# ASSEMBLING AND UPGRADING THE ARGON CHIP

To assembly our chip we'll need:

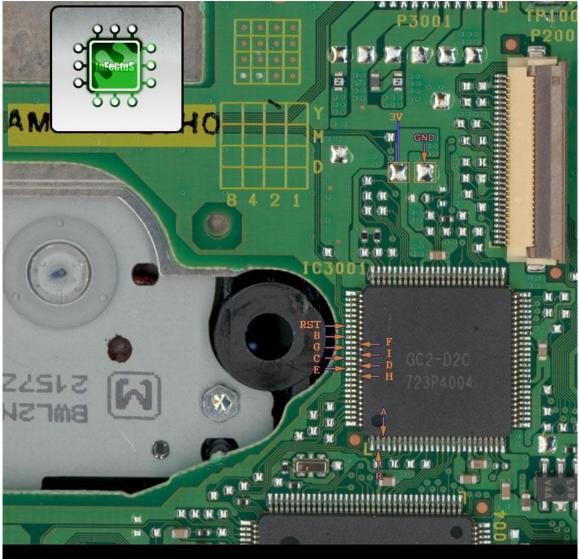
-a console with D2C chipset
An Argon chip available by our sponsor: <u>Hardstore (click here)</u>
-a 11W tin welder (recommended), with 0.5mm thin end (recommended), or 1mm maximum
-0.6mm tin or less, but it would be better a pastry tin.
-AWG 30 thread
-Fluxante or unoxidizing pastry
-treccia for soldering
-bi-adhesive tape
USB cable A/MINI B type to program the chip

Also if you want to work good you would need: Magnifying glass Good manual work Slow hand

First of all open the console following this guide: Click here

As we see it shows 2 possibilities to plug the chip to our console, one by the upper side of the reader's PCB and another one by the rear side of the PCB The choice is yours, I'd rather the alternative option.



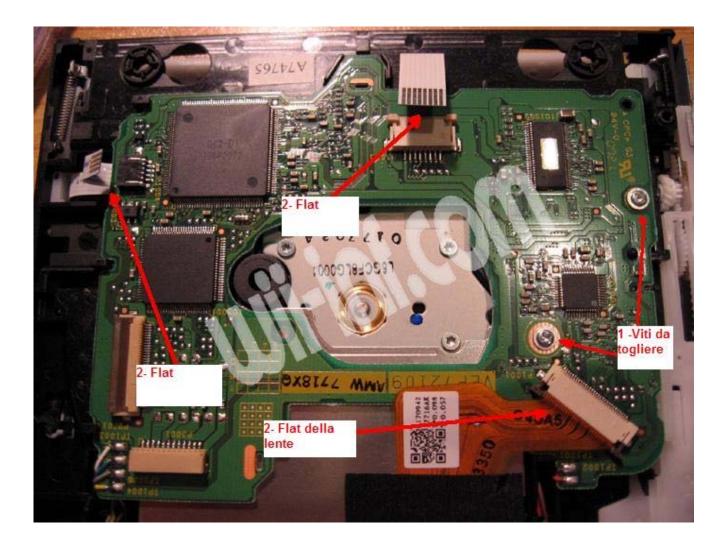


# **ARGON DIAGRAM vers. 1.0**



#### Different points on the rear side of the PCB for Argon assembling

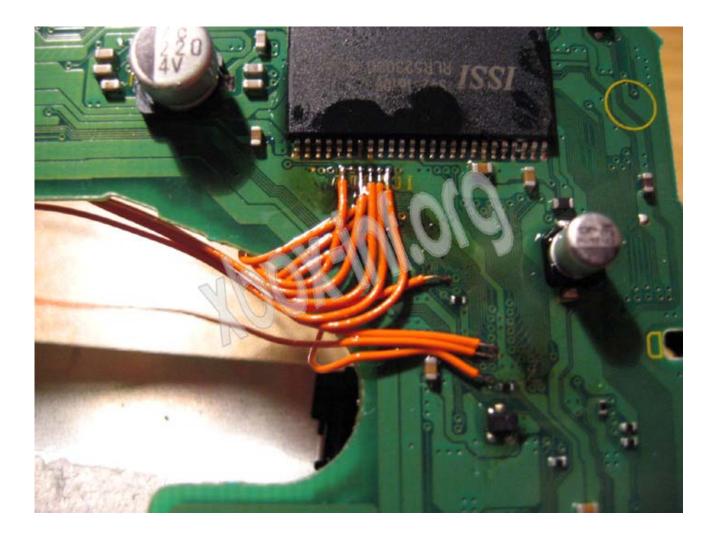
Now you need to remove the PCB from the reader, to do that you just have to unscrew the screw #1 and unhook the flats #2. Please pay attention to the lens flat because it's really delicate.



