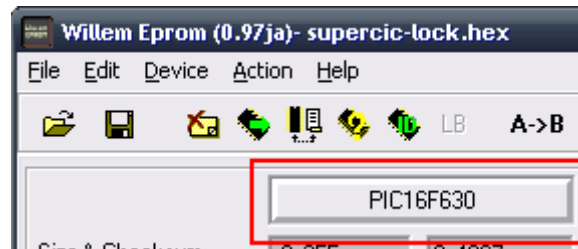


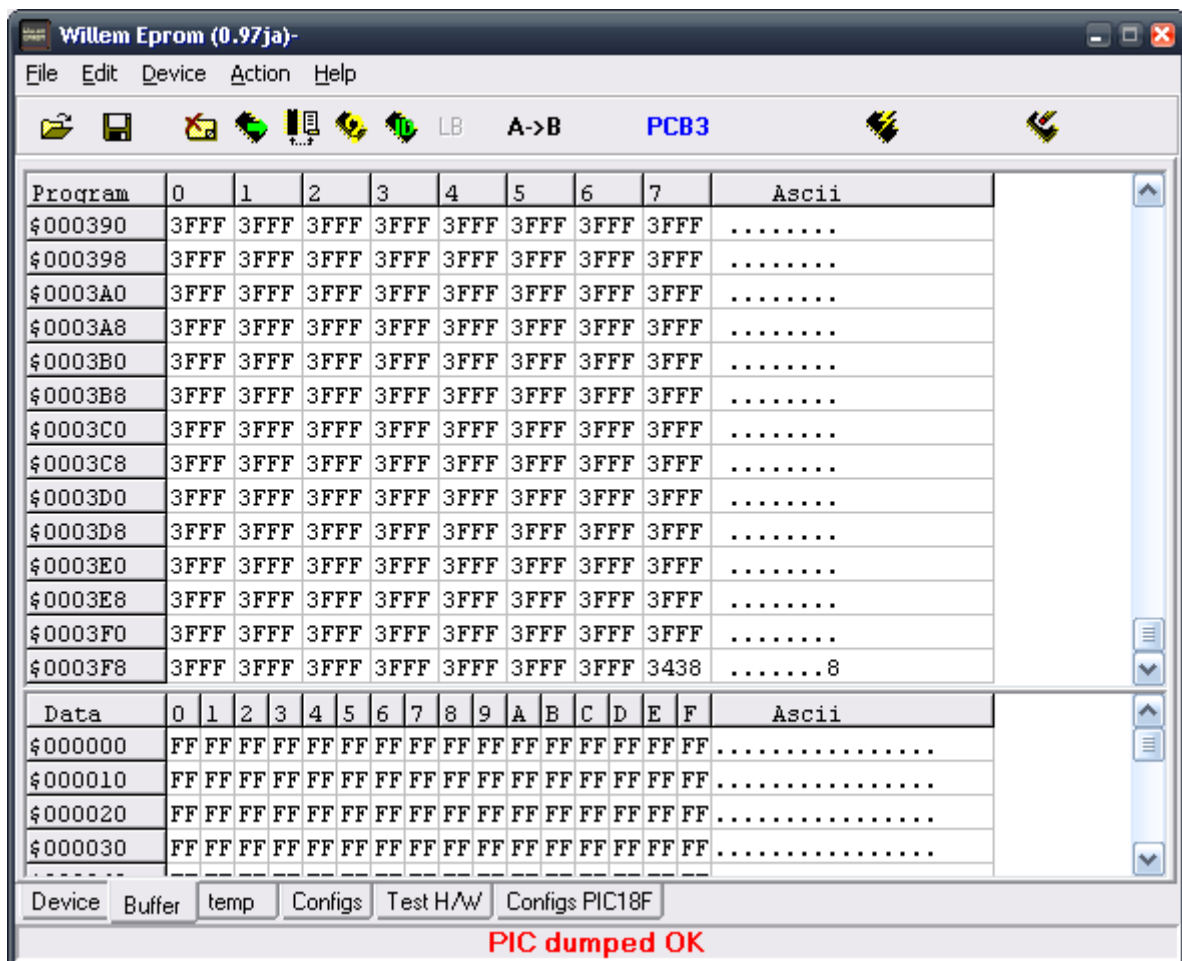
Programming Console Mods on Willem Parallel Port Programmer

Saturn and SNES Switchless – 16F630

Make sure you've told your Willem software which chip you're working with..

