

# **EX Commander**

#### **Quick Start Guide**

Copyright 2022 Nuvoton Technology Corporation Japan

2022.9.30

1



#### **Table of Contents**

- <u>About This Manual</u>
- <u>Startup</u>
- <u>Setup</u>
- Programming
- Save Settings
- Load Settings
- <u>Check Version</u>
- <u>Help</u>
- Standalone Settings
- <u>Nu-EX2 Standalone Operation</u>
- <u>Nu-EX2 Standalone Operation (Auto start mode)</u>
- <u>Nu-SP Standalone Operation</u>
- <u>Nu-EX2 Remote Control</u>
- Gang Programmer Mode
- <u>Support</u>



#### **About this Manual**

This manual provide a simple explanation about usage of the EX Commander.

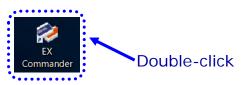
\* Please refer to the "EX Commander User manual" for more information.
\* GUI screen has some differences depending on the version of the EX Commander.



#### **Startup**

\* For detail about the startup options, refer to the User manual "3.5 Startup Options".

(1) Double-click the EX Commander icon.



(2) When the EX Commander startup normally, the following window will be displayed.

🤣 EX Commander - 101AF42D	- 🗆 ×
<u>File Control Settings Show H</u> elp	
Basic setting Area setting Show memory	
Microcomputer product type	Main area
101AF42D 💌	
Programming tool	
Nu-EX 💌	
🗆 🖂 Main program file	
🗖 🗖 Boot program file ————————————————————————————————————	
Keycode file	
	- De att anna
1	Boot area
Control option setting	
Ready	
Programming count	
Total: 0 Pass: 0 Fail: 0	
Execute	<u>A</u> bort
Checksum : Process	ing time : 000.00[s]



#### Setup (1/4)

(1) Select the Microcomputer product type from the drop-down list.(If it is hard to find, click the <...> button for search)

Control Settings Show Help	
c setting   Area setting   Show memory   licrocomputer product type Main area	
01AF42D  01EF60D 01EF60D  01EF63G	EX Commander - 101EF63G       File     Control     Settings     Show     Help       Basic setting     Area setting     Show memory
01EF63G(Boot) 01EF63GUB 01EF63GUB(Boot) 01EF65D	Microcomputer product type Main area
01EF69D	Programming tool
01EF69D(Boot)	Nu-EX
eycode file	Main program file
eycode file Boot area	Main program file
	Boot program file
Control option setting	
Boot area	Boot program file
Control option setting eady	Boot program file
Control option setting	Boot program file
eady       Programming count       Total : 0         Pass : 0       Fail : 0	Boot program file
Control option setting  eady  Programming count	Boot program file

Copyright 2022 Nuvoton Technology Corporation Japan

Processing time : 000.00[s]

Checksum :



#### Setup (2/4)

(2) Select the Programming tool from the drop-down list.The programming tool that support the selected Microcomputer product type will be listed.

<ul> <li>EX Commander - 101EF63G</li> <li>File Control Settings Show Help</li> </ul>	- 🗆 X	Select the Programming tool	
Basic setting Area setting Show memory			
Microcomputer product type	Main area		
101EF63G		之 EX Commander - 101EF63G	- 🗆 🗙
Programming tool		<u>File</u> <u>Control</u> <u>Settings</u> Show <u>H</u> elp	
Nu LA		Basic setting Area setting Show memory	
Nu-EX		Microcomputer product type	Main area
Other tool(A)		101EF63G	
		Programming tool	
		Nu-EX	
Keycode file		Main program file	
	Boot area		
Control option setting		Boot program file	]
Ready		Keycode file	
			Boot area
		Control option setting	
Programming count			
Total: 0 Pass: 0 Fai	ii : 0	Peady	
	1	Ready	
Execute	<u>A</u> bort		
Checksum : P	Processing time : 000.00[s]	Programming count	
FIGURE F	rocessing enne : 000.00[3]	Total: 0 Pass: 0 Fail:	0
		Execute	Abort

