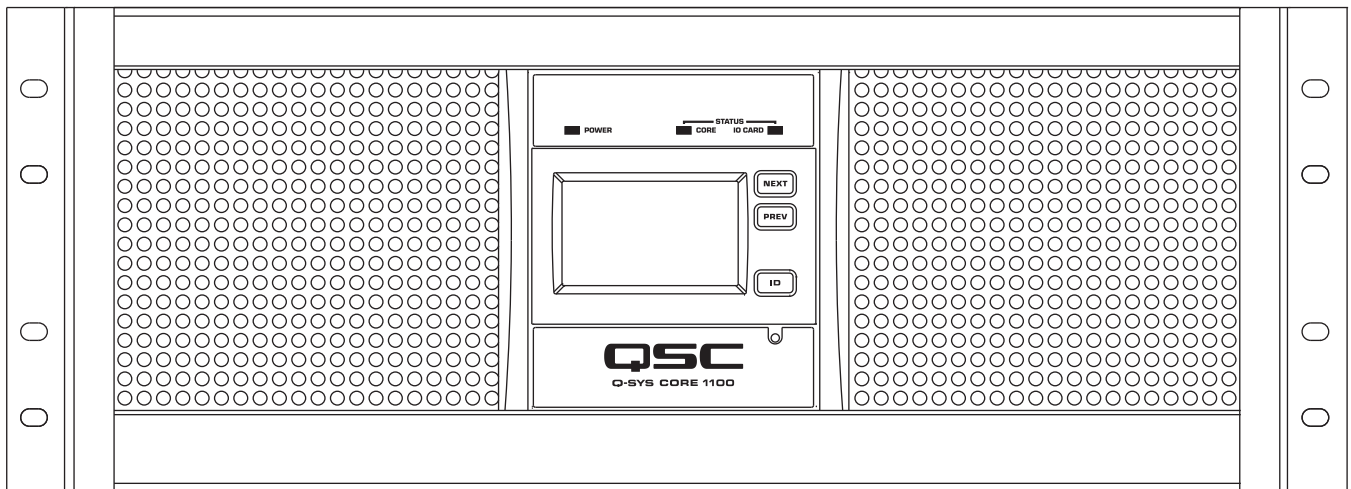


Core 1100 – Centralized Audio and Control Processor

Core 3100 – Centralized Audio and Control Processor



EXPLANATION OF TERMS AND SYMBOLS

The term "**WARNING!**" indicates instructions regarding personal safety. If the instructions are not followed the result may be bodily injury or death.

The term "**CAUTION!**" indicates instructions regarding possible damage to physical equipment. If these instructions are not followed, it may result in damage to the equipment that may not be covered under the warranty.

The term "**IMPORTANT!**" indicates instructions or information that are vital to the successful completion of the procedure.

The term "**NOTE**" is used to indicate additional useful information.



The intent of the lightning flash with arrowhead symbol in a triangle is to alert the user to the presence of un-insulated "dangerous" voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to humans.



The intent of the exclamation point within an equilateral triangle is to alert the user to the presence of important safety, and operating and maintenance instructions in this manual.



IMPORTANT SAFETY INSTRUCTIONS



WARNING!: TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

- Maximum ambient operating temperature is 50°C (122°F).
- Power requirements are: 100 – 240 VAC, 50 – 60 Hz, and the proper IEC power cord.
- Ensure reliable earth grounding is maintained.
- Distribute the units evenly when installing in a rack. Hazardous conditions can be created by uneven weight distribution.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Do not submerge the apparatus in water or liquids.
7. Do not use any aerosol spray, cleaner, disinfectant or fumigant on, near or into the apparatus.
8. Clean only with a dry cloth.
9. Do not block any ventilation opening. Install in accordance with the manufacturer's instructions.
10. Keep ventilation opening free of dust or other matter.
11. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
12. To reduce the risk of electrical shock, the power cord shall be connected to a mains socket outlet with a protective earthing connection.
13. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
14. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
15. Do not unplug the unit by pulling on the cord, use the plug.
16. Only use attachments/accessories specified by the manufacturer.
17. Unplug this apparatus during lightning storms or when unused for long periods of time.
18. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
19. The appliance coupler, or the AC Mains plug, is the AC mains disconnect device and shall remain readily operable after installation.
20. Adhere to all applicable, local codes.
21. Consult a licensed, professional engineer when any doubt or questions arise regarding a physical equipment installation.

