# BSC-100 boland System Controller

# User's Manual

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# 1. Introduction to Boland System Controller

This PC program is designed to be a user friendly method for controlling a large number of Boland broadcasting monitors through RS-232C and TCP/IP interface.

#### 1). Program Functions & Features

- Create & Edit the Boland broadcasting monitor System Controller Map.
- This is available to save the layout of the System Controller Map as a file format.
- Control a Large Number of Monitors.
- By using the Control Panel it is possible to control one or more monitors.
- Status Display
- The status of each Monitor can be displayed.
- Designate Names for Each Monitor
- Each monitor can be given a name & ID. Each monitor can show its channel name on screen.

#### 2). System Specifications Required for Operation

- This program only runs on Windows XP sp2 or above.
- Microsoft .NET framework 4.0 or later.

System Spec & Program can be upgraded & changed at any time for better quality of the program.

# 2. Installation of Boland System Controller

• To install the program on user pc, select "Run" installation file, and follow the "Boland System Controller Setup Wizard" instructions.



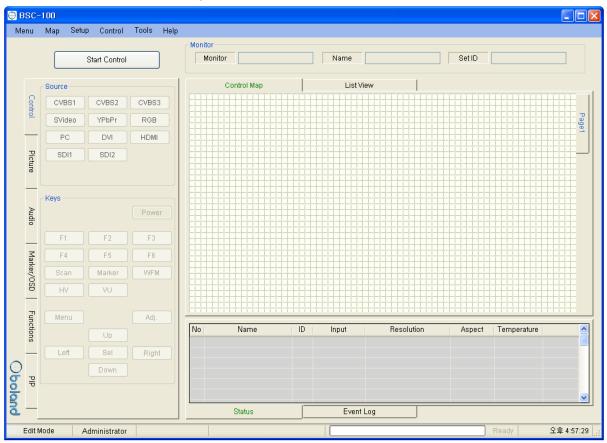
After installation is completed, a shortcut button will be shown on the desktop and in the start menu.

## 3. USER Lever Login

- · Administrator: Open all items
- Engineer: Engineer access ALL below items except. (FPGA & Firmware update)
- Operator: Mode Start & Stop Control/ Open Map/Exit/Help /About

💿 Login 🛛 🔀
Level Administrator
Engineer
Operator
Pin
Login Close

# Administrator PIN: vboland



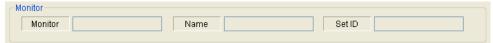
# 4. Contents of Boland System Controller

#### 1). Menu strip

- a) Menu: New, Open Map, Save as...
  - New: start a new Map.
  - Open Map: Load a control map from a saved file.
  - Save as...: Save the control map to file.
- b) Map: Control Map Wizard, Add Monitor, Delete Monitor, Add Page, Delete Page
- c) Setup: User Level, Shortcut, Network
- d) Control: Function Key, GPI
- e) Tools: FPGA ISP, F/W ISP
- f) Help: About

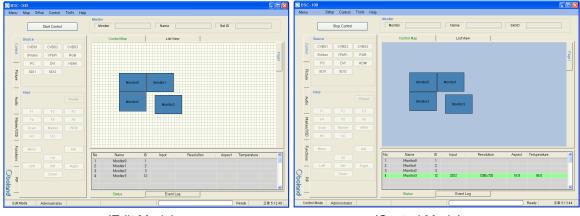
#### 2). Monitor Properties Group

- Displays the selected monitor's model, name and ID.



#### 3) Control Table

- Displays currently opened control Map.
- User can edit the control map and control the monitor on this table.
- This table is changed according to the mode changing as below.



(Edit Mode)

(Control Mode)

#### 4) List View

- Displays list of currently opened control Map.
- User can edit and control the monitor.



(Edit Mode)

(Control Mode)

#### 5) Information

- Displays each monitor's information which is added on control table.

- User can see the Monitor ID, Signal Locking status, Input resolution, Aspect and Board temperature.

No	Name	ID	Input	Resolution	Aspect	Temperature	^
1	Monitor0	1					
2	Monitor1	2					
3	Monitor2	3					
4 Monitor3		Monitor3 12 SDI2		1920×1080	16:9	50,0	
							~
Status			Event l	_og			

#### 6) Log

- It shows the major events that occurred in system controller.

