



eC-test-mate

Set Up Manual

Version 1.2

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Handheld test device for functional testing of assembled PCB's



Unpack

Check your product box for the following items:

Part	Description	Product number
1	Test Head T1 (green) "General"	MTA008538
2	Test Head T2 (blue) "Communication"	MTA008725
3	Test Head T3 (red) "Extra"	MTA008805
4	Docking Station	MHA008808
5	3 x micro-USB cable	UCA008715
6	USB cable Type A/B	UCA006730
7	Power adapter	PSU008981
8	AC EU plug	PSU008983

- The items supplied with your eC-test-mate and the available accessories may vary depending on your region or service provider.
- The supplied items are designed for eC-test-mate and may not be compatible with other devices.
- Other accessories may not be compatible with your eC-test-mate.
- Unapproved accessories may cause your eC-test-mate to malfunction. In case of damage you can order new parts at www.eurocircuits.com.

General information

Product Name	Hardware: eC-test-mate; software: eC-my-test
Organization	Eurocircuits NV
Major Function	Functional test equipment for assembled PCB
Architecture	e.g., client/server, Web-based, etc. with graphical user interface
System Requirements	Operating System: Windows XP SP3, Windows 7, Windows 8
Safety	Indoor use only. Do not repair or adjust the equipment under any circumstances.
Compliances	eC-test-mate 200 is constructed according the European CE regulations. IP-Rating Ingress protection: 20

Technical information

	Test Heads T1, T2, T3	Docking Station
Dimensions	65 x 45 x 45 mm	150 x 60 x 80 mm
Housing	PA-15 Antistatic	PA-15 Antistatic
Electrical specifications	5V 0.5A directly and 5V 1.5A when connected to Docking Station	9V 3A 30W
USB connection		Electrically isolated

Specifications PCB under test

	<i>Specification PCB under test</i>
Minimum PCB thickness	0,5 mm
Maximum PCB thickness	2,5 mm
Lay-out	Incorporate footprint before use
Test pin specification	Bronze, gold plated
Maximum number of test pins	65 (T1 = 21, T2 = 22, T3 = 22)
Spring force working level	30g

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Warranty

Our eC-equipment is supplied with 12 months return-to-factory warranty. Faulty equipment should be returned to Eurocircuits in its original packing, where it will be checked and repaired or replaced. This excludes test pins. Transport costs will be paid by the sender.

Impressum

TEST-OK is a registered trademark of TEST-OK BV: www.test-ok.nl

Overview

The eC-test-mate is a family of portable Test Heads for functional testing of assembled printed circuit boards (PCBs). The Test Heads are connected to a Docking Station and controlled by a command language (eC-my-test) on a PC connected via USB. Each Test Head type provides a fixed number of functions. By combining multiple Test Heads, it is possible to create your own customized set of test features for any assembled PCB. Test Head T1 is used for generic applications. Test Head T2 to test communication interfaces and T3 to provide additional measurement functions when required (See Appendix 1). Depending on your circuit design and your test requirements you can combine different Test Heads to create a complete suite of functional tests.

Test Heads are connected directly to the PCB without an intermediate bed of nails. In order to be testable with the eC-test-mate, it is necessary that the required footprint is present on the PCB. (see eC-test-mate HARDWARE REFERENCE MANUAL for lay-out instructions of the footprints). Each Test Head has a unique footprint, for making contact with the Test pins and fitting for the keying pin, so that it is impossible to connect a Test Head to another than its own footprint.

Working voltages are in the range of 0..24V for most test functions (e.g. power supply, digital and analog I/O) except where this is not useful (e.g. UART or I2C). All inputs and outputs are protected against higher voltages however. Although care has been taken to protect the electronics as much as possible, applying too high voltages may result in damage to the Test Head.

The eC-test-mate Docking Station provides storage, power and self-test possibilities for the three types of Test Heads. The two main advantages of plugging a Test Head into the Docking Station are that the power that can be delivered onto the test pins is increased and that the Test Heads are electrically isolated from the PC. The USB standard of the USB connection on the PC would limit the output current to 500mA which results in a maximum output power of 2.5W. Only 2W would be available on the Test Head when directly connected to the PC.

If connected to the eC-test-mate Docking Station, the maximum power that is available is 7W or 1A output current whichever limit is reached first which doubles the performance.

Every eC-test-mate (Docking Station and the Test Heads Type 1, 2 and 3) has been tested. At any time the user can perform a self-test on every Test Head: key in the Test Head(s) into their dedicated position on the Docking Station and run the self-test.

Setting up eC-test-mate

Docking Station

The Docking Station is already equipped with the three self-test PCBs, so no further handling is necessary here. Although not recommended, it is possible to remove the self-test-PCBs.

Connect the Docking Station with the 230V net using the Power supply and AC EU cable. The led on the Docking Station will light up red. Connect the Docking Station with your PC by means of the USB-cable Type A/B. The red LED on the Docking Station will turn green and is ready for use.

Test Heads

Apply the three micro USB cables (5) between the Test Heads (T1, T2 and T3) and the Docking Station. Please connect every Test Head to its correct position (color coded). When performed correctly, the LED on the Test Heads will light up green.

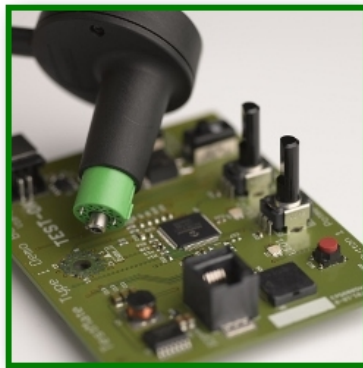


The Test Head fixation method

eC-test-mate is provided with an innovative fixation method to establish a perfect connection between the Test pins (about 21 on every Test Head) and the footprint on the PCB to be tested. Every Test Head has a unique keying pin to lock into its unique corresponding footprint on the PCB. This fixation method is also used to connect a Test Head into its corresponding opening (in the Self-test PCB) in the Docking Station.

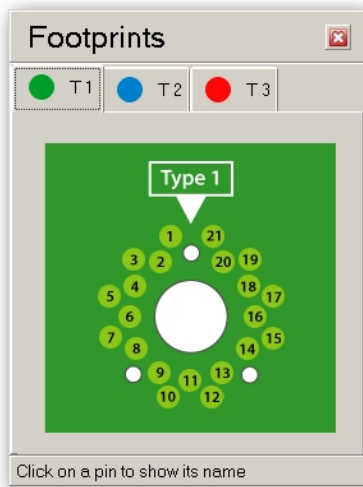
To establish the right connection of a Test Head do the following. Hold the Test Head between the thumb and index and middle finger and push the button on top of the Test Head with your thumb. Now press the test pins of the Test Head as far as possible into the corresponding footprint on the PCB and/or in the Docking Station. When you feel that the Test Head cannot be inserted any further release the button. Now the test pins of the Test Head are connected to the footprint on the PCB and ready for use.

You can see whether the Test Head is well connected when the Test Head is firmly connected and perpendicular to the PCB and/or Docking Station and the four steel balls of the fixation system are visible on the backside of the PCB.



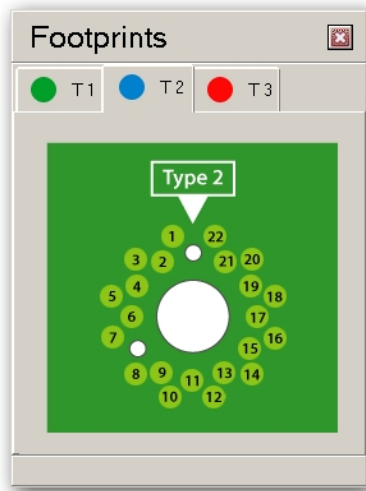
All leds on the Test Heads and Docking Station are green. Now your eC-test-mate station is ready for use. The next step is to install the test software eC-my-test on your PC for designing and executing the required tests.

Test Head T1, Pin functions - Footprint



Pin	Function	Range
1	Board Detect	-
2	Analog Input 101	100mV..24V, 1mV resolution (12-bit ADC)
3	Analog Input 102	
4	Analog Input 103	
5	Analog Input 104	
6	Analog Output 101	0..24V, 6mV resolution (12-bit DAC)
7	Analog Output 102	
8	Analog Output 103	
9	Analog Output 104	
10	Digital Input 101 Digital Output 102.1	Input: 0..24V Output: Open drain
11	Digital Input 102 Digital Output 102.2	Input: 0..24V Output: Open drain
12	Digital Input 103 Digital Output 102.3	Input: 0..24V Output: Open drain
13	Digital Input 104 Digital Output 102.4	Input: 0..24V Output: Open drain
14	Digital Output 101.1	Output: 2.5..24V, 6mV resolution (12-bit DAC)
15	Digital Output 101.2	
16	Digital Output 101.3	
17	Digital Output 101.4	
18	UART 101 TX	300..115200 Baud
19	UART 101 RX	TX: 2.5..5V, RX 5V logic '1' level
20	Supply 101	1.5..24V, 6mV resolution (12-bit DAC) Max. 7W or 1A when used with TEST-Mate Docking Station. Without the Docking Station, the maximum depends on the power capabilities of the USB port (2W typical)
21	GND	-

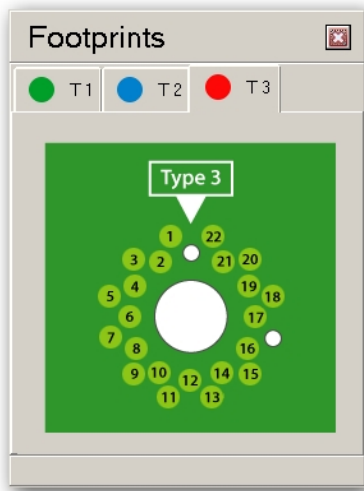
Test Head T2, Pin functions - Footprint



Pin	Function	Range
1	Board Detect	-
2	Analog Input 201	100mV..24V, 1mV resolution (12-bit ADC)
3	Analog Input 202	
4	RS485 201 A	RS485
5	RS485 201 B (inverting)	
6	CAN 201 L	CAN
7	CAN 201 H	
8	I2C 201 SDA	I2C
9	I2C 201 SDL	
10	Digital Input 201 Digital Output 202.1	Input: 0..24V Output: Open drain
11	Digital Input 202 Digital Output 202.2	Input: 0..24V Output: Open drain
12	Digital Input 203 Digital Output 202.3	Input: 0..24V Output: Open drain
13	Digital Input 204 Digital Output 202.4	Input: 0..24V Output: Open drain
14	UART 2 VCC	0..5V typical, 0..24V allowed
15	Digital Output 201.1	Output: 2.5..24V, 6mV resolution (12-bit DAC)
16	Digital Output 201.1	
17	Digital Output 201.1	
18	Digital Output 201.1	
19	UART 201 TX	300..115200 Baud
20	UART 201 RX	TX: 2.5..5, determined by pin 14, RX 5V logic '1' level.
21	Supply 201	1.5..24V, 6mV resolution (12-bit DAC) Max. 7W or 1A when used with TEST-Mate Docking Station. Without the Docking Station, the maximum depends on the power capabilities of the USB port (2W typical)

22	GND	-
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Test Head T3, Pin functions - Footprint



Pin	Function	Range
1	Board Detect	-
2	Analog Output 301	0..24V, 6mV resolution (12-bit DAC)
3	Analog Output 302	
4	Analog Output 303	
5	Analog Output 304	
6	Analog Input 301 / Digital Input 301	Analog Inputs: 0..24V, 1mV resolution (12-bit ADC) Digital Inputs: logical '1' level derived from analog value in firmware
7	Analog Input 302 / Digital Input 302	
8	Analog Input 303 / Digital Input 303	
9	Analog Input 304 / Digital Input 304	
10	Analog Input 305 / Digital Input 305	
11	Analog Input 306 / Digital Input 306	
12	Analog Input 307 / Digital Input 307	
13	Analog Input 308 / Digital Input 308	
14	Digital Output 301.1	Output: 2.5..24V, 6mV resolution (12-bit DAC)
15	Digital Output 301.2	
16	Digital Output 301.3	
17	Digital Output 301.4	
18	Digital Output 301.5	
19	Digital Output 301.6	
20	Digital Output 301.7	
21	Supply 301	1.5..24V, 6mV resolution (12-bit DAC) Max. 7W or 1A when used with TEST-Mate Docking Station. Without the Docking Station, the maximum depends on the power capabilities of the USB port (2W typical)
22	GND	-

Installing eC-my-test

eC-test-mate comes with eC-my-test software. Powerful test software which enables you to perform a wide range of functional tests on many different types of PCBs.

Go to www.eurocircuits.com/TEST and download the software in the download section. Follow the instructions and install eC-my-test on your PC. It is recommended to plug in the eC-test-mate before starting the installation. At the end of the installation you have the option to install the necessary drivers.

Location of the eC-my-test files on your computer

Windows 7 and Windows 8 (both 32 and 64 bits versions)

Program files:

C:\Program Files (x86)\TEST-OK\eC-my-test

User files:

C:\Users\Public\Documents\TEST-OK\eC-my-test

Note:

Updating or uninstalling eC-my-test may change or remove the program files but will not modify or remove the user files.

Windows XP

Program files:

C:\Program Files\TEST-OK\eC-my-test

User files:

C:\Documents and Settings\All Users\Documents\TEST-OK\eC-my-test

Note: Updating or uninstalling eC-my-test may change or remove the program files but will not modify or remove the user files.

USB Driver installation

At the end of the installation procedure, you can install the necessary drivers by ticking the check-box 'Install USB drivers'. Make sure that the eC-test-mate is connected to your PC and that it is powered on.

It is always possible to install the drivers at a later time by going to the program directory of eC-my-test. Under 'Drivers', double click on 'CDM v2.10.00 WHQL Certified'.

Windows 7 and Windows 8 will perform an automatic search for the proper drivers on the internet, and then install the drivers if an open internet connection is available.

Windows XP does not have this search feature; the drivers should be installed during the setup procedure: at the end of the setup, two check-boxes are shown: one for driver installation and one for start-up of eC-my-test. Tick the check-box for driver installation in order to install the appropriate driver.

Note: The setup can be run a second time in order to install the drivers if this was not done the first time. Re-installing will not have any negative effect on eC-my-test

Starter Kit

The Starter Kit-PCB and the corresponding eC-my-test Test Scripts give you a first idea of the design and structure of the program. We strongly advise to purchase this Starter Kit for it will help you understand the software in a short period of time.

You can import the Starter Kit Test Suite file by using the IMPORT button on the bottom of the screen. The Starter Kit Test Suite is placed in: C:\Program Data\TEST-OK\eC-test-mate\...

The Starter Kit is designed to learn the functionality of the eC-test-mate and eC-my-test software in a short period of time and it provides the necessary footprint to connect it to Test Head T1.

The Starter Kit comes with an example test suite that uses most of the functionality of Test Head T1, such as the Power Supply, analog in- and outputs, digital in- and outputs, the UART and PWM. (See [Test Head T1, Pin functions - Footprint](#))

The Test Scripts shows the mapping of names on different I/O's, the use of variables, configuration of a serial connection, the communication of packets over the UART, and so on. The Starter Kit also makes it clear how Test Suites can be created and modified and what the role of a preamble is. After the set-up, you have a full functioning test example available, on which you can build your own solution.

Most of the examples in this Set-up Manual are created with the TEST-Mate I Demo PCB (Starter Kit).