Maintenance and Repair



WARNING! Advanced technology, e.g., the use of modern materials and powerful electronics, requires specially adapted maintenance and repair methods. To avoid a danger of subsequent damage to the apparatus, injuries to persons and/or the creation of additional safety hazards, all maintenance or repair work on the apparatus should be performed only by a QSC authorized service station or an authorized QSC International Distributor. QSC is not responsible for any injury, harm or related damages arising from any failure of the customer, owner or user of the apparatus to facilitate those repairs.

LITHIUM BATTERY WARNING

THIS EQUIPMENT MAY CONTAIN A NON-RECHARGEABLE LITHIUM BATTERY. LITHIUM IS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER OR BIRTH DEFECTS. THE NON-RECHARGEABLE LITHIUM BATTERY CONTAINED IN THIS EQUIPMENT MAY EXPLODE IF IT IS EXPOSED TO FIRE OR EXTREME HEAT. DO NOT SHORT CIRCUIT THE BATTERY. DO NOT ATTEMPT TO RECHARGE THE NON-RECHARGEABLE LITHIUM BATTERY.

FCC Statement



NOTE: This equipment 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 residential installation. 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RoHS STATEMENT

The QSC Core 1100 and Core 3100 are in compliance with European Directive 2011/65/EU – Restriction of Hazardous Substances (RoHS2).

The QSC Core 1100 and Core 3100 are in compliance with “China RoHS” directives. The following chart is provided for product use in China and its territories:

部件名称 (Part Name)	Q-SYS Core 1100 and and Core 3100					
	有害物质 (Hazardous Substances)					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(vi))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
电路板组件 (PCB Assemblies)	X	O	O	O	O	O
机壳装配件 (Chassis Assemblies)	X	O	O	O	O	O

本表格依据 SJ/T 11364 的规定编制。

O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。

X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。

(目前由于技术或经济的原因暂时无法实现替代或减量化。)

This table is prepared following the requirement of SJ/T 11364.

O: Indicates that the concentration of the substance in all homogeneous materials of the part is below the relevant threshold specified in GB/T 26572.

X: Indicates that the concentration of the substance in at least one of all homogeneous materials of the part is above the relevant threshold specified in GB/T 26572.

(Replacement and reduction of content cannot be achieved currently because of the technical or economic reason.)

Warranty

For a copy of the QSC Limited Warranty, visit the QSC website at www.qsc.com

Unpacking

There are no special unpacking precautions. However, it is recommended that you keep the original packing materials for reuse in the rare event that service is required. If service is required and the original packing material is not available, ensure that the unit is adequately protected for shipment (use a strong box of appropriate size, sufficient packing/padding material to prevent load shifting or impact damage) or call QSC's Technical Services Group for replacement packing material and a carton.

What is included in your Q-SYS™ Core product carton:

- Q-SYS Core 1100 or Core 3100
- Quick Start Guide TD-000470
- QSC Limited Warranty
- IEC power cord
- Connector plug kit (provided with optional Q-SYS Audio I/O Cards requiring the kit.)

Mounting

Q-SYS products can be used in or out of an equipment rack. Rack mounting is optional. Rear rack ears are an available accessory if needed.

Rack Mount Instructions

Rack mount the Q-SYS product by supporting it from underneath while aligning the front panel mounting holes (in the rack ears) with the threaded screw holes in the rack rails. Install all four front mounting screws and washers and tighten securely. All Q-SYS products come with rear rack support ears. Ensure that these rear mounting points are securely fastened to rear rack rails or side walls.



