# SONiX 32-bit MCU ISP User Guide

### **1 OVERVIEW**

SONiX 32-bit MCU ISP (In System Program) Tool which is provided by SONiX, and works with SN32F700 ISP Board to provide the users an easy platform to update the firmware of user ROM and set code option.

The OS supported by SN32F700 ISP Tool are WinXP, Vista, Win7.



SONiX 32-bit MCU Starter-Kit

SN32F700 ISP Board

SONiX 32-bit MCU ISP Tool

# **2 OPERATION**

### 2.1 Update FW of ISP Board

- STEP 1: Please connect ISP board to PC via USB cable, and make sure that the USB enumeration is done.
- STEP 2: Double click "SN32\_ISPTool\_V1.20\_Update" and click "Start" to update the firmware of ISP board.

ISP Program	
Chip Name : SN8F2288 SN8 Check Sum : F633 Build Time : 2013/10/25 17:00 Start	Password     *******       VID     0C45       PID     8418
E Enable Polling (	Code Sof Balling Cod

STEP 3: The following messages will show in the message box.

SONIX USB MCU ISP To	
SONIX TECHNOLOGY CO ., LTD	Version 1.6.0.5
Programming	
Chip Name : SN8F2288 SN8 Check Sum : F633	Password *******
Build Time : 2013/10/25 17:00	VID 0C45
Start	PID 8418
Enable Rolling	g Code Set Rolling Code
SN8 Check Sum : F633 X 'tal setting : 6MHz Security bit : Enable	
VID: OC45 PID: 8418 Chip Erase OK!! Blank Check OK!! Program OK!! Security bit is Enabled. Code O Data Verify OK!! Total Time = 11.1 sec	No. 001 Option can not be updated!!

### 2.2 ISP Process

STEP 1: Please short BOOT pin of SONiX 32-bit MCU Starter-Kit to ground, and then power on. MCU will enter boot loader, and wait for commands from ISP tool.



STEP 2: Please connect SN-LINK/ISP connector of SONiX 32-bit MCU Starter-Kit with the SN-LINK/ISP connector of SN32F700 ISP Board, and then connect SN32F700 ISP Board with PC via USB cable.



STEP 3: Please double click " SONiX 32-bit MCU ISP Tool" to execute.

STEP 4: Please click " Select Chip" button, select the MCU number which is to be ISP from CHIP LIST, and then click "OK" button to get the information of MCU.

SONiX 32-bit MCU ISP To	ool V1.34		ŧ
SONIX TECHNOLOGY CO ., LTD			0 42 44
ISP Program		0 %	
Select Chip	Load File Start	Clear Message	
Set	CHIP LIST SN32F700 SN32F710 SN32F720 SN32F100 OK	Canc	el

STEP 5: Please confirm the information of MCU from the message. If error messages ("Handshake fail", "Chip ID doesn't match", and so on), please retry from Step 1.

😻 SONiX 32-bit MCU ISP 1	ool V1.34		
SONIX TECHNOLOGY CO ., LTD			
ISP Program			0%
Select Chip	Load File	tart Clear	Message
	Code Security		
Set	C CS0 C CS1	C CS2 (	CS3
CHIP Name: SN32F700 Handshake fail. Please check ca Please check cable connection.	ble connection.		

STEP 6: If the information of MCU is correct, the Code Option status of MU will also be updated.



STEP 7: In order to update the firmware of user ROM, please click "Load File" button, select the desired HEX file of firmware, and then click "OPEN (O)".

SONiX 32-bit MCU ISP	Tool V1.34
SONIX TECHNOLOGY CO ., LTD	
ISP Program	0%
Select Chip	Load File Start Clear Message
Code Option	💐 開啟 🛛 🕅 🕅
Set	搜尋位置(I): ■ 点面
CHIP Name: SN32F700 Handshake Ok. IAP Version: V1.1 Chip Size: 0x00008000 Load File	建徑 - Package Information 捷徑 371 個位元組 Test.hex HEX 檔案
	85.7 KB 檔案名稱(N): Test.hex 開啟(O)
	檔案類型(T):  All Files (*.*) □ 以唯讀方式開啟(R)

STEP 8: Please click "Start" button to start updating firmware. During the ISP period, the status bar will be updated, and the following message will appear after ISP

completes. ISP tool will set command to MCU to exit boot loader and execute the firmware which is just updated.

