

EX-G100

8x8 DVI Matrix

User Manual





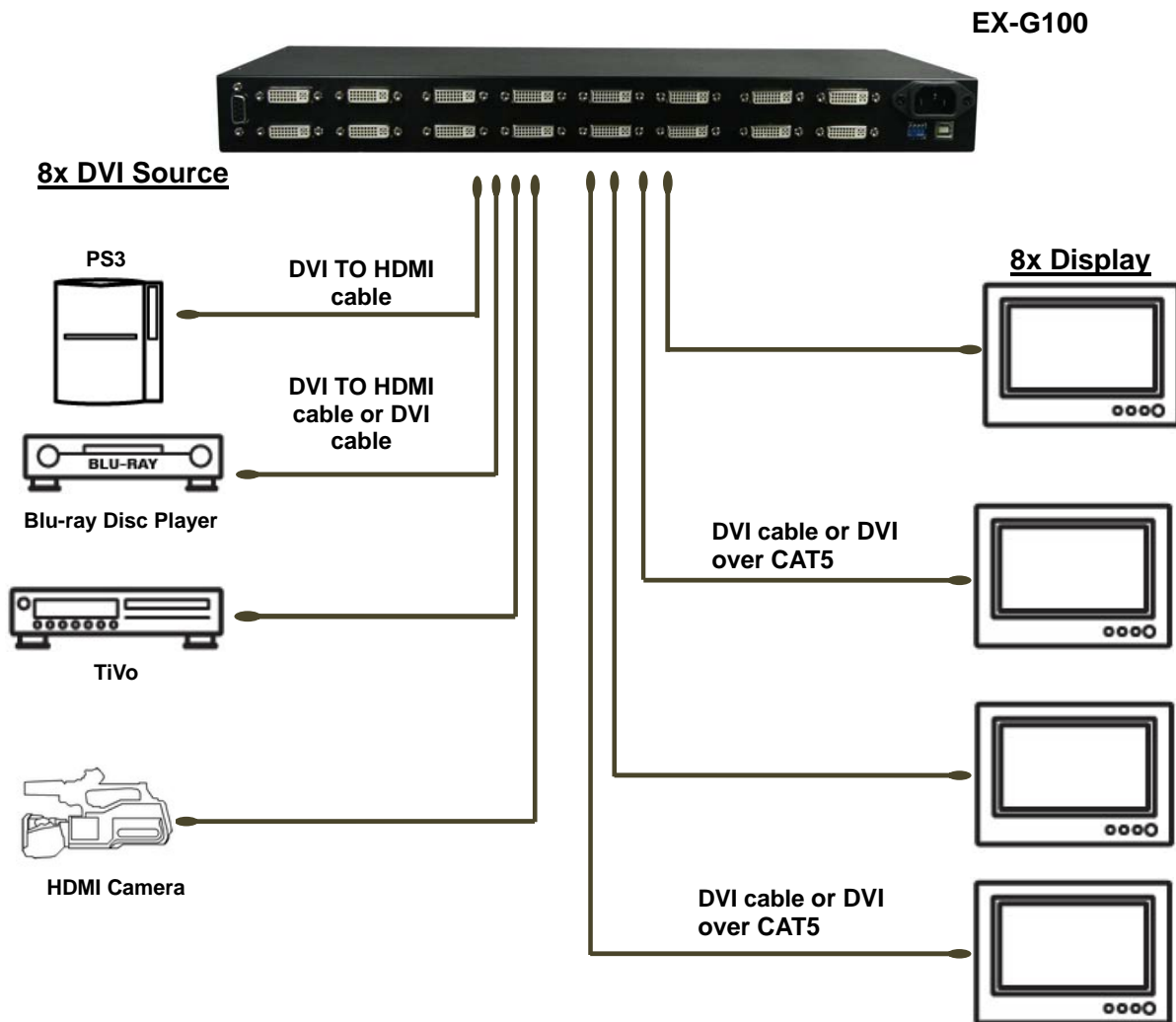
Safety and Notice

The **EX-G100 DVI Matrix** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the EX-G100 should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

Introduction

The **EX-G100 8x8 DVI Matrix** provides the most flexible and cost effective solution in the market to route high definition video sources from any of the eight DVI sources to the any eight digital displays at the same time. This solution is well suited for digital signage, conference room presentation systems, or other similar setting or application.



