

ATyS 3,6,p t g - FLASH Process

Date : 11 août 2018

From : CPM/RIL

Verified :

To : LA/TOS/all technicians

Copy to :

The purpose of this document is to explain how to flash the controller of ATyS range (t,g and p) nad the controller of old product 3e,6e and 6m.We will perform the complete flash process of ATyS p .Seen in annex how to flash an ATyS 6.

I. **GENERAL**

Prerequisites Hardware and Software:

- A laptop equipped with a RS232 port*
- A SEGGER Flasher + a module to connect on the ATyS
- A RS232 cable
- The SEGGER software (flasher 5).

* In our example, our PC is equipped with a docking station with RS232 port.



Laptop equipped with an RS232 port



RS232 cable



SEGGER Flasher

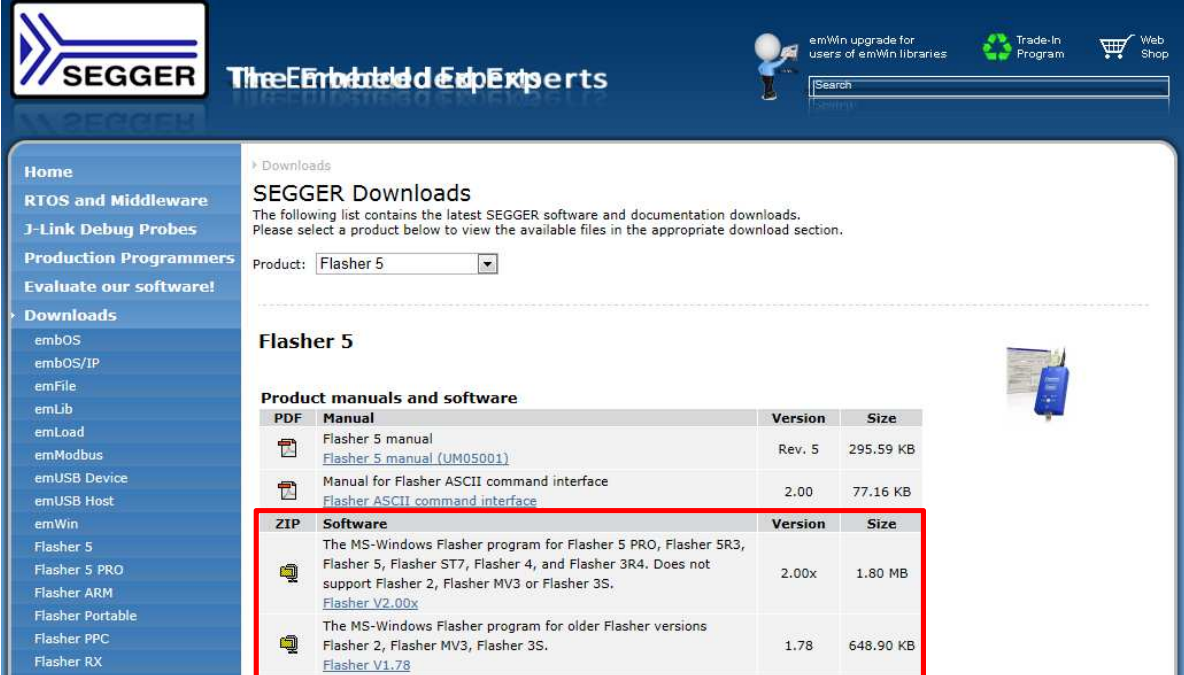


Specific module to connect on the ATyS

II. INSTALLATION of FLASHER 5 software

Follow these steps :

- Download the lasted « FLASHER 5 » software, available on the SEGGER website.
<http://www.segger.com/cms/downloads.html>



SEGGER Downloads

The following list contains the latest SEGGER software and documentation downloads. Please select a product below to view the available files in the appropriate download section.

Product:

Flasher 5

Product manuals and software

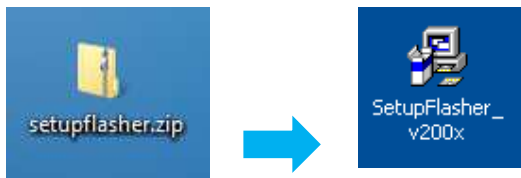
PDF	Manual	Version	Size
	Flasher 5 manual Flasher 5 manual (UM05001)	Rev. 5	295.59 KB
	Manual for Flasher ASCII command interface Flasher ASCII command interface	2.00	77.16 KB

ZIP	Software	Version	Size
	The MS-Windows Flasher program for Flasher 5 PRO, Flasher 5R3, Flasher 5, Flasher ST7, Flasher 4, and Flasher 3R4. Does not support Flasher 2, Flasher MV3 or Flasher 3S. Flasher V2.00x	2.00x	1.80 MB
	The MS-Windows Flasher program for older Flasher versions Flasher 2, Flasher MV3, Flasher 3S. Flasher V1.78	1.78	648.90 KB

