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## **uP-2 ISP CODE PROGRAMMING PROCEDURE**

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## uP-2 ISP CODE PROGRAMMING PROCEDURE

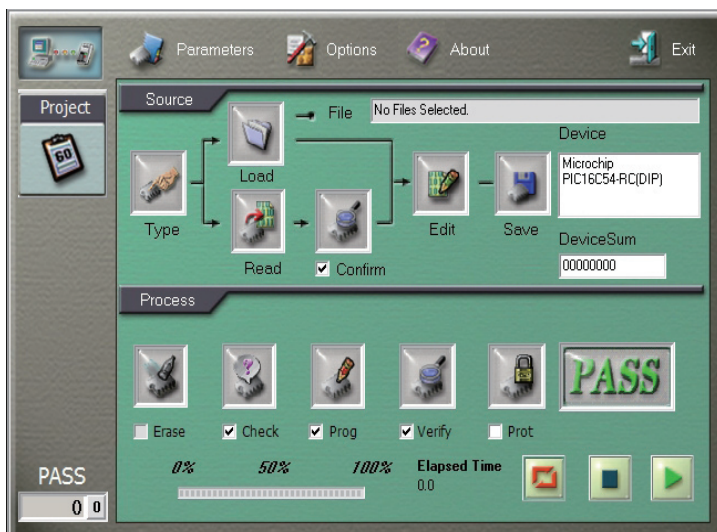
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### 1.Prepare the below:

- (1) Programmer: LP-48, USB cable and power adaptor. Please use the library after Jul. 2009.
- (2) IC: Nuvoton W78E052DDG. Leap Universal IC Writer V7.4.
- (3) Software: Nuvoton ISP\_FOR\_W78E05XD, V1.21.
- (4) Programming code: W78E05XD\_ISP\_FW\_VER 20081215.BIN. SEGMENT-UP.HEX & 16X16. HEX
- (5) Cable: 8pin rainbow cable x 1, 2pin rainbow cable x 1.
- (6) Power: Adaptor 9VDC, 500mA, outside positive, inside negative.

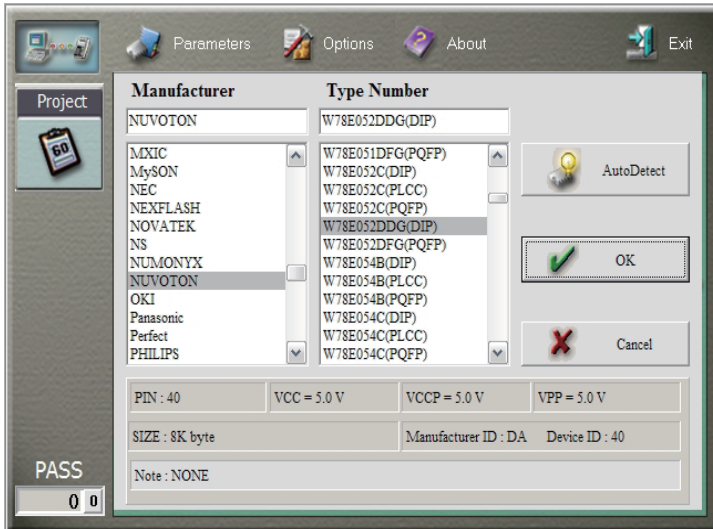
### 2.ISP code programming procedure:

- (1) Install LP-48 software. Follow the below programming procedure.
- (2) Execute IC\_Writer, the below will show.