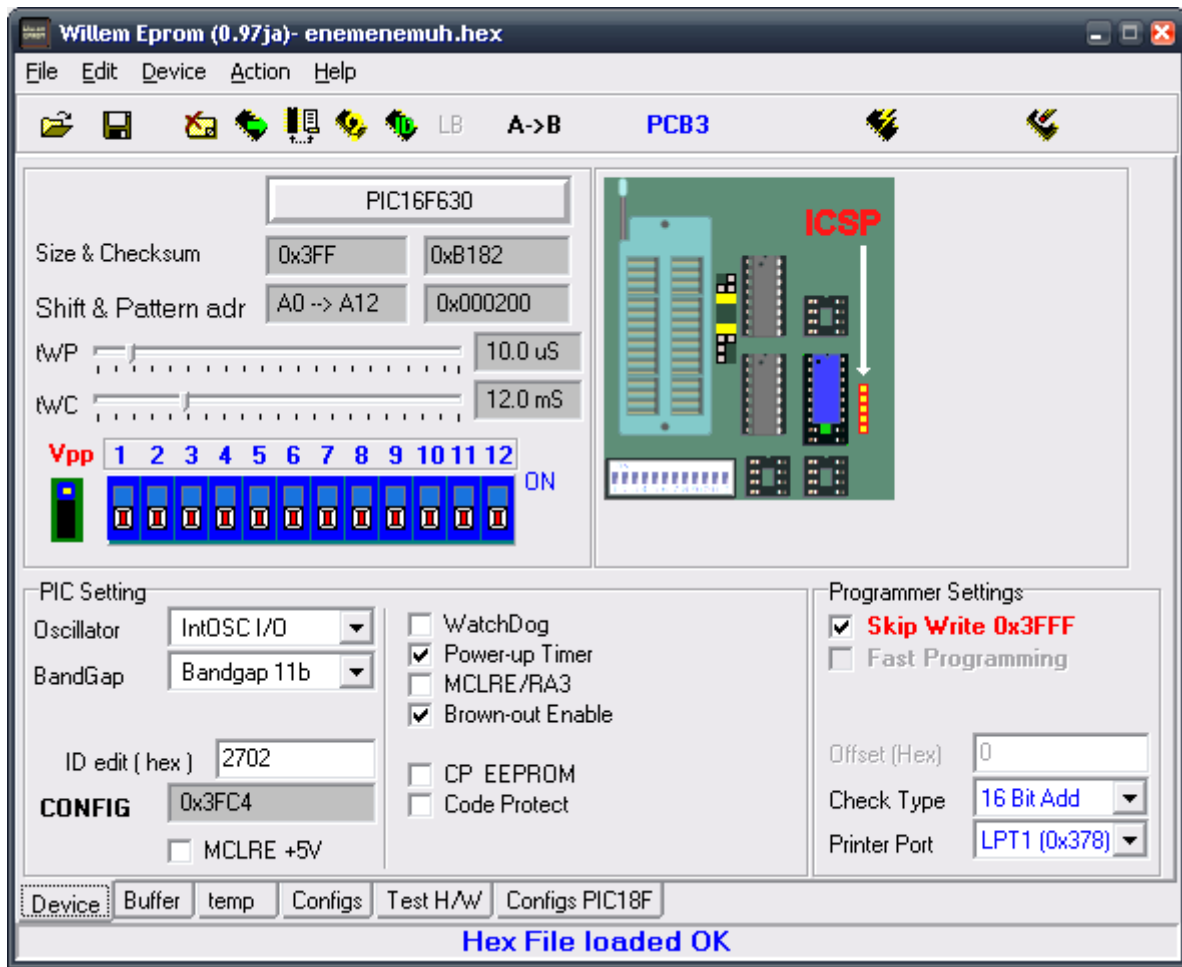


Read chip and check buffer, scroll right to the bottom of the Program portion of the box, and make a note of the last bit of code (in this case, 3438)



You need this unique number, just in programming goes wrong. The chip needs to retain this number and without it, it's probably useless (definitely for the Saturn mod). From what I remember reading, it's to do with the Oscillator. Batches of chips may come with the same code here, or a different code.

Load up the **Saturn** hex file (enemenemuh.hex)..



Loading the hex file configures all of the options in the PIC Settings, so they should look like the image above.

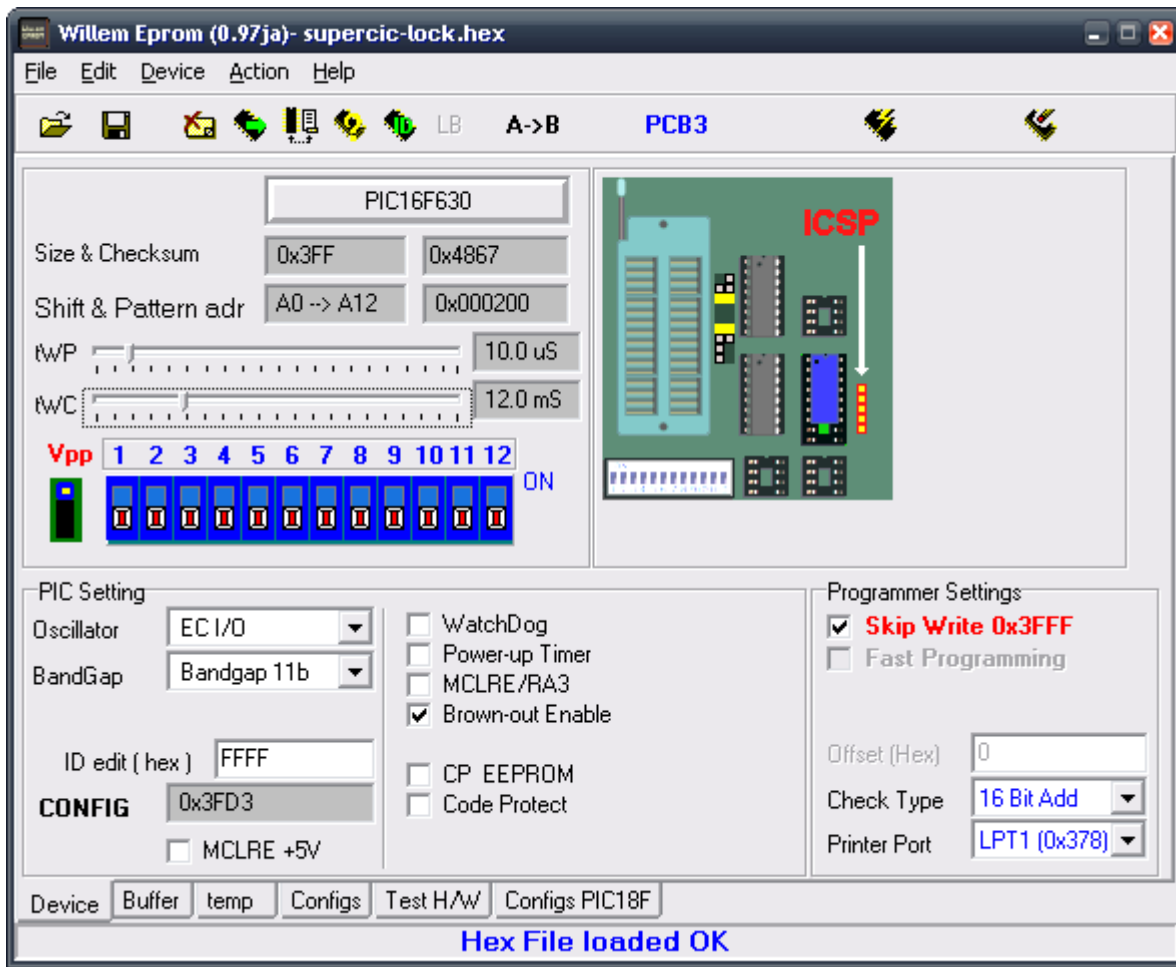
Now go ahead and hit the Program Chip button. The Skip Write 0x3FF tick box part is the bit that doesn't overwrite the unique code (Oscillator number/code?) that's mentioned previously.