Test Script language

eC-my-test provides a script language to write individual tests which control the inputs and outputs of the eC-test-mate. There are approximately 60 different commands, including typical structural constructs like for-loops and if-statements. An integrated editor guarantees the development of error-free syntax scripts, while also helping to quickly learn the commands, as they are all listed with their respective set of parameters. Debugging is made easy with support for breakpoints in the editor.

Stimuli and Testing

Every test consists of a set of commands, executed by eC-my-test. The Commands can send Stimuli to the PCB and test measured values on the PCB against expected values. Most Commands result in either a stimulus to be sent, or a state to be read. The reading of a state can be accompanied with a Condition. If the condition is false, the test verdict is set to FAILED. This method is fine for simple tests on single inputs but it will not work if the verdict is based on several inputs or on changes in input over time. For these more complex conditions the eC-my-test Commands support variables and arithmetic operations on these variables. In combination with the IF and WHILE commands, it is possible to create any condition necessary to create the test verdict.

Flow Control

Another type of commands controls the test flow, e.g. repeating a set of commands for different values or waiting until specific conditions occur.

Configuration

The inputs and outputs are numbered (e.g. Analog output 101..104, or Digital input 101..104). When writing a test, the test author will rather think of the PCB's functions and signal names instead of the numbered I/O. A special command, called MAP is provided to assign a name to an input or output or, in case of digital input or outputs, to a group of inputs or outputs. Using these names in I/O commands improves readability.

Many PCBs contain microcontrollers which makes it hard to test a number of functions by simply applying stimuli to the board and reading back inputs. A common solution is the use of a communication channel of the microcontroller over which special 'test mode' packets are sent. The microcontroller will use such a packet to send for instance the RTC status register. Several standard interfaces are supported, UART, RS485, CAN, I2C to name a few. eC-my-test supports these interfaces by means of commands that allow sending and receiving of user-defined packets.

User interaction

Interaction with the user is sometimes necessary: the user has to give feedback on whether e.g. a LED is on or the user needs to turn a potentiometer in order to calibrate a circuit.

Log, variables and external applications

A LOG command is provided to write any text to the log output window. Using some special character sequences allows to include e.g. the values of any variable or the latest output value or input value to be included in the text.

In order to add the greatest possible flexibility, it is possible to define variables (VAR) to which input values or expressions can be assigned or to execute (RUN) an external applications.

Board detect

Normally, a running test session is aborted immediately when the PCB is removed. However, there are situations in which the board shall be temporarily removed during the test to e.g. solder some calibration pads. With the Board detect commands you can able or disables the detection of the PCB removal during the test.

Preamble and Postamble

In the Script section of the Edit & Debug screen two Scripts are set as default: the Preamble and the Postamble. The Preamble will be executed before every other script and has two particular uses:

- 1) it can contain CONFIGUR_xx, MAP, LOG and VAR commands that should otherwise be repeated at

the beginning of most of the scripts.

- 2) it can initialise the tester hardware to a known state so that every test will always have the same start condition, even if the order of scripts is changed or when one or more scripts are skipped.

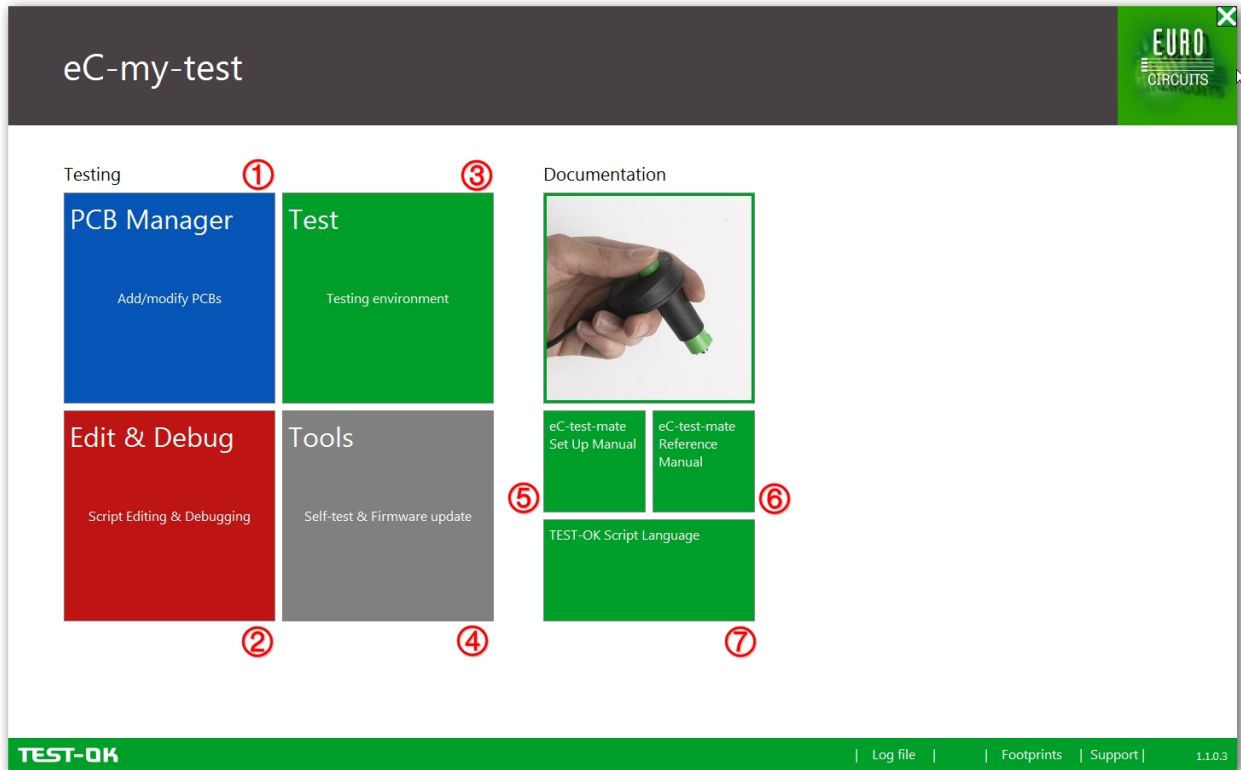
The Postamble will be executed after every other script. Unlike the Preamble which is almost always useful, the Postamble is use less frequently. It may be used to 'clean-up' certain things after each script execution like for instance discharge a capacitor with a dangerous voltage on it at the end of a test.

The Postamble is executed even if the test script generated errors. You can use the built-in variable `#_TEST_FAILED_` to find out whether the test script did succeed or not.

For detailed explanations, instructions and examples see the **Test Language Description**.

eC-my-test Home

Double clicking on the desktop icon eC-my-test will deliver you the main screen of eC-my-test which looks as follows:

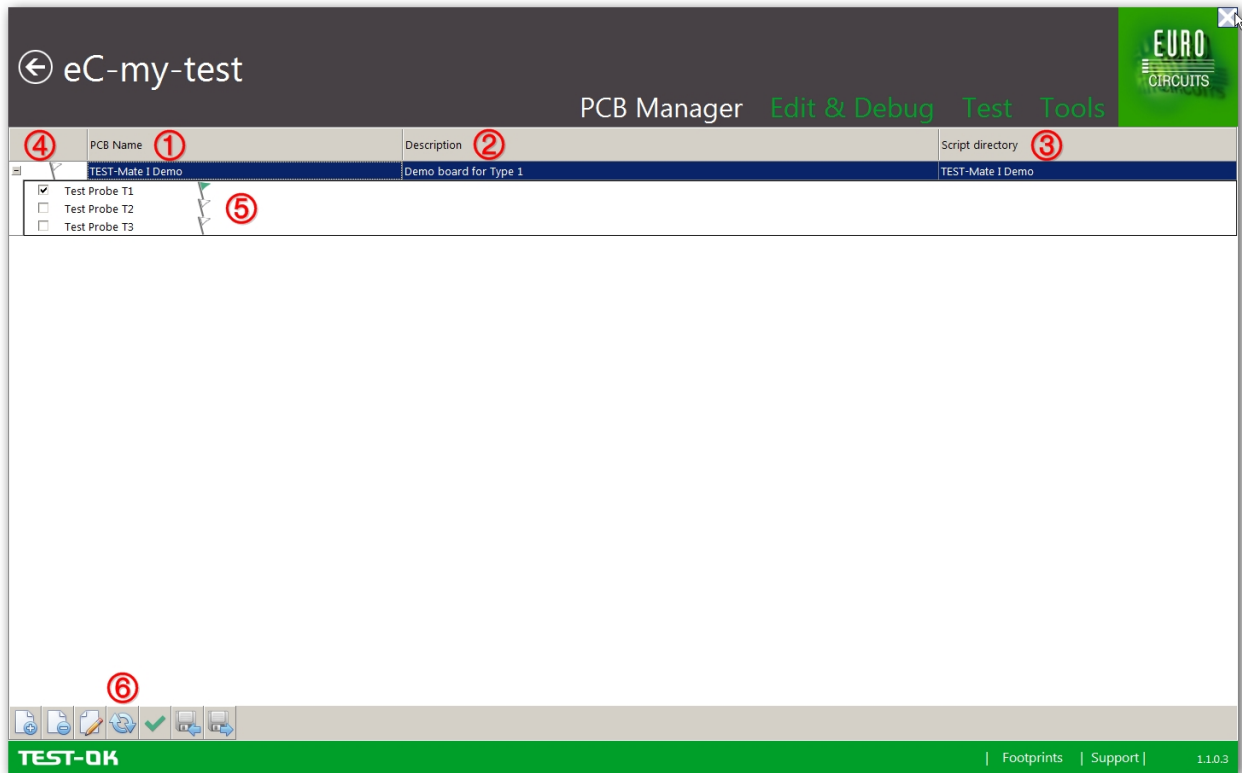


To easily find your way to set up, register and executing a series of electronic tests on your PCB we have set-up the next phases of the development process of a typical functional electronic test.

1. **PCB MANAGER:** Add the PCB(s) you want to test and assign Test Heads to the PCB(s). You can also import and export pre designed Test Scripts here and keep track of all developed PCBs and of their respective tests;
2. **EDIT & DEBUG:** Add and modify Test Scripts and assign them to the test pins of the Test Heads to make a Test Suite for your PCB. Debug the Test Scripts while executing the designed test directly on the PCB. Make use of the scripts editor with defined Test Commands;
3. **TEST:** Test the production PCBs with the definitive Test Scripts and log the outcome for report purposes;
4. **TOOLS:** Execute self-test on all Test Heads and update Firmware;
5. Refer to the **eC-test-mate Set Up Manual** for Set-up and User Instructions;
6. Refer to **eC-test-mate Hardware Reference Manual** for functional instructions of eC-test-mate;
7. Refer to the **Test Description Language** (TDL) for the Test Script language

PCB Manager

Click on the blue tile PCB Manager. The PCB Manager screen helps you register PCBs that you want to test. It shows an overview of all PCBs that were added before with a brief description and the location of the files that belong to it. Here you can add, remove and edit PCBs and activate ('connect') the Test Head(s) that are required for the testing of a selected PCB.



PCB Manager

1. PCB Name
2. PCB Description
3. Directory for storing the Test scripts belonging to the PCB
4. PCB status
 - . red flag = no Test Heads assigned or one or more Test Heads are not connected to the PC
 - . white = assigned and Test Heads connected to the PC
 - . green = assigned and connected to the PC
5. Assigned Test Heads
 - . no flag = not assigned and not connected to the PC,
 - . red flag = assigned but not connected to the PC;
 - . white flag = not assigned but connected to the PC;
 - . green = assigned and connected to the PC)
6. PCB Buttons to add, delete, edit, refresh, activate, import and export PCB's.

For an explanation of the flags see [Green flags, red flags, white flags](#)

PCB Manager Buttons



Add (or delete) a PCB

Click on the Add button of the PCB Buttons. A new line will appear and you can fill out the name, description, the location for the test scripts in the activated field of the PCB (blue if active).

Edit a PCB

To edit a new or existing PCB click on the relating line to activate the PCB and use the Edit PC button to edit the PCB.

Refresh the screen

To refresh the screen after a manipulation.



Activate the PCB with assigned Test Heads

In order to create test for the registered PCB activate it with the Activate button. The button will only be enabled when all Test Heads that are required for the PCB are properly connected. When Activated the tree of the PCB will be collapsed because you will not be able to assign or de-assign Test Heads at the Active status. Deleting or editing a PCB in with this status is not possible

Note: the Led on the assigned Test Heads will turn white

Now you can go to the next tile (Edit & Debug) and create tests for the PCB.

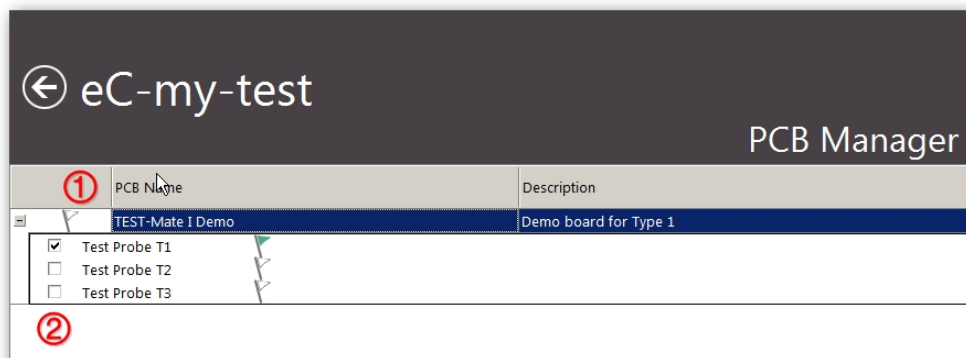
Import/Export a PCB

To exchange PCBs together with their associated test suite or to import PCBs that were made by someone else (e.g. the sample file that comes with the software) you can use the functionality of import and export in the PCB manager.

Assign Test Heads to a PCB

Assign Test Heads to a PCB

In order to create and/or run a test you must assign the appropriate Test Head(s) to the PCB. There are three types of Test Heads and you can assign them to the PCB in any combination. In order to assign a Test Head tick open the + button (1) in front of the PCB and tick the box in front of the required Test Head(s) (2).



Green flags, red flags, white flags

Green flags, red flags, white flags

In the PCB manager you can register and activate a PCB in order to create and/or execute tests.

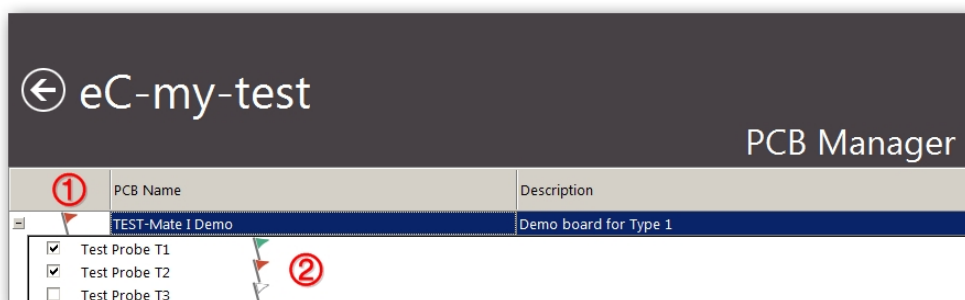
PCB's can only be activated when there are [Test Heads assigned](#) to it and properly connected to the PC. If so the flag in front of the PCB is white. The PCB can now be activated by clicking the PCB Manager button 'Activate'; the flag in front the PCB turns green.

When the flag in front of the PCB is red it shows that either not all assigned Test Heads are connected to your PC, or there is no Test Head assigned to it (yet).