WARNING! Reliable Earthing – Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

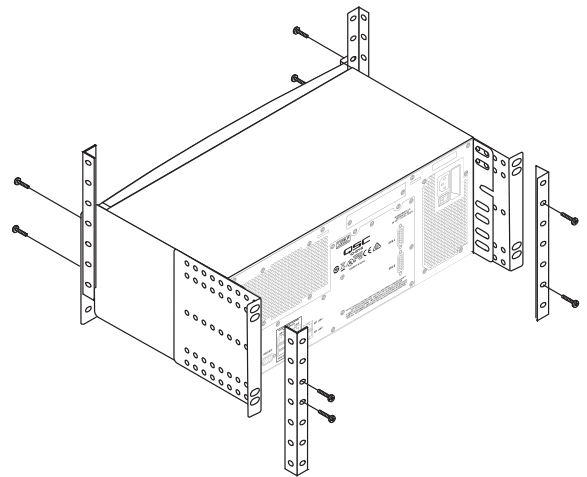
Mechanical Loading – Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven or unstable mechanical loading.



CAUTION! Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the ambient operating temperature of the rack environment may be greater than room ambient. Consideration should be given to ensure that the maximum operating temperature range (0°C to 50°C (32°F to 122°F)) is not exceeded.

Reduced Air Flow – Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

Circuit Overloading – Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over-current protection and supply wiring.



– Figure 1 –

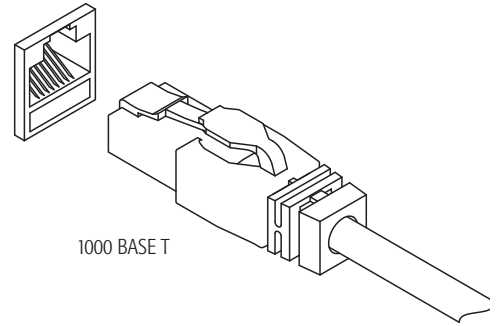
Connections

AC Power Cord

Insert the AC power cord into the AC power inlet on the back of the Q-SYS product. Plug the other end into a 100 – 240V, 50 – 60 Hz AC outlet. If a different type of IEC power cord is required than that supplied with the product, contact QSC's Technical Services Group.

Q-SYS™ Network (Q-LAN)

Connect one end of a data communications cable (CAT-5e rating or better) terminated with an RJ45 plug into the LAN A (and optionally LAN B) receptacle on the rear panel of the Q-SYS Core. Ensure that the lock tab on the cable engages with the RJ45 receptacle. (Figure 2)



– Figure 2 –



IMPORTANT: For detailed information about setting up the Q-LAN Network and Q-SYS Designer, refer to the Q-SYS Designer online help.

