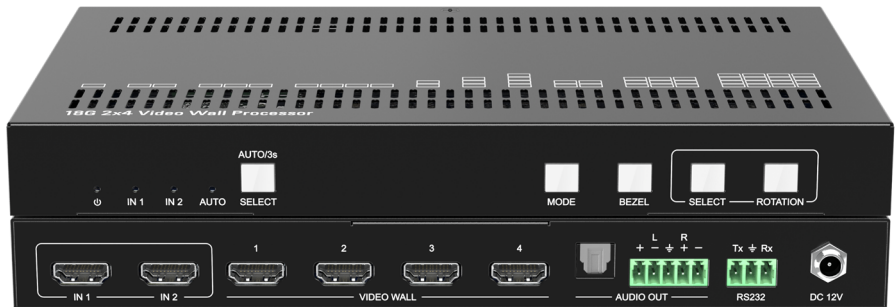


User Manual

SCU-VW4

18G 2x4 Video Wall Processor



All Rights Reserved

Version: SCU-VW4_2025V1.0

18G 2x4 Video Wall Processor

Preface

Read this user manual carefully before using the product. Pictures shown in this manual are for reference only. Different models and specifications are subject to real product.

This manual is only for operation instruction, please contact the local distributor for maintenance assistance. The functions described in this version were updated till December 10th, 2025. In the constant effort to improve the product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.



SAFETY PRECAUTIONS

To ensure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

18G 2x4 Video Wall Processor

Table of Contents

Preface	1
FCC Statement.....	1
SAFETY PRECAUTIONS	2
Table of Contents	3
1. Product Introduction	4
1.1 Features.....	4
1.2 Package List	4
2. Specifications	5
3. Panel Description	6
3.1 Front Panel	6
3.2 Back Panel.....	6
4. System Connection	7
4.1 Single Device System Connection.....	7
4.2 Cascadable For Larger System	7
5. Function.....	8
5.1 Select A Video Source	8
5.2 Video Wall Mode	8
5.3 Cascadable for larger system	8
5.4 Screen Rotation	8
5.5 BEZEL Correction	9
6. RS-232 Control	10
6.1 RS-232 Control Software	10
6.2 RS-232 Command	12
7. Troubleshooting & Maintenance.....	16
8. Customer Service.....	17

18G 2x4 Video Wall Processor

1. Product Introduction

This 18G 2x4 Video Wall Processor delivers exceptional performance with two HDMI inputs supporting up to 4K@60Hz 4:4:4 for high-quality visuals, while the HDMI output is fixed at 1080p@60Hz for reliable display compatibility. It offers flexible control through front panel buttons and RS232, ensuring seamless operation. The device supports cascading for expanded setups, audio extraction for enhanced sound integration, and features eight selectable video wall modes to suit various configurations. Additionally, it provides output video rotation and BEZEL mode for precise and customizable display adjustments.

1.1 Features

- Two HDMI inputs supporting up to 4K@60Hz 4:4:4
- HDMI output fixed at 1080p@60Hz
- Supports cascading for expanded setups
- Audio extraction capability
- Control via front panel buttons or RS232
- Eight selectable video wall modes
- Output video rotation support
- BEZEL mode for precise display adjustments

1.2 Package List

- 1 x SCU-VW4
- 2 x Mounting Ears with 4 Screws
- 4 x Rubber Feet
- 1 x 5-pin Phoenix (Terminal Block)
- 1 x RS-232 Serial Cable (3-pole to DB9)
- 1 x User Manual
- 1 x Power Adapter (DC 12V/1A)

Note: Please contact your distributor immediately if any damage or defect in the components is found.

