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 "System Controller.msi" file, and follow the "Boland System Controller Setup Wizard" instructions.

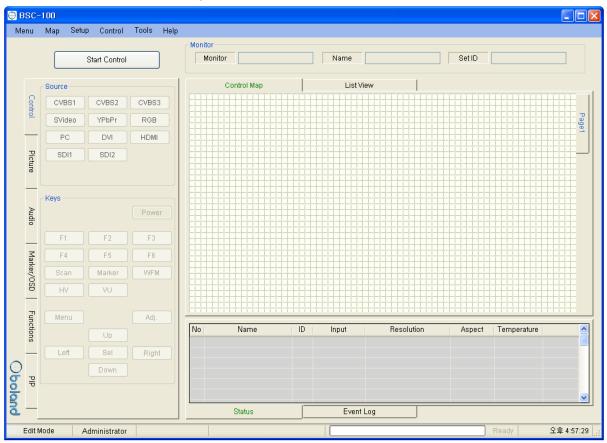


After installation is completed, a shortcut button will be shown on the desktop and in the start menu.

3. User 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	Administrator PIN: vboland
Engineer	
Operator	
Pin	
Stay Logged In	
Login Close	



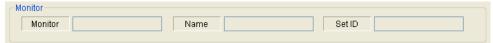
4. Contents of Boland System Controller

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

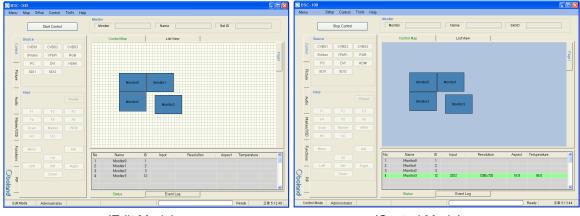
2). Monitor Properties Group

- 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

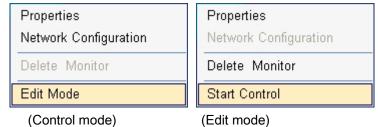
5. Edit Control Map

- 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

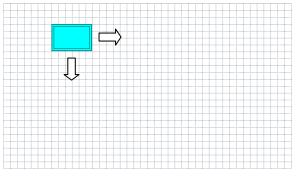
- User can change to edit mode through Mode items on menu strip, context menu on control table or mode changing button on control table.

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



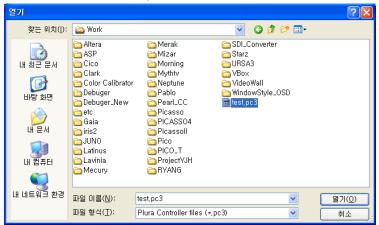


- In control table, user can locate the monitor icon any place.



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

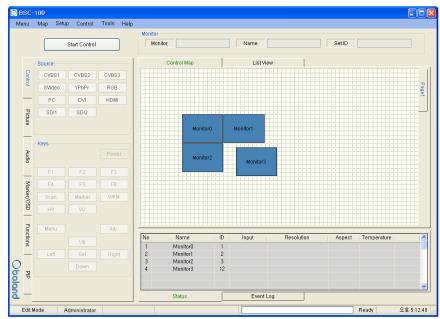
- User can open the Add Monitor form by the Edit menu or context menu strip on control table.

- 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	~	2
Host IP Address	192, 168, 10, 2	[Host IP Address	192, 168, 10, 2	~] [2
Target IP	<u> </u>	[Target IP Address	192, 168, 10, 101 [D×000473]	~ (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								
	SD	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												~
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	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 V		Timecode	Off 🗸	Internal	Off 🔽		G.B SDI2
Audio	Power	≧ R ≤ 212 ≧	ale Digital 🖌	Size	Large 🗸	Controller		Audio Y.P	b.Pr
ii0				Position	С-В 🗸	Front LED	On 💌		
_	F1 F2 F3	B 🔇 🚺 🔰 212	Size Large 🔽	Trans.	25%	Local	On 💌	-	Ratio PIP 🗸
Mar	F4 F5 F6	Video Loudness	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 🔽	_	
2	Menu Adj.	NR Off 💌 군 Outg	put Auto 🔽 🚽	Position	C-T 🗸	708 Caption	Off 🖌	Func	
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 🗸	^{on} Format	Rotation 💌	ns	
-	Left Sel Right	Filter Off	_	Input ID		Vector Color	75%		
	Down	and the second s		Input ID	orr 🗸	Eine Select	Off 🖌	-	
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.

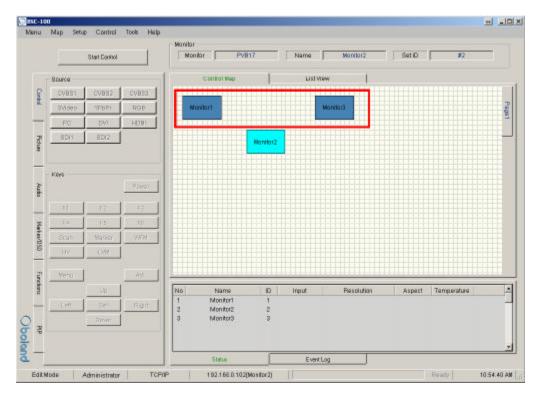
🍳 GPI			
Setup-			
GPI	Control	On	~
6	GPI 1	Tally R	~
6	àPI 2	Tally G	~
6	àPI 3	Marker On/Off	~
6	iPI 4	Function Key1	~
e	iPI 5	Function Key2	~
6	GPI 6	Function Key3	~
6	GPI 7	Power Key(Fixed)	~
		Read	
Control		GPI2 GPI3	3
GPI	4	GPI 5 GPI 6	5

8) Grouping

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

		Stop Cantol		Monitor	Carlos and Carlos	17	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	TOPAP	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	and the second second			(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.