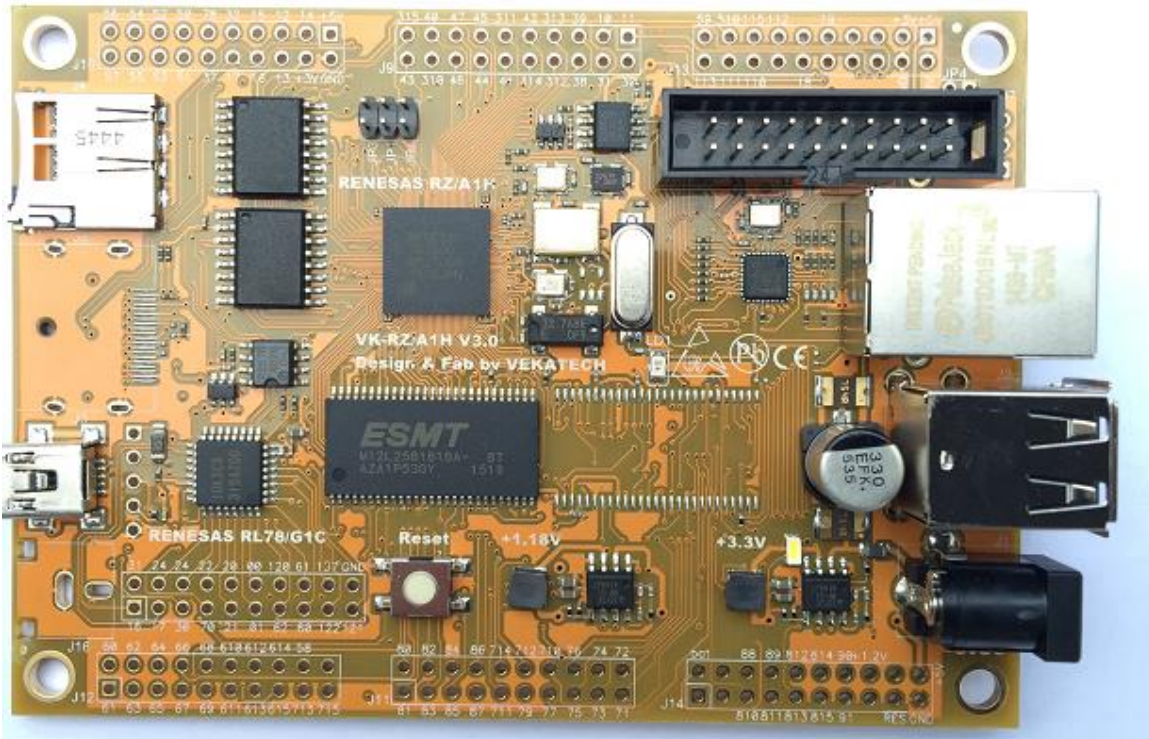


# .NET Micro Framework for VK-RZ/A1H V3.0

## Installation manual



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## INTRODUCTION

For more information about VK-RZ/A1H V3.0- please visit [www.vekatech.com](http://www.vekatech.com)

## DOWNLOAD:

You need to download the following programs/packages:

- Visual Studio Express 2012 :  
<http://www.microsoft.com/en-us/download/details.aspx?id=34673>
- Visual Studio 2012 Integration :  
<http://netmf.codeplex.com/downloads/get/911184>
- Newer Visual Studios Integration :  
<http://netmf.codeplex.com/releases/view/133285>
- **vrza1h\_sdhi** application. Located in folder **Vekatech SD CARD LOADER**.  
<http://support.vekatech.com/register/?ref=%27VK-RZ+A1H%27>
- **RenesasUSBDriver-install.exe**.  
<http://support.vekatech.com/register/?ref=%27VK-RZ+A1H%27>

## INSTALLATION:

Please first install Visual Studio and the integration kit.

Then please execute **vrza1h\_sdhi** setup.

Finally install the RenesasUSB driver.

- Make bootable SD Card :  
Execute **vrza1h\_sdhi**.  
Follow the procedure described in **SD CARD RAM\_flash\_I2C Loader.pdf**.  
[http://vekatech.com/SD%20CARD%20RAM\\_Flash\\_I2C%20Loader.pdf](http://vekatech.com/SD%20CARD%20RAM_Flash_I2C%20Loader.pdf)

- Setup the init script :  
Go to **Removable Disk (SD card letter)/vrza1/vrza1h.ini** and alter the following lines :

```
[ToDo]
Action=Run
OS=UserSrecord

[UserSFlashBin]
ImagePath=sflash\u-boot
CommandLine=1 u-boot.bin 18000000
```

The sections have to look like this:

```
[ToDo]
#Action=Run
#OS=UserSrecord
Action=Load
OS=UserSFlashBin

[UserSFlashBin]
#ImagePath=sflash\u-boot
#CommandLine=1 u-boot.bin 18000000
ImagePath=sflash\S25FL128S_64K\init\dual
```