18G 2x4 Video Wall Processor

2. Specifications

Video Input	
Video Input	2x HDMI 2.0, 19-pin Type-A female HDMI
Resolution	up to 4K@60Hz 4:4:4
Video Output	
Output Connector	4x HDMI 2.0, 19-pin Type-A female HDMI
Resolution	up to 4K@60Hz 4:4:4
Analog Audio Output	
Output	1x 5-pin Phoenix for Analog L/R Audio
Frequency Response	20Hz - 20kHz, ± 1 dB
Max Output Level	2.0Vrms ± 1 dB.
THD+N	< 0.05%, 20Hz - 20kHz bandwidth, 1 kHz sine at 0dBFS level (or max level)
SNR	> 80dB, 20Hz-20 kHz bandwidth
Crosstalk Isolation	< -80 dB
Control	
Control port	1x 3-pin Phoenix for RS-232
General	
Operation Temperature	-5°C ~ +55°C
Storage Temperature	-25°C ~ +70°C
Relative Humidity	10% ~ 90%
External Power Supply	DC 12V/1A
Power Consumption	Full-load: 7W Standby: 0.25W
Dimension (W*H*D)	230 x 25 x 123mm
Net Weight	625g

18G 2x4 Video Wall Processor

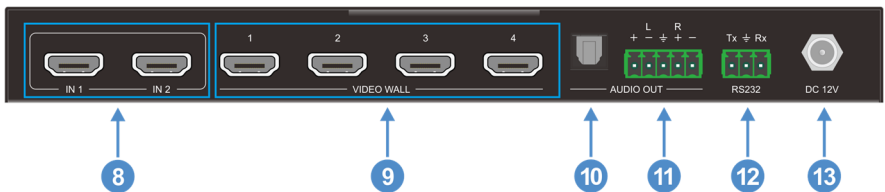
3. Panel Description

3.1 Front Panel



1. **POWER LED:** Illuminate green when it works, and illuminate yellow when in standby mode.
2. **IN 1/2 LED:** One of the LED will illuminate blue when corresponding port is selected as the video source.
3. **AUTO LED:** The LED will glow when it enters the auto-switching mode.
4. **SELECT Button:** Press this button to switch video source, long-press for 3 seconds to enter/exit auto-switching mode.
5. **MODE Button:** To switch a video wall mode for the output ports.
6. **BEZEL Button:** Adjust the BEZEL compensation pixels.
7. **SELECT & ROTATION Button:** Press SELECT button to select an output that need to be rotated, then press ROTATION button to rotate the output in 0° or 180°.

3.2 Back Panel

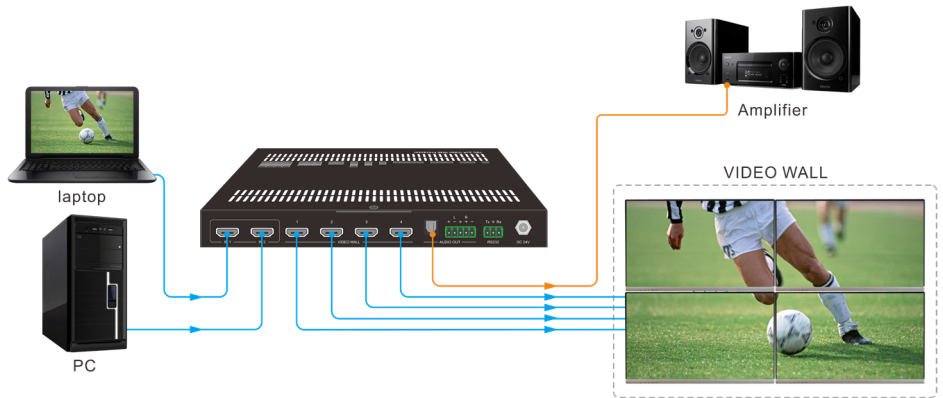


8. **IN 1/2:** 2 HDMI 2.0 input, connect to the video source.
9. **VIDEO WALL:** 4 HDMI 2.0 output, connect to the video wall screens.
10. **S/PDIF:** S/PDIF port to output digital audio.
11. **5-pin L/R:** Output the audio de-embedded from the video source.
12. **RS232:** Connects to a host (e.g. PC) to control the video wall processor by sending RS232 commands.
13. **DC 12V:** Connects to the DC 12V/1A power adapter.

