



SOFTWARE VERSION 3.6

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# V676<sup>®</sup> CONTROL CONSOLE

## INSTALLATION & OPERATION MANUAL

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V676® Control Console Installation & Operation Manual

Version as of: March 22, 2013

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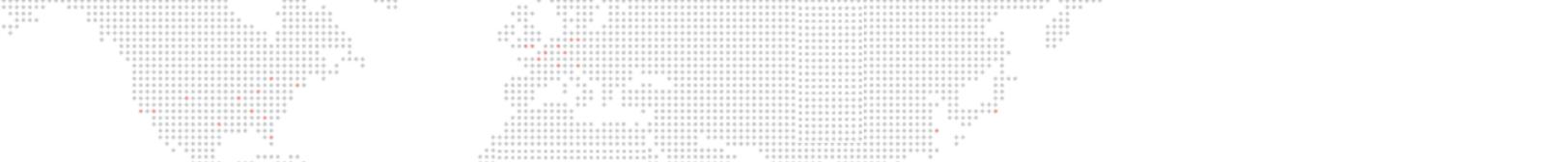
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This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference, and
- 2) This device must accept any interference received, including interference that may cause undesired operation.



It is extremely important to read ALL safety information and instructions provided in this manual and any accompanying documentation before installing and operating the products described herein. Heed all cautions and warnings during installation and use of this product.

Safety symbols used throughout this manual are as follows:



**CAUTION** advising of potential damage to product.



**WARNING** advising of potential injury or death to persons.

UNIVERSAL VOLTAGE RANGE: 100-240 VAC, 50/60 Hz, 10A Max

MAXIMUM AMBIENT TEMPERATURE:  $T_A = 50^{\circ} \text{C}$

NOT FOR RESIDENTIAL USE

DRY LOCATIONS ONLY



**WARNING!** Hazard of electrical shock. Disconnect power before servicing. Service and maintenance should be performed only by qualified personnel as determined by PRG. Refer to service manual before operating or servicing.



**WARNING!** Power supply plug and/or power switch/circuit breaker shall remain readily operable.



**WARNING!** For personal safety, this equipment must be properly grounded.

Do not, under any circumstances, cut or remove the ground prong from the power cord.

The power cord of this equipment is provided with a 3-prong grounding plug which mates with a standard 3-prong grounded wall outlet to minimize the possibility of electric shock hazard from this equipment.

Have the wall outlet and electrical circuit checked by a qualified electrician to ensure the outlet is properly grounded. If the outlet is a standard 2-prong outlet, it is your personal responsibility and obligation to have it replaced with a properly grounded 3-prong outlet.

Never unplug the equipment by pulling on the power cord. Always grip the plug firmly and pull it straight out from the outlet. Do not use a cord that shows cracks or damage along its length or at either end. Replacement cords may be ordered from PRG.



**ATTENTION!** Pour votre sécurité, cet appareil doit être correctement mis à la terre.

Il ne faut en aucun cas couper ou enlever la broche de terre du cordon d'alimentation.

Le cordon d'alimentation de cet appareil est fourni avec une fiche à 3 broches qui s'accouple avec un standard à 3 broches mise à la terre prise murale afin de minimiser le risque de choc électrique de cet équipement.

Faites vérifier la prise murale et le circuit électrique par un électricien qualifié pour assurer la prise est correctement mise à la terre. Si la prise est un standard 2 broches prise, il est de votre responsabilité et l'obligation de la faire remplacer par une prise à 3 broches prise.

Ne jamais débrancher l'appareil en tirant sur le cordon d'alimentation. Toujours saisir fermement la fiche et tirez-le tout droit hors de la prise. Ne pas utiliser un cordon qui présente des fissures ou des dommages sur toute sa longueur ou aux extrémités. Cordons de rechange peuvent être commandés auprès PRG.

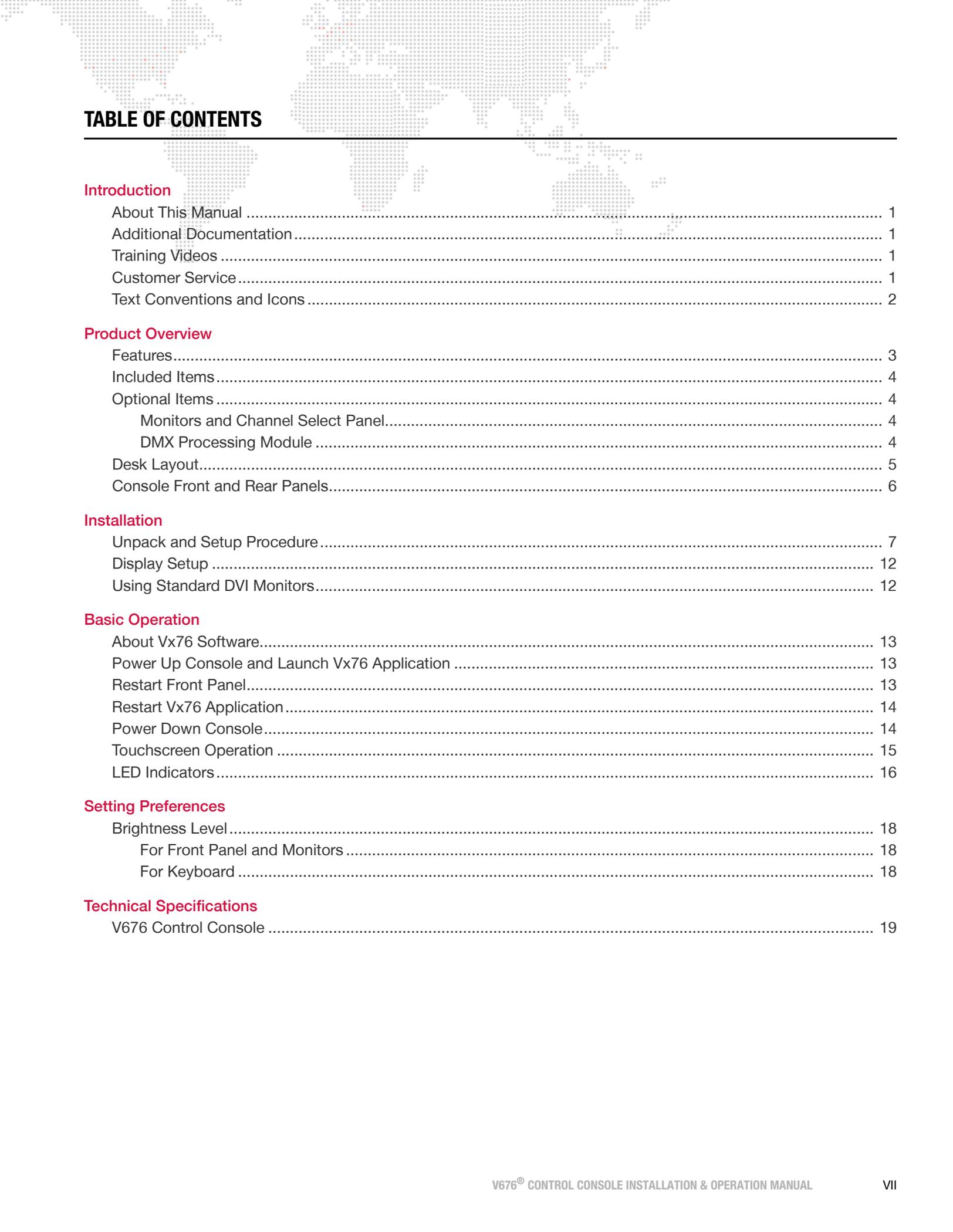
## Revision History

This manual has been revised as follows:

Version	Release Date	Notes
BASIC	March 22, 2013	Initial release.



**Notes**



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## Notes

# INTRODUCTION

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## About This Manual

This manual provides necessary information regarding product safety, installation, and operation for the following equipment:

- + V676® Control Console (20.9824.0001)

This manual applies to the hardware (console) only. For complete software operating instructions, refer to the following manual:

- + Vx76 Software User Manual (02.9814.0001.xx)

Familiarizing yourself with this information will help you get the most out of your lighting system.



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**WARNING:** It is important to read ALL accompanying safety and installation instructions to avoid damage to the product and potential injury to yourself or others.

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## Additional Documentation

For more information, refer to the following PRG manuals:

- + Vx76 Software User Manual (02.9814.0001.xx)
- + PRG Lighting Systems Networking Guide (02.3004.1000.0)
- + PRG Node Plus User Manual (02.9801.0301)
- + PRG Super Node™ User Manual (02.9821.0001)

## Training Videos

Console Training Videos are available on the PRG website. For a list of videos, refer to the following webpage:

- + <http://www.prg.com/console-training-videos/>

## Customer Service

For technical assistance, contact the PRG International Service Center or contact your nearest PRG office. Contact information for all PRG office locations can be found on our website at: [www.prg.com](http://www.prg.com)

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For additional resources and documentation, please visit our website at: [www.prg.com](http://www.prg.com)

## Text Conventions and Icons

The following button styles are used throughout this manual:

[Button]	Front panel "hard" button. <i>Example:</i> Press [Cue] [1] [Enter] to recall Cue 1.
<Button>	Optional desk button press. <i>Example:</i> Press [Store] <Cue> [n] [Enter].
[Button 1 ] / [Button 2]	Front Panel button combination sequence. Press and hold Button 1 while pressing Button 2.
[Button/Button]	Front Panel button double-click.
⟨Button⟩	Touchscreen "soft" button. <i>Example:</i> Press ⟨Plan View⟩ to open plan view.
<b>Button</b>	Software menu or window dialog button. <i>Example:</i> Click <b>OK</b> . <i>Example:</i> At <b>Operation</b> menu, select <b>Luminaire Status</b> .
ENTER	Mac keyboard key. <i>Example:</i> Hold down ALT on the Mac keyboard.

