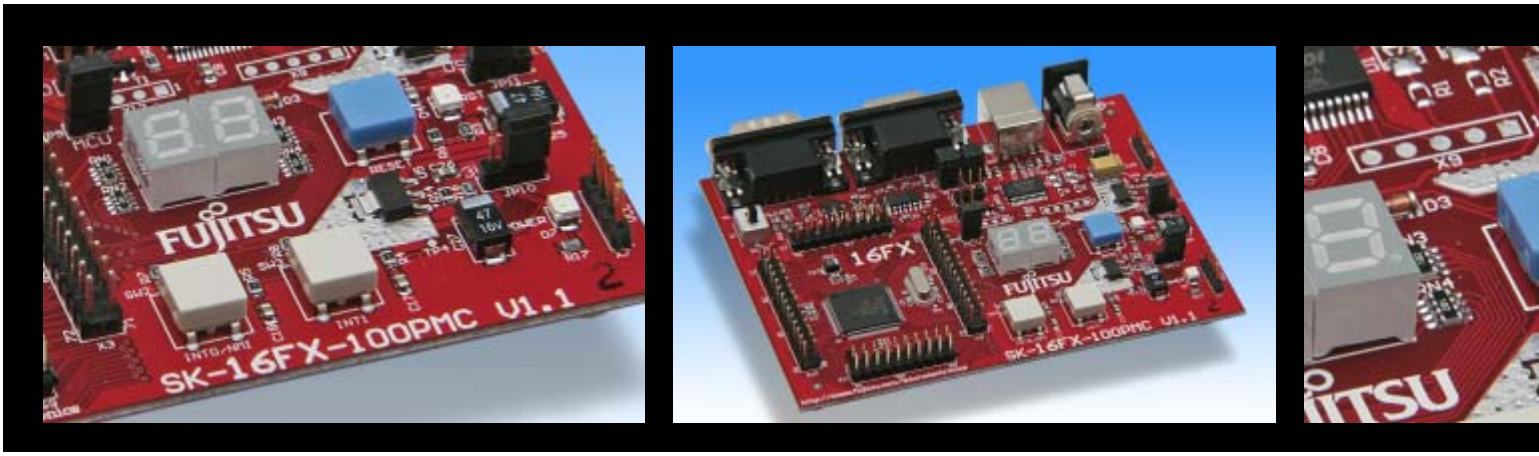
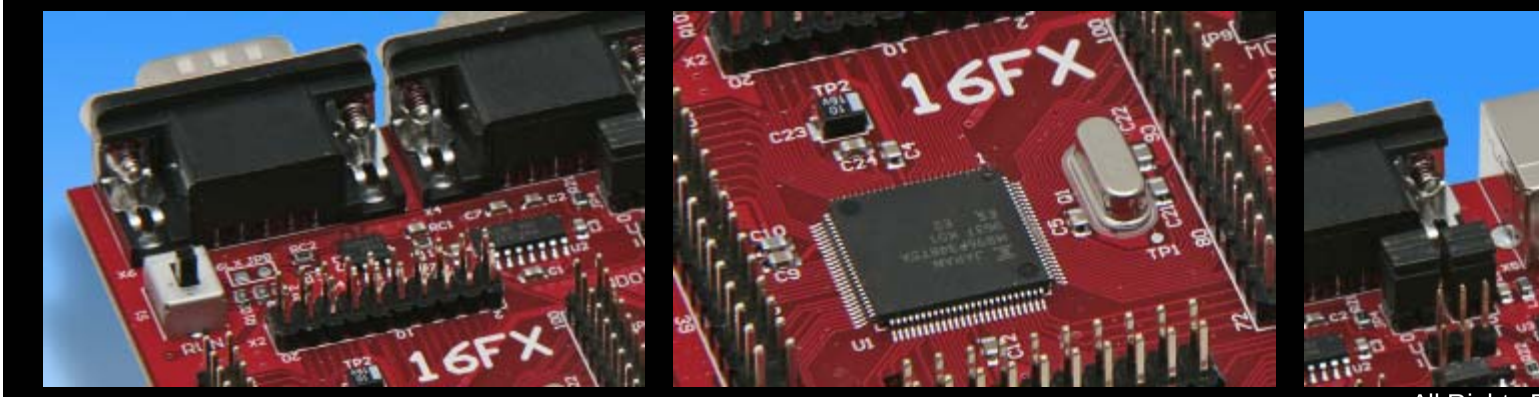
THE DATASHEET OF

SK-16FX-EUROSCOPE



FUJITSU

SK-16FX-EUROSCOPE



CD V1.2

Overview

- **Introduction**
  - About the SK-16FX-EUROSCOPE
  - SK-16FX-EUROSCOPE content
  - Test it
  - The hardware
  - The software
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  - Program download
  - New project
  - EUROScope
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- **Contacts**

- **Additional docum**
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  - Data sheet MB9
  - Hardware manua
  - AppNote ‘16FX H
  - AppNote ‘16FX C
  - Customer Inform
  - EUROScope Re
  - AppNote ‚EURO
  - Customer Inform ‚EUROScope‘ lin

About the SK-16FX-EUROS

- **The SK-16FX-EUROSCOPE includes a low-cost ev based on the Fujitsu 16FX microcontroller MB963**

- **The MB96340 Series includes the following feature**

  - Up to 576 KByte Flash Memory
  - Up to 24 KByte RAM
  - Up to 2 CAN controller 2.0B
  - Up to 7 LIN-USART interfaces
  - Two I²C interfaces
  - Timers (ICUs, OCUs, PPGs, others)
  - ADC
  - External interrupts
  - Others

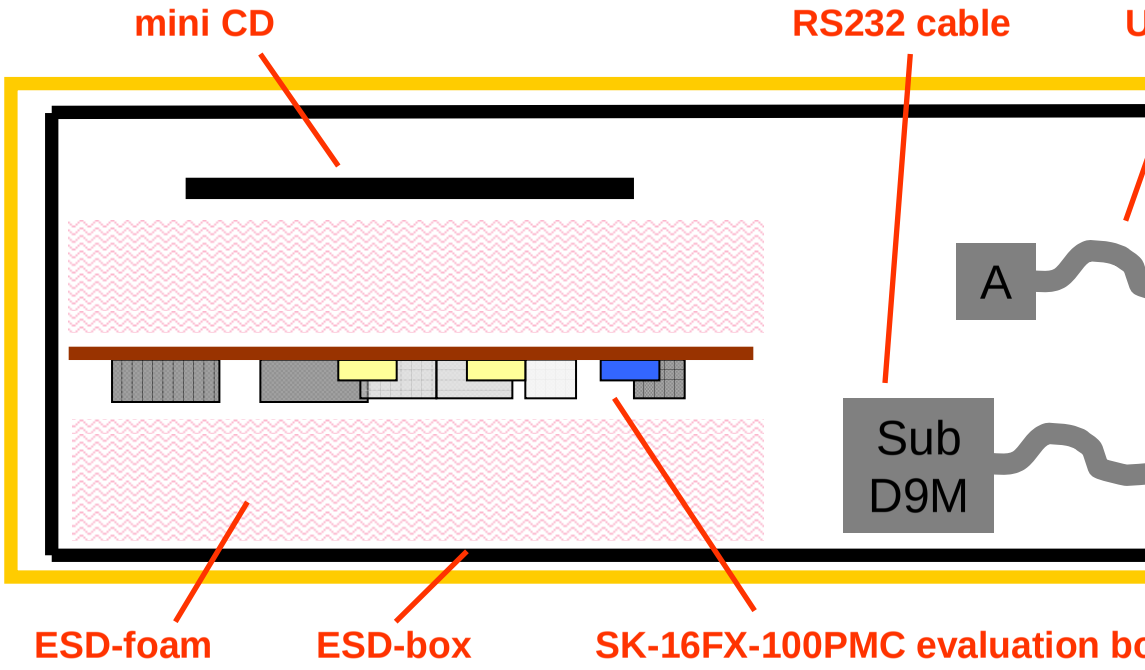
About the SK-16FX-EUROS

- **Features of the SK-16FX-100PMC (EUROScope) bo**

  - Microcontroller MB96F348HSB
  - 1x UART-Transceiver (SUB-D9 connector)
  - 1x USB to serial converter (Type-B connector)
  - 1x High-speed CAN-Transceiver (SUB-D9 connector)
  - 2x LED-Display (7-Segment)
  - 2x ‘User’-button
  - 1x ‘Reset’-button, ‘Reset’-LED
  - All 100 pins routed to pin-header
  - On-board 5V and 3V voltage regulators, ‘Power’-LED
  - USB power-supply (external power supply possible)

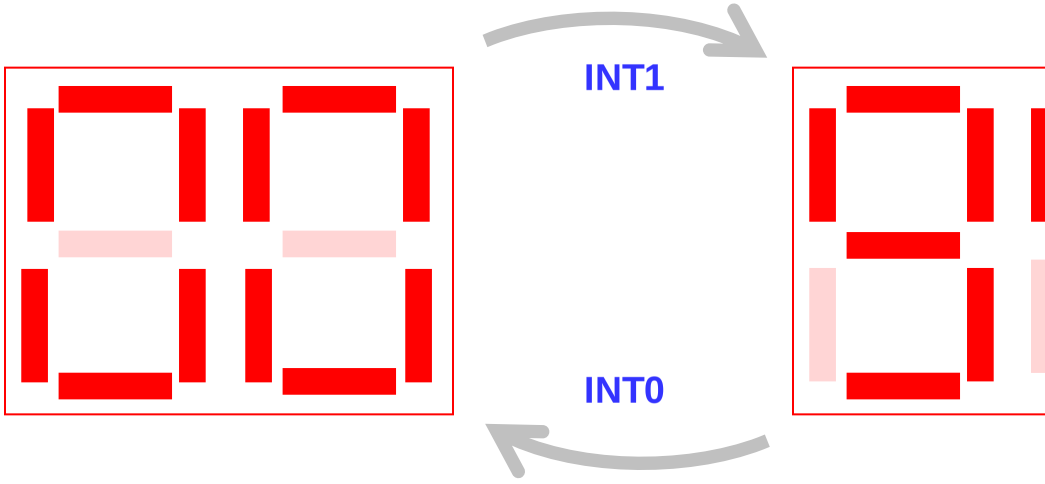
SK-16FX-EUROSCOPE cor

- **The SK-16FX-EUROSCOPE contains**
  - SK-16FX-100PMC evaluation board with MB96F348HS
  - USB cable, RS232 cable
  - Mini CD
    - Documentation, USB driver, Softune Workbench, E
    - „EUROScope lite 16FX“