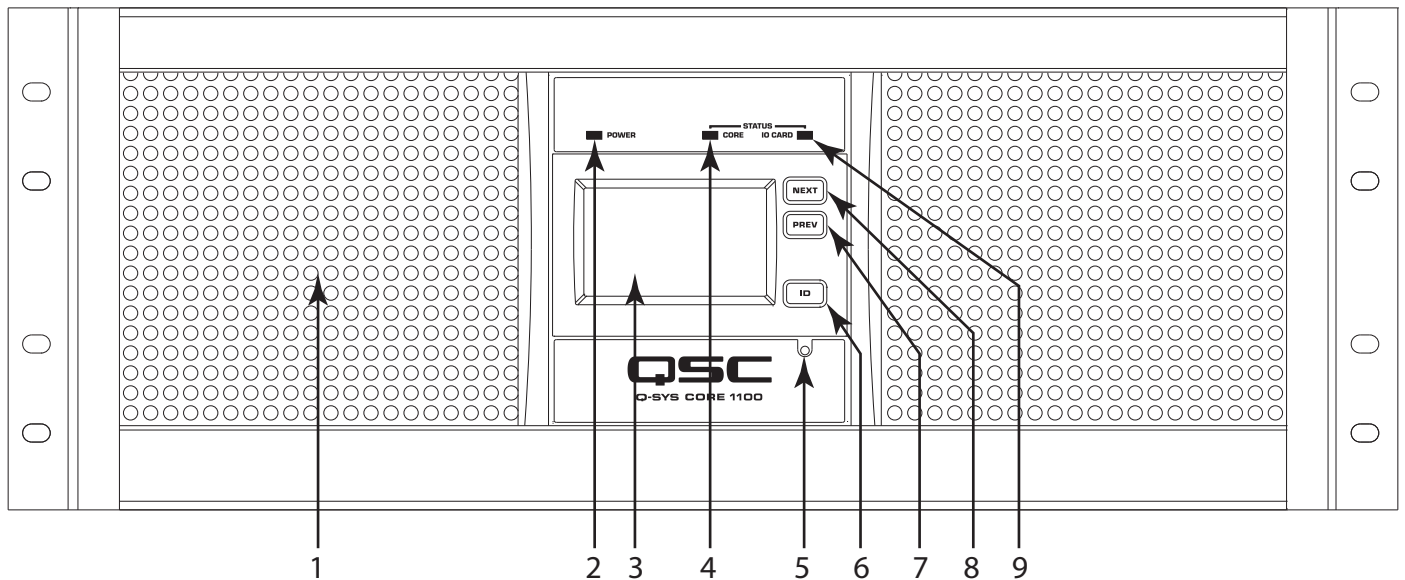
Q-SYS™ Core 1100 | Core 3100 Panel Features

Figure 3 and Figure 4 show the Q-SYS Core front and rear panel features for a product having a simple configuration of one blank I/O Card slot.



NOTE: The Q-SYS hardware products are configured at the QSC factory per your order. At the time of order, you specify the type of Q-SYS Audio I/O Card to be installed in the Audio I/O bay on the Q-SYS Core.

