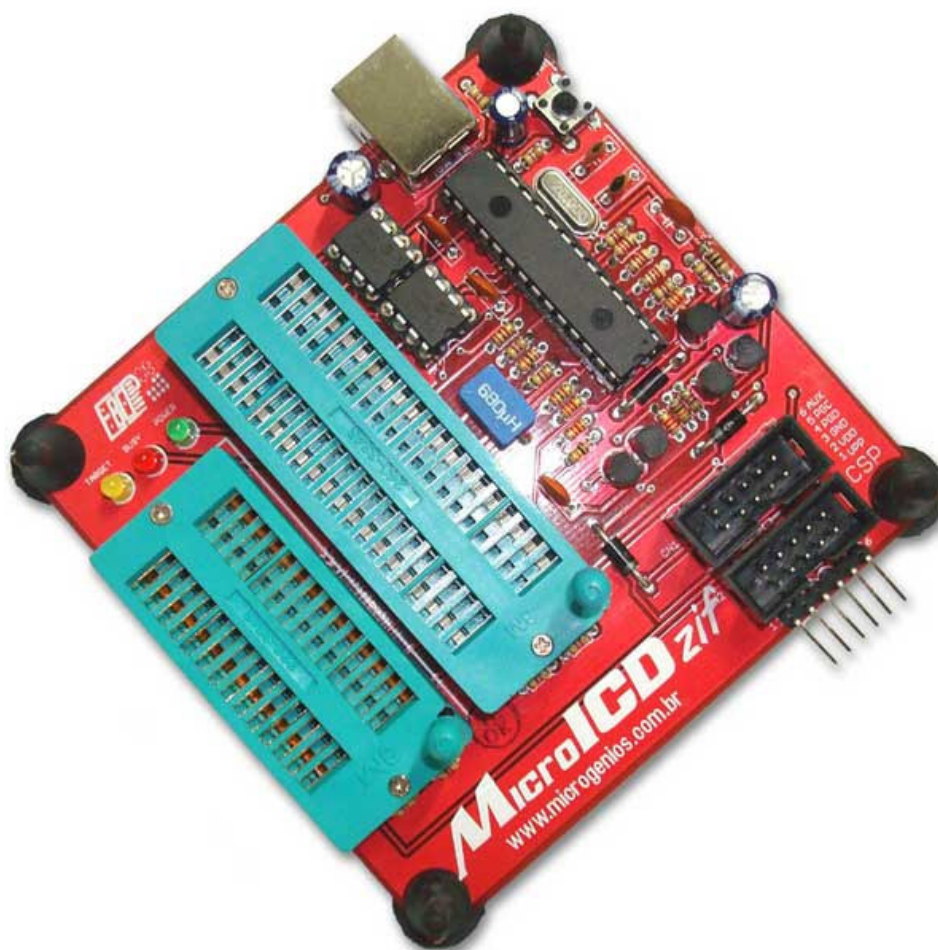


Manual MicroICD



Gravador de microcontroladores PIC via USB 2.0. (gravação In-Circuit)

Compatível com todas as portas USB's. Pode ser utilizado em computadores desktop e Notebook's.

O Gravador e depurador MicroICD é um excelente gravador via USB 2.0 de microcontroladores PIC e dsPIC da Microchip.

Suporta a família de microcontroladores PIC10F, PIC16F, PIC18F e dsPIC30F, além de gravar as EEPROM serial 24LCxxx e 93LCxxx Microchip. Permite a depuração do seu programa via MPLAB.

Ideal para programar via USB o kit PICgenios PIC18F, Kit PICgenios PIC16Fe Kit dsPICgenios dsPIC30F Microgenios

Compatibilidade:

Windows XP

Windows Vista 32

Requisitos Mínimos:

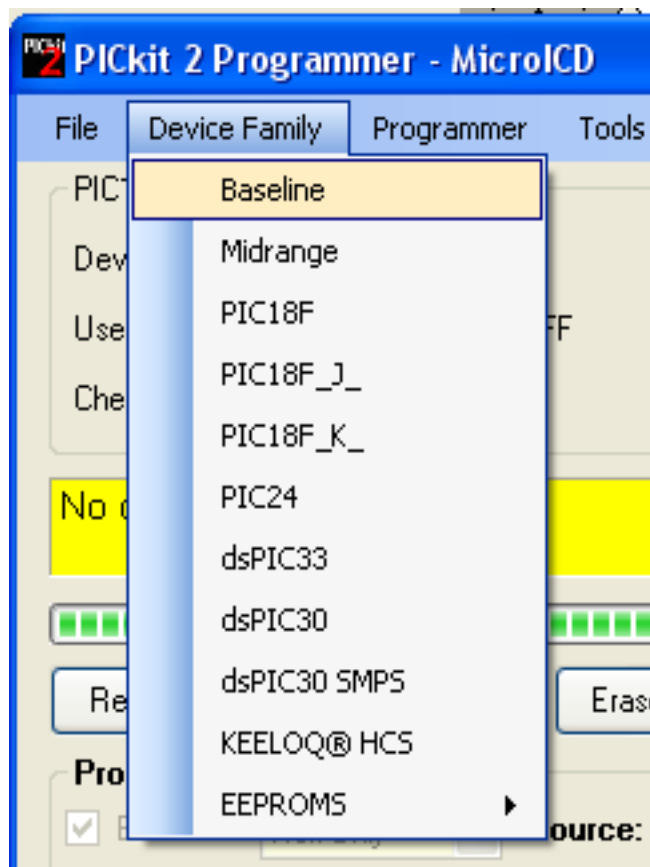
Sistema operacional windows XP ou Windows Vista 32bits, computador 1GHz, 256MB RAM.

Sistema de Gravação:

Microcontroladores suportados para gravação: (Fev. 2008 v1.4)

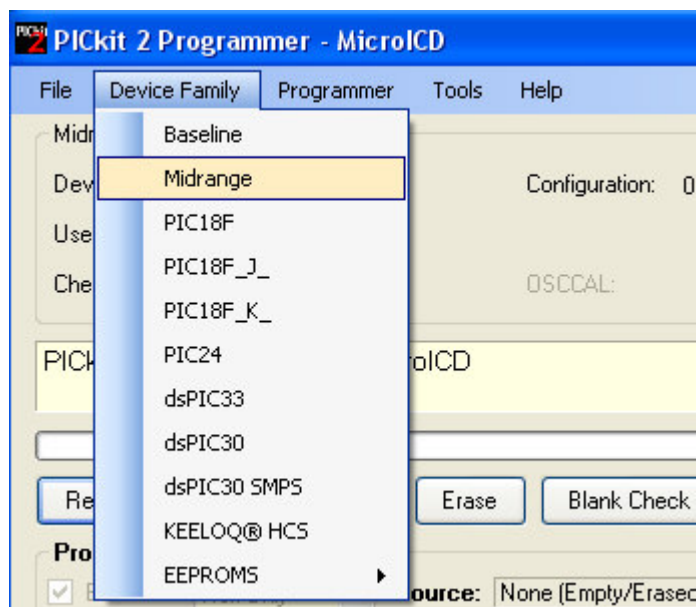
BASELINE

PIC10F200 PIC10F202 PIC10F204 PIC10F206
PIC10F220 PIC10F222
PIC12F508 PIC12F509 PIC12F510 PIC12F519
PIC16F505 PIC16F506 PIC16F526
PIC16F54 PIC16F57 PIC16F59



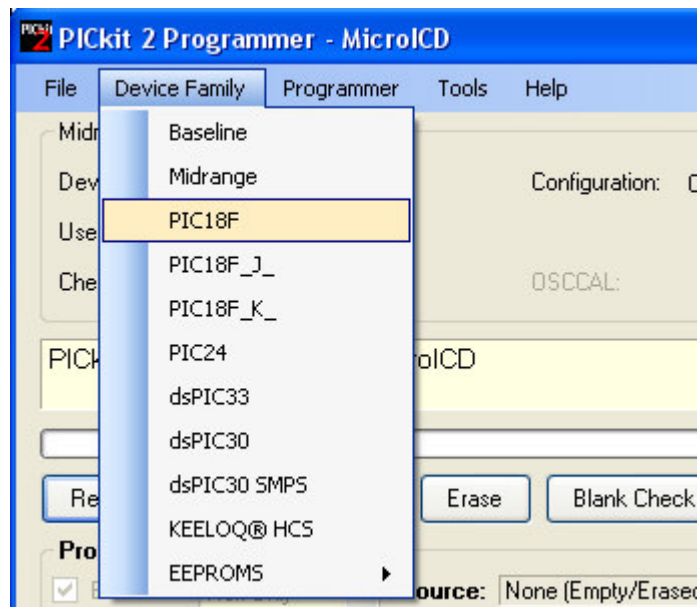
MIDRANGE

PIC12F609 PIC12HV609
PIC12F615 PIC12HV615
PIC12F629 PIC12F635 PIC12F675 PIC12F683
PIC16F610 PIC16HV610 PIC16F616
PIC16HV616
PIC16F627 PIC16F628 PIC16F639
PIC16F627A PIC16F628A PIC16F648A
PIC16F630 PIC16F631 PIC16F636 PIC16F676
PIC16F677 PIC16F684 PIC16F685 PIC16F687
PIC16F688 PIC16F689 PIC16F690
PIC16F72+
PIC16F73+ PIC16F74+ PIC16F76+
PIC16F77+
PIC16F716
PIC16F737+ PIC16F747+ PIC16F767+
PIC16F777+
PIC16F785 PIC16HV785
PIC16F84A PIC16F87 PIC16F88
PIC16F818 PIC16F819
PIC16F870 PIC16F871 PIC16F872
PIC16F873 PIC16F874 PIC16F876 PIC16F877
PIC16F873A PIC16F874A PIC16F876A
PIC16F877A
PIC16F882
PIC16F883 PIC16F884 PIC16F886 PIC16F887
PIC16F913 PIC16F914 PIC16F916 PIC16F917
PIC16F946