Features

- DVI Rev 1.0 compatible (single link)
- Allows any source to be displayed on multiple displays at the same time
- Allows any DVI display to view any DVI source at any time
- Supports default EDID and learns the EDID of displays
- The matrix master can switch every output channels to any DVI inputs by push-in button, IR remote controller or RS-232 control
- Easy installation with rack-mounting and wall-mounting designs for master and receiver respectively
- Fast response time – 2~5 seconds for channel switch
- Not HDCP compliant

Specifications & Package Contents

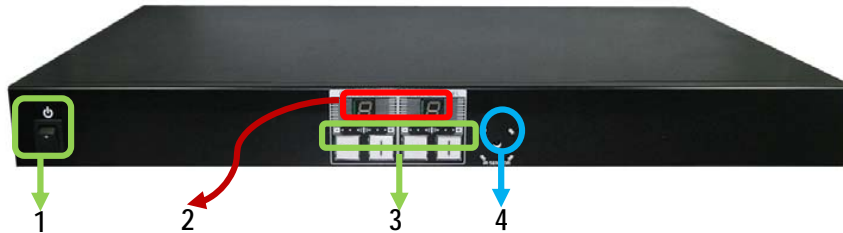
Model Name		EX-G100
Technical		
Role of usage	True 8x8 matrix	
Video bandwidth	[EX-G100] – Single-link 165MHz [4.95Gbps]	
Video support	VGA(640x480)~WUXGA (1920x1200),480p~1080p	
ESD protection	[1] Human body model — ±19kV [air-gap discharge] & ±12kV [contact discharge]	
PCB stack-up	4-layer board [impedance control — differential 100Ω; single 50Ω]	
Input	8x DVI 1x RS-232 1x USB	
Output	8x DVI	
Input selection	Push button / IR remote / RS-232	
IR remote control	Electro-optical characteristics: $\tau = 25^\circ$ / Carrier frequency: 38kHz	
DVI connector	Type DVI-I [29-pin female]	
RS-232 connector	DE-9 [9-pin D-sub female]	
DIP switch	[SW Main] 4-pin operation mode & firmware update	
Mechanical		
Housing Dimensions (L x W x H)	Model	440 x 200 x 44mm [1'5" x 7.9" x 1.7"]
	Package	528 x 398 x 130mm [1'9" x 1'4" x 5.1"]
	Carton	585*242*565mm
Weight	Model	2.6kg [7.2 lbs]
	Package	5.70 kg [12.6 lbs]
Fixedness	1U rack-mount with ears and wall hanging holes	
Power supply	AC Power 100-240V	
Power consumption	60 Watts [max]	
Operation temperature	0~40°C [32~104°F]	
Storage temperature	-20~60°C [-4~140°F]	
Relative humidity	20~90% RH [no condensation]	
Package Contents	1x EX-G100 2x Rack-mounting ears 1x IR remote	



¹. *USB or RS-232 control must be connected either one at a time. Connecting both types of cables may cause command confusion.*