Test it

- **The microcontroller on the SK-16FX-100PMC is al preprogrammed with a simple application.**
  - Connect the USB cable to your PC and the SK-16FX-1
  - Install the USB driver from the CD
  - Press the ‚Reset‘- Button
  - The SK-16FX-100PMC will automatically start counting
  - The count direction can be changed by pressing the ke



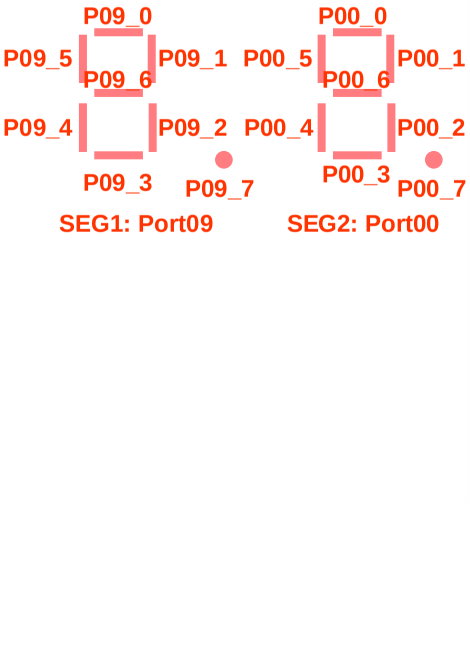
Test it

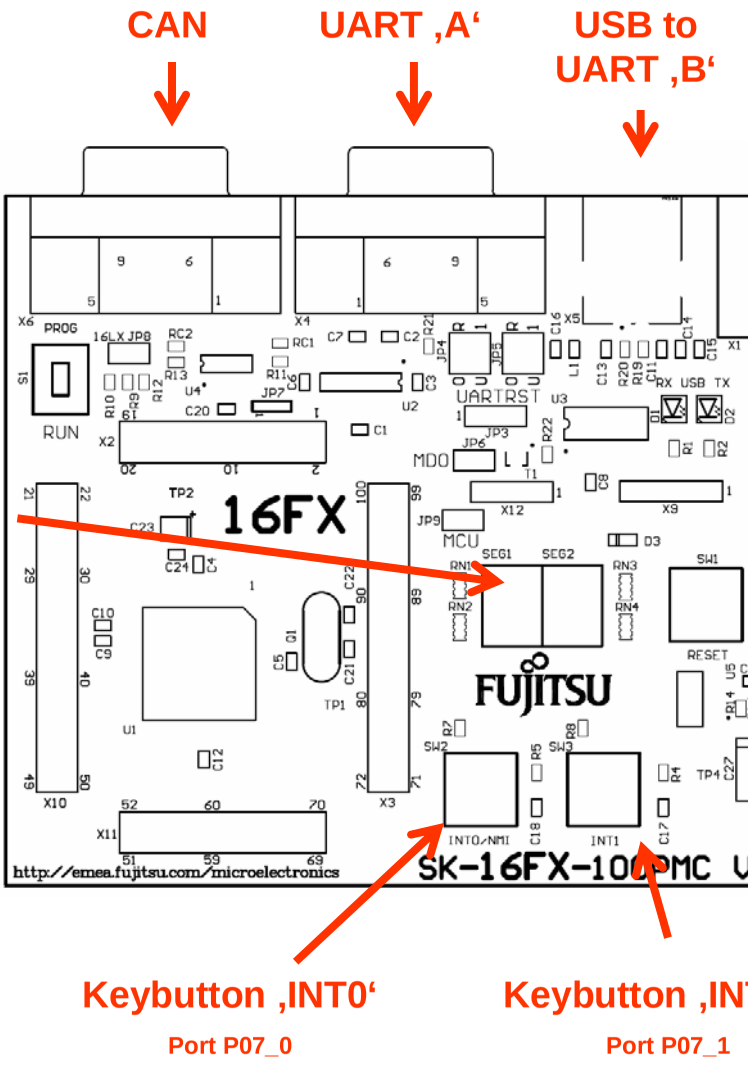
Congratulations

- **You finished successfully the first test**
- **Now you will get more details about the SK-16FX-1**
- **You will learn more about**
  - The on-board features
  - How to program the Flash
  - How to start your own application
  - On-chip debugging with EUROScope

The Hardware

- **Main features**





The Hardware

The jumpers

JP4: UART RX select

R-0: UART0=UART'A' / U-1: UART1=UART'B' (USB)

R-1: UART1=UART'A' / U-0: UART0=UART'B' (USB)

JP5: UART T

R-0: UART0=UART

R-1: UART1=UART

S1: Mode selection

PROG: Select the program-mode

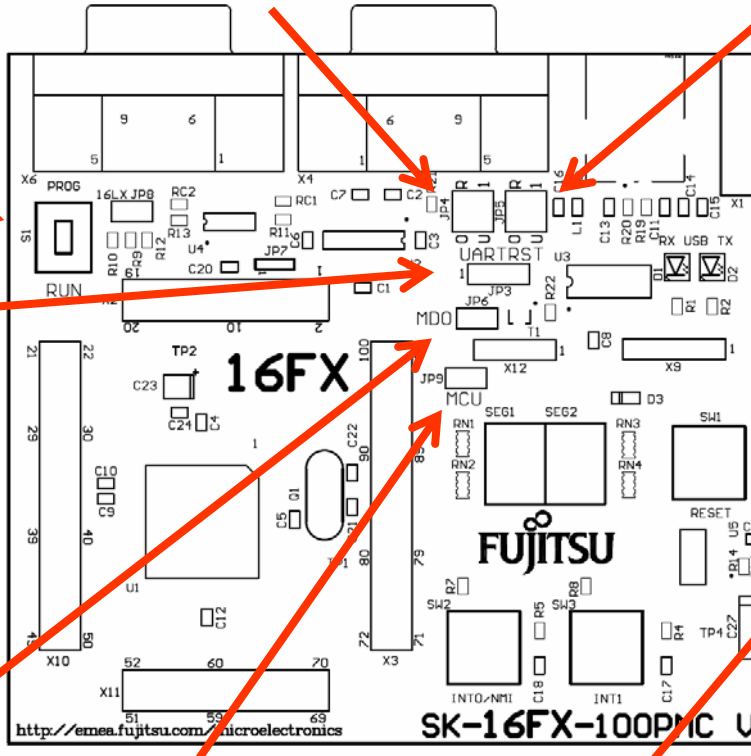
RUN: Select the run-mode

JP3: DTR-Reset

Set the jumper to 1-2 to connect the DTR-Signal of the UART connector to the microcontroller reset-pin.

Set the jumper to 2-3 to connect the DTR-Signal of the USB connector to the microcontroller reset-pin.

Some terminal-programs, e.g. Fujitsu's Skwizard, allow to reset the evaluation board by using the DTR-Signal.



JP6: MD0 selection

Close this jumper to control the MD0 level by the RTS signal of the USB interface

JP9: MCU Vcc

This jumper can be used to measure the current consumption of the MCU

JP10: 5V / 3.3V

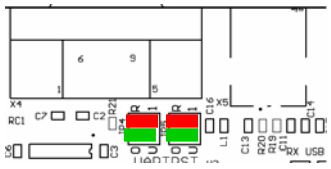
1-2: 5V supply is used

2-3: 3.3V supply is used

The Hardware

- **JP4, JP5 : UART selection**
  - UART0 and UART1 of the microcontroller can be used
    typical RS232 SUB-D9 connector and a serial/USB con
  - The jumpers JP4 and JP5 routes the channel to the cor
  - UART0 = USB-connector (X5), UART1 = Sub-D9 (X4) (
    - Setting of Jumper JP4 and JP5: U-0 / R-1

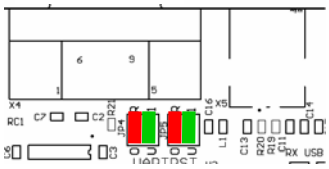
RS232 **USB**



(default)

  - UART0 = Sub-D9 (X4), UART1 = USB-connector (X5)
    - Setting of Jumper JP4 and JP5: U-1 / R-0

RS232 **USB**



The Hardware

The microcontroller pins

Pin	Pin-name	On SK-16FX-EUROSCOPE used by
1	P02_6/A22/IN2/TTG2/TTG10	
2	P02_7/A23/IN3/TTG3/TTG11	
3	P03_0/ALE/IN4/TTG4/TTG12	
4	P03_1/RDX/IN5/TTG5/TTG13	
5	P03_2/WRLX/WRX/INT10R	
6	P03_3/WRHX	
7	P03_4/HRQ/OUT4	
8	P03_5/HAKX/OUT5	
9	P03_6/RDY/OUT6	
10	P03_7/CLK/OUT7	
11	P04_0	
12	P04_1	
13	Vcc	+ Vcc
14	Vss	GND
15	C	‘C’ capacitors
16	P04_2/IN6/RX1/TTG6/TTG14	
17	P04_3/IN7/TX1/TTG7/TTG15	

Pin	Pin-name
18	P04_4/SDA0/FRCK0
19	P04_5/SCL0/FRCK1
20	P04_6/SDA1
21	P04_7/SCL1
22	P05_0/AN8/ALARM0/SIN2
23	P05_1/AN9/ALARM1/SOT2
24	P05_2/AN10/SCK2
25	P05_3/AN11/TIN3
26	P05_4/AN12/TOT3/TIN2R
27	P05_5/AN13/INT0R/NMIR
28	P05_6/AN14/INT4R
29	P05_7/AN15/INT5R
30	AVcc
31	AVRH
32	AVRL
33	AVss
34	P06_0/AN0/PPG0

The Hardware

The microcontroller pins (cont'd)

Pin	Pin-name	On SK-16FX-EUROSCOPE used by
35	P06_1/AN1/PPG1	
36	P06_2/AN2/PPG2	
37	P06_3/AN3/PPG3	
38	P06_4/AN4/PPG4	
39	P06_5/AN5/PPG5	
40	P06_6/AN6/PPG6	
41	P06_7/AN7/PPG7	
42	Vss	GND
43	P07_0/AN16/INT0/NMI	Key button 'INT0/NMI'
44	P07_1/AN17/INT1	Key button 'INT1'
45	P07_2/AN18/INT2	
46	P07_3/AN19/INT3	
47	P07_4/AN20/INT4	
48	P07_5/AN21/INT5	
49	MD2	to GND (w/ JP8 to + Vcc)
50	MD1	to + Vcc
51	MD0	Mode-Switch S1

Pin	Pin-name
52	RSTX
53	P07_6/AN22/INT6
54	P07_7/AN23/INT7
55	P08_0/TIN0/CKOTX0/ADTG NT12R
56	P08_1/TOT0/CKOT0/INT13
57	P08_2/SIN0/TIN2/INT14R
58	P08_3/SOT0/TOT2
59	P08_4/SCK0/INT15R
60	P08_5/SIN1/INT1R
61	P08_6/SOT1
62	P08_7/SCK1
63	Vcc
64	Vss
65	P09_0/PPG8/UBX
66	P09_1/PPG9/LBX
67	P09_2/PPG10/CS5
68	P09_3/PPG11/CS4