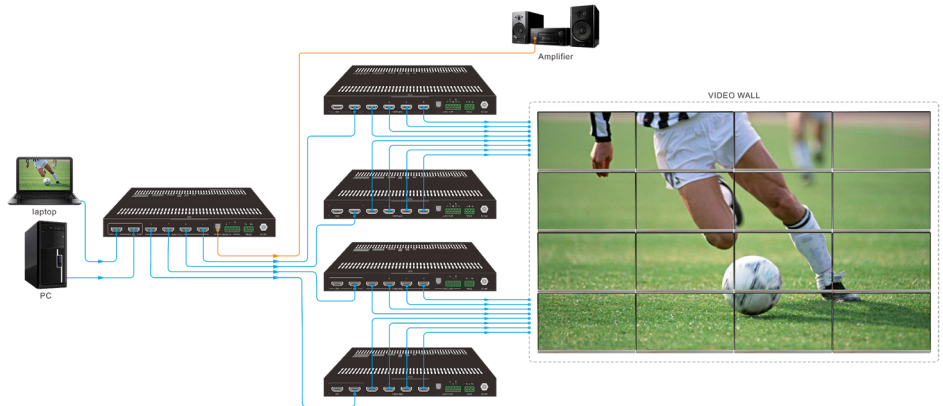
18G 2x4 Video Wall Processor

4. System Connection

4.1 Single Device System Connection



4.2 Cascadable For Larger System



5. Function

5.1 Select A Video Source

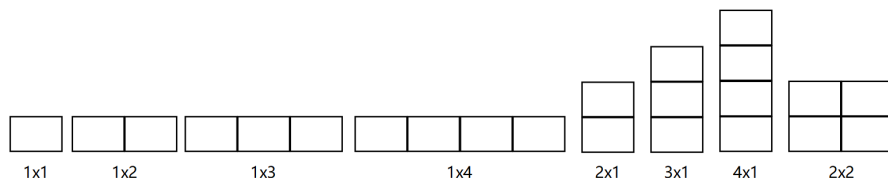
The device has 2 modes for selecting a video source, they are AUTO and MANUAL, and AUTO mode is made by default.

AUTO Mode: Automatically switches to the newly connected video source. If both inputs are active, the most recently connected source takes priority.

MANUAL Mode: Press the SELECT button to switch between video sources.

5.2 Video Wall Mode

The device has 8 output modes: 1x1, 1x2, 1x3, 1x4, 2x1, 3x1, 4x1, 2x2. The default mode is 1x1. Each press of the Mode button cycles to the next mode in sequence (1x1 → 1x2 → 1x3 → 1x4 → 2x1 → 3x1 → 4x1 → 2x2), looping back to 1x1 after 2x2.



1x1 mode: the 4 outputs show exactly the same image.

1x2 or 2x1: output 1 & 2 form one image, and output 3 & 4 form an identical image.

1x3 or 3x1: output 1, 2, & 3 form one image, and output 4 displays an identical image.

5.3 Cascadable for larger system

The device also enables users to form a 3x3 or 4x4 video wall, which only requires a user to connect the input port of 3 or 4 devices to 3 or 4 output ports of the first device.

Please refer to the [System Connection] section to check out the devices are connected.

5.4 Screen Rotation

Press SELECT button to select an output that need to be rotated, then press ROTATION button to rotate the output in 0° or 180°.

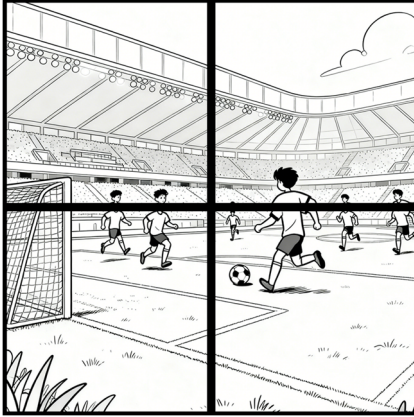
Screen rotation is also available via RS-232 command.

18G 2x4 Video Wall Processor

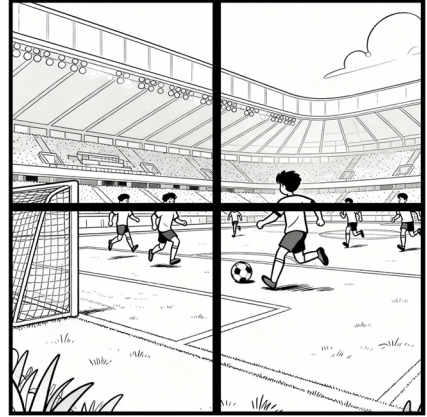
5.5 BEZEL Correction

It is a function that adjusts the image to account for the physical frames (bezels) between displays, making the overall picture look seamless and continuous across multiple screens.