Processing time : 000.00[s]

Checksum :



#### Setup (3/4)

#### (3) Select the program file.

(The program file can be loaded by drag-and-drop)

綍 EX Commander - 101EF63G	- 🗆 🗙	Click the <> button, and select the progr	am file
<u>File Control Settings Show H</u> elp			
Basic setting   Area setting   Show memory			
Microcomputer product type	Main area		
101EF63G		💋 EX Commander - 101EF63G	- 🗆 X
Programming tool		<u>File</u> <u>Control</u> <u>Settings</u> Show <u>H</u> elp	
Nu-EX 💌		Basic setting Area setting Show memory	
- I Main program file		Microcomputer product type	Main area
		101EF63G 🗸	
□ □ □ Boot program file		Programming tool	
		Nu-EX 💌	
Keycode file		r ☑ Main program file	
	Boot area	C:\Sample\Main.hex	
Control option setting	boot area	n 🗖 Boot program file —	
Control option setting			
Beat		Keycode file	
Ready			
			Boot area
Programming count		Control option setting	
Total : 0 Pass : 0 Fail	: 0		
		Ready	
Execute	Abort		
Checksum : Pro	cessing time : 000.00[s]	Programming count	
FIGURAUTT FIU	cooling cirrle : 000,00[3]	Total: 0 Pass: 0 Fail: 0	
		Execute	Abort

Copyright 2022 Nuvoton Technology Corporation Japan

Processing time : 000.00[s]

Checksum: 0x00FEC758



#### Setup (4/4)

- \* For detail about the control options, refer to "Control Option Settings" on the User manual "3.1.1.3 Settings".
  - (4) If necessary, select the menu [Settings] [Control option setting...] and set the control options.

Control option setting	×
Program file option	
	0x FF 💌
Address offset (-)0x7FFFFFFF - (+)0x7FFFFFFF C -	0x 0000000
Target communication setting	
Communication frequency	5.000 MHz 🔻
Communication time-out period [1000 - 30000](ms)	1000
Security setting  Set the keycode of dedicated area storage method w Verify mode  Checksum Ch	with programming
Execution button setting	Event notification —
✓ Load program file ✓ Erase	Buzzer setting
Program 🔽 Verify	
Enable external execute button	
Target board setting	
Supply power to the target board C +3.3	SUDDIV TEST
Wait time after power supply [1 - 30000](ms	) 100
□ Keep reset except programmer controls	
Cancel	



## Programming (1/3)

(1) Click the <Execute >button. Then the EX Commander will start the programming.

	Click the <execute> button</execute>	
Basic setting Area setting Show memory		
Microcomputer product type Main area		
Programming tool	EX Commander - 101EF63G —            Eile Control Settings Show Help	×
Main program file	Basic setting Area setting Show memory	
C:\Sample\Main.hex	Main area	
Boot program file	101EF63G 🔽	٦
	Programming tool	
Keycode file	Nu-EX	
Boot area	Main program file	
Control option setting	C:\Sample\Main.hex	
	🗖 🗖 Boot program file	
Ready		
	Keycode file	
Programming count	Boot area	
Total: 0 Pass: 0 Fail: 0	Control option setting	
Execute Abort	Connecting	
Checksum : 0x00FEC758 Processing time : 000.00[s]		_
	Programming count Total : 0 Pass : 0 Fail : 0	

Checksum: 0x00FEC758

Abort
Processing time : 000.53[s]



#### Programming (2/3)

(2) During programming, status is displayed in the Status Area ("Programming", etc.).

