

# V850E2s.pdf Read Backup

# V2.0

First of all, make the connection cable as shown below.  
Connector plug IDC20 HARTING 09185206813 or similar analog.  
AWG 30 silicone wires 20cm length.

**Solder a 1 kΩ resistor between VCC and RXD!**

You must have experience with lifting processor legs.

**Be careful and alert, connection errors are unacceptable!**



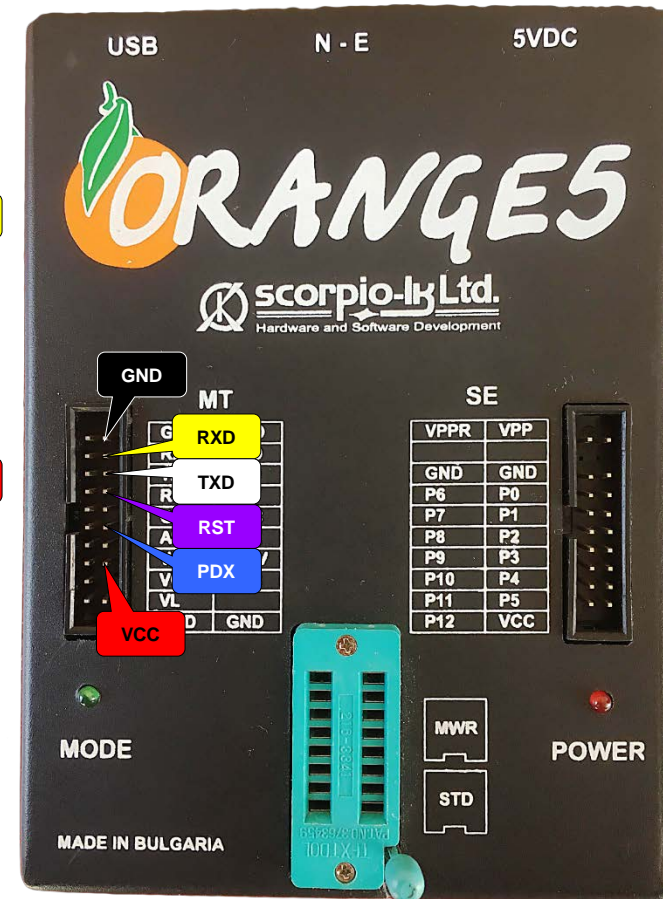
Перш за все, зробіть з'єднувальний кабель,  
як показано вище.

Роз'єм IDC20 HARTING 09185206813 або аналог.  
Силіконові дроти AWG 30 довжиною 20 см.

**Припаяти резистор 1 кΩ між VCC та RXD!**

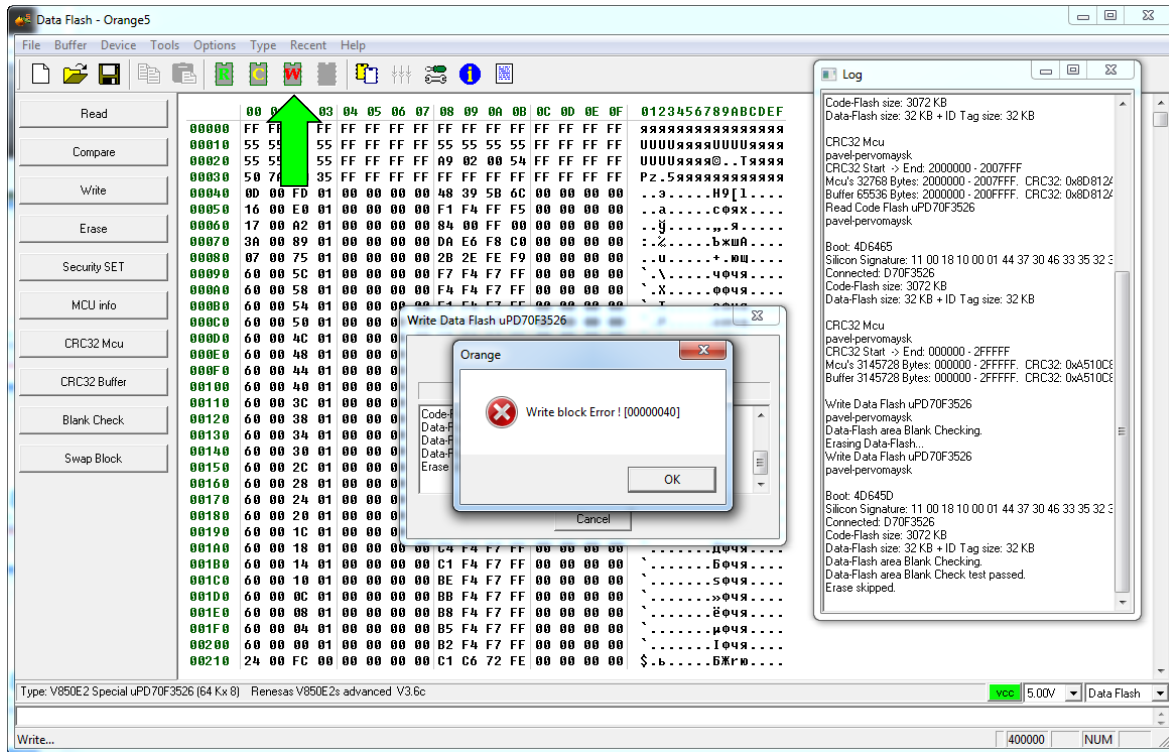
Обов'язково потрібно мати досвід роботи  
підняття ніг процесора.

**Будьте уважні, помилки підключення неприпустимі!**

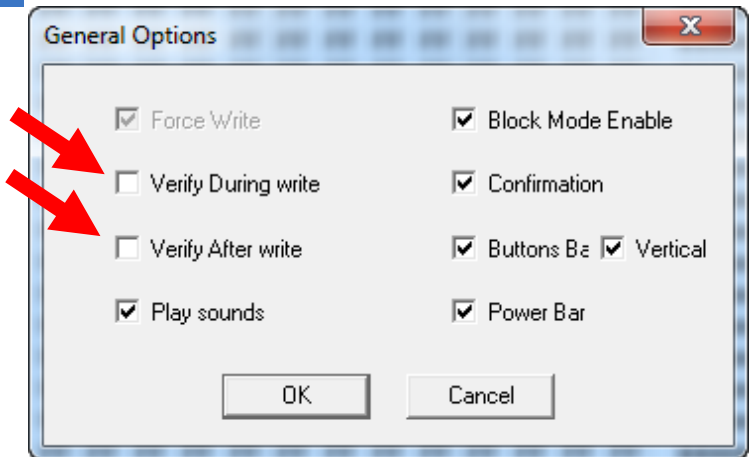


# F.A.Q. Write Error!

**Writing a locked processor is impossible in 90% of cases!**  
**Запис заблокованого процесора неможливий у 90% випадків!**