PIC18F

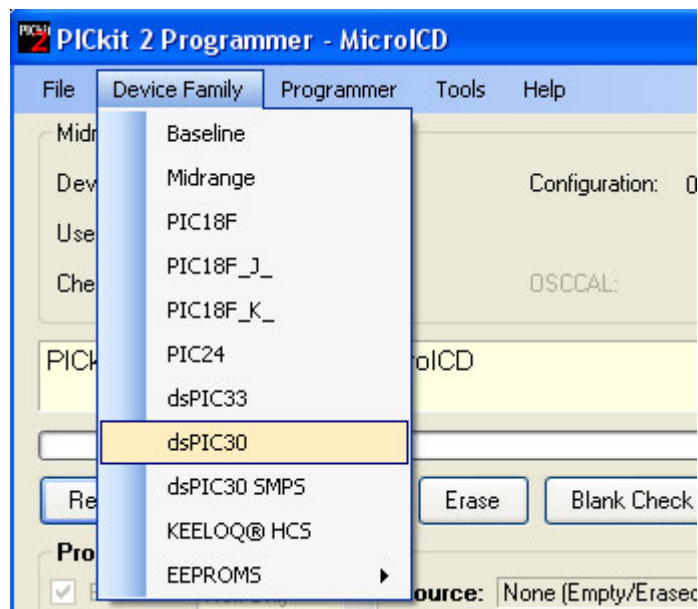
PIC18F242 PIC18F252 PIC18F442 PIC18F452
PIC18F248 PIC18F258 PIC18F448 PIC18F458
PIC18F1220 PIC18F1320 PIC18F2220
PIC18F1230 PIC18F1330
PIC18F2221 PIC18F2320 PIC18F2321
PIC18F2331
PIC18F2410 PIC18F2420 PIC18F2423
PIC18F2431
PIC18F2450 PIC18F2455 PIC18F2458
PIC18F2480
PIC18F2510 PIC18F2515 PIC18F2520
PIC18F2523
PIC18F2525 PIC18F2550 PIC18F2553
PIC18F2580
PIC18F2585
PIC18F2610 PIC18F2620 PIC18F2680
PIC18F2682
PIC18F2685
PIC18F4220 PIC18F4221 PIC18F4320
PIC18F4321
PIC18F4331 PIC18F4410 PIC18F4420
PIC18F4423
PIC18F4431 PIC18F4450 PIC18F4455
PIC18F4458
PIC18F4480
PIC18F4510 PIC18F4515 PIC18F4520
PIC18F4523
PIC18F4525 PIC18F4550 PIC18F4553
PIC18F4580
PIC18F4585
PIC18F4610 PIC18F4620 PIC18F4680
PIC18F4682
PIC18F4685 PIC18F6310 PIC18F6390
PIC18F6410
PIC18F6490 PIC18F6520 PIC18F6525



PIC18F6527
PIC18F6585 PIC18F6620 PIC18F6621
PIC18F6622
PIC18F6627 PIC18F6628 PIC18F6680
PIC18F6720
PIC18F6722 PIC18F6723
PIC18F8310 PIC18F8390 PIC18F8410
PIC18F8490
PIC18F8520 PIC18F8525 PIC18F8527
PIC18F8585
PIC18F8620 PIC18F8621 PIC18F8622
PIC18F8627
PIC18F8628
PIC18F8680 PIC18F8720 PIC18F8722
PIC18F8723

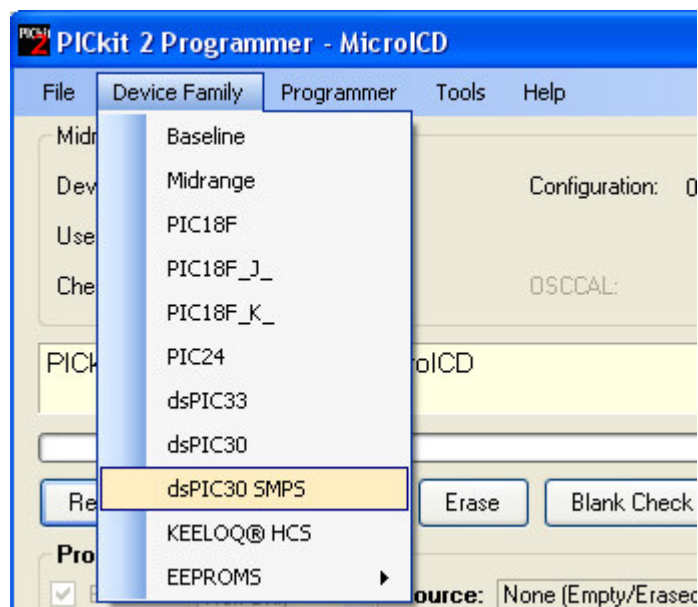
dsPIC30F

dsPIC30F2010 dsPIC30F2011 dsPIC30F2012
dsPIC30F3010 dsPIC30F3011 dsPIC30F3012
dsPIC30F3013 dsPIC30F3014
dsPIC30F4011 dsPIC30F4012 dsPIC30F4013
dsPIC30F5011 dsPIC30F5013 dsPIC30F5015
dsPIC30F5016
dsPIC30F6010A dsPIC30F6011A
dsPIC30F6012A
dsPIC30F6013A dsPIC30F6014A dsPIC30F6015



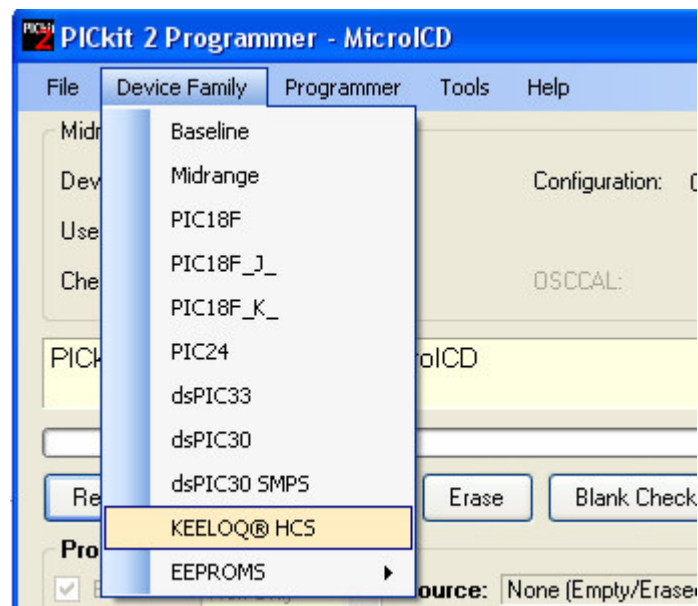
dsPIC30 SMPS Devices

dsPIC30F1010
dsPIC30F2020 dsPIC30F2023



KEELOQ HCS Devices

HCS200 HCS201 HCS300 HCS301 HCS320
HCS360 HCS361 HCS362



Serial EEPROM Devices

24 Series Serial EEPROM Devices

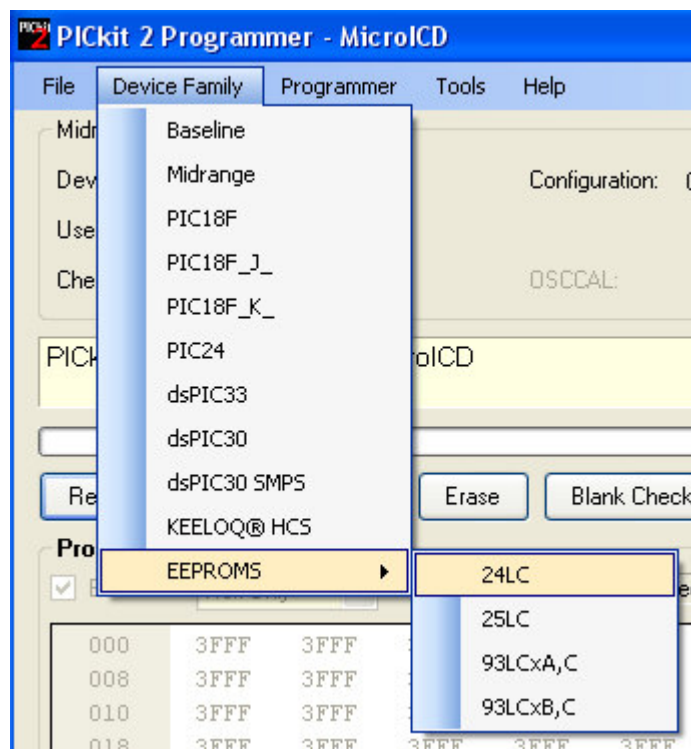
- 24LC/AA/C00
- 24LC/AA01B, 02B, 04B, 08B
- 24LC/AA16B, 32A
- 24LC/AA/FC64, 128, 256, 512
- 24LC/AA/FC1025

25 Series Serial EEPROM Devices

- 25LC/AA010A, 020A, 040A
- 25LC/AA080A, 080B, 160A, 160B
- 25LC/AA320A, 640A
- 25LC/AA128, 256, 512, 1024

93 Series Serial EEPROM Devices

- 25LC/AA/C46A, 46B, 46C
- 25LC/AA/C56A, 56B, 56C
- 25LC/AA/C66A, 66B, 66C
- 25LC/AA/C47A, 76B, 76C
- 25LC/AA/C48A, 86B, 86C