- Clear: Clear the log window.

TCP: Disconnected TCP: Disconnected TCP: Disconnected TCP: Disconnected TCP: QBOXDX000473System: [CC TCP: Disconnected System: [COM1] Port Open! TCP: 192, 168, 10, 101 Connected at System: [COM1] Port Closed! TCP: Disconnected System: [COM1] Port Open!		
Status	Event Log	

#### 7) Controller Tap

- User can control the monitor easily thought this tap.
- Controller Tap is only available when monitor is selected in the control mode.

	Source		
Cont	CVBS1	CVBS2	CVB83
Control	SVideo	YPbPr	RGB
<u> </u>	PC	DVI	HDMI
Picture	SDI1	SDI2	
ure			
_			
Ą	- Keys		Power
Audio			
_	F1	F2	F3
Mar	F4	F5	F6
ker/C	Scan	Marker	WFM
Marker/OSD	HV	VU	
Functions	Menu		Adj.
suc		Up	
-	Left	Sel	Right
ъ		Down	
PIP			
_			

#### 8) Status Bar

- It displays Mode, User Level, Com port or Target IP address, Progress bar and current time.

	Control Mode	Administrator	TCP/IP	192.168.10.101[DX000473]	Ready	5:37:17
_						

9) Context Menu

- Right-clicking or Double-clicking on Control Table or Controller Tap will bring up the commands used to control.

Properties		
Information		
Network Configuration		
Delete Monitor		Read Status
Start Control	Read [Video Adjust]	Read All Parameters

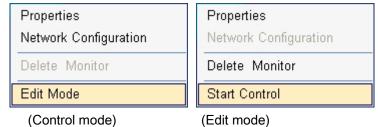
# 5. Edit Control Map

- User can edit the control map in EDIT MODE.
- Edit mode is only to use the Editing map. User cannot control any monitor in this mode.

#### 1) Start Edit Mode

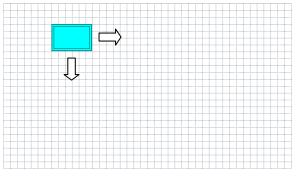
- User can change to edit mode through Mode items on menu strip, context menu on control table or mode changing button on control table.

- Below Context menu strip is opened by mouse right-clicking on the Control Table.
- It is changed depending on status of mode.



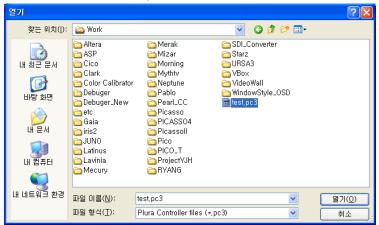


- In control table, user can locate the monitor icon any place.



#### 2) Open and Save Map.

- User can save the control map and open the saved one.
- Filename extension is .pc3.



#### 3) Add and Delete monitor

- User can add the monitor for use in control table by Add Monitor form as below.

Add Monitor	×
Monitor	PVB-224-3G
Monitor ID	#5
Name	Monitor4
Communication	TCP/IP
Com Port	COM1 💽 💽
Host IP Address	192, 168, 10, 2
Target IP	2
Add	d Cancel

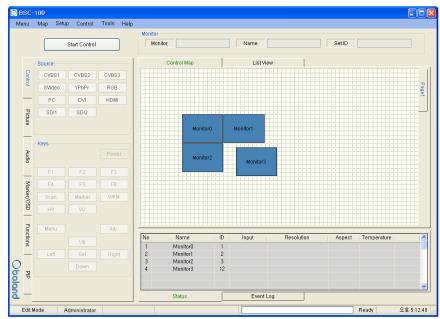
- User can open the Add Monitor form by the Edit menu or context menu strip on control table.

- a) Monitor: Select the target model. Icon size is changed by model.
- b) Monitor ID:
- Select the target monitor's ID number.
- If ID is different, User cannot control the monitor.
- Cannot select same ID with other monitors.

#### c) Name:

- It appears in the center of the monitor icon.
- Cannot make same name with other monitors.
- d) Communication: select communication interface between RS232 and TCP/IP.
- e) Com Port: select RS232 Comport of available in PC.
- f) My IP Address: select PC IP address of available in PC..
- g) Target IP: select target IP address of linked monitor.
- h) Add and Cannel button: Add monitor or cannel the add monitor.