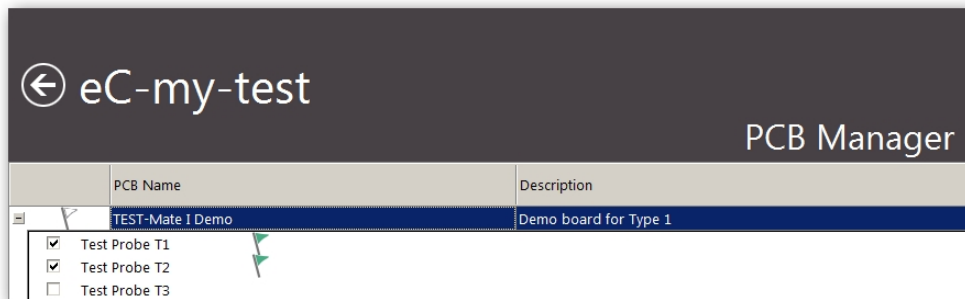
Every Test Head is monitored individually: No flag behind a Test Head means that this Test Head is not assigned and not connected. A red flag behind a Test Heads means that the Test Head is assigned to the PCB, but not connected to the PC. A green flag behind a Test Head means that the relevant Test Head is assigned to the PCB and connected to the PC. To see the Test Head flags open a PCB by clicking the + button in front of it.

	PCB (1)	Test Head (2)	Test Head Led
No flag	Not applicable	Not assigned to a PCB and not connected to the Docking Station/PC	OFF
White flag	All assigned Test Heads are connected correctly. The PCB is ready to be Activated	The Test Head is not assigned to the PCB but is connected correctly to the PC	Green
Green flag	All assigned Test Heads are connected correctly and the PCB is Activated	The assigned Test Head is connected correctly to the Docking Station/PC	White
Red flag	Not all Test Heads that are assigned to the PCB are connected correctly to the PC. Or there is no Test Head assigned to the PCB (yet).	The assigned Test Head is not connected correctly to the Docking Station/PC	OFF (for example)

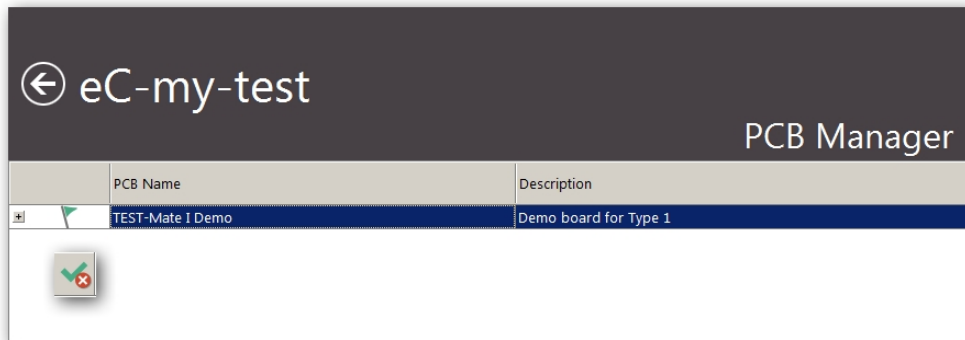
The flag in front of the PCB (1) is red. Test Head T1 is green, Test Head T2 is red en Test Head T3 is white (2). In this case, Test Head T1 is properly connected, T2 is not properly connected and T3 is not assigned but properly connected. Check the connection of T2 and refresh the screen.



The flag in front of the PCB is white. Test Head T1 is green, Test Head T2 is green en Test Head T3 is white. In this case Test Head T1, T2 and T3 are properly connected. T3 is not assigned. In order to create tests for this PCB, check the [Activate button](#) and go to the next phase: [Edit& Debug](#).



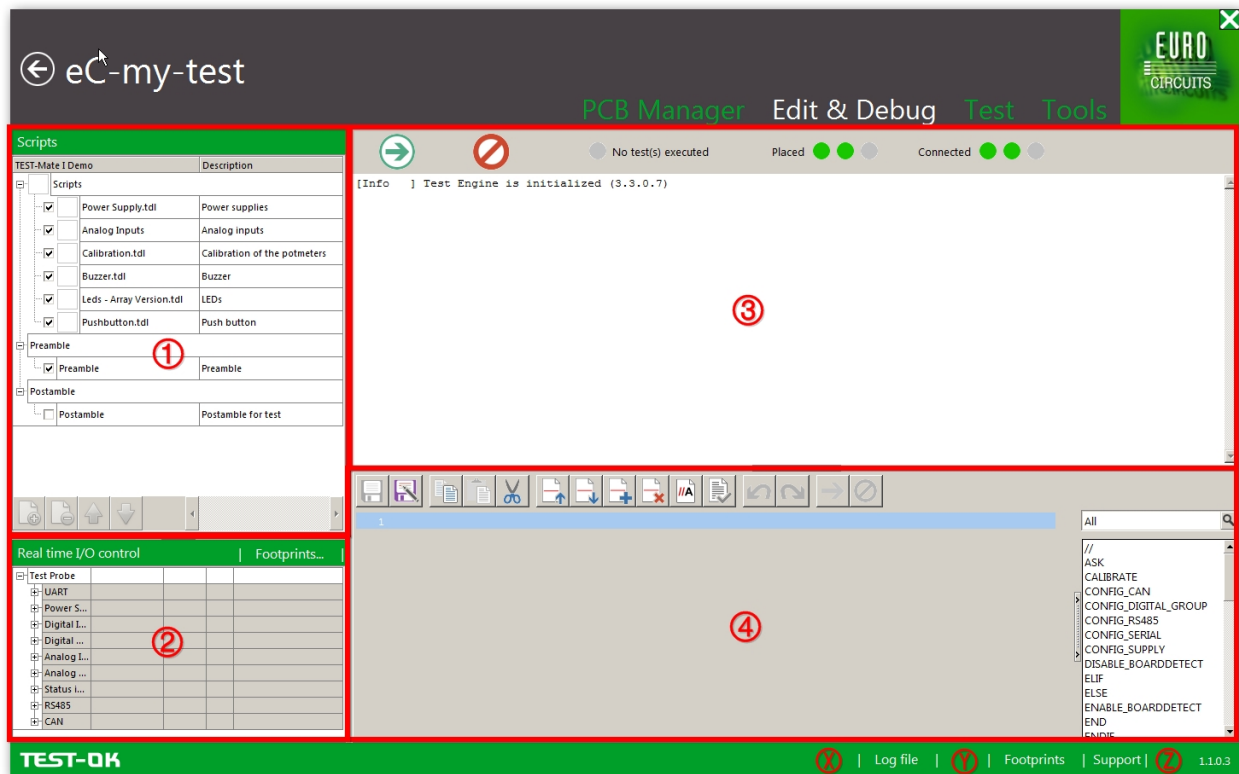
The flag in front of the PCB is green. The Activate button is checked and the PCB is ready for Edit& Debug.



Edit & Debug

The Edit & Debug screen provides all the features to make a test and/or to debug it. It contains a Script editor that prevents syntax errors so you will be able to create flawless Test scripts. A complete test (a Test Suite) consists of a series of successive tests (Test scripts) that activate the electronic functions of a PCB and check whether they function as required.

The Edit & Debug section will only work fully when the right PCB is selected in the PCB manager section and the assigned Test Heads are connected to the PCB. You can write and edit Test Scripts without connected Test Heads, but in this mode you will not be able to run or monitor tests.



In the Edit & Debug screen there are 5 sections:

1. Script Section
2. Real Time Input and Output Section
3. PCB/Test Head Detect & Test Section
4. Command Section

Always present on the lower green ribbon are:

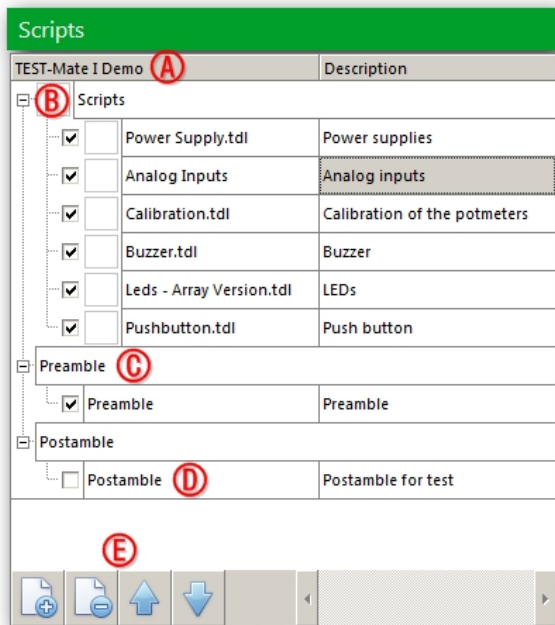
(X) **Log File:** When a test is run, contents of the log screen are copied in a log file. Clicking here will open the log file. The log file is stored in the PCB's script directory and will be overwritten every time a new test is run. See also [Log file](#)

(Y) **Footprint:** Download the lay out for the footprint (Eagle)

(Z) **Support:** Link to the support page of TEST-OK, see [Support](#)

1 Script Section

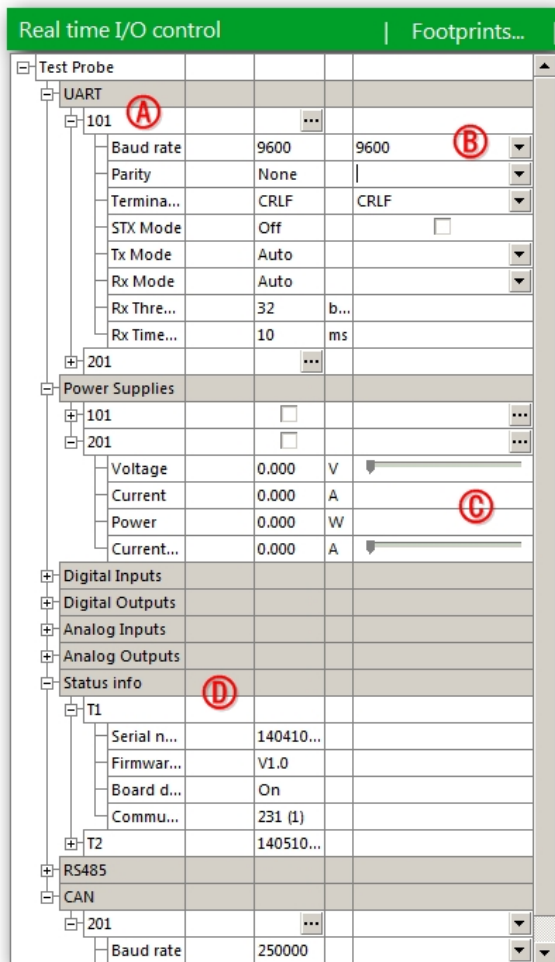
Add, edit, move and activate Test scripts (Pre- and post-amble scripts) and shows the status per Test script while running a test. Every set of Test scripts you make to test a PCB is called a Test suite and is default stored in a subdirectory under: C:/Program Data/TEST-OK/eC-my-test/PCBs.



- A) Activated PCB (see [PCB Manager](#))
- B) Test scripts
- C) [Preamble script](#)
- D) [Postamble script](#)
- E) Script Buttons to add, delete and move the order of a Test Script

2 Real time I/O Control Section

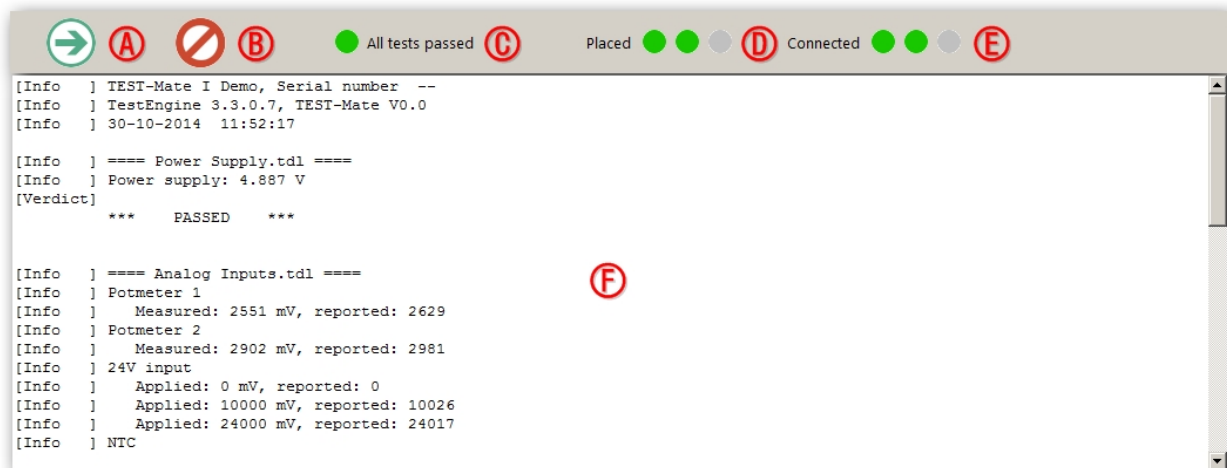
Real-time monitoring and controlling of inputs and outputs. Especially useful for debugging the Test scripts during tests. Only available when the Test Heads are connected to the PCB and the PCB is activated (see [PCB manager screen](#)).



- A) Pin assigned functions of all connected Test Heads See sections [Test probe T1](#), [T2](#) and [T3](#)
- B) Real Time Input
- C) Real Time Output
- D) Status of assigned Test Heads

3 PCB/Test Head Detect & Test Section

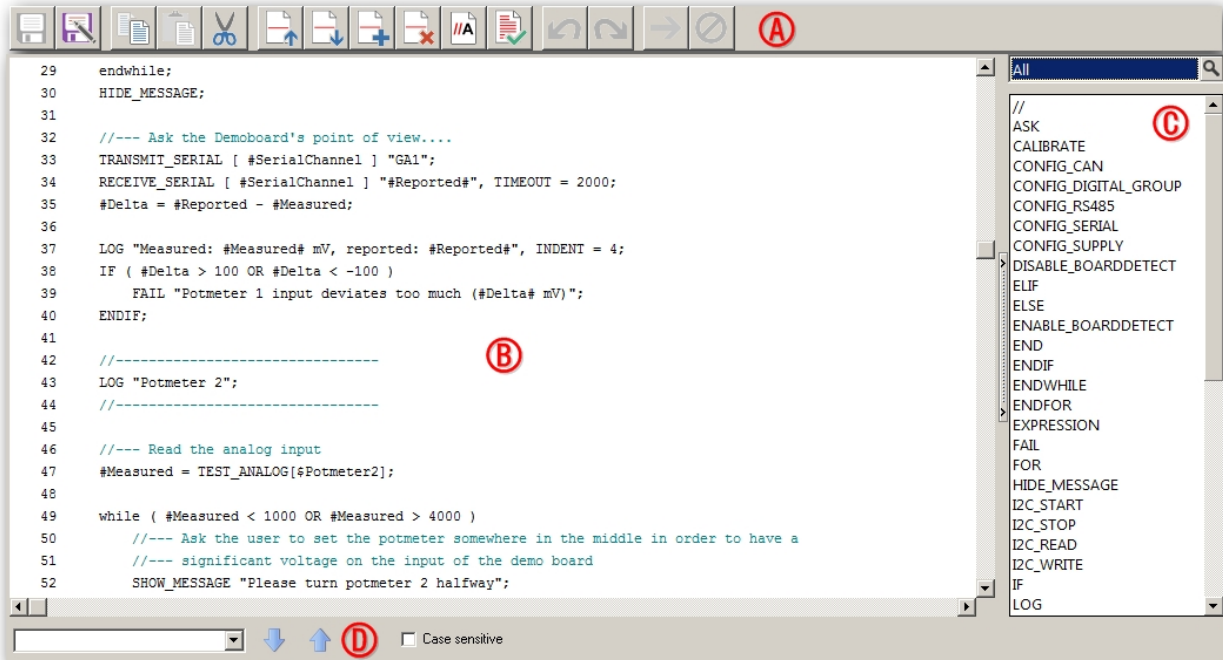
Shows whether the assigned Test Heads are assigned/placed and connected to the PCB. Start testing of activated Test scripts and shows real-time test results in the Log screen



- A) Run test
- B) Abort test
- C) Test status
- D) Test Head assigned and placed
- E) Test Head connected
- F) Log screen

4 Command Section

Write Commands for a Test Script, choose from prescribed Commands and add and modify values and data in the Command Editor.