Microcontroladores suportados para depuração via MPLAB 8.02: (Fev. 2008 v1.4)

Baseline – Programming & Debugging

- PIC10F200, 202, 204, 206
- PIC12F508, 509
- PIC16F505
- PIC10F220, 222
- PIC12F510
- PIC16F506

Midrange – Programming & Debugging

- PIC12F629, 675
- PIC12F635, PIC16F636
- PIC12F683
- PIC16F627A, 628A, 648A
- PIC16F630, 676
- PIC16F684



Soluções Eletrônicas

Razão Social: Microgenios Soluções Eletrônicas Ltda. ME

CNPJ: 08.046.925/0001-85

I.E.: 149.296.873.113

Rua Eça de Queiroz, 704 , cjt 01– CEP: 04011-033

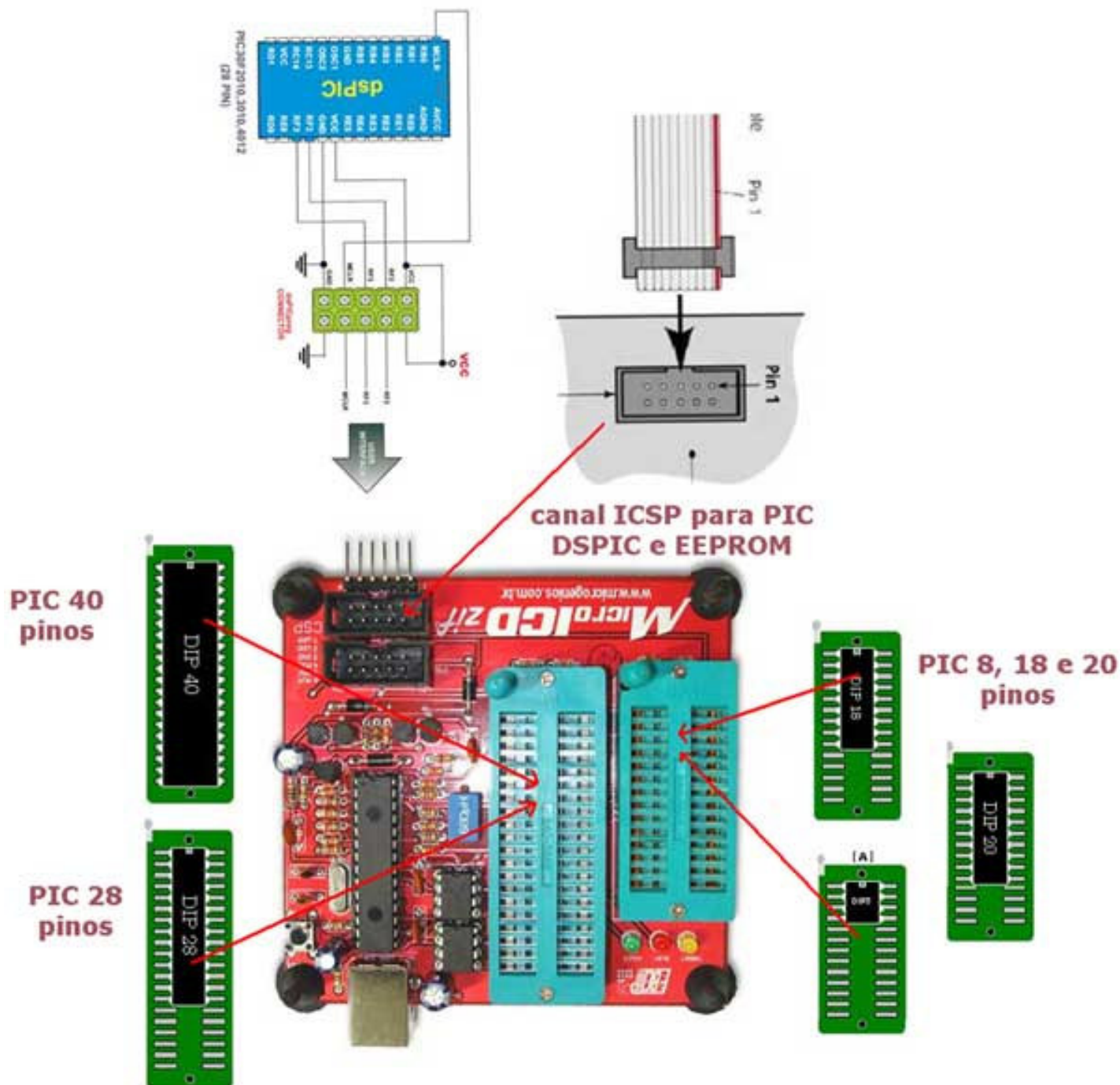
Vila Mariana – São Paulo – SP Fone: 11 5084-4518

- PIC16F688
- PIC16F631, 677, 685, 687, 689, 690
- PIC16F716
- PIC16F737, 747, 767, 777
- PIC16F785, HV785
- PIC16F87, 88
- PIC16F818, 819
- PIC16F870, 871, 872, 873, 874, 876, 877
- PIC16F873A, 874A, 876A, 877A
- PIC16F882, 883, 884, 886, 887
- PIC16F913, 914, 916, 917
- PIC16F946

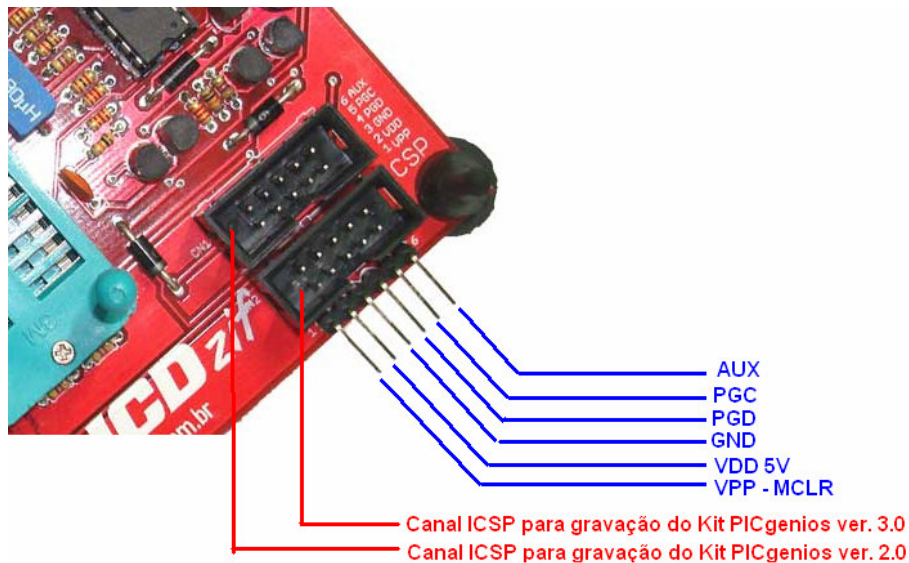
PIC18F – Programming & Debugging

- PIC18F242, 252, 442, 452
- PIC18F248, 258, 448, 458
- PIC18F1220, 1320, 2220, 2320
- PIC18F1230, 1330
- PIC18F2221, 2321
- PIC18F2331, 2410, 2420, 2431
- PIC18F2423,
- PIC18F2450, 2455, 2458, 2480
- PIC18F2510, 2515, 2520, 2523
- PIC18F2525
- PIC18F2550, 2553, 2580, 2585
- PIC18F2610, 2620, 2680
- PIC18F2682, 2685
- PIC18F4220, 4221
- PIC18F4320, 4321, 4331
- PIC18F4410, 4420, 4423
- PIC18F4431, 4450, 4455
- PIC18F4458, 4480
- PIC18F4510, 4515, 4520, 4523
- PIC18F4525, 4550, 4553, 4580
- PIC18F4585
- PIC18F4610, 4620, 4680
- PIC18F4682, 4685
- PIC18F6310, 6390, **6393**
- PIC18F6410, 6490, **6493**
- PIC18F6520, 6525, 6527, 6585
- PIC18F6620, 6621, 6622, 6627
- PIC18F6628, 6680
- PIC18F6720, 6722, 6723
- PIC18F8310, 8390, **8393**
- PIC18F8410, 8490, **8493**
- PIC18F8520, 8525, 8527, 8585
- PIC18F8621, 8620, 8622, 8627
- PIC18F8628, 8680
- PIC18F8720, 8722, 8723

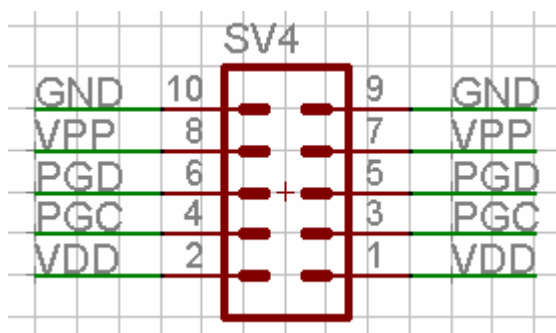
Descrição do Hardware



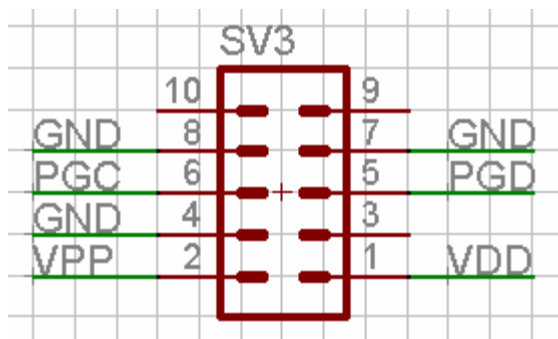
Pinagem Canal ICSP



	FUNÇÃO	40 PINOS	28 PINOS	18 PINOS	8 PINOS
1	MCLR	1	1	4	4
2	VDD	11,32	20	14	1
3	GND	12,31	19	5	8
4	PGD	40	28	13	7
5	PGC	39	27	12	6
6	AUX				



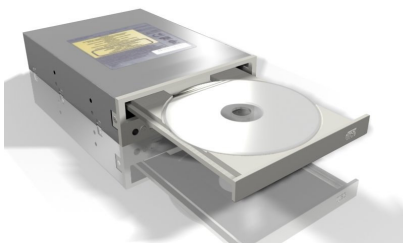
Canal ICSP (header) para Kit PICgenios ver. 3.0



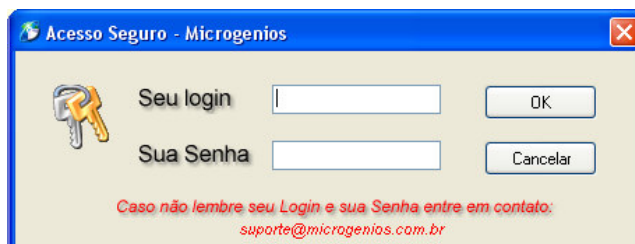
Canal ICSP (header) para Kit PICgenios ver. 2.0

Procedimento de Instalação do Programa de Gravação:

1º Coloque o CD que acompanha o Gravador MicroICD no compartimento de CDROM de seu Computador.