The Hardware

The microcontroller pins (cont'd)

Pin	Pin-name	On SK-16FX-EUROSCOPE used by
69	P09_4/OUT0/CS3	SEG1-E
70	P09_5/OUT1/CS2	SEG1-F
71	P09_6/OUT2/CS1	SEG1-G
72	P09_7/OUT3/CS0	SEG1-DP
73	P10_0/RX0/INT8R	CAN0 (RX)
74	P10_1/TX0	CAN0 (TX)
75	P00_0/AD00/INT8	SEG2-A
76	P00_1/AD01/INT9	SEG2-B
77	P00_2/AD02/INT10	SEG2-C
78	P00_3/AD03/INT11	SEG2-D
79	P00_4/AD04/INT12	SEG2-E
80	P00_5/AD05/INT13	SEG2-F
81	P00_6/AD06/INT14	SEG2-G
82	P00_7/AD07/INT15	SEG2-DP
83	P01_0/AD08/CKOT1/TIN1	
84	P01_1/AD09/CKOTX1/TOT1	

Pin	Pin-name
85	P01_2/AD10/INT11R/SIN3
86	P01_3/AD11/SOT3
87	P01_4/AD12/SCK3
88	Vcc
89	Vss
90	X1
91	X0
92	P01_5/AD13/INT7R/SIN2R
93	P01_6/AD14/SOT2R
94	P01_7/AD15/SCK2R
95	P02_0/A16/PPG12
96	P02_1/A17/PPG13
97	P02_2/A18/PPG14
98	P02_3/A19/PPG15
99	P02_4/A20/TTG8/IN0
100	P02_5/A21/TTG9/TTG1/IN1 DTGR

The Software

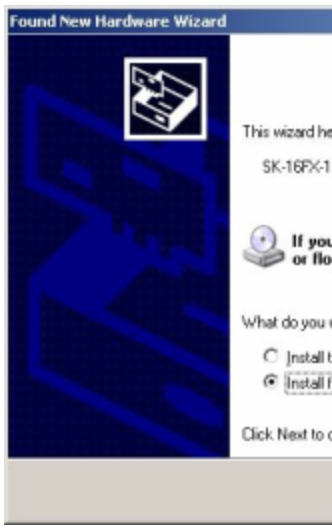
- **The SK-16FX-EUROSCOPE CD includes the follow**
  - Softune Workbench (development platform for Fujitsu m
  - MCU Flash programming tool and SKwizard terminal pr
  - USB driver for on board USB-to-RS232 converter
  - On-chip debugger “EUROScope lite 16FX“
  - Software examples for the SK-16FX-EUROSCOPE
- **Additionally you can order the latest „Fujitsu MICI**
  - Includes documentation & software for all Fujitsu microc
  - Please contact your local distributor
- **Please check our dedicated microcontroller websi**

http://www.fujitsu.com/us/services/edevice tronics/microcontrollers/

  - for updates of the Flash programmer tool, utilities and e
  - for data sheets, hardware manuals, application notes, e

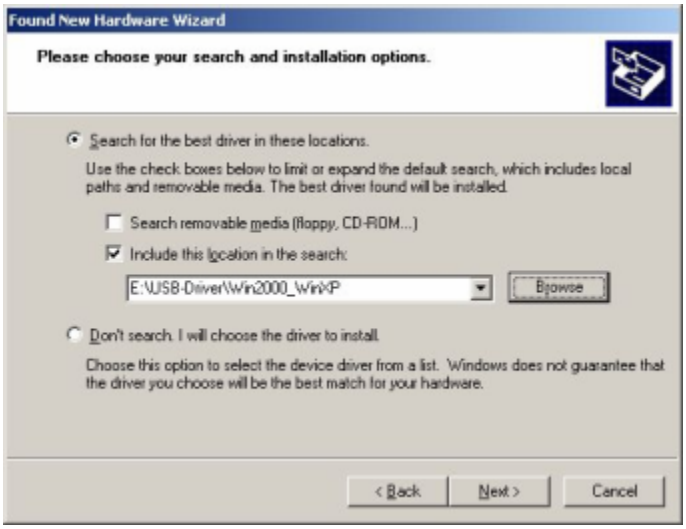
Installation of the USB-dr

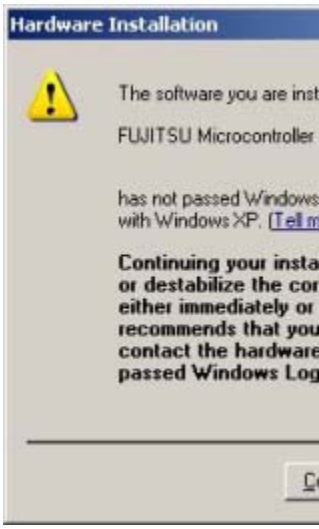
- **Connect the SK-16FX-100PMC to your PC's USB p**
  - Windows will 'Found New Hardware: SK-16FX-100PMC the Hardware Wizard should start automatically
    - **Note: The installation procedure may differ with different operat**



  - Do not connect to Windows Update to search for softwa
  - Select 'Install from a list or specific location (Advanced)
  - Within next windows select 'Search for the best driver' and browse on the CD to the folder 'drive:\USB-Driver\W

Installation of the USB-dr

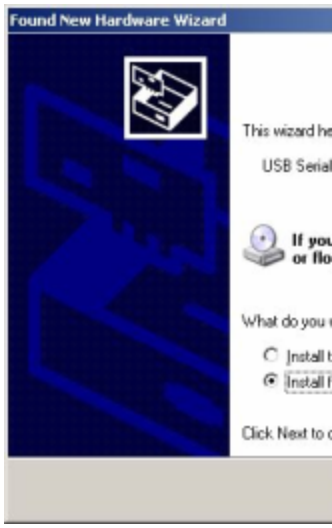




- 'Continue anyway' although the Windows Logo test may
- Windows completes the installation by copying some files
- 'Finish' will close the window

Installation of the USB-dr

- Again Windows will ‘Found New Hardware: USB Serial
  the Hardware Wizard should start automatically
  - **Note: The installation procedure may differ with different operat**



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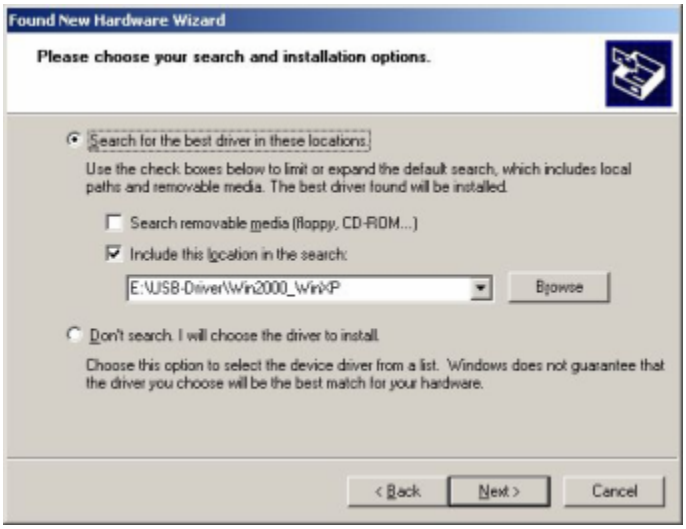
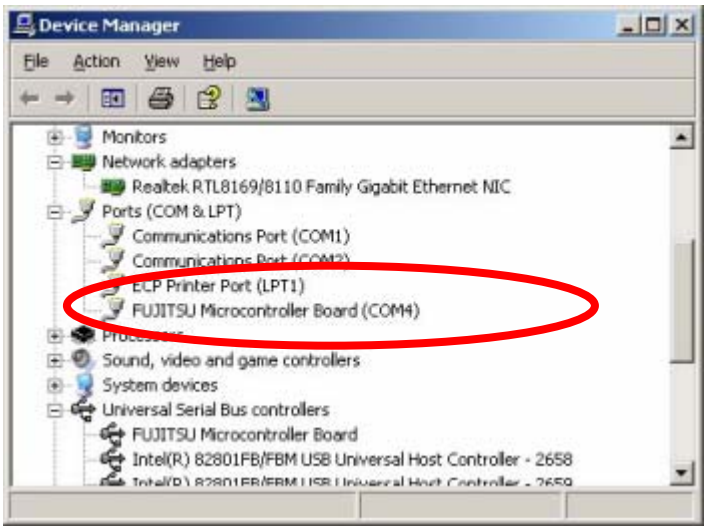
Installation of the USB-dr



- 'Continue anyway' although the Windows Logo test may
- Windows completes the installation by copying some files

Installation of the USB-dr

- **Start the Device Manager of the Windows Control**
  - START -> Settings -> Control Panel
  - Control Panel -> System -> Hardware -> Device Manag
- **Check 'Ports' for the assigned virtual COM-port nu**
  - FUJITSU Microcontroller board (e.g.: COM4)



Note:
Currently
only COM

If the assi
is greater
re-assign
the devic
Windows

- **Ready!**
  - The SK-16FX-100PMC can be powered via USB (defau
  - Depending on JP4 and JP5 one UART is connected to

The Development Softwar

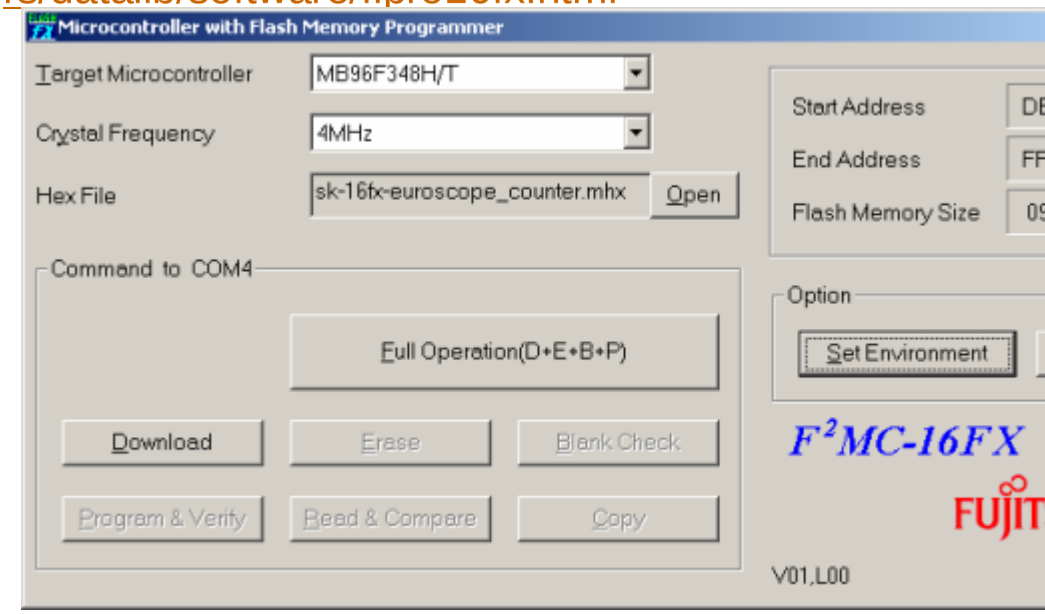
- **Softune Workbench**
  - Free of charge, evlauation copy is avaialble in MCU pro
  - Windows based development platform for all 16-bit micr
  - Includes: Editor, C-compiler, assembler, linker, core sim
  - Supports optional hardware emulator
  - Requires Registration
    - http://www.onfulfillment.com/FujitsuMicro/
    - Receive your password for Softune Workbench by
  - Start installation
    - Enter password and choose destination folder (e.g.
- **EUROScope**
    - Receive your license file for EUROScope by email
    - Contact mcugroup@fma.fujitsu.com

*1 Note: If you want to use EUROScope please install and run it first a Host ID (MAC address) of your PC system. This ID is needed to be fill registration form to obtain a license key.