Note these equivalent buttons on the Mac keyboard and front panel command-line keypad:

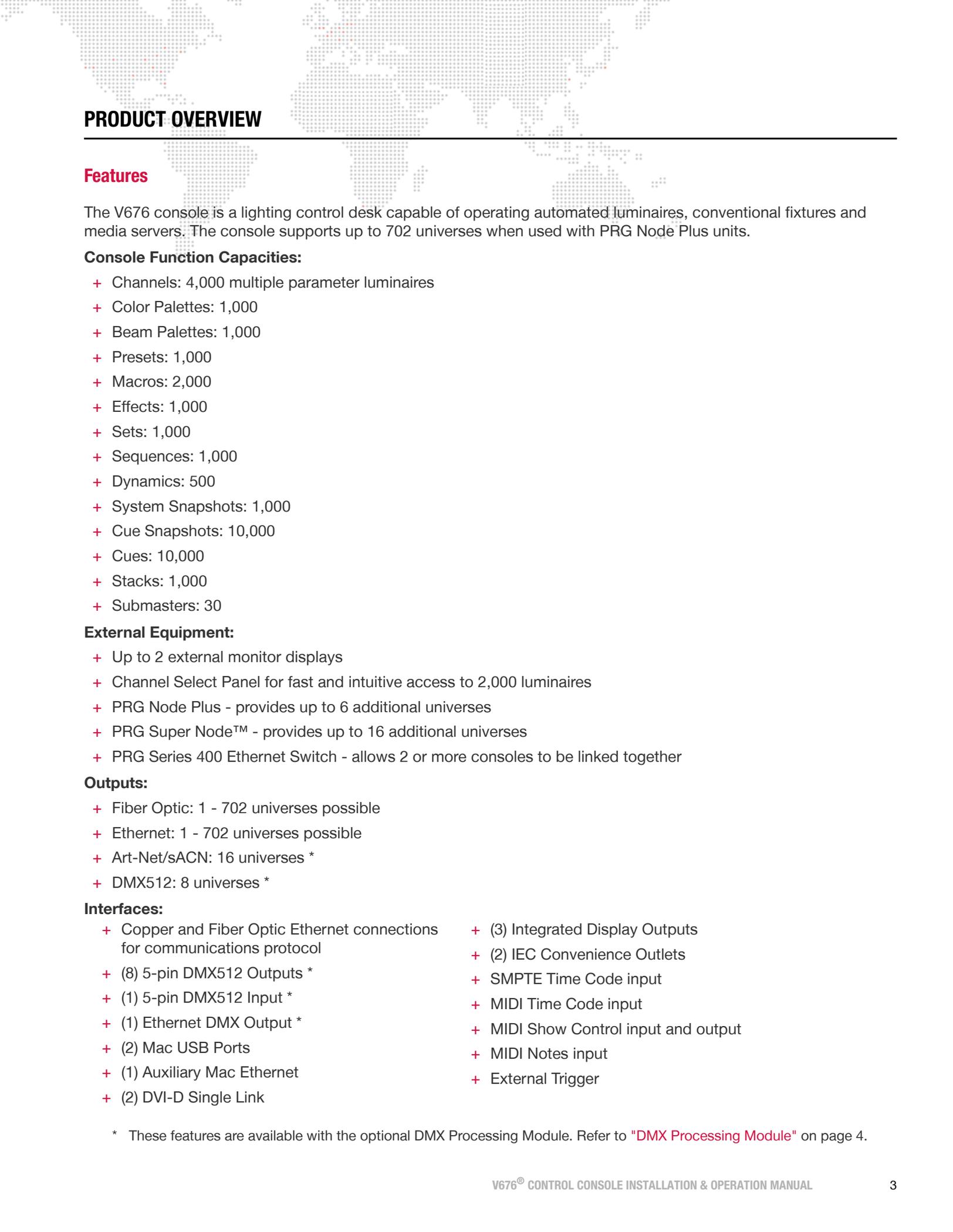
**Mac Keys**

WIN = 

ALT = 

SHIFT = 



## PRODUCT OVERVIEW

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### Features

The V676 console is a lighting control desk capable of operating automated luminaires, conventional fixtures and media servers. The console supports up to 702 universes when used with PRG Node Plus units.

#### Console Function Capacities:

- + Channels: 4,000 multiple parameter luminaires
- + Color Palettes: 1,000
- + Beam Palettes: 1,000
- + Presets: 1,000
- + Macros: 2,000
- + Effects: 1,000
- + Sets: 1,000
- + Sequences: 1,000
- + Dynamics: 500
- + System Snapshots: 1,000
- + Cue Snapshots: 10,000
- + Cues: 10,000
- + Stacks: 1,000
- + Submasters: 30

#### External Equipment:

- + Up to 2 external monitor displays
- + Channel Select Panel for fast and intuitive access to 2,000 luminaires
- + PRG Node Plus - provides up to 6 additional universes
- + PRG Super Node™ - provides up to 16 additional universes
- + PRG Series 400 Ethernet Switch - allows 2 or more consoles to be linked together

#### Outputs:

- + Fiber Optic: 1 - 702 universes possible
- + Ethernet: 1 - 702 universes possible
- + Art-Net/sACN: 16 universes \*
- + DMX512: 8 universes \*

#### Interfaces:

- + Copper and Fiber Optic Ethernet connections for communications protocol
- + (8) 5-pin DMX512 Outputs \*
- + (1) 5-pin DMX512 Input \*
- + (1) Ethernet DMX Output \*
- + (2) Mac USB Ports
- + (1) Auxiliary Mac Ethernet
- + (2) DVI-D Single Link
- + (3) Integrated Display Outputs
- + (2) IEC Convenience Outlets
- + SMPTE Time Code input
- + MIDI Time Code input
- + MIDI Show Control input and output
- + MIDI Notes input
- + External Trigger

\* These features are available with the optional DMX Processing Module. Refer to "[DMX Processing Module](#)" on page 4.

## Included Items

The V676 Console includes the following standard components:

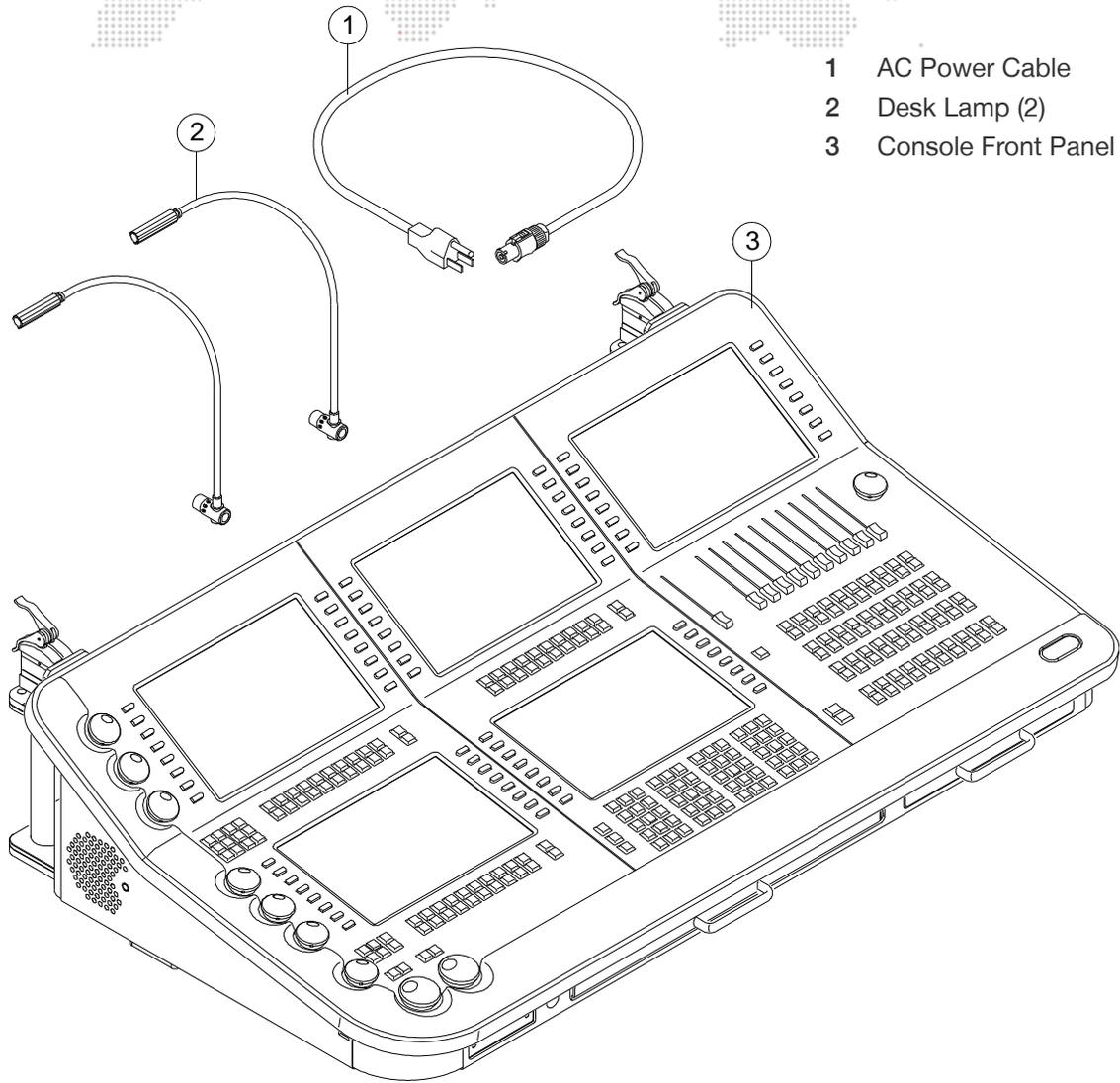


Figure 1: V676 Components

## Optional Items

### Monitors and Channel Select Panel

External monitors and/or a Channel Select panel are available from PRG. These are optional items which do not affect the function or capabilities of the console.