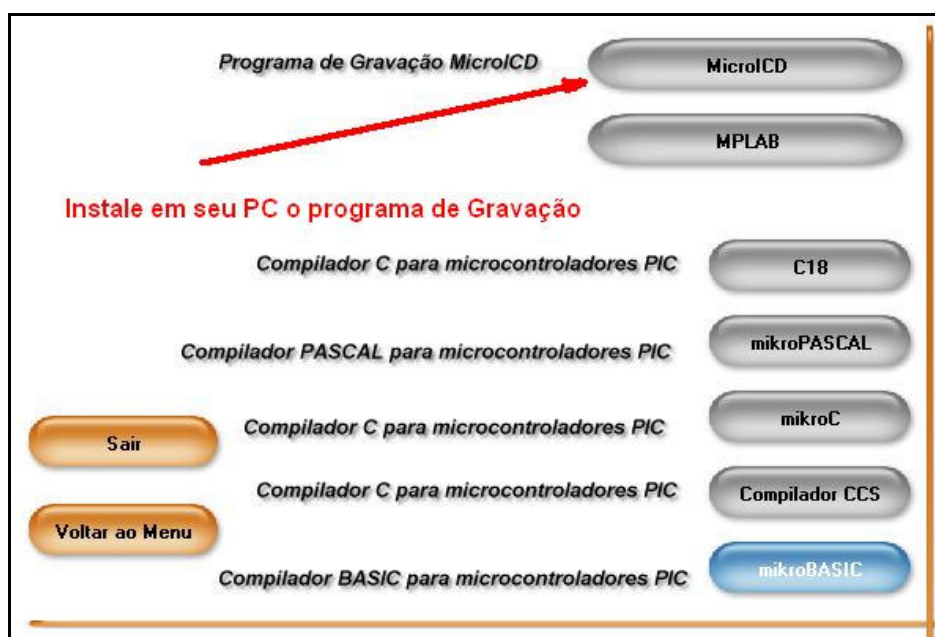
2º Digite o login e senha do CD (impresso no corpo do CDROM)



3º Digite o login e senha do CD (impresso no corpo do CDROM)



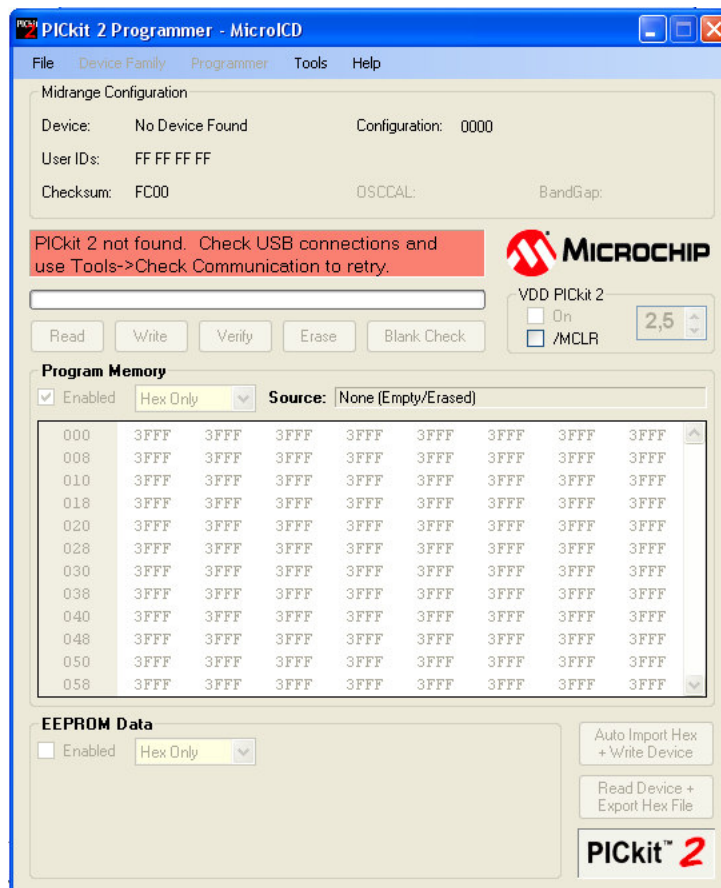
Obs: verifique o login e senha no corpo do seu CD, foto meramente ilustrativa.
Ao executar o CD , acesse a opção “ Programas” no menu de apresentação do CD.



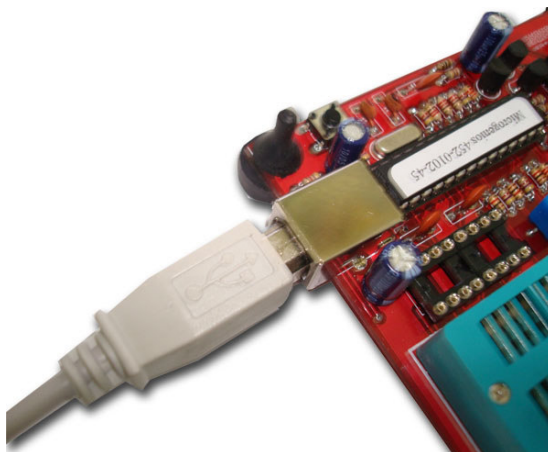
4º Após a instalação do programa, de um duplo clique no icone.



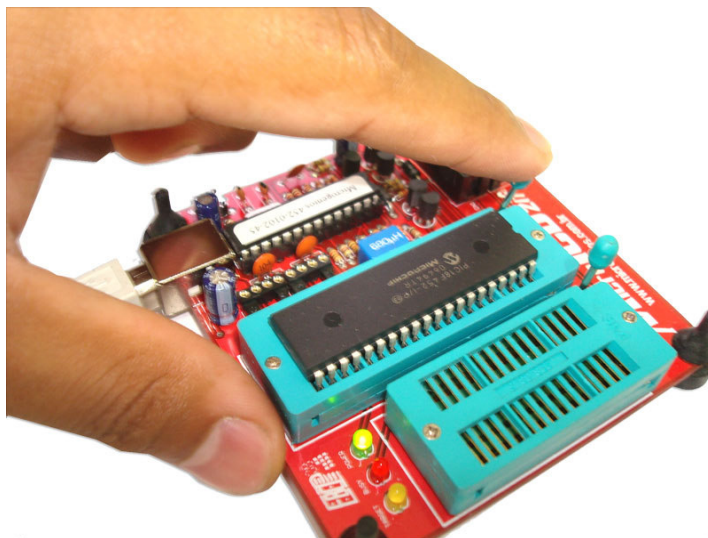
5º O programa de gravação dos Microcontroladores será aberto em seu computador.



6º O conecte o cabo USB 2.0 que acompanha seu gravador no computador e no MicroICD.



7º Coloque o microcontrolador que deseje gravar no soquete ZiF do Gravador MicroICD, conforme a imagem seguinte:



8º No programa de gravação, acesse o menu Tools> Check communication. O modelo do seu microcontrolador deverá ser reconhecido, conforme figura seguinte:

