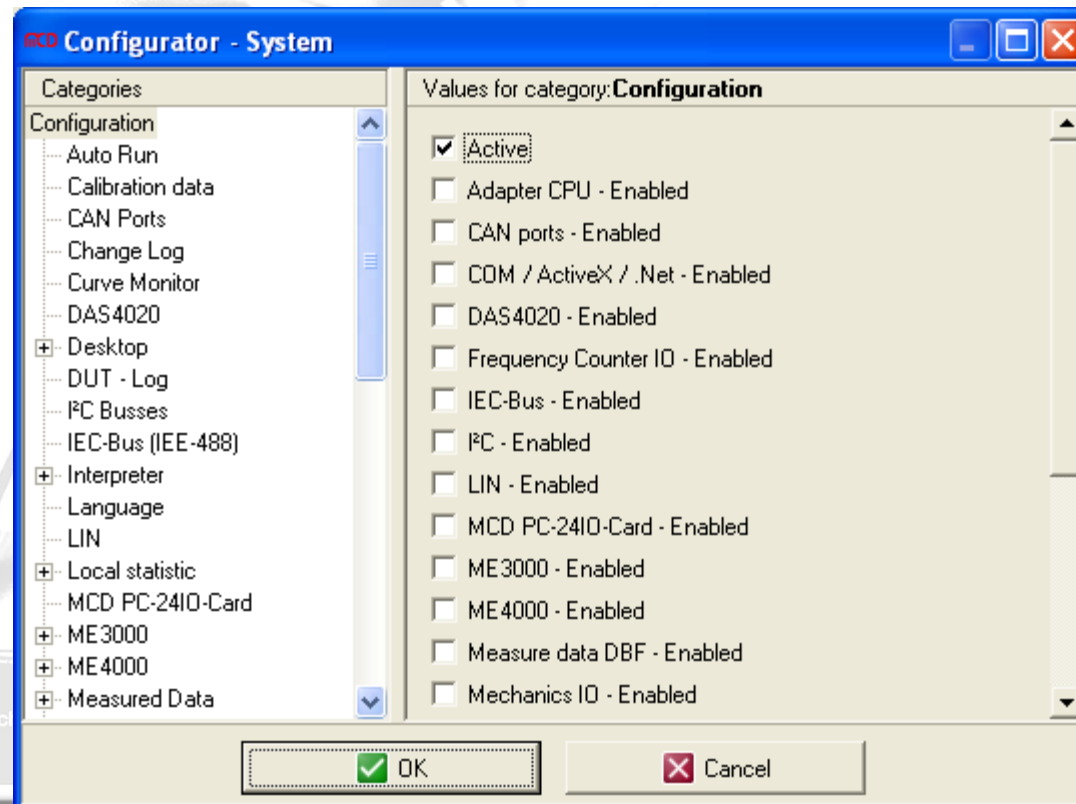


The screenshot displays the UMS Monitor software interface. The main window, titled "UMS monitor", shows a list of digital outputs (DigOut1_1 to DigOut1_16) with their current status (off or ON) and a corresponding "BACKOUT" button. Below this list, there are options for "output data" (selected) and "stored data", and a "Displaymode" section with "Cards" selected.

A secondary window, also titled "UMS monitor", is open, showing the configuration for "XMux1 [UMSBus, 8] Kreuzmultiplexer 1". This window includes checkboxes for "Clear rows before connection" and "Clear columns before connect", a "Break-Before-Make delay" set to 0 ms, and a "Reset" button. The main area of this window is a grid showing the connection status between XMuxS1 to XMuxS32 and XMuxZ1 to XMuxZ8. Red dots indicate active connections: XMuxS10 to XMuxZ1, XMuxS17 to XMuxZ4, and XMuxS28 to XMuxZ2. An "Exit" button is located at the bottom right of this window.

Configuration

With the help of basic settings the entire TestManager system can be parameterized. On the left side of the window shows the single components displayed in the directory. On the right side shows the adjustable data for the on the left window selected nodes. Form and range of the directory to the left side depends on the form and amount of the modules installed. The arrangement on the right side of the window is defined through the module.



User Management

The user management contains a list of all program actions performed which require different level of passwords. For every action the administrator can specify which user groups are authorized to make adjustments.