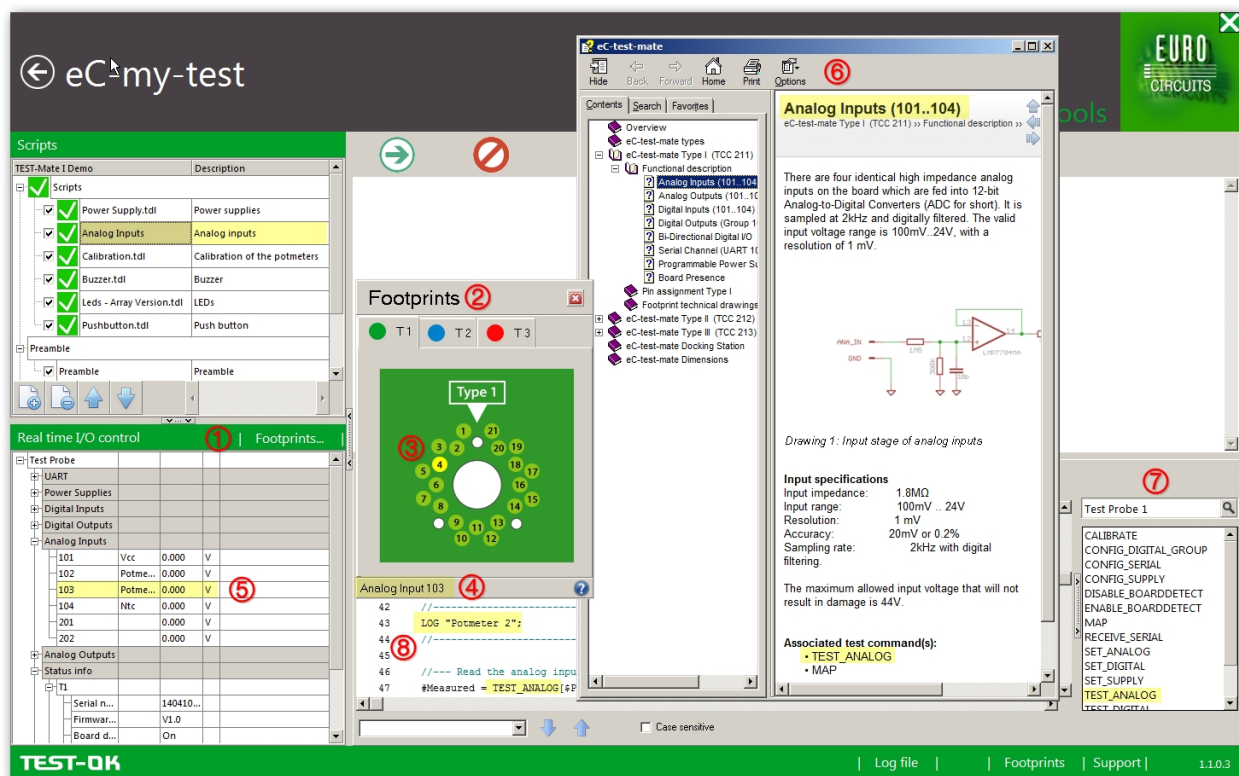
- A) Command Buttons to edit Command lines ([see Command Buttons](#))
- B) Command line view
- C) Prescribed Commands
- D) Search terms in the Command lines

Understanding the Test Heads with Footprint

Every Test Head and corresponding Footprint provides a set of pins which are pre-processed for certain (test) function; Analog In- and Outputs, Digital In- and Outputs, Board detect, Power Supply, CAN Bus, 12C, RS485 and UART. In order to address the right stimuli to the right pins you will create Test Scripts per pin (or set of pins) using prescribed Test Commands. See the [Test Heads T1, T2 and T3](#) section for extensive information.

In the Edit&Debug screen click on Footprints... (1) and the Footprints Screen will pop up (2). Choose the required Test Head (T1, T2 or T3) and click on the required test pin (3). In this case you want to create (alter) a Test Command line for test pin 4 (= Analog input 103 (4)) of Test Head T1 to calibrate potentiometer 2 on the Test-Mate Demo I PCB.

See in the Real time I/O the corresponding I/O of the pin (5). Double click on the pin (3) and all the specifications of the pin are shown (6) including the Associated Test Command(s) in the Prescribed Commands view section (7). In the Command line view the Command lines of the Analog Input Script are visible (8)



Understanding the Test Commands

eC-my-test provides an extensive library of prescribed Test Commands to create a Test Script for a test pin. These Commands are listed in the Prescribed Command view.

Click on the Test Command (in this case TEST_ANALOG) (9) and it will open to the Command Editor (10) where values and parameters can be assigned and modified. Double clicking on the relating Command line in the Command line view (11) opens to its related settings in the Command Editor. Click on the HELP on the Command Editor and a detailed Command description (12) is provided including the relating parameters and useful representative examples.

For searching words and/or test commands in the Command line view, use the search box (13).

The screenshot displays the eC-my-test software interface. The main window is titled "TEST-OK" and contains several panels. On the left, the "Scripts" panel shows a list of scripts, including "TEST_ANALOG". The "Command Editor" panel is open, showing the "TEST_ANALOG" command. The "Parameters" table is visible, listing parameters such as Channel, MapName, Condition, ConditionMode, and ErrorMessage. The "Example" section shows a sample test script. The "Footprints" panel is also visible, showing a circular footprint with pins. The "Command line view" at the bottom shows the test script being edited, with a search box (13) and a "Case sensitive" checkbox. The "HELP" button (12) is located in the top right corner of the Command Editor. The "TEST_ANALOG" command is highlighted in the command list (9). The "Command Editor" is labeled (10). The "Command line view" is labeled (11). The "Footprints" panel is labeled (13).

Name	Value	Unit	Description
Channel	1...n	-	Specifies the analog input channel to be tested
MapName	String	-	Defined with MAP command.
Condition		-	See section 5.1 on page 148 for its format.
ConditionMode (Optional)	IGNORE, CONTINUE, ABORT, ABORT_ALL	-	If the condition fails, then the condition mode indicates whether the test shall be aborted immediately or whether subsequent tests shall still be executed. By default ConditionMode = CONTINUE so if this parameter is omitted subsequent tests will be executed.
ErrorMessage (Optional)	String	-	When the condition fails, the specified text string is shown on the log screen

```
TEST_ANALOG [ 1 ] EXPECT ( == 3.3 );
TEST_ANALOG [ 1 ] EXPECT ( == 3.3 ), "Error"

//-----
LOG "Potmeter 2";
//-----

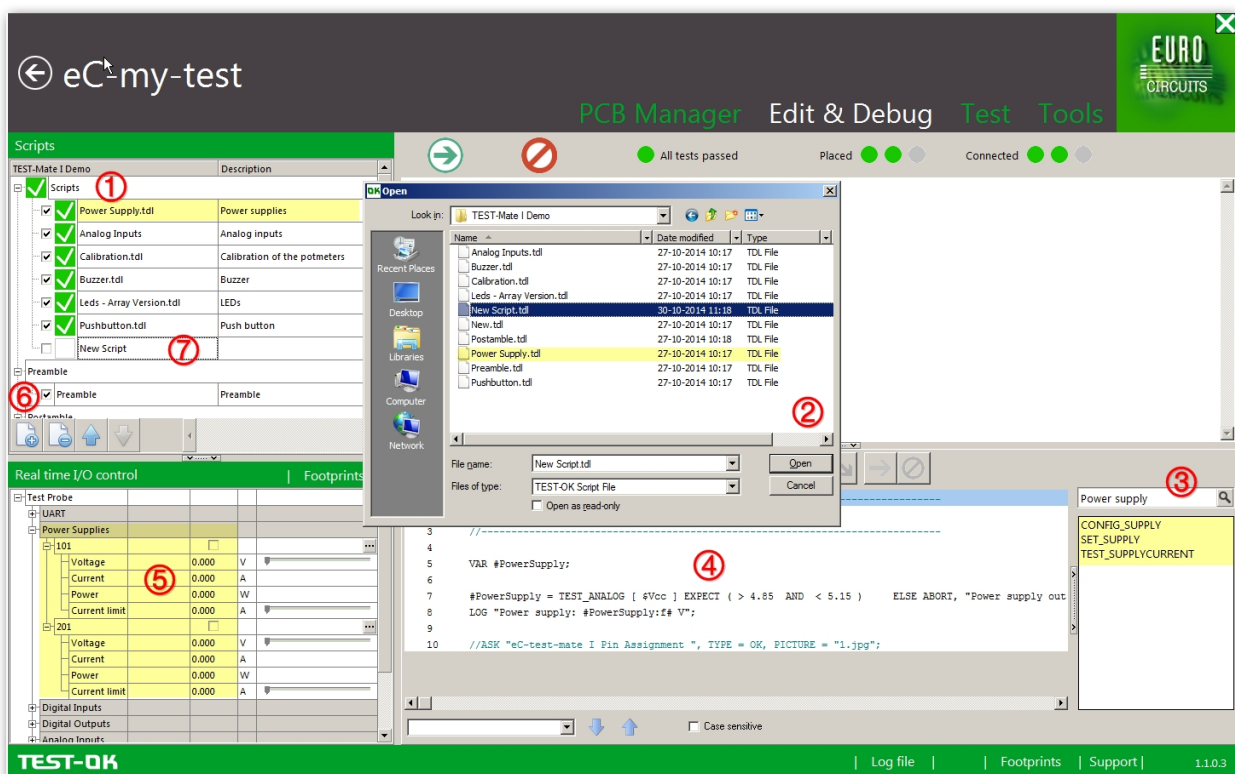
//--- Read the analog input
#Measured = TEST_ANALOG[#Potmeter2];
```

For extensive information on the Test Language of eC-my-test see the TEST-OK SCRIPT LANGUAGE

Creating a Test Scripts for a PCB

A test for a PCB consists of a set of Test scripts (1) called a Test Suite. In the Script Section you see the individual Test scripts. For example for the TEST-Mate I Demo PCB (Starter Kit) six Test Scripts are defined (Power Supply, Analog Inputs, Calibration.tdl, Buzzer.tdl, Leds- Array Version.tdl and Puchbutton.tdl and a [Preamble script](#)). Each Test Script consists of a number of Test Commands that will be executed during the test. Test scripts are saved as a separate ASCII file on your PC with the extension .tdl (2).

In this example the Test Script Power supply is highlighted: Left click on the Power Supply Test Script provides the directory where the .tdl is stored (2). In the Prescribed Commands View you can see the associated Test Commands (3). In the Command line view, the related Test Command lines are visible (4) and in the Real time I/O control section (5) shows that pin 101 and 201 of Test Head T1 are provided with this function.



To create a Test script do the following

- In the Script Section (1) click on the Script button 'Add' (6) and a new Test script box (7) appears. Click in the box, it will be highlighted, then click again for editing. Enter a name for the new Test script (a .tdl file); by default, the description will be the equal to the script name. Synchronizing is done automatically.
- Now you can create a new Test Script by choosing a prescribed Test script from the Prescribed Commands view (3) and adjust as desired.

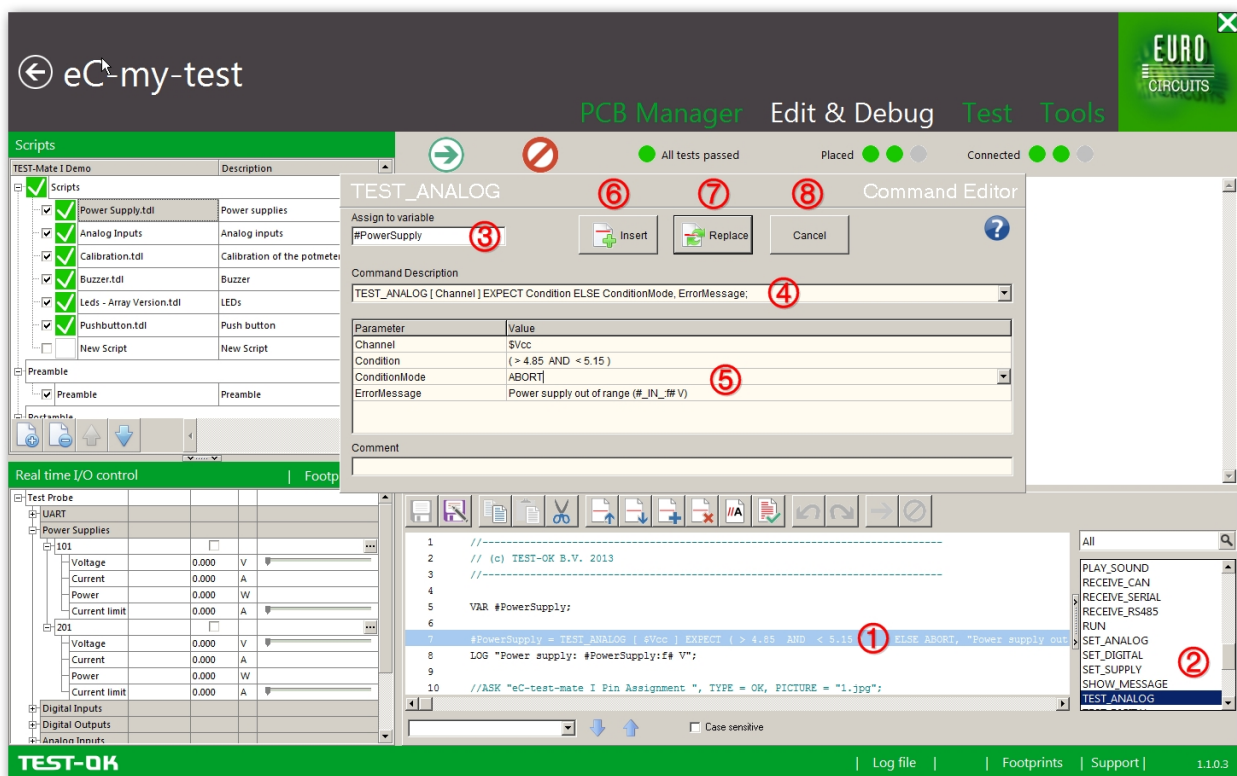
Creating a Command for a Test script

Each Test Script consists of a series of Command lines which can be adjusted in the Command line view (1). eC-my-test provides an extensive library of prescribed Test Commands to create a Test Script for a test pin. These Commands are listed in the Prescribed Command view (2).

It is possible to create new Commands based on existing prescribed Commands. Double click on the preferred Command (f.e. TEST_ANALOG) or the corresponding Command line in the Command line view and the Command Editor screen pops up. In the Command editor it is possible to assign the Command to a certain variable (3), to choose and/or edit a Command description (4) and/or to set or alter the values of parameters (5).