EX Commander - 101EF63G	- 🗆 X			
ile <u>C</u> ontrol <u>S</u> ettings Sh <u>ow</u> <u>H</u> elp Basic setting Area setting Show memory				
Microcomputer product type	Main area			
101EF63G				
Programming tool				
Nu-EX				A A A
🖂 Main program file		Programmin	ig	
C:\Sample\Main.hex				
Boot program file		- Programming count		
		Total : 0	Pass : 0	Fail : 0
Keycode file				
l	Boot area		Execute	Abort
Control option setting				
•	••••	Checksum : 0x00FEC758	3	Processing time : 015.14
Connecting Programming count		Checksum : 0x00FEC758		Processing time : 015.14
Connecting	:0	Checksum : 0x00FEC758		Processing time : 015.14
Connecting Programming count	: 0 	Checksum : 0x00FEC758		Processing time : 015.14[
Connecting  Programming count Total : 0 Pass : 0 Fail Execute				Processing time : 015.14
Programming count Total : 0 Pass : 0 Fail Execute	Abort		necksum)	Processing time : 015.14
Connecting  Programming count Total : 0 Pass : 0 Fail Execute	Abort	Verifying (Cr	necksum)	Processing time : 015.14
Connecting  Programming count Total : 0 Pass : 0 Fail Execute	Abort	Verifying (Ct Programming count	necksum)	Fail : 0

Copyright 2022 Nuvoton Technology Corporation Japan



#### Programming (3/3)

(3) When the programming is finished, the result will be displayed on the Status Area.

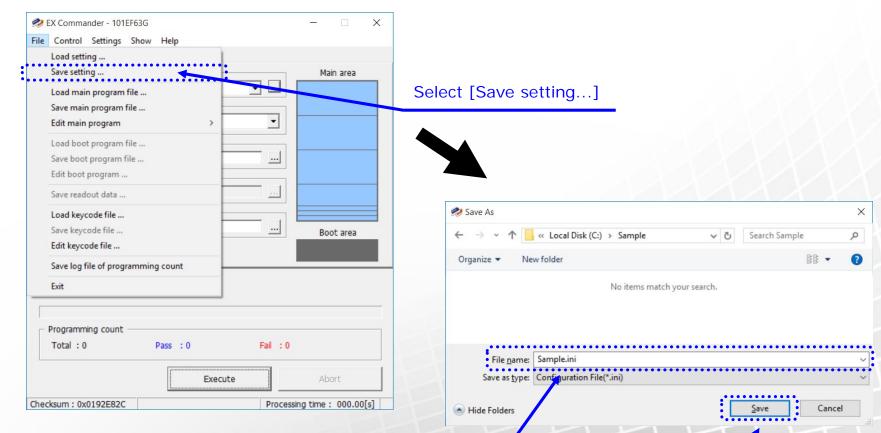
Basic setting Area setting	ow <u>H</u> elp g Show memory		
<ul> <li>Microcomputer product t</li> </ul>			Main area
101EF63G		•	
Programming tool			
🧼 Nu-EX		•	
- 🖂 Main program file			
C:\Sample\Main.hex			
– 🗖 Boot program file –––			
Keycode file			
			Boot area
Control option setting	1		
Control option setting Programming : Programming count Total : 1	l	Fail : 0	
Programming a	success		Abort
Programming a	success	e	Abort ng time : 023.10[s]

EX Commander - 101EF63G	-	-	×
le <u>C</u> ontrol <u>S</u> ettings Sh <u>o</u> w <u>H</u> elp			67.67
Basic setting Area setting Show memory			
Microcomputer product type	_	Main area	
101EF63G •			
Programming tool			
Nu-EX -			
🖂 Main program file			
C:\Sample\Main.hex			
Boot program file			_
<u></u>			
Keycode file			
<u> </u>	<u> </u>	Boot area	
Reset detection error			
Programming count			
Total : 1 Piss : 1 Fail	:1		
Execute		<u>A</u> bort	
	cessing ti	me: 011.9	5[s]
Checksum : 0x00FEC758 Pro	county ca		
hecksum : 0x00FEC758 Pro			