ID	Description	User	Master	Service
\$0091	Password DLL - Show report	✓	✓	✓
\$0092	Passwors DLL - Trigger DLL Action	✓	✓	✓
\$0101	Edit test step parameters in SBS mode	—	—	✓
\$0102	Interpreter steps editor	—	—	✓
\$0103	Type- and variant list editor	—	—	✓
\$0104	Testsequence Editor	—	—	✓
\$0105	Show type selection Dialog	✓	✓	✓
\$0106	Basic setup	✓	✓	✓
\$0110	Show UpLoad/DownLoad dialog	—	—	—
\$0201	Tools in test mode	—	—	✓
\$0202	Edit IP step in SBS mode	—	—	✓
\$0203	Access to ME3000 UMS area	—	—	—
\$0204	Show PC-Info	—	—	—
\$0301	Start in SBS mode	✓	✓	✓
\$0302	Switch between Automatic / Step-by-step	—	✓	✓
\$0303	Define activity of DUTs in Multi-DUT-pane	✓	✓	✓

Edit mode: ☐ independant ☒ connected

Filter: hidden: 0 show all

☒ denied ☒ permitted

☒ Ok ☐ Cancel



Enter password

Password level
☐ F1 - User
☐ F2 - Master
☐ F3 - Service
☒ F4 - Administrator
☐ F5 - MCD