Below picture show how the picture in video wall looks like with/without BEZEL correction.



No BEZEL Correction



After BEZEL Correction

To set up a proper BEZEL correction, just to press the BEZEL button to adjust the size of the bezel.

Each press of the BEZEL button cycles to the next bezel size in sequence, looping back to 0 after 48.

0 → 8 → 16 → 24 → 32 → 40 → 48
↑

6. RS-232 Control

Connect the control device (PC) to the RS-232 port of SCU-VW4, the SCU-VW4 can be controlled by sending RS-232 commands via RS-232 control software installed in PC.

The baud rate supports 2400, 4800, 9600, 19200, 38400, 57600(default), or 115200.

6.1 RS-232 Control Software

- **Installation:** Copy the control software file to the computer connected with SCU-VW4
- **Uninstallation:** Delete all the software files in corresponding file path.
- **Basic Settings:**

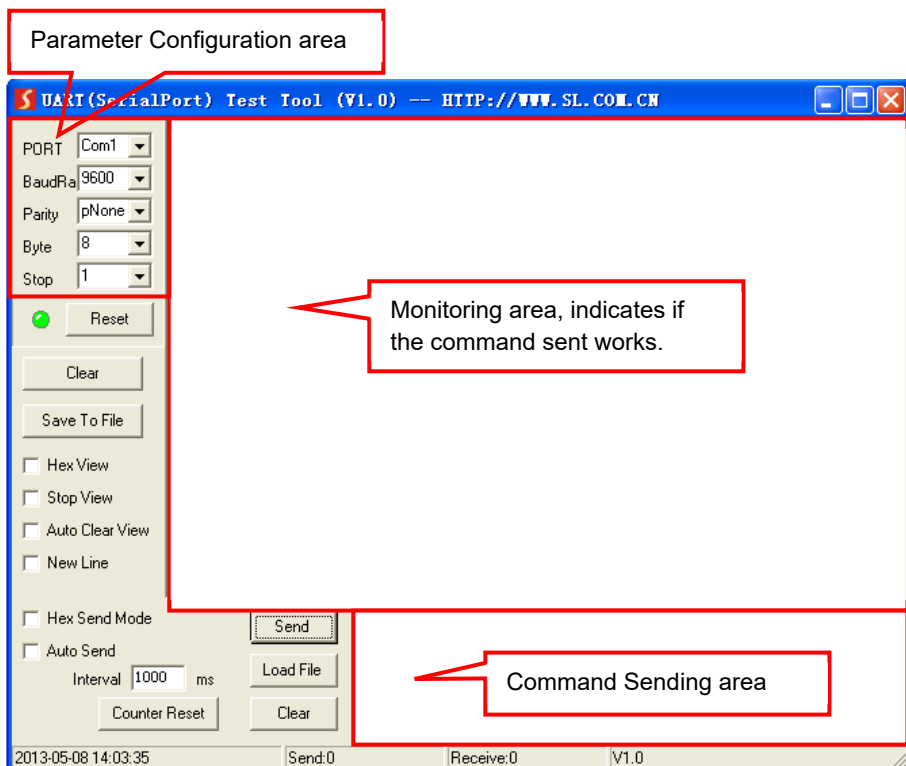
First to connect SCU-VW4 with all input devices and output devices needed, then to connect it with a computer which is installed with RS-232 control software. Finally, double-click the software icon to run this software.

Here we take the software **CommWatch.exe** as example. The icon is showed as below:



18G 2x4 Video Wall Processor

The interface of the control software is showed as below:



Please set the parameters of COM number, bound rate, data bit, stop bit and the parity bit correctly, and then the command is ready to be sent in Command Sending Area.

