OSD Operation Manual

Introduction

LCC-USB-DVI is a Local Console Controller that controls one PC with two KVM consoles the local-site console (Console 1, C1) and the remote-site console (Console 2, C2). It features up to 10 User-preset On-Screen Display (OSD) Image Banks. Users can upload their own OSD images from a USB Flash drive at the local-site console using either of the two USB ports for the keyboard and mouse. The priority of the local- site console port is higher than that of the remote-site console port.

Operation Modes:

The LCC-USB-DVI unit has three Operation Modes

1. C1/C2 Sharing Mode: Both local-site and remote-site console users have access to the connected PC.
   a. When the local user presses the local-site panel SELECT button, the operation mode toggles between C1/C2 Sharing Mode and C1 Maintaining Mode.
   b. When the remote user enters the hotkey sequence <ScrLk>, <ScrLk>, <M>, <0>, the operation mode transitions from C1/C2 Sharing Mode to C2 Operating Mode. Use the hotkey sequence <ScrLk>, <ScrLk>, <M>, <1> to return to C1/C2 Sharing Mode.
2. C1 Maintaining Mode: Since the unit is designed to give the local-site console higher priority than the remote-site console, the first panel button press will revert the ongoing C2 Operating Mode to C1/C2 Sharing Mode. The second panel button press will switch the unit to C1 Maintaining Mode and disable the K/M access of the remote-site console. This mode is used when a local-site technician is performing urgent equipment maintenance.
3. C2 Operating Mode: In this mode, the user-selected OSD image is displayed on the top of console 1's monitor, and the keyboard and mouse operations of the console 1 are disabled.

FIG. 1:

Shows two consoles (Local-site and Remote-site consoles) controlling the connected PC. The remote-site console is connected to a set of keyboard, mouse, and monitor, just like the local-site console.

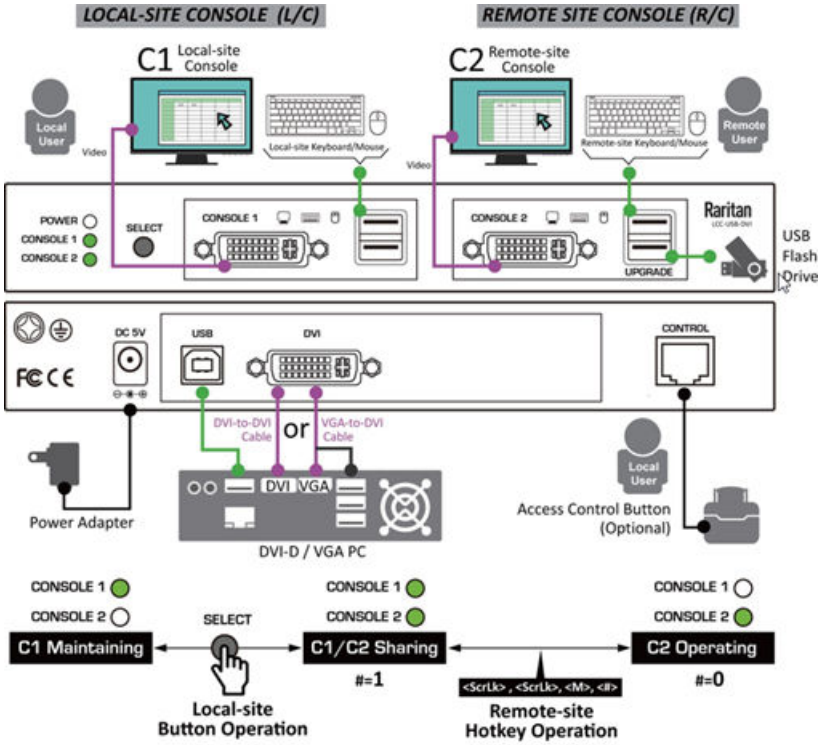


FIG. 1 LCC-USB-DVI Local Console Controller Configuration Diagram (1)

FIG. 2:

Shows the remote-site console is connected to an IP KVM via a CAT.5 KVM extender. The remote-site user can operate the remote-site console through the LAN/Internet using a web-based Viewer application.