**Turn off 2 points.**  
**Вимкніть 2 пункти.**





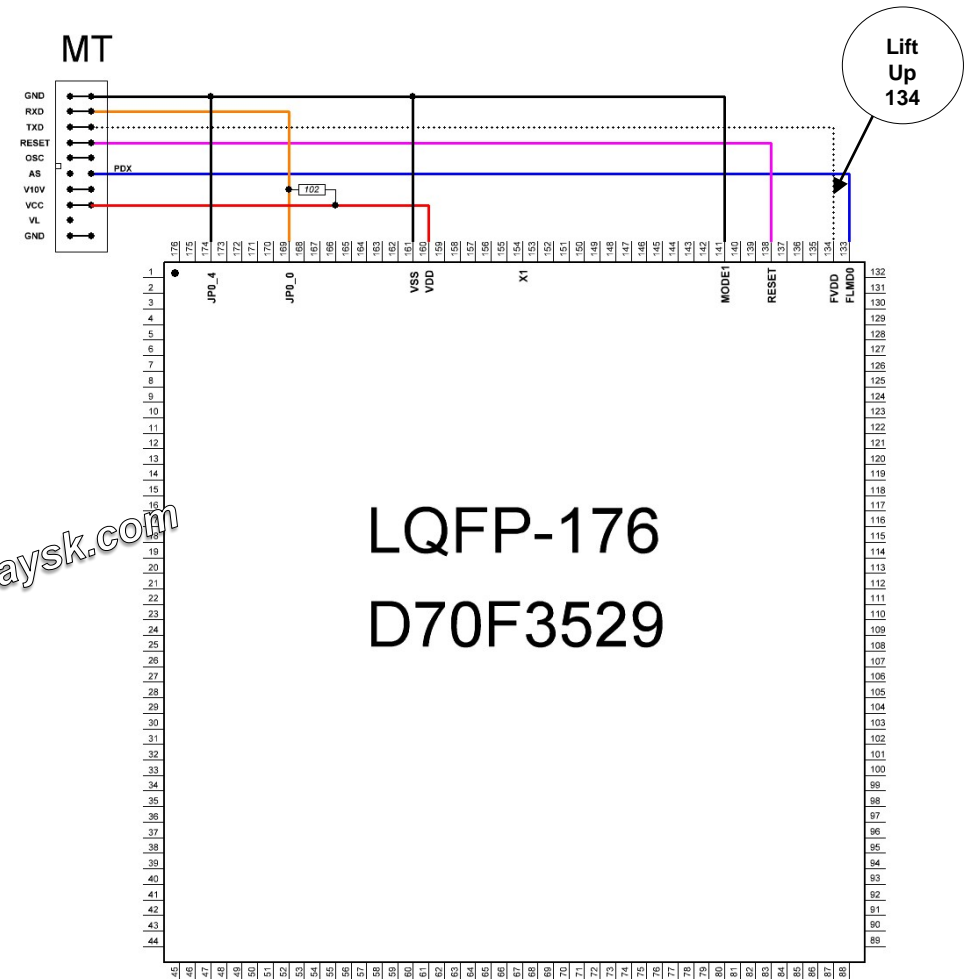
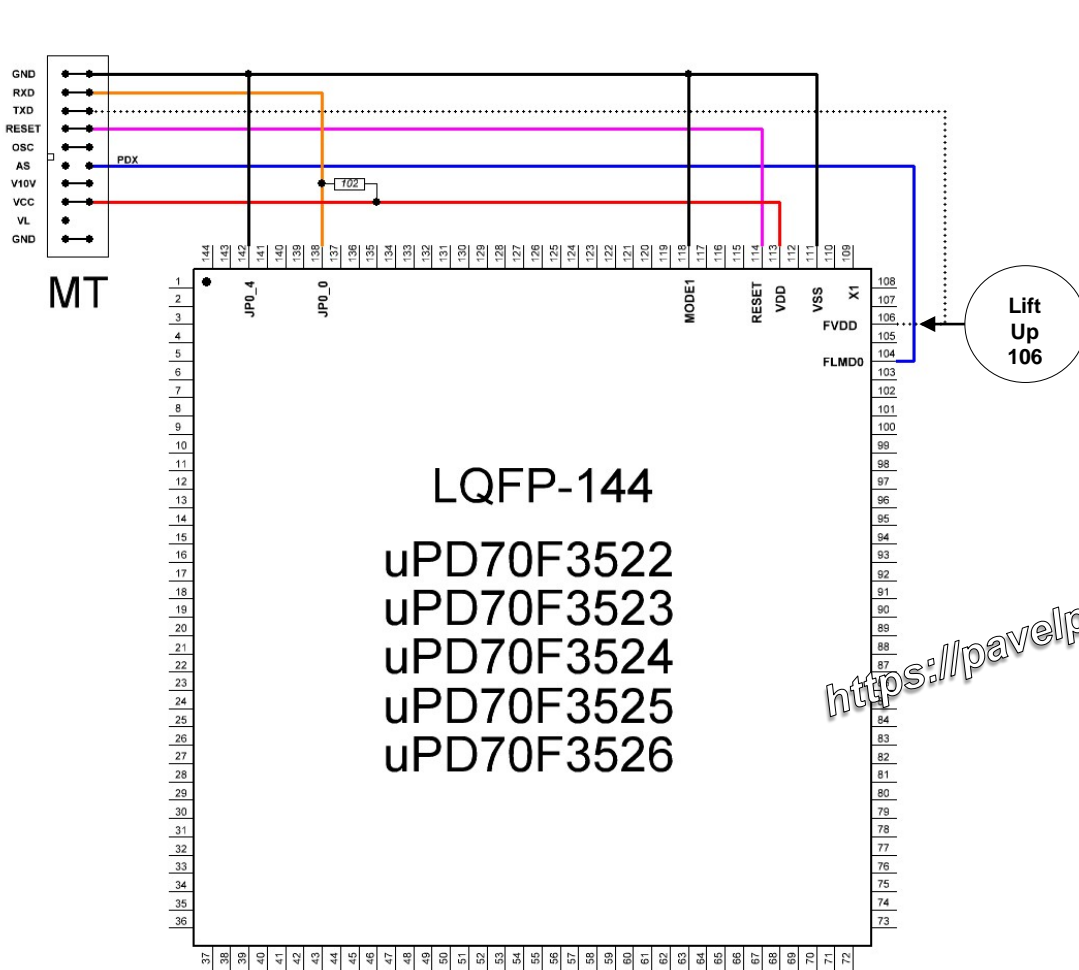
# Схеми підключення



# Wiring diagrams in circuit

## V850E2/DJ4

## V850E2/DK4-H



<https://pavelpervomaysk.com>



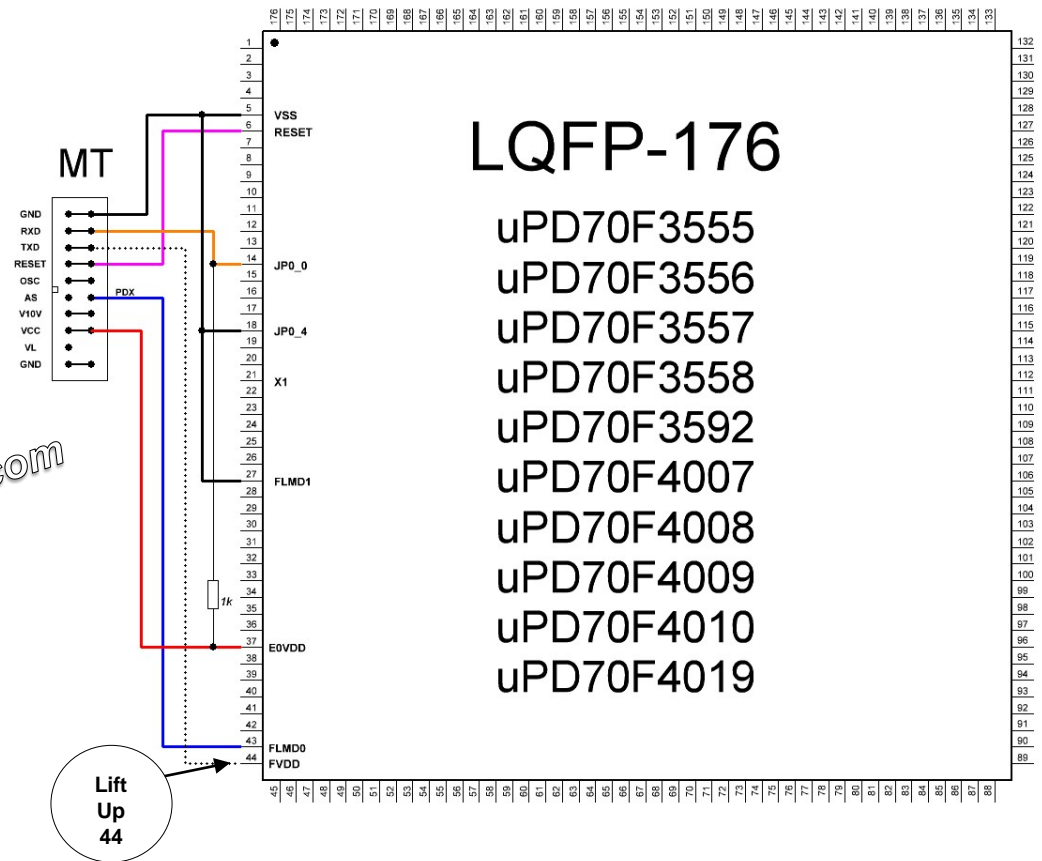
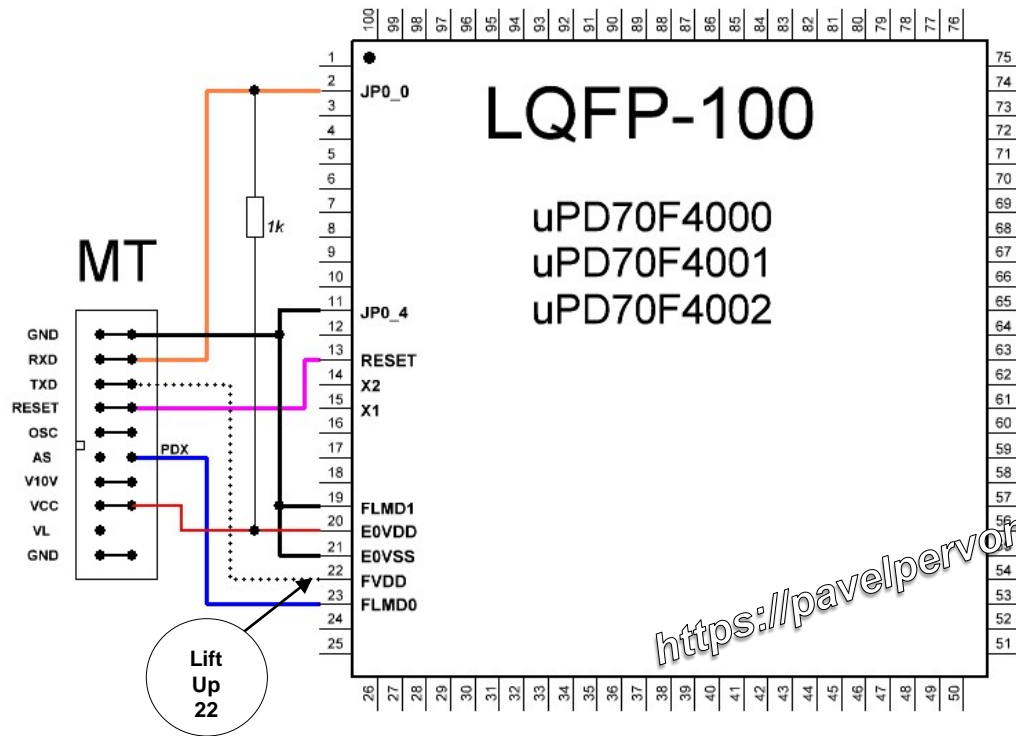
# Схеми підключення