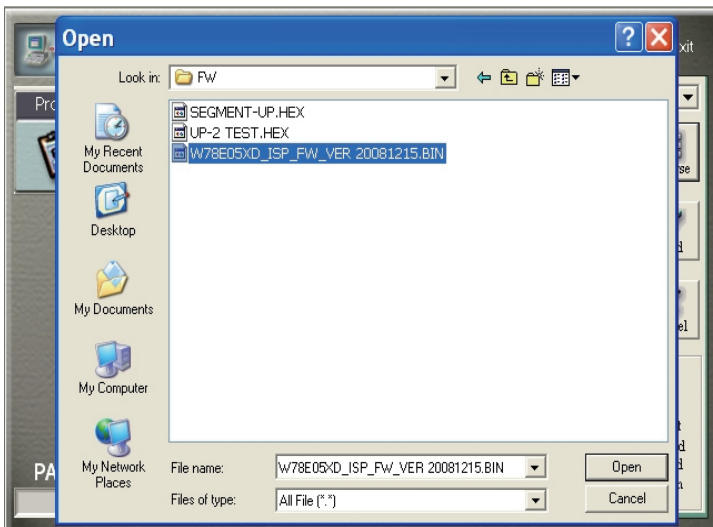


## uP-2 ISP CODE PROGRAMMING PROCEDURE

- (3) Click 'type', enter select IC brand and part no. Click 'Nuvoton' and 'W78E052DDG'. Click 'OK' for leaving.

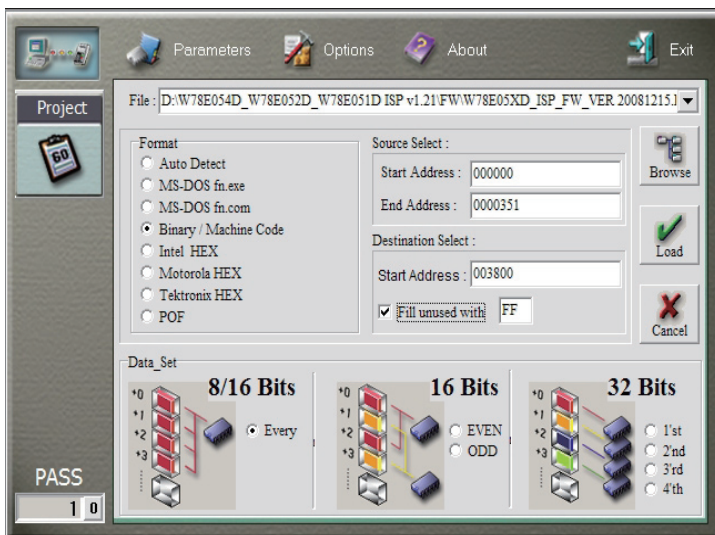


- (4) Click 'Load', enter for programming download the ISP code. Select 'Browse' for download the code from (W78E054D\_W78E052D\_W78E051D ISP v1.21\ FWW78E05XD\_ISP\_FW\_VER 20081215.BIN). Then open it.

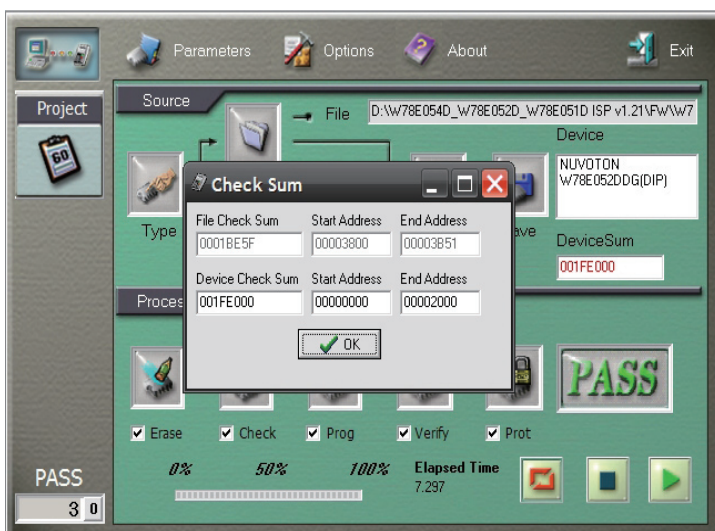


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Click 'Binary/Machine Code'. Key in '003800' on the Start Address. Click 'Fill unused with FF'. Click 'Load'. The below will show.