#### **Save Settings**



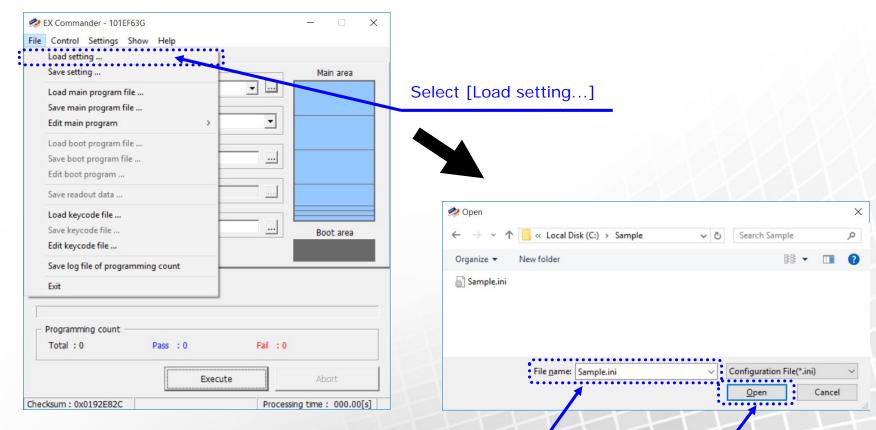


Input file name, and click the <Save> button



#### **Load Settings**





Select the Configuration file, and click the <Open> button



#### **Check Version**

(1) Select the menu [Help] – [EX Commander version ...].

Version information	× EX Commander version
(C) Nuvoton Technology Corporation Japan 2020 Product name : EX Commander Version : MainGui 2.0.0 CrtCDI 2.0.0	
FileDII         2.0.0           FcnvDII***         2.0.0 / 2.0.0           hif***         2.0.0 / 2.0.0 / 2.0.0 / 2.0.0 / 2.0.0 / 2.0.0 / 2.0.0	
Technical information	
https://www.nuvoton.com/	
Contact us	
https://www.nuvoton.co.jp/en/contact/	
ОК	

(2) Select the menu [Help] – [Programming tool version ...].

Version information	× Program	ming tool version	
(C) Nuvoton Technology Corporation Japan 2020 Product name : Nu-EX1(N) [131AN0002] Version : Firmware 2.0.0 Flash Control 1.3:2			
Technical information <u>https://www.nuvoton.com/</u> Contact us			
https://www.nuvoton.co.jp/en/contact/	14	Copyright 2022 Nuvoton Te	chnology Corporation Jap



## Help

(1) Select the menu [Help] – [EX Commander manual ...].EX Commander User Manual (PDF format) opens.

之 EX Commander - 101EF63G		- 🗆 X
File Control Settings Show		
Basic setting Area setting		
Microcomputer product type	Ex commander version	
Programming tool	Programming tool version	
Nu-EX	Troubleshooting log acquisition start	
Main program file		
└ Boot program file		
Keycode file		
1		Boot area
Control option setting		
Poady		
Ready		
Programming count Total : 0	Pass : 0 Fail : 0	
10001.0		
	Execute	Abort
Checksum :	Processing tir	me : 000.00[s]
un ununun fill s	riscessing ci	



## Standalone Settings (1/4)

\* For detail about the standalone setting, refer to "Standalone Setting" on the User manual "3.1.1.3 Settings".

- (1) Refer to "Setup" described above on this manual, and prepare the programming.
- (2) Select the menu [Settings] [Standalone setting...].