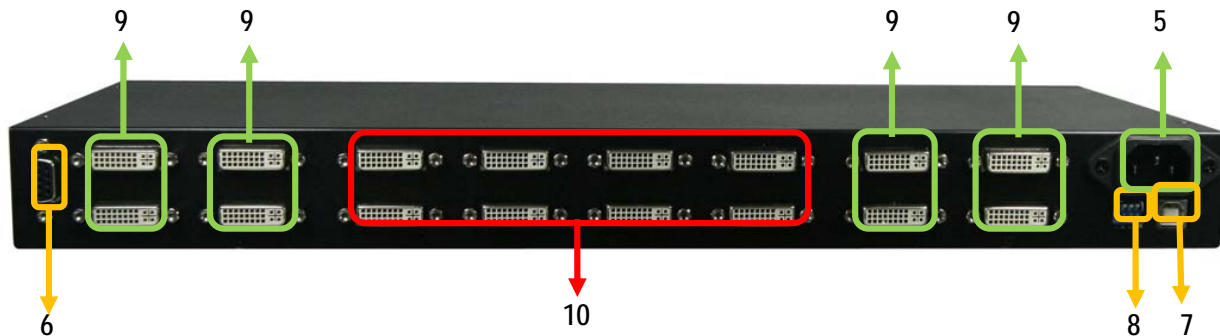
Panel Descriptions

Front Panel



1. **Power:** Power control
2. **Seven Segment LED Indicators:** Control display
3. **Front panel push buttons:** Used to input source and display channel number
4. **IR:** IR receiver

Rear Panel



5. **AC Power:** 100-240V
6. **RS-232:** RS-232 control port
7. **USB:** USB control port
8. **DIP Switch:** 4-pin DIP Switch
9. **INPUT 1 –8:** DVI inputs
10. **OUTPUT PORT 1–8:** DVI outputs for each output channel

DIP Switch

SW Main for firmware update (for technical support only)

DIP Switch Position		Pin#1	Pin#2	Pin#3	Pin#4
Normal Operation Mode [via RS-232 port] ⁶		OFF[↑]	OFF[↑]	ON[↓]	OFF[↑]
Normal Operation Mode [via USB port] ⁷		OFF[↑]	OFF[↑]	ON[↓]	ON[↓]
Firmware Update Mode ⁸	Block A [main]	ON[↓]	OFF[↑]	ON[↓]	OFF[↑]
	Block B [remote]	ON[↓]	ON[↓]	ON[↓]	OFF[↑]



Note

⁶ **Factory default for SW Main is pin#1-OFF[↑], pin#2-OFF[↑], pin#3- ON[↓], & pin#4-OFF[↑].**
PLEASE MAINTAIN THIS SETTING AT ANYTIME FOR REGULAR USE VIA RS-232 CONTROL!

⁷ **Factory default for SW Main is pin#1-OFF[↑], pin#2-OFF[↑], pin#3- ON[↓], & pin#4- ON[↓].**
PLEASE MAINTAIN THIS SETTING AT ANYTIME FOR REGULAR USE VIA USB CONTROL!

⁸ Sequence for firmware update

WARNING! [Firmware update only can be done via RS-232 port and connection to PC set at COM1)

1. Power off the EX-G100. Execute the firmware update program on your PC via COM1 port connection to the RS-232 port of the EX-G100.
2. Set the pin#1 of [SW Main] at **ON[↓]** for firmware update mode.
3. Set pin#2 and pin#3 at respective positions to assign which Block to be updated.
4. Power on the EX-G100. The firmware update program should begin this update sequence automatically. If not, please check the RS-232 connection status between PC and EX-G012C.
5. After the OK message shows up to indicate the firmware update sequence for designated Block is complete, please turn off the EX-G100.
6. Repeat step 3 ~ step6 if you want to update the firmware of the remaining Blocks.
7. Set the [SW Main] switch position to Normal Operation Mode.
8. Power on the EX-G100.

Hardware Installation

EX-G100

1. Connect all sources to DVI Inputs on the 8x8 DVI Matrix
2. Connect all outputs to DVI devices
3. Connect the power cord to the 8x8 DVI Matrix
4. Power on the 8x8 DVI Matrix EX-G100