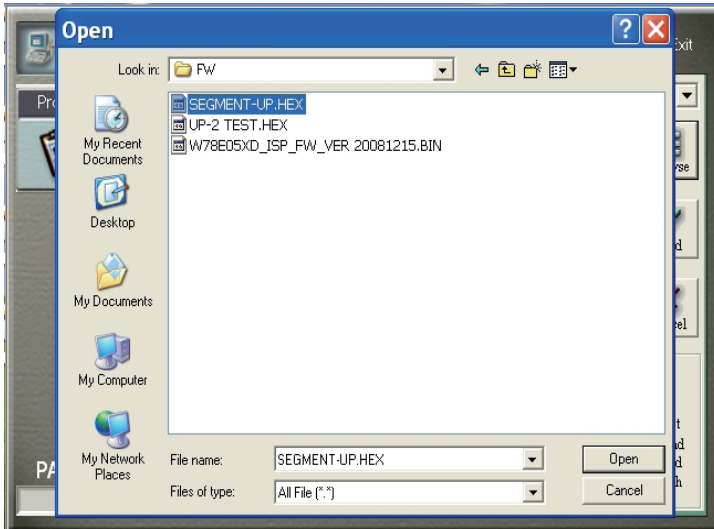


The below 'Check Sum' will be 001FE000. Click 'OK'.

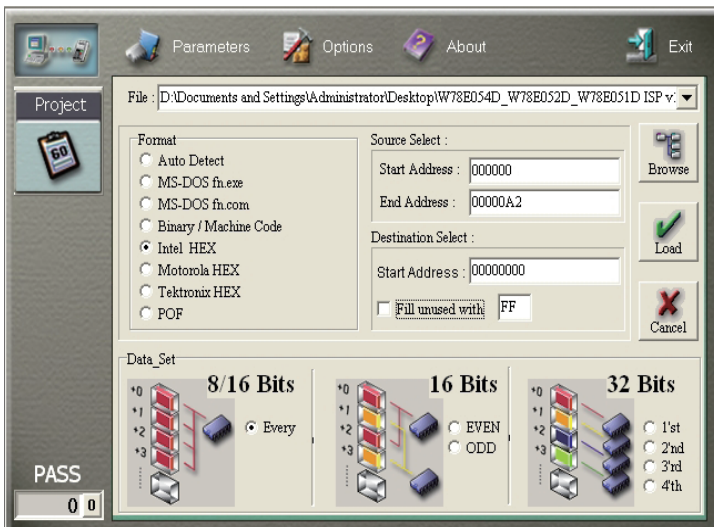


## uP-2 ISP CODE PROGRAMMING PROCEDURE

- (5) Click 'Load', enter for download the programming code. Click 'Browse', the download route is \\W78E054D\_W78E052D\_W78E051D ISP v1.21\FW\SEGMENT-UP.HEX) and click it.

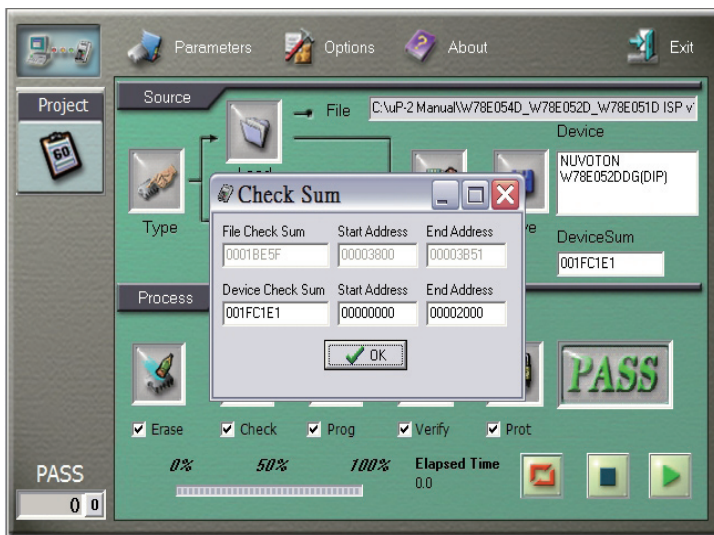


Click 'Intel HEX' which under 'Format'. Do not Click 'Fill unused with' FF. Then click load.