Processing time : 000.00[s]

Checksum: 0x00FEC758

(3) Select the row of the registration number you want, Standalone setting Target for setup and click the <register> button. ¥ 191AM0001 -Setting list Select [Standalone setting...] × EX Commander - 101EF63G No. V Setting name Up File Control Settings Show Help Basic setting Control option setting ... Main area Microcom 101EF63G Gang programmer unit setting . Programmir Nu-EX • Register Main program file Select the registration number C:\Sample\Main.hex ... Standalone movement option Continue the Execute by pushing the <SET> button once Boot program file Auto start ning start condition Button of programming tool Keycode file ing time before control[1-30000](ms) 100 ... Boot area LCD display option Click the <Register> button Control option setting Display the checksum value after verify Display the processing time of Execute Ready ... Display when operating with power supply of target board Remote control option Disable • Remote mode Programming count Output the control state Total : 0 Pass : 0 Fail : 0 Disable <SEL> / <SET> button of the Nu-EX2 Execute Close



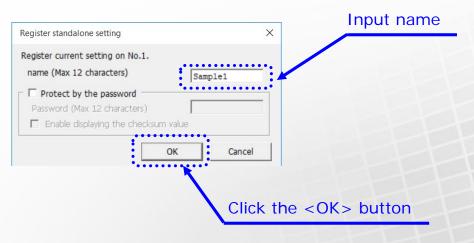
## Standalone Settings (2/4)

\* For detail about the standalone setting, refer to "Standalone Setting" on the User manual "3.1.1.3 Settings".
 (4) Click the <Yes> button on the registration confirmation message box.

Register standalone setting	×	Register standalone setting	×
	Yes No	The setting of No.1 has already registered. Do you want to register current setting on No.	1? Yes No
•		e <yes> button</yes>	Click the <yes> butto</yes>

(5) Input name and click the <OK> button.

Setting name is displayed in the stand-alone configuration dialog box. It is also displayed in the [Select Setting] menu in standalone operation of Nu-EX2.





#### Standalone Settings (3/4)

- \* For detail about the standalone setting, refer to "Standalone Setting" on the User manual "3.1.1.3 Settings".
  - (6) Click the <OK> button in the following dialog box that is displayed after registration completed. Setting list on the standalone setting dialog box will be updated.

Register standalone setting $\qquad imes$		Standalone setting
Please wait	Registered setting	Target for setup       Serial No.       191AM0001
		Setting list
		· No. · · · · · · · · · · · · · · · · · · ·
		Up 1 Sample1
		3
		4 ▼  5
		6
		8
( Commander	×	Load Register Delete
Standalone movement setting was registered with registratio Nu-EX.		Standalone movement option
	ion No.1 of	Continue the Execute by pushing the <set> button once</set>
		L Auto start mode option
		Programming start condition Button of programming tool
	ОК	Waiting time before control[1-30000](ms) 100
		LCD display option
		Display the checksum value after verify
		Display the processing time of Execute
Click the <ok> button</ok>		Display when operating with power supply of target board
		Remote control option
		Remote mode Disable
		Output the control state
		Disable <sel> / <set> button of the Nu-EX2</set></sel>
		Close



#### **Standalone Settings (4/4)**

\* For detail about the standalone setting, refer to "Standalone Setting" on the User manual "3.1.1.3 Settings".

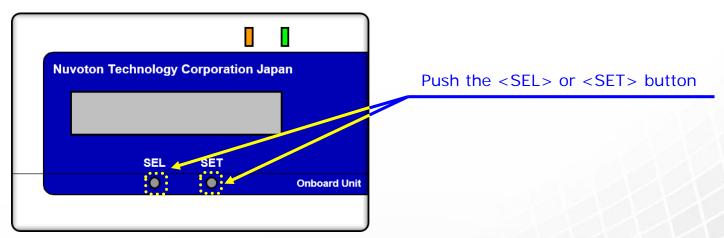
(7) If you want to enable the Auto Start Mode, click the (AS) column. When Auto start mode is enabled, the programming tool will startup with selecting specified standalone setting, and it start programming by pushing the button once.