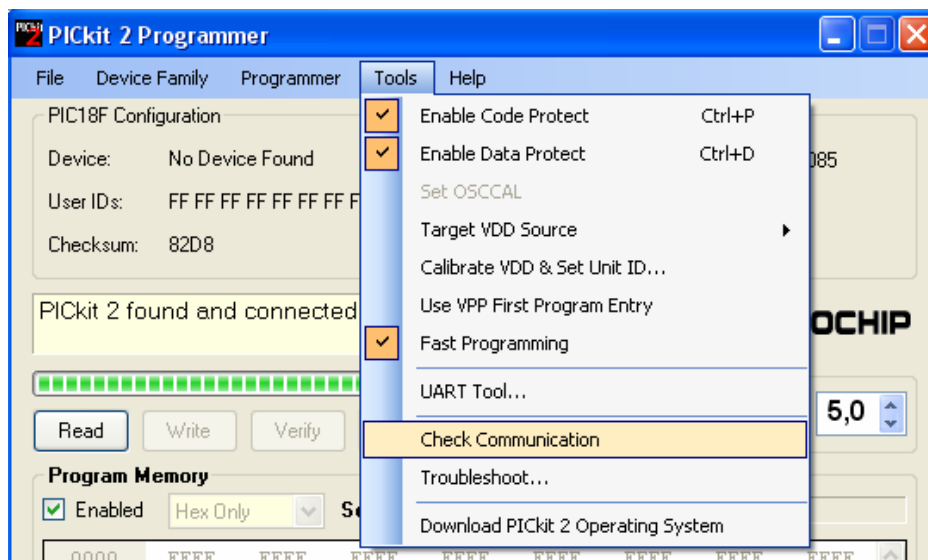


figura 1

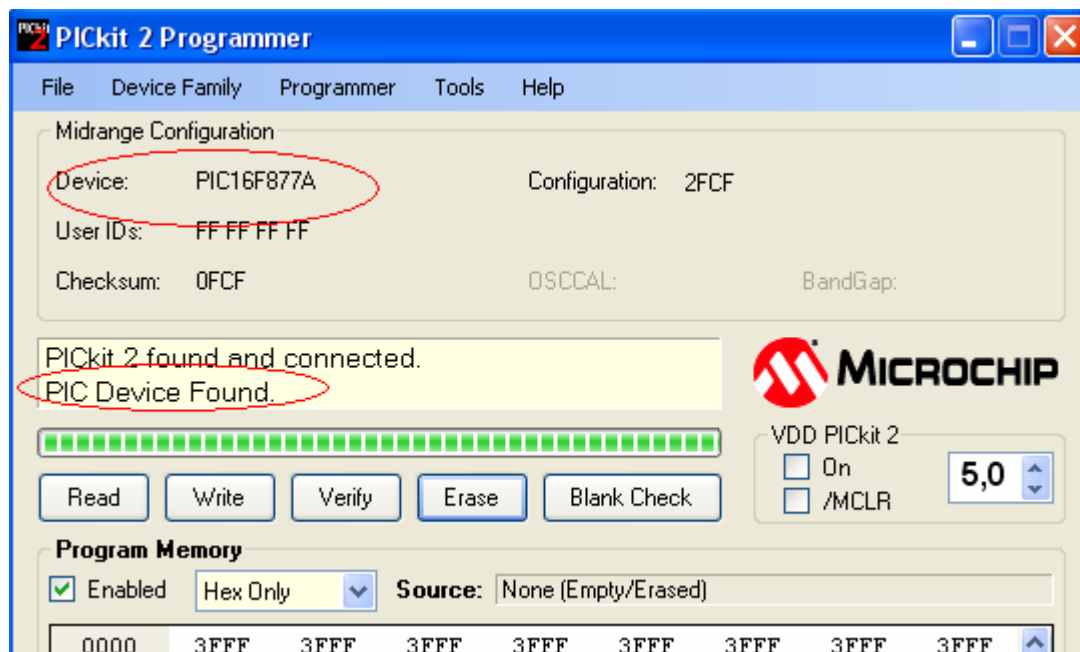
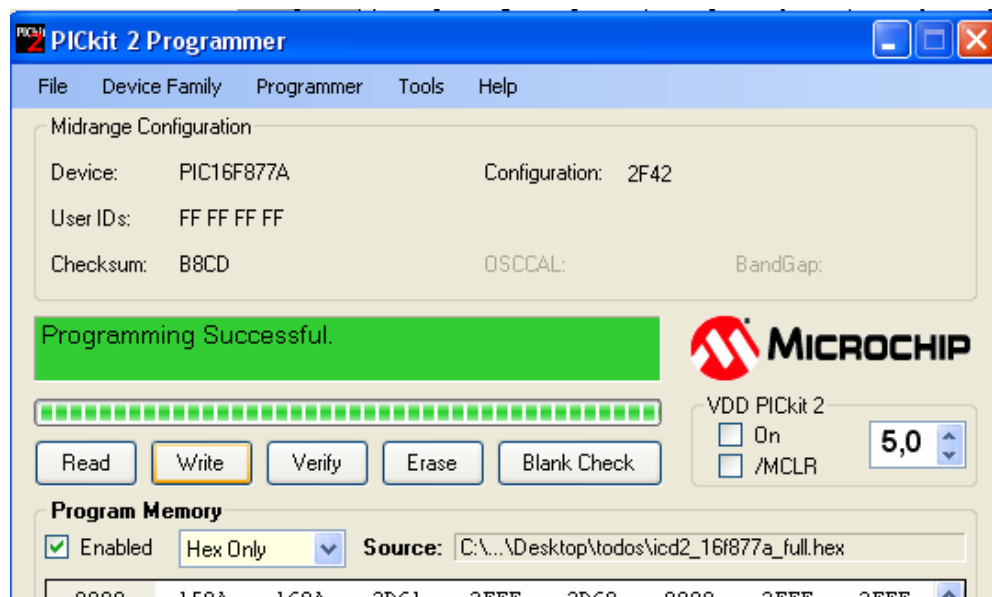


Figura 02

9º Após o programa reconhecer o modelo do microcontrolador que deseja gravar (figura 02), acesse o menu File > Import Hex, carregue o arquivo .hex que deseja gravar no seu microcontrolador.



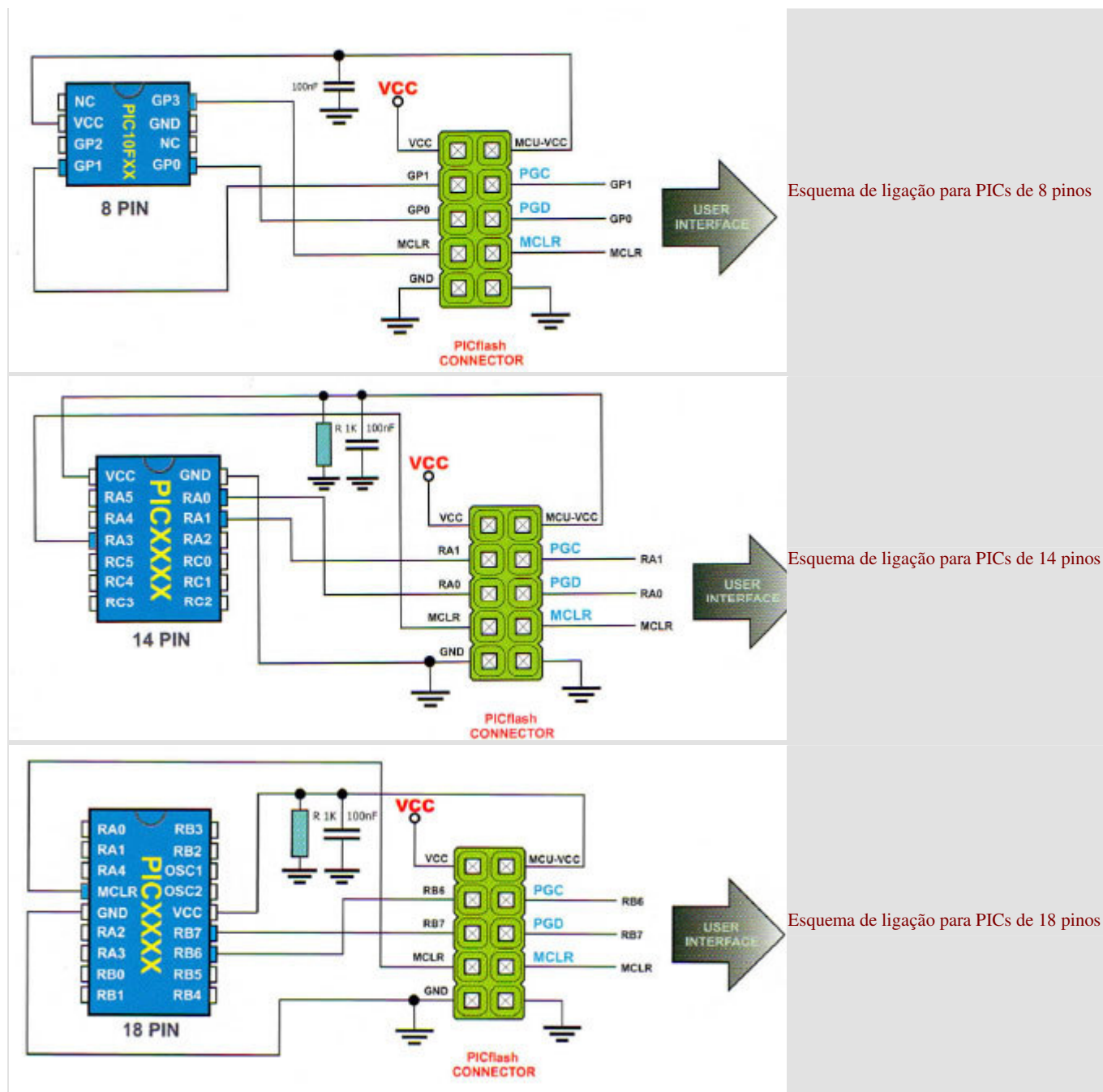
Pressione o Botão Write do programa para dar início ao processo de gravação do seu microcontrolador.

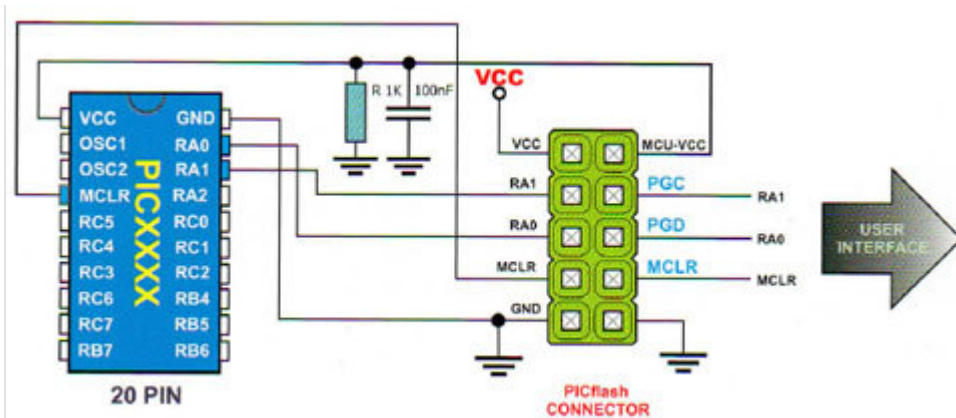


O programa apresentará uma mensagem de gravação com sucesso, após ter gravado o microcontrolador.