Insert a new Command (6) or replace settings with new ones (7) or cancel (8) the input.

Click on the HELP button of the Command Editor to find the description of the corresponding command, its settings and examples.

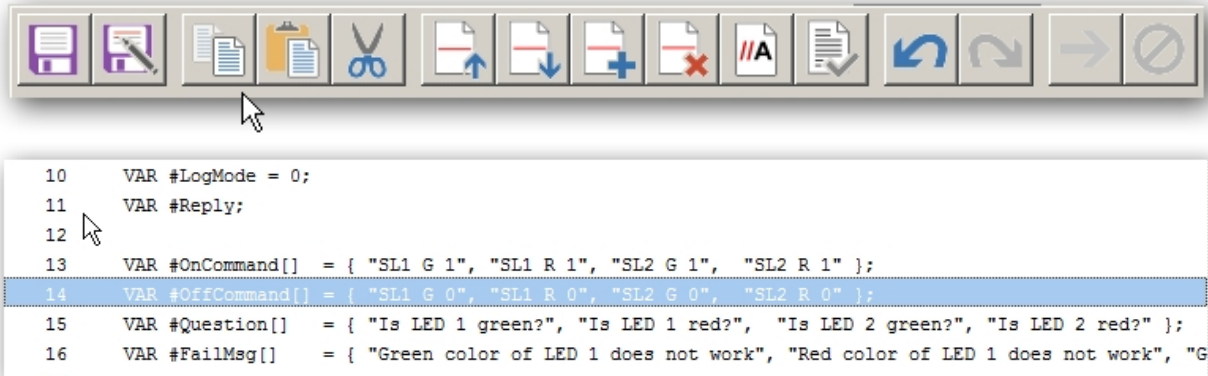


See for detailed instructions, explanations and examples of the Prescribed Commands and scripts language the TEST-OK LANGUAGE DESCRIPTION

Command Buttons

Is it possible to manipulate the Command lines in the Command line view directly with the Command Buttons.

Select the Command line and choose a Command Button:



From left to right:

Save: save changes to the currently open script

Save as: save currently open script to under a new name

Copy: copy the selected lines to the (internal) clipboard

Paste: paste from the (internal) clipboard

Cut: move selected lines to the (internal) clipboard

Move line(s) up: move the selected line(s) one row up

Move line(s) down: move the selected line(s) one row down

Insert line: insert a new line above the current line

Delete line(s): remove the selected line(s) without adding to the (internal) clipboard

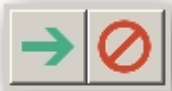
Toggle comment: toggle the comment symbol (//) in front of the selected line(s)

Check Syntax: check on syntax errors in the currently open script (this button is only enabled when the script is not modified, first save the script if unsaved modifications were made).

Undo: Undo the last modification. Modifications cannot be undone anymore after saving the script

Redo: Redo the last undone modification. Modifications cannot be undone anymore after saving the script

The next two buttons are only active when the currently executed script is halted on a break point (see [Breakpoints](#)):



Run: Continue script execution after a breakpoint is hit

Abort: Abort script execution after a breakpoint is hit

Running and debugging a Test

When a Test Script is created, a test can be run to see if the settings are correct. During the test it is possible to make changes to the Test Script as a result of the outcome of the test (debugging). Again we look at the example of TEST-OK Demo I to show you how a test are run and what tools you have to refine and debug the Test Scripts.

Connect the assigned Test Heads to their correct Footprints on the PCB. In this case T1 on the PCB TEST-Mate I Demo PCB (Starter Kit).

Click on the Run Test Button (1) (only available when the Test Heads are connected to the PCB). The complete Test Suite for PCB TEST-Mate I Demo will be executed. The Test(s) running status indicator (2) turns into blue and the test is running.

The marks in front of the Test Scripts (3) turn blue (with question mark) when activated, blue (with arrow) while running and green when tested correct or red when tested false.

When the test is running there are several in and outputs to view and control:

The test setting and values can be real time and controlled in the Real time I/O control Section (4).

The test results are real time shown in the Log screen (5).

An UART Terminal (opens by double click on the UART 101 Test Head in the Real Time I/O control Section) provides real time serial communication values (6).

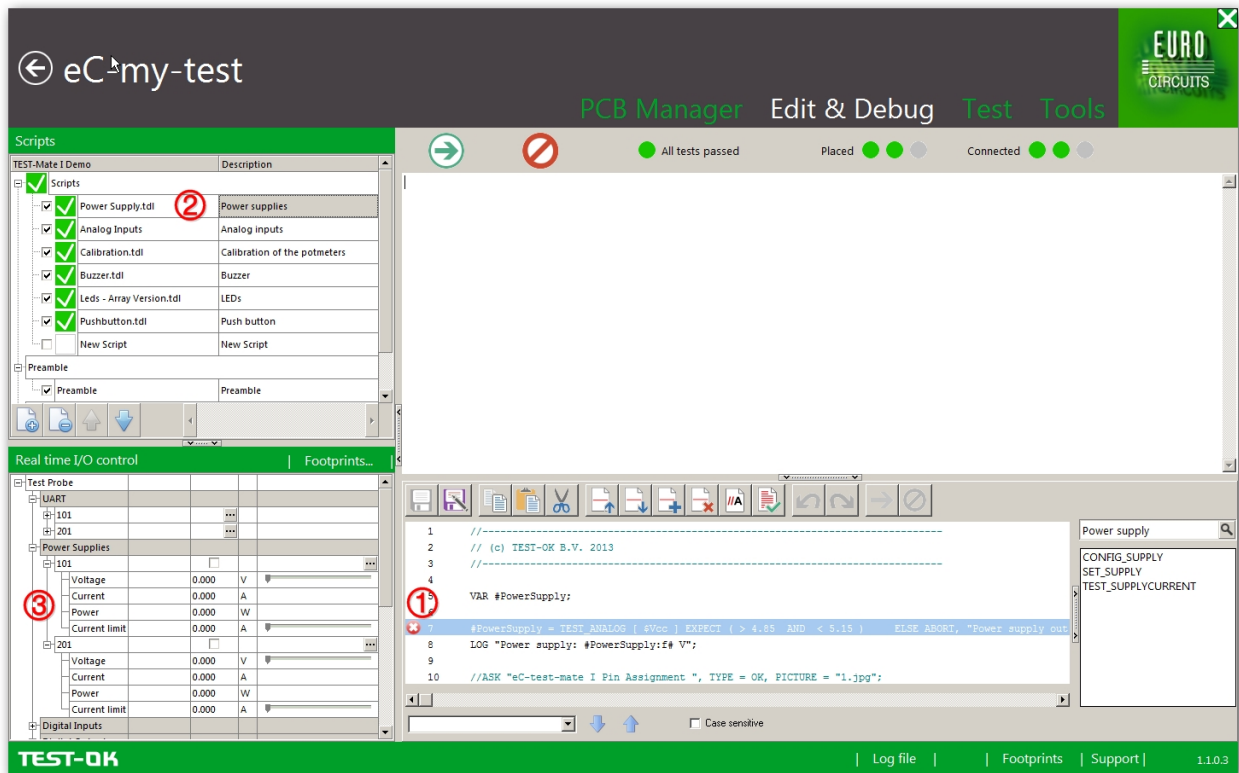
Visual and aural controls can be assigned to the Test Scripts in order to ask a certain input from the operator. In this example (Test Script Calibration.tdl) the operator is asked to alter the settings for a potentiometer via serial communication (7). By doing so the values in the Real time I/O control are visual (4). Here you see the value of case pin 102 with function Potmeter 1.

The screenshot displays the eC-my-test software interface. The top bar includes navigation icons and the title "eC-my-test". Below this, the "Scripts" panel on the left lists various test scripts, with "Calibration.tdl" highlighted. The main area shows the "Real time I/O control" section, which includes a table of test results. The table has columns for "Footprints", "Value", and "Unit". The "Value" column shows "2512 mV" for "Pin 102". A "Potmeter 1 via serial communication" dialog box is open, displaying "2512 mV" and a range from "2300 mV" to "2700 mV". The "Log" panel on the right shows the test results, including "Measured: 2514 mV, reported: 2512" and "Verdict: PASSED". The "UART 101 Terminal" panel shows serial communication data. The bottom status bar indicates "TEST-OK" and provides links for "Log file", "Footprints", "Support", and the version "1.1.0.3".

Footprints	Value	Unit
101	Vcc	4.903 V
102	Potmeter1	2.441 V
103	Potmeter2	2.904 V
104	Ntc	2.543 V
201		0.000 V
202		0.000 V
101	Vout_24V	24.000 V
102		0.000 V
103		0.000 V
104		0.000 V

Breakpoints for debugging a test

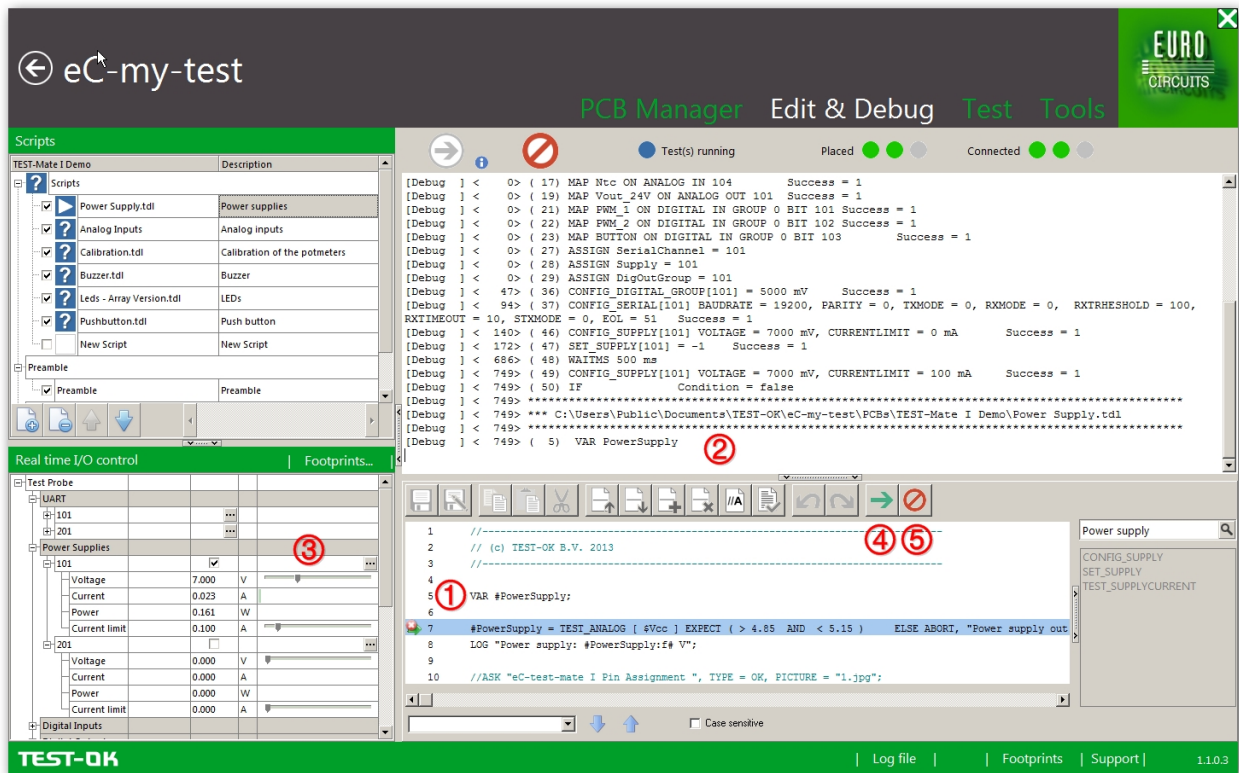
For debugging a test it is very useful to run a single Test Script and stop at a certain Command line to be able to freeze the actual in- and outputs. For this purpose eC-my-test is provided with a so called Breakpoint function. Choose the concerning Test Script to run (deselect the other Scripts) (2). Double click in front of the Command line (1) in the Command line view, where you want the test to stop, to insert a Breakpoint; a small red cross will appear. When running the test, execution will be halted on this line, allowing checking for example the values measured on the I/O control screen (3), or check functions on your PCB.



In this example a Breakpoint is inserted (1) and the Test Script "Power Supply" is halted on the current Command line which has a breakpoint. In the Log screen the debug message is shown (2), in the Real time I/O section the actual output is visible (3). To continue the test click the arrow of the Command Buttons (4) and the Test Script will continue. To abort the test click on the abort button of the Command Buttons (5)

It is possible to set as many breakpoints as required in the script that is currently shown in the editor. When opening another script, all breakpoints are automatically cleared.

Clearing a breakpoint is done by double-clicking on the breakpoint symbol.





Real time I/O control

In the Real time I/O control all the test pins of the assigned Test Heads are visual and during testing the values and setting are shown.

. Also the status of the Test Heads are visible here.

Real time I/O control | Footprints... |

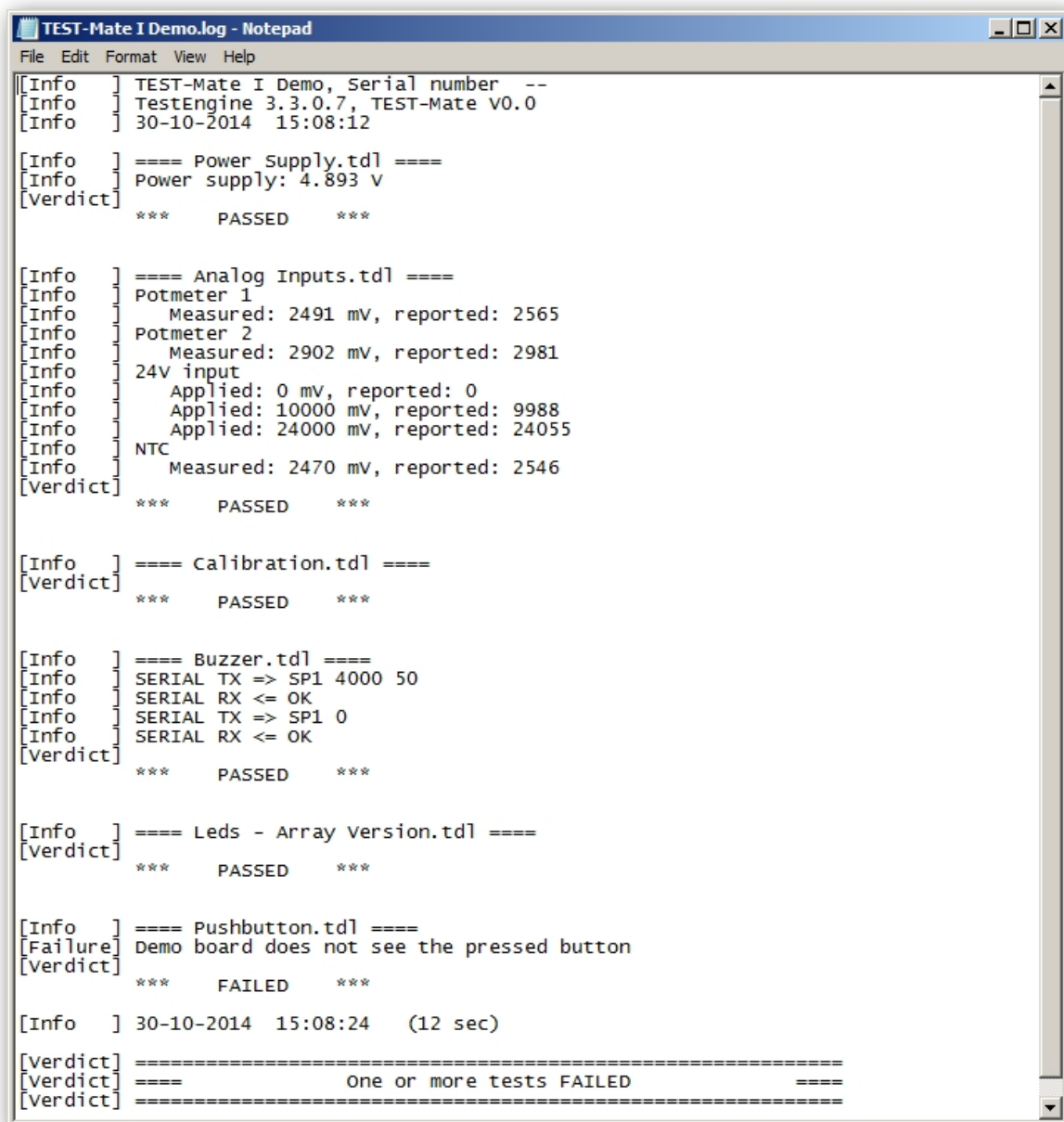
Test Probe			
UART			
101		...	
Baud rate	19200	9600	▼
Parity	None	ERROR: Parity2String	▼
Terminal m...	CRLF	CRLF	▼
STX Mode	Off	<input type="checkbox"/>	
Tx Mode	Manual		▼
Rx Mode	Manual		▼
Rx Thresh...	100	b...	
Rx Timeout	10	ms	
201		...	
Baud rate	9600	9600	▼
Parity	None	ERROR: Parity2String	▼
Terminal m...	CRLF	CRLF	▼
STX Mode	Off	<input type="checkbox"/>	
Tx Mode	Auto		▼
Rx Mode	Auto		▼
Rx Thresh...	32	b...	
Rx Timeout	10	ms	
Power Supplies			
101		<input type="checkbox"/>	...
Voltage	0.000	V	▬
Current	0.000	A	
Power	0.000	W	
Current limit	0.000	A	▬
201		<input type="checkbox"/>	...
Voltage	0.000	V	▬
Current	0.000	A	
Power	0.000	W	
Current limit	0.000	A	▬
Digital Inputs			
101	PWM_1	<input type="checkbox"/>	
102	PWM_2	<input type="checkbox"/>	