Target for setup Serial No. 191AM0001	Click the (AS) column	Target for setup Serial No.
Setting list         W         Setting name         ^           Up         1         Sample1         ^           2         3         _         _           4         5         5         _		Setting list           Image: Weight of the set of
Coad     Register     Delete	Auto start mode is enabled	Composition     Composition       Composition     Composition
Continue the Execute by pushing the <set> button once     Auto start mode option     Programming start condition     Button of programming tool     Waiting time before control[1-30000](ms)     100</set>		Continue the Execute by pushing the <set> button once Auto start mode option Programming start condition Button of programming tool Waiting time before control[1-30000](ms) 100</set>
LCD display option         Image: Display the checksum value after verify         Image: Display the processing time of Execute         Image: Display when operating with power supply of target board         Remote control option		LCD display option Display the checksum value after verify Display the processing time of Execute Display when operating with power supply of target board Remote control option
Remote mode     Disable       Output the control state       Image: Disable <sel> / <set> button of the Nu-EX2</set></sel>		Remote mode     Disable       Output the control state       Disable <sel> / <set> button of the Nu-EX2</set></sel>

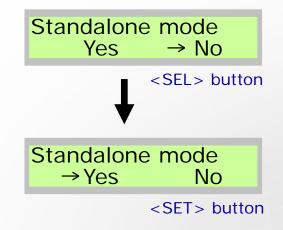


# Nu-EX2 Standalone Operation (1/3)

\* For detail about the standalone operation, refer to the User manual "3.6 Nu-EX2 Standalone Operation".
(1) Startup the Nu-EX2, and push the <SEL> or <SET> button.



(2) Select "Yes" in the [Standalone mode] menu, and push the <SET> button.

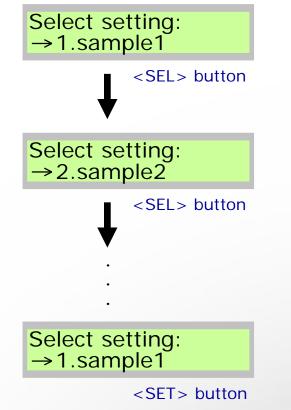




# Nu-EX2 Standalone Operation (2/3)

\* For detail about the standalone operation, refer to the User manual "3.6 Nu-EX2 Standalone Operation".

(3) Select standalone setting you want in the [Select setting] menu, and push the <SET> button.

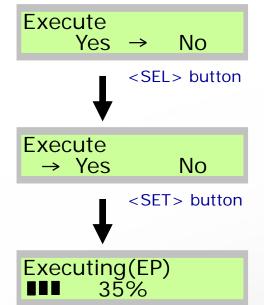




# Nu-EX2 Standalone Operation (3/3)

\* For detail about the standalone operation, refer to the User manual "3.6 Nu-EX2 Standalone Operation".

(4) Select "Yes" in the [Execute] menu, and push the <SET> button. Then the Nu-EX2 will start the programming.



(5) When the programming is finished, the result is displayed on the LCD. Push the <SET> button to return to the [Execute] menu.





#### Nu-EX2 Standalone Operation (Auto start mode)

\* For detail about the standalone operation, refer to the User manual "3.6 Nu-EX2 Standalone Operation".

(1) Startup the Nu-EX2, and wait until the "Push SET Button" is displayed on the LCD.
(2) Push the <SET> button, then the Nu-EX2 will start the programming.

#### Push SET Button → 1.sample1

<SEL> button

(3) When the programming is finished, the result is displayed on the LCD. Push the <SET> button to return to the [Execute] menu.