The FLASH Programmer

- **MCU Flash programmer**
  - Free of charge, no registration required
  - Windows based programming tool for all 16-bit Fujitsu r
  - Uses PC serial port COMx (incl. virtual COM port: USB-
  - Download from the below link;

http://www.fujitsu.com/us/services/edevices/microelectroni
rs/datalib/software/flpro16fx.html



Tools and Software Exam

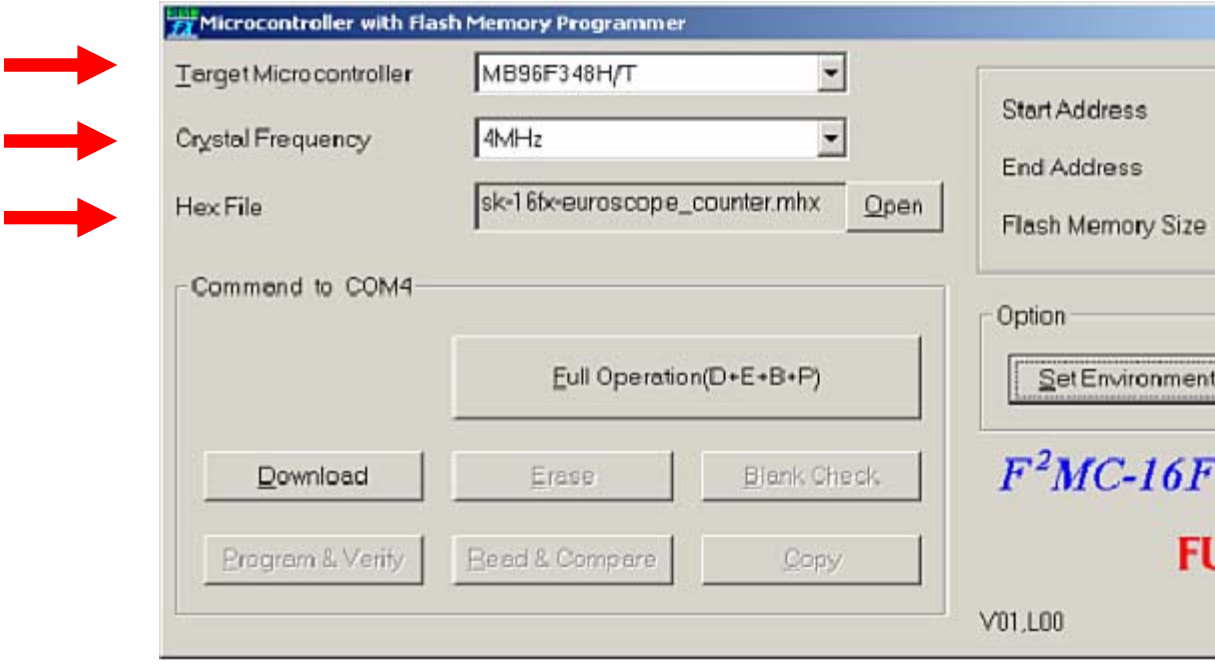
- **SKwizard**
  - Free of charge terminal program

    http://www.fujitsu.com/us/services/edevices/microelectroni
    rs/datalib/software/flskwiz.html
- **Following examples are provided with SK-16FX-E**
  - sk16fx-euroscope_adc_dvm
    - Digital Voltage Meter based on the A/D-converter
  - sk16fx-euroscope_can_uart_terminal
    - Simple CAN example controlled by UART1
  - sk16fx-euroscope_counter
    - Counts from 0 to 99 on the 7-segment Display
  - sk16fx-euroscope_template
    - ‚Empty' project as base for user applications
  - sk16fx-euroscope_uart
    - UART example using UART1

Note:
Do not connect other than EUROScope to UART0 (default: X5/USB).
All examples are prepared to be used with EUROScope and UART0 is reserve

Program Download

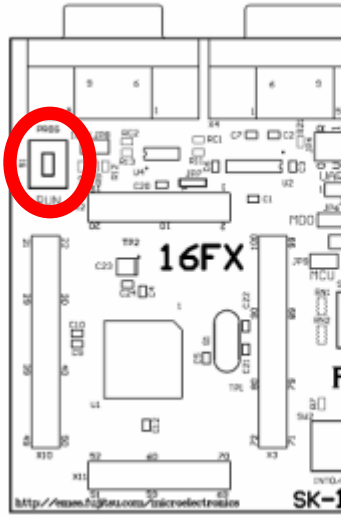
- **Start the Fujitsu MCU Flash programmer**
- **Select the target microcontroller (MB96F348H/T)**
- **Select the crystal frequency (4 MHz)**
- **Choose the software example from the example 'A**
  (e.g. D:\Examples\sk-16fx-euroscope_counter-v10\ABS\sk-16fx-euroscope_



Program Download

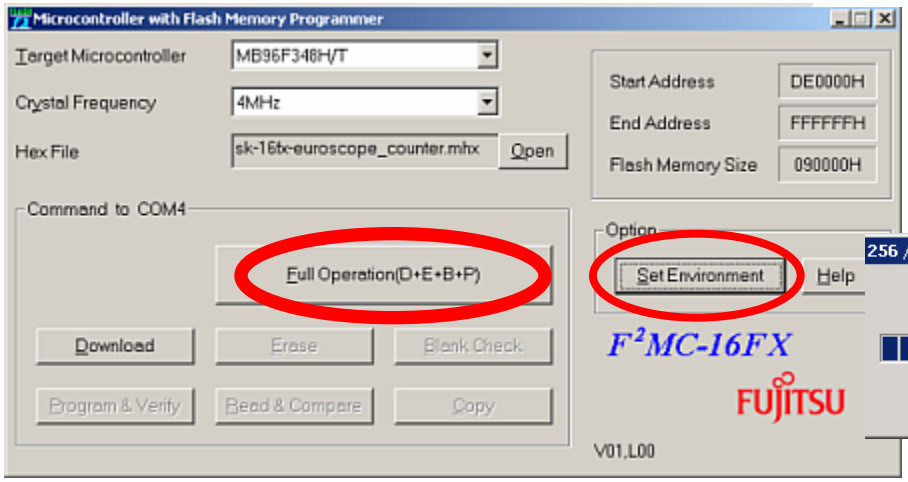
- **Connect to the PC**
  - RS232 or USB can be used
  - Select COM port (‚Set Environment‘)
- **Set jumper S1 to position ‚Prog‘**
- **Press ‚Reset‘**
- **Start ‚Full operation‘**

RS23
(see chapt



S1: Mode selection

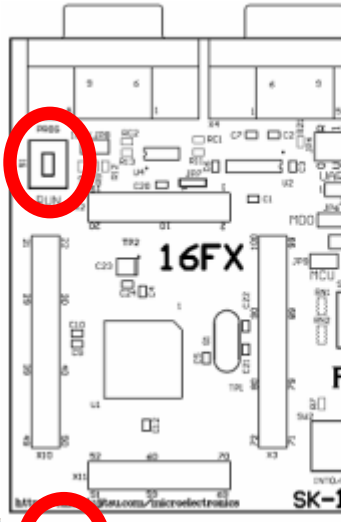
Prog: Set switch to position ‚Prog‘ in order to select the program-mode



Keyb

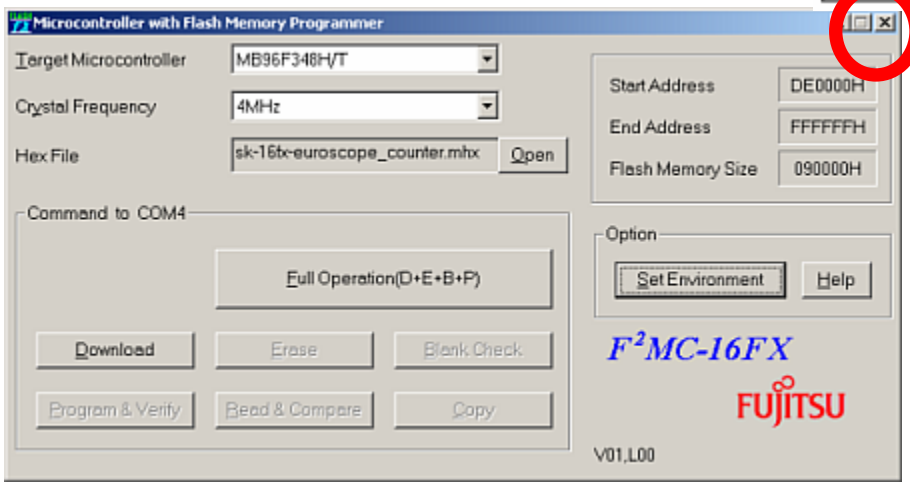
Program Download

- **Close the MCU Flash programmer**
- **Set jumper S1 to position ‚RUN‘**
- **Press ‚Reset‘**