Digital Inputs				
101	PWM_1	<input type="checkbox"/>		
102	PWM_2	<input type="checkbox"/>		
103	BUTTON	<input type="checkbox"/>		
104		<input type="checkbox"/>		
201		<input type="checkbox"/>		
202		<input type="checkbox"/>		
203		<input type="checkbox"/>		
204		<input type="checkbox"/>		
Digital Outputs				
Group 101		0.000	V	
1		<input type="checkbox"/>		
2		<input type="checkbox"/>		
3		<input type="checkbox"/>		
4		<input type="checkbox"/>		
Group 102				
1		<input type="checkbox"/>		
2		<input type="checkbox"/>		
3		<input type="checkbox"/>		
4		<input type="checkbox"/>		
Group 201		0.000	V	
1		<input type="checkbox"/>		
2		<input type="checkbox"/>		
3		<input type="checkbox"/>		
4		<input type="checkbox"/>		
Group 202				
1		<input type="checkbox"/>		
2		<input type="checkbox"/>		
3		<input type="checkbox"/>		
4		<input type="checkbox"/>		
Analog Inputs				
101	Vcc	0.000	V	
102	Potmeter1	0.000	V	
103	Potmeter2	0.000	V	

Analog Inputs				
101	Vcc	0.000	V	
102	Potmeter1	0.000	V	
103	Potmeter2	0.000	V	
104	Ntc	0.000	V	
201		0.000	V	
202		0.000	V	
Analog Outputs				
101	Vout_24V	0.000	V	<input type="text"/>
102		0.000	V	<input type="text"/>
103		0.000	V	<input type="text"/>
104		0.000	V	<input type="text"/>
Status info				
T1				
Serial num...		14041004		
Firmware v...		V1.0		
Board det...		On		
Communic...		248 (1)		
T2				
Serial num...		14051004		
Firmware v...		V1.0		
Board det...		On		
Communic...		040 (0)		
RS485				
201		...		
Baud rate		9600		<input type="text"/>
Parity		None		<input type="text"/>
Terminal m...		CRLF		<input type="text"/>
Rx Thresh...		32	b...	
Rx Timeout		10	ms	
CAN				
201		...		<input type="text"/>
Baud rate		250000		<input type="text"/>
Extended Id		Off		<input type="checkbox"/>

Log file

The Log screen, in the PCB Detect & Test Section shows the results of the executed Test Scripts. Click on the Log File to produce a .txt file with this information. There are two types of setting for this Log File. One is the Normal Log settings and two is the Log File with Debug messages. The Debug Messages Log File can be obtained by right click in the Log view and choose Show debug message.



```
TEST-Mate I Demo.log - Notepad
File Edit Format View Help

[Info ] TEST-Mate I Demo, Serial number --
[Info ] TestEngine 3.3.0.7, TEST-Mate V0.0
[Info ] 30-10-2014 15:08:12

[Info ] ==== Power Supply.tdl ====
[Info ] Power supply: 4.893 V
[Verdict] *** PASSED ***

[Info ] ==== Analog Inputs.tdl ====
[Info ] Potmeter 1
[Info ] Measured: 2491 mV, reported: 2565
[Info ] Potmeter 2
[Info ] Measured: 2902 mV, reported: 2981
[Info ] 24V input
[Info ] Applied: 0 mV, reported: 0
[Info ] Applied: 10000 mV, reported: 9988
[Info ] Applied: 24000 mV, reported: 24055
[Info ] NTC
[Info ] Measured: 2470 mV, reported: 2546
[Verdict] *** PASSED ***

[Info ] ==== Calibration.tdl ====
[Verdict] *** PASSED ***

[Info ] ==== Buzzer.tdl ====
[Info ] SERIAL TX => SP1 4000 50
[Info ] SERIAL RX <= OK
[Info ] SERIAL TX => SP1 0
[Info ] SERIAL RX <= OK
[Verdict] *** PASSED ***

[Info ] ==== Leds - Array Version.tdl ====
[Verdict] *** PASSED ***

[Info ] ==== Pushbutton.tdl ====
[Failure] Demo board does not see the pressed button
[Verdict] *** FAILED ***

[Info ] 30-10-2014 15:08:24 (12 sec)

[Verdict] =====
[Verdict] ===== One or more tests FAILED =====
[Verdict] =====
```

Log File in Debug message mode

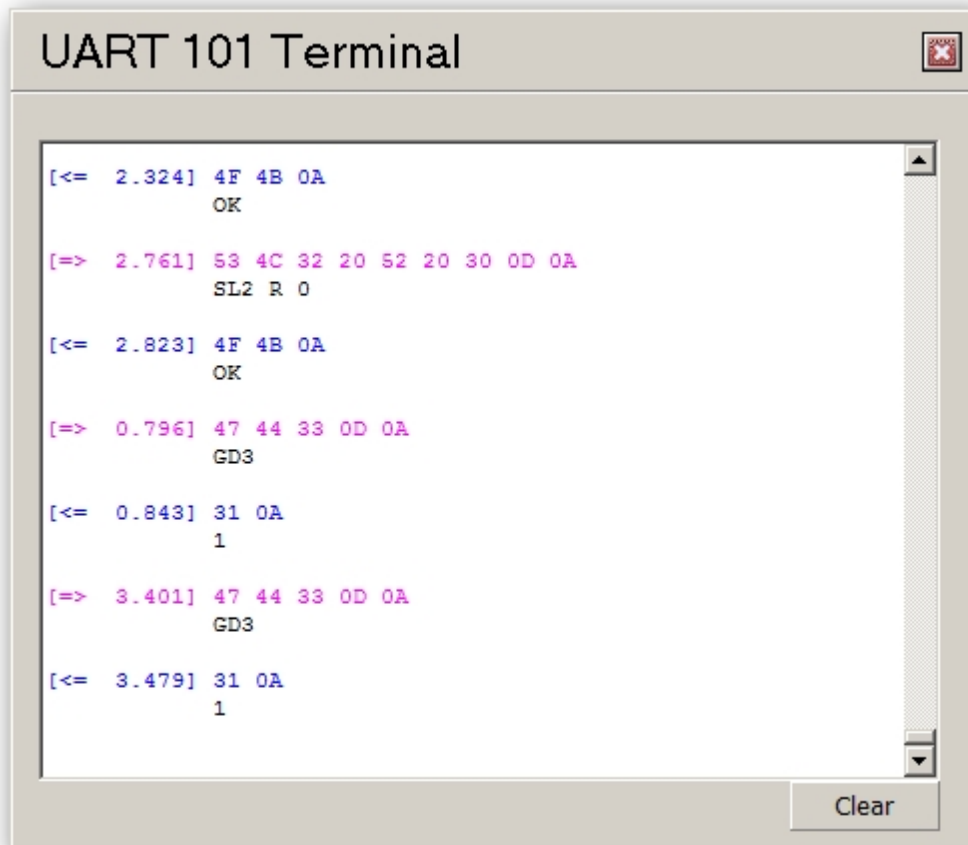
```

TEST-Mate I Demo.log - Notepad
File Edit Format View Help
[Debug] < 0> (15) MAP Potmeter1 ON ANALOG IN 102 Success = 1
[Debug] < 0> (16) MAP Potmeter2 ON ANALOG IN 103 Success = 1
[Debug] < 0> (17) MAP NTC ON ANALOG IN 104 Success = 1
[Debug] < 0> (19) MAP Vout_24V ON ANALOG OUT 101 Success = 1
[Debug] < 0> (21) MAP PWM_1 ON DIGITAL IN GROUP 0 BIT 101 Success = 1
[Debug] < 0> (22) MAP PWM_2 ON DIGITAL IN GROUP 0 BIT 102 Success = 1
[Debug] < 0> (23) MAP BUTTON ON DIGITAL IN GROUP 0 BIT 103 Success = 1
[Debug] < 0> (27) ASSIGN SerialChannel = 101
[Debug] < 0> (28) ASSIGN Supply = 101
[Debug] < 0> (29) ASSIGN DigOutGroup = 101
[Debug] < 31> (36) CONFIG_DIGITAL_GROUP[101] = 5000 mv Success = 1
[Debug] < 78> (37) CONFIG_SERIAL[101] BAUDRATE = 19200, PARITY = 0, TXMODE = 0, RXMODE = 0, RXTRHESHOLD = 100,
RXTIMEOUT = 10, STXMODE = 0, EOL = 51 Success = 1
[Debug] < 125> (46) CONFIG_SUPPLY[101] VOLTAGE = 7000 mv, CURRENTLIMIT = 0 ma Success = 1
[Debug] < 172> (47) SET_SUPPLY[101] = -1 Success = 1
[Debug] < 686> (48) WAITMS 500 ms
[Debug] < 686> (49) CONFIG_SUPPLY[101] VOLTAGE = 7000 mv, CURRENTLIMIT = 100 ma Success = 1
[Debug] < 686> (50) IF Condition = false
[Debug] < 686> *****
[Debug] < 686> *** C:\Users\Public\Documents\TEST-OK\ec-my-test\PCBs\TEST-Mate I Demo\Leds - Array Version.tdl
[Debug] < 686> *****
[Debug] < 686> (10) VAR LogMode = 0
[Debug] < 686> (11) VAR Reply
[Debug] < 686> (13) VAR OnCommand[]
[Debug] < 686> (14) VAR OffCommand[]
[Debug] < 686> (15) VAR Question[]
[Debug] < 686> (16) VAR FailMsg[]
[Debug] < 686> (18) FOR: #i = 0
[Debug] < 733> (19) TRANSMIT_SERIAL[101] "SL1 G 1" Success = 1
[Debug] < 749> (20) RECEIVE_SERIAL[101] "OK" Success = 1
[Debug] < 1435> (21) ASK "Is LED 1 green?" TYPE = YESNO Reply = 1
[Debug] < 1435> (21) ASSIGN Reply = 1
[Debug] < 1435> (22) IF Condition = false
[Debug] < 1435> (26) TRANSMIT_SERIAL[101] "SL1 G 0" Success = 1
[Debug] < 1451> (27) RECEIVE_SERIAL[101] "OK" Success = 1
[Debug] < 1451> (18) FOR: #i = 1
[Debug] < 1482> (19) TRANSMIT_SERIAL[101] "SL1 R 1" Success = 1
[Debug] < 1498> (20) RECEIVE_SERIAL[101] "OK" Success = 1
[Debug] < 2246> (21) ASK "Is LED 1 red?" TYPE = YESNO Reply = 1
[Debug] < 2246> (21) ASSIGN Reply = 1
[Debug] < 2246> (22) IF Condition = false
[Debug] < 2278> (26) TRANSMIT_SERIAL[101] "SL1 R 0" Success = 1
[Debug] < 2293> (27) RECEIVE_SERIAL[101] "OK" Success = 1
[Debug] < 2293> (18) FOR: #i = 2
[Debug] < 2324> (19) TRANSMIT_SERIAL[101] "SL2 G 1" Success = 1
[Debug] < 2340> (20) RECEIVE_SERIAL[101] "OK" Success = 1
[Debug] < 2839> (21) ASK "Is LED 2 green?" TYPE = YESNO Reply = 1
[Debug] < 2839> (21) ASSIGN Reply = 1
[Debug] < 2839> (22) IF Condition = false
[Debug] < 2886> (26) TRANSMIT_SERIAL[101] "SL2 G 0" Success = 1
[Debug] < 2902> (27) RECEIVE_SERIAL[101] "OK" Success = 1
[Debug] < 2902> (18) FOR: #i = 3
[Debug] < 2933> (19) TRANSMIT_SERIAL[101] "SL2 R 1" Success = 1
[Debug] < 2948> (20) RECEIVE_SERIAL[101] "OK" Success = 1
[Debug] < 3385> (21) ASK "Is LED 2 red?" TYPE = YESNO Reply = 1
[Debug] < 3385> (21) ASSIGN Reply = 1
[Debug] < 3385> (22) IF Condition = false
[Debug] < 3401> (26) TRANSMIT_SERIAL[101] "SL2 R 0" Success = 1
[Debug] < 3416> (27) RECEIVE_SERIAL[101] "OK" Success = 1
[Verdict]
*** PASSED ***