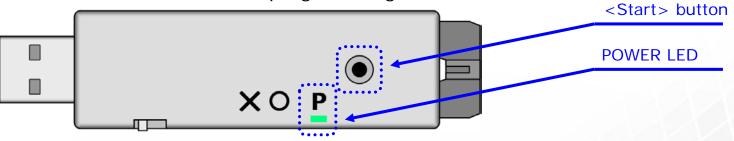




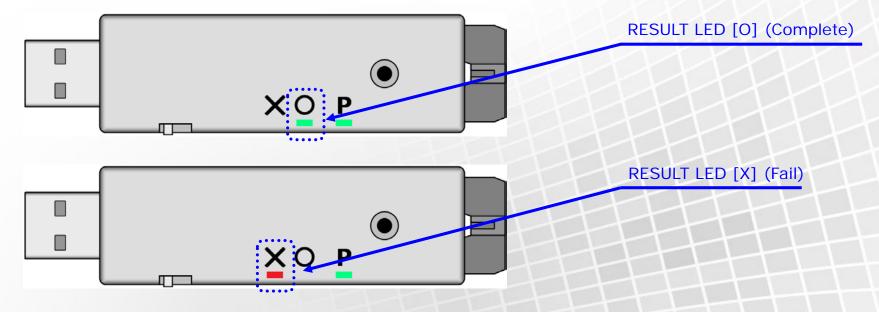
#### **Nu-SP Standalone Operation**

\* For detail about the standalone operation, refer to the User manual "3.7 Nu-SP Standalone Operation".

(1) Push the <Start> button when the POWER LED is lighting. Then the Nu-SP will start the programming.



(2) When the programming is finished, the result is indicated in the LED.

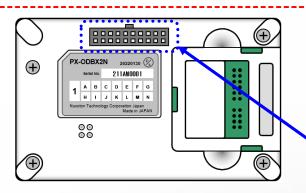




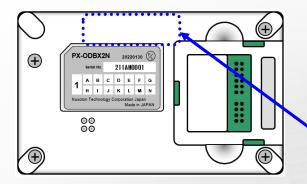
#### Nu-EX2 Remote Control (1/3)

\* For detail about the remote control, refer to the User manual "3.8 Nu-EX2 Remote Control".

- \* When using remote control function, the Nu-EX2 is required that supports the remote control.
- \* If you want the Nu-EX2 supports the remote control function, specify option at the time of purchase.
- \* If you want to add the remote control function to the Nu-EX2 already purchased, contact us via the Semiconductor Support system (Refer to "Support" on this manual).



Remote Control is supported (Extended connector is mounted)



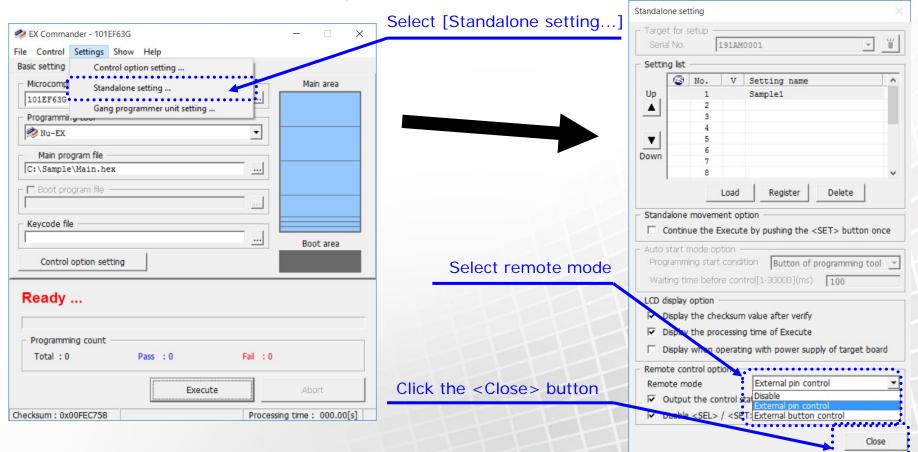
Remote Control is not supported (Extended connector is not mounted)



#### Nu-EX2 Remote Control (2/3)

\* For detail about the remote control, refer to the User manual "3.8 Nu-EX2 Remote Control".

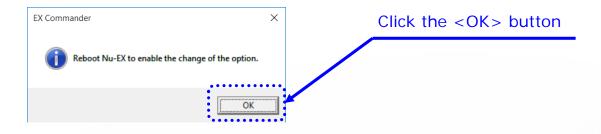
- (1) Select the menu [Settings] [Standalone setting...].
- (2) Select remote mode from drop-down list, and click the <Close> button.