### DMX Processing Module

An optional DMX Processing Module - with eight (8) 5-pin DMX512 Outputs, one (1) 5-pin DMX512 Input, and one (1) Ethernet DMX Output - is also available from PRG. This option provides DMX and DMX-over-Ethernet capabilities which may not be available on consoles without the DMX Processing Module installed.

## Desk Layout

The following illustration shows the major control areas of the V676 console.

### Encoders / Buttons -

Six knobs and associated buttons which can be mapped for control of various luminaire parameters.

### Palette (3) -

Used to store and recall Preset, Color, Beam, Group, Macro, Snapshot, Effect, Dynamic and Stack settings.

### Soft Function Buttons -

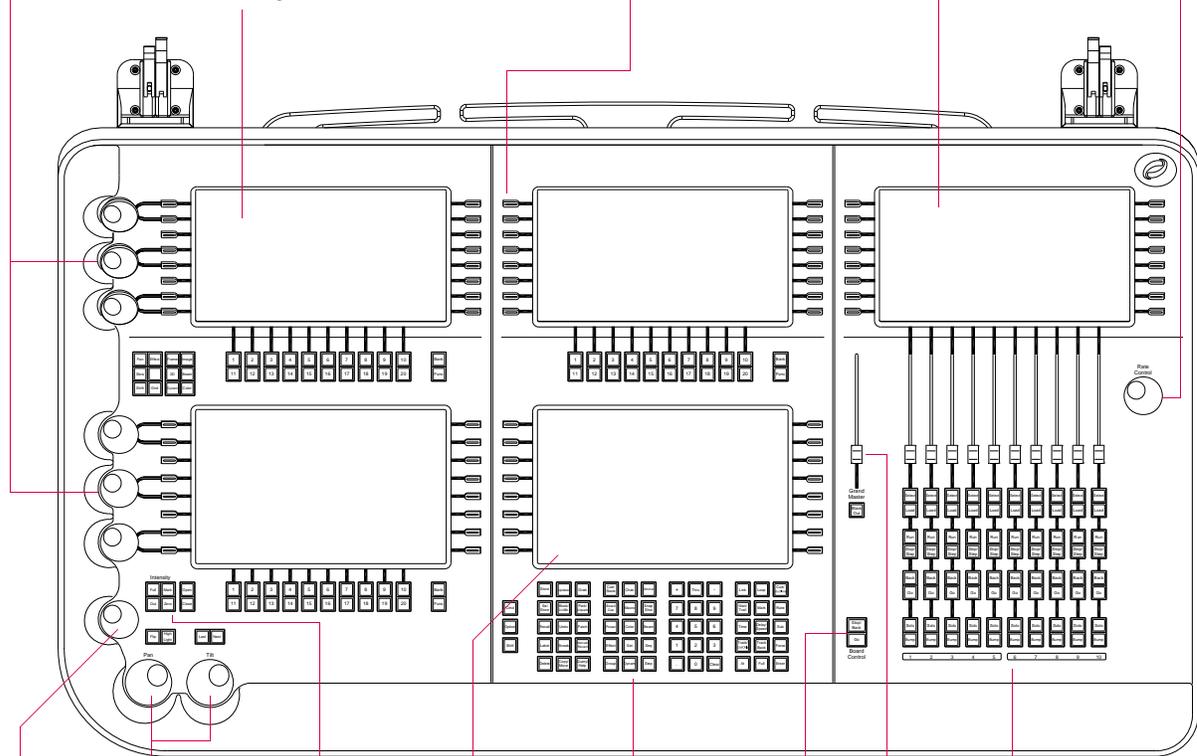
Used with the touchscreen displays. Function will depend on the current controls being shown in the touchscreen.

### Rate Encoder -

Used to speed up or slow down the playback of events (cues or effects).

### Submasters/Utility Touchscreen -

Displays system configuration information and submaster settings.



**Pan/Tilt Encoders -**  
Used to manually control pan and tilt functions of selected luminaire(s).

**Intensity Buttons -**  
Applies an intensity state to selected luminaire(s).

**Command Keypad -**  
Used to input various command-line actions.

**Submaster Faders -**  
Used for playback control.

**Intensity Encoder -**  
Adjusts intensity level for selected luminaire(s).

**Central Touchscreen -**  
Displays command-line entries and active cue numbers. Also used to configure Timing, Filter, Patch, and other console operations.

**Grandmaster Fader / Blackout Button -**  
Used to master overall intensity output.

**Board Control Buttons -**  
Provides a method to record events on the console and play them back on command.

Figure 2: V676 Front Panel Layout

## Console Front and Rear Panels

The following illustrations show the front and rear panels of the V676 console.

**Note:** The drawings in this manual show the optional DMX Processing Module installed, however, your particular console may not have this hardware. Refer to "**DMX Processing Module**" on page 4 for more details.

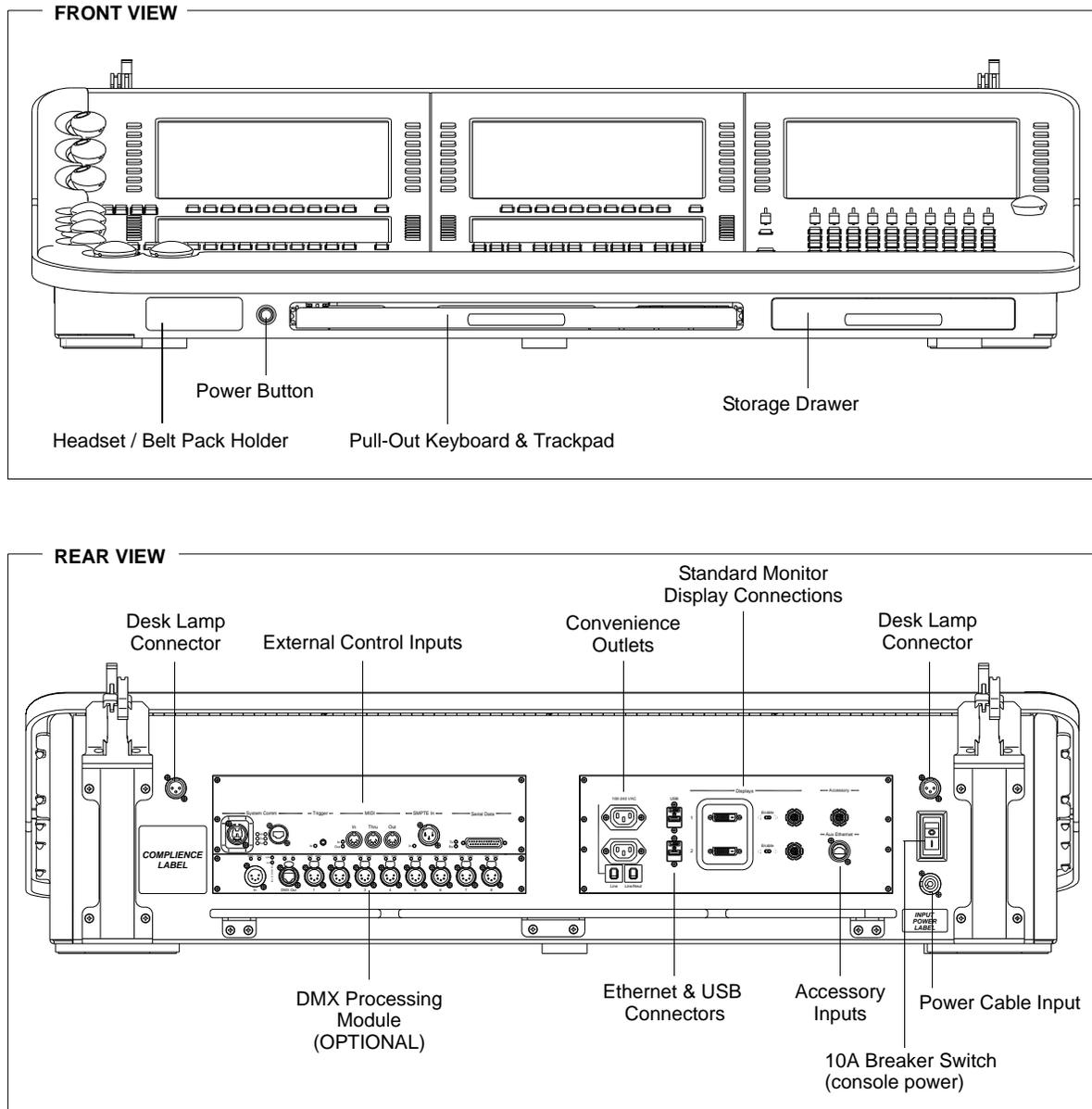


Figure 3: V676 Console Front and Rear Panels

# INSTALLATION

## Unpack and Setup Procedure

- Step 1. Remove all components from shipping container (Figure 4).
- Step 2. Place console on a sturdy table or other flat surface.