- If monitor is successfully added, user can see the monitor icon on control table and information as bellow.



- User can delete the selected Monitor by Edit item on menu or context menu on control table.

#### 4) Properties

- User can change all properties of selected monitor that already added on control table.

- User can open the properties form of the selected Monitor by Edit item on menu or context menu on control table.

- It is changed depending on the mode

Add Monitor		0	Properties			×
Monitor	PVB-224-36	[	Monitor	BVB-224-3G	*	
Monitor ID	#5	ſ	ID	#12	~	
Name	Monitor4	[	Name	Monitor3		
Communication	TCP/IP	ſ	Communication	TCP/IP	~	
Com Port	COM1 2	[	Com Port	COM1	<b>~</b>	2
Host IP Address	192, 168, 10, 2	[	Host IP Address	192, 168, 10, 2	<b>~</b> ] [	2
Target IP	<u> </u>	[	Target IP Address	192, 168, 10, 101 [D×000473]	<b>~</b> (	2
Add	Cancel			ОК		

(Edit Mode)

(Control Mode)

# 6. Control Mode

- User can control the selected monitor in this mode.
- Only for control, cannot edit.

#### 1) Start Control

- User can select the control mode thought Mode items in menu strip, context menu strip or mode changing button on control table.

- Context menu strip is opened by mouse right-clicking on Control Table.

Properties
Network Configuration
Delete Monitor
Start Control

- If mode is control state, Control table is changed as below.

Ð	BSC-	-100										
M	enu	Map Setu	p Control	Tools	Help							
			Stop Control		Mon	Monitor		Name		Set ID		
		Source				Control Map		List Vie	w			
	Control	CVBS1	CVBS2	CVBS3								
	<u>0</u>	SVideo	YPbPr	RGB								Page1
	—	PC	DVI	HDMI								<u> </u>
	Picture	SDI1	SDI2									
	ure					Monitor0		Monitor1				
	Audio	Keys		Power		Monitor2		Monitor3				
	_	F1	F2	F3								
	Mark	F4	F5	F6								
	Marker/OSD	Scan	Marker	WFM								
	30	HV	VU									
	Functions	Menu		Adj.								
	tions		Up		No 1	Name Monitor0	ID 1	Input	Resolution	Aspect	Temperature	
	_	Left	Sel	Right	2	Monitor1	2					
C	)		Down		3	Monitor2 Monitor3	3 12	SDI2	1280×720	16:9	49,0	
Oboland	PIP							CO IL	.2004120	1010	.3,0	
g												<b>~</b>
đ	_					Status		Event L	og			
	Cont	rol Mode 🛛 🥖	Administrator								Ready	오후 5:13:44 📑

#### 2) Properties

- User can only change ID and name through the properties form in this mode.

Properties form is opened by the Edit menu or context menu.



#### 3) Controller Tap

- User can control the monitor thought this tap.
- Controller Tap is only available when monitor is selected in control mode.
- It consists of Control, Video, Audio, Marker/OSD and Functions Tap.
- Each controls are changed depend on model type. SFP module is only available in SFP model.