You should be able to verify the chip now and it will report back Device Verified OK.



Any problems, you can erase and rewrite the chip. More on that later...

SNES file loaded (supercic-lock.hex)..



Again, loading the hex file configures all of the options in the PIC Settings, so they should look like the image above.

Now go ahead and hit the Program Chip button. The Skip Write 0x3FF tick box part is the bit that doesn't overwrite the unique code (Oscillator number?) that's mentioned previously – although for the SNES switchless mod, it uses a different setting for the Oscillator.

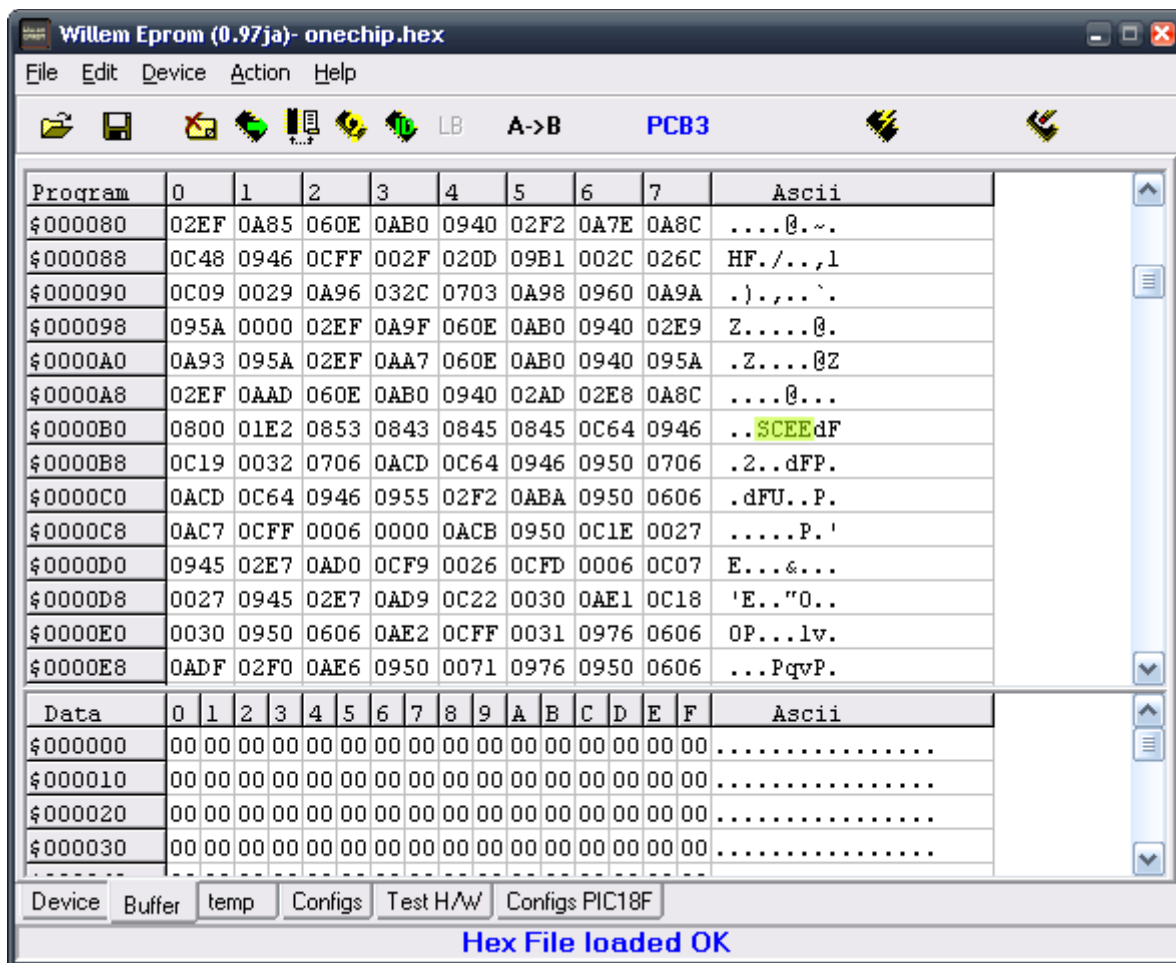
Anyway, once programmed, you should be able to Verify it okay and it will report back Device Verified OK.