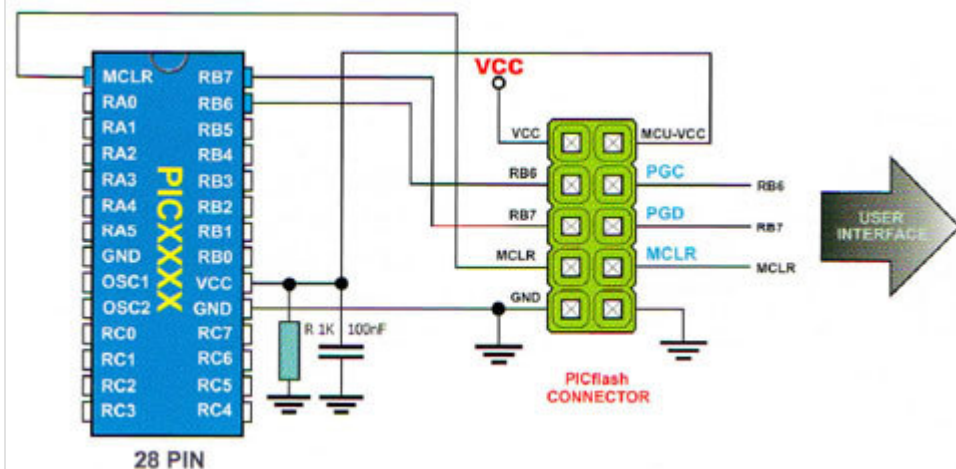
Obs: os esquemas apresentados abaixo são padronizados para a gravação do Kit PICgenios PIC18F e Kit dsPICgenios dsPIC30F Microgenios. Este conector também pode ser utilizado para gravação de qualquer outro microcontrolador suportado pelo gravador.

Esquema de Ligação ICSP para PIC10 / PIC12 / PIC16 e PIC18F

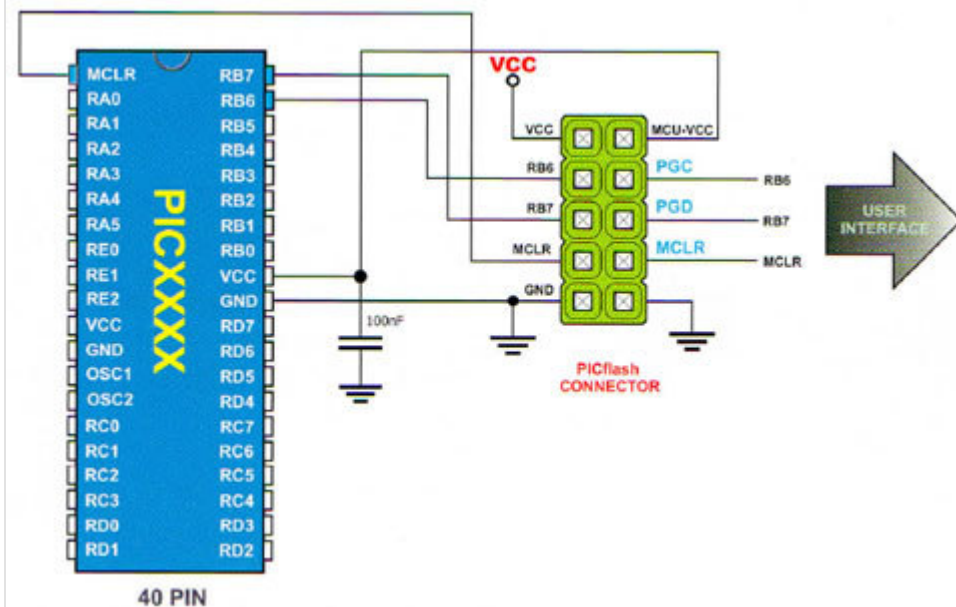




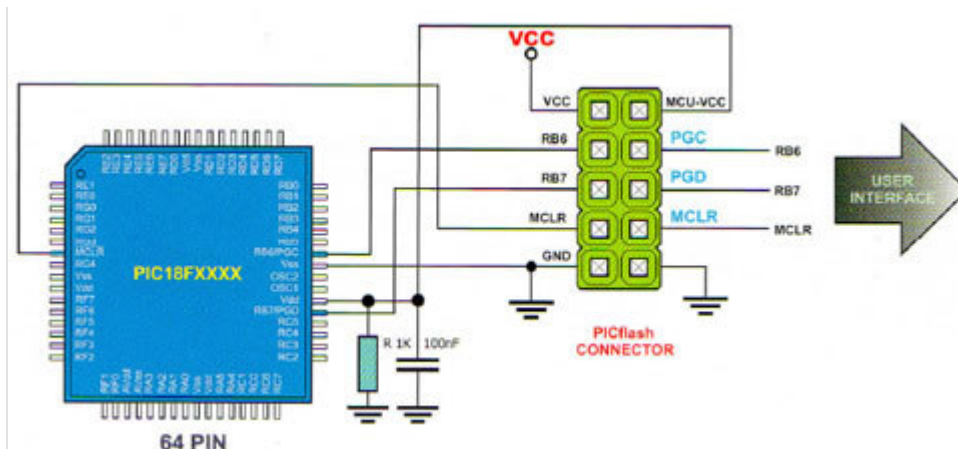
Esquema de ligação para PICs de 20 pinos