SONIX TECHNOLOGY CO ., LTD				
ISP Program				100%
Select Chip		St St	art C	lear Message
	Code Se	ecurity		
Set	© C20	C C\$1	C CS2	C CS3
CHIP Name: SN32F700 Handshake Ok. IAP Version: V1.1 Chip Sersion: 0:00000000				
Chip Size: 0x00008000 Load File C <sup>4</sup> Weerssam_hao\Deskiop. <sup>1</sup>	lest.hex			
Handshake Ok. Status: Update success !! Flansed time: 8190(ms)				

\*NOTE \* ISP tool only supports HEX file which is generated by KEIL, please check "Create HEX File" option in KEIL.

evice	Target	Output	Listin	g   User	0	°C++ ∫Asm	ı ∣Li	nker   Debu	g  Utü	lities	
	Select Fo	lder for <u>O</u> b	jects			<u>N</u> ame of Ex	ecutable	x SN32F704	\_Demo		
۲	Cr <u>e</u> ate E>	ecutable:	.\obj\S	N32F70A	_Demo	I					5
	🔽 <u>D</u> ebug	Informatio	on							L Create	Batch File
	🔽 Create	HE⊠ File									
	I✓ Bro <u>w</u> se	e Informati	on								
0	Create Lit	orary: .Nob	oj\SN32	F70A_De	mo.LIB						
					_						
				OK		Cance	el	Defau	lts		Help

# 2.3 SET CODE OPTION

STEP 9: In order to set Code Security to CS1, please click CS, and then click "Set" button. The messages "Update Code Option OK!" and "Please Reset MCU to Take Effect!" will appear after the setting completes.

SONiX 32-bit MCU	ISP Tool V1.34	
ISP Program		0%
Code Ontion	Jucad File Start	Clear Message
	Code Security	
Set		52 C CS3
Handshake Ok. Update Code Option OK! Please Reset MCU to Take	e Effect!	

- \*NOTE \* Please reset MCU to make the new code option settings take effect after updating.
- STEP 10: In order to set Code Security to CS0 from CS1, please click CS0, and then click "Set" button. The messages "Update Code Option OK!" and "Please Reset MCU to Take Effect!" will appear after the setting completes. Since this procedure is equal to disable the code security, the firmware of user ROM will be erased automatically by MCU itself, so the message "Busy..." will appear during erasing period.

SONiX 32-bit MCU ISP Tool	V1.34	1	
SONIX TECHNOLOGY CO ., LTD			
ISP Program			0%
Select Chip	oad File	Start	Clear Message
Code Option Set	CSO CS1	C CS2	C C83
Handshake Ok. Busy Update Code Option OK! Please Reset MCU to Take Effect!			

- \*NOTE \* Please reset MCU to make the new code option settings take effect after updating.
- STEP 11: In order to set Code Security to CS2/CS3, please click CS2/CS3, and then the WARNING message will appear to inform the user that ISP tool will not able to disable code security any more, the user shall use SONiX MP PRO WRITER to disable security. If the user really wants to set Code Security to CS2/CS3, please execute step 12.
- STEP 12: Click "Set" button. The message "Update Code Option OK!" and "Please Reset MCU to Take Effect!" will appear after the setting completes.

SONIX 32-bit MCU ISP	Tool V1.34				23
ISP Program					0%
Code Option Code Option Set WARNING	Load File Code S	Security		Clear Mess	<b>age</b>
NOT available to change WRITER!!!	e level by I	SP after settin	ıg, Please	use MP PR	0
				確	定

\*NOTE \* Please reset MCU to make the new code option settings take effect after updating.

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