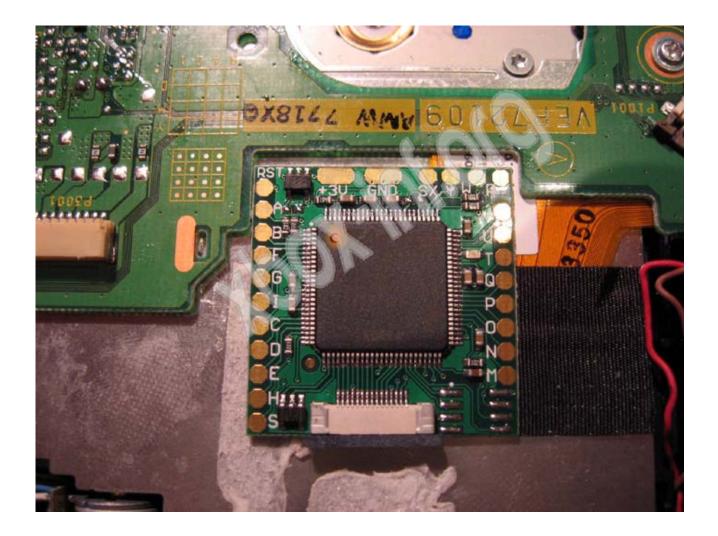
Once it's overturned you'll find the PCB on your hands, the interesting zone is shown on the picture below:



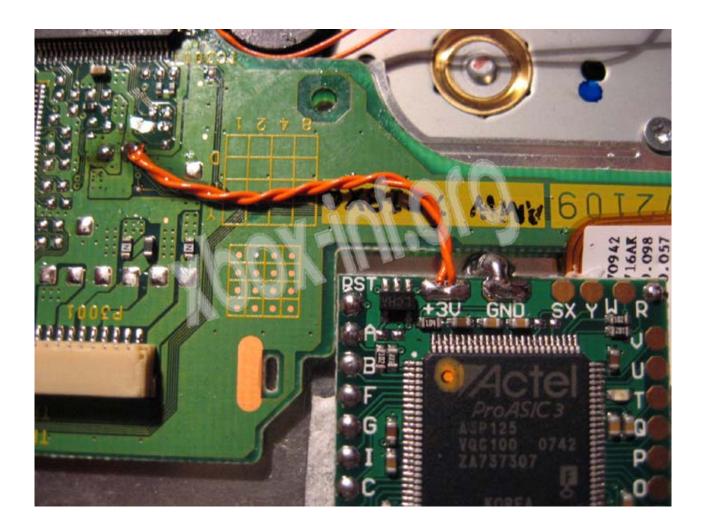
Lets start with the assembling of the threads, because you're working at the oposite side i suggest you to mark every point in order to recognize them later... once you're done you should see something like this:



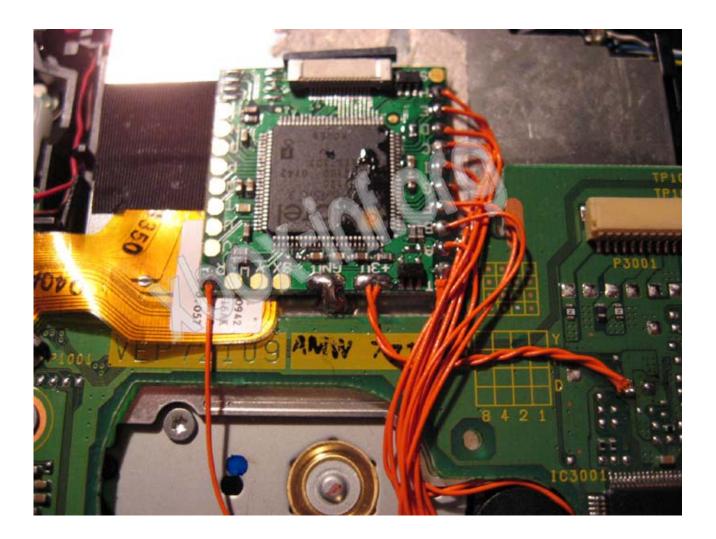
Set back the PCB and lets work on the chip positioning. I tried several solutions, the best one is the one you'll see on the picture below.... Set the chip with the bi-adhesive tape:



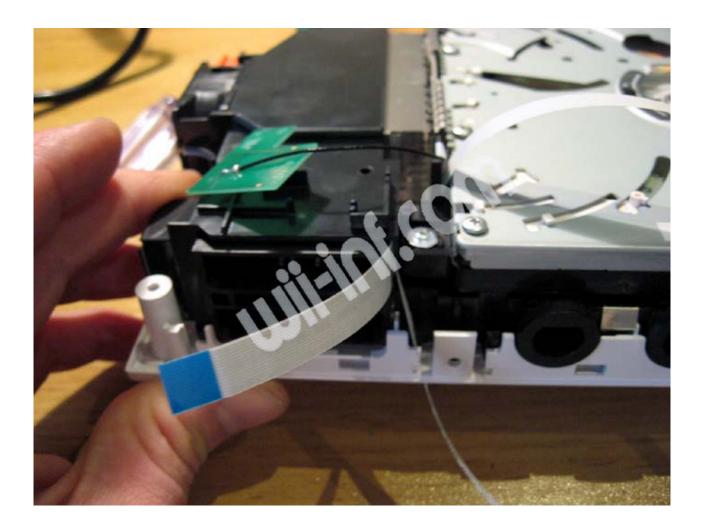
The chip's power chord and the mass need something to say about, to power it I used a double AWG 30 thread and the I took the mass directly to the reader's slot.



Ltes plug now all the points following our scheme, the power chord and the flat cable necessary to update the chip. My suggestion is that you should use the short threads and power chords. If it's possible just pass the power chord and mass double like I did:



I put the flat cable between a protection carter and the Memory Card ports.



Now the flat cable is easily reachable, it's not visible and it doesn't stop the manual work because it's protected by the little lateral door of the console:



Lets fix the flat cable with a few tape that we still have.



Close the console, it look like this:





The chip assembling is done, we can now go on for its update, eventually. Remember that the Argon can be updated in 2 different ways:

-by its Injectus programmer, available by our sponsor <u>Hardstore (click here)</u>

-by an Infectus 1 chip or Infectus 2 one, available by our sponsor <u>Hardstore (click here)</u>

We're going to see both of those methods individually, I already say to you that for the Argon to be updated by the Infectus we'll need to open the console and the Chip.

# UPGRADING THE ARGON WITH INJECTUS

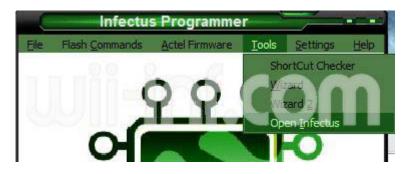
To upgrade our Argon chip we'll need:

-Injectus programmer, available by our sponsor Hardstore (Click here)

-Last version of Argon's Firmware , available at the download section by the Infectus website: <u>Click here</u>

- Last version of the Infectus Programmer, available at the download section of the Infectus website: <u>Click here</u>

Lets plug the Injectus to the Flat of our chip, insert the USB cable to our PC and start the Infetcus Programmer. Go to ""Tools\Open Infectus":



Click on "Load DAT" and select our chip's Firmware:

	Actel Panel	
Load DAT	Use External JTAG	
Program	Erase	Verify
Program Array	Erase All	Verify Array
Program From	Erase Array	Verify From
Program Security	Erase From	
	Erase Security	
Device Li <b>ifo</b>	Read ID Code	
Enc Data Authentication		
	2 77	

#### Once we loaded the Firmware, click on "PROGRAM"

	Actel Panel	<u> </u>
Load DAT	Use External JTAG	
Program	Erase	Verify
Program Array	Erase All	Verify Array
Program From	Erase Array	Verify From
Program Security	Erase From	
	Erase Security	-
Device Info	Read ID Code	
Enc Data Authentication		
IDCODE = 2a121cf		~
STAPL_IDCODE = 2a121cf		