```

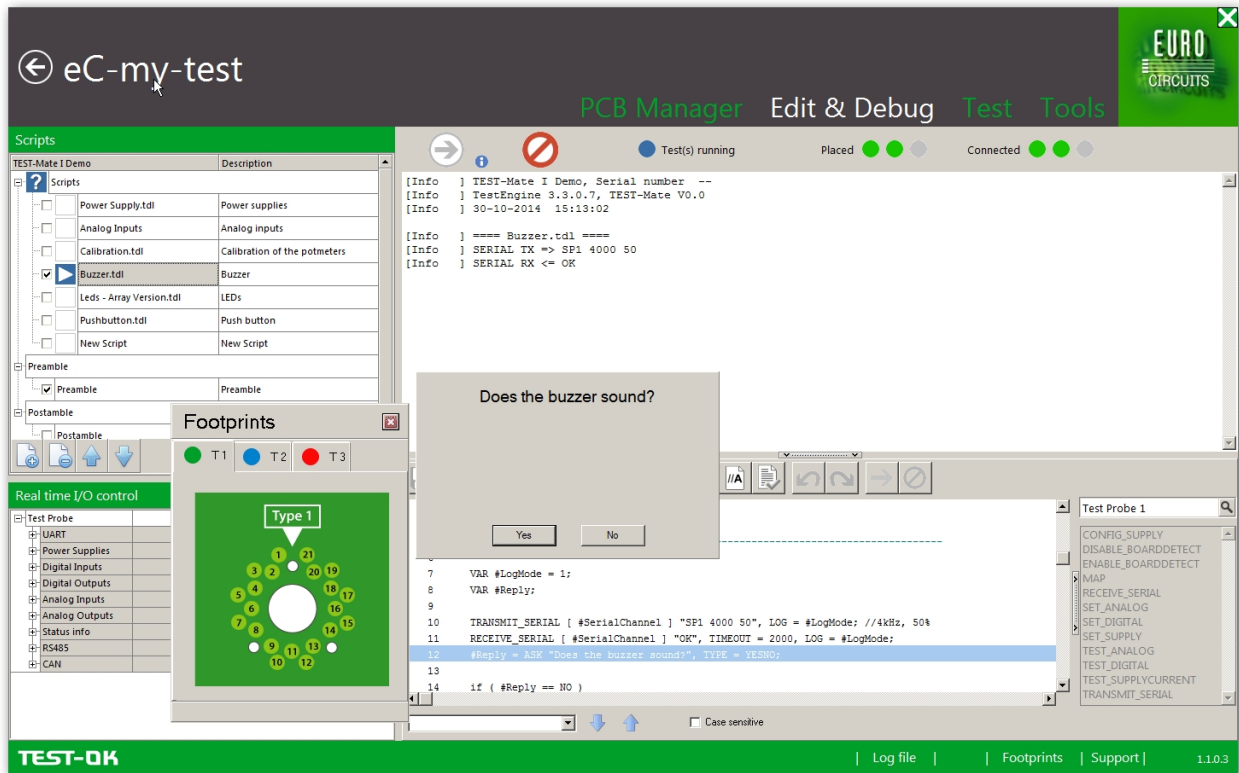
UART Terminal

The UART Terminal shows the serial communication during execution of the Test Scripts. An UART Terminal opens by double click on the UART 101 Test Head in the Real Time I/O control Section)

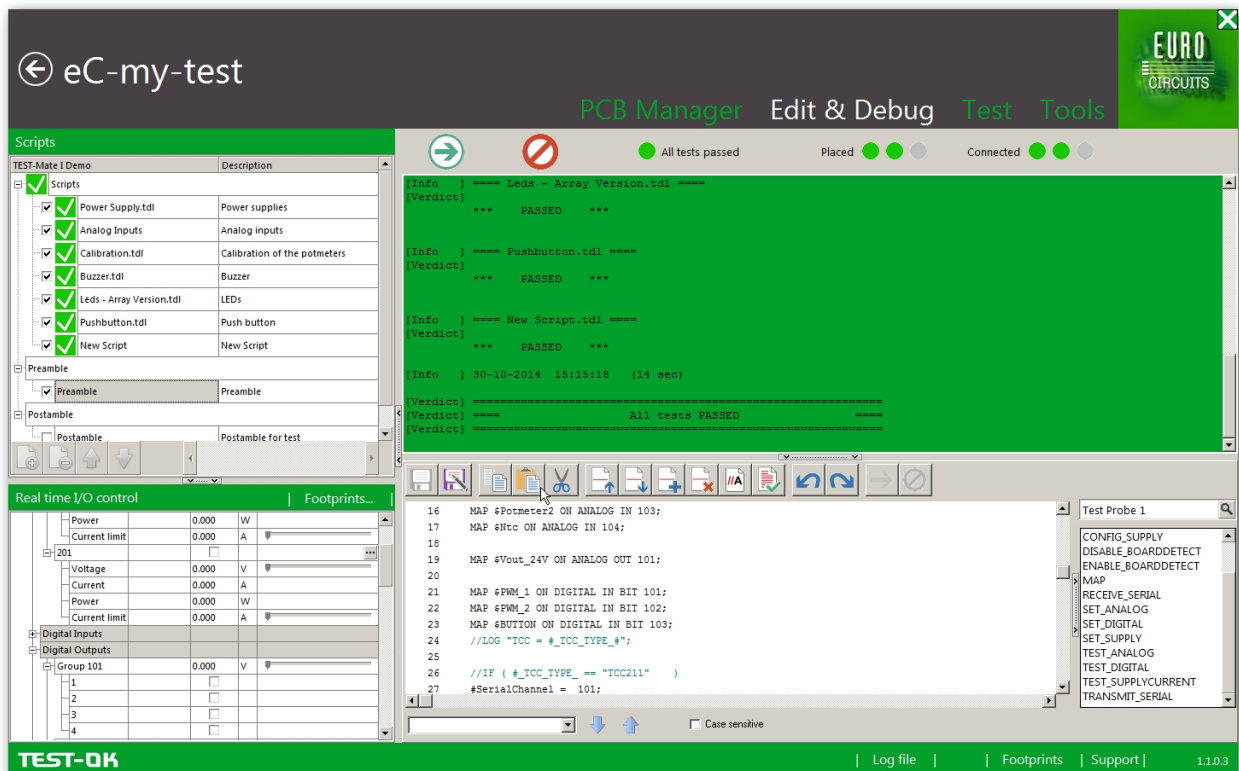


Examples

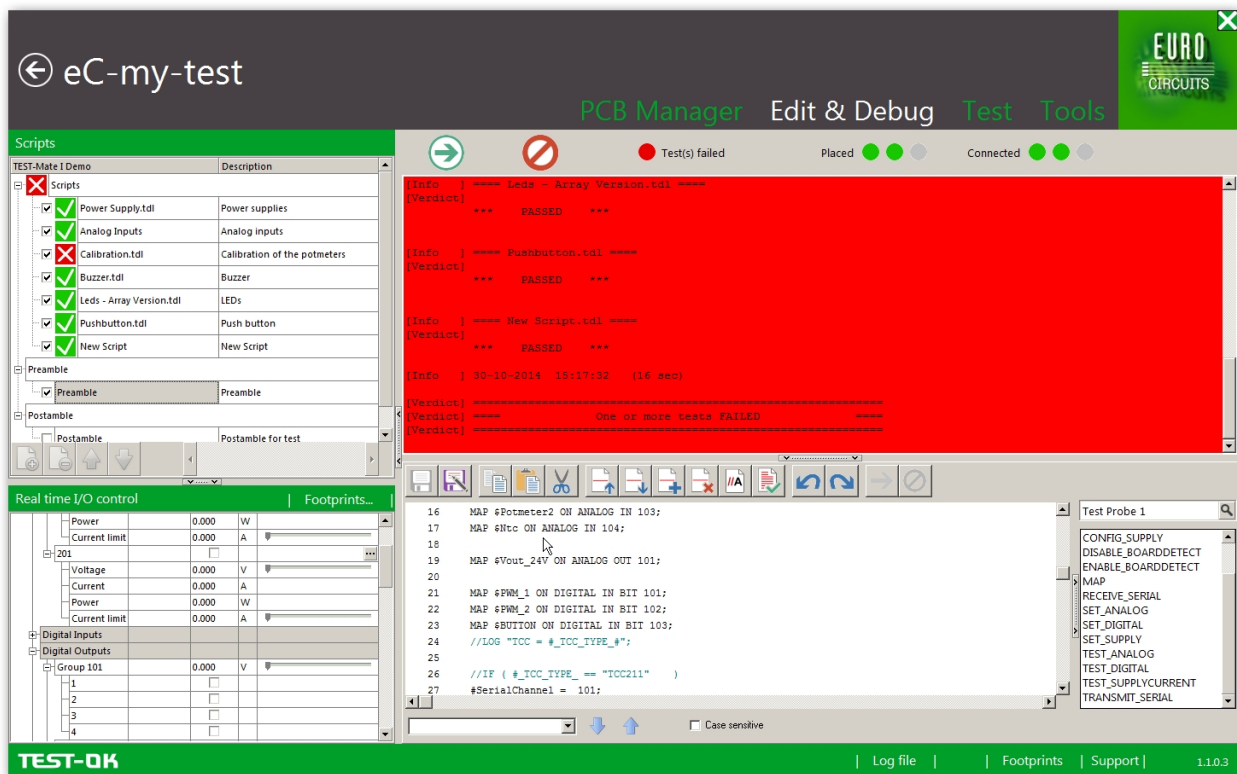
The operator is asked to press a button on the PCB



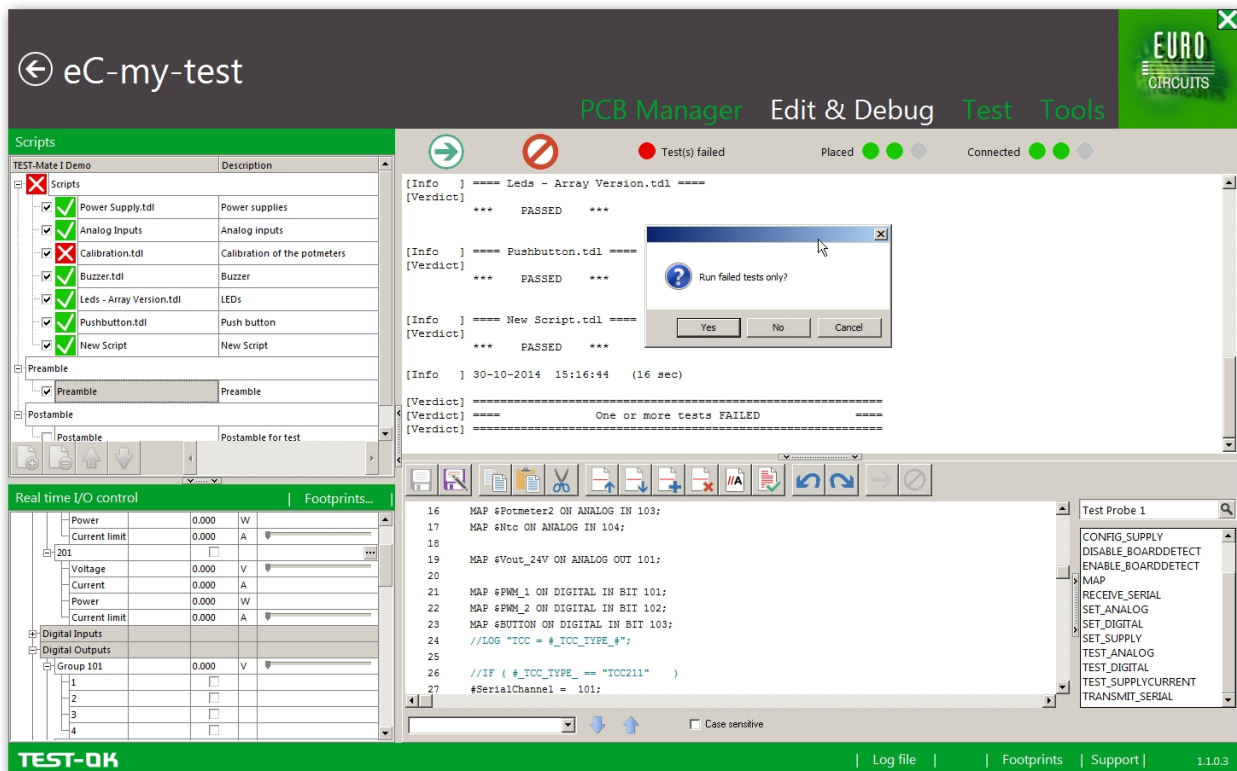
All tests passed



One test failed



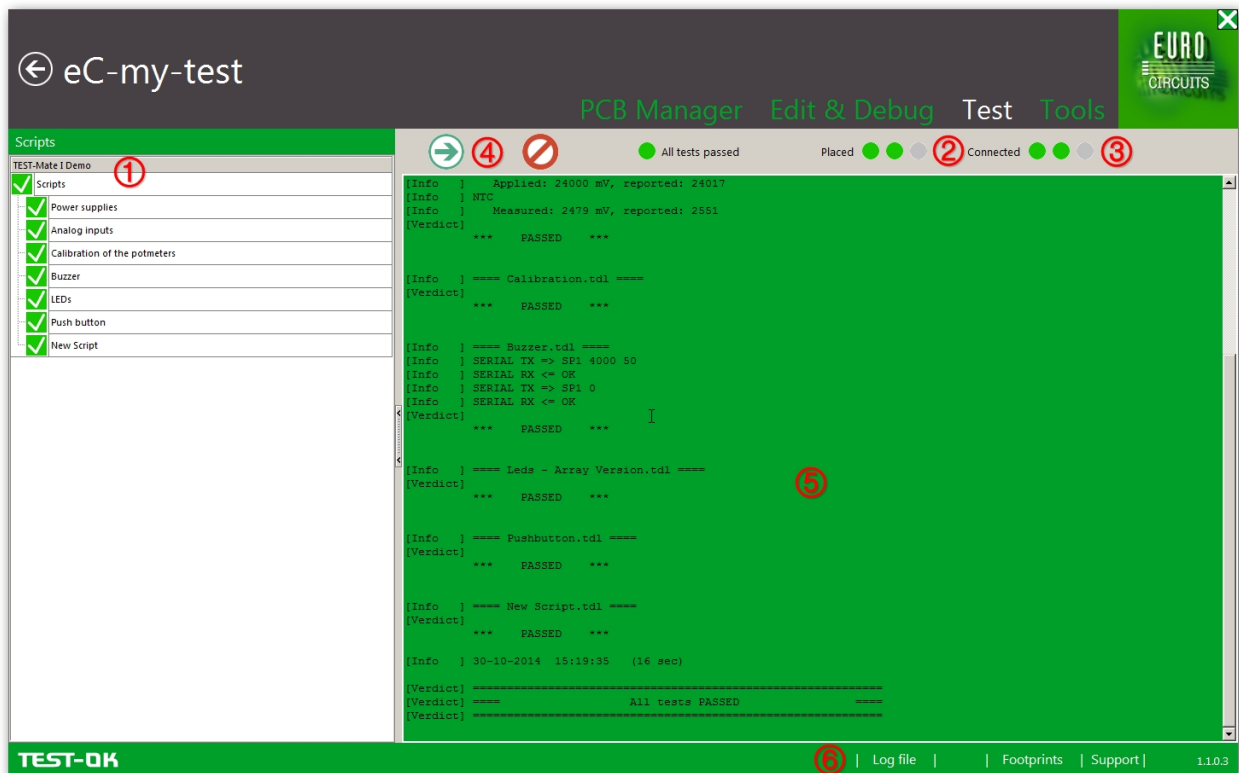
It is possible to only test the failed tests again.



Test

When the required Test Scripts are ready and the complete Test Suite for a PCB is created go to Test to test the production PCBs. Insert the assigned Test Head(s) on the production PCBs.

Activated Test Scripts from the Edit & Debug screen will appear in the Scripts section of the Test screen (1). See how Test Head T1 is placed on the PCB (2) and connected (3). Click on the Run Test Button (4) to run a production test. All test results appear on the Log screen (5) and turn green when passed correctly. With the Log file (6) a .txt file of the outcome can be generated and you can clear the screen for the next test.