S1: Mode selection

Prog: Set switch to position ‚RUN‘ in order to select the RUN-mode

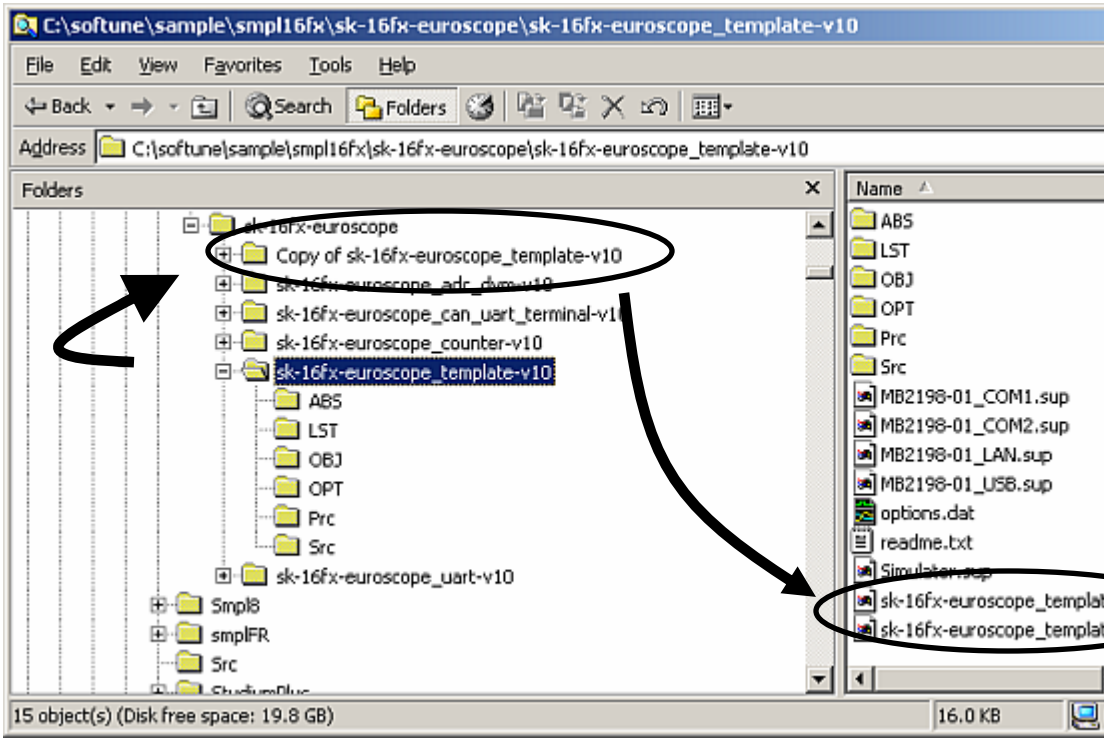


Keyb

Close the F

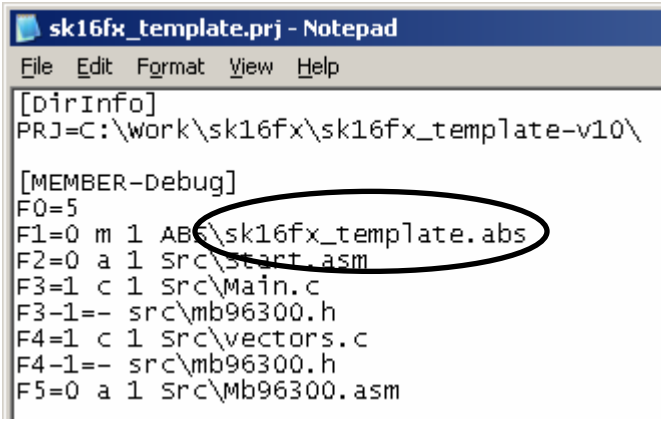
New Project

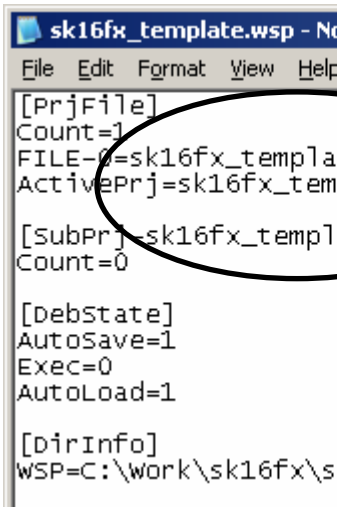
- **In order to start a new user project use the templa**
  - This project includes the startup code, header files, and
- **Copy the folder ‘Template’ within the example fold**
  - Rename ‘Copy of sk-16fx-euroscope_template-v10’ to ‘



New Project

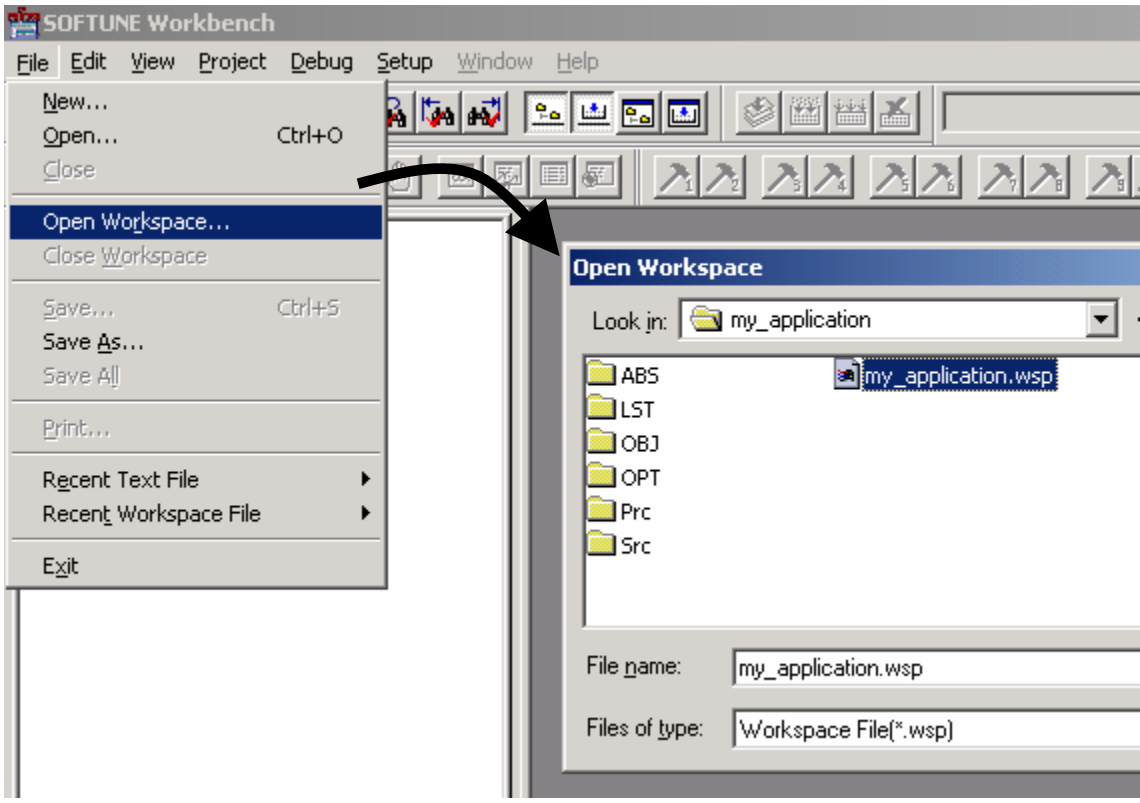
- **Enter ‘my_application’-folder**
  - Rename ‘template.prj‘ into ‘my_application.prj‘
  - Rename ‘template.wsp‘ into ‘my_application.wsp’
- **Edit ’my_application.prj’**
  - rename ‘sk16fx_template’ -> ‘my_application’
- **Edit ‘my_application.wsp’**
  - rename ‘sk16fx_ template’ -> ‘my_application’