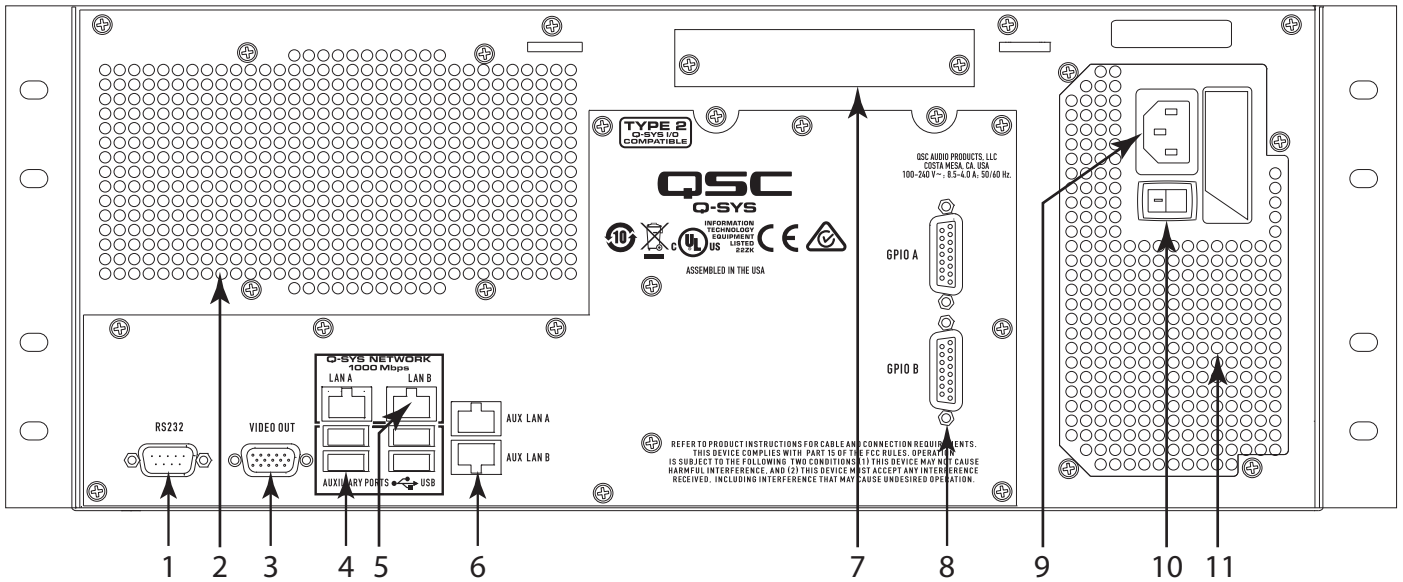
Front Panel



– Figure 3 –

- | | |
|--|--|
| 1. Air Intake Vents | 6. ID Button (Identifies Core in Q-Sys Designer GUI) |
| 2. Power-on LED | 7. LCD Previous Page Navigation Button |
| 3. 480 x 240 Color Graphics LCD | 8. LCD Next Page Navigation Button |
| 4. Core Status LED | 9. I/O Card Status LED |
| 5. Clear Settings Paperclip Button (resets network properties) | |

Rear Panel



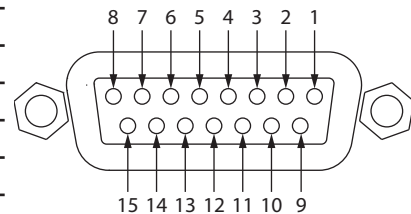
– Figure 4 –

- | | |
|--|---|
| 1. RS-232 – DE-9 Male Connector for Serial Communications | 7. Audio I/O Bay - Accepts Optional Q-Sys Audio I/O Card |
| 2. Core Exhaust Vents | 8. GPIO A and GPIO B - Female DA15 Connectors for Q-Sys Control I/O |
| 3. Video Out – HD-15 Female Connector Accepts Diagnostic VGA Monitor | 9. AC Mains Inlet - IEC Male Connector |
| 4. Auxiliary Port - USB Host Connectors (Type A) x 4 | 10. Power Switch |
| 5. Q-Sys Gigabit Network Ports (Q-LAN) - LAN A Primary, LAN B Backup | 11. Power Supply Exhaust Vents |
| 6. Auxiliary LAN Ports 10/100/1000 Mbps | |

Q-SYS™ GPIO Signal Specifications

GPIO Pin Assignments

DB15 Pin	Signal Name	Signal Type	Description
1	RNO	Relay Contact	Relay - normally open
2	RNC	Relay Contact	Relay - normally closed
3	GPIO1	Normal Current	GPIO pin
4	GPIO3	Normal Current	GPIO pin
5	POWER	Power	+12 V DC
6	GPIO5	High Current	GPIO pin - high current capable
7	GPIO7	High Current	GPIO pin - high current capable
8	GND	Ground	Ground
9	RC	Relay Contact	Relay - common
10	GND	Ground	Ground
11	GPIO2	Normal Current	GPIO pin
12	GPIO4	Normal Current	GPIO pin
13	POWER	Power	+12 V DC
14	GPIO6	High Current	GPIO pin - high current capable
15	GPIO8	High Current	GPIO pin - high current capable