18G 2x4 Video Wall Processor

6.2 RS-232 Command

Communication protocol: RS-232 Communication Protocol

Baud rate: 57600

Data bit: 8

Stop bit: 1

Parity bit: none

Audio Commands:

Commands	Descriptions	Example
>SetAudioMute [Param1] [Param2]	Enable/Disable audio mute. [Param1] = 01, 02 01: Analog Audio 02: Optical Audio [Param2] = ON, OFF ON: Mute ON OFF: Mute OFF	>SetAudioMute 01 ON
>GetAudioMute	Get audio mute status.	>GetAudioMute

Video Commands:

Commands	Descriptions	Example
>SetVideoSrc [Param]	Switch an input video signal [Param] is the HDMI input, value can be 01 or 02 .	>SetVideoSrc 01
>GetVideoSrc	To check the video source.	>GetVideoSrc
>SetAutoSwitch [Param]	Enable/disable auto switching mode [Param] = On , Off	>SetAutoSwitch On >SetAutoSwitch Off
>GetAutoSwitch	Get the auto switching status.	>GetAutoSwitch
>SetVWOutImg [Param1] Image [Param2]	Set image for output ports. The maximum number of port or image equals to the quantity number of output ports that current video wall mode needs. [Param1]: number of output port, value can be 01, 02, 03, 04. [Param2]: number of the image, value can be 01, 02, 03, 04.	>SetVWOutImg 01 Image 02
>SetVWRotation [Param1] To [Param2]	Rotate one of the outputs. [Param1]: the output number, value can be 01-04 . [Param2]: the rotating angle, value can be 0 or 180 .	>SetVWRotation 01 To 180

18G 2x4 Video Wall Processor

Commands	Descriptions	Example
>SetVWBezel [Param1] To [BH]:[BV]	Set bezel for the output (only work in basic mode) [Param1]: The outputs, value can be 00-04. 00: all the outputs. 01-04: Output 1-4. [BH]: BEZEL in horizontal. [BV]: BEZEL in vertical. [BH] and [BV] value can be 0-6. Actual BEZEL pixel is [value] *8. For example, if the value is 2, the actual BEZEL pixel is 2*8=16 pixels.	>SetVWBezel 01 To 5:5 >SetVWBezel 00 To 5:5
>SetVWBasicMode [Param]	Set Video Wall basic mode [Param]=01 - 08 01: 1x1 02: 1x2 03: 1x3 04: 1x4 05: 2x1 06: 3x1 07: 4x1 08: 2x2	>SetVWBasicMode 08
>GetVWStat	Get the video wall status.	>GetVWStat
>GetEDID	Get the device EDID	>GetEDID
>SetUpdateEDID [Param]	Upload the user defined EDID. [Param] = 01 - 04 01: User Defined 1 02: User Defined 2 03: User Defined 3 04: User Defined 4	>SetUpdateEDID 01

18G 2x4 Video Wall Processor

Commands	Descriptions	Example
>SetEDID [Param1] To [Param2]	Set the EDID for the device. [Param1] = 00 - 02 00: all the input. 01-02: Input 01, 02. [Param2] = 00 - 19 00: 1080p@60Hz 4:4:4, 8bit, Audio 2CH PCM 01: 1080p@60Hz 4:4:4, 8bit, Audio 5.1CH DTS/Dolby 02: 1080p@60Hz 4:4:4, 8bit, Audio 7.1CH DTS/Dolby/HD 03: 3840x2160p@30Hz 4:4:4, 8bit, Audio 2CH PCM 04: 3840x2160p@30Hz 4:4:4, 8bit, Audio 5.1CH DTS/Dolby 05: 3840x2160p@30Hz 4:4:4, 8bit, Audio 7.1CH DTS/Dolby/HD 06: 3840x2160p@60Hz 4:2:0, 8bit, Audio 2CH PCM 07: 3840x2160p@60Hz 4:2:0, 8bit, Audio 5.1CH DTS/Dolby 08: 3840x2160p@60Hz 4:2:0, 8bit, Audio 7.1CH DTS/Dolby/HD 09: 3840x2160p@60Hz 4:4:4, 8bit, Audio 2CH PCM 10: 3840x2160p@60Hz 4:4:4, 8bit, Audio 5.1CH DTS/Dolby 11: 3840x2160p@60Hz 4:4:4, 8bit, Audio 7.1CH DTS/Dolby/HD (Default) 12: User Defined 1 13: User Defined 2 14: User Defined 3 15: User Defined 4 16: EDID Pass-through(Copy from sink 1) 17: EDID Pass-through(Copy from sink 2) 18: EDID Pass-through(Copy from sink 3) 19: EDID Pass-through(Copy from sink 4)	>SetEDID 01 To 11