# Wiring diagrams in circuit

## V850E2/FG4

## V850E2/FK4



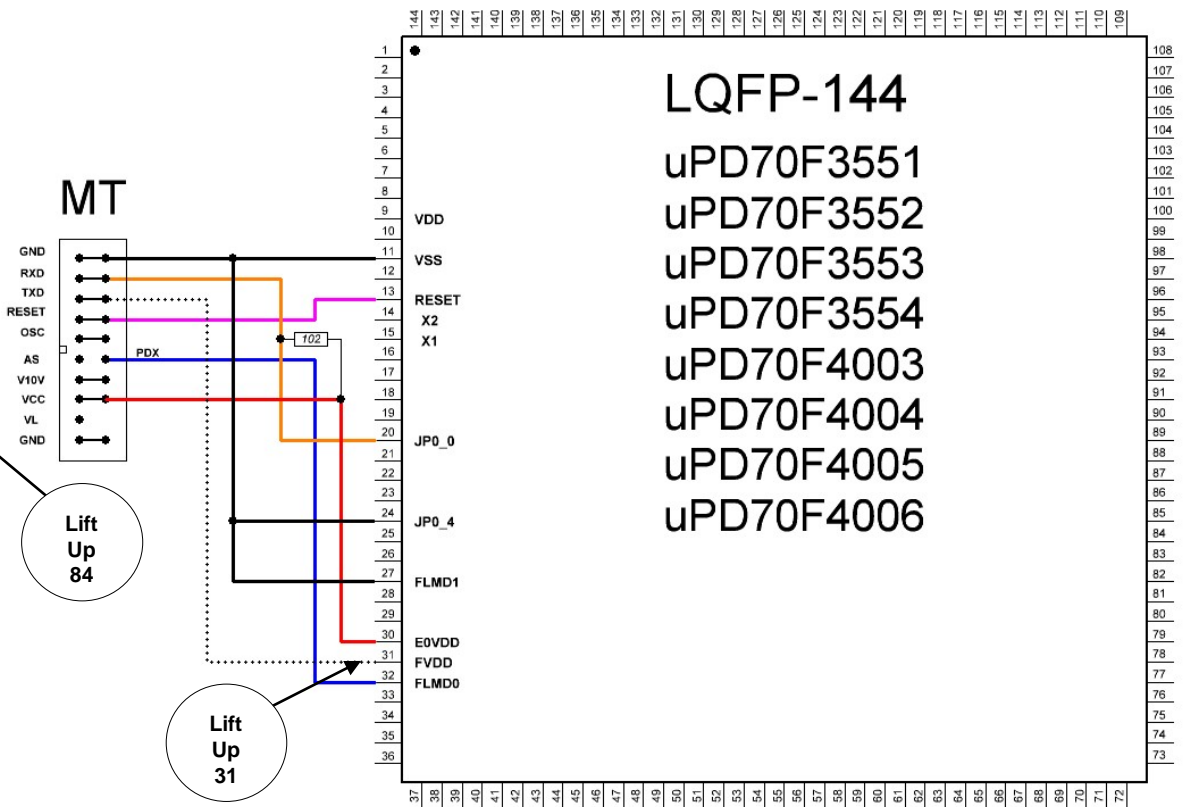
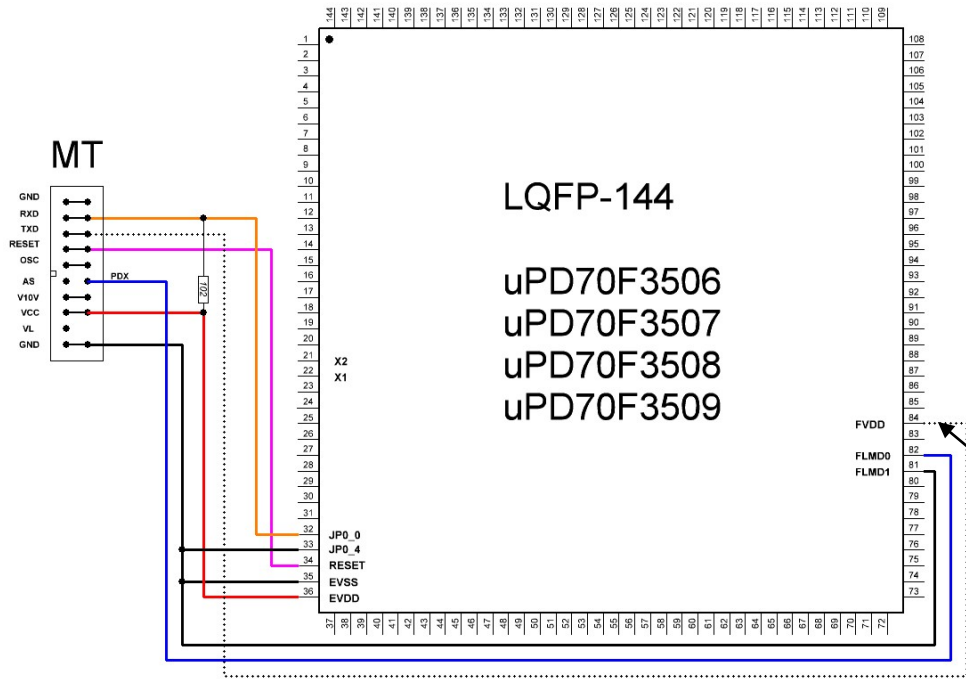