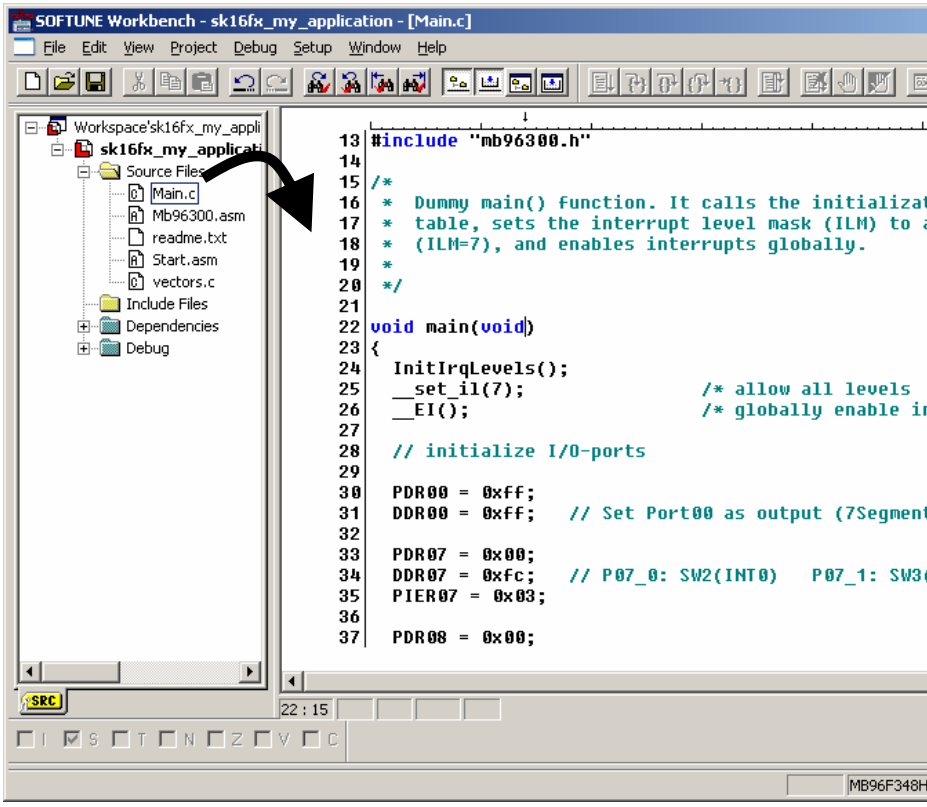
New Project

- **Start Softune Workbench and open your project**



New Project

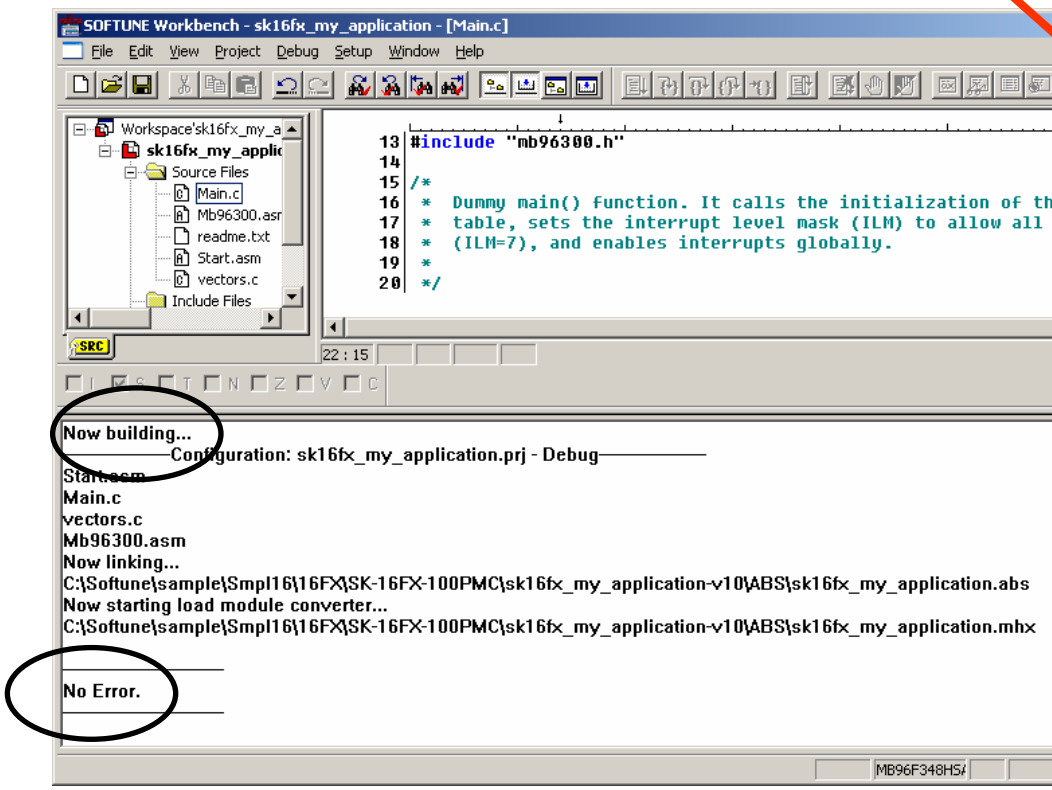
- **Write your application code**
  - `Start.asm` : Startup code
  - `Vectors.c` : Vector table
  - `Main.c` : Your application



New Project

- **Compile and build your project**
  - Generates the MHX-file, which can be programmed to t

Compil



New Project

Congratulations

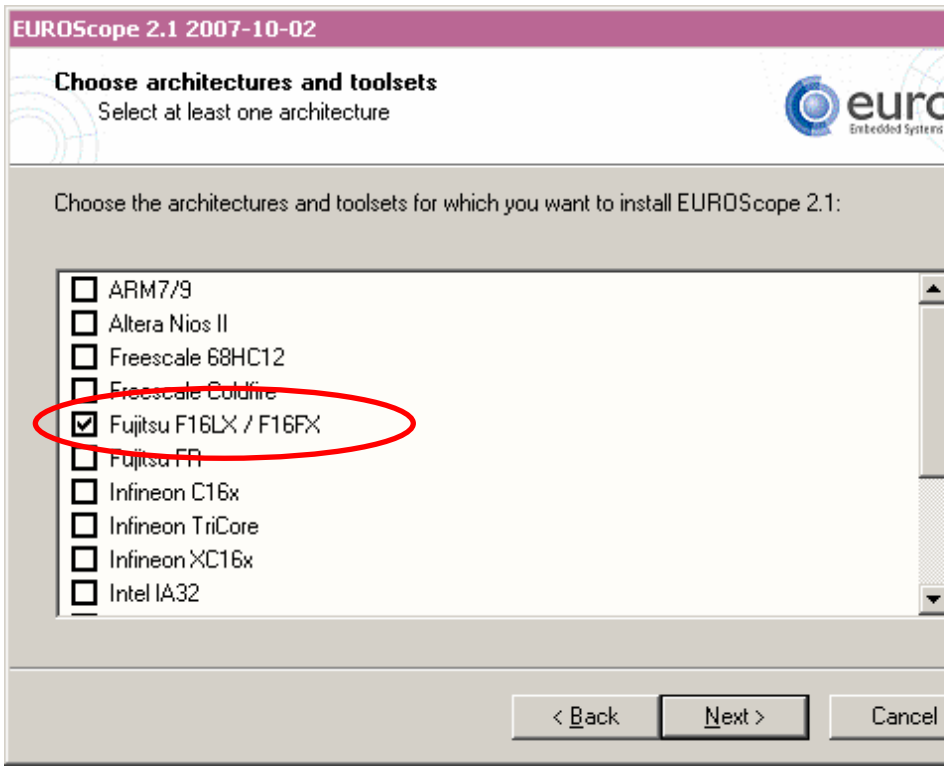
- **You have finished your first project**
  - Please see our application note ‘16FX Getting Started’ for a more detailed introduction.

EUROScope lite 16FX

- **„EUROScope lite 16FX“ source-level debugger**
  - On-chip debugging for 16FX microcontroller
  - No kernel linkage / upload required
  - Breakpoints
  - Single step debugging (step, step-in, step-out)
  - Windows for memory, watch, mixed source code, regist
  - Plug-ins available for operating systems etc.

EUROScope lite 16FX Installation

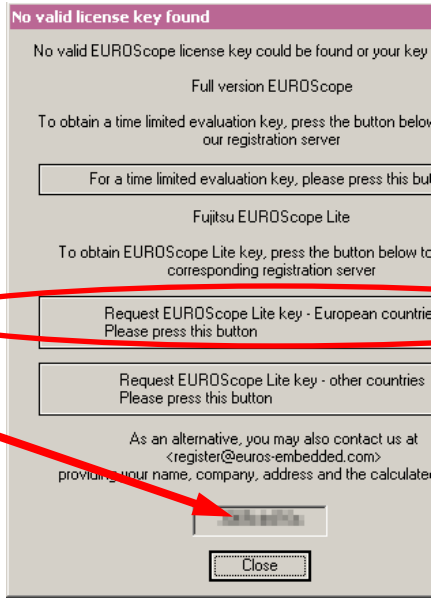
- **Installation of „EUROScope lite 16FX“**
  - Start „EUROScope lite 16FX“ for installation
  - Choose „Fujitsu F16LX / F16FX“ from list



EUROScope lite 16FX Installation

- **License for „EUROScope lite 16FX“**
  - Run EUROScope.exe
    - Copy Host ID (MAC address) of your PC system
    - Request Lite key at
      mcugroup@fma.fujitsu.com
    - Receive license key file from company EUROS by e
    - Copy license key file (*euros-license.key*) to your loc path

Host ID of your PC system



EUROScope lite 16FX Project preparation

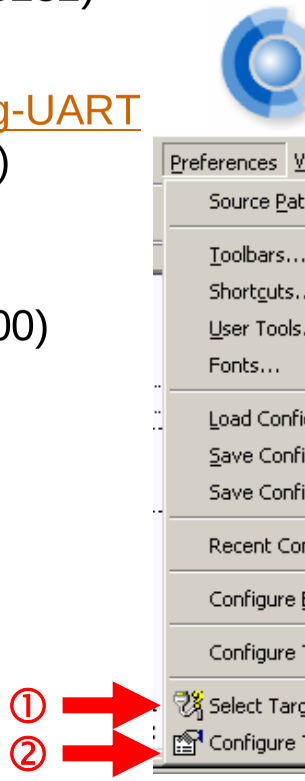
- **All examples within this package are already prep use with EUROScope**
  - Default connection: UART0 routed to X5/USB.

- **In case of new projects or project modifications**
  - Use Softune Workbench
  - Setup the Background Debugging area
    - See *Start.asm* (V1.28), chapter 4.18 (Enable Backgr Mode) and chapter 5.9 (Debug Address Specificati
      - See always the latest 'sk-16fx-euroscope_template' ex
  - Built your application project with Softune Workbench
    - Loadmodule (*.*abs*) format is required for debuggin

- **Download your project (*.*mhx*) to the board**
  - Use the Fujitsu MCU Flash programmer

EUROScope lite 16FX Configuration

- **Start EUROScope**
- **Ensure the following settings**
  - Select Target Connection ①
    - Choose Fujitsu 16FXBootROM (RS232)
  - Configure Target Connection ②
    - Choose the COM port of the Debug-UART (Default: UART0 routed to X5/USB)
    - Choose the baudrate used in the Debug Address Specification of the *Start.asm* file (Default: 115200)
    - Choose „asynchronous communication“ and „Int/Ext vector mode“

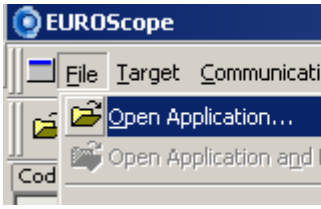


EUROScope lite 16FX
Load ABS file



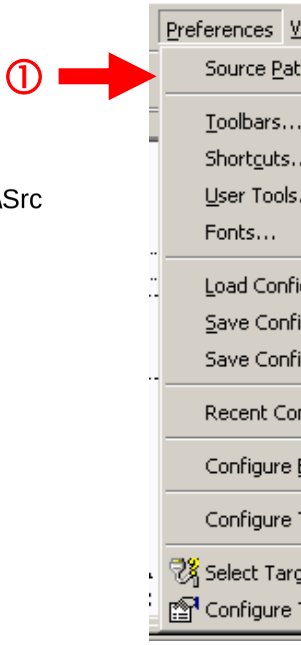


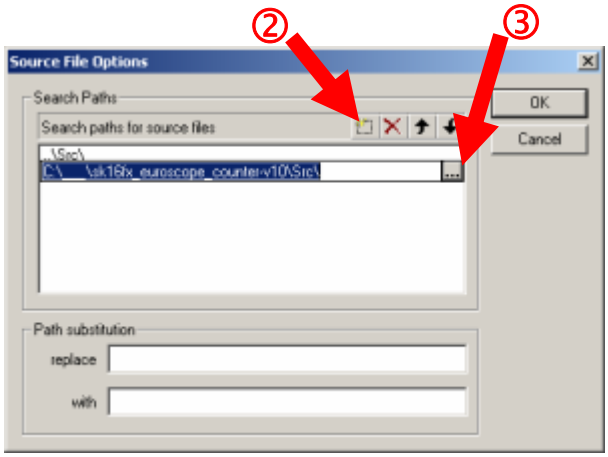
- **Load the *abs* file of your project**
  - File / Open Application ...