Esquema de ligação para PICs de 28 pinos

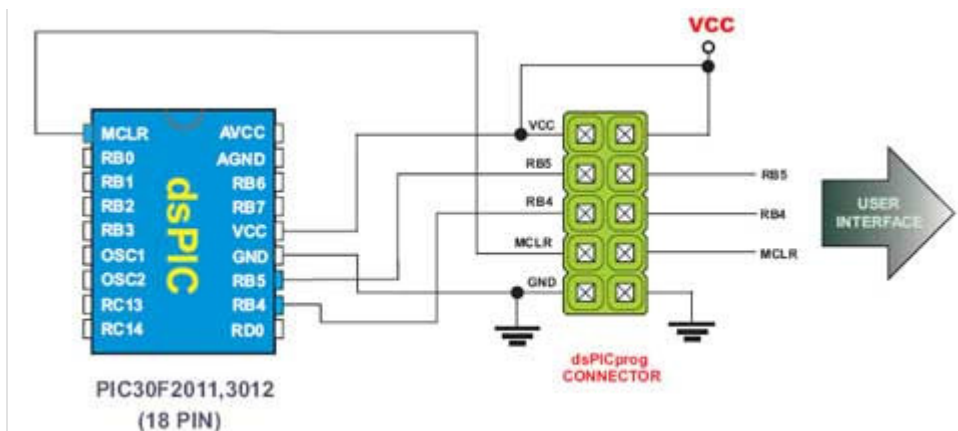


Esquema de ligação para PICs de 40 pinos

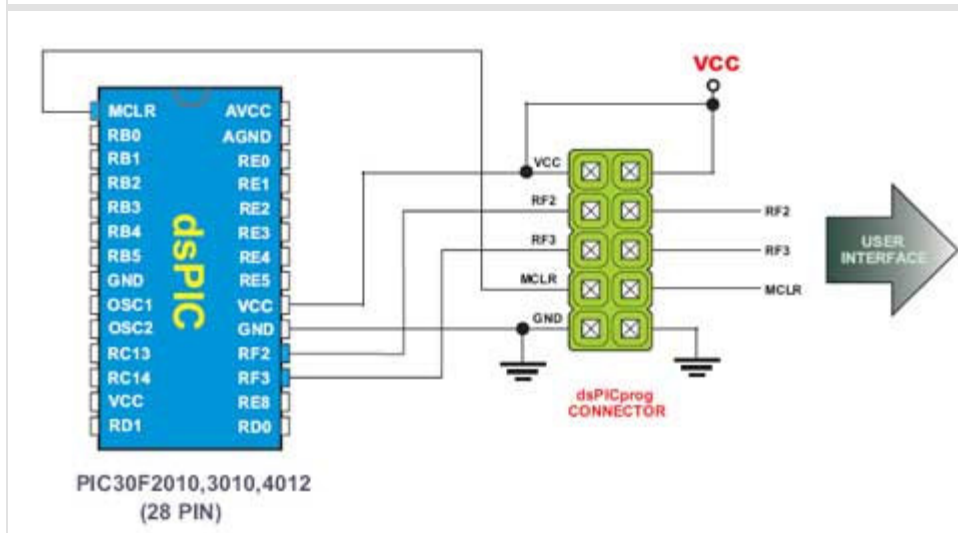


Esquema de ligação para PICs de 64 pinos

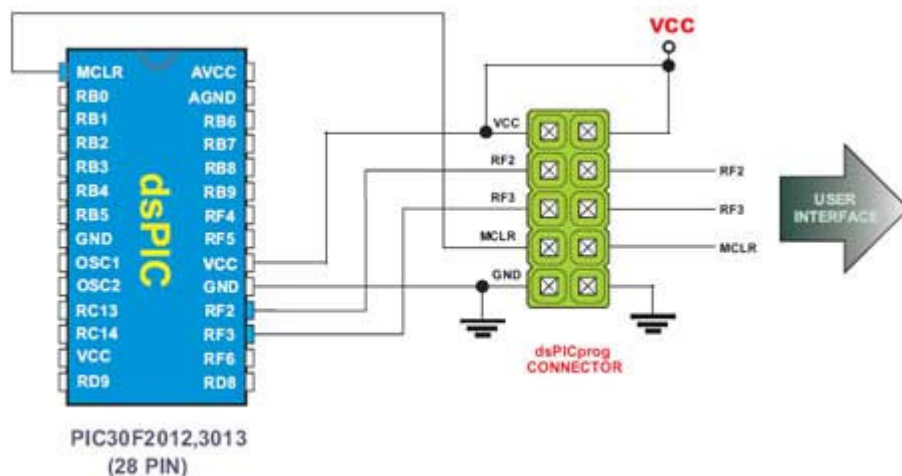
Esquema de Ligação ICSP para DSPIC30F



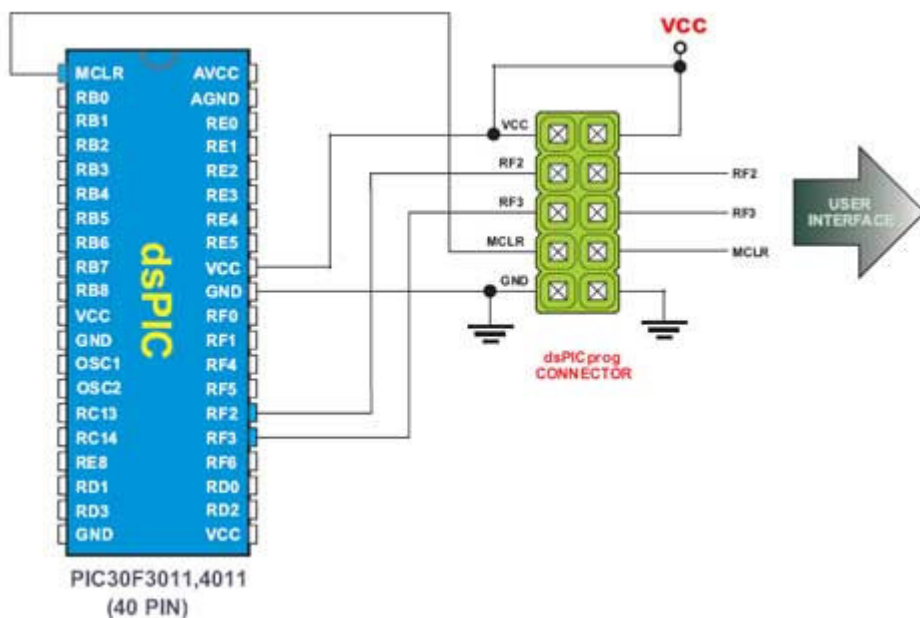
Esquema de ligação para PICs de 18 pinos



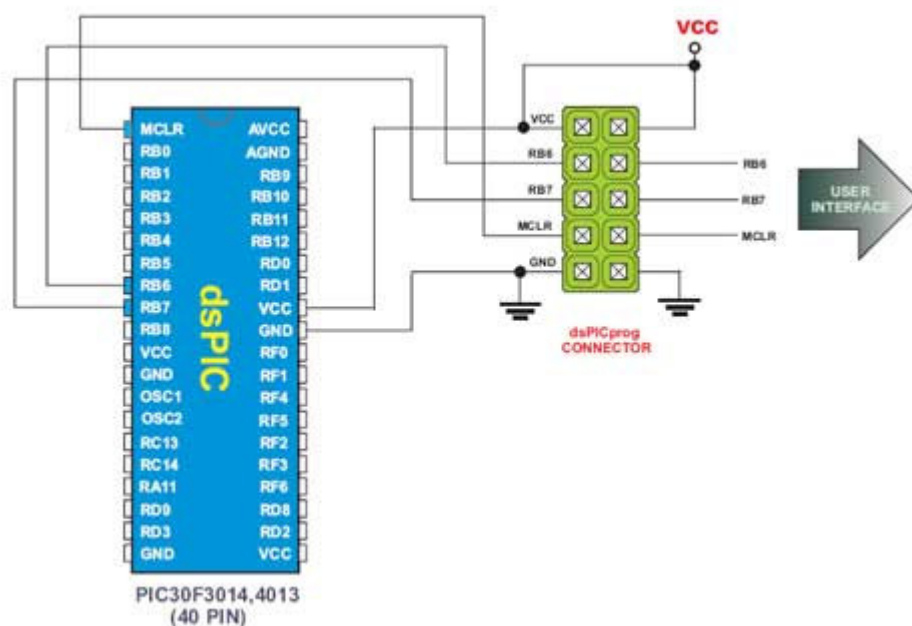
Esquema de ligação para PICs de 28 pinos



Esquema de ligação para PICs de 28 pinos



Esquema de ligação para PICs de 40 pinos



Esquema de ligação para PICs de 40 pinos

Conhecendo o programa de Gravação:

O programa de Gravação do gravador MicroICD é compatível com windows XP e Windows Vista 32. Não suporta Windows 98/2000/NT.

Abaixo segue a descrição dos botões do programa de gravação do MicroICD.

The screenshot shows the PICKIT 2 Programmer - MicroICD software interface. The window title is "PICKIT 2 Programmer - MicroICD". The menu bar includes File, Device Family, Programmer, Tools, and Help. The main area is divided into several sections:

- PIC18F Configuration:**
 - Device: PIC18F452 (circled in red)
 - User IDs: FF FF FF FF FF FF FF FF
 - Checksum: 82D8
 - Configuration: 2700 0F0F 0100 0085
 - COOF E00F 400F
 - OSCCAL: BandGap:
- PICKIT 2 connected. ID = MicroICD** (circled in red)
- MICROCHIP** logo (circled in red)
- VDD PICKIT 2:**
 - ☐ On
 - ☐ /MCLR
 - 5,0 (circled in red)
- Buttons:** Read, Write, Verify, Erase, Blank Check
- Program Memory:**
 - ☒ Enabled
 - Hex Only (dropdown)
 - Source: None (Empty/Erased)
 - Memory dump table with addresses from 0000 to 00B0 and hex values.
- EEPROM Data:**
 - ☒ Enabled
 - Hex Only (dropdown)
 - EEPROM dump table with addresses from 00 to 30 and hex values.
- Buttons at the bottom:** Auto Import Hex + Write Device, Read Device + Export Hex File, PICKIT 2 logo.

Annotations (red text with green lines pointing to the interface):

- Modelo de microcontrolador Reconhecido pelo Gravador (points to Device: PIC18F452)
- Reconhecimento do ID do Gravador (points to ID = MicroICD)
- Manter sempre os bits de seleção desativado e marcado tensão de 5,0 V (points to VDD PICKIT 2 section)
- Verificar a memória do microcontrolador esta apagado (points to Program Memory section)
- Apagar programa no microcontrolador (points to Erase button)
- Verificação do Programa (points to Verify button)
- Gravar Programa (points to Write button)
- Ler Programa (points to Read button)

Usando a IDE MPLAB IDE para gravação:

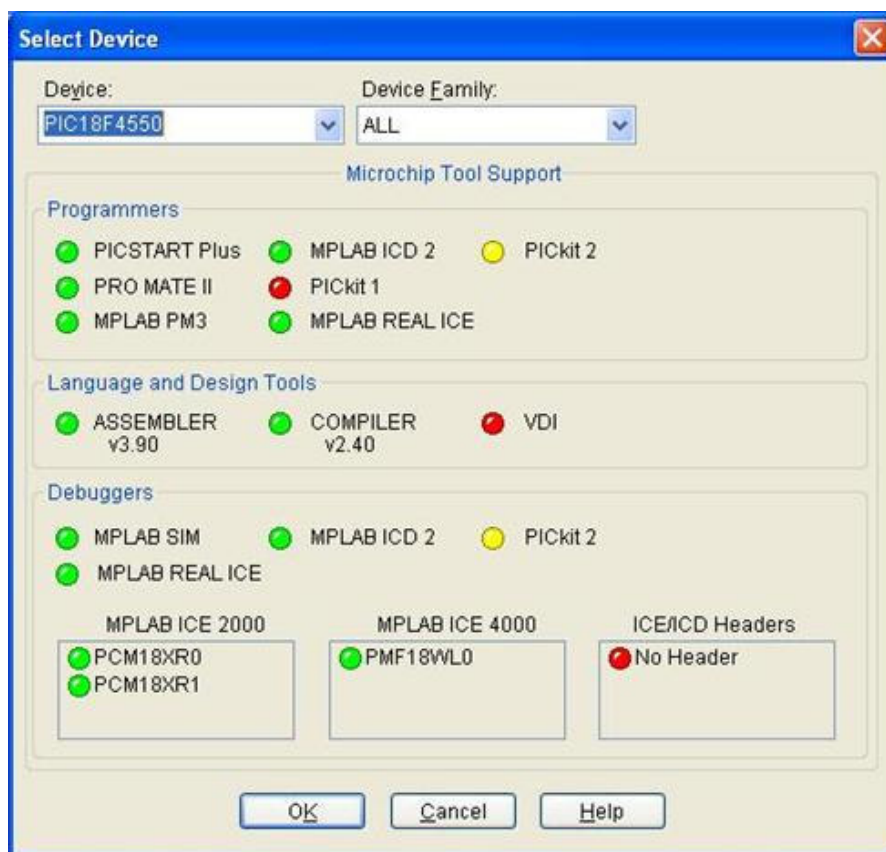
Para melhor entendermos o procedimento de debugação no MPLAB, vamos acompanhar um processo de debugação de um programa qualquer para o PIC18F4550.