# Схеми підключення

# Wiring diagrams in circuit

## V850E2/Px4

## V850E2/FJ4

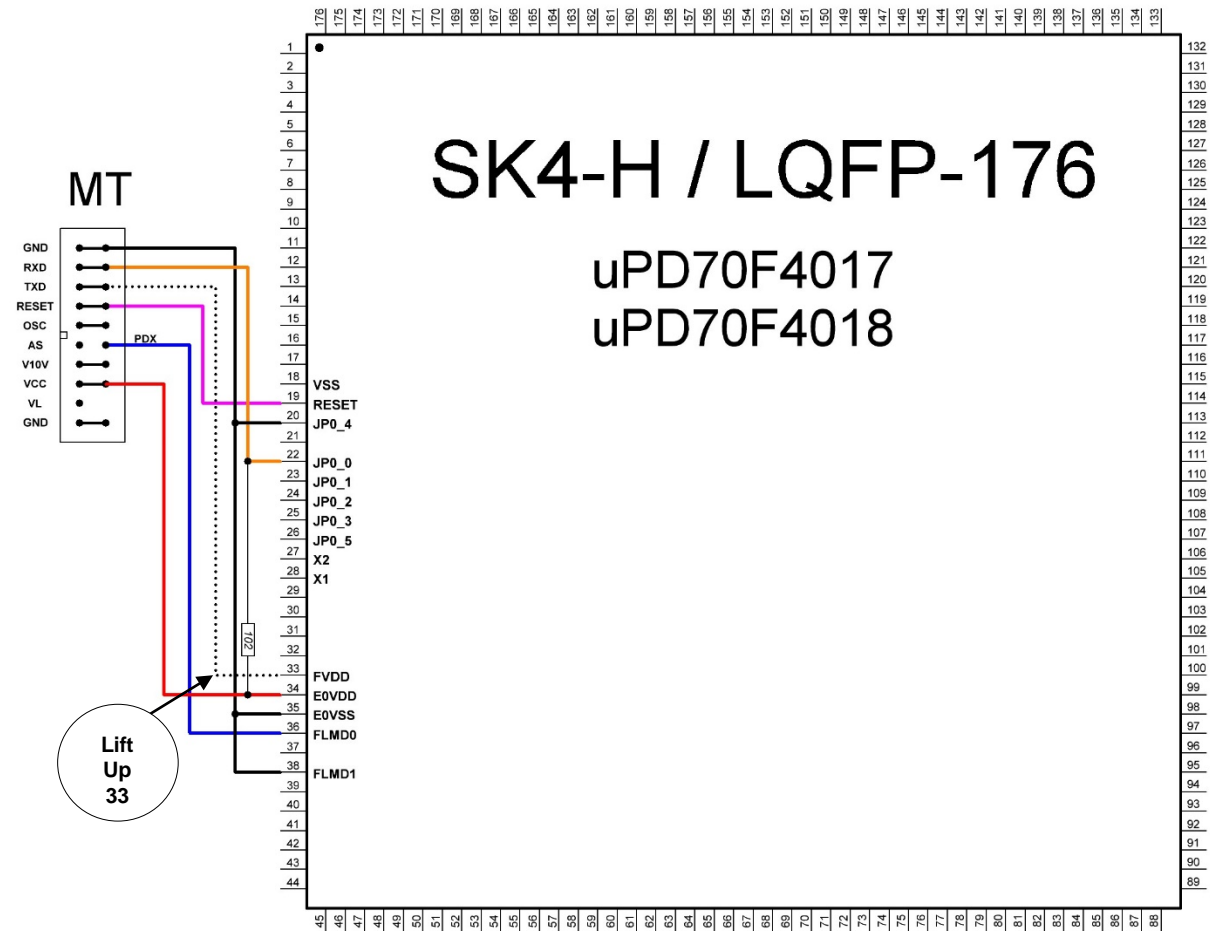




# Схеми підключення

## Wiring diagrams in circuit

### V850E2/SK4-H

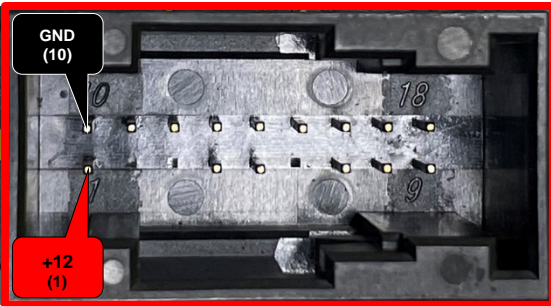




**Не використовуйте імпульсні блоки живлення!**  
**Приклад підключення зовнішнього живлення.**  
**Orange5 VCC не приєднуємо!**



**Do not use pulsed power supplies!**  
**An example of connecting an external power supply**  
**Orange5 VCC not connected**





# Select target MCU

NewFile.bin - Orange5

File Buffer Device Tools Options Type Recent Help

Read  
Compare  
Write  
Modify

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	0123456789ABCDEF
00000	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	XXXXXXXXXXXXXXXXXXXX
00010	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	XXXXXXXXXXXXXXXXXXXX
00020	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	XXXXXXXXXXXXXXXXXXXX
00030	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	XXXXXXXXXXXXXXXXXXXX
00040	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	XXXXXXXXXXXXXXXXXXXX
00050	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	XXXXXXXXXXXXXXXXXXXX
00060	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	XXXXXXXXXXXXXXXXXXXX
00070	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	XXXXXXXXXXXXXXXXXXXX

Select Type

View: Groups Configuration: 41-V850E2-bypass

Group [1] Chip [27]

Chip	Memory
V850E2 Bypass v3.9	
A2C85752800	2Mx8
A2C85752801	2Mx8
A2C96072800	2Mx8
A2C99606600	3Mx8
uPD70F3522	320Kx8
uPD70F3523	576Kx8
uPD70F3524	1Mx8
uPD70F3525	2Mx8
uPD70F3526	3Mx8
uPD70F3529	2Mx8
uPD70F3532	3Mx8
uPD70F3535	3Mx8
uPD70F3537	3Mx8

OK Cancel

Type: I2C 24C01 (128 x 8) Socket: I2C vcc 5.00V

Ready 000000 NUM





# Run log window press MCU info

**1** → RUN LOG WINDOW  
Shift + Ctrl + L

← **2** MCU info

**Signature**

**Code size**

**Data size**

**Security 0xCB**

**D70F3532**

**Ver. 3.9**

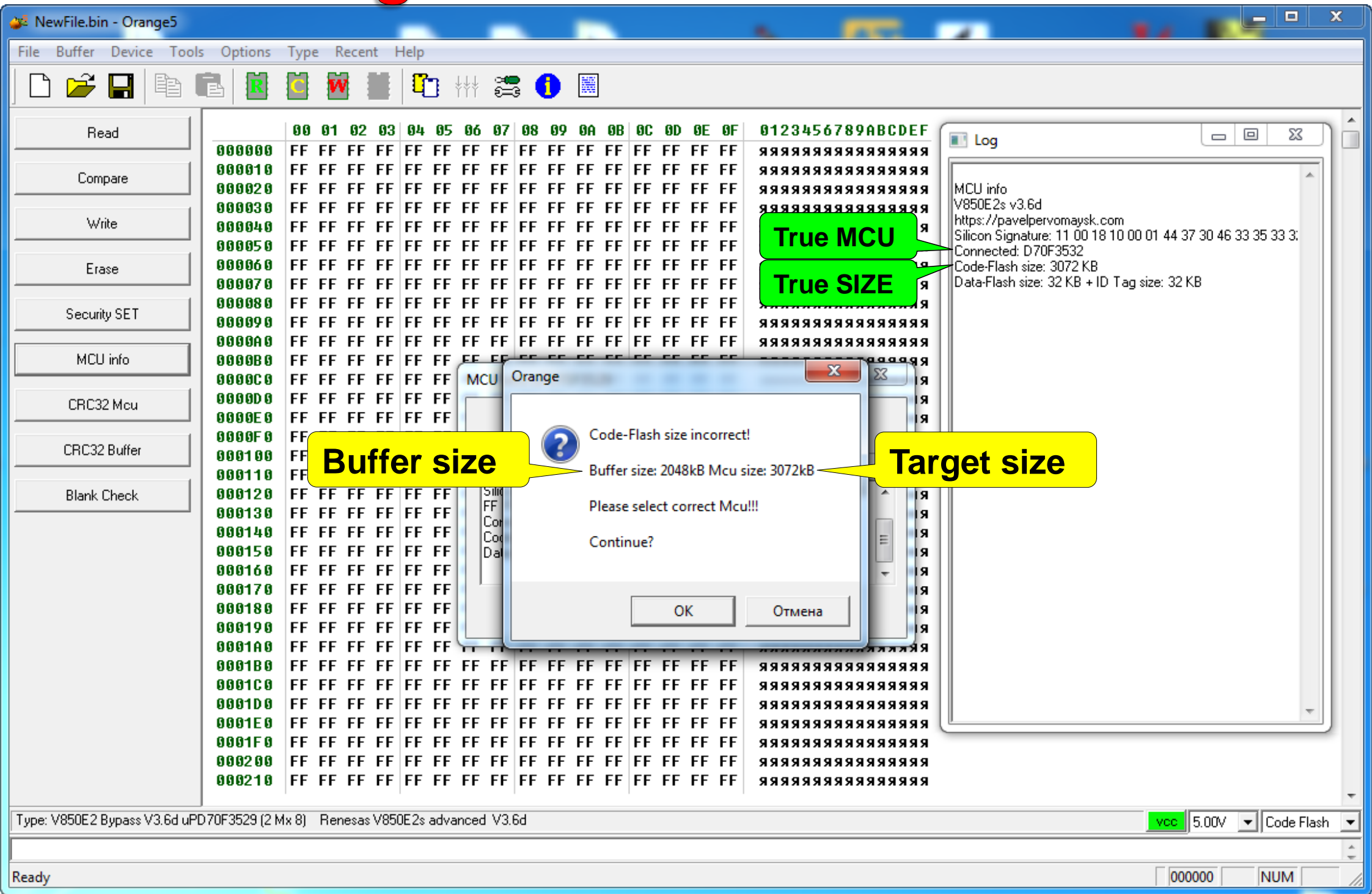
MCU info  
<https://pavelpervomaysk.com>  
 V850E2s v3.9  
 Silicon Signature: 11 00 18 10 00 01 44 37 30 46 3:  
 Connected: D70F3532  
 Code-Flash size: 3072 kB  
 Data-Flash size: 32 kB + ID Tag size: 32 kB  
 Firmware Version: 4.00  
 SSR: 11 00 06 CB 13 00 00 FF 02 1B 03

Orange  
 Device name: D70F3532  
 Code Flash end addr: 002FFFFFFF  
 Data Flash end addr: 02007FFFFF  
 Code Flash size: 3072 kB  
 Data Flash size: 32 kB  
 Security Status Register: 0xCB  
 Read: ON  
 Program: ON  
 Chip Erase: OFF  
 Block Erase: ON  
 Firmware Version: 4.00

Type: V850E2 Bypass v3.9 uPD70F3532 (64 Kx 8) Renesas V850E2s Bypass v3.9 vcc 5.00V Data Flash

Ready 400000 NUM

# **Warning: Incorrect Mcu selected**



The screenshot shows the Orange5 software interface. On the left is a sidebar with buttons for Read, Compare, Write, Erase, Security SET, MCU info, CRC32 Mcu, CRC32 Buffer, and Blank Check. The main area displays a memory dump with hexadecimal addresses (000000 to 000210) and data values (mostly FF FF FF FF). A Log window on the right shows MCU info: V850E2s v3.6d, Silicon Signature: 11 00 18 10 00 01 44 37 30 46 33 35 33 3, Connected: D70F3532, Code-Flash size: 3072 KB, Data-Flash size: 32 KB + ID Tag size: 32 KB. An error dialog box titled 'Orange' is open, displaying: 'Code-Flash size incorrect!', 'Buffer size: 2048kB Mcu size: 3072kB', 'Please select correct Mcu!!!', and 'Continue?'. The dialog has 'OK' and 'Отмена' buttons. A status bar at the bottom shows 'Type: V850E2 Bypass V3.6d uPD70F3529 (2 Mx 8) Renesas V850E2s advanced V3.6d', 'vcc 5.00V', and 'Code Flash'. The bottom left shows 'Ready' and the bottom right shows '000000' and 'NUM'.