Channel Control

Method A: Push Button

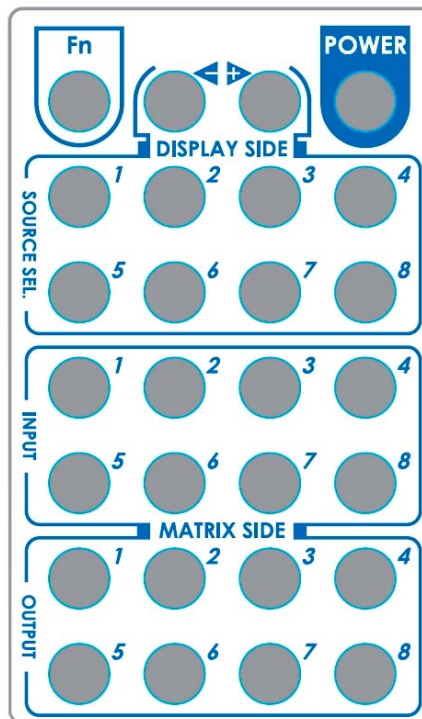
1. Use the “+” or “-” channel button on output port to select which port to be changed.
 “+”: change selected output port in ascending order
 “-”: change selected output port in descending order
2. Push the “+” or “-” channel button on Input channel to select the DVI input source you want to display on this selected output port in step 1 in sequential order. Once you reach the desired input channel you want to display on this selected output port, leave it and the setting will be effective in a few seconds.

Method B: IR Remote Control

- a. Firstly please push one of the INPUT buttons to choose which DVI input source you are going to setup. After that, you can have multiple outputs playing the same content from the selected INPUT #1-#8 by pushing the corresponding OUTPUT buttons. The setting will be effective in a couple of seconds.

INPUT & OUTPUT MAPPING

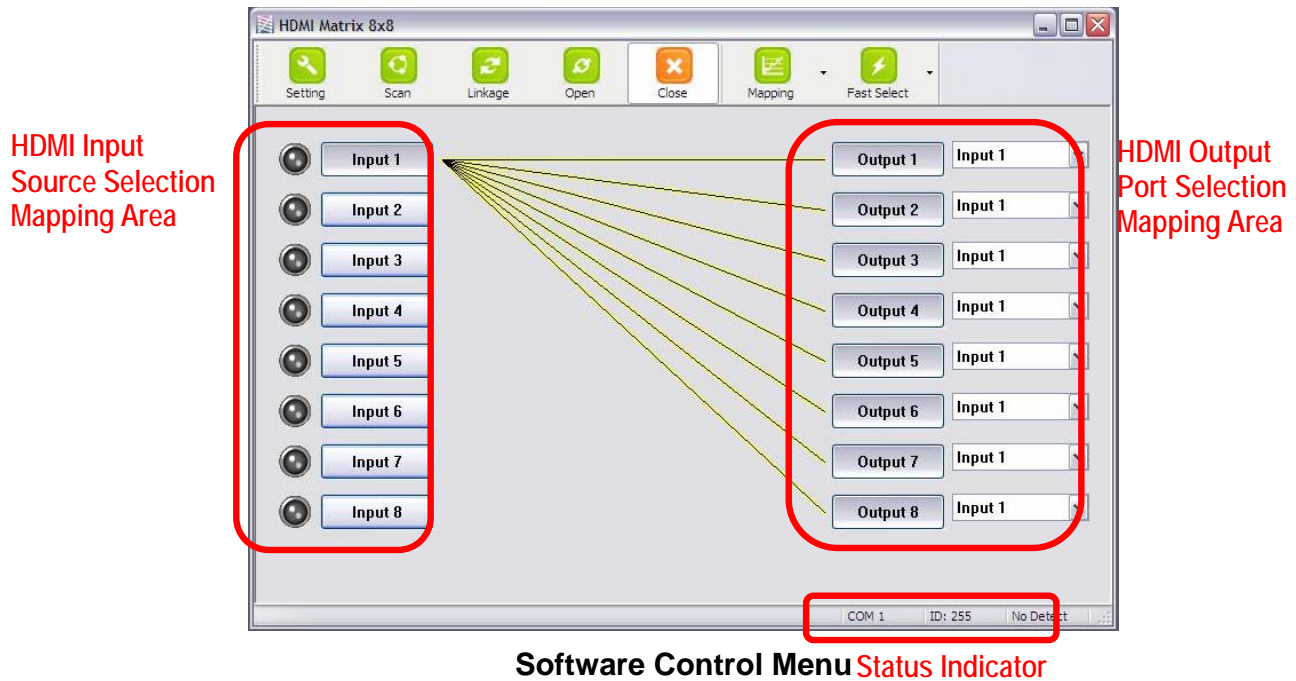
INPUT 1	DVI input port #1
INPUT 2	DVI input port #2
INPUT 3	DVI input port #3
INPUT 4	DVI input port #4
INPUT 5	DVI input port #5
INPUT 6	DVI input port #6
INPUT 7	DVI input port #7
INPUT 8	DVI input port #8
OUTPUT 1	DVI output port #1
OUTPUT 2	DVI output port #2
OUTPUT 3	DVI output port #3
OUTPUT 4	DVI output port #4
OUTPUT 5	DVI output port #5
OUTPUT 6	DVI output port #6
OUTPUT 7	DVI output port #7
OUTPUT 8	DVI output port #8