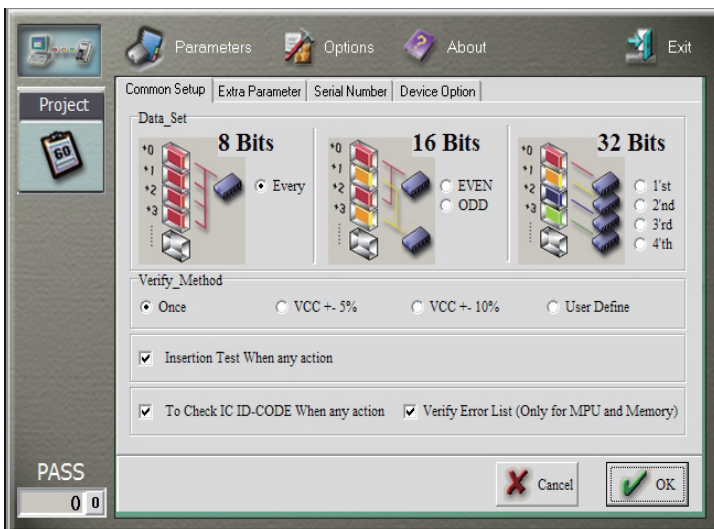


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The below Check Sum 001FC1E1 will show. Click OK.

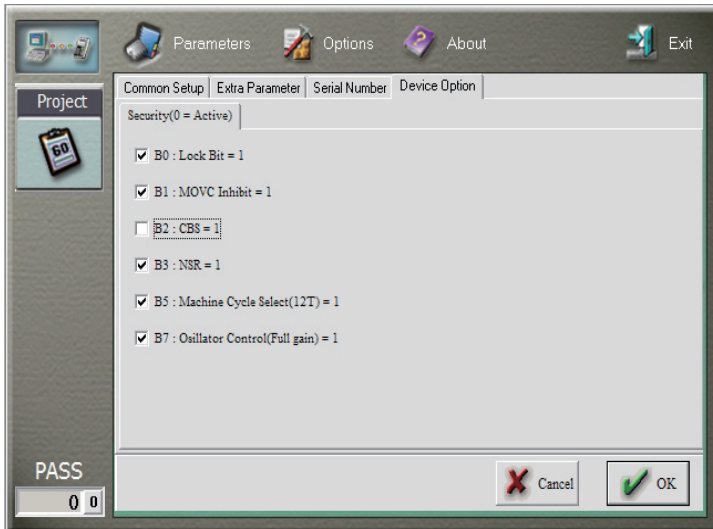


(6) Click 'Parameters'. The below will show.

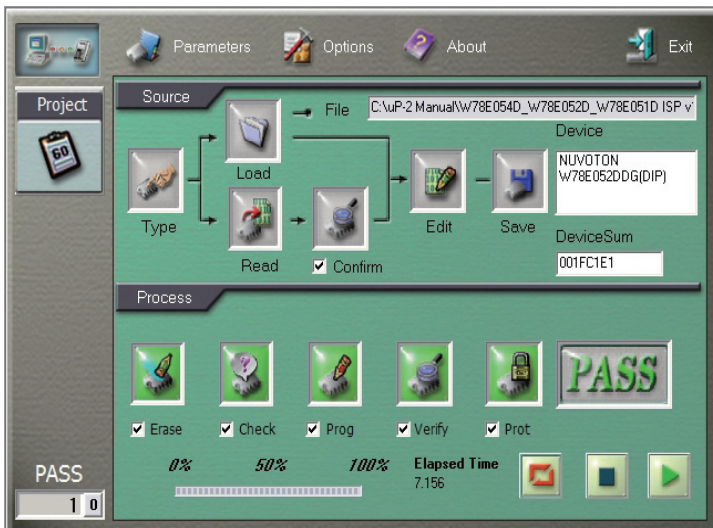


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(7) Click 'Device Option' . Do not click 'B2: CBS=1'. Click OK.



(8) Click all of the icon under 'Process'. Put the IC W78E052DDG on the LP-48 socket. Click 'ARROW' mark to start programming. The below 'PASS' will show.