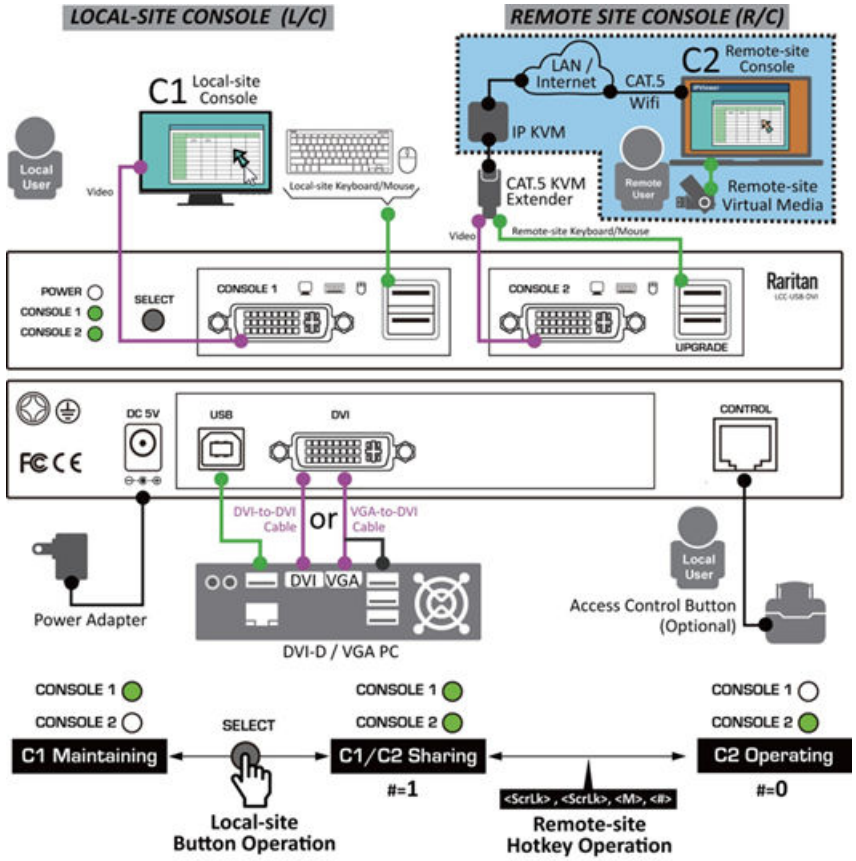


FIG. 2 LCC-USB-DVI Local Console Controller Configuration Diagram (2)

OSD Menu Operation

► *Login using hotkeys:*

1. Press the HOTKEY SEQUENCE <ScrLk>, <ScrLk>, <Space> using the keyboards connected either to the local- site console or the remote-site console ->the OSD menu login page appears.
2. Enter the default password "raritan" to enter the OSD menu.

3. To exit the OSD menu, press <Esc>.

Note: The OSD menu includes four functional pages: MAIN SETTINGS, INFORMATION, FRONTEND, and PQ SETTINGS.

Main Settings

The Main Settings page includes some key settings for the LCC-USB-DVI unit.

- Hotkey Prefix: The default hotkey prefix is <ScrLk>, but it can also be configured to <CapsLk>, <NumLk>, <L/Ctrl>, and <R/Ctrl>.
- Image Selection: In C2 Operating Mode, the user can select any one of up-to-10 uploaded OSD images to be displayed on C1's monitor. The default setting is Image Bank 1.
- Mode Selection: The options using the OSD menu to toggle are: C1/C2 Sharing Mode and C2 Operating Mode.

C1/C2 Sharing Mode and C1 Maintaining Mode options can be toggled using the unit panel button "SELECT".

- Console Priority: This item only applies to the C1/C2 Sharing Mode. Both consoles, C1 and C2, can control the PC. Its three options are C2/C1/Occupy, respectively described as below.

a. C2: Console 2 can always instantly take over control of the PC at any time while Console 1 is operating it.

b. C1: Console 1 can always instantly take over control of the PC at any time while Console 2 is operating it.

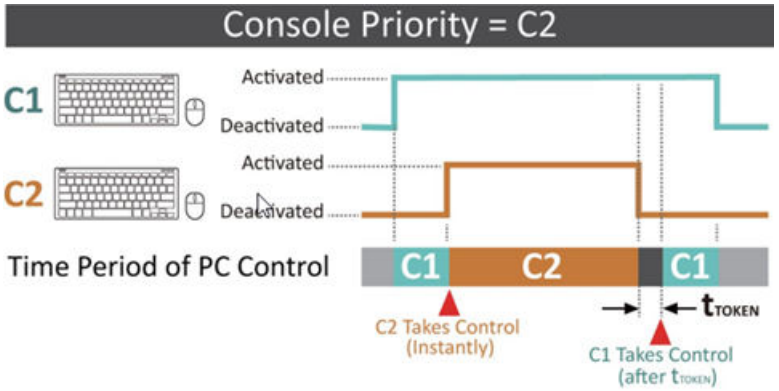
c. Occupy: The console currently controlling the PC always has higher priority. Only when it stops operating the keyboard or mouse for the duration of the Token Delay Time can the other console take over control of the PC.