– Figure 5 –

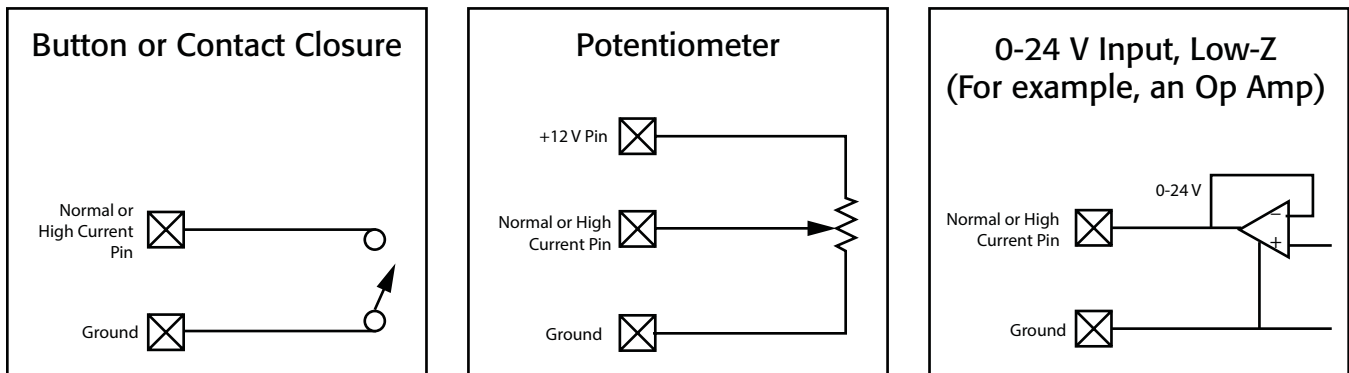
GPIO Specifications

Relay Pins	Maximum Voltage, relative to Ground	30 V
	Maximum Current through Relay	1 Amp
Power Pins	Output Voltage	11 V min, 13 V max
	Maximum Output Current	400 mA
High Current Pins	Maximum Input Range	0 V to 32 V
	Analog Input Range:	0 V to 24 V
	Digital Input, Low	0.8 V maximum
	Digital Input, High	2.0 V minimum
	Digital Output, Low	0.4 V maximum
	Digital Output, High	2.4 V minimum, 3.3 V maximum
	Digital Output Impedance	1 k ohm
	High Current Output, Low	0.4 V maximum
	High Current Output, High	11 V minimum, 13 V maximum
All Power and High Current pins combined	Maximum Source Current	400 mA
	All GPIO Pins 1 through 8 combined	Maximum Sink Current

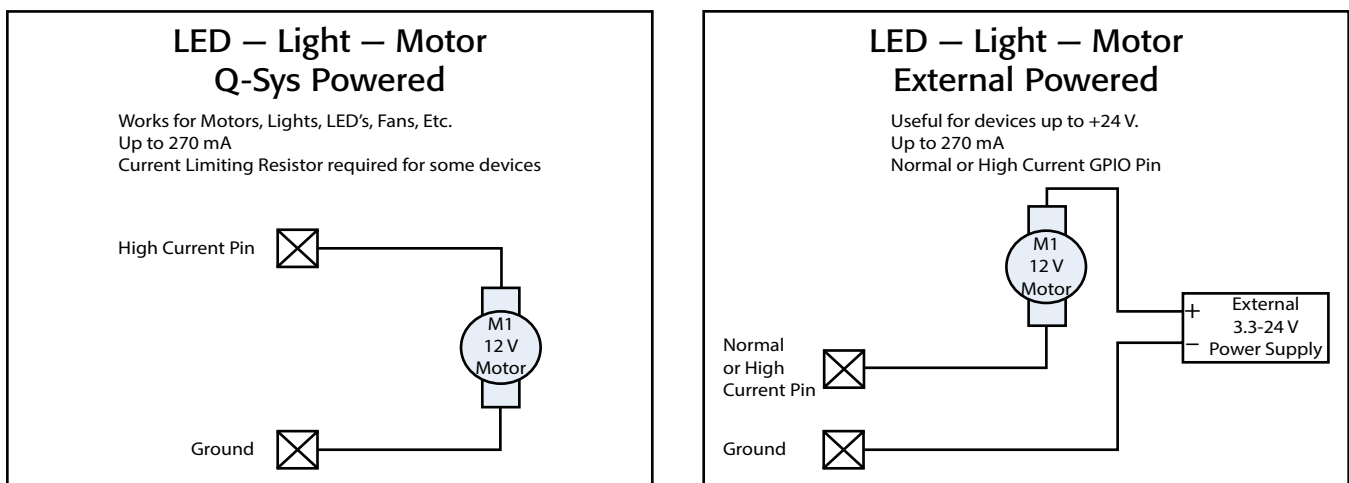


NOTE: The maximum current sourced by one GPIO connector (including both High Current and Power Pins) is 400 mA.