Any problems, you can erase and rewrite the chip. More on that later...

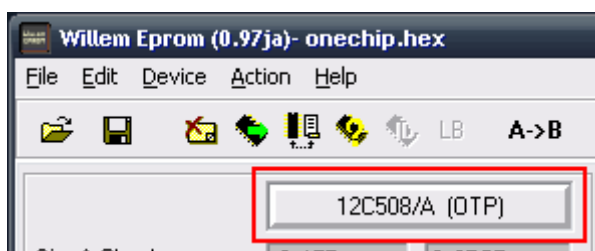
PSone chip 12C508A

At the moment this is for PAL consoles only, it looks like it could be altered for NTSC consoles if you look at the code, but I've not had a console to try this with so can't confirm if it works or not.

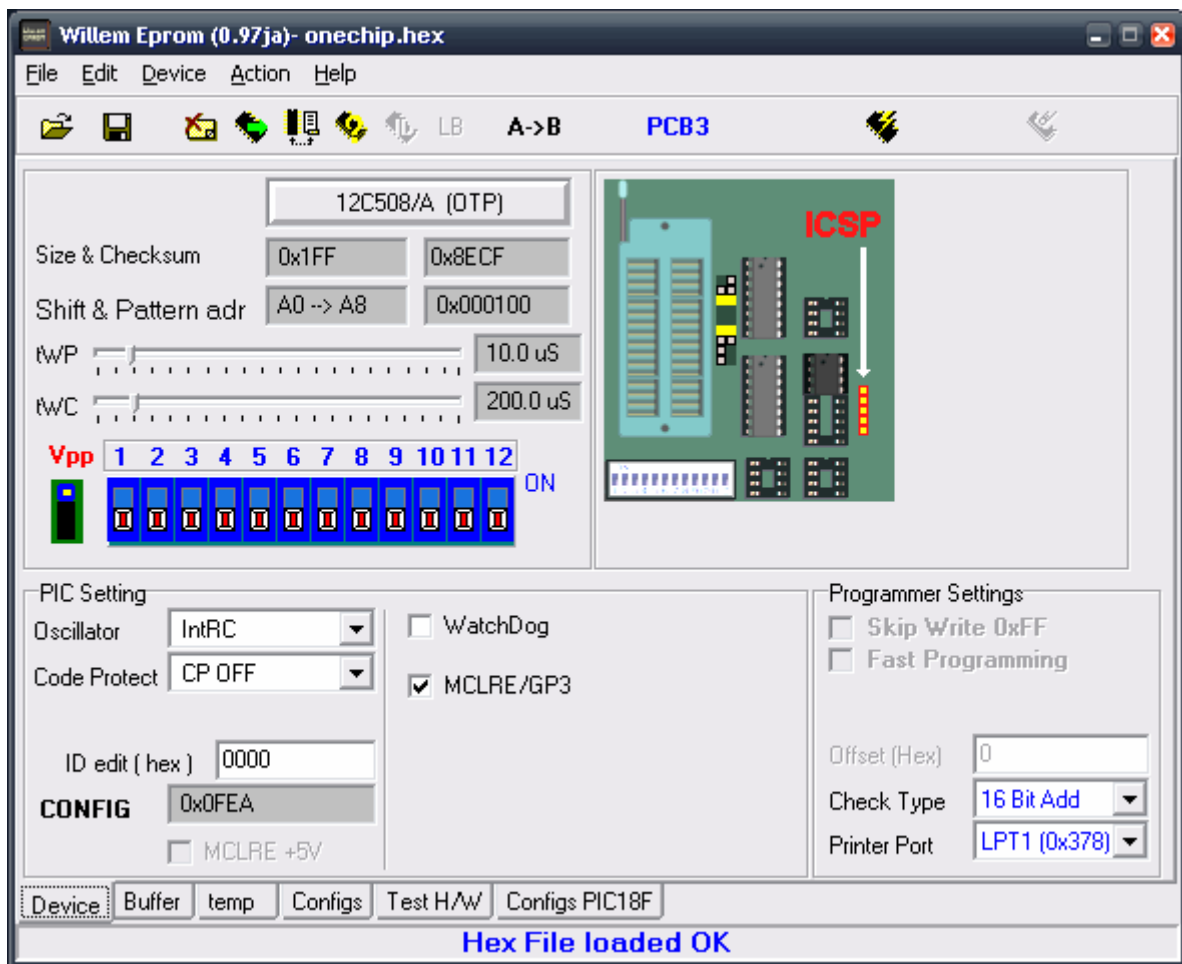


Change SCEE to SCEA for a USA Console, SCEI for a Japanese one???

Make sure you tell your Willem software what chip you're working with – 12C508A



Load up onechip.hex, it configures all the relevant bits of PIC Settings just like the previous hex files mentioned above :-)



Then hit Program Chip, it's as simple as that! It should verify OK. If it doesn't, then unfortunately you probably can't try again as the chip is not erasable.