- Token Delay Time: This time duration is set between the two consoles taking control of the PC to ensure that only one console takes control of the PC at a time.
- Display Effect: When in C2 Operating Mode, the OSD image previously selected using <ScrLk>, <ScrLk>, <F#> to be displayed on Console 1's monitor can be configured using this item, including the display effect option of either Solid or Blinking or No Image.
- C2 Text Prompt: This item is used to enable/disable the display of the Text Prompt at the upper-left corner of the Console 2's monitor.
- Panel Button: This item is used to set the duration (1 second/2 seconds/3 seconds) required for a panel button press to be recognized as effective. This item can also be set to the <Disabled> option to deactivate the panel button function.
- Restore Default: This item is for resetting the LCC-USB-DVI unit to its factory default settings.

Note: This operation can also be achieved by pressing the panel SELECT button for at least 10 seconds.

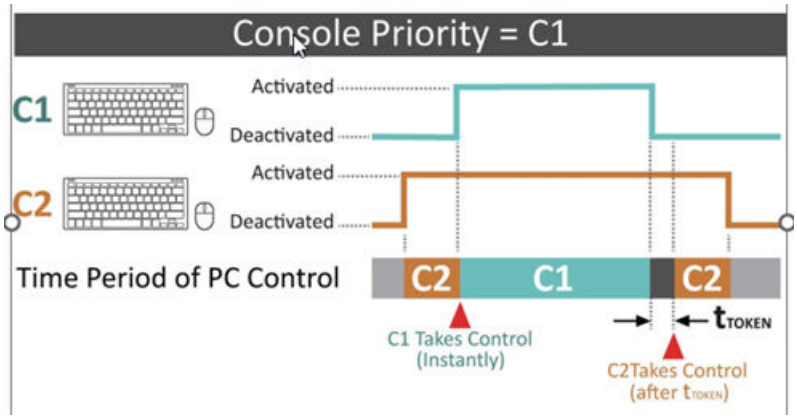
Console Priority (C2) Timing Diagram:

C2 can always take control of the PC instantly while C1 is still in operation.



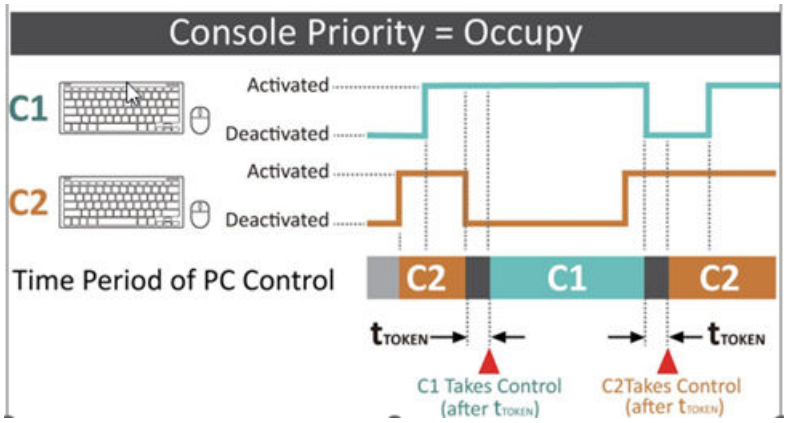
Console Priority (C1) Timing Diagram:

C1 can always take control of the PC instantly while C2 is still in operation.



Console Priority (Occupy) Timing Diagram:

A console that wants to take control of the PC must wait until the operating console has stopped its operation for a Token Time t_{TOKEN}.