Tools

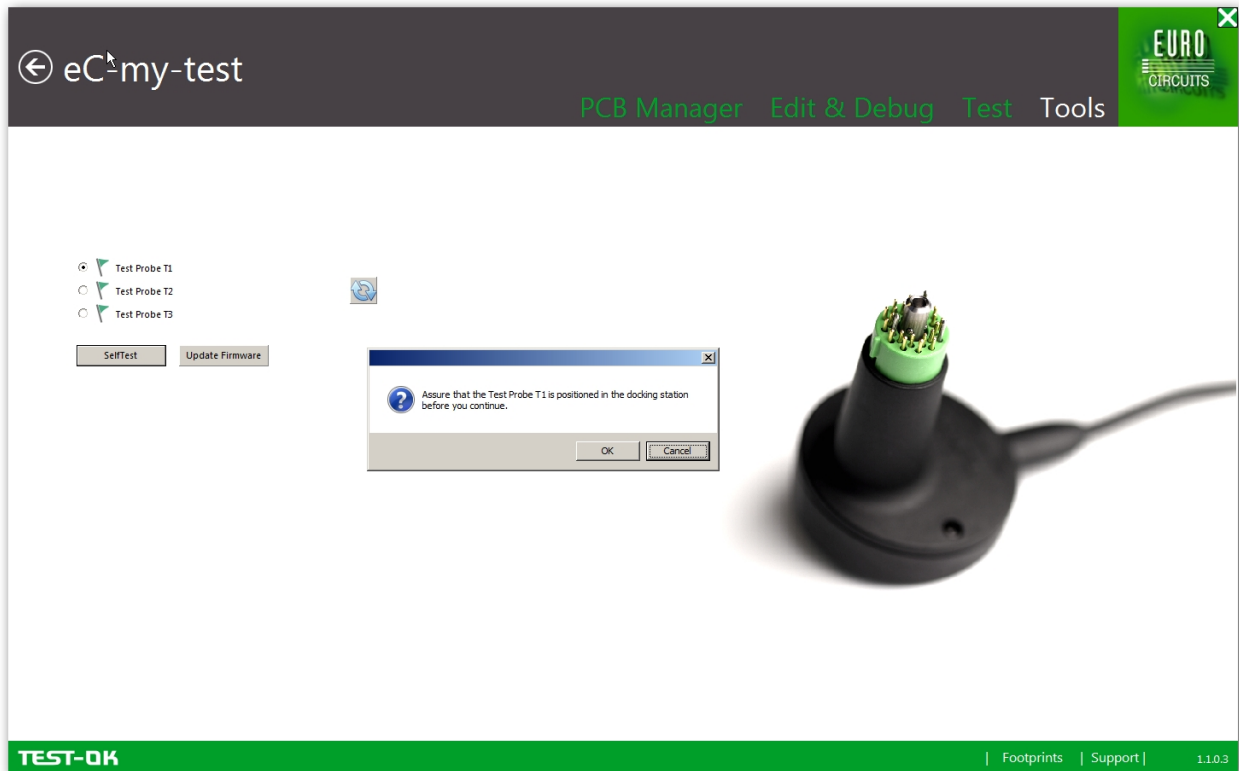
Click on the grey tile Tools. The Tools screen provides a self-test of the Test Heads that are connected and provides Firmware updates for the Docking Station.

Your Test Heads have been tested during production, but you can always carry out the self-test yourself in case your doubts connectivity or other performance of the Test Heads.

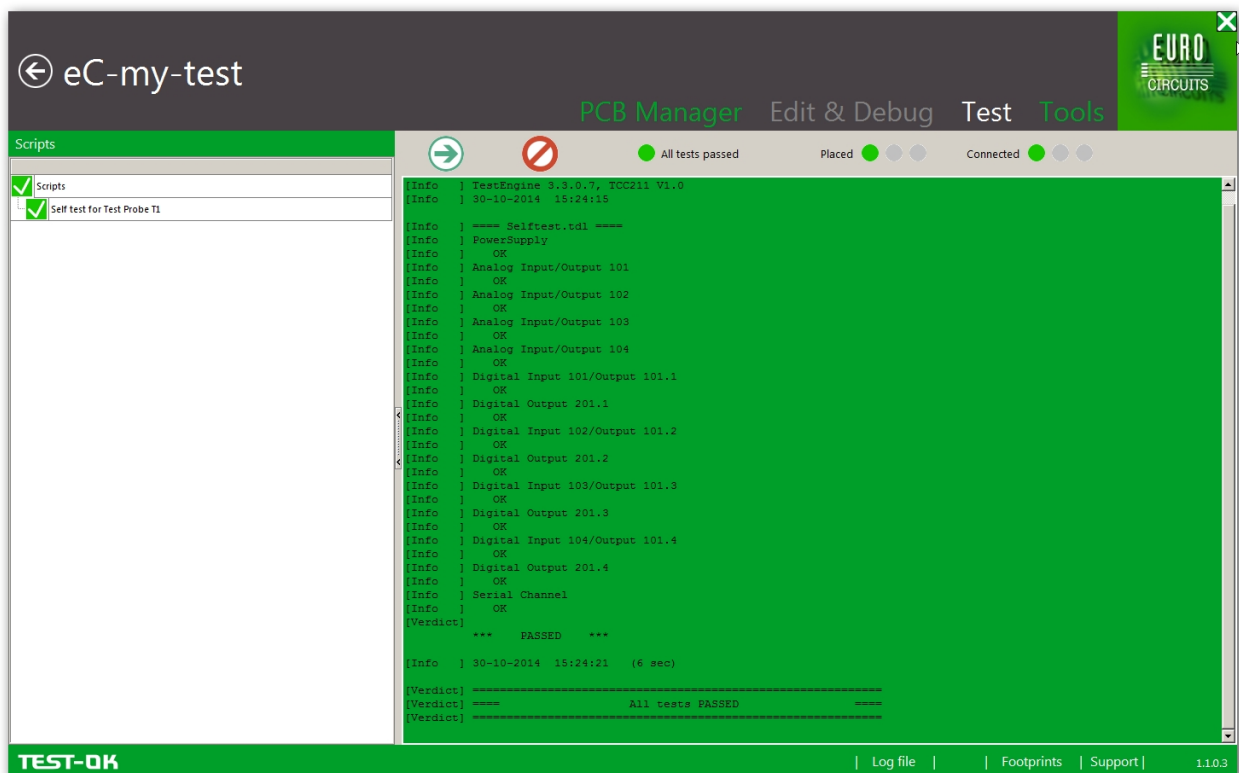


Execute self-test on the Test Heads

Activate the Self test on the first Test Head by ticking the box in front of it and click OK when placed correctly in the Docking Station. The system will start testing and provide the outcome on the TEST screen.



Outcome of Self test of Test Head T1 in the Test section of eC-my-test

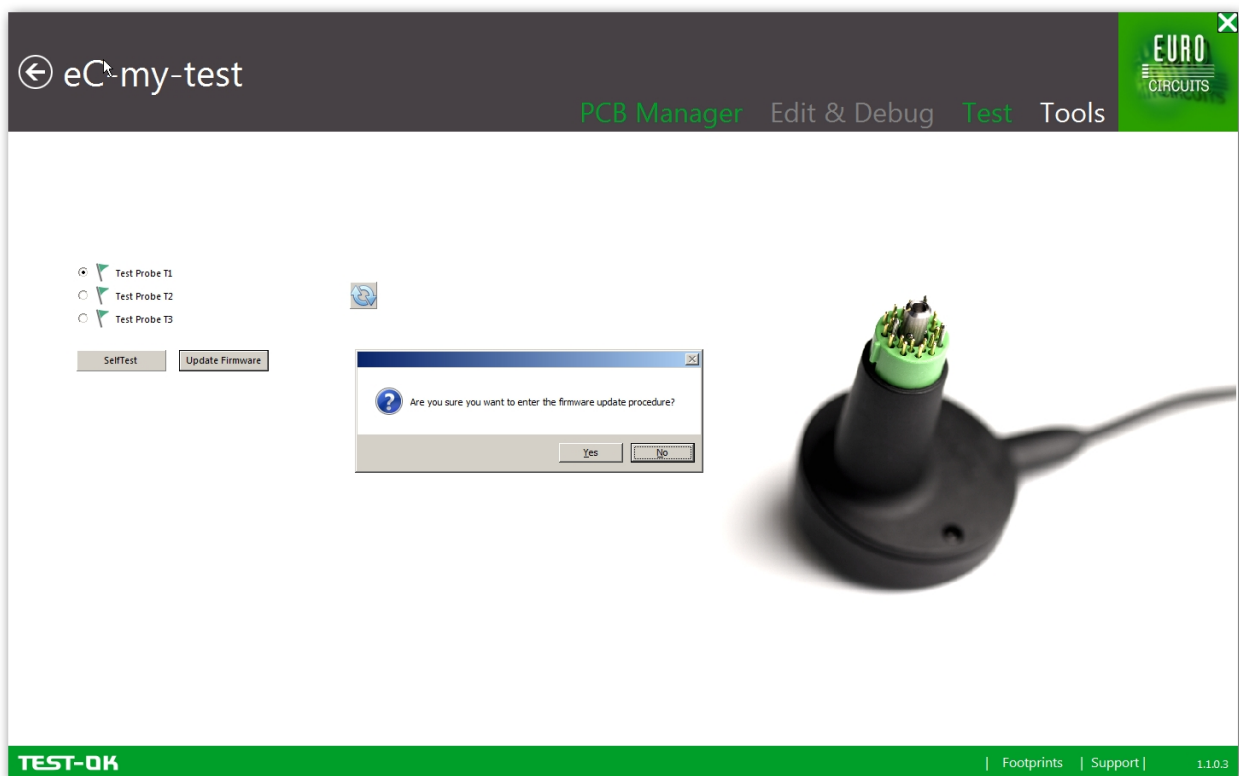


Updating Firmware

All Test Heads carry firmware. You will use this process when you want to update to a newer firmware version or when you are updating to a new version of eC-my-test windows software.

Attention: Updating firmware is a sensitive process. During the process you should not switch to other programs or interrupt in any other way. During the process the LED on the Test Head is blinking. In case the update did not succeed, the LED is blinking in red. Contact Eurocircuits for a solution.

Make sure every Test Head is connected (green flags) and tick the Update Firmware Button. You will be asked if you are sure to update Firmware. When a newer version Firmware is available the update process start automatically.



Glossary

Hardware

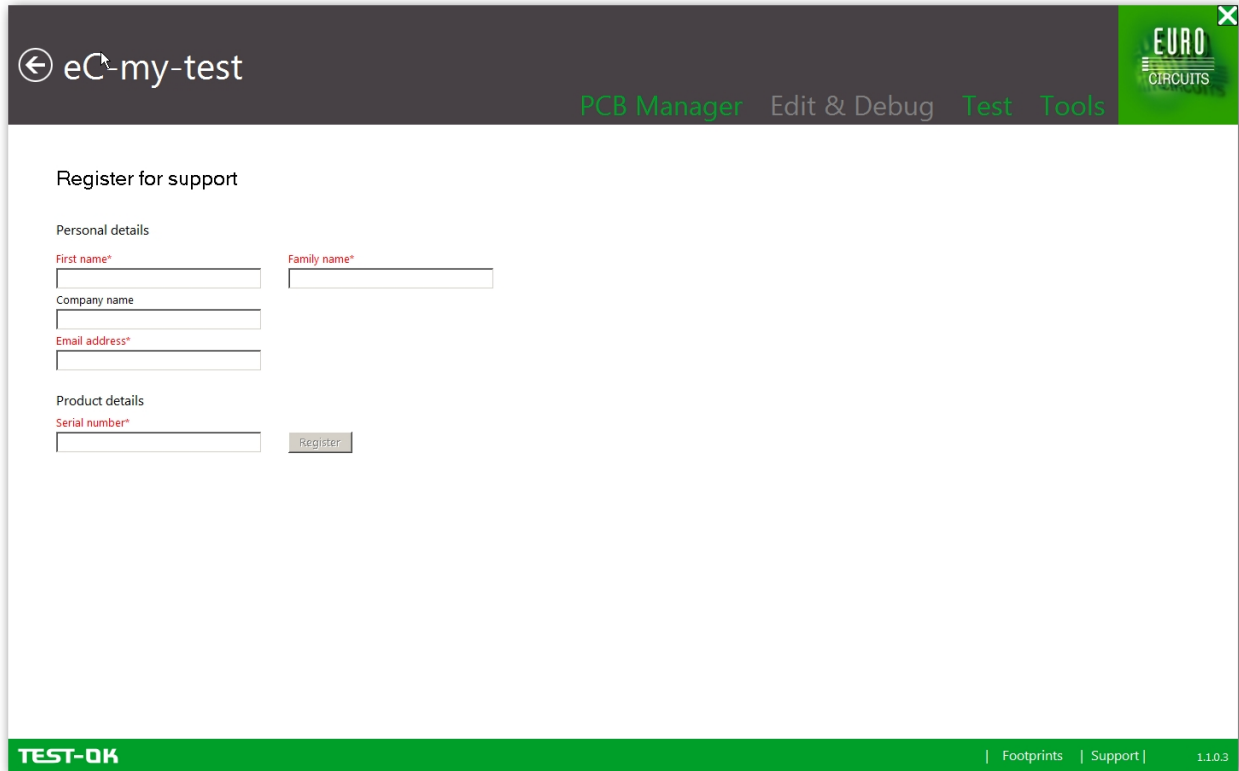
- . Assembled or Populated PCB: a PCB with all the necessary components soldered onto it
- . Docking Station: storage, self test and power supply for 3 Test Heads
- . eC-test-mate: total system of Test Heads, Docking Station and eC-my-test software
- . Footprint: a Test Head corresponding lay-out on the PCB that matches the unique positions of its pins
- . Keying pin: positioning system of 2 or 3 pins to lock each Test Head (T1, T2 and T3) into its unique corresponding footprint
- . PCB: Printed Circuit Board
- . Self test PCB: Every Test Head is locked into its self test PCB when placed in the Docking Station.
- . Starter Kit: a fully functional board & software test suite to demonstrate the eC-test-mate and eC-my-test functionality and become familiar with the eC-test-mate testing system
- . Test Head: a handheld test adapter
- . Test Head T1: Adapter type 1, green, 21 test pins, general functions
- . Test Head T2: Adapter type 2, blue, 22 test pins, communication functions
- . Test Head T3: Adapter type 3, red, 22 test pins, additional functions
- . Test pin: a test pin in one of the Test Heads
- . UUT: Unit Under Test... (assembled PCB to be tested)

Software

- . eC-my-test: test software
- . .Tdl: extension for a Test script file
- . Test Script: a test instruction (command line) assigned to 1 test pin of 1 Test Head
- . Test Suite: a sequence of Test Scripts for functional testing of an assembled PCB

Support

In order to receive support click on Support (1) and register.



The screenshot shows a web application interface for 'eC-my-test'. The top navigation bar is dark grey with the 'eC-my-test' logo on the left and menu items 'PCB Manager', 'Edit & Debug', 'Test', and 'Tools' on the right. A green 'EURO CIRCUITS' logo is in the top right corner. The main content area is titled 'Register for support' and contains two sections: 'Personal details' and 'Product details'. The 'Personal details' section has four input fields: 'First name*', 'Family name*', 'Company name', and 'Email address*'. The 'Product details' section has one input field: 'Serial number*'. A 'Register' button is located below the 'Serial number*' field. The bottom of the page features a green footer bar with the text 'TEST-OK' on the left and a navigation menu with 'Footprints', 'Support', and '1.1.0.3' on the right.

← eC-my-test

PCB Manager Edit & Debug Test Tools

EURO CIRCUITS

Register for support

Personal details

First name* Family name*

Company name

Email address*

Product details

Serial number*

Register

TEST-OK | Footprints | Support | 1.1.0.3