



Kurzanleitung für Firmware-Update / quick reference for firmware update page 1 of 5

This document supports the service technician with the firmware update of RP-Technik components. It should be kept up-to-date regularly by downloading from <u>http://www.rptechnik.de/index.php/de/component/docman/cat_view/6-module-modules/448-sam24.html?Itemid</u>

Here you can also find the firmware files for the individual components. The free software MPLAB IPE has to be used as programming software. It can be downloaded for free from the microchip website:

http://ww1.microchip.com/downloads/en/DeviceDoc/MPLABX-v3.50-windowsinstaller.exe

Note: Choose "IPE" only during the installation; the "IDE" part is not needed.

1. Presetting of the programming software MPLAB IPE

1. Activate Advanced Mode:

Sele		Advanced Mode		Results	
Fa	~	Verify Device ID before Program Erase All before Program	•	Charlesum	254
De	~	Auto Download Firmware	- Apply	Pass Count:	3
То		Manual Download Firmware	✓ Connect	Fail Count:	4
	•	Hold in Reset Release from Reset		Total Count:	7
	4	Communication	Read	Verify	Blank Check
Sour	rce:	Please dick on browse button to import a hex	file		Browse
SQ	(TP:	Please click on browse button to import SQTP 1	file		Browse
					± Less

2. - enter password *microchip* and tick *Remember Password* (spares re-entering later)- click on *Log on* for confirmation:

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Log on to Advan	red Mode	
Password:	••••••	
	Default Passwor	d 'microchip'
Change	Password	Log on
Change	Password	Log on

- 3. select Power on the left
 - tick *Power Target Circuit from Tool*, this supplies the processor to be programmed with power from the programming adapter (PICkit3)
 - VDD: select 4.5V
 - these settings are assumed without confirmation
 - go back to the page Operate

Integrated Programming E	invironment v3.15	
Operate	Voltage Settings	
😝 Power	VDD: 4.5 Reccommended Voltage Level : 5.0	
Memory	VPP: 12.0 N/A VDD Nom: 5.0 - N/A	
Environment	VDD App: 5.0 - N/A	
etds e		Reset Voltages
Production Mode	ICSP Options	
Settings	Power Target Circuit from Tool	High Voltage on MCLR

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2. Selection of processor type and firmware

The module SAM24 is based on the controller

PIC18F4520

Select PIC18F4520 in the *Device* drop down list.

Now load a firmware file (*.hex) via *Source:* \rightarrow *Browse*. At the end of the file name you can see a 4-digit check sum. After loading the file, this number must be readable the file in the field *Checksum*:

view Settings Treip	Select Device and Tool			Results	
🕑 Operate	Family: All Families		•	CP=OFF Checks	um: AEAE
	Device PIC18F452	20	- App	Checks ly Pass Co	unt: AFAF
Power	Tool: PICkit3 S.No	9 : BUR 102115755	✓ Discon	Fail Co	unt: 4
				Total Co	
Memory	Program	Erase	Read	Verify	Blank Check
	Source: C:\Users\sascha	a.hoewner \Desktop \DCM32_SV	UL V30_HW 1_0xAFAF.hex		Brows

If the PICkit3 is already connected to the PC, it is shown in the field *Tool*. Otherwise connect it now. Then select the PICkit3 by clicking on *Connect*. If the following error message appears, click on *OK*:



If this error message also appears during other process steps, it does not indicate a faulty operation. Just click on *OK* then.

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3. Localisation of the programming interface on the module

Now connect the PICkit3 to the circled header on the module. It is recommended to use an adapter cable 5-5 which reduces the mechanical stress on the connector strip.

IMPORTANT: Pin 1 of the module must match with Pin 1 on the PICkit3 (indicated by the white arrow)!



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4. Start programming and verify

The programming of the module is started by clicking on *Program*:

	Select Device and Tool		Results
Operate	Family: All Families	•	CP=OFF Checksum: AFAF
	Device: PIC18F4520	- Apply	Pass Count: 5
Power	Tool: PICkit3 S.No : BUR 102115	755 🔹 Disconne	ect Fail Count: 5
Memory	Program	Erase Read	Verify Blank Check
Environment	Source: \\10.0.0.38\Entwicklung\Produ SQTP: Please click on browse button t	ıktunterlagen∖Zentralbatterieanlagen∖Module to import SQTP file	\DCM\V5.11.XX (ab hier EMV-geprüft)\Kompon Brow Brow
SQTP	Output Programming/Verify complete		
Production Mode	Output Programming/Verify complete 2016-07-21T11: 12:25+0200- Programming Pass Count: 4 2016-07-21T11: 16:36+0200- Programming	complete	
Production Mode	Output Programming/Verify complete 2016-07-21T11:12:25+0200- Programming Pass Count: 4 2016-07-21T11:16:36+0200- Programming The following memory area(s) will be program program memory: start address = 0x0, end configuration memory	complete ammed: 1 address = 0xe07f	
Production Mode	Output Programming/Verify complete 2016-07-21T11: 12:25+0200- Programming Pass Count: 4 2016-07-21T11: 16:36+0200- Programming The following memory area(s) will be program memory: start address = 0x0, end configuration memory Device Erased Programming	complete ammed: 1 address = 0xe07f	

The written data are automatically checked after the programming. The successful completion of the programming is indicated by the line *Programming/Verify complete* or *Programming complete*.

When the programming failed:

- Has the correct processor type been selected?
- Check the settings on the page Power (\rightarrow 1.3)
- The settings shown in chapter 1.3 have to be made again after changing the processor type

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