

This document covers power supply components for the Synthesizers.com modular synthesizer including various modules, power supplies, and cable harnesses.

To maintain maximum modularity of the system, AC power entry and power control are provided on modules instead of being built into a cabinet. This allows