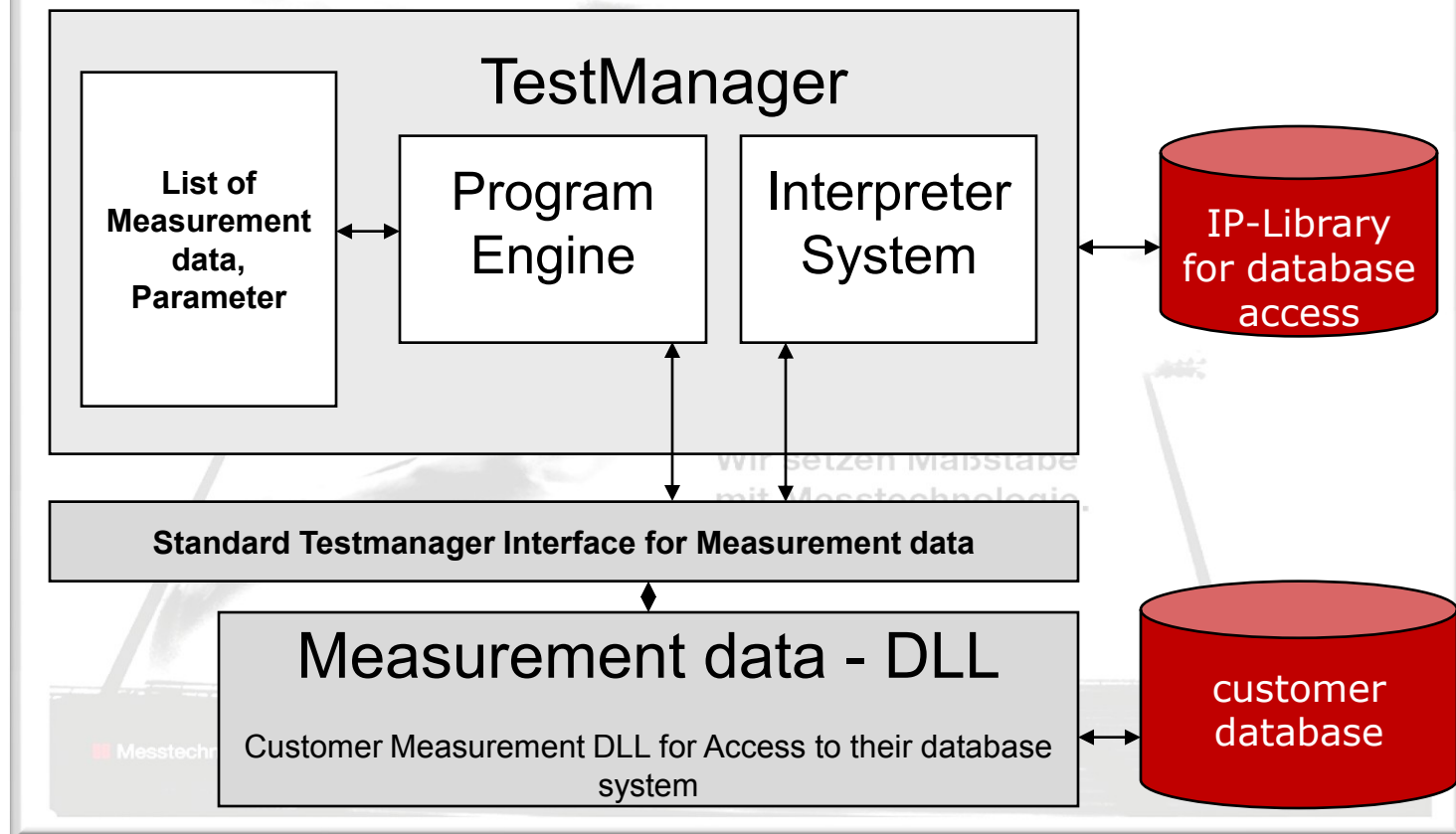
Password

☐ Show input

Select password level with F1..F5 and enter password

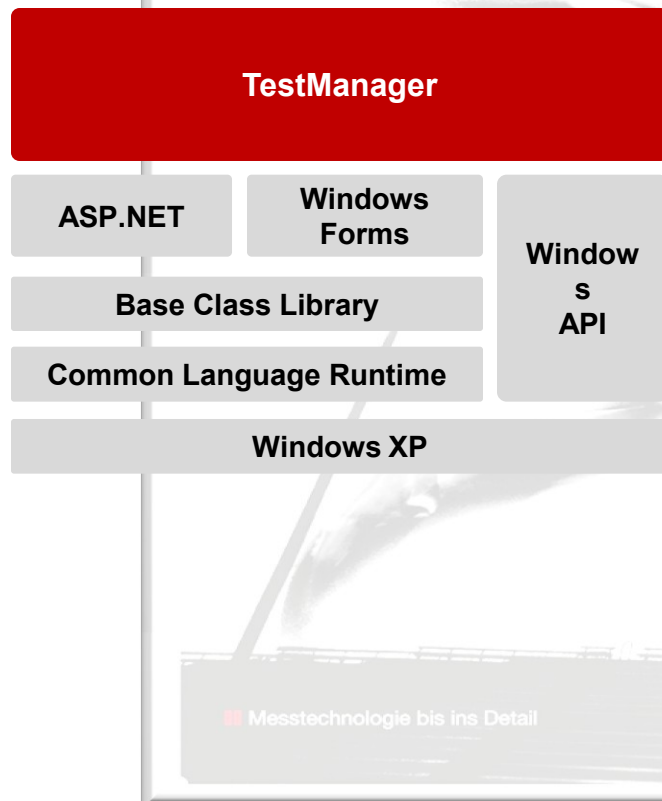
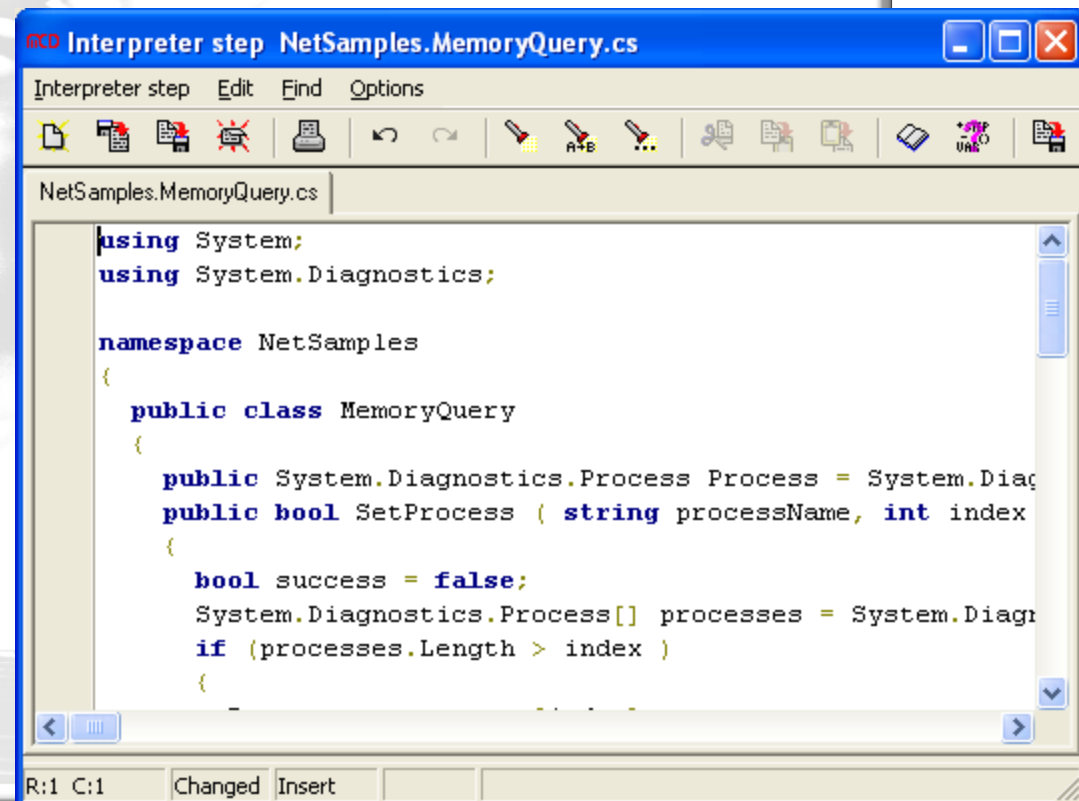
Customer measurement database