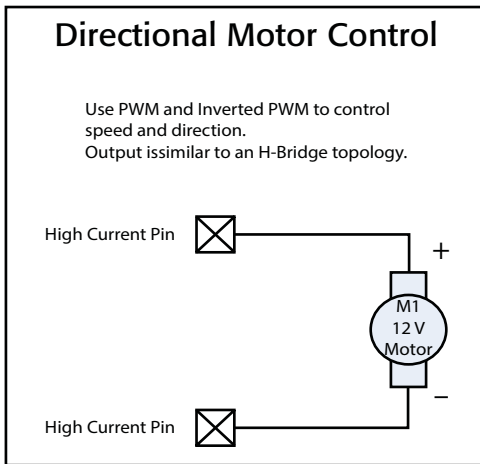
GPIO Examples



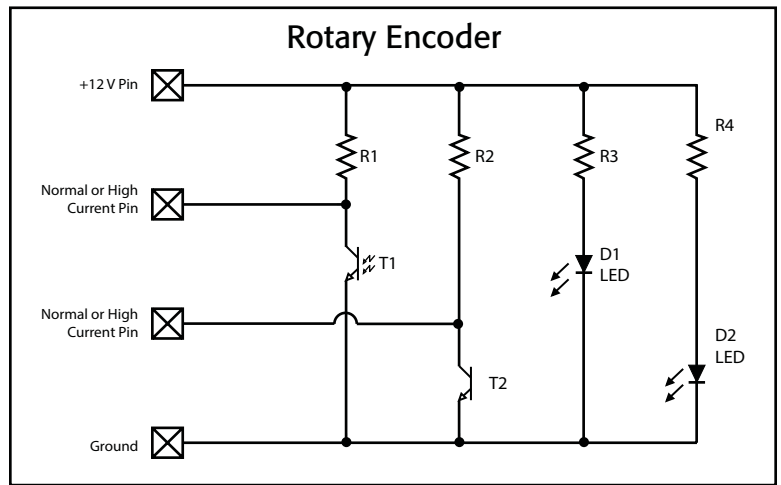
– Figure 6 –



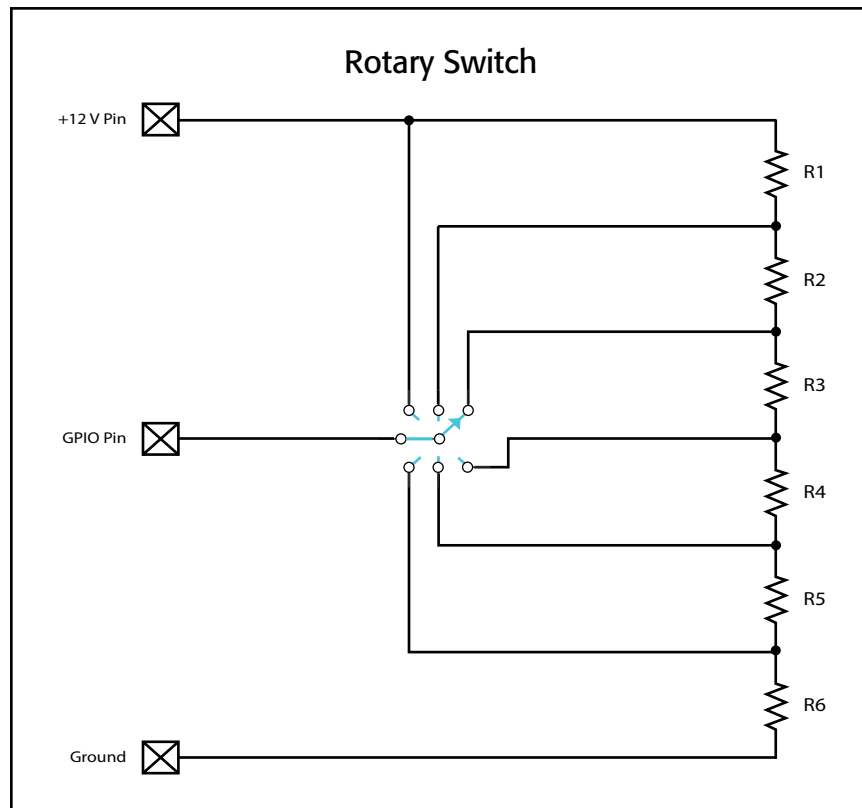
– Figure 7 –



– Figure 8 –



– Figure 9 –



– Figure 10 –

Rotary Switch All resistors should have the same value. The total resistance should be about 10K Ohms. The individual resistor value should be 10,000 divided by the number of resistors. The schematic is an example only, and could easily be modified to have more switch positions or use multiple momentary buttons instead of a rotary switch.

Specifications

	Core 1100	Core 3100
Description	System processor and control engine	
Front Panel Controls	LCD Next and Prev momentary button Unit ID momentary button Clear settings momentary switch (use a paperclip or similar tool)	
Front Panel Indicators	Power On: Green LED Status: Core: Tri-color LED IO Card: Tri-color LED 480 x 240 Color Graphics LCD	
Rear Panel Connectors	RS-232: DE-9 (male 9-pin D shell connector) Video Out: HD-15 (female 15-pin D shell connector) Auxiliary ports AUX LAN A / AUX LAN B: RJ45 10/100/1000 MBps Auxiliary USB host x4 GPIO A / GPIO B: DA-15 (female 15-pin D shell connector) Q-SYS Network LAN A / LAN B: RJ45 1000 Mbps only	
Maximum Ambient Operating Temperature	0°C to 50°C (32°F to 122°F)	0°C to 50°C (32°F to 122°F)
Capacity		
Local I/O ¹	64 x 64	64 x 64
Network Audio Channels In/Out	256 x 256	512 x 512
Network Audio Streams In/Out	256 x 256	256 x 256