E.g.: <drive>:\Examples\sk16fx_euroscope_counter-v10\ABS\sk16fx_euroscope_counter

- **Projects may be compiled on another PC or folder than the debug PC**
  - Adjust the source path ①
    - Click New (Insert) ②
    - Browse to source folder ③
    - E.g.: <drive>:\Examples\sk16fx_euroscope_counter-v10\Src



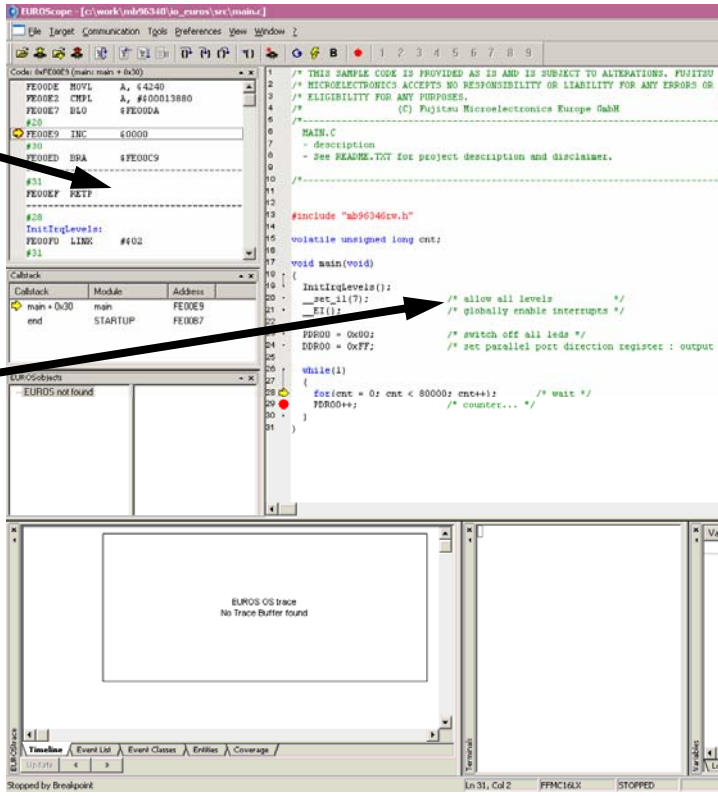


EUROScope lite 16FX
Connect to device

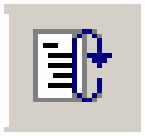
- **Start communication (*Communication -> Open*)**
- **Press reset button**
- **Communication is established, if code in the asse source code window is visible**

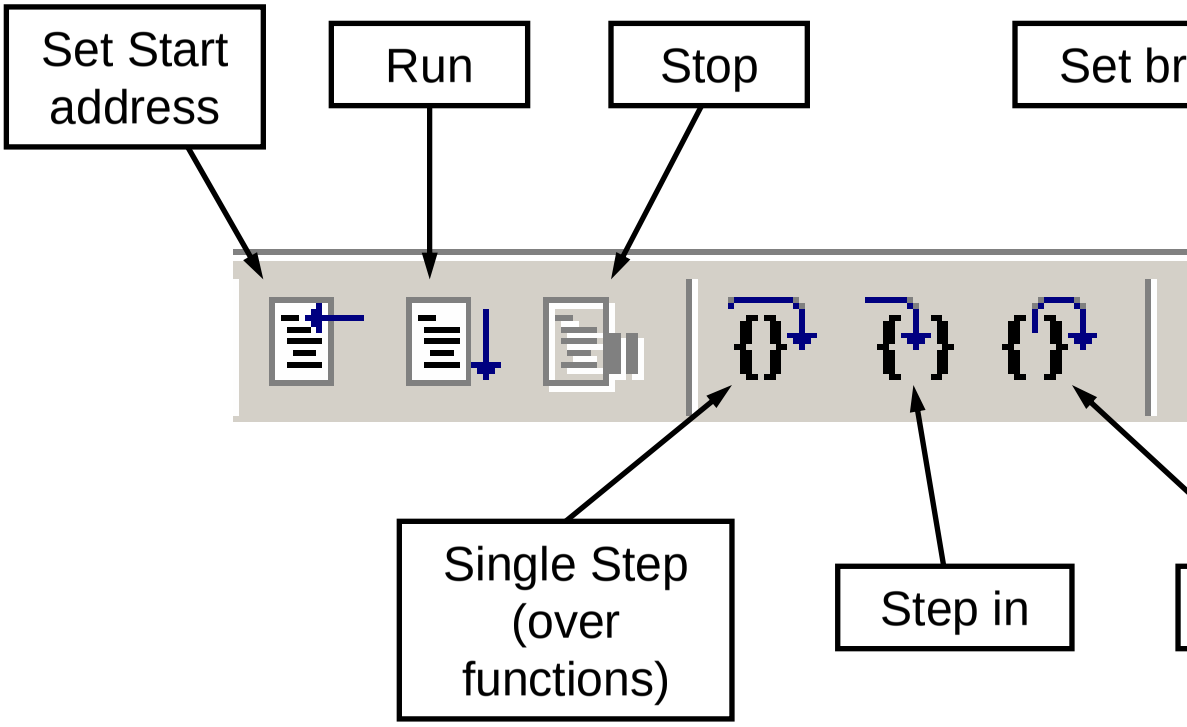
Assembly window

Source code window



EUROScope lite 16FX Start Debugging

- **Initialize target and run until main function**
  - 
- **Use menu bar for debugging**



EUROScope lite 16FX Breakpoints

- **Set a breakpoint**
  - Double-click to desired line
    - ‚C' code source: selectables lines are marked by sm
    - ‚Assembly' window: all lines with an instruction can
    - Some lines in source code window are grouped. Wh breakpoint all grouped lines getting the red filled cir treated as only one breakpoint
- **Activate/deactivate breakpoints**
  - Single-click to breakpoint
- **Delete breakpoint**
  - Double-click to breakpoint until red filled (or white filled)

EUROScope lite 16FX Breakpoints

- **Short explanation of EUROScope source code wir**

Yellow arrow shows actual programm counter

Point indicate source c

```
131   while(1)
132   {
133     if (SSR1_RDRF != 0)
134     {
135       ch = RDR1;
136       if ((SSR1 & 0xE0) != 0)
137       {
138         SCR1_CRE = 1;
139       }
```

Activ

De br

Lines between points indicate a group of breakable lines

EUROScope lite 16FX Processor Status

- **Processor window provides most important regist**
- **All processor flags are shown individually**
- **All values can be changed**
- **Window is updated on any stop or break of the ap**
- **Changes in values are displayed in red due to pric**

Register: unknown register

```
RL0=01CC0000  RL1=00F80004  RL2=00020000
RL3=00F80000

RW0=0000  RW1=01CC  RW2=0004  RW3=00F8
RW4=0000  RW5=0002  RW6=0000  RW7=00F8

R0=00  R1=00  R2=02  R3=00  R4=00  R5=00
R6=F8  R7=00

A=00660066  AH=0066  AL=0066

PC=F80169  SSP=00253E  USP=002544

DPR=22  DTB=00  ADB=00

PS=E0E5  ILM=7  RP=00  CCR=E5

I=1  S=1  T=0  N=0  Z=1  V=0  C=1  TBR=0000
```

EUROScope lite 16FX Variable Window

- **Local**
  - Local variables are automatically collected in view „Loca
- **Watch**
  - All local and up to 8 global variables can be added indiv ‘Watch‘ window
- **Variables are updated on any stop or break of the**
- **Changed values are displayed in red**
- **Variable values can be changed in ‘value‘ entry**

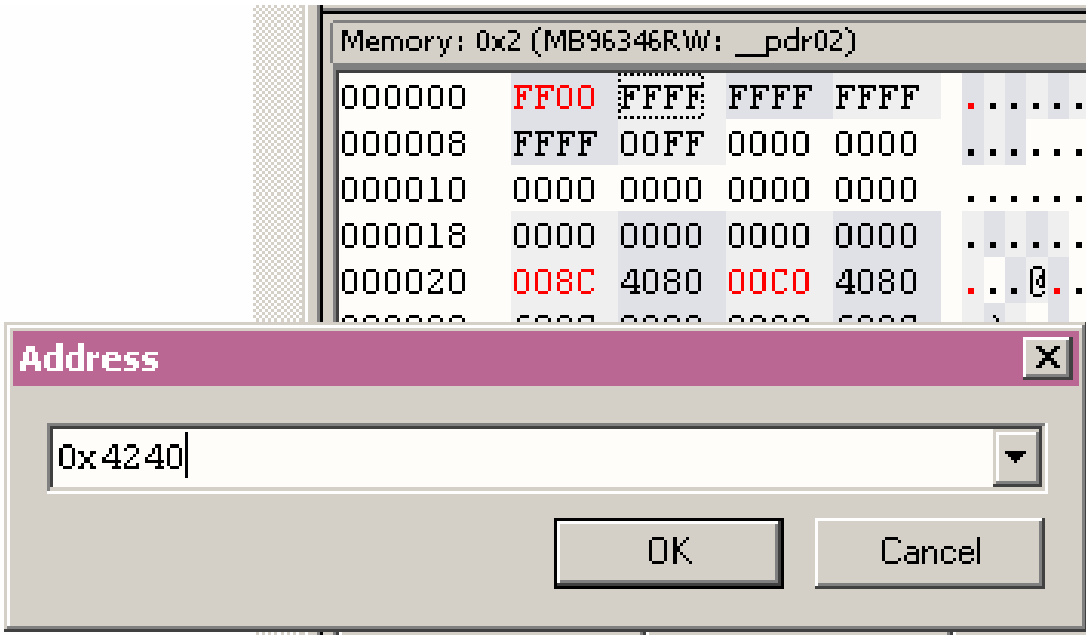
Variables

Variable	Value	Type	Storage	Module	Address	Size
cnt1	22 '.'	char	0x2246	main	0x2246	1 byte
cnt2	9 '.'	char	0x2245	main	0x2245	1 byte
cntdir	0 '.'	char	0x2244	main	0x2244	1 byte
delay	40144	unsigned long	0x2240	main	0x2240	4 byte