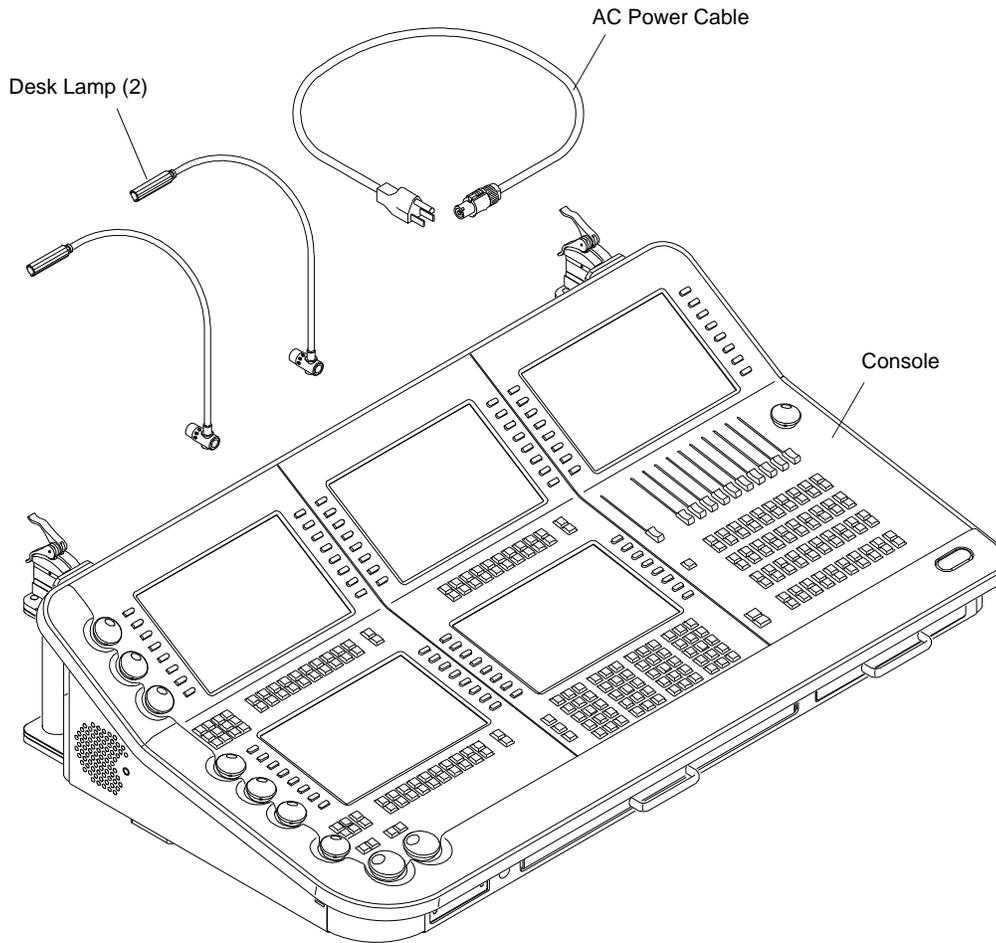


Figure 4: Unpacking the V676 Console Contents

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**Note:** Monitors and/or Channel Select panel are optional. If these components are not included, skip to Step 6.

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**Note:** The console supports up to two (2) external monitors (optional). This can be two PRG-provided monitors, two user-provided monitors, or a combination of one each. In any case, only two external monitors should be installed.

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**Note:** If DVI monitors are to be used instead of PRG-provided monitors, refer to "Display Setup" on page 12.

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Step 3. At rear of console, install one support arm for each external monitor/panel, as shown in Detail B of Figure 5.

Step 4. Slide monitor/panel onto support arm quick-release connectors as shown in Detail A of Figure 5.

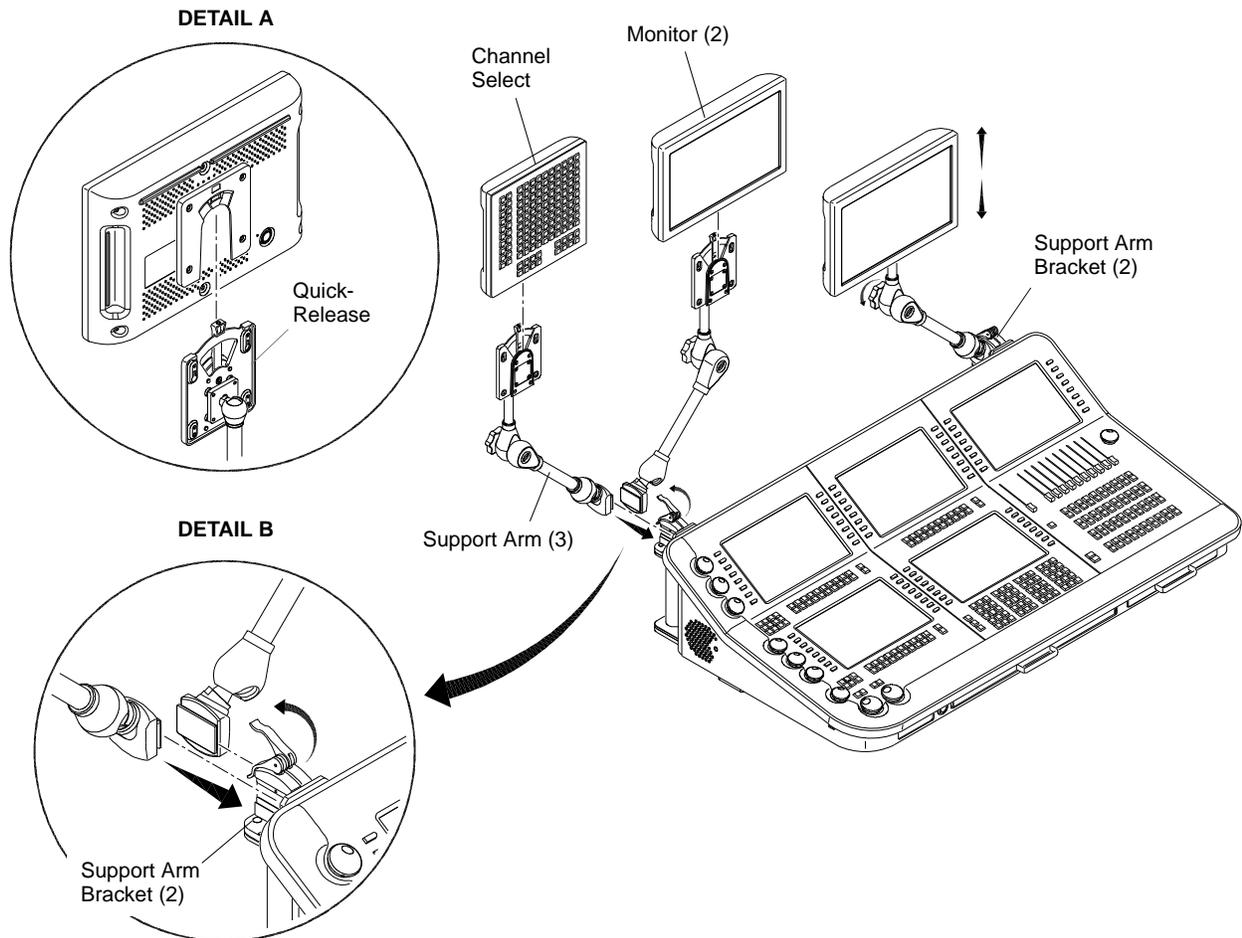


Figure 5: Installing Channel Select Panel and Monitors on V676 Console (Optional)



**CAUTION:** Power supply plug and/or power switch/circuit breaker shall remain readily operable.

- Step 5. Connect monitors and/or Channel Select panel to console, as required (Figure 6). Be sure to connect LEMO connectors as shown.
- Step 6. Connect AC Power Cable (supplied) from AC In connector at back of console to AC power source.

**Note:** The console supports up to two (2) external monitors (optional). This can be two PRG-provided monitors, two user-provided monitors, or a combination of one each. In any case, only two external monitors should be installed. Note that your particular set-up may be different than what is shown here.