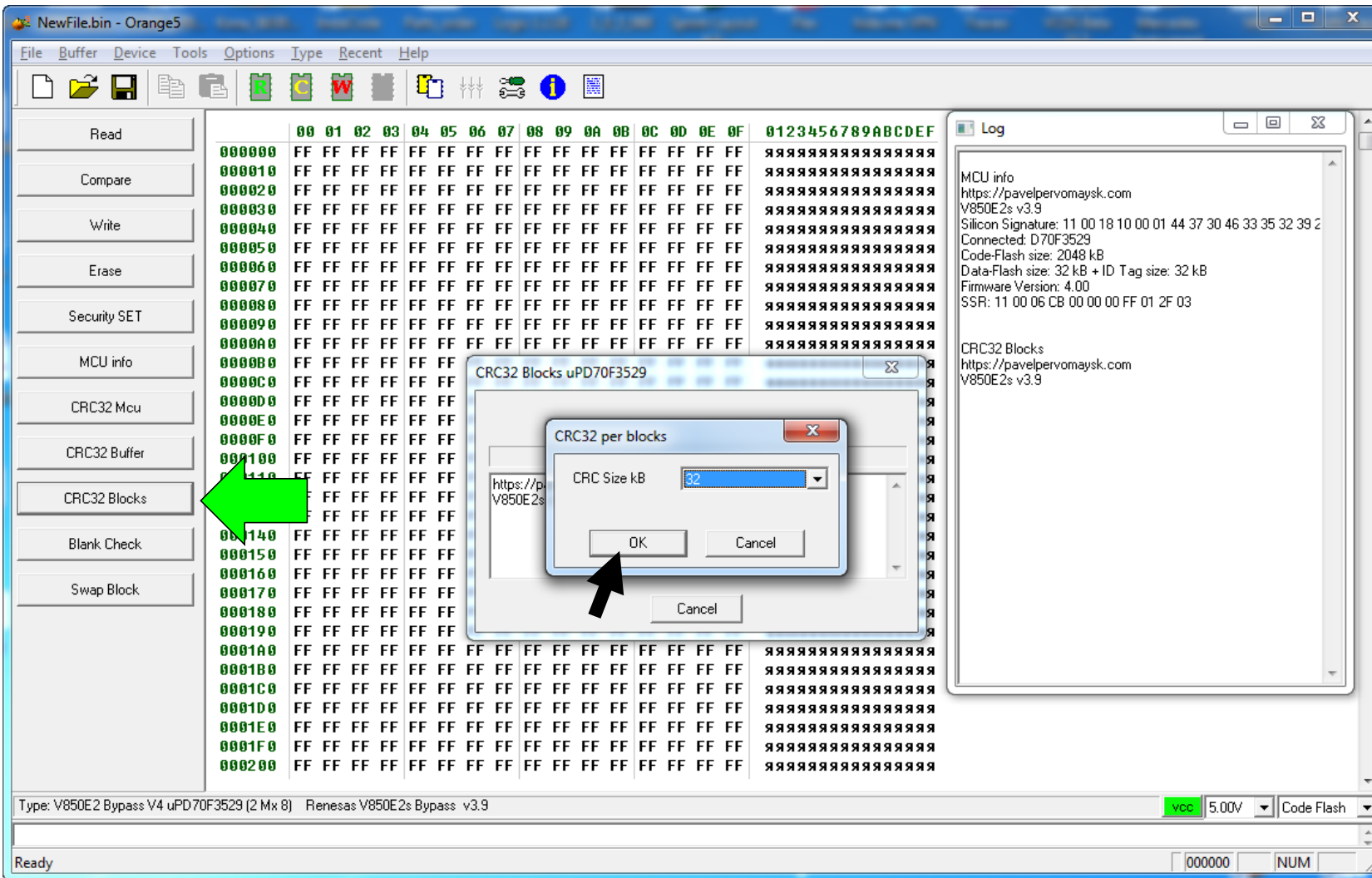
True MCU

True SIZE

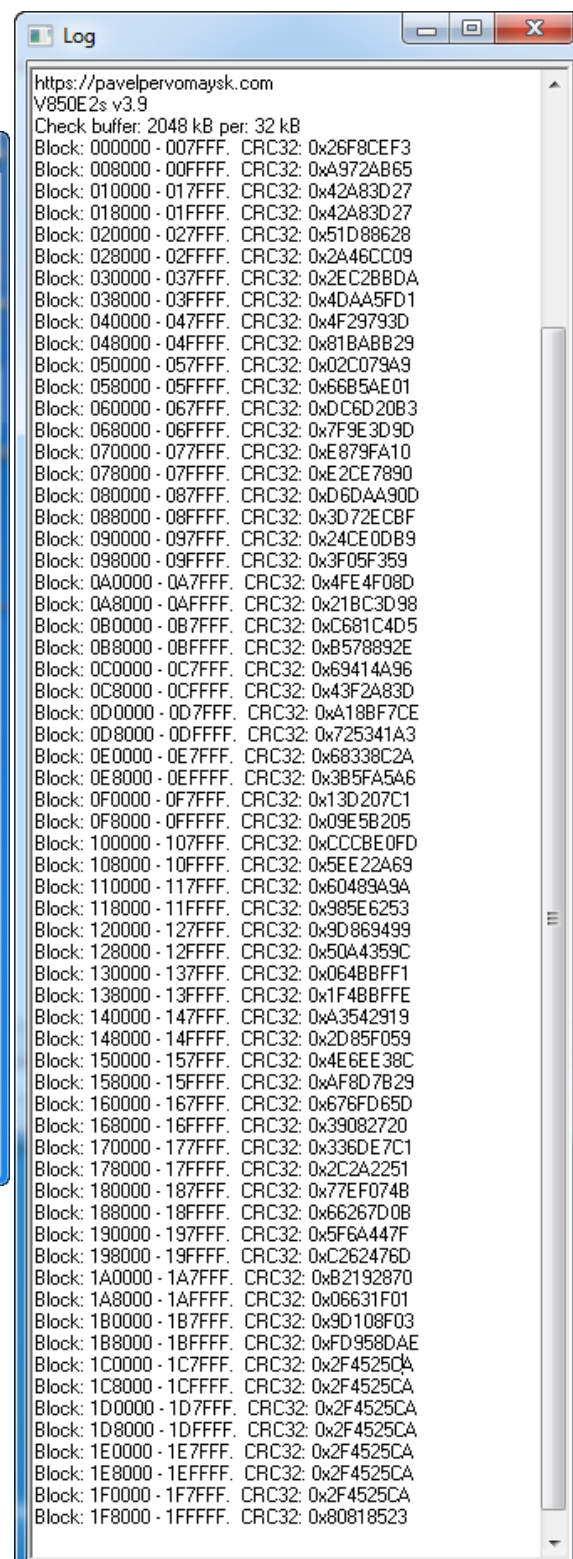
Buffer size

Target size

# Step 1) Code-Flash CRC32 Blocks



The screenshot shows the Orange5 software interface. The main window displays a memory dump with columns for address (000000 to 000200), hex data (FF FF FF FF), and hex characters (ЯЯЯЯЯЯЯЯЯЯ). A green arrow points to the 'CRC32 Blocks' button in the left sidebar. A dialog box titled 'CRC32 Blocks uPD70F3529' is open, showing a 'CRC Size kB' dropdown menu set to '32'. An arrow points to the 'OK' button in the dialog. The status bar at the bottom indicates 'Type: V850E2 Bypass V4 uPD70F3529 (2 Mx 8) Renesas V850E2s Bypass v3.9' and 'Code Flash'.