Local | Global | **Watch** | this

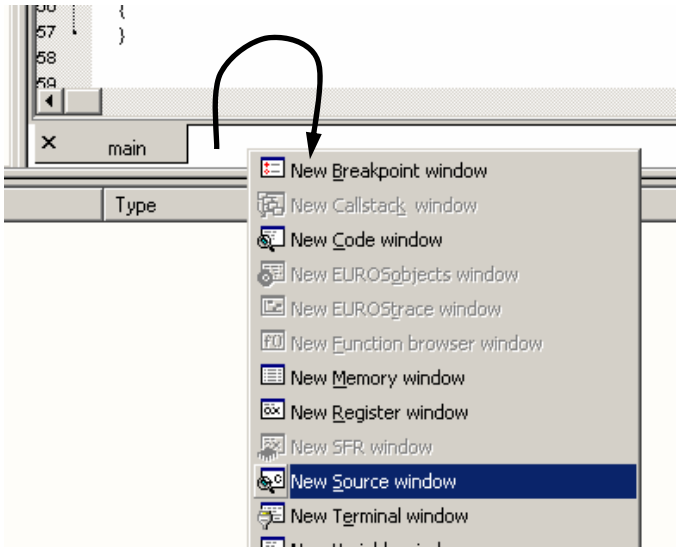
EUROScope lite 16FX Memory View

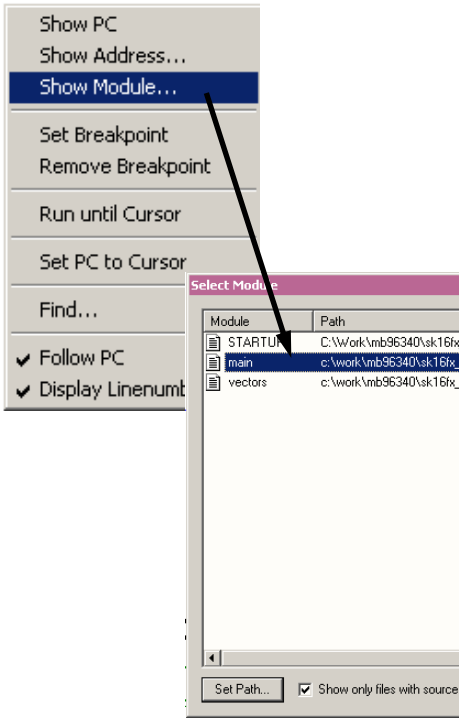
- **Memory view is updated on every stop or break**
- **Value change is displayed in red due to prior upda**
- **Memory content can be changed**
- **Memory can be filled with a user byte and size**



EUROScope lite 16FX Changing/Adding Source V

- **New source module window**
  - Go in window tab area and right-button click
  - Choose „New Source window“
- **Change source window**
  - Get menu by right-mouse-button-click in the source win
  - Choose „Show Module...“
  - Browse to Module File



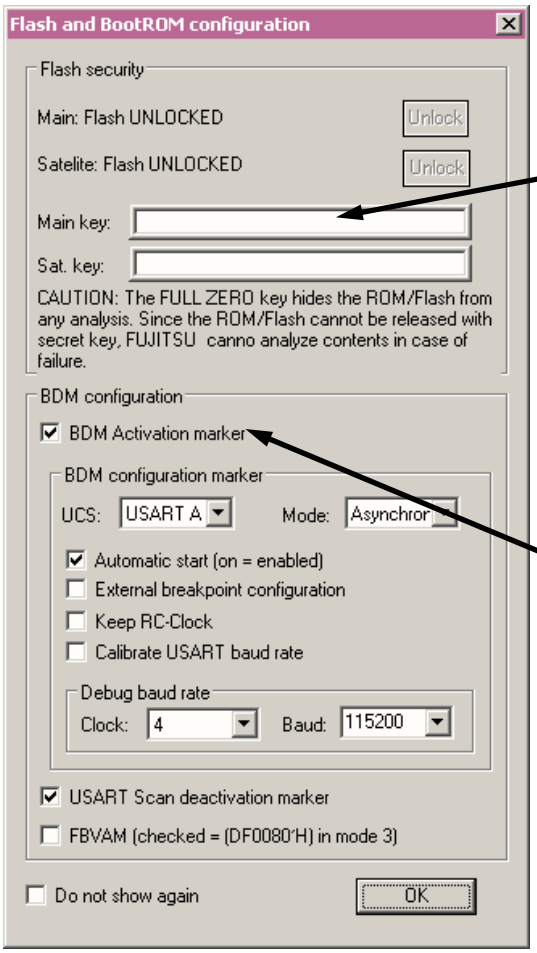


EUROScope lite 16FX Flash Programming

- **Flash programming is available via the Flash butt**
  - BDM configuration can be set before programming
  - Chip erase is supported
  - Flash programming is supported
  - User has to press reset button after Flash programming
  - Fujitsu Flash programming kernels are reused

EUROScope lite 16FX BDM Configuration

- **Background debugging mode configuration**
- **Flash security unlock**



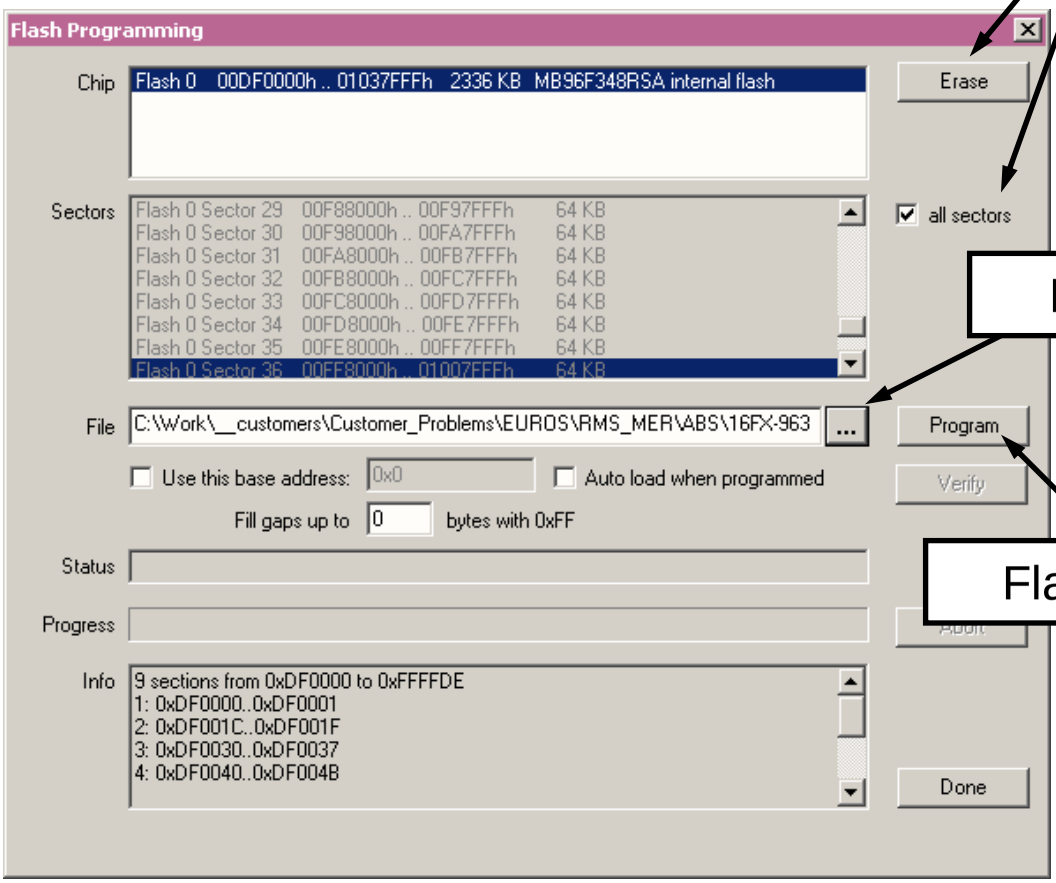
Flash security unlock

BDM Activatio

[√] Use EUROScope con
[ ] Use MHX file configur

EUROScope lite 16FX Flash Programming Dialog

- **Chip erase and Flash programming**
  - Click on ‚Done' and reset board after programming



EUROScope lite 16FX Prospect

- **All SK16FX-EUROSCOPE examples are configure**
  - UART0 for debugging
  - UART1 may be used by the application
  - Asynchronous communication
  - 115200 Bits/s
  - Autorun after reset
  - No breakpoint predefinition

Further Steps

- **In order to learn more about Fujitsu's microcontro**
  - Visit our microcontroller website
    - http://www.fujitsu.com/us/services/edevices/microel ontrollers/
  - See our application notes
    - http://www.fujitsu.com/us/services/edevices/microel ontrollers/datalib/appnotes/index.html
  - See our software examples
    - http://www.fujitsu.com/us/services/edevices/microel ontrollers/datalib/software/index.html
- **Contact your local distributor ...**
  - for individual support
  - to order the latest 'Fujitsu Micros DVD' containing all inf regarding Fujitsu's 8-bit, 16-bit, and 32-bit microcontroll

Optional Tools

- **High-end evaluation board**
  - Flash-Can-100P-340 (Supports QFP package M06/M22
  - ADA-91270-90340-100PFV (Adapter for LQFP/PMC pa
- **Hardware emulator**
  - MB2198-01 + MB2198-500
  - Emulation chip MB96V300B
  - Probe header MB2198-502 for LQFP package M05/M2
    - Socket NQPACK100SD-ND, HQPACK100SD
  - Probe header MB2198-501 for QFP package M06/M22
    - Socket NQPACK100RB179 +HQPACK100RB179
- **Programmer**
  - Conitec GALEP-4
- **Operating systems**

Evaluation Board

- **Flash-Can-100P-340 V2.0**
  - Evaluation board for MB96340 Series (for QFP package
  - Emulator target board
  - Access to all on-chip peripherals
  - 2x UART
  - 2x CAN
  - 2x LIN
  - 8x ‘User’-LEDs
  - 5x ‘User’-Buttons
  - Flash-Kit connector
  - Connector for LC-Display
  - Example projects

Evaluation Board

- **ADA-91270-90340-100PFV**
  - Adapter for LQFP package M05/M20
  - Optional for Flash-Can-100P-340

Hardware Emulator

- **In-Circuit emulator for F2MC-16FX**
  - Main unit (MB2198-01), Adapter (MB2198-500), V-Chip
  - USB, LAN, and RS232 communication interface
  - Connected to target system via standard Fujitsu probe
  - High speed operating frequency
  - 2052 code / 4 data event breakpoints
  - Sequential breakpoints (4 conditions / 3 levels)
  - Trace function

Hardware Emulator

- **Emulation chip MB96V300B**
  - Superset supports all features of 16FX

- **Probe header**
  - MB2198-502 for LQFP package M05/M20
  - MB2198-501 for QFP package M06/M22

- **Socket for LQFP package M05/M20**
  - NQPACK100SD-ND, HQPACK100SD
- **Socket for QFP package M06/M22**
  - NQPACK100RB179, HQPACK100RB179

Programmer

- **GALEP-4 / GALEP-5**
  - Supports parallel programming
  - Supports serial synchronous and asynchronous prograr
  - Optional programming cable for serial synchronous pro
  - Allows programming in volume production
  - www.conitec.com

Contact Information

For any MCU Technical Support, please con

mcugroup@fma.fujitsu.com

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- View SK-16FX-EUROSCOPE on WIN SOURCE
- Cypress Semiconductor Corp Information

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- Global Sourcing Solution
- Obsolete Management
- Cost Control Management
- Shortage Management
- Alternative Solution
- Excess Inventory Management