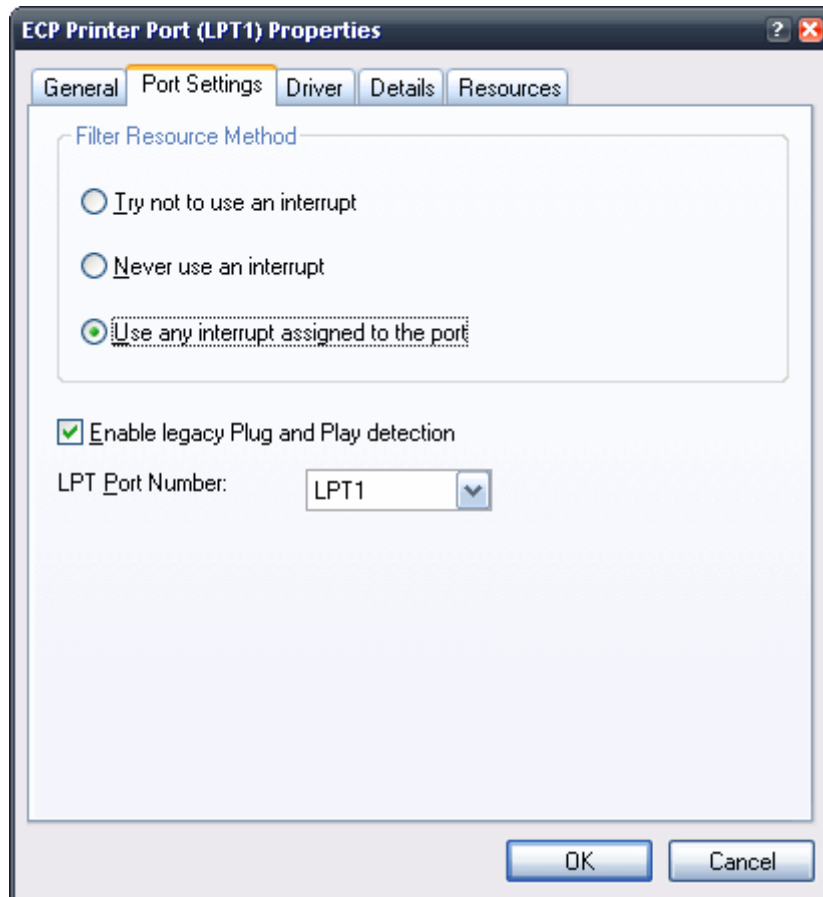
Using IC-Prog

I used to use this, but found I would get a lot of failures, plus it was more awkward to setup. But I still use it now and again to troubleshoot.

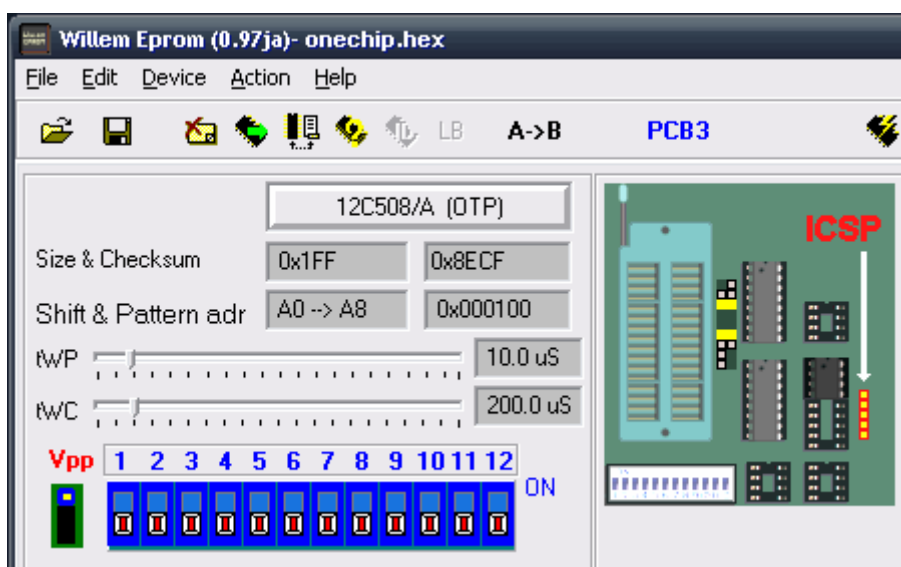
Here's some old notes and screenshots I made whilst configuring it..

Install willem software (my programmer works with 0.97ja best), icprog 1.06b and port95nt.exe, reboot.

On the LPT1 port options in device manager, make sure Use any interrupt is set, and Enable legacy plug and play detection is on.