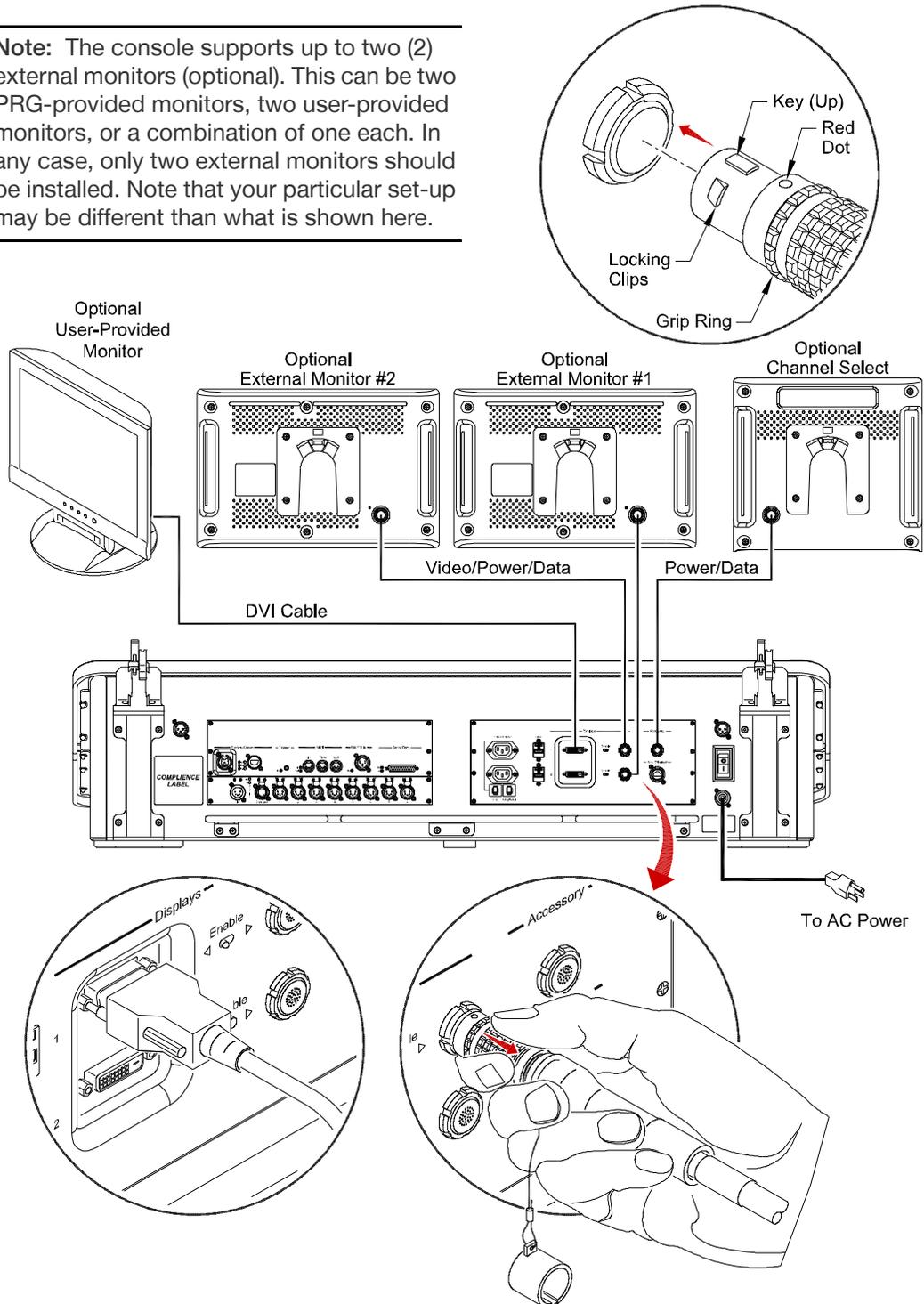


Figure 6: Connecting Components to V676 Console

Step 7. At rear of console, install desk lamps (Figure 7).

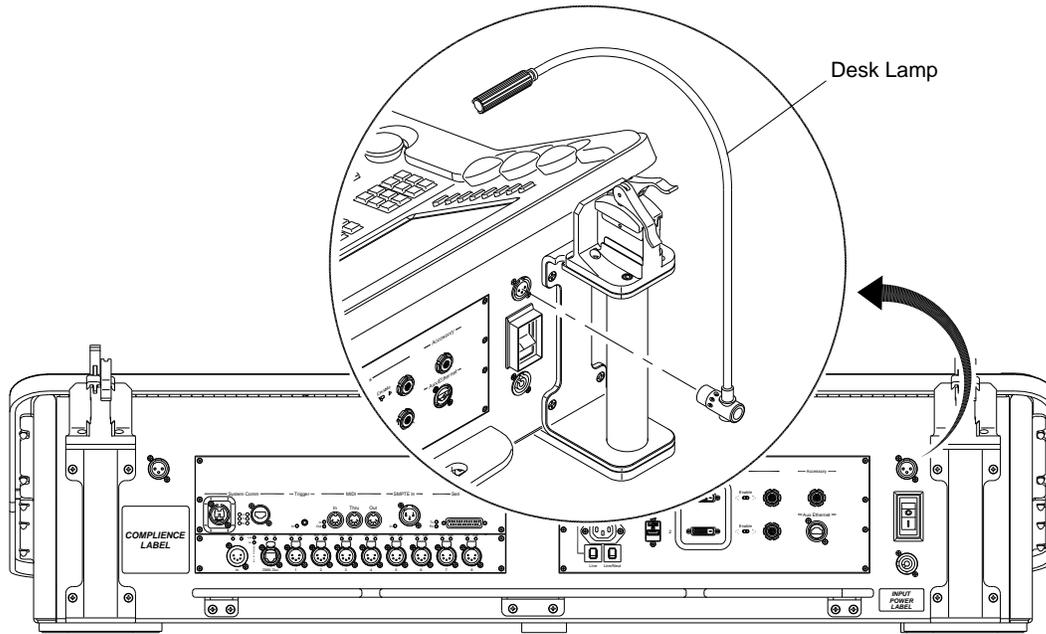


Figure 7: Installing Desk Lamps

Step 8. Connect console to system using using either copper or fiber optic Ethernet (Figure 8).

Step 9. Connect optional external devices as required.

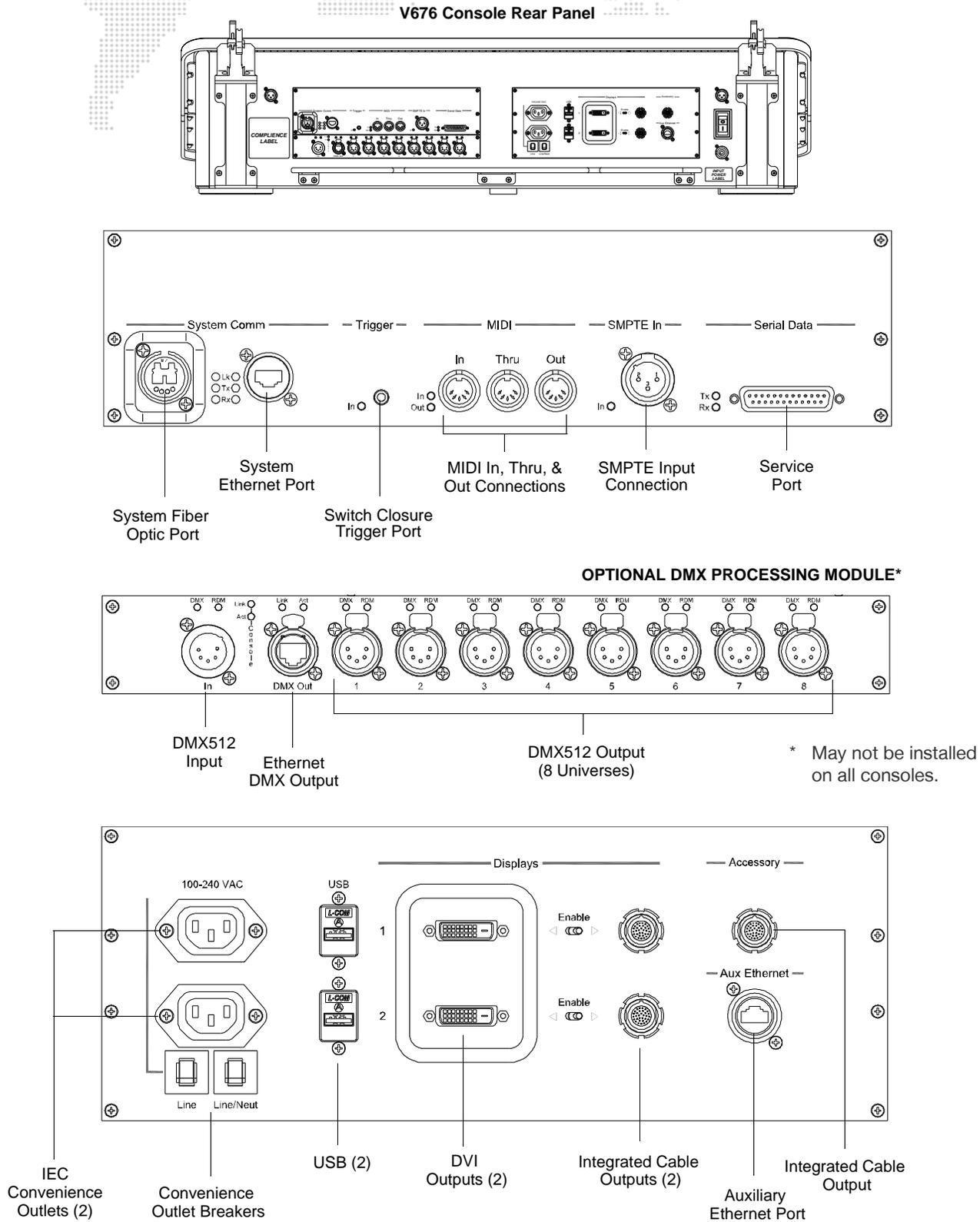


Figure 8: V676 Console Rear Panel Connections

## Display Setup

Use the following guidelines when connecting displays to the console:

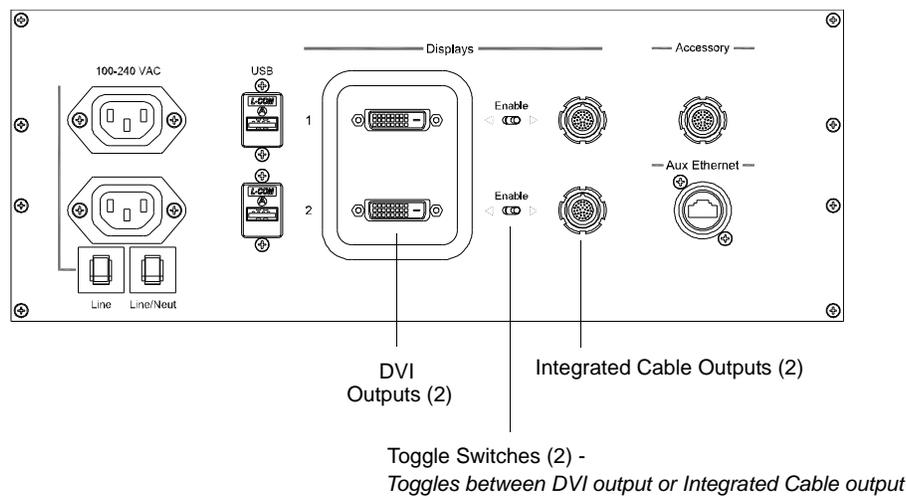
- + For the standard setup, the resolutions and arrangement of the monitors in the display preferences should NOT need to be changed. Normally, there will be two 1280 x 768 displays. If there is an issue at startup for some reason, 'Detect Displays' should get the correct information.
- + If an external display is not being used, move the switch on the rack to the external position so the system will know it is not there (to keep the cursor and windows from going to non-existent displays). Refer to **Figure 9**.
- + There is an LED indicator on the back of the external displays. Indications are as follows:
  - Green indicates a good video signal.
  - Yellow indicates no video.

## Using Standard DVI Monitors

If user-supplied DVI monitors are used, these should be connected to the DVI outputs at the rear panel (**Figure 9**).

*Installation Guidelines:*

- + Either PRG-provided touchscreen monitors must be used *or* user-supplied monitors must be installed in their place. *Only one of the outputs will be active.*
- + Two connection options are available on the rear panel: DVI or Integrated Cable. The toggle switches enable the required outputs.



**Figure 9: V676 Monitor Connections**

## BASIC OPERATION

The following sections provide basic procedures for powering up the hardware, starting the software application, and setting preferences. For complete instructions on controlling a lighting system, refer to the Vx76 Software User Manual.

### About Vx76 Software

The Vx76 software application provides the graphical user interface (GUI) for console operation. The Vx76 software provides standard menu-based operations that can be accessed on the external monitor display by using the cursor or by touching the display itself. The software also provides the interface for the touchscreens available on the front panel (desk). In many cases, operations can be done using either the front panel touchscreens or the menus.

The Vx76 software may be upgraded as new features become available.

### Power Up Console and Launch Vx76 Application

Use the following procedure to power up the console and Mac computer, and to launch the software application.

#### To power up and launch:

- Step 1. At rear of console, set breaker switch to ON position. (Refer to **Figure 3** on [page 6](#).)
- Step 2. At Mac computer, press power button. Wait for computer to boot up and front panel to initialize.
- Step 3. At Mac desktop, double-click Vx76 icon to launch application. A new show file (or last open show file) will automatically load and Task Progress window will show progress of data downloads.

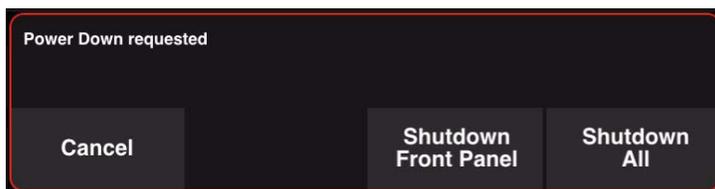
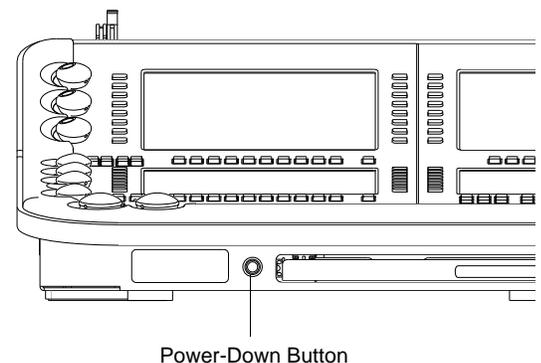


### Restart Front Panel

When the console's blue power-down button is pressed, a shutdown dialog will be displayed on the central touchscreen. The dialog contains two options: 'Shutdown Front Panel', which independently powers down the front panel, and 'Shutdown All', which powers down the front panel and the computer.

#### To restart front panel:

- Step 1. At front of console, press and hold power-down button.
- Step 2. At touchscreen, press <Shutdown Front Panel>. (During a Front Panel Shutdown, the blue power-down button will slowly flash to indicate that it is in sleep mode.)
- Step 3. To restart front panel, press power-down button again.



## Restart Vx76 Application

The Vx76 software application can be independently closed and restarted. This is useful for upgrading the software or for restarting the application itself.

### To shutdown and restart Vx76 application:

- Step 1. At Vx76 menu, select **Quit Vx76. Allow application to completely shut down.**
- Step 2. At Mac desktop, double-click Vx76 icon to relaunch application. A new show file (or last open show file) will automatically load and Task Progress window will show progress of data downloads.

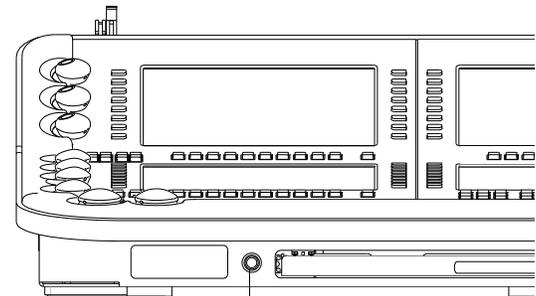


## Power Down Console

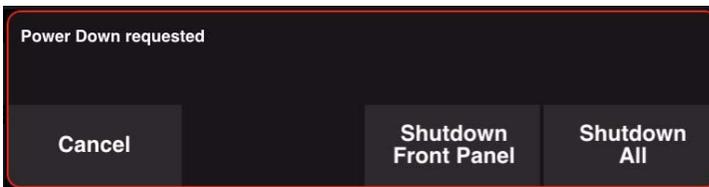
When the console's blue power-down button is pressed, a shutdown dialog will be displayed on the central touchscreen. The dialog contains two options: 'Shutdown Front Panel', which independently powers down the front panel and 'Shutdown All', which powers down the front panel and the computer.

### To power down console:

- Step 1. At front of console, press and hold power-down button.
- Step 2. At touchscreen, press <Shutdown All>. **Allow front panel and computer to completely shut down.**
- Step 3. At rear of console, set breaker switch to OFF position.