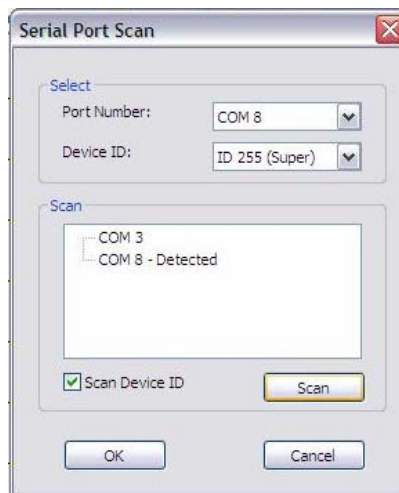
FUNCTION KEY

	FUNCTION
FN + SOURCE SEL. 1	Escape System LOCK
FN + SOURCE SEL. 2	Enter System LOCK (most buttons, IR control, and RS-232 control become inactive, except Escape System LOCK command)

Method C: Software Control through RS-232 or USB port



1. Scan button:



Serial Port Scan:

Press **Scan** button, the machine will scan the all com port and show them.

Select the RS232 serial port connected to the machine. And set device ID 255 is for all device.

Only the same device id or 255 can get the command you sent.

Press **OK**. Get the new status from the machine you select.

2. Setting button:

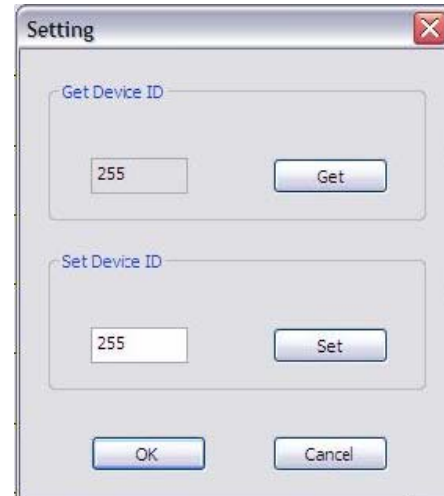
Press **Get** button to read back device ID.
Press **Set** button to write device ID.

3. Linkage button:

Press **Linkage** button to read back all status.

4. Open/Close button:

Press this button to close or open COM port.



5. Mapping button:

Select All Output:

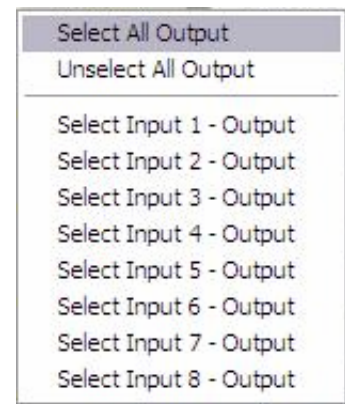
Select "set all output", then select the source on main menu.
You can quickly set all output to the same source.

Unselect All Output:

Release output selection.

Select Input1~8-Output:

Select Input Source. Then select the output port icon.



For example:

Select input source 1. Then select output port 1 and 2. The video and audio will be sent to port 1 and 2.

6. Fast Select button:

Press **Fast select** button for quick setting

Input one ➔ Output Port one

Input two ➔ Output Port two

.....