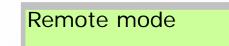


#### Nu-EX2 Remote Control (3/3)

- \* For detail about the remote control, refer to the User manual "3.8 Nu-EX2 Remote Control".
  - (3) Click the <OK> button, and reboot the Nu-EX2 in order to enable the remote control. Unplug the USB connector, and connect again.



(4) After "Remote mode" appears on the LCD, you can control Nu-EX2 by extended connector pins.





## Gang Programmer Mode (1/2)

\* For detail about the gang programmer mode, refer to the User manual "3.4 Gang Programmer Mode".

- (1) Refer to "Setup" described above on this manual, and prepare the programming.
- (2) Select the menu [Control] [Gang programmer mode ...].
- (3) Programming information and each programming tool information are displayed on [Gang programmer mode] dialog. Programming tools that are connected are listed.

🧈 EX Commander - 101EF63G — 🗆 🗙	Select [Gang programme	er mode]	
File Control Settings Show Help Basi L.E.P.V. program L.E.P.V. program E.P.V. program Main area	Programming information	EX Commander : Gang programmer mode – X          Programming information         Product type         101EF63G         Main program         C:\Sample\Main.hex         Boot program         Keycode	
P       Readout main area         Readout boot area       Readout main and boot area         P       Set the keycode of dedicated area storage method         Get protected area(sector)       Gang programmer mode         Boot area       Abort		Wg.         Serial No.         Starus           1         131AN0002         Ready           2         211AN0001         Ready           3         211AN0003         Ready           4         221AM0102         Ready           5         6         7           8         -         -	
Error Programming count Total : 0 Pass : 0 Fail : 0	Programming tool information	Feady Programming count Total : 0 Pass : 0 Fail : 0 Execute	
Execute Abort	+++++		
Checksum : 0x00FEC758 Processing time : 000.00[s]		Checksum: 0x00FEC758 Processing time: 000.00[s]	



## Gang Programmer Mode (2/2)

\* For detail about the gang programmer mode, refer to the User manual "3.4 Gang Programmer Mode".

(4) Click the <Execute >button. Then all programming tools will start the programming.

(5) When the programming is finished, the result will be displayed on the list and the Status Area.

🧈 EX Commander : Gan	g programmer mode 🛛 — 🗌 🗙	[Status] column	
<ul> <li>Programming infomation</li> </ul>	on	(result of each pro	gramming tools)
Product type	101EF63G		
Main program	C:\Sample\Main.hex		🤣 EX Commander : Gang programmer mode 🛛 🗌 🗙
Boot program			Programming infomation
Keycode		<execute> button</execute>	Product type 101EF63G Main program C:\Sample\Min.hex
No. 🍟 Serial No	. Status		Boot program
1 131AN0002	Ready		Keycode
2 211AN0001	Ready		Reycoue
3 211AN0003			
4 221AM0102	Ready		No. 🍟 Serial No. Status
6			1 131AN0002 Reset detection error
7			2 211AN0001 Programming success 3 211AN0003 Programming success
8			4 221AM0102 Programming success
			5
			6
			7
Ready			8
Programming count -			
Total : 0	Pass : 0 Fri : 0		Gang processing failed
[			Programming count
	Execute		Total : 1 Pass : 0 Fail : 1
Checksum: 0x00FEC758	Processing time : 000.00[s]		
	Status Ar		Execute
	(result of	all programming tools)	Checksum : 0x00FEC758 Processing time : 009.56[s]

Copyright 2022 Nuvoton Technology Corporation Japan



#### Support

- The latest version of EX Commander and related files of Nu-EX series and Nu-SP are available from the following URL <u>https://nuvoton.co.jp/semi-spt/general/</u>
- "EX Commander User Manual" provide more detailed explanation. The latest version of "EX Commander User Manual" is available from the following URL.

https://nuvoton.co.jp/semi-spt/general/

 If you have other questions, contact us via the following URL. <u>https://nuvoton.co.jp/semi-spt/general/</u>