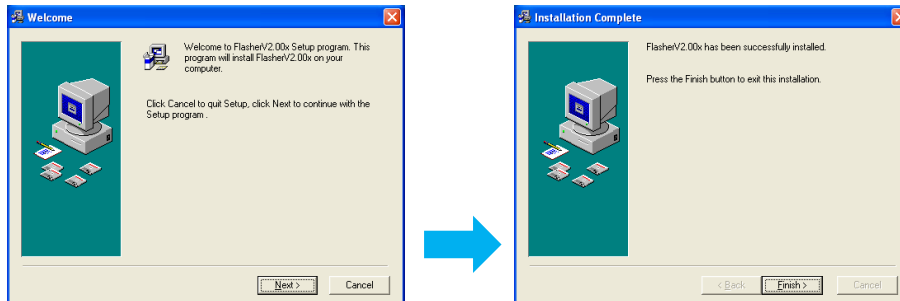
⚠ WARNING : Check the FLASHER version !

- If it is version 3 (REV3), download «Flasher V2.00x » software.
- If it is a version < 3 (REV2), download «Flasher V1.78» software».





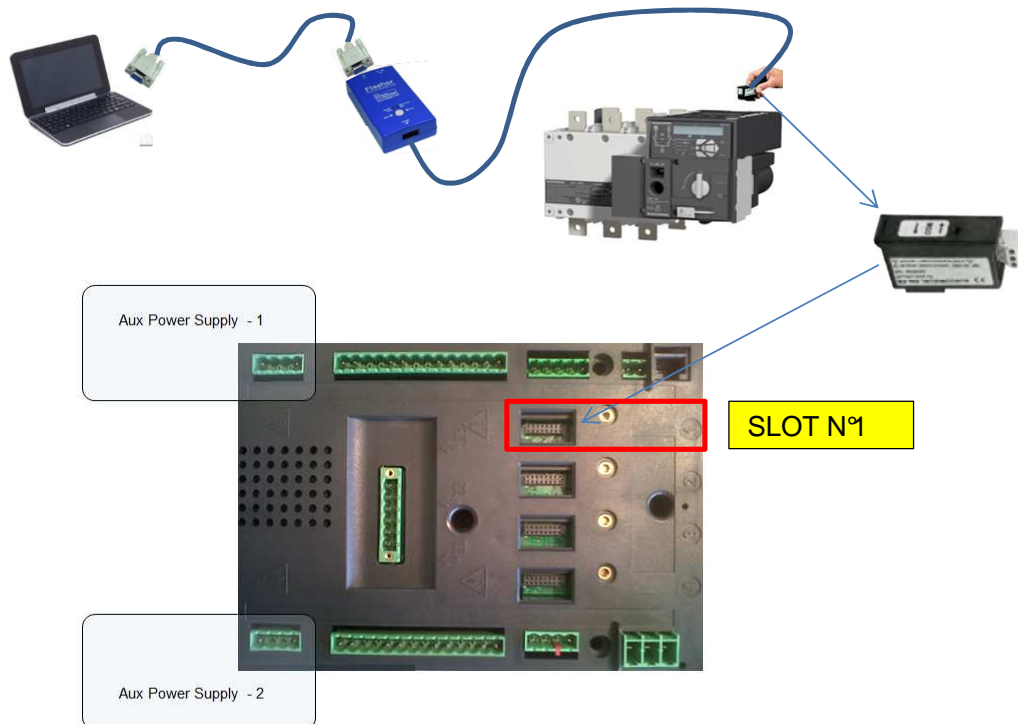
- Unzip the setupfFlasher_v200x file :



- Install
FLASHER 5 :



III. INSTALLATION of Flasheur SEGGER package



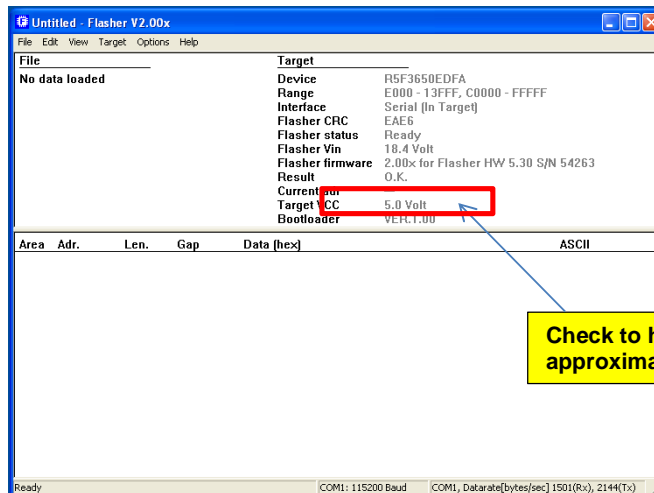
- ⚠ The module **MUST BE** connected on, the ATyS SLOT N°1 !
- Connect the laptop on the docking station to obtain a RS232 port.
- ⚠ Any other solution can also be considered to obtain a RS232 port on the laptop...
- Connect the RS232 cable to the docking station and to the SEGGER flasher
- Remove all optional modules fit on the ATyS
- Connect the SEGGER flasher to the ATyS
- ⚠ Do not supply the flasher with its external power supply ! It could create a short circuit with the ATyS power supply.
- Ensure that the ATyS is supplied
- ⚠ 101-102 or 201-202 Terminals !