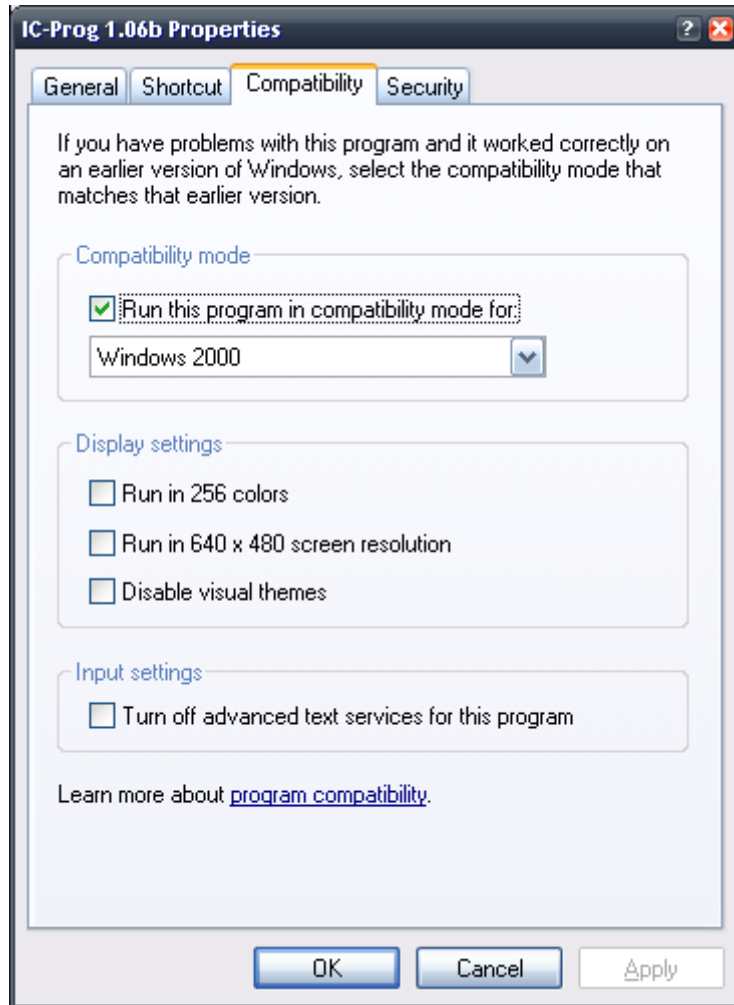


Load up the willem software first, use it to set the jumpers on the programmer and to verify device id (use menus to select the correct PIC)

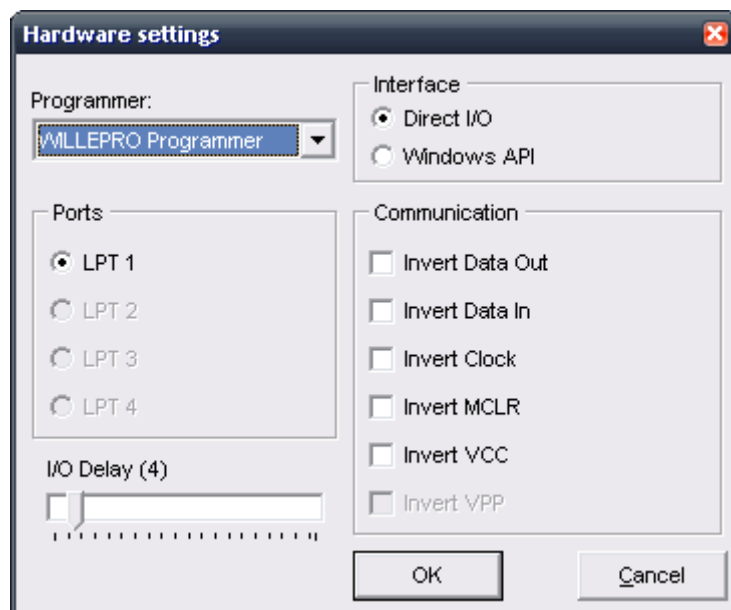


Close Willem software down.

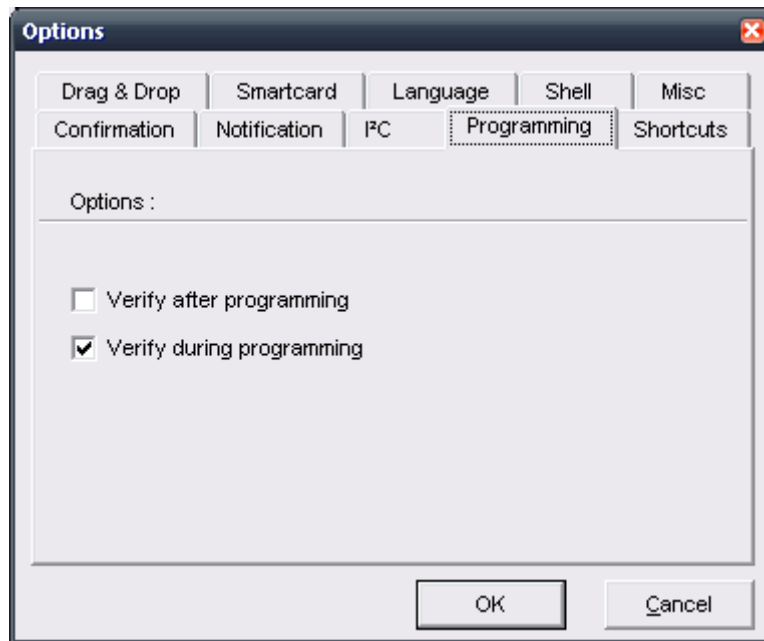
Create a shortcut to icprog and set it to run in Windows 2000 compatibility mode.



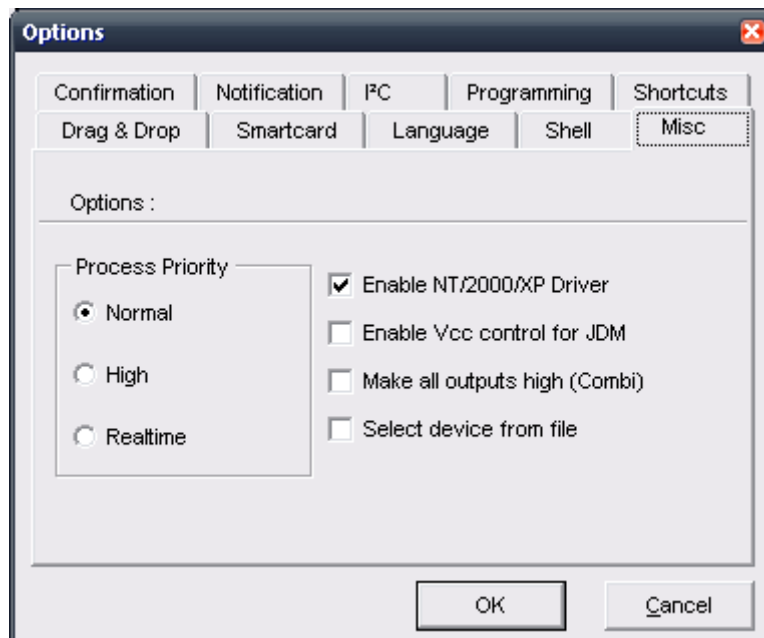
Open up icprog 1.06b, goto Settings - Hardware - select WILLEPRO Programmer and Direct I/O