#### Just wait that the program is getting done:



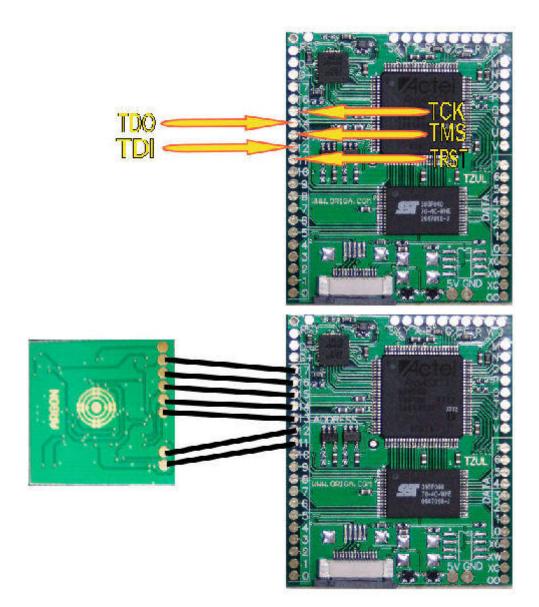


At the end of the process we can remove the Injectus and try our console.

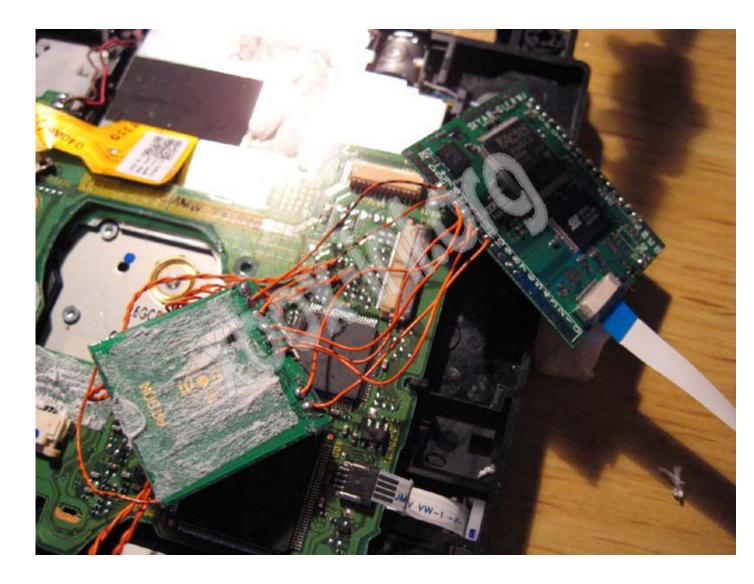
# UPGRADING THE ARGON WITH INFECTUS

Alternatively to the Injectus programmer we can use the Infectus or the Infectus 2 programmers to upgrade the Argon chip.

To do that we need to open the console and plug the the Argon chip to the Infectus as it's showed below:



Once it's done you should see something like this:



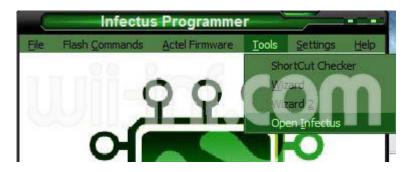
Plug the Infectus to the Flat at the USB port of our PC and start the Infectus programmer, then go to: "Actel Firmware\Jtag Programmer":



A new window will pop up, go back to "Actel Firmware" from there, click on "UPDATE" and wait that until the software will be done configuring the Infectus chip:



Once the Infectus configuration is done, go to "Tools\Open Infectus":



Select "Use External Jtag" and click on "LOAD DAT" in order to select the Firmware that we want to load on the Argon chip:

Load DAT	Use External JTAG	
Program	Erase	Verify
Program Array	Erase All	Verify Array
Program From	Erase Array	Verify From
Program Security	Erase From	
	Erase Security	
Device Info	Read ID Code	

## Once the Firmware is loaded, click on "PROGRAM"

	Actel Panel	
Load DAT	Use External JTAG	
Program	Erase	Verify
Program Array	Erase All	Verify Array
Program From	Erase Array	Verify From
Program Security	Erase From	
	Erase Security	
Device Info	Read ID Code	
Enc Data Authentication		
IDCODE = 2a121cf		
STAPL_IDCODE = 2a121cf		

### Just wait the process will be done:

Enc Data Authentication	
PERCENT_DONE: 98	<b>^</b>
PERCENT_DONE: 99	
PERCENT_DONE: 100	
Erase	
EXPORT ACTEL_SLOG_UROW [128] =	
Programming FPGA Array	
PERCENT_DONE: 1	
PERCENT DONE: 2	



Once the programmino is done remove the Infectus chip, put back the Argon on the Wii console and close it again for the final test

For technical soppurt click here: Forum di Wii-Inf

**<u>Credits</u>: Splinter, Oscar Dalvit e II Team Infectus** 

Guide made by Titty for the Wii-Inf Forum