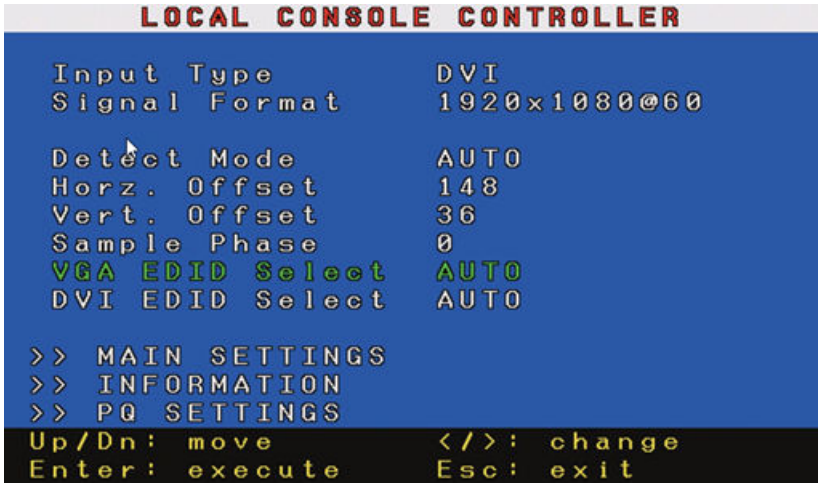
Information

The Information page displays some key information of the software versions, the Console 1 monitor EDID, and the Console 2 monitor EDID.

Frontend

Customize Your Monitor EDID:

The LCC-USB-DVI unit supports uploading user-customizable Monitor EDID data to accommodate specific DVI monitors in critical applications. Users can edit their own EDID file (Filenames: edid_dvi.txt) and use it in their applications. Follow the steps below to complete the custom EDID uploads.



LCC-USB-DVI Back Panel:

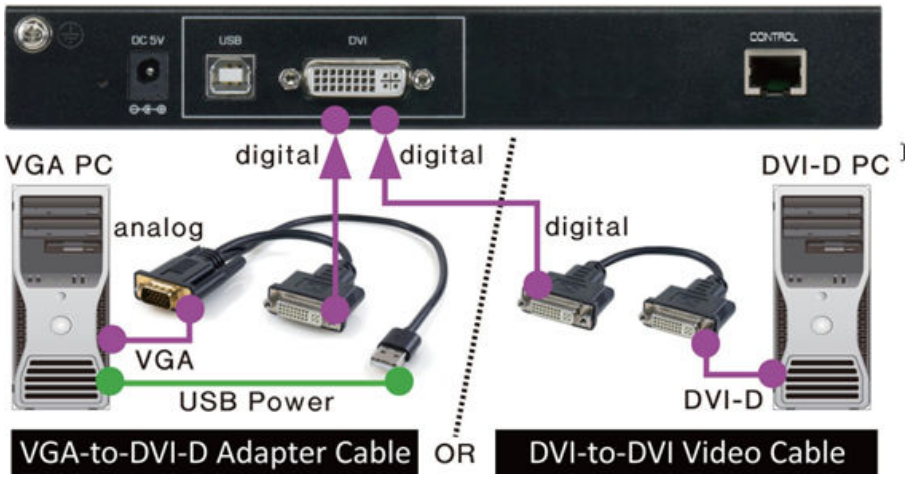
1. Use the text editing software as WordPad to edit the custom EDID file "edid_dvi.txt" on your pc. See EDID Data Requirements (on page 8)
2. Prepare a formatted (w/FAT32 or exFAT format) USB Flash Drive.
3. Copy the custom EDID file edid_div.txt to the USB Flash Drive.
4. Insert the USB Flash Drive into any of the local Console (C1) USB Ports.
5. Wait for at least 10 seconds, and you will hear three beeps, indicating that the custom EDID file upload has been completed.
6. Remove the USB Flash Drive from the LCC_USB -DVI unit, and the custom EDID will be applied to the unit, with a two-beep confirmation.
7. When you check the FrontEnd page of the OSD menu, the DIV EDID select option will change to "CUSTOM".

Video Alignment Parameters

When the LCC-USB-DVI unit is connected to a DVI-D enabled PC, use the attached DVI-to-DVI Video Cable to connect the PC and the LCC-USB-DVI unit. All video alignment parameters, such as Detect Mode, Horz. Offset, Vert. Offset, and Sample Phase are adaptively adjusted to optimize the compatibility between the input video source and the monitors. No manual adjustments are needed.

When the LCC-USB-DVI unit is connected to a VGA enabled PC, use the attached VGA-to-DVI Adapter Cable to connect the PC and the LCC-USB-DVI unit. The VGA-to-DVI Adapter Cable converts the analog VGA signal from the PC into a digital DVI-D video signal.