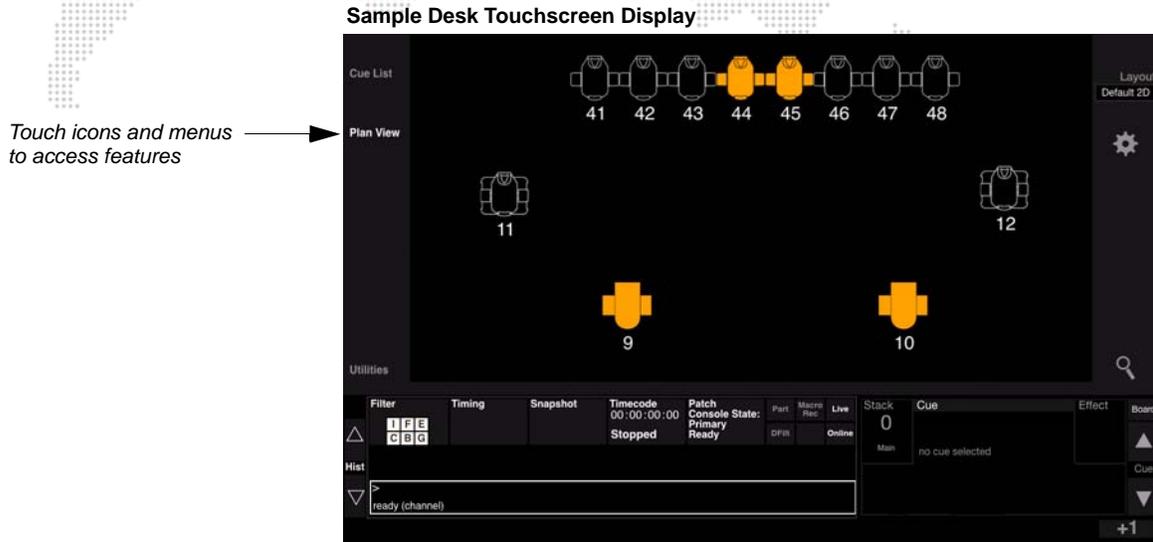


Power-Down Button

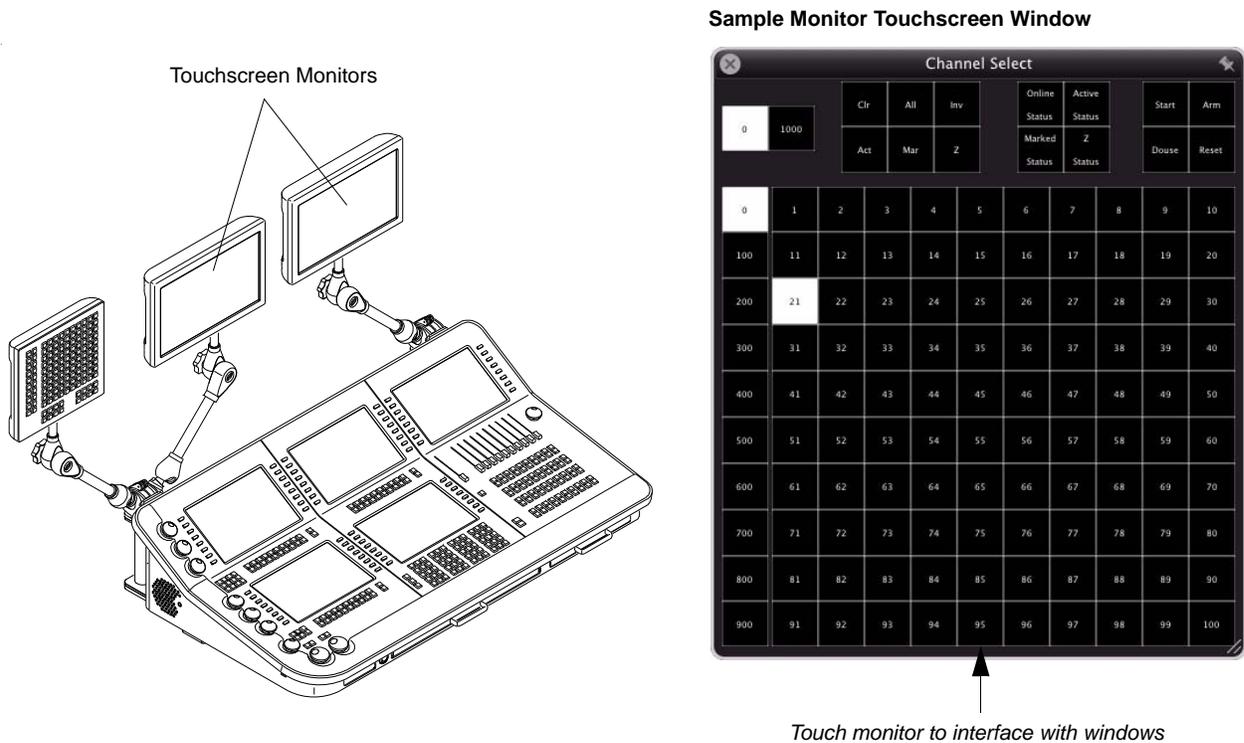


## Touchscreen Operation

The touchscreens available on the front panel provide an interface for configuration, programming and play back. Operation is similar to any standard touchscreen display.



The console's external monitors are also touch-enabled. For applicable software screens, the touchscreen interface may be used.



## LED Indicators

LED indicators located on the rear panel provide feedback for device and system connections.

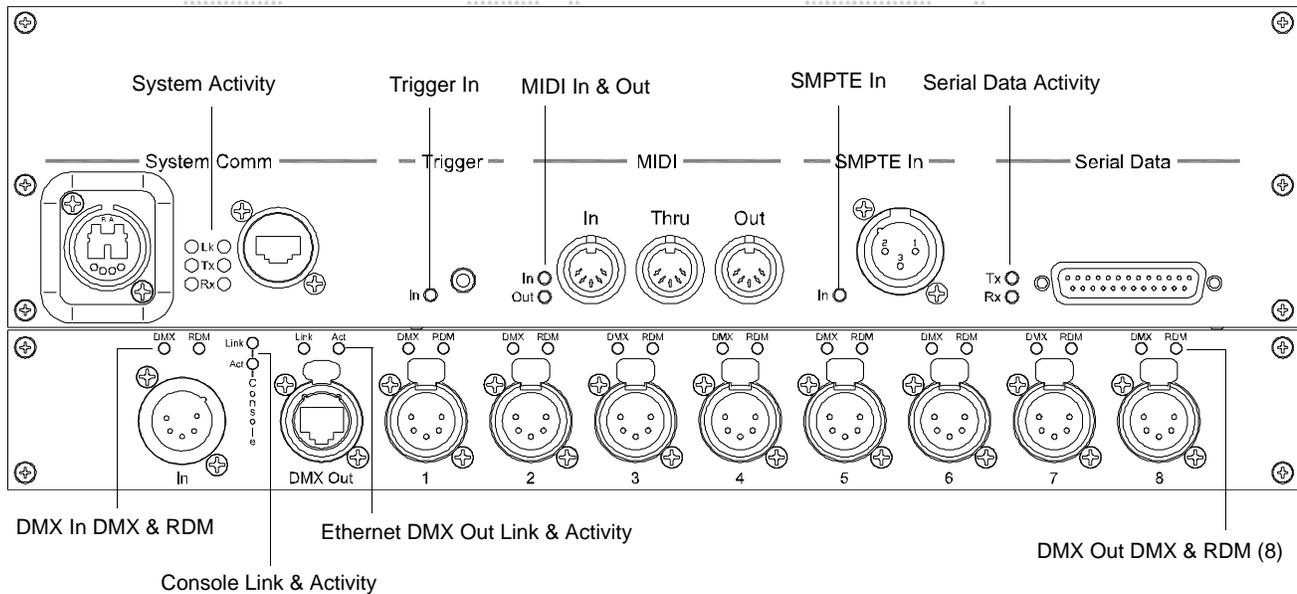


Figure 10: V676 Rear Panel Indicators

Indications are as follows:

### System Comm:

- + **Link** - Lights green when there is an active link to another Ethernet device.
- + **Transmit (Tx)** - Flashes green when an Ethernet message is transmitted.
- + **Receive (Rx)** - Flashes green when an Ethernet message is received.

### Trigger:

- + **Trigger In** - Flashes green when a switch closure is detected on the trigger input.

### MIDI:

- + **In** - Flashes green when when a MIDI message is received.
- + **Out** - Flashes green when a MIDI message is transmitted.

### SMPTE:

- + **SMPTE In** - Lights green when a valid SMPTE input signal is present.

### Serial Data:

- + **Transmit (Tx)** - Flashes green when serial data is transmitted.
- + **Receive (Rx)** - Flashes green when serial data is received.

### DMX In: \*

- + **DMX** - Lights green when DMX512 is being received.
- + **RDM** - Lights green when an RDM message is transmitted.

### Console: \*

- + **Link** - Blinks green to indicate that the panel CPU is running.
- + **Activity** - Flashes green to indicate activity internal to the console (scanning switches, etc.).



**Ethernet DMX Out (Art-Net/sACN): \***

- + **Link** - Lights green when there is an active link to another Ethernet device.
- + **Activity** - Flashes green when an Ethernet message is received or transmitted.

**DMX Out (1-8): \***

- + **DMX** - Lights green when DMX512 is being transmitted.
- + **RDM** - Lights green when an RDM message is received.