(	Source	Adjust		Marker		Load/Save		PIP	1
0	CVBS1 CVBS2 CVBS3		Gr Group 1 💌 🔗	Aspect	Off 🗸	C Load Fact	ory 🔽 Load	0	PIP On 🗸
ontro		Bri.         ≤         ≥         0         SDI1           1         Cont.          >         0         1         SDI1	Ch Channel 1/2 V	Area	Off 🗸	를 Save Use	r1 🗸 Save	Control Pip Sou	
_	SVideo YPbPr RGB	Color Color Color Color	Gr Group 1	Center	off 🗸	Screen			98-1 PC
Same	PC DVI HDMI	Sharp. 🔇 🚺 🔰 0 SDI2	Ch Channel 1/2 v	Width	3 🗸	BackLight <	30		3S-2 HDMI
Pic	SDI1 SDI2	Tint S D P Level Meter	Picture	M. Color	White 🗸	Comma Big UP Mode	2.2 💌	2	35-2 HDMI
Picture			ater Off	S. Color	Red	I/P Mode	Inter-Field 🔽		
		Temp. D65(6504K) 🗸		Timecode		Dithering	Off 🔽		ideo SDI1
	Keys	Color Space BT.709		Timecode	Off 🗸	Internal	Off 🔽		G.B SDI2
Audio	Power	≧ R ≤ 212 ≧	ale Digital 🖌	Size	Large 🗸	Controller		Audio Y.P	b.Pr
lio				Position	С-В 🗸	Front LED	On 💌		
_	F1 F2 F3	B 🔇 🚺 🔰 212	Size Large 🔽	Trans.	25%	Local	On 💌	-	Ratio PIP 🗸
Mar	F4 F5 F6	Video Toudness	Ma	mana.	23.0	Remote Caption Mode	On 🔽	, Po	sition Right Bottom 💌
rkery	Scan Marker WEM		ess off 🔽 🛓	UMD		Caption		Marker/OSE Audio	Blend 0%
ker/OSD		Scan Zero Scan V Loudne Aspect Full Screen V R Target(LKF	FS) -24 💙 🔗	Channel-Came	-012	🖉 Mode	Off 🔽	S Audio	Select Main 🔽
		- Mono/Blue Off - Audio		UMD	off 🖌	608 Caption	Off 🔽	_	
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Ictio		용 False Color Off 🖌 용 Volume	put Auto Y Finction	FG Color	RGB(255,0,0) 🗸	9. Waveform		nctions	
su		₩ Filter		BG Color	Transparent 🗸	<sup>on</sup> Format	Rotation 💌	ns	
-	Left Sel Right	Filter Off	_	Input ID		Vector Color	75%		
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PIP			Pp	ID Style	Input Format 🗸	7		Ť,	
		Level 🔇 📄 🔰 47				_			
_			_						

- User can read each parameter's value from target monitor by context menu on control table or group box. Each context menu as below is opened by mouse right-clicking or double-clicking.

BSC-100 Menu Map Setup Control Tools Help	Mana Une State Control Tools Hep	
Step Control	Notice Notice Br0-224-35 Name Notice3 Bet10 #12 Notice Br0-224-35 Name Notice3 Bet10 #12	
Code         Code <thcode< th="">         Code         Code         <thc< td=""><td>Control Mag LatiVes La</td><td>Page1</td></thc<></thcode<>	Control Mag LatiVes La	Page1
Let Sal Right	No         Name         D         Input         Aspect         Temperature           1         Monitoli         1         Monitoli         1         Monitoli         1           2         Monitoli         2         Monitoli         1         Monitoli         1           3         Monitoli         2         Statuli         1         Monitoli         2           3         Monitoli         12         Statuli         Statuli         1         Monitoli         2           4         Monitoli         12         Statuli         Statuli         1         Monitoli         2           3         Monitoli         12         Statuli         Name         0         Input         Higheritoli           4         Monitoli         12         Statuli         Name         0         Input         Name         0	
Control Mode Administrator TCP/IP	Status         Event Log           9         1192 168 15 101 (2000473)         Ready         2.8 0.05 29 1         Control Mode         Administratory         TCPVP         1122 168 10 101/0000473         Ready         2.8 0.05 29 1	6:06:23

Read Status	
Read All Parameters	Read [Video Adjust]

(On Icon of Control Table) (On Group Box)

- Read All Parameter: read all of parameter in system controller from selected monitor.

- Read [Video Adjust(Group Box name)]: To open this context menu, use the mouse right button to click in group box.

#### 4) Network Configuration

- Use this form to configure the network settings.
- Open the Network form on the Setup menu.

Network adapter select	ID	DHCP	Mac Address
1 192.168.10.101	DX000473	On	Mat Address 00.50.C2.88.27.CB
Search Network Configuration	Configuration		Close
Network Configuration	Static IP Co	_	
		ess	

- Click the item on list to connect the network board.
- If connected, Configuration button is enabled.
- Network Configuration box is enabled with clicking the Configuration button.

	IP Address	ID I	онср	Mac Address
	192.168.10.101	DX000473	On	00.50.C2.88.27.CB
	Search	Configuration		Close
Vetwo	Search rk Configuration	Configuration		Close
Vetwo		Configuration Static IP Confi	guration	
Vetwo	rk Configuration			
	ck Configuration	Static IP Confi	s	

#### 5) Shortcut Keys

- Shortcut keys save user having to click the button.
- User can set up the shortcut keys with this form on Setup menu.