IV. Using the FLASHER 5



**&
flash**

1. Launch Flasher 5



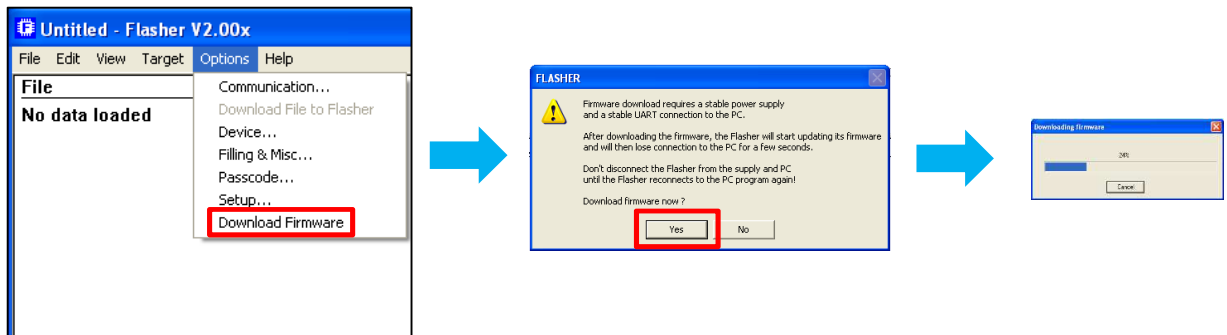
**software
ATyS**

- ⚠ If the voltage appears in red, it is not sufficient to supply the flasher ! In this case, recheck the connection between the Flasher and the ATyS.

2. Update the firmware flasher

Click on « Option/Download Firmware »

At the end of this step, we come back to the home window.

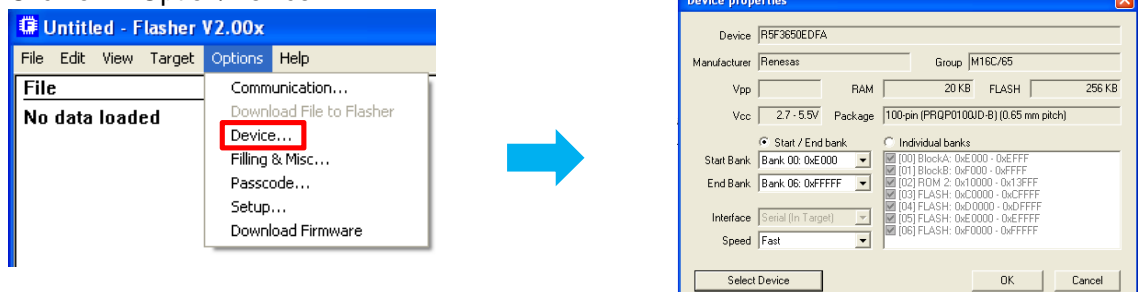


3. Define the type of ATyS processor to be flashed

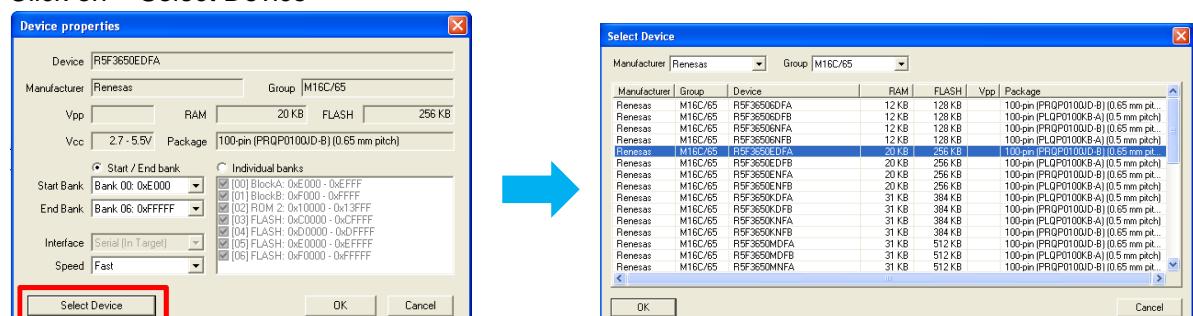
For memo :

- ⚠ ATyS 6 : Manufacturer = RENESAS - Group = M16C/62P - Device = M30624FGPGP
- ⚠ ATyS g : Manufacturer = RENESAS - Group = M16C/65 - Device = R5F3650EDFA
- ⚠ ATyS t : Manufacturer = RENESAS - Group = M16C/65 - Device = R5F3650EDFA
- ⚠ ATyS p : Manufacturer = RENESAS - Group = M16C/65 - Device = R5F3650EDFA