1. De um duplo clique no icone do MPLAB (caso ainda não tenha instalado este programa em seu computador, existe uma versão atualizada deste programa no cd que acompanha o MicroICD).

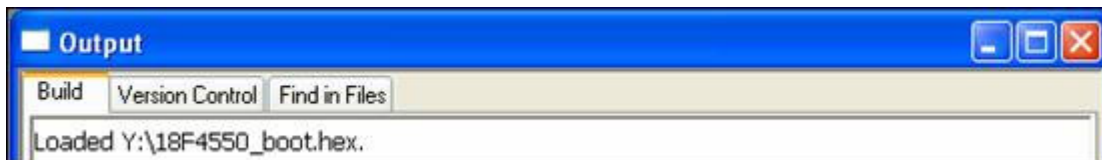


MPLAB IDE

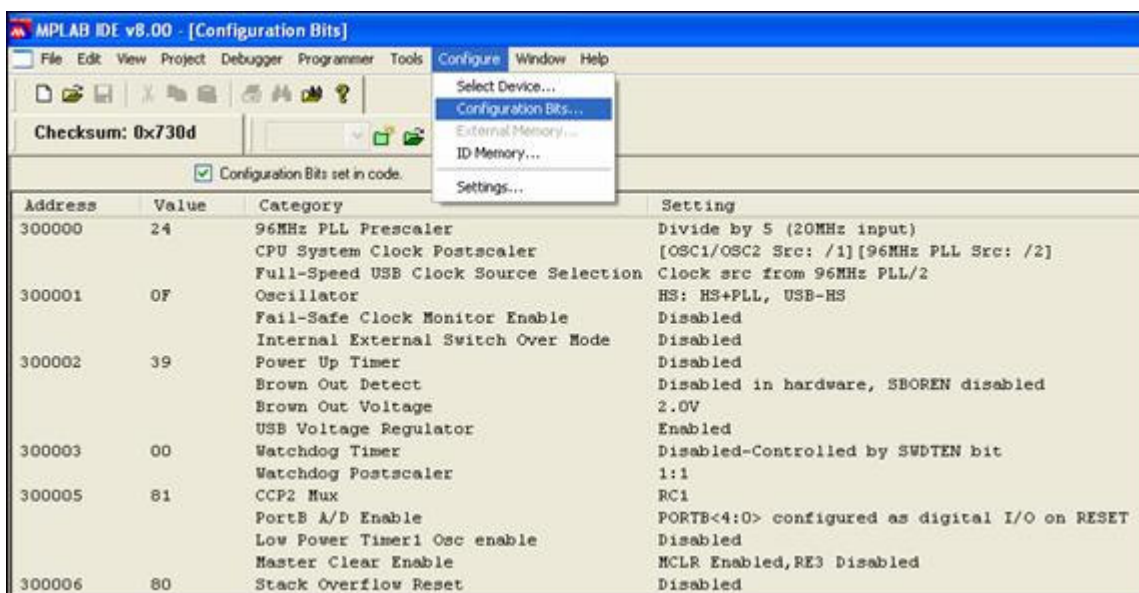
2. Click “Configure/Select Device...”, “Select Device”, selecione o “PIC18F4550” no menu e clique em OK.



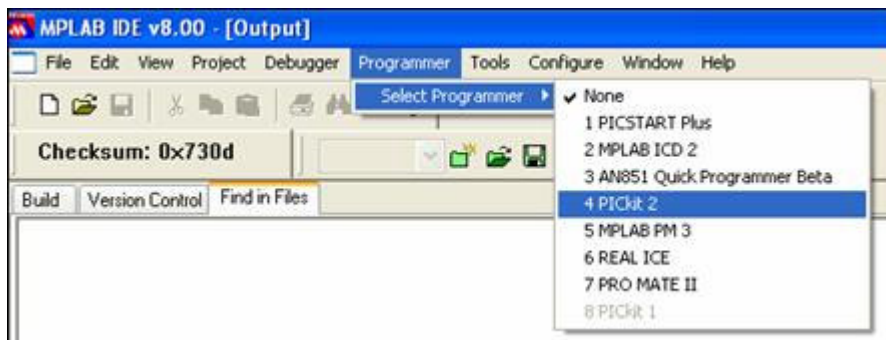
3. Click “File/Import...” para abrir seu programa xxx.hex, no qual deseja gravar no microcontrolador.



4. Configure os bits de configuração, quando for necessário.

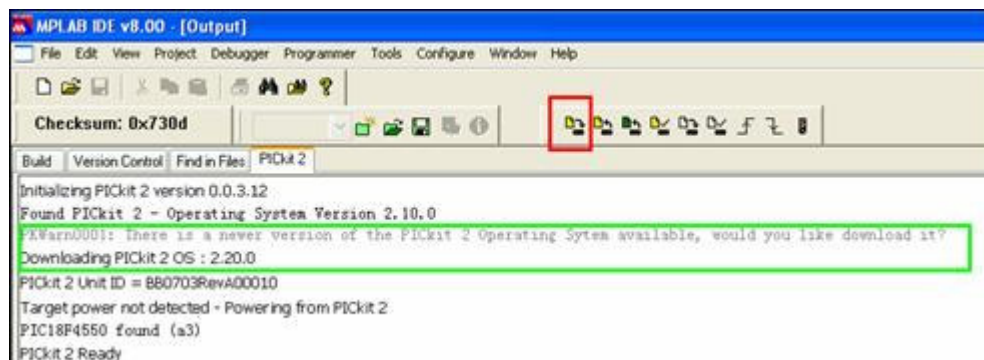


5 - Click no menu “Programmer/Select Programmer/PICkit 2”, conforme figura abaixo:

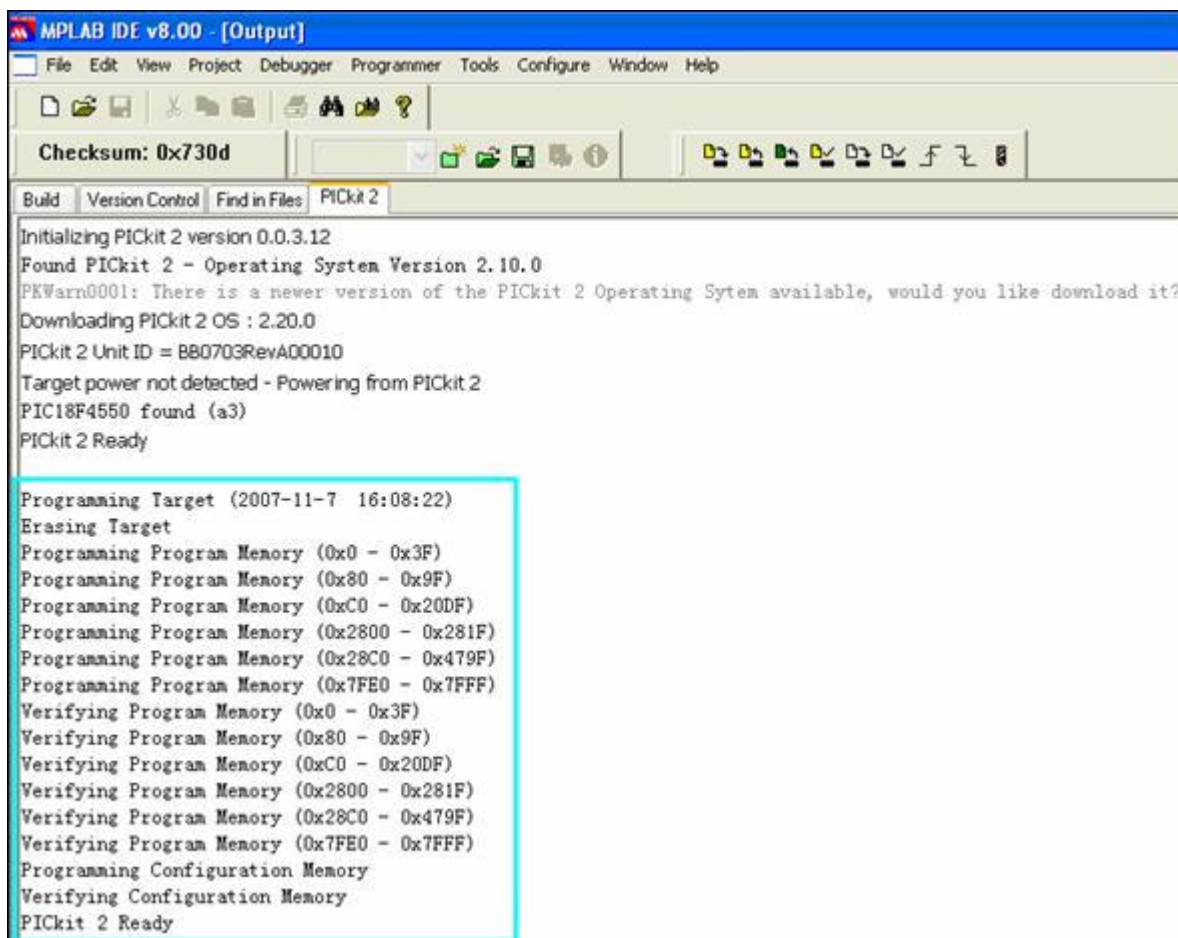


Em seguida aparecerá uma mensagem no editor informando se a conexão foi feita com sucesso. (MPLAB – Gravador e Microcontrolador)

Note: o MPLAB sempre carregará em seu gravador a versão mais nova do MicroICD.



7. Click no ícone “Program icon, e o arquivo .hex será gravado em seu microcontrolador.





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Vila Mariana – São Paulo – SP Fone: 11 5084-4518

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