🚳 Shortcut Keys	
Functions	Exisitng Key
Menu	<u>^</u>
Up	
Down	Delete
Sel	
Adj	Default
Function1	
Function2	New Key
Function3	нем кеу
Function4	
Function5	
Function6	- Apply

#### 6) Function Key

- User can open the Function Key setting form on the Advanced menu.
- Name Button: Same as function key on keypad.
- Combo Box: Select a wanted function. It can be changed depending on the model.

Fuction Key	
Setup-	
Function 1	Scan 💌
Function 2	Aspect 💌
Function 3	Levelmeter 💌
Function 4	Waveform 💌
Function 5	Aspect 💌
Function 6	H/V Delay 💌
	Load

## 7) GPI

- User can open the GPI setting form on the Advanced menu item.
- Setup: User can select GPI function.
- Controller: simulated GPI controller.

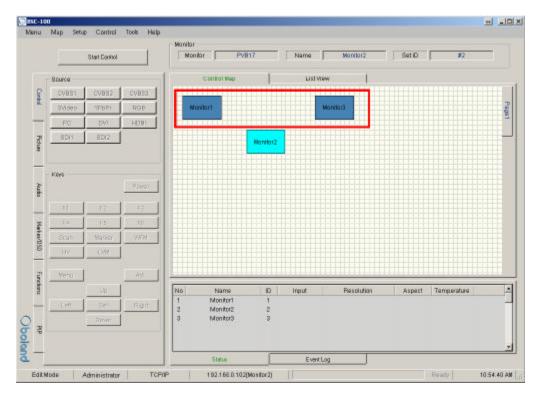
🍳 GPI			
Setup-			
GPI	Control	On	~
6	GPI 1	Tally R	~
6	àPI 2	Tally G	~
6	àPI 3	Marker On/Off	~
6	iPI 4	Function Key1	~
e	iPI 5	Function Key2	~
6	GPI 6	Function Key3	~
6	GPI 7	Power Key(Fixed)	~
		Read	
Control		GPI2 GPI3	3
GPI	4	GPI 5 GPI 6	5

#### 8) Grouping

User can group monitors in list by holding ctrl key while clicking, or dragging mouse

		Stop Cantol		Monitor	Carlos and Carlos	17 14	ame Mon	010 Set D	90	
	Bource			11	Control Map		ListNew			
Cardon	CVB81	CVB52	CV983					0	Add D	leiete
-	Svideo	\PbPr	ROB	No	Monitor	Name	Seld	Comunisation	Port	
_	PC	DVI	HOW	1	PV817	Monitor1	1	торир	192.168.0.101[N	
Peture	SDIT	SD42		2	PV817 BV817	Montor2 Montor3	2	TCP//P TCP//P	192 168 0 102) 192 168 0 103(M	
2			Power							
Audo Hartas/O	F1 F4 Scan	F2 F5 Marker	F3 F8 V/FM							
Audo Martan/OSD	FA	F5	F3 F8							
MarkesYOSD	F4 Scan	F5 Markor	F3 F8							
	F4 Scan HV	F5 Markor	F3 F6 WFM	No	Namo	10 (tre		olution Aspert	Temporature	
Markas/OSD Functors	F4 Scan HV	F5 Morker LVM	F3 F6 WFM	1	Monitor1	1 SD	(1 1920	tx1060 16:9	60.5	
MarkesYOSD	F4 Scan HV Menu	F5 Marker LVM Up	F3 F8 WFM A0	a color			(1 1920 (1 1920			

User can group monitors in map by dragging mouse around monitors



# 7. FPGA Download

- Menu > Tool > FPGA ISP

	ID	IP Address	Version(Model)
	DXD00107	192.168.10.224	BVB24
FPGA Dire			
FPGA Info	01_3005_SFP.pof rmation e: 2013-01-17 오후 7:39:0	10	Option Program
Build tim	h: 2097340 bytes		
	EPCS16		Verify

1) Reflesh Click.

-Appears on the monitor connected to the network.

- 2) Monitor select.
- 3) FPGA File Open (\*.pof).
- 4) Program & Verify Click.
- 5) Download Click.