Press Fast select pull down menu

Select Input Num-Output Num

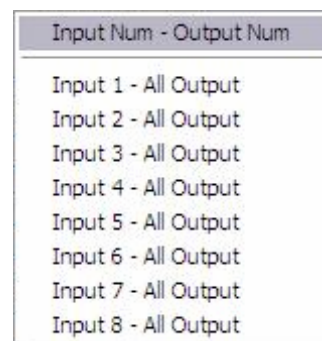
Input source #1 ➔ Output port #1

Input source #2 ➔ Output port #2

.....

Select Input - All Output

Send the same source to all output



7. Output Port:

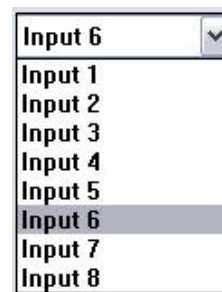
Pull down menu and select which source to be sent to this output port.

One by one setting

On main menu screen

First select input source. Then select the output ports which you want to send the video and audio from this source. When you select the input source, the source will change to gray. When you select the output port one by one, the selected output port will change to gray.

The linking line will change to yellow.



Group setting

First select output ports one by one. Then select the input source. The selected output ports change the setting at the same time.

By using Terminal:

Baud rate: 9600
 Data length: 8bit
 Parity check: No
 Stop bit: 1

Command Set:

COMMAND	ACTION	COMMAND	ACTION	COMMAND	ACTION
ST	System Status	C5	Output C select Input 5	F3	Output F select Input 3
VR	Firmware Version	C6	Output C select Input 6	F4	Output F select Input 4
A1	Output A select Input 1	C7	Output C select Input 7	F5	Output F select Input 5
A2	Output A select Input 2	C8	Output C select Input 8	F6	Output F select Input 6
A3	Output A select Input 3	D1	Output D select Input 1	F7	Output F select Input 7
A4	Output A select Input 4	D2	Output D select Input 2	F8	Output F select Input 8
A5	Output A select Input 5	D3	Output D select Input 3	G1	Output G select Input 1
A6	Output A select Input 6	D4	Output D select Input 4	G2	Output G select Input 2
A7	Output A select Input 7	D5	Output D select Input 5	G3	Output G select Input 3
A8	Output A select Input 8	D6	Output D select Input 6	G4	Output G select Input 4
B1	Output B select Input 1	D7	Output D select Input 7	G5	Output G select Input 5
B2	Output B select Input 2	D8	Output D select Input 8	G6	Output G select Input 6
B3	Output B select Input 3	E1	Output E select Input 1	G7	Output G select Input 7
B4	Output B select Input 4	E2	Output E select Input 2	G8	Output G select Input 8
B5	Output B select Input 5	E3	Output E select Input 3	H1	Output H select Input 1
B6	Output B select Input 6	E4	Output E select Input 4	H2	Output H select Input 2
B7	Output B select Input 7	E5	Output E select Input 5	H3	Output H select Input 3
B8	Output B select Input 8	E6	Output E select Input 6	H4	Output H select Input 4
C1	Output C select Input 1	E7	Output E select Input 7	H5	Output H select Input 5

C2	Output C select Input 2	E8	Output E select Input 8	H6	Output H select Input 6
C3	Output C select Input 3	F1	Output F select Input 1	H7	Output H select Input 7
C4	Output C select Input 4	F2	Output F select Input 2	H8	Output H select Input 8

Limited Warranty

The SELLER warrants the **EX-G100 8x8 DVI Matrix** to be free from defects in the material and workmanship for 1 year from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 1 year warranty period, the SELLER, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse or any unauthorized modifications including static discharge and power surge. This warranty is offered by the SELLER for its BUYER with direct transaction only. This warranty is void if the warranty seal on the metal housing is broken.

Unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customers agree to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

The warranty is in lieu of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.

Proof of sale may be required in order to claim warranty. Customers outside Taiwan are responsible for shipping charges to and from the SELLER. Cables and power adapters are limited to a 30 day warranty and must be free from any markings, scratches, and neatly coiled.

The content of this manual has been carefully checked and is believed to be accurate. However, The SELLER assumes no responsibility for any inaccuracies that may be contained in this manual. The SELLER will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. Also, the technical information contained herein regarding the EX-G100 features and specifications is subject to change without further notice.