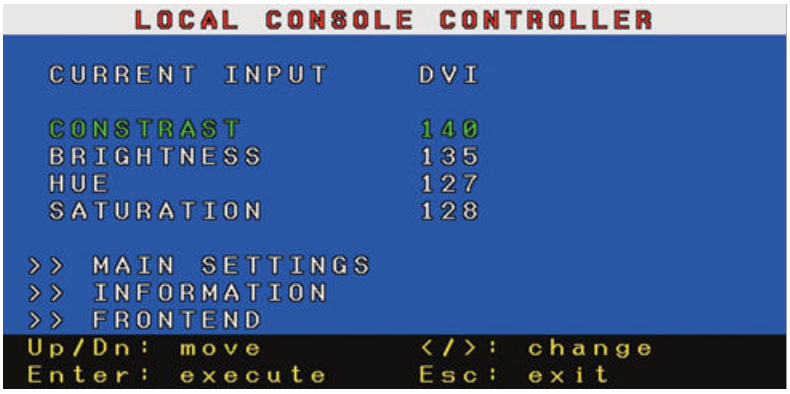
PC Input Video from VGA PC or DVI-D PC:



PQ Settings

To achieve optimal picture quality on monitors for DVI/VGA PC Video Input, the LCC-USB-DVI unit provides users picture quality parameters for fine adjustment, such as CONTRAST, BRIGHTNESS, HUE, and SATURATION.

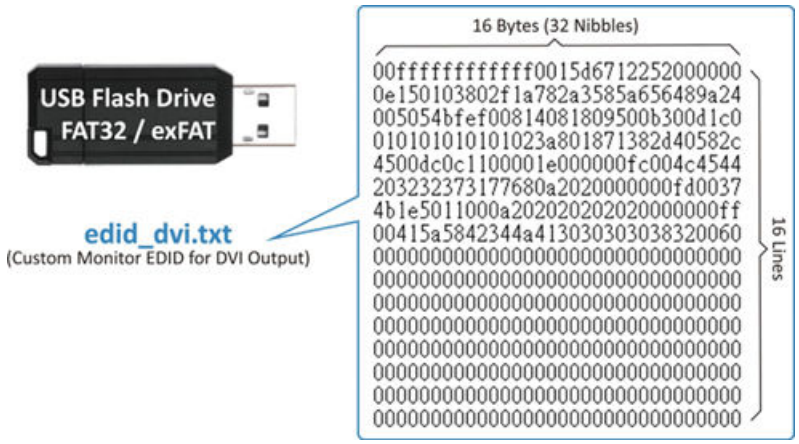
Picture Quality Page w/ PC DVI-D Video Input:



EDID Data Requirements

The EDID for the DVI monitor can be customized by users. Below is the formatted content of a legal sample EDID file. Please ensure that the content format strictly follows the rule of no spaces between two nibbles, 16 bytes (32 nibbles) per line, with a total of 16 lines.

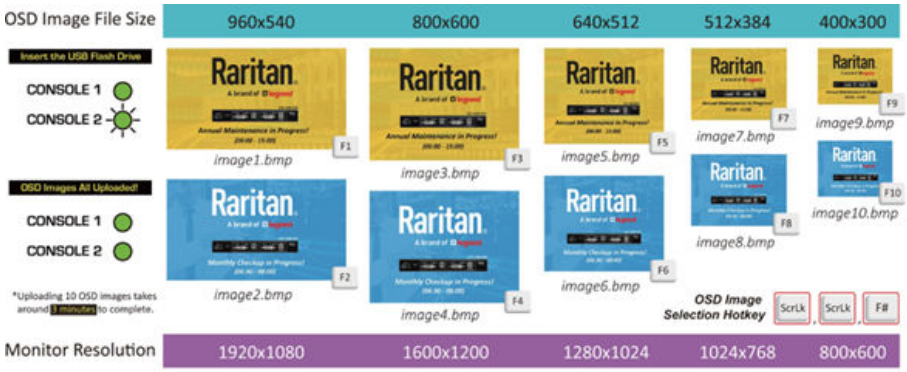
Formatted Content of a Legal Sample EDID File:



User-preset OSD Images Upload

Users are advised to prepare their own OSD image files to be applied in C2 Operating Mode. As this mode is activated, the selected OSD image will be displayed on the top of Console1's monitor. The LCC- USB-DVI unit supports up to five monitor resolutions and can be customized according to users' needs.