The available measuring data can be transferred to a user specific Data bank system. Through the standardized Interface the measuring data values can be retrieved using the Measuring Data-DLL. When all data in the DLL is available, they may be transferred to your own system with your own software. No further upgrades of the TestManager through MCD are necessary.



.NET Integration

- Integration of Microsoft ® .Net-Framework
- Direct Implementation of C#, VisualBasic und VisualJava for .Net Source code and Components
- Dynamic translation and development for assemblies without additional development tools

MCD Interpreter step NetSamples.MemoryQuery.cs

Interpreter step Edit Find Options

NetSamples.MemoryQuery.cs

```
using System;
using System.Diagnostics;

namespace NetSamples
{
    public class MemoryQuery
    {
        public System.Diagnostics.Process Process = System.Dia
        public bool SetProcess ( string processName, int index
        {
            bool success = false;
            System.Diagnostics.Process[] processes = System.Dia
            if (processes.Length > index )
            {
                .
                .
                .
            }
        }
    }
}
```

R:1 C:1 Changed Insert

.NET Formula Manager

- Comprehensive and effective display of the process status
- Use of the integrated formula design for the developing of any user interface Import/Export functions
- Design and integration of individual formulated dialogs and formulas

MCD TestManager V1.5.0.4 - Typ: SCREENING - BMW PL6 - 0001 EC: 0..999

Prüfschrittausgaben | Ausgeführte Prüfschritte | Messwerte

Status | Messwerte | Temperaturen

Gerät	Temp.Aim	Temp.Act	Hum.Aim	Hum.Act	Stromme
1	20.0 C	21.0 C	0.0 %	0.0 %	
2	20.0 C	21.0 C	0.0 %	0.0 %	
3	20.0 C	21.0 C	0.0 %	0.0 %	

Auftragsnummer : 1234

Test aktiv

Befehl

Start Test Abbruch Ende

Info

12.06.2008 11:17:13 : Schnittstelle nicht aktiv. Benutze simulierten Messwert von 30 mA!