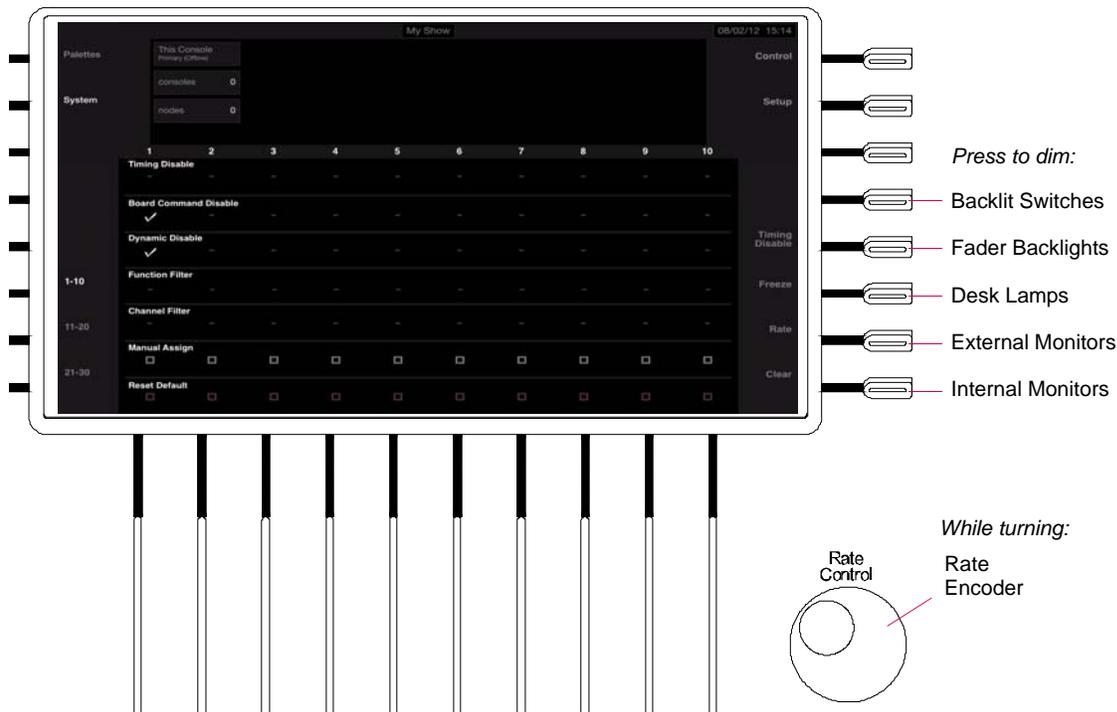
\* These features are available with the optional DMX Processing Module. Refer to "[DMX Processing Module](#)" on page 4.

# SETTING PREFERENCES

## Brightness Level

### For Front Panel and Monitors

The brightness level can be set for all monitors, desk lamps, faders, and backlit switches. This is done by pressing the appropriate button at the Submaster panel while turning the Rate encoder.



### To set a new brightness level:

- Step 1. At Submaster panel, press and hold appropriate hard button to activate dimming. Options are:
  - a. "Blank" button above Timing Disable controls backlit switch dimming level.
  - b. Timing Disable button controls fader backlights.
  - c. Freeze button controls desk lamps.
  - d. Rate button controls external monitors.
  - e. Clear button controls internal monitors (front panel displays).
- Step 2. While holding down button, turn Rate encoder until desired brightness level is reached.
- Step 3. Release button. New brightness level will be set.

### For Keyboard

The brightness level can be set for the pull-out Mac keyboard.

### To set a new brightness level for keyboard:

- Step 1. At keyboard, press and hold FN (function) key.
- Step 2. While holding down key, press Up/Down buttons until desired brightness level is reached.
- Step 3. Release key. New brightness level will be set.

## TECHNICAL SPECIFICATIONS

### V676 Control Console

#### Console Function Capacities:

- + Channels: 4,000 multiple parameter luminaires
- + Color Palettes: 1,000
- + Beam Palettes: 1,000
- + Presets: 1,000
- + Macros: 2,000
- + Effects: 1,000
- + Sets: 1,000
- + Sequences: 1,000
- + Dynamics: 500
- + System Snapshots: 1,000
- + Cue Snapshots: 10,000
- + Cues: 10,000
- + Stacks: 1,000
- + Submasters: 30

#### External Equipment:

- + Up to 2 external monitor displays
- + Channel Select Panel for fast and intuitive access to 2,000 luminaires
- + PRG Node Plus - provides up to 6 additional universes
- + PRG Super Node™ - provides up to 16 additional universes
- + PRG Series 400 Ethernet Switch - allows 2 or more consoles to be linked together

#### Outputs:

- + Fiber Optic: 1 - 702 universes possible
- + Ethernet: 1 - 702 universes possible
- + Art-Net/sACN: 16 universes \*
- + DMX512: 8 Universes \*

#### Interfaces:

- + Copper and Fiber Optic Ethernet connections for communications protocol
- + (8) 5-pin DMX512 Outputs \*
- + (1) 5-pin DMX512 Input \*
- + (1) Ethernet DMX Output \*
- + (2) Mac USB Ports
- + (1) Auxiliary Mac Ethernet
- + (2) DVI-D Single Link
- + (3) Integrated Display Outputs
- + (2) IEC Convenience Outlets
- + SMPTE Time Code input
- + MIDI Time Code input
- + MIDI Show Control input and output
- + MIDI Notes input
- + External Trigger

#### Electrical Specifications:

- + AC Power Input via Latching IEC-320 Inlet
- + Line Cord Provided with Edison Plug
- + Universal Voltage Range: 100-240 VAC, 50/60 Hz, 10A Max
- + Maximum Ambient Temperature: TA = 50° C
- + Power Consumption: Console (with displays) - Less than 600 watts

#### Physical Specifications:

- + CPU: Dual Apple® Mac Mini® Quad-Core Intel Core i7 2.6GHz
- + Displays:
  - 5 integrated, full-color touchscreen displays.
  - Up to 2 external, full-color touchscreens, *or* Up to 2 external DVI monitors
- + External Channel Select Panel: 10,000 channels
- + Weight and Dimensions:
  - 120 lbs. (54.43 kg) with accessories
  - 46.8" (118.9 cm) W x 11.6" (29.5 cm) H x 28.6" (72.6 cm) D (including mounting brackets)

\* These features are available with the optional DMX Processing Module. Refer to "DMX Processing Module" on page 4.

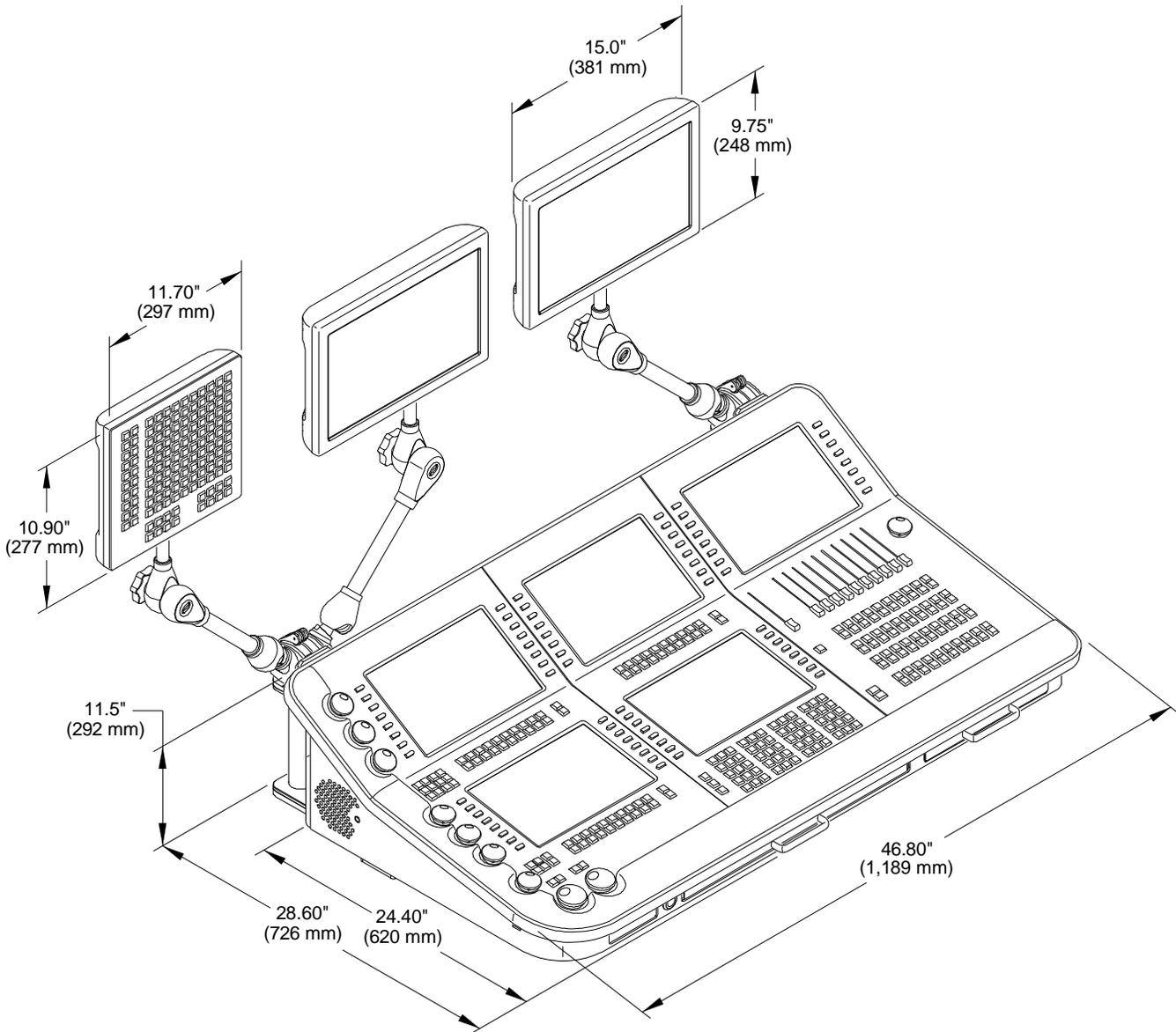


Figure 11: V676 Console Dimensions



V676® Control Console Installation & Operation Manual

Version as of: March 22, 2013

PRG part number: 02.9824.0002



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