18G 2x4 Video Wall Processor

System Commands:

Commands	Descriptions	Example
>SetRS232Baud [Param]	Set the RS232 baud rate. [Param] = 01-07 01 – 2400 02 – 4800 03 – 9600 04 – 19200 05 – 38400 06 – 57600 07 – 115200	>SetRS232Baud 03
>GetRS232Baud	Get the RS232 baud rate.	>GetRS232Baud
>SetKeyLock [Param]	Lock/unlock the front panel. [Param] = On, Off On: Lock the front panel. Off: Un-lock the front panel.	>SetKeyLock On
>GetKeyLock	Get the front panel locking status.	>GetKeyLock
>SetPower [Param]	Enter/exit standby mode. Param = On,Off Off: Enter standby mode. On: Exit standby mode.	>SetPower Off
>GetPower	Get the standby status.	>GetPower
>GetStatus	Get the system status.	>GetStatus
>GetFirmwareVersion	Get the firmware version.	>GetFirmwareVersion
>SetAutoStandby [Param]	Enable/Disable auto standby mode. [Param] = On, Off On: Enable auto standby mode. Off: Disable auto standby mode.	>SetAutoStandby On
>GetAutoStandby	Get the status of the auto standby mode.	>GetAutoStandby
>SetAutoStandbyTime [Param]	Set the timeout in minutes to auto enter standby mode for no activity. [Param] is the timeout in minutes.	>SetAutoStandbyTime 10
>GetAutoStandbyTime	Get the timeout in minutes to auto enter standby mode for no activity.	>GetAutoStandbyTime
>FactoryReset	Factory reset the device.	>FactoryReset
>Help	Get the command details.	>Help
>Reboot	Reboot the device.	>Reboot

7. Troubleshooting & Maintenance

Problems	Potential Causes	Solutions
Output image with snowflake	Bad quality of the connecting cable.	Try another high-quality cable.
	Fail or loose connection.	Make sure the connection is good
No output image when switching	No signal at the input / output end.	Check with oscilloscope or multimeter if there is any signal at the input/output end.
	Fail or loose connection.	Make sure the connection is good.
	The switcher is broken.	Send it to authorized dealer for repairing.
POWER indicator doesn't work or no respond to any operation	Fail connection of power cord.	Make sure the power cord connection is good.
Static becomes stronger when connecting the video connectors	Bad grounding.	Check the grounding and make sure it is connected well.
Cannot control the device by control device (e.g. a PC) through RS232 port	Broken RS232 port.	Send it to authorized dealer for checking.

Note: If your problem still remains after following the above troubleshooting steps, please contact your local dealer or distributor for further assistance.

8. Customer Service

The return of a product to our Customer Service implies the full agreement of the terms and conditions hereinafter. These terms and conditions may be changed without prior notice.

1) Warranty

The limited warranty period of the product is fixed three years.

2) Scope

These terms and conditions of Customer Service apply to the customer service provided for the products or any other items sold by authorized distributor only.

3) Warranty Exclusion

- Warranty expiration.
- Factory applied serial number has been altered or removed from the product.
- Damage, deterioration or malfunction caused by:
 - ✓ Normal wear and tear.
 - ✓ Use of supplies or parts not meeting our specifications.
 - ✓ No certificate or invoice as the proof of warranty.
 - ✓ The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
 - ✓ Damage caused by force majeure.
 - ✓ Servicing not authorized by distributor.
 - ✓ Any other causes which do not relate to a product defect.
- Shipping fees, installation or labor charges for installation or setup of the product.

4) Documentation

Customer Service will accept defective product(s) in the scope of warranty coverage at the sole condition that the defect has been clearly defined, and upon reception of the documents or copy of invoice, indicating the date of purchase, the type of product, the serial number, and the name of distributor.

Remarks: Please contact your local distributor for further assistance or solutions.