StepInfo | Debug-Info

Step Nr.: 140

Step Index: 14

IPS: IP_PASSFAIL

OGW: 0

UGW: 0

Zeit: 11:17:13

Prüfdauer: 3.2 s

Durchlauf: n/a

Fehler: behandeln

Start im Debugger

Debugger Tools

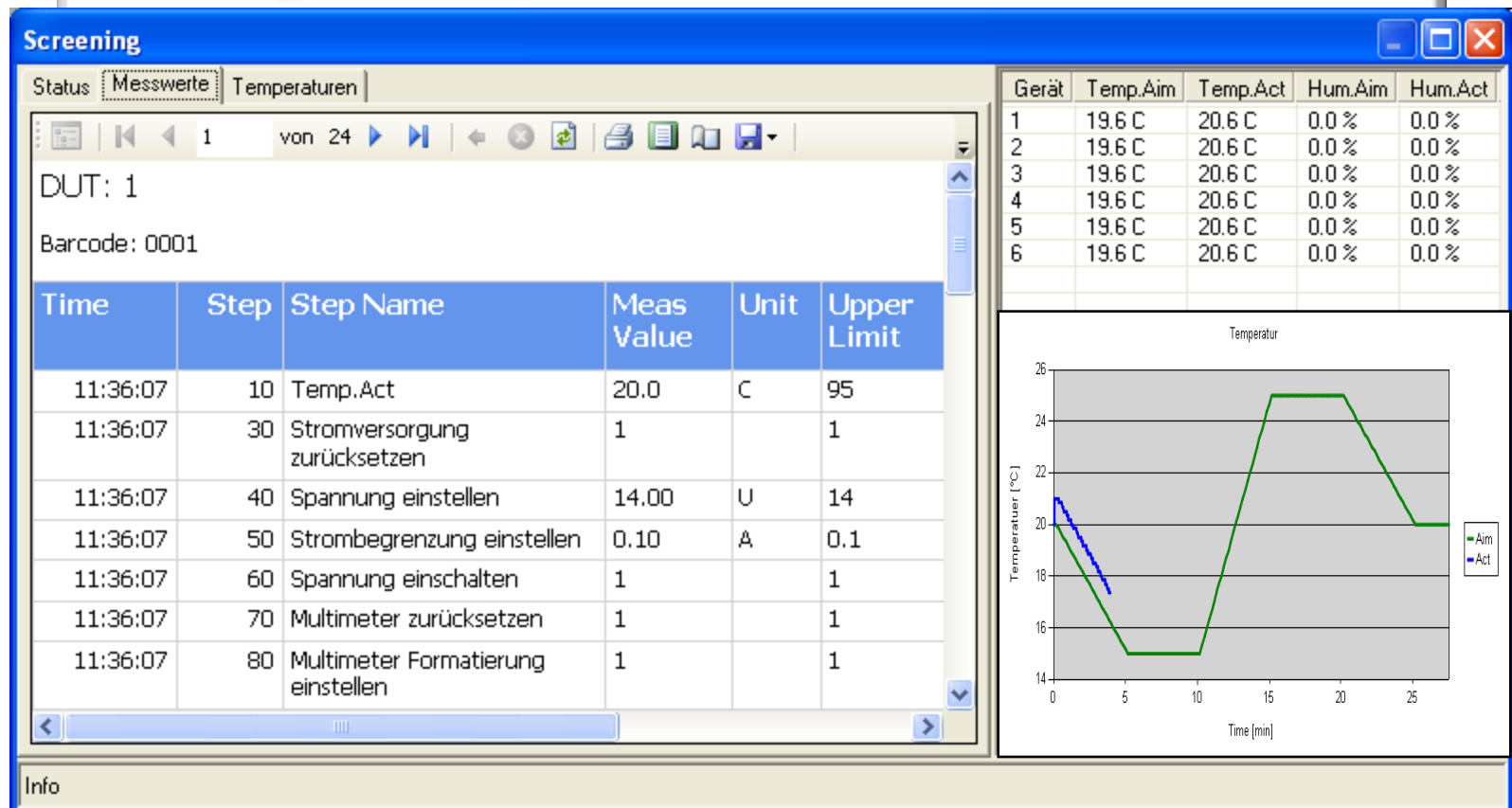
Step+ Anwahl IP-Edit

Step- Wiederholen Edit Para.

Abbrechen

.NET Report Manager

- Definition and integration of freely definable reports
- Table and graphic display of measuring values, configuration, and Test development
- Export to Excel, PDF and more



.NET / Web Server

- WEB-Interface for remote monitoring in Intranet with displays and operations of selected functions
- Because of the integrated WEB-Server, no additional components are necessary
- User definable layouts for the display on Internet Explorer
- IP-Filter and Password