Make sure that the following script is written on one line!

```
CommandLine=1 VECTOR_TABLE 18000000 CODE_SPIBSC_INIT1 18000200
CODE_SPIBSC_INIT2 18000400 RESET_HANDLER 18004000
```

- Take the Mini-B USB cable and connect the VK-RZ/A1H to the PC.  
Open your favorite terminal application (115200,8,1,N) and make sure that there are jumpers on JP2 & JP3. Insert the prepared micro SD card in the kit's holder and press Reset. In the COM application you should see the following:

```
VKRZA1H CPU Board SDHI FAT Loader Program. Ver. 1.1
Copyright (c) 2014-2015 Vekatech Ltd. All rights reserved.
```

```
Reading loader script...
Initializing Flash...
SF: Detected S25FL128S_64K with page size 256
Data is programmed to sflash(x 1)
filename=\vkrza1\sflash\S25FL128S_64K\init\dual\VECTOR_TABLE
addr=0x18000000
Data Size is 64
Programming Flash...
Verifying Flash...

filename=\vkrza1\sflash\S25FL128S_64K\init\dual\CODE_SPIBSC_INIT1
addr=0x18000200
Data Size is 476
Programming Flash...
Verifying Flash...

filename=\vkrza1\sflash\S25FL128S_64K\init\dual\CODE_SPIBSC_INIT2
addr=0x18000400
Data Size is 13176
Programming Flash...
Verifying Flash...

filename=\vkrza1\sflash\S25FL128S_64K\init\dual\RESET_HANDLER
addr=0x18004000
Data Size is 260
Programming Flash...
Verifying Flash...
Loader Program Complete!
```

- Setup the tinyclr programing script :  
Pull back the micro SD card and insert it in the PC. Open .. /vkrza1h.ini file and alter the lines
- ```
[UserSFlashBin]
#ImagePath=sflash\u-boot
#CommandLine=1 u-boot.bin 18000000
ImagePath=sflash\S25FL128S_64K\init\dual
CommandLine=1 VECTOR_TABLE 18000000 CODE_SPIBSC_INIT1 18000200
CODE_SPIBSC_INIT2 18000400 RESET_HANDLER 18004000
```

the sections have to look like this:

```
[UserSFlashBin]
#ImagePath=sflash\u-boot
#CommandLine=1 u-boot.bin 18000000
#ImagePath=sflash\S25FL128S_64K\init\dual
#CommandLine=1 VECTOR_TABLE 18000000 ... .. RESET_HANDLER 18004000
ImagePath=sflash\S25FL128S_64K\app\tinyclr
CommandLine=2 ER_FLASH 18020000 ER_DAT 18100000 ER_CONFIG
18BE0000
```

- Remove the micro SD card, insert it in the kit's holder and press Reset. In the COM application you should see the following:

```
VKRZA1H CPU Board SDHI FAT Loader Program. Ver. 1.1
Copyright (c) 2014-2015 Vekatech Ltd. All rights reserved.
```

```
Reading loader script ...
Initializing Flash...
SF: Detected S25FL128S_64K with page size 256
Data is programmed to sflash(x 2)

filename=\vkrza1\sflash\S25FL128S_64K\app\tinyclr\ER_FLASH
addr=0x18020000
Data Size is 603752
```

Programming Flash...  
Verifying Flash...

```
filename=\vkrza1\sflash\S25FL128S_64K\app\tinyclr\ER_DAT  
addr=0x18100000  
Data Size is 179596  
Programming Flash...  
Verifying Flash...
```

```
filename=\vkrza1\sflash\S25FL128S_64K\app\tinyclr\ER_CONFIG  
addr=0x18BE0000  
Data Size is 2560  
Programming Flash...  
Verifying Flash...  
Loader Program Complete!
```

- Connect VK-RZ/A1H with VS :

This time take a Standard USB cable and connect VK-RZ/A1H to the computer through **the upper USB connector** of the VK-RZ/A1H kit. The PC should recognize the kit as **WinUSB Device**. Go to Device Manager, right click on WinUSB Device and consecutively select *Update Driver Software... /Let me pick from a list of device drivers on my computer/Have Disk...* (Browse the SD card and find the **vkrza1h\_netmf.inf** file)/OK/*Install this driver software anyway*. Now the kit should be recognized as **VK-RZA1H NETMF USB**. Make sure there are jumpers on JP1 & JP3 and press Reset.

- Launch Microsoft Visual Studio Express 2012.  
Now you can start programming for VK-RZ/A1H in C#.  
There are some sample programs on the SD card:

SampleLED  
WebserverHellowWorld

Useful articles:

<http://www.ghielectronics.com/downloads/FEZ/Beginners%20guide%20to%20NETMF.pdf>

or google the web, if you want to go deep.

***That's all! Have fun!***