The screenshot shows a 'Log' window with the following content:

```
https://pavelpervomaysk.com
V850E2s v3.9
Check buffer: 2048 kB per: 32 kB
Block: 000000 - 007FFF. CRC32: 0x26F8CEf3
Block: 008000 - 00FFFF. CRC32: 0xA972AB65
Block: 010000 - 017FFF. CRC32: 0x42A83D27
Block: 018000 - 01FFFF. CRC32: 0x42A83D27
Block: 020000 - 027FFF. CRC32: 0x51D88628
Block: 028000 - 02FFFF. CRC32: 0x2A46CC09
Block: 030000 - 037FFF. CRC32: 0x2EC2BBDA
Block: 038000 - 03FFFF. CRC32: 0x4DAA5FD1
Block: 040000 - 047FFF. CRC32: 0x4F29793D
Block: 048000 - 04FFFF. CRC32: 0x81BABB29
Block: 050000 - 057FFF. CRC32: 0x02C079A9
Block: 058000 - 05FFFF. CRC32: 0x66B5AE01
Block: 060000 - 067FFF. CRC32: 0xD C6D 20B3
Block: 068000 - 06FFFF. CRC32: 0x7F9E3D9D
Block: 070000 - 077FFF. CRC32: 0xE879FA10
Block: 078000 - 07FFFF. CRC32: 0xE2CE7890
Block: 080000 - 087FFF. CRC32: 0xD6DA990D
Block: 088000 - 08FFFF. CRC32: 0x3D72CBF
Block: 090000 - 097FFF. CRC32: 0x24CE0DB9
Block: 098000 - 09FFFF. CRC32: 0x3F05F359
Block: 0A0000 - 0A7FFF. CRC32: 0x4FE4F08D
Block: 0A8000 - 0AFFFF. CRC32: 0x21BC3D98
Block: 0B0000 - 0B7FFF. CRC32: 0xC681C4D5
Block: 0B8000 - 0BFFFF. CRC32: 0xB578892E
Block: 0C0000 - 0C7FFF. CRC32: 0x69414A96
Block: 0C8000 - 0CFFFF. CRC32: 0x43F2A83D
Block: 0D0000 - 0D7FFF. CRC32: 0xA18BF7CE
Block: 0D8000 - 0DFFFF. CRC32: 0x725341A3
Block: 0E0000 - 0E7FFF. CRC32: 0x68338C2A
Block: 0E8000 - 0EFFFF. CRC32: 0x3B5FA5A6
Block: 0F0000 - 0F7FFF. CRC32: 0x13D207C1
Block: 0F8000 - 0FFFFF. CRC32: 0x09E5B205
Block: 100000 - 107FFF. CRC32: 0xCCCBE0FD
Block: 108000 - 10FFFF. CRC32: 0x5EE22A69
Block: 110000 - 117FFF. CRC32: 0x60489A9A
Block: 118000 - 11FFFF. CRC32: 0x985E6253
Block: 120000 - 127FFF. CRC32: 0x9D869499
Block: 128000 - 12FFFF. CRC32: 0x50A4359C
Block: 130000 - 137FFF. CRC32: 0x0648BBFF
Block: 138000 - 13FFFF. CRC32: 0x1F48BFFE
Block: 140000 - 147FFF. CRC32: 0xA3542919
Block: 148000 - 14FFFF. CRC32: 0x2D85F059
Block: 150000 - 157FFF. CRC32: 0x4E6EE38C
Block: 158000 - 15FFFF. CRC32: 0xAf8D7B29
Block: 160000 - 167FFF. CRC32: 0x676FD65D
Block: 168000 - 16FFFF. CRC32: 0x39082720
Block: 170000 - 177FFF. CRC32: 0x336DE7C1
Block: 178000 - 17FFFF. CRC32: 0x2C2A2251
Block: 180000 - 187FFF. CRC32: 0x77EF074B
Block: 188000 - 18FFFF. CRC32: 0x66267D0B
Block: 190000 - 197FFF. CRC32: 0x5F6A447F
Block: 198000 - 19FFFF. CRC32: 0xC262476D
Block: 1A0000 - 1A7FFF. CRC32: 0xB2192870
Block: 1A8000 - 1AFFFF. CRC32: 0x06631F01
Block: 1B0000 - 1B7FFF. CRC32: 0x9D108F03
Block: 1B8000 - 1BFFFF. CRC32: 0xFD958DAE
Block: 1C0000 - 1C7FFF. CRC32: 0x2F4525CA
Block: 1C8000 - 1CFFFF. CRC32: 0x2F4525CA
Block: 1D0000 - 1D7FFF. CRC32: 0x2F4525CA
Block: 1D8000 - 1DFFFF. CRC32: 0x2F4525CA
Block: 1E0000 - 1E7FFF. CRC32: 0x2F4525CA
Block: 1E8000 - 1EFFFF. CRC32: 0x2F4525CA
Block: 1F0000 - 1F7FFF. CRC32: 0x2F4525CA
Block: 1F8000 - 1FFFFF. CRC32: 0x80818523
```

First of all, make a crc32 list for the Code-Flash area per 32kB.



Перш за все зробити список CRC32 для області Code-Flash блоками по 32кБ.





# Step 2) Data-Flash Bypass time: 30-300s

The screenshot shows the Orange5 software interface with a memory dump window. A green arrow points to the 'Read' button in the left sidebar. The memory dump shows a grid of hexadecimal values, mostly 'FF'. A dialog box titled 'Read Data Flash uPD70F3532' is open, displaying 'Bypass Security... 15' and a text area containing:

```
https://pavelpervomaysk.com  
V850E2s v3.9  
S: CB 1 64 1 3200  
*****
```

The dialog box has a 'Cancel' button. A 'Log' window on the right shows the following information:

```
MCU info  
https://pavelpervomaysk.com  
V850E2s v3.9  
Silicon Signature: 11 00 18 10 00 01 44 37 30 46 3:  
Connected: D70F3532  
Code-Flash size: 3072 kB  
Data-Flash size: 32 kB + ID Tag size: 32 kB  
Firmware Version: 4.00  
SSR: 11 00 06 CB 13 00 00 FF 02 1B 03  
  
Read Data Flash uPD70F3532  
https://pavelpervomaysk.com  
V850E2s v3.9  
S: CB 1 64 1 3200  
*****
```

At the bottom right, a blue callout bubble says 'DATA FLASH'. The status bar at the bottom shows 'Type: V850E2 Bypass v3.9 uPD70F3532 (64 Kx 8) Renesas V850E2s Bypass v3.9' and 'vcc 5.00V Data Flash'. The bottom left shows 'Read...' and the bottom right shows '400000 NUM'.



# Step 2a) Read Data-Flash area

The screenshot shows the Orange5 software interface with a memory dump window. The memory dump displays hexadecimal addresses from 00000 to 001F0 and their corresponding data values, which are mostly FF. A dialog box titled "Read Data Flash uPD70F3532" is open, showing a progress bar and the following information:

```
FF FF 2F 00 FF 7F 00 02 04 00 00 28 03  
Connected: D70F3532  
Code-Flash size: 3072 kB  
Data-Flash size: 32 kB + ID Tag size: 32 kB  
Firmware Version: 4.00
```

A watermark "https://pavelpervomaysk.com" is visible across the dialog box. In the background, a "Log" window displays the following information:

```
MCU info  
https://pavelpervomaysk.com  
V850E2s v3.9  
Silicon Signature: 11 00 18 10 00 01 44 37 30 46 3:  
Connected: D70F3532  
Code-Flash size: 3072 kB  
Data-Flash size: 32 kB + ID Tag size: 32 kB  
Firmware Version: 4.00  
SSR: 11 00 06 CB 13 00 00 FF 02 1B 03  
  
Read Data Flash uPD70F3532  
https://pavelpervomaysk.com  
V850E2s v3.9  
S: CB 1 64 1 3200  
..... *+4F4C  
E: B9 4F4C  
Silicon Signature: 11 00 18 10 00 01 44 37 30 46 3:  
Connected: D70F3532  
Code-Flash size: 3072 kB  
Data-Flash size: 32 kB + ID Tag size: 32 kB  
Firmware Version: 4.00
```

At the bottom of the interface, the status bar shows "Type: V850E2 Bypass v3.9 uPD70F3532 (64 Kx 8) Renesas V850E2s Bypass v3.9" and "vcc 5.00V Data Flash". A blue callout bubble in the bottom right corner points to the "Data Flash" dropdown menu and contains the text "DATA FLASH".



# Step 3) Check CRC32 Mcu Data-Flash

NewFile.bin - Orange5

File Buffer Device Tools Options Type Recent Help

Read  
Compare  
Write  
Erase  
Security SET  
MCU info  
CRC32 Mcu  
CRC32 Buffer  
CRC32 Blocks  
Blank Check  
Swap Block

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	012345
00000	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	яяяяяя
00010	55	55	55	55	FF	FF	FF	FF	55	55	55	55	FF	FF	FF	FF	UUUUяя
00020	55	55	55	55	FF	FF	FF	FF	95	00	00	6A	FF	FF	FF	FF	UUUUяя
00030	70	7A	00	15	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	pz...яя
00040	49	00	FF	01	00	00	00	00	69	C5	40	FA	00	00	00	00	I.я...
00050	15	00	FC	00	00	00	00	00	00	00	00	00	00	00	00	00	..ь...
00060	4B	00	CD	00	00	00	00	00	00	00	00	00	00	00	00	00	K.H...
00070	51	00	CA	00	00	00	00	00	00	00	00	00	00	00	00	00	Q.K...
00080	4A	00	C7	00	00	00	00	00	00	00	00	00	00	00	00	00	J.3...
00090	83	00	C4	00	00	00	00	00	00	00	00	00	00	00	00	00	г.д...
000A0	84	00	B7	00	00	00	00	00	00	00	00	00	00	00	00	00	
000B0	3B	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
000C0	51	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
000D0	49	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
000E0	48	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
000F0	49	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
00100	48	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
00110	49	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
00120	48	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
00130	49	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
00140	48	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
00150	49	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
00160	48	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
00170	49	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	
00180	48	00	00	50	01	00	00	00	00	00	00	00	00	00	00	00	
00190	49	00	00	58	01	00	00	00	00	00	00	00	00	00	00	00	
001A0	48	00	00	55	01	00	00	00	00	00	00	00	00	00	00	00	
001B0	49	00	00	52	01	00	00	00	00	00	00	00	00	00	00	00	
001C0	4B	00	00	4F	01	00	00	00	00	00	00	00	00	00	00	00	
001D0	4A	00	00	4C	01	00	00	00	00	00	00	00	00	00	00	00	
001E0	4C	00	00	49	01	00	00	00	00	00	00	00	00	00	00	00	
001FA	4D	00	00	46	01	00	00	00	00	00	00	00	00	00	00	00	

**CRC match  
Save Data-Flash!**

1

Orange

**Info** CRC match.  
Buffer 65536 Bytes: 2000000 - 200FFFF. CRC32: 0x26849C9F  
Mcu's 65536 Bytes: 2000000 - 200FFFF. CRC32: 0x26849C9F

**If CRC32 doesn't match:  
Save Data-Flash file & log.txt  
Contact technical support.  
[pavelpervomaysk@gmail.com](mailto:pavelpervomaysk@gmail.com)  
Don't Erase or Write Mcu!**

Log

MCU info  
https://pavelpervomaysk.com  
V850E2s v3.9  
Silicon Signature: 11 00 18 10 00 01 44 37 30 46 3:  
Connected: D70F3532  
Code-Flash size: 3072 kB  
Data-Flash size: 32 kB + ID Tag size: 32 kB  
Firmware Version: 4.00  
SSR: 11 00 06 CB 13 00 00 FF 02 1B 03

Read Data Flash uPD70F3532  
https://pavelpervomaysk.com  
V850E2s v3.9  
Silicon Signature: 11 00 18 10 00 01 44 37 30 46 3:  
Connected: D70F3532  
Code-Flash size: 3072 kB  
Data-Flash size: 32 kB + ID Tag size: 32 kB  
Firmware Version: 4.00

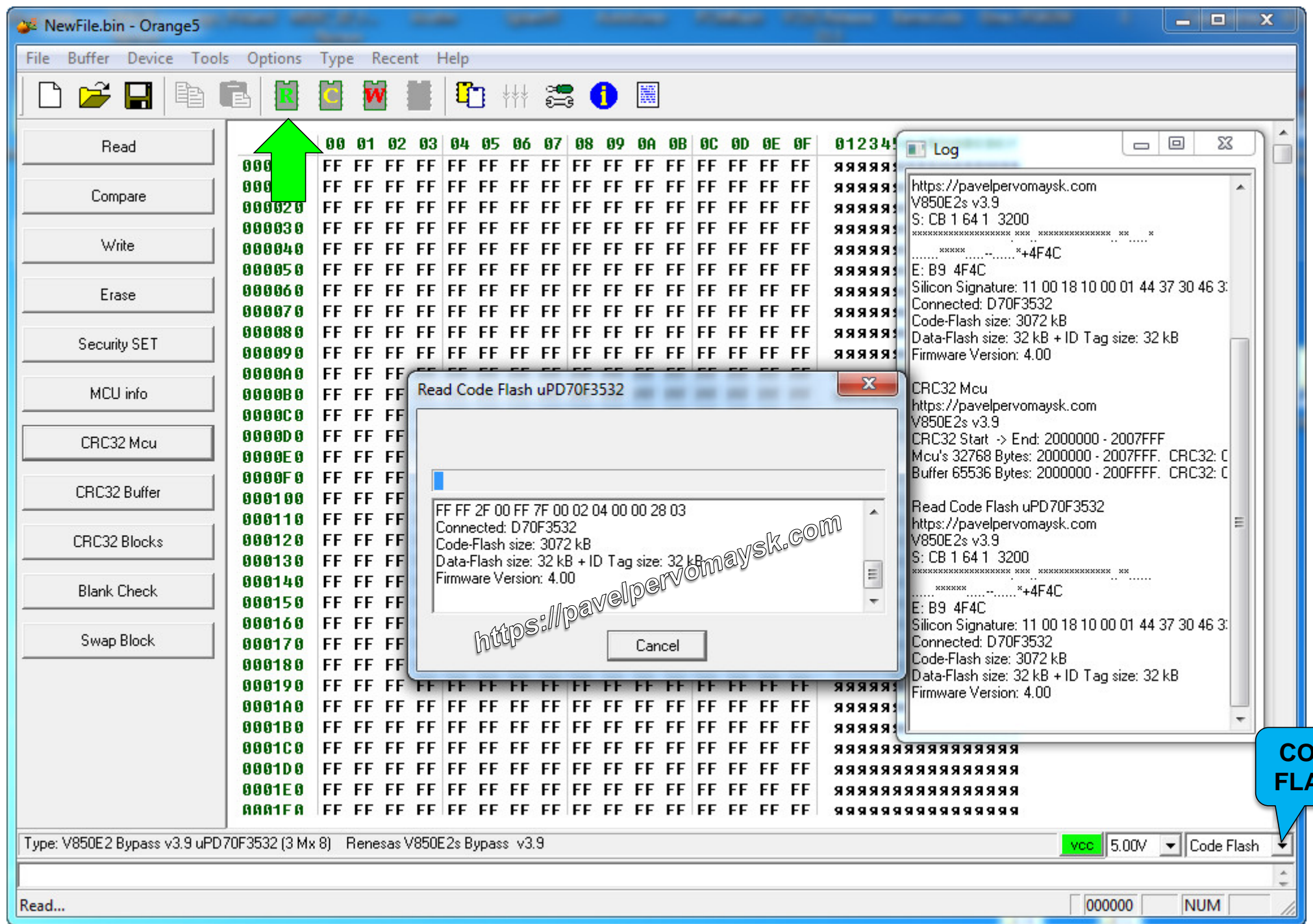
CRC32 Mcu  
https://pavelpervomaysk.com  
V850E2s v3.9  
CRC32 Start -> End: 2000000 - 2007FFF  
Mcu's 32768 Bytes: 2000000 - 2007FFF. CRC32: C  
Buffer 65536 Bytes: 2000000 - 200FFFF. CRC32: C

DATA FLASH

Type: V850E2 Bypass v3.9 uPD70F3532 (64 Kx 8) Renesas V850E2s Bypass v3.9 vcc 5.00V Data Flash

Ready 400000 NUM

# Step 4) Code-Flash bypass time: 30-300s



The screenshot shows the Orange5 software interface with a memory dump window. A green arrow points to the address 000000 in the memory dump. A dialog box titled "Read Code Flash uPD70F3532" is open, displaying the following information:

```
FF FF 2F 00 FF 7F 00 02 04 00 00 28 03
Connected: D70F3532
Code-Flash size: 3072 kB
Data-Flash size: 32 kB + ID Tag size: 32 kB
Firmware Version: 4.00
```

The dialog box also contains a watermark: <https://pavelpervomaysk.com>. A "Log" window on the right side of the interface shows the following log entries:

```
https://pavelpervomaysk.com
V850E2s v3.9
S: CB 1 64 1 3200
.....+4F4C
E: B9 4F4C
Silicon Signature: 11 00 18 10 00 01 44 37 30 46 3:
Connected: D70F3532
Code-Flash size: 3072 kB
Data-Flash size: 32 kB + ID Tag size: 32 kB
Firmware Version: 4.00

CRC32 Mcu
https://pavelpervomaysk.com
V850E2s v3.9
CRC32 Start -> End: 2000000 - 2007FFF
Mcu's 32768 Bytes: 2000000 - 2007FFF. CRC32: C
Buffer 65536 Bytes: 2000000 - 200FFFF. CRC32: C

Read Code Flash uPD70F3532
https://pavelpervomaysk.com
V850E2s v3.9
S: CB 1 64 1 3200
.....+4F4C
E: B9 4F4C
Silicon Signature: 11 00 18 10 00 01 44 37 30 46 3:
Connected: D70F3532
Code-Flash size: 3072 kB
Data-Flash size: 32 kB + ID Tag size: 32 kB
Firmware Version: 4.00
```

At the bottom of the interface, the status bar shows "Type: V850E2 Bypass v3.9 uPD70F3532 (3 Mx 8) Renesas V850E2s Bypass v3.9" and a dropdown menu set to "Code Flash". A blue callout bubble in the bottom right corner contains the text "CODE FLASH".



# Step 5) Check CRC32 Mcu Code-Flash

The screenshot displays the Orange5 software interface. The main window shows a memory dump with columns for address (00-0F, 01234) and hex values. A yellow callout box points to the 'CRC32 Mcu' button in the left sidebar, which is labeled with a green arrow and the number '1'. A dialog box titled 'Orange' is open in the center, displaying the following text:

**CRC match.**  
Buffer 3145728 Bytes: 000000 - 2FFFFFF. CRC32: 0xE2C978A1  
Mcu's 3145728 Bytes: 000000 - 2FFFFFF. CRC32: 0xE2C978A1

Below the dialog box, a grey callout box contains the following instructions:

**If CRC32 doesn't match:  
Save Code-Flash file & log.txt  
Contact technical support.  
[pavelpervomaysk@gmail.com](mailto:pavelpervomaysk@gmail.com)  
Don't Erase or Write Mcu!**

In the bottom right corner, a blue speech bubble contains the text **CODE FLASH**. The status bar at the bottom of the window shows 'Type: V850E2 Bypass v3.9 uPD70F3532 (3 Mx 8) Renesas V850E2s Bypass v3.9' and 'Code Flash'.



# 🇬🇧 Step 6) Cntrl + A, copy, save as Log3532.txt

The screenshot displays the Orange5 software interface. The main window shows a memory dump for 'NewFile.bin'. The dump consists of 16 columns of hex addresses (00 to 0F) and 16 columns of hex data (00 to 0F). The data is mostly 'FF', with a 'FF' at address 0001D0. On the left, there are buttons for 'Read', 'Compare', 'Write', 'Erase', 'Security SET', 'MCU info', 'CRC32 Mcu', 'CRC32 Buffer', 'CRC32 Blocks', 'Blank Check', and 'Swap Block'. At the bottom, the status bar shows 'Type: V850E2 Bypass v3.9 uPD70F3532 (3 Mx 8) Renesas V850E2s Bypass v3.9' and 'vcc 5.00V Code Flash'. A 'Log' window is open on the right, displaying the following text:

```
Log
Data-Flash size: 32 kB + ID Tag size: 32 kB
Firmware Version: 4.00

CRC32 Mcu
https://pavelpervomaysk.com
V850E2s v3.9
CRC32 Start -> End: 2000000 - 2007FFF
Mcu's 32768 Bytes: 2000000 - 2007FFF. CRC32: 0
Buffer 65536 Bytes: 2000000 - 200FFFF. CRC32: 0

Read Code Flash uPD70F3532
https://pavelpervomaysk.com
V850E2s v3.9
S: CB 1 64 1 3200
*****+4F4C
E: B9 4F4C
Silicon Signature: 11 00 18 10 00 01 44 37 30 46 33
Connected: D70F3532
Code-Flash size: 3072 kB
Data-Flash size: 32 kB + ID Tag size: 32 kB
Firmware Version: 4.00

CRC32 Mcu
https://pavelpervomaysk.com
V850E2s v3.9
CRC32 Start -> End: 0000000 - 2FFFFFFF
Mcu's 3145728 Bytes: 0000000 - 2FFFFFFF. CRC32: 0
Buffer 3145728 Bytes: 0000000 - 2FFFFFFF. CRC32: 0

Save file Code.bin
Save file Data.bin
```




# OPBTO / OCD *unable to Bypass!*


NewFile.bin - Orange5

File Buffer Device Tools Options Type Recent Help

Read Compare Write Erase Security SET MCU info CRC32 Mcu CRC32 Buffer Blank Check

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	0123456789ABCDEF
00000	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	яяяяяяяяяяяяяяяя
00010	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	яяяяяяяяяяяяяяяя
00020	FF	FF	FF	FF													яяяя

 **OPBTO / OCD**  
*When unlocking the processor, these two areas have dummy values and they are unreliable!*

 **OPBTO / OCD**  
*Під час розлочування процесору ці дві області мають фіктивні значення і являються недостовірними!*

Log

```

CRC32 Mcu
V850E2s v3.6d
https://pavelpervomaysk.com
CRC32 Start -> End: 2000000 - 2007FFF
Mcu's 32768 Bytes: 2000000 - 2007FFF. CRC32: 0x21083C;
Buffer 65536 Bytes: 2000000 - 200FFFF. CRC32: 0x21083C;
Read Code Flash uPD70F3532
V850E2s v3.6d
https://pavelpervomaysk.com
S: CB 32C8
E: FF 364C
Silicon Signature: 11 00 18 10 00 01 44 37 30 46 33 35 33 3;
Connected: D70F3532
Code-Flash size: 3072 KB
Data-Flash size: 32 KB + ID Tag size: 32 KB

CRC32 Mcu
V850E2s v3.6d
https://pavelpervomaysk.com
CRC32 Start -> End: 000000 - 2FFFFFF
Mcu's 3145728 Bytes: 000000 - 2FFFFFF. CRC32: 0xAD0241
Buffer 3145728 Bytes: 000000 - 2FFFFFF. CRC32: 0xAD0241

Read OPBTO uPD70F3532
V850E2s v3.6d
https://pavelpervomaysk.com
S: CB 32C8
E: FF 364C
Silicon Signature: 11 00 18 10 00 01 44 37 30 46 33 35 33 3;
Connected: D70F3532
Code-Flash size: 3072 KB
Data-Flash size: 32 KB + ID Tag size: 32 KB
OPBTO: 11 00 24 FF FF FF FF FF FF FF FF FF FF FF FF FF FF

```

Type: V850E2 Bypass V3.6d uPD70F3532 (36 x 8) Renesas V850E2s advanced V3.6d

vcc 5.00V OPBTO

Read 500000 NUM

**OPBTO  
OCD**

# 🇬🇧 F.A.Q. MCU OSC Frequency Set Error!

**Device Options**

- Module Name: Cars\V850E2s.hpl
- Voltage: 5.00 V
- Area: Code Flash
- Reset time (ms): 5000
- OSC (kHz): 4000
- Boot Baudrate: 9600

**Orange**

**MCU OSC Frequency Set Error, Current value: 8000 kHz**  
Select Device options OSC (kHz) [4000...16000]

**Log**

Read Data Flash uPD70F3532  
V850E2s v3.6d  
<https://pavelpervomaysk.com>  
S: CB 32C8  
E: FF 364C

Type: V850E2 Bypass V3.6d uPD70F3532 (64 Kx 8) Renesas V850E2s advanced V3.6d

vcc 5.00V Data Flash

Read... 400000 NUM



# F.A.Q. Erase / Write MCU D70F35xx

## Erase Entire Chip

## Load, Code, Data, OPBT0 Write (s19)

The screenshot shows the 'Data.bin - Orange5' interface. The 'Erase' button is highlighted with a green arrow. A dialog box titled 'Erase uPD70F3532' is open, with 'Entire Chip' selected in the 'Select Erase mode:' dropdown. The background shows a memory dump and a log window with details about the device and firmware.

The screenshot shows the 'SNA920850B\_0km - Orange5' interface. The 'Write' button is highlighted with a green arrow. A dialog box titled 'Write uPD70F3532' is open, with 'Code Flash', 'Data Flash', and 'OPBT0' checked. The background shows a memory dump and a log window with details about the device and firmware.

## Check SSR

## Lock Mcu (optionally)

The screenshot shows the 'Data.bin - Orange5' interface. The 'Security SET' button is highlighted with a green arrow. A dialog box titled 'Security Status Register: 0xFF' is open, showing options for 'Read', 'Program', 'Chip Erase', and 'Block Erase'. The background shows a memory dump and a log window with details about the device and firmware.

The screenshot shows the 'SNA920850B\_0km - Orange5' interface. The 'Security SET' button is highlighted with a green arrow. The background shows a memory dump and a log window with details about the device and firmware.



# F.A.Q. Erase Entire Chip with Erase chip protect

## Erase Entire Chip

## Load, Write Code & Data

The screenshot shows the Orange5 interface with the 'Erase' button highlighted. A dialog box is open, displaying an error message: "Mcu not defined! Press Mcu Info first, retry." The background shows a memory dump with hex values and ASCII characters.

The screenshot shows the Orange5 interface with the 'Write' button highlighted. A dialog box is open, displaying device information for 'Orange':  
 Device name: D70F3526  
 Code Flash end addr: 002FFFFF  
 Data Flash end addr: 02007FFF  
 Code Flash size: 3072 kB  
 Data Flash size: 32 kB + ID Tag size: 32 kB  
 Security Status Register: 0xFF  
 Read: OFF  
 Program: OFF  
 Chip Erase: OFF  
 Block Erase: OFF

## Check SSR 0xC3 Erase Chip low chance!

## Write OPBT0

The screenshot shows the Orange5 interface with the 'MCU info' button highlighted. A dialog box is open, displaying device information for 'Orange':  
 Device name: D70F3526  
 Code Flash end addr: 001FFFFF  
 Data Flash end addr: 02007FFF  
 Code Flash size: 2048 kB  
 Data Flash size: 32 kB + ID Tag size: 32 kB  
 Security Status Register: 0xC3  
 Read: ON  
 Program: ON  
 Chip Erase: ON  
 Block Erase: ON  
 SSR: 11 00 06 C3 00 00 00 FF 01 37 03

The screenshot shows the Orange5 interface with the 'Write' and 'Security SET' buttons highlighted. A blue speech bubble points to the 'OPBT0' device selection in the bottom right corner. The background shows a memory dump with hex values and ASCII characters.

# Appendix D70F3532 VISTEON

## Схема кабеля



## Wiring diagrams in circuit