Testmanager Screening - Windows Internet Explorer

http://localhost:8080/

Testmanager Screening

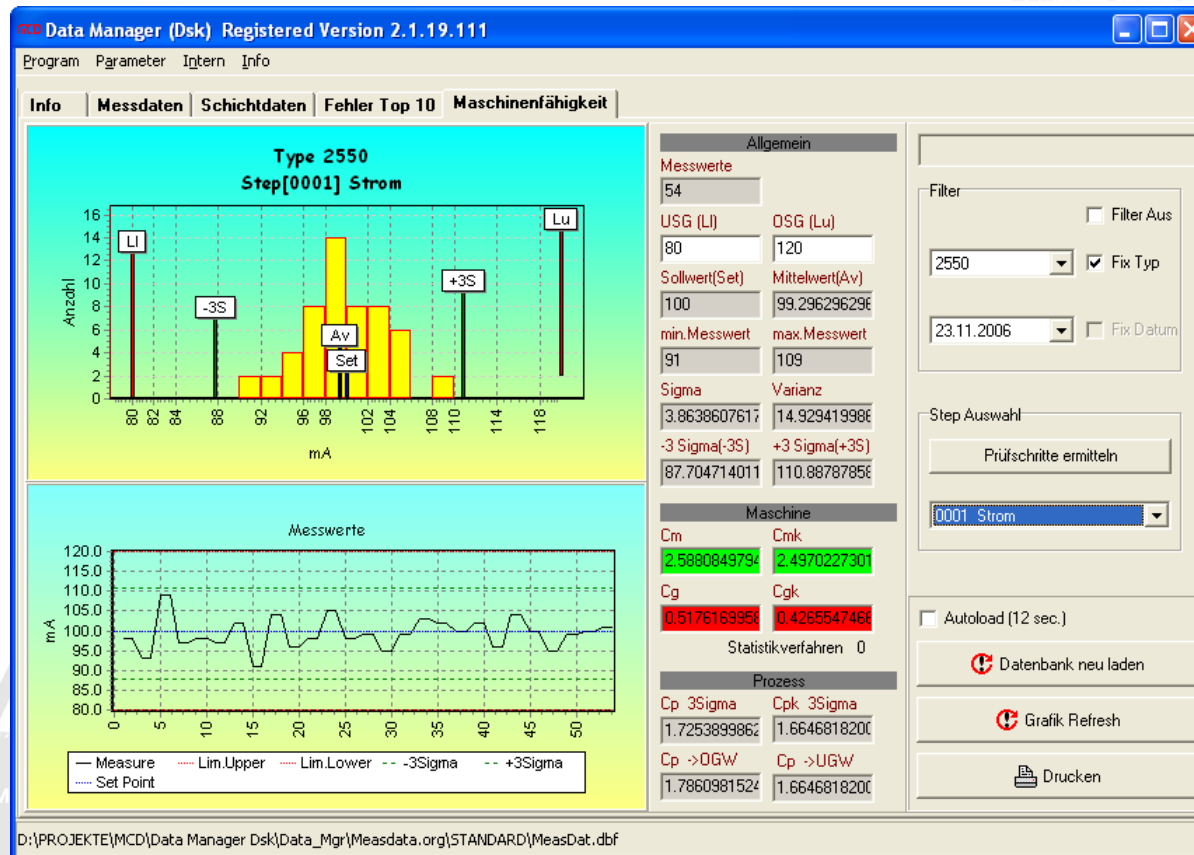
Testmanager Screening

DUTNumber	Barcode	State	Step	Info	Duration
0	0001	Test-Zyklus	Strom	---	230 sec.
1	0002	Test-Zyklus	Strom	---	230 sec.
2	0003	Test-Zyklus	Hum.Act	---	230 sec.
3	0004	Test-Zyklus	Hum.Act	---	230 sec.
4	0005	Test-Zyklus	Hum.Act	---	230 sec.
5	0006	Test-Zyklus	Hum.Act	---	230 sec.

DUTNumber	DateTime	Barcode	StepNumber	StepName	MeasValue	Unit	UpperLimit	LowerLimit	Result	Temperatur
0	12.06.2008 14:25:30	0001	130	Strom	30.0	mA	40	20	Pass	21
5	12.06.2008 14:25:30	0006	120	Hum.Act	0.0	%	100	0	Pass	21
4	12.06.2008 14:25:30	0005	120	Hum.Act	0.0	%	100	0	Pass	21
3	12.06.2008 14:25:30	0004	120	Hum.Act	0.0	%	100	0	Pass	21