Below is an example showing two types of OSD image files in five different monitor resolutions.



► *To upload the OSD image files to the LCC_USB-DVI Unit:*

1. Prepare two types of bitmap image files (*.bmp)in five different monitor resolutions on your PC with the following resolutions: 960x540, 800x600, 640x512, 512x384, and 400x300.
2. Copy these 10 bitmap image files into a formatted (w/FAT32 or exFAT format) USB Flash Drive and insert the USB Flash Drive into any one of the Local Console (C1) USB Ports.
3. The Console 2 LED indicator starts flashing, indicating the OSC images are being uploaded. At the same time, a text prompt will appear on Console 2's monitor: Disk Detected>FatFs Mounting>New for [Update].[Update Image -1]... [Update Image-10]. Finally the text prompt will disappear.
4. After the Console 2 LED indicator becomes solid, remove the USB Flash Drive from the unit.
5. Press <ScrLK>, <ScrLK>, <F1>~<F10> to select any one from image1.bmp to image10.bp to be displayed on Console1's monitor in C2 Operating Mode.

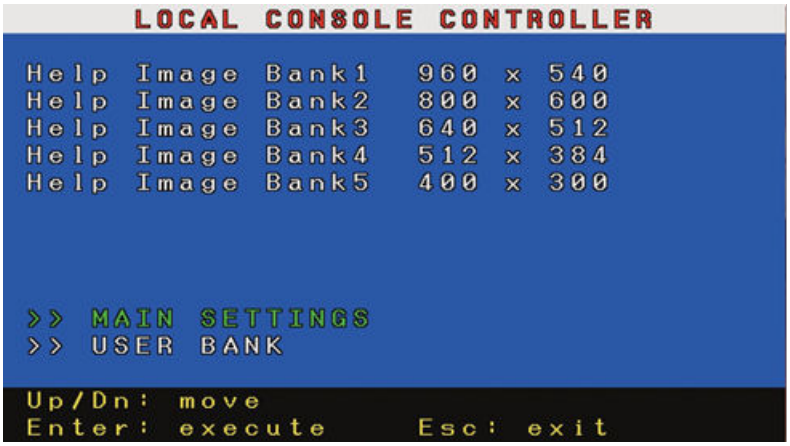
User Bank and Help bank

User Bank:

If a custom OSD images cannot be applied correctly, the user can check it by pressing <ScrLk>, <ScrLk>, <Home>, <5> to open the support (USER BANK) page, separate from other four functional pages.

Help Bank:

Press <ScrLk>, <ScrLk>, <Home>, <6> to open the support (HELP BANK) page, separate from other four functional pages. Based on the monitor connected to the unit, the system will select one of these system- default OSD images to remind the user of the most appropriate OSD image aspect ratio to apply when it detects the connected monitor doens't match the OSD image aspect ratio determined by the unit.



System-default OSD Images in Help Bank:

These system-default OSD images are customizable and have been factory-programmed in the unit. Contact our distributors for customization requests.

Firmware Upgrade

The LCC-USB-DVI unit supports firmware upgrades to enhance the value of your product.

Note: Contact our local distributors to obtain the latest firmware file and copy it to a formatted USB flash drive.

Follow the procedures below to complete the firmware upgrade of the unit. After the USB Flash Drive is inserted, the CONSOLE 2 monitor will show a text prompt: Disk Detected > FatFs Mounting. Then, three beeps will be heared, indicating the firmware upgrade is ready to start. Remove the USB Flash drive to start programming the firmware.

Firmware Upgrade Process:

Troubleshooting

1. We recommend always using a properly formatted USB flash drive for one task at a time, such as EDID file upload, OSD images upload, or firmware upgrade.
2. When the external control button connected to the rear panel of the unit is used, you can set the <Panel Button> option in the main settings page of the OSD menu to <Disabled>, to deactivate the panel button function to prevent accidental presses.
3. When the connected monitor in your project doesn't exactly match one of the five supported OSD image aspect ratios, you might experience a black screen or noise on your monitor. Please contact our local distributors for customization support.
4. The five system-default OSD images are customizable and have been factory-programmed in the unit. Contact our distributors for customization requests.
5. Please contact our distributors for any additional technical support.

FCC/CE Statements

FCC Statement:

This equipment has been tested and found to comply with the regulations for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this Quick Installation Guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case, the user will be required to correct the interference at his/her own expense.

CE Statement:

This is a Class A product in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.