- Click on « Option/Device... »



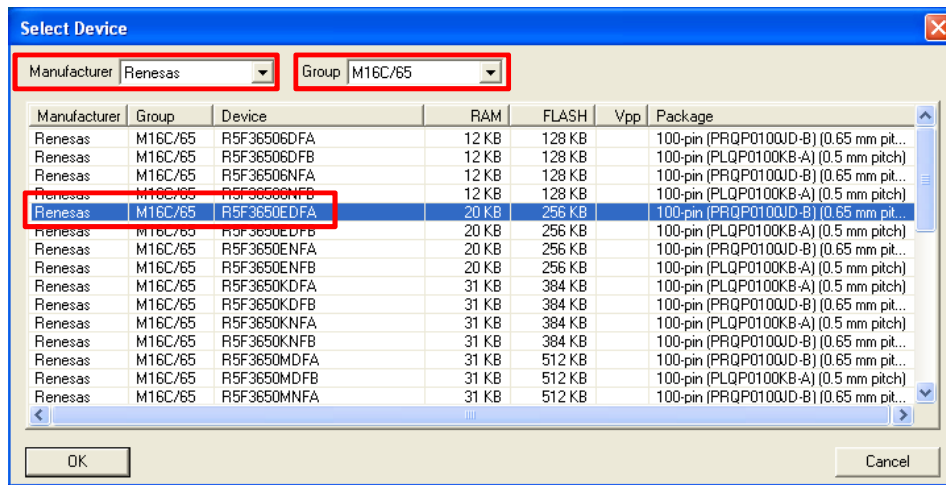
- Click on « Select Device »



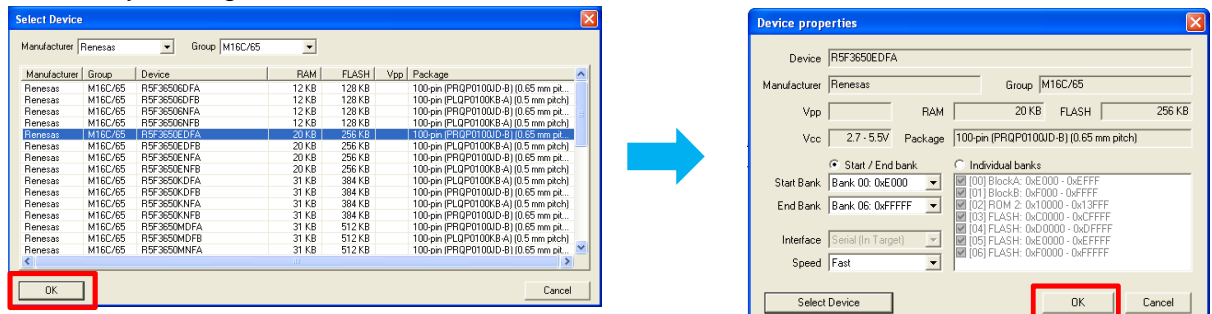
- Select the « manufacturer », the « group » and the « device ».

In our example we'll flash the ATyS p processor. That is why we do the following settings :

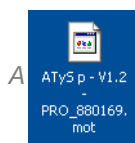
⚠ ATyS p : Manufacturer = RENESAS - Group = M16C/65 - Device = R5F3650EDFA



- Confirm by clicking on « OK »

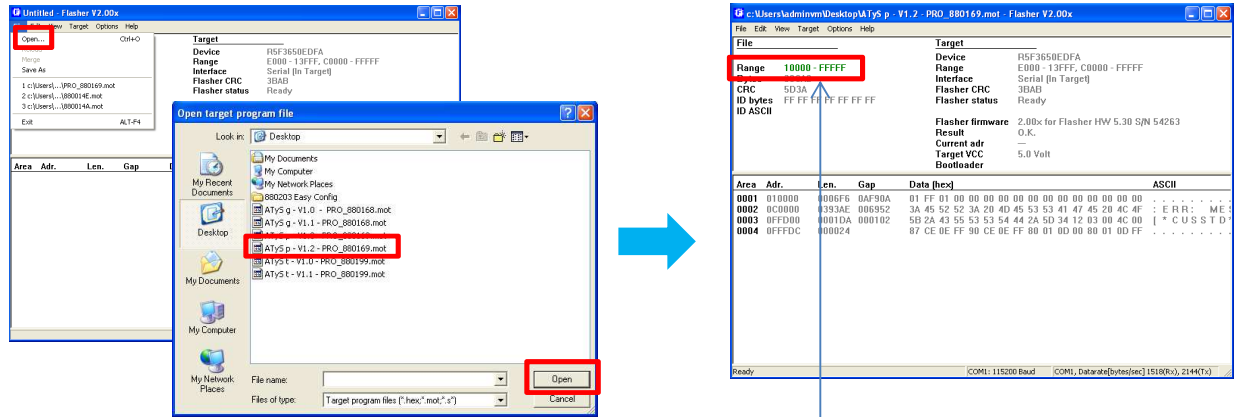


⚠ Make sure, you have the range of Start/End BANK, the widest possible.