🗲 FPGA	$\mathbf{X}$	🗲 FPG	A		X
Monitor List on network		Monit	or List on network		
No         ID         IP Address           1         DX000107         192.168.10.224           ✓         2         DX000657         192.168.10.127	Version(Model) PRM-224 CC NEW		1 DX000107	IP Address 192.168.10.224 192.168.10.127	Version(Model) PRM-224 CC NEW
Reflesh FPGA Directory C1.Documents and Settingstblack peart비당 화면iLatinus3D_V03.pof	Open		Reflesh Directory ocuments and Settings\black	pearN바탕 화면\Latinus3D_V03	.pof Open
FPGA Information Build time: 2014-04-29 오章 2:39:31 File length: 2097374 bytes Devices: EPCS16	∼ Option ♥ Program ♥ Verify	Buil File	k Information 1 time: 2014-04-29 오후 2:39:3 length: 2097374 bytes ces: EPCS16	31	Option  Program  Verify
Overall 0% 33% Current 0% 54 OBOX: silicon_ID 14Info: Silicon ID - 0x14 GBOX: Info: Serial Configuration Device - EPCS16 GBOX: Erasing	Stop	Currer QBOX QBOX	Info: Verifying Info: Verify completed rogramming Flash is succes		Download

>Download finish.

# 8. Firmware Download

- Menu > Tool > F/W ISP

No	ID		IP Addres:	-	Manalan	(h d = d = h
	DX000107		IP Addres: 2.168.10.2			n(Model) /B24
	5/66010/	10	2.100.10.2	24		024
1 Refle	esh					
Directory D:₩새 족대	₩PROJECT₩Bolar					
	WPRUJEC I WBolar					INF Open .Inf File
Hex file		Start	End	Size	CRC32	
Hex file V 🗲 Flash	er	Start 0A000	End 0C8FF	Size 10172	CRC32 A75AC41D	
Hex file Flash	er 224_3G_U9	Start 0A000 F20000	End 0C8FF F91DFF	Size 10172 464842	CRC32 A75AC41D 404C6E71	
Hex file V 🗲 Flash	er 224_3G_U9 1920×1200	Start 0A000	End 0C8FF	Size 10172	CRC32 A75AC41D	
Hex file Flashi BVB_1 BVB_1	er 224_3G_U9 1920×1200	Start 0A000 F20000 FA0000	End 0C8FF F91DFF FDC9FD	Size 10172 464842 248318	CRC32 A75AC41D 404C6E71 43810504	

1) Reflesh Click.

-Appears on the monitor connected to the network.

- 2) Monitor select.
- 3) F/W File Open (\*.inf).
- 4) Reset after download & Reset before Flash Click.
- 5) Flash Click.

🖇 Firmware 🛛 🔀	🖇 Firmware 🛛 🔀
Monitor List on network	Monitor List on network
No ID IP Address Version(Model)	No ID IP Address Version(Model)
☑ 1 DX000657 192.168.10.127 NEW	☑ 1 DX000657 192.168.10.127 NEW
2 DX000107 192.168.10.224 PRM-224 CC	2 DX000107 192.168.10.224 PRM-224 CC
Reflesh	Reflesh
 _Directory	Directory
C:₩Documents and Settings₩black pearl₩바탕 화면₩20140515_V03_PVBL20-GC₩PVBL20-	C:#Documents and Settings#black pearl#바탕 화면#20140515_V03_PVBL20-GC#PVBL20-
	F00000-FFFFF
Hex file Start End Size CRC32	Hex file Start End Size CRC32
▼	✓ Flasher 0A000 0C8FF 10172 A75AC41D
₽ VBL20-GC F20000 F842FF 409031 15988FFB	✓      ✓      ✓      ✓
PVBL_1600x900     FA0000     F07248     225865     C1D784E1     BractoryGui     F00000     F038CA     14539     F900A6F7	♥ VBL_1600×900         FA0000         FD7248         225865         C1D784E1           ♥ J FactoryGui         F00000         F038CA         14539         F900A6F7
Pactorydul F00000 F030CA 14339 F300A0F7	
Cancel La Becet after download	Elash
Current	Current
Download successful	Download successful
FLASH: [PVBL20-GC,hex]	ELASH: Change Boudrate 9600bps
Re Flash	FLASH: Successfully completed

>Download finish.