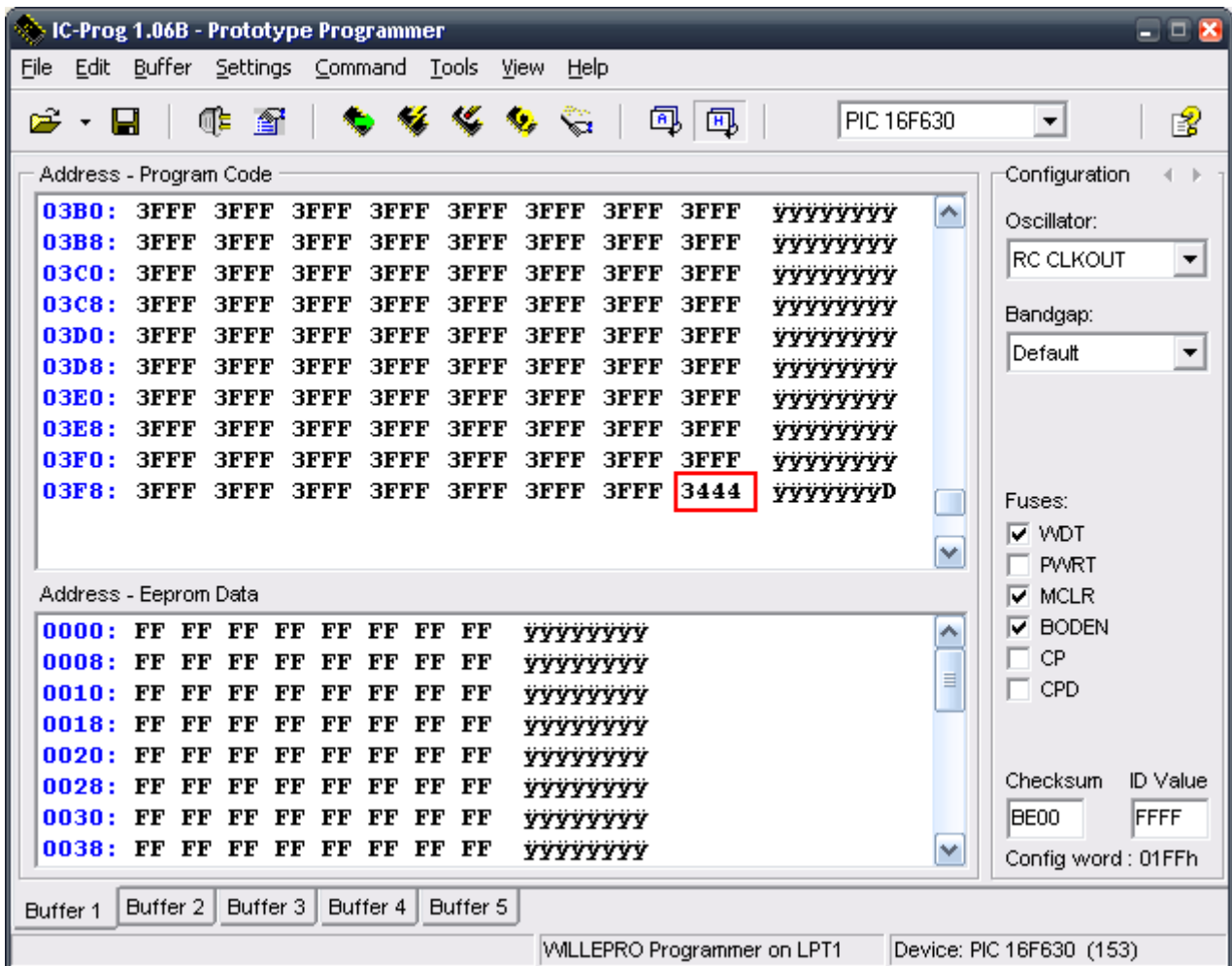
Options - Programming - make sure that only Verify during programming is ticked (seemed to get more fails if it Verified after programming for some odd reason??)



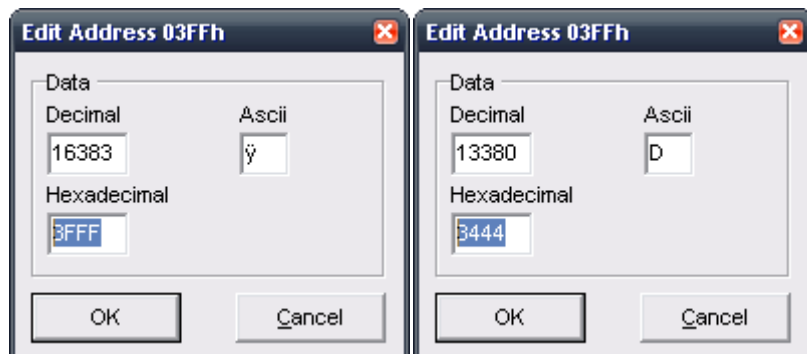
Options - Misc - make sure that Enable NT/2000/XP Driver is ticked (probably have to restart icprog now)



Make sure you have the correct PIC selected in icprog and hit the Read All button, scroll down in the Address - Program Code window and find the Oscillator Value, it's the last group of 4 letters/numbers. MAKE A NOTE OF IT, DO NOT LOSE IT



Open up your HEX file in icprog, scroll down in the Address - Program Code window and find the Oscillator Value (possibly 3FFF), double-click the Oscillator Value and replace it with the one you made a note of just now.