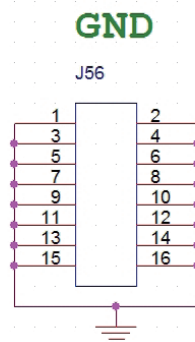
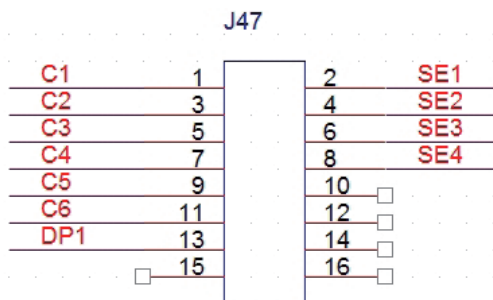


## uP-2 ISP CODE PROGRAMMING PROCEDURE

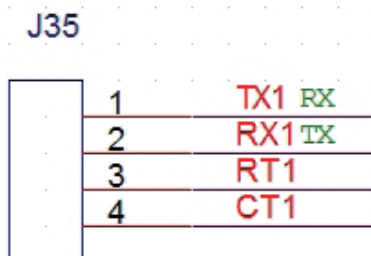
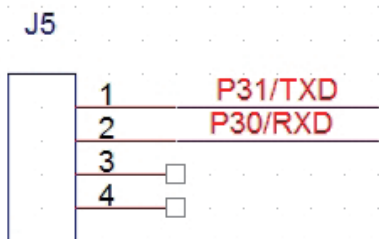
### 3. Turn on testing procedure:

- (1) Put the programmed W78E052DDG IC into the uP-2 'MCS 51/AVR' socket which is on the 1 area.
- (2) Connect 8pin rainbow cable from black to purple, ie, C1 to DP1 connect to the GND, 1 to 15 of J56.

8 P cable	Connector no.		4 P cable	Connector no.		2 P cable	Connector no.	
	J47	J56		J2	J47		J5	J35
black	C 1	G N D	black	P 1 0	S E 1	red	T X 0	T X 1
brown	C 2	G N D	brown	P 1 1	S E 2	black	R X 0	R X 1
red	C 3	G N D	red	P 1 2	S E 3			
orange	C 4	G N D	orange	P 1 3	S E 4			
yellow	C 5	G N D						
green	C 6	G N D						
blue	D P 1	G N D						
purple	N · C	G N D						



- (3) Connect 2P black& red cable TX0-RX0 of J5 to RX1-TX1 of J35.



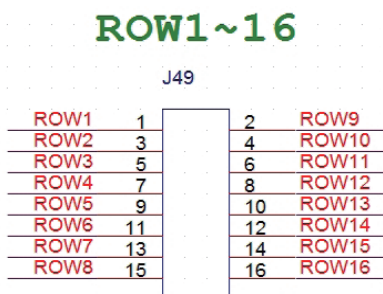
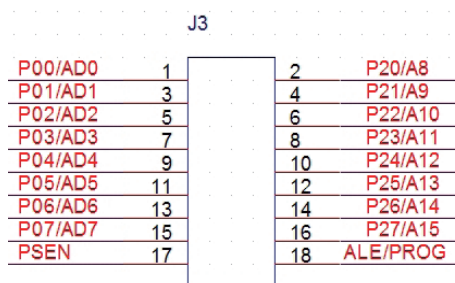


## 4. ISP programming procedure:

- (1) Change the connection from the 7 segment display to dot matrix LED.
- (2) Connect 8pin black~purple cable from J3(P00~P07) of area 1 to J49(ROW1~ROW8) of area 8.
- (3) Connect 8pin black~purple cable from J3(P20~P27) of area 1 to J49(ROW9~ROW16) of area 8.
- (4) Connect 4pin black~orange cable from J2(P10~P13) of area 1 to J50(COL-S0~COL-S3) of area 8.
- (5) Connect 4pin black~orange cable from J2(P14~P17) of area 1 to J50(LA4~LA1) of area 8.