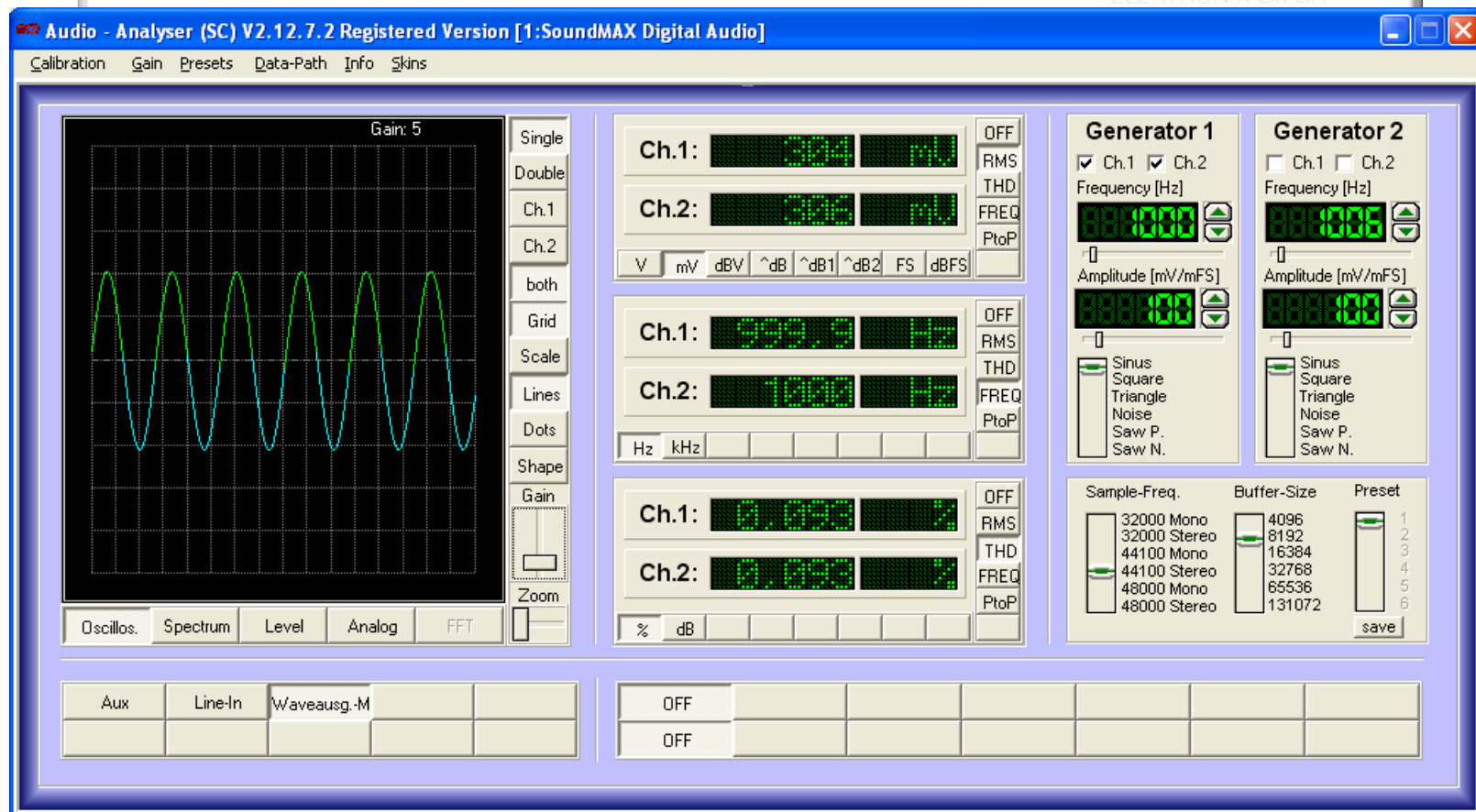
Data Manager

The measuring data helps to carry out assemblies with little downtime. Because of a meaningful statistic data, weak points can be identified and eliminated on line. Thereby commissioning and maintaining equipments can be done easy and fast. The statistic components of MCD manage preparing your production and installation data.



Audio Analyzer

The audio analyzer is software based solution for analyzing and producing of analogs and digital signals in the audio field. For the hardware a sound card in your system-PC is required. The following measurements can be done: Frequency and signal power, distortion factor and FFT-Spectrum.



Specification

General

- Includes a system for Test Application and Tool control
- 32-bit Integrated developer area for Windows ® NT 4.0, 2000, XP
- All test steps can be developed and edited
- An internal Interpreter carries out the test steps.
- All project data is in an Open Data Format and can be modified with external tools.
- Projects can be version-controlled through internal systems.
- Developing of adjustable reports
- Multi Level user Passwords
- Wizard for the Developing of applications

Field of Application

- Functional testing, final testing
- Screening System
- Run-In (Endurance testing)
- Board test
- Short circuit testing

Type Administration

- Type administration for different test types and test items
- Type selection through user or Interpreter control
- Editor for preparing and editing the type data

Measurement Data

- Automatic definable Data Spreadsheet
- Local Statistics (Pass-, Fail-, Tally,...)