The following screenshot shows the Configuration down the right-hand side, this is for the Saturn one and is set automatically when you load the hex file, so really you don't have to worry about it.

Hit the Program Now button, it should now put the code on the chip and verify it.

IC-Prog 1.06B - Prototype Programmer - D:\Documents\Console Stuff\Saturn\sega saturn switchless m...

File Edit Buffer Settings Command Tools View Help

PIC 16F630

Address - Program Code

0000:	3020	0084	302F	2014	3003	00B3	30FC	00B2	.../.^ü²
0008:	302F	0084	3032	2019	1683	23FF	0090	0183	/,,2.fÿ□f
0010:	2BAD	0604	0180	0A84	0604	1D03	2811	0064	- .€,,...d
0018:	3400	00DF	2024	0080	0A84	0804	065F	1903	.B\$€,,_.
0020:	3400	281A	1283	00B2	1BB3	282D	0833	008A	..f²³-3\$
0028:	0832	0AB2	1903	0AB3	0082	1383	1833	1783	2².³,f3f
0030:	0832	0AB2	0084	0800	0008	0782	3400	3401	2²,,,...
0038:	3401	0782	3406	3402	3401	3FFF	3FFF	3FFF	...Yÿÿ
0040:	3FFF	3FFF	3FFF	3FFF	3FFF	3FFF	3FFF	3FFF	ÿÿÿÿÿÿÿÿ
0048:	3FFF	3FFF	3FFF	3FFF	3FFF	3FFF	3FFF	3FFF	ÿÿÿÿÿÿÿÿ
0050:	3FFF	3FFF	3FFF	3FFF	3FFF	3FFF	3FFF	3FFF	ÿÿÿÿÿÿÿÿ
0058:	3FFF	3FFF	3FFF	3FFF	3FFF	3FFF	3FFF	3FFF	ÿÿÿÿÿÿÿÿ

Address - Eeprom Data

0000:	00	00	01	03	02	00	00	00
0008:	5F	5F	73	65	62	21	5F	5F	__seb!__
0010:	20	20	20	20	20	20	20	20	
0018:	74	6F	6F	20	6D	75	63	68	too much
0020:	20	6C	69	6C	61	63	20	20	lilac
0028:	20	20	77	69	6E	65	21	20	wine!
0030:	20	20	20	20	20	20	20	20	
0038:	FF	FF	FF	FF	FF	FF	FF	FF	ÿÿÿÿÿÿÿÿ

Configuration

Oscillator: IntOSC GP4

Bandgap: Default

Fuses:

- WDT
- PWRT
- MCLR
- BODEN
- CP
- CPD

Checksum ID Value

6B59 2702

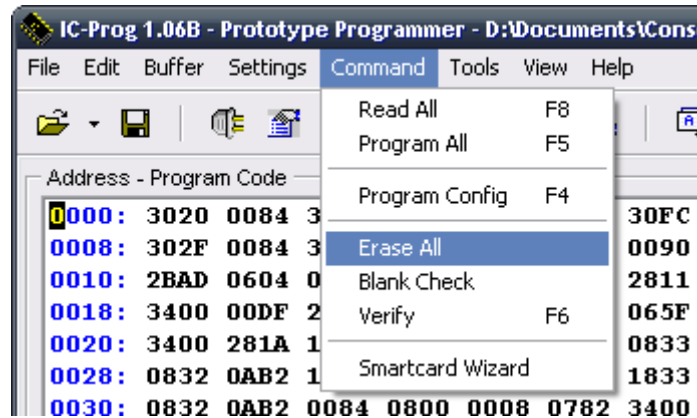
Config word : 01C4h

Buffer 1 Buffer 2 Buffer 3 Buffer 4 Buffer 5

WILLEPRO Programmer on LPT1 Device: PIC 16F630 (153)

Troubleshooting

If programming the SNES or Saturn chip fails, you can probably just erase the chip and start again. When I tried erasing the chip with the Willem software it just wouldn't do it, so I keep IC-Prog installed and this is probably the only thing I use it for now!



After selecting Command – Erase All it should come back telling you it's complete. Then you can do Command – Blank Check, or you can read the chip in again and confirm it's blank, it's never failed for me though. After using Erase All it keeps the Oscillator value that's mentioned a few times in this document.

If you somehow overwrite the Oscillator value of your 16F630 chip, but you made a note of it, you can write it back to the chip quite easily. IC-Prog would get a bit funny about this so I found the way that worked everytime was to.

1. Erase the chip
2. Read it back in
3. Double-click where the Oscillator value is and type in the correct value (detailed on Page 9)
4. Program the chip

It should now have the correct value written back in it, and you can read the chip again, Verify it successfully etc.

You may get away with simply opening the hex file you want to program and typing in the correct Oscillator value and programming the chip, this would sometimes work for me.