8 P cable	Connector no.	
	J3	J49
black	P 0 0	R O W 1
brown	P 0 1	R O W 2
red	P 0 2	R O W 3
orange	P 0 3	R O W 4
yellow	P 0 4	R O W 5
green	P 0 5	R O W 6
blue	P 0 6	R O W 7
purple	P 0 7	R O W 8

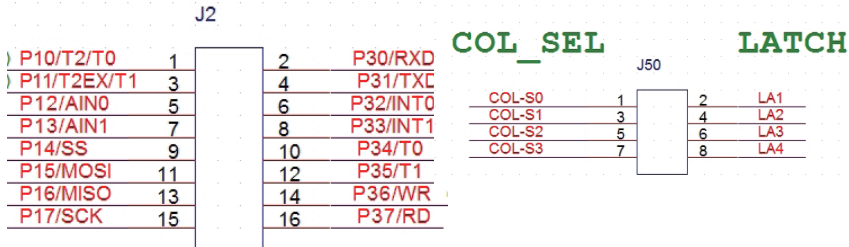
8 P cable	Connector no.	
	J3	J49
black	P 2 0	R O W 9
brown	P 2 1	R O W 10
red	P 2 2	R O W 11
orange	P 2 3	R O W 12
yellow	P 2 4	R O W 13
green	P 2 5	R O W 14
blue	P 2 6	R O W 15
purple	P 2 7	R O W 16



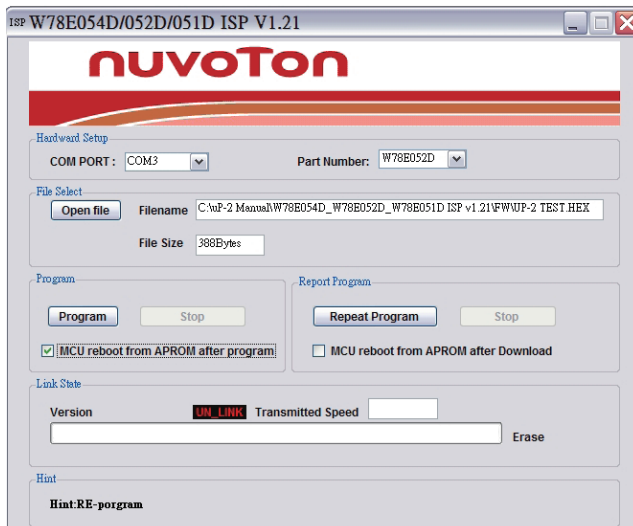
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4 P cable	Connector no.	
black	J2	J50
brown	P 1 0	C O L - S 0
red	P 1 1	C O L - S 1
orange	P 1 2	C O L - S 2
	P 1 3	C O L - S 3

4 P cable	Connector no.	
black	J2	J50
brown	P 1 4	L A 4
red	P 1 5	L A 3
orange	P 1 6	L A 2
	P 1 7	L A 1

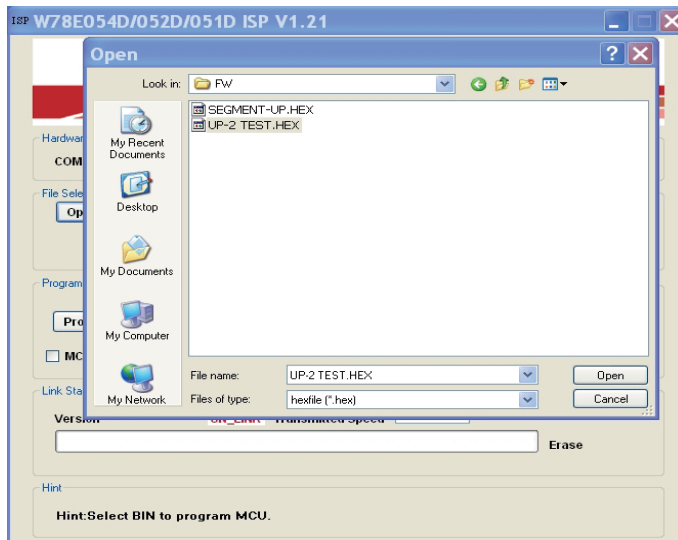


- (6) When ISP\_FOR\_W78E05XD install OK. Then, follow the below to finish the programming procedure.
- (7) Execute ISP\_FOR\_W78E05XD icon which on the desktop.  
 Com port: select RS232. Hardware device check.  
 Part Number: Select W78E052D  
 Click 'MCU reboot from AFROM after program'  
 Open file: Select menu of 'hexfile', and select 'UP-2 TEST.HEX'. Then, open it.