Debugging

- Service mode for single step use
- Comprehensive Debug Window
- Monitor for Communication buses
- Log-Data

Consideration of Customer Request

- Adjustable by command
- Menu System upgradeable
- Tools Menu
- Graphs and objects for user entries
- Support for language switch over

Messtechnologie bis ins Detail

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Specification

Help and Documentation

- Programming hand book (Interpreter)
- User hand book
- HTML-based Help with index and search
- Context sensitive Help for Interpreter
- Runnable Demo Applications

Interfaces

- IEEE488: Keithley,CEC, NI cards
- RS232: Windows compatible serial port
- Files: Textfile, INI-File
- WinSocket: Client/Server (TCP Protocoll)
- Port I/O
- I²C
- ActiveX (COM)
- ODBC Connection SQL Server
- VXI: National Instruments
- CAN
- LIN

Versions Management

- Check In/Out Dateien
- Dateien zum Projekt hinzufügen
- Upload von Dateien zum Server
- Download von Dateien vom Server
- Vergleich von Versionsständen
- Statusanzeige der Dateien
- Hinzufügen von Bookmarks

Verschiedenes

- DLLs (CDecl, StdCall, Pascal). Dynamischer Funktionsaufruf per Prozedurname.
- Passwort Verwaltung für Benutzer
- Aufruf von LabView ® VIs, Display LLB/VI files
- Zugriff auf .NET Framework über mehrere Programmiersprachen (C#,VB,J#)

Logging

- Alle Programmaktionen (Start, Fehler,...) werden in eine Datei gespeichert

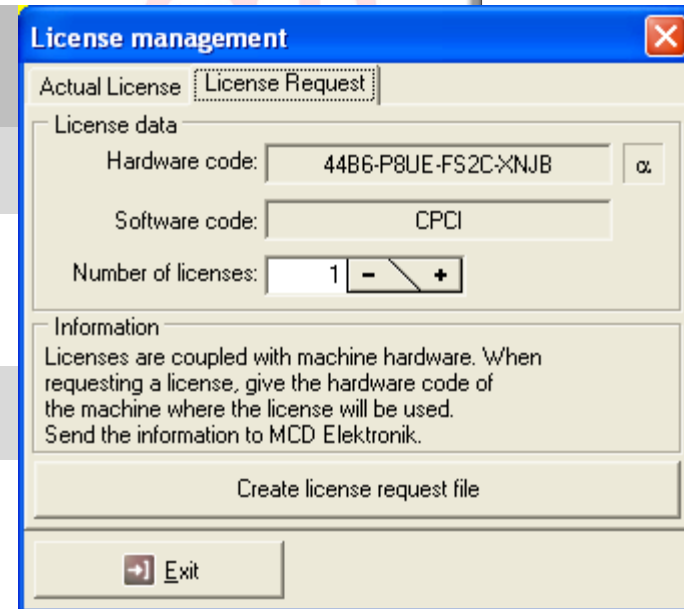
Messtechnologie bis ins Detail

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Ordering / Licensing

Product: TestManager **CE** (Classic Edition)

License	Explanation
Freeware	
Runtime	• unlimited
Functionality	• no hardware, no Measuring data
License	• none
Single-License	
Runtime	• unlimited
Functionality	• full, single mode
License	• License data with one license, PC bound
Multi-License	
Runtime	• unlimited
Functionality	• full, Simultaneous mode
License	• License data with one license, PC bound



License management

Actual License | **License Request**

License data

Hardware code: 44B6-P8UE-FS2C-XNJB α

Software code: CPCI

Number of licenses: 1 - +

Information

Licenses are coupled with machine hardware. When requesting a license, give the hardware code of the machine where the license will be used. Send the information to MCD Elektronik.

Create license request file

Exit

System requirements

Produkt: TestManager **CE** (Classic Edition)

- Pentium® PC or compatible
- 256 MB RAM or more
- VGA Monitor (starting at 800x600 pixel)
- Windows ® NT, 2000 or XP
- 25 MB free storage space on the hard drive
- Optional:
 - installed network if needed
 - Windows ® .NET Framework

The program itself can not set up data outside of its program directory.

Wir setzen Maßstäbe
mit Messtechnologie.

Demo Mode:

The test program and its appropriate application can be ported from your system (Production) onto an office PC or laptop and can also be edited. Thereby from your basic settings you can turn off the unavailable hardware.

Messtechnologie bis ins Detail

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Contact

Product: TestManager **CE** (Classic Edition)

Download

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