AEC (100 ms tail length)	144	288
Core to Core Streaming	256 x 256	512 x 512
End Nodes	256 Destinations 256 Sources	256 Destinations 256 Sources
Thermal – BTU / hour (typical)	1100	1400
Line Voltage Requirements	100 VAC – 240 VAC, 50 – 60 Hz	100 VAC – 240 VAC, 50 – 60 Hz
AC current draw (maximum)	8.5 A @ 100 VAC	8.5 A @ 100 VAC
AC current draw (typical)	3.8 A @ 100 VAC	4.4 A @ 100 VAC
Dimensions (HWD)	7" x 19" x 17.875" (177.8 mm x 482.6 mm x 454 mm)	
Net Weight (including I/O card)	41 lb (18.6 kg)	
Accessories Included	6 ft UL/CSA/IEC line cord • Hardware Information Document • Warranty • Optional audio I/O ship kit	

¹ One I/O-card slot. Depends on I/O card purchased.

² Using maximum fan-out with 16-channel unidirectional I/O Frames.

³ The CAES4 card (AES-3 input/output) doubles the audio channel count of any slot in which it is used.



NOTE: Specifications subject to change without notice.



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*Q-SYS 24/7 Support is for Emergency assistance with Q-SYS systems only. 24/7 support guarantees a call back within 30 min after a message is left. Please include, Name, Company, Call Back Number and description of the Q-SYS emergency for prompt call back. If calling during business hours please use the standard support numbers above.

Q-SYS Support Email

qsysupport@qsc.com
(Immediate email response times not guaranteed)

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