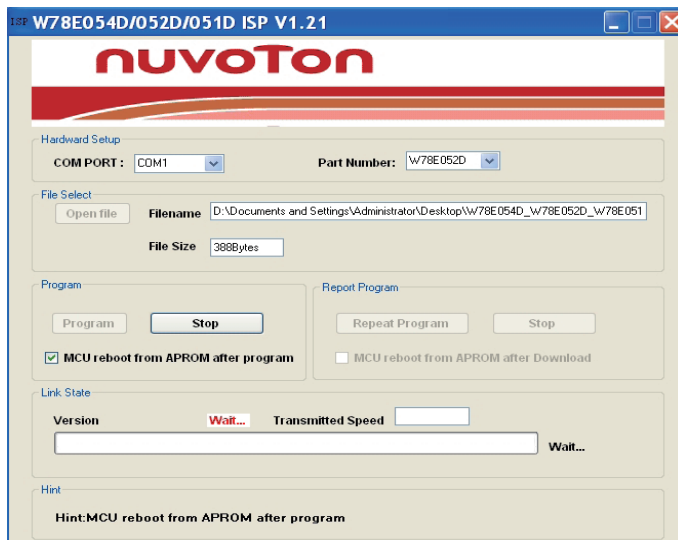


## uP-2 ISP CODE PROGRAMMING PROCEDURE

Open file: Select menu of 'hexfile', and select 'UP-2 TEST.HEX'. Then, open it.

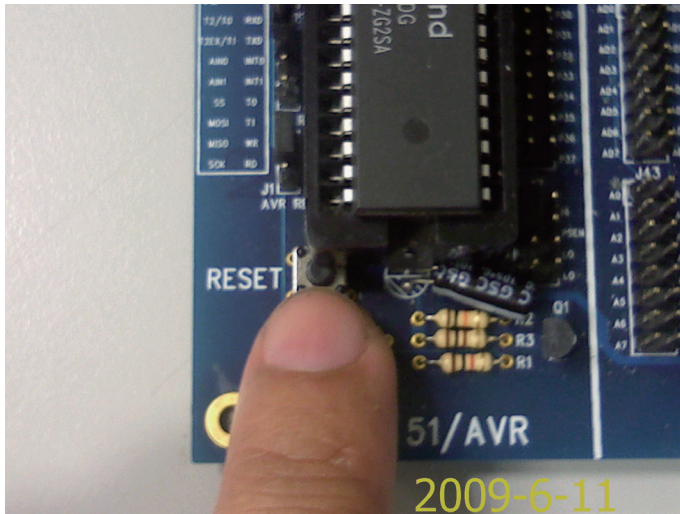


(8) Program: After click, start ISP programming.

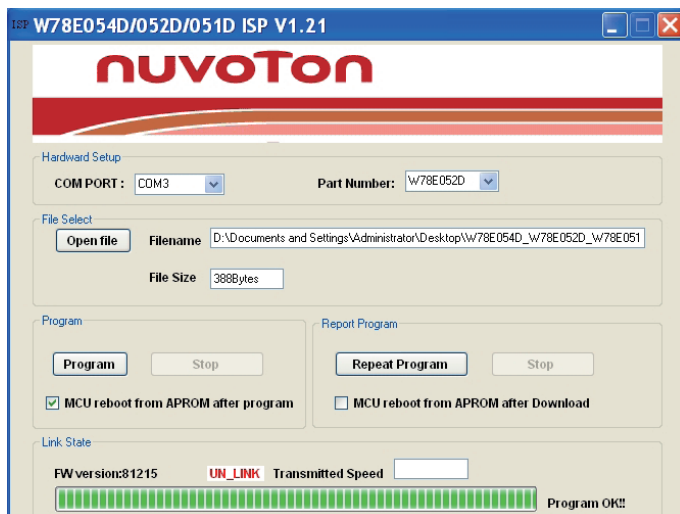


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(9) Press 'RESET' which is on SW1 of area 1 of the PCB.



(10) It will start programming after pressing 'RESET'. Then 'Program OK' will show.



(11) At this moment, 16x16 dot matrix will show the red 'UP-2 TEST' on the area 8.

### **5.Troubleshooting:**

- (1) Please make sure RS232 and PCB well-connection.
- (2) Please repeat '2. ISP code programming procedure' when have problem.