4. Search and copy the ATyS firmware files « xxxxx.mot »

5. Open the « xxxxx.mot » file in the FLASHER 5 software

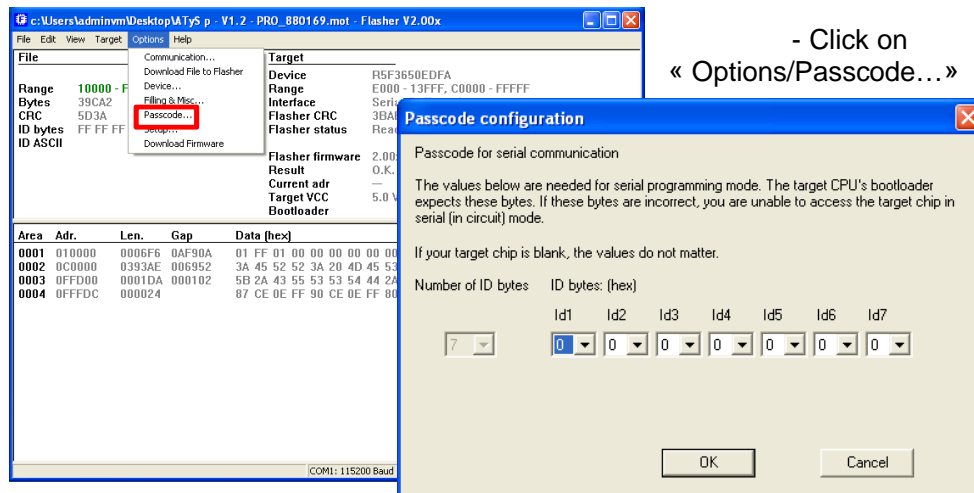


It is IMPERATIVE that these values are green !!!

⚠ If the Start/End BANK range are red, check when you choose the processor, to have the widest possible ranges.

6. Optional step (only for ATyS g, t and p)

The ATyS g, t and p firmware being locked, the passcode has to be given to the software. Without that, any firmware transfer will be impossible.

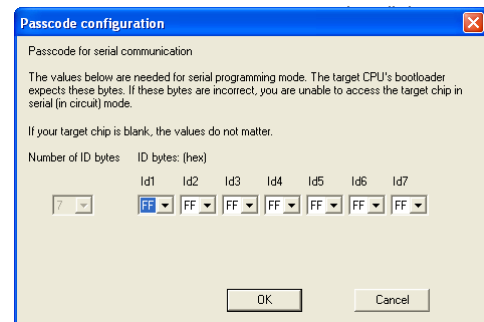
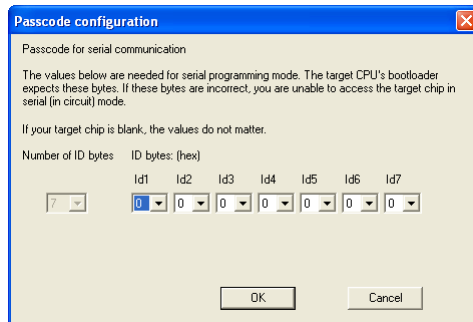


- Click on
« Options/Passcode... »

- Modify the Passcode values and click on « OK »

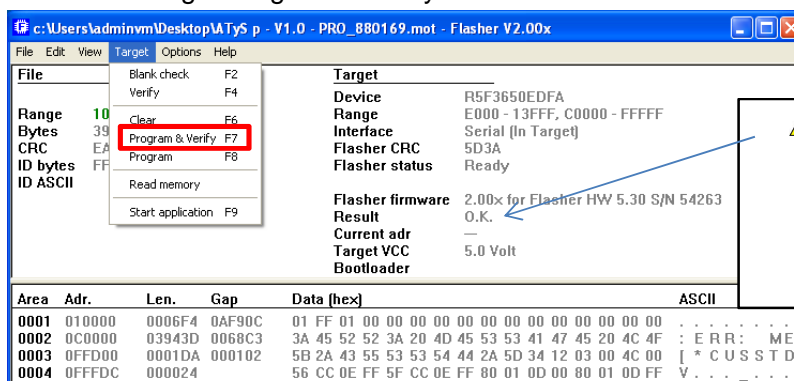
Default Passcode: 0.0.0.0.0.0.0
Available for ATyS 6 (and Diris A) !

Change the Passcode to be able to flash an l'ATyS g, t and p: FF.FF.FF.FF.FF.FF.FF



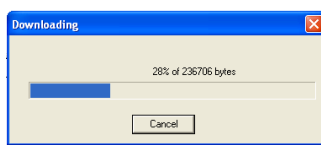
7. Flashing the ATyS processor

- Click on « Target/Program & Verify »



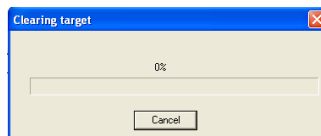
⚠ NB : If during the flashing, the error31 appears, turn off the ATyS during 3 min
(Disconnect terminals 101-102 and/ru 201-202 !).

RESTART the flashing !



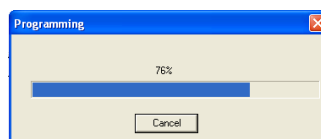
Loading the firmware to the flasher memory

Green LED : FIXED !



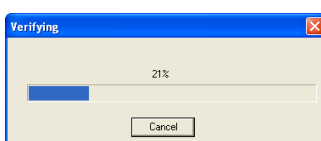
Erasing the ATyS Processor memory

Green LED : Blinking FAST !



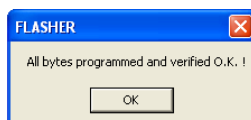
Loading the firmware to the ATyS processor memory

Green LED : Blinking SLOWLY !



Checking the firmware sent to the ATyS processor

Green LED : Blinking VERY FAST !



End of flash

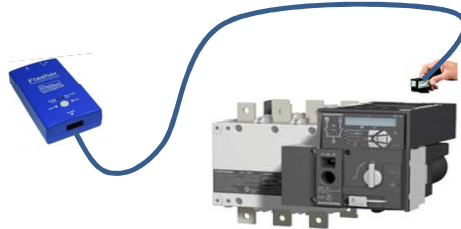
Green LED : FIXED !

8. MULTIPLE flashing of several ATyS

Maybe one day you'll have several ATyS to flash "In series". To do this, two solutions are available :

- Repeat *n* times step N°7 (Flashing the ATyS processor).
- Flash *n* times with only the SEGGER flasher (This solution is recommended for *n* ATyS) : See below

- Disconnect the RS232 cable from the SEGGER flasher

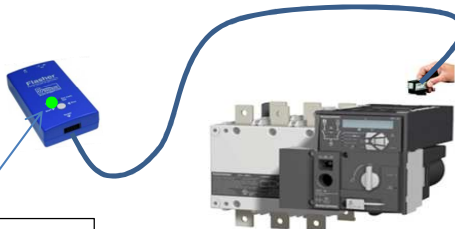


ATyS N°1 - (previously flashed)

- Remove the module fit on the ATyS



- Connect the module to another ATyS (*Nb : ATyS MUST be power supplied !*)



ATyS N°2 - (to flash !)

The green LED MUST
be fixed light

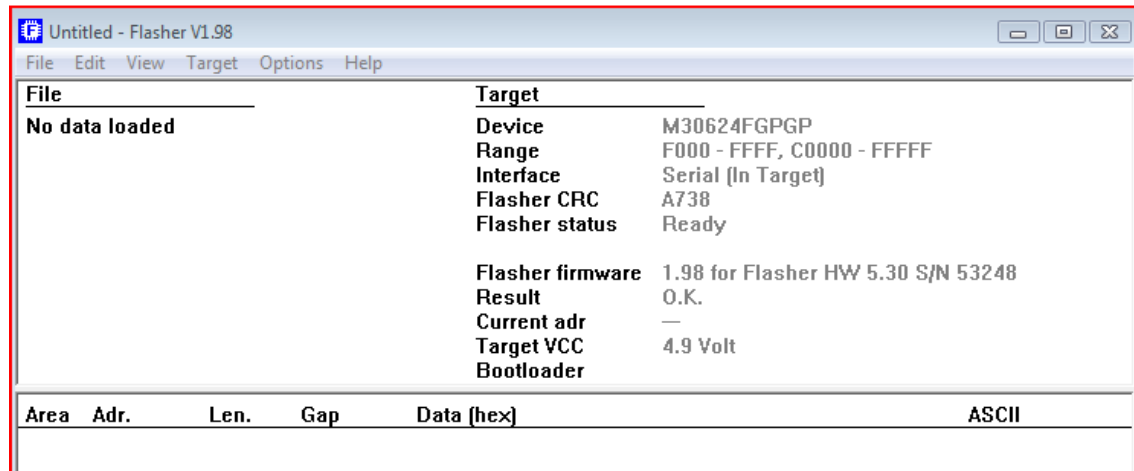
- Press the gray « START » button on the flasher



**The Green LED reacts according to
the procedure described in the Step
N°7 !
(Flashing the ATyS processor)**

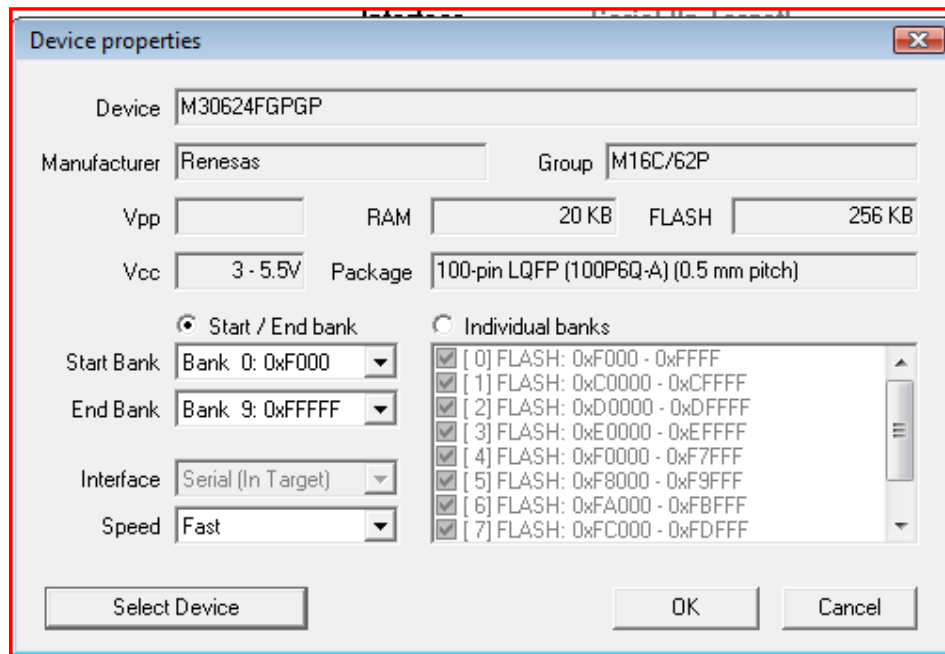
Annex :how to flash an ATyS 6.

- ⚠ ATyS 3 : Manufacturer = RENESAS - Group = M16C/62P - Device = M30624FGPGP
- ⚠ ATyS 6 : Manufacturer = RENESAS - Group = M16C/62P - Device = M30624FGPGP
- ⚠ ATyS g : Manufacturer = RENESAS - Group = M16C/65 - Device = R5F3650EDFA
- ⚠ ATyS t : Manufacturer = RENESAS - Group = M16C/65 - Device = R5F3650EDFA
- ⚠ ATyS p : Manufacturer = RENESAS - Group = M16C/65 - Device = R5F3650EDFA



OPTIONS

DEVICE



Device properties

Device: M30624FGPGP

Manufacturer: Renesas Group: M16C/62P

Vpp: RAM: 20 KB FLASH: 256 KB

Vcc: 3 - 5.5V Package: 100-pin LQFP (100P6Q-A) (0.5 mm pitch)

☒ Start / End bank
 ☐ Individual banks

Start Bank: Bank 0: 0xF000

End Bank: Bank 9: 0xFFFF

Interface: Serial (In Target)

Speed: Fast

☒ [0] FLASH: 0xF000 - 0xFFFF
☒ [1] FLASH: 0xC0000 - 0xCFFFF
☒ [2] FLASH: 0xD0000 - 0xDFFFF
☒ [3] FLASH: 0xE0000 - 0xEFFFF
☒ [4] FLASH: 0xF0000 - 0xF7FFF
☒ [5] FLASH: 0xF8000 - 0xF9FFF
☒ [6] FLASH: 0xFA000 - 0xFBFFF
☒ [7] FLASH: 0xFC000 - 0xFDFFF

Select Device OK Cancel

SELECT DEVICE

Select Device

Manufacturer: Renesas Group: M16C/62P

Manufacturer	Group	Device	RAM	FLASH	Vpp	Package
Renesas	M16C/62P	M30622F8PGP (5V)	4 KB	64 KB		100-pin LQFP (100P6Q-A) (0.5mm pitch)
Renesas	M16C/62P	M30622F8PGP (3V)	4 KB	64 KB		100-pin LQFP (100P6Q-A) (0.5mm pitch)
Renesas	M16C/62P	M30622F8PGP Boot area	4 KB	4 KB		100-pin LQFP (100P6Q-A) (0.5mm pitch)
Renesas	M16C/62P	M30624FGPFP	20 KB	256 KB		100-pin (100P6S-A) (0.65 mm pitch)
Renesas	M16C/62P	M30624FGPFP Boot area	20 KB	4 KB		100-pin (100P6S-A) (0.65 mm pitch)
Renesas	M16C/62P	M30624FGPFP User & boot ...	20 KB	260 KB		100-pin (100P6S-A) (0.65 mm pitch)
Renesas	M16C/62P	M30624FGPGP	20 KB	256 KB		100-pin LQFP (100P6Q-A) (0.5 mm pitch)
Renesas	M16C/62P	M30624FGPGP Boot area	20 KB	4 KB		100-pin LQFP (100P6Q-A) (0.5 mm pitch)
Renesas	M16C/62P	M30624FGPGP User & boot ...	20 KB	260 KB		100-pin LQFP (100P6Q-A) (0.5 mm pitch)
Renesas	M16C/62P	M30626FHPFP	31 KB	384 KB		100-pin (100P6S-A) (0.65 mm pitch)
Renesas	M16C/62P	M30626FHPFP Boot area	31 KB	4 KB		100-pin (100P6S-A) (0.65 mm pitch)
Renesas	M16C/62P	M30626FHPGP	31 KB	384 KB		100-pin LQFP (100P6Q-A) (0.5 mm pitch)
Renesas	M16C/62P	M30626FHPGP Boot area	31 KB	4 KB		100-pin LQFP (100P6Q-A) (0.5 mm pitch)
Renesas	M16C/62P	M30626FJPFP	31 KB	512 KB		100-pin (100P6S-A) (0.65 mm pitch)
Renesas	M16C/62P	M30626FJPFP Boot area	31 KB	4 KB		100-pin (100P6S-A) (0.65 mm pitch)

OK Cancel

For AtyS 3^E, 6s, 6^e and 6m.

OK

Device properties

Device: M30624FGPGP

Manufacturer: Renesas Group: M16C/62P

Vpp: RAM: 20 KB FLASH: 256 KB

Vcc: 3 - 5.5V Package: 100-pin LQFP (100P6Q-A) (0.5 mm pitch)

Start / End bank (selected) Individual banks

Start Bank: Bank 0: 0xF000 End Bank: Bank 9: 0xFFFF

Interface: Serial (In Target) Speed: Fast

Select Device OK Cancel

Individual banks list:

- ☒ [0] FLASH: 0xF000 - 0xFFFF
- ☒ [1] FLASH: 0xC0000 - 0xCFFFF
- ☒ [2] FLASH: 0xD0000 - 0xDFFFF
- ☒ [3] FLASH: 0xE0000 - 0xEFFFF
- ☒ [4] FLASH: 0xF0000 - 0xF7FFF
- ☒ [5] FLASH: 0xF8000 - 0xF9FFF
- ☒ [6] FLASH: 0xFA000 - 0xFBFFF
- ☒ [7] FLASH: 0xFC000 - 0xFDFFF

OK

Untitled - Flasher V1.98

File Edit View Target Options Help

File		Target	
No data loaded		Device	M30624FGPGP
		Range	F000 - FFFF, C0000 - FFFFF
		Interface	Serial (In Target)
		Flasher CRC	9756
		Flasher status	Ready
		Flasher firmware	1.98 for Flasher HW 5.30 S/N 53248
		Result	O.K.
		Current adr	—
		Target VCC	4.9 Volt
		Bootloader	

Area	Adr.	Len.	Gap	Data (hex)	ASCII
------	------	------	-----	------------	-------

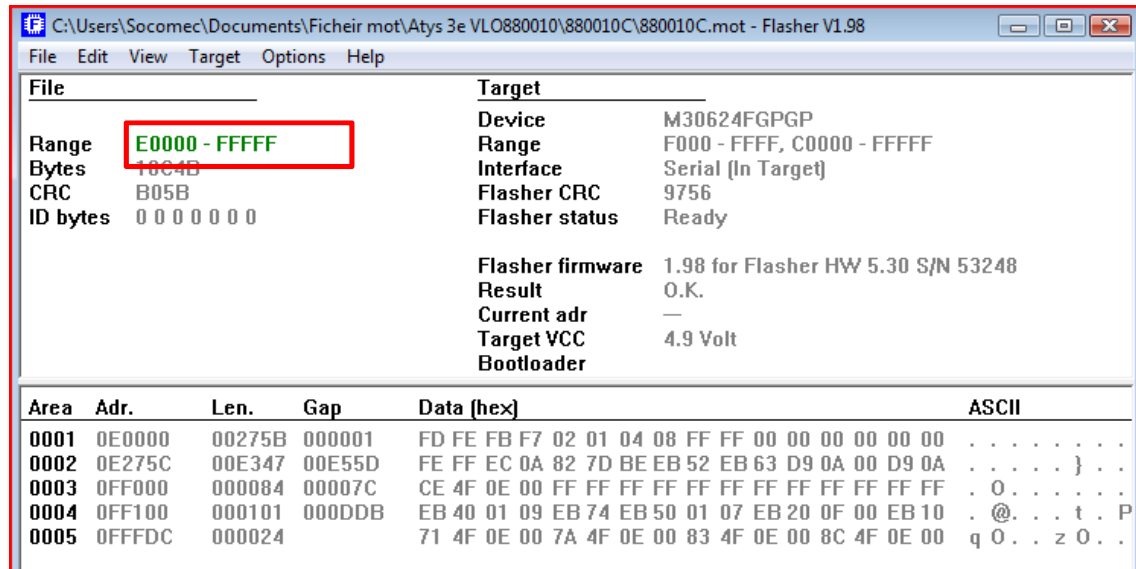
FILE

OPEN

Search and copy the AtyS Firmware « xxxxx.mot»



880014E.mot



These values must be write in green.

TARGET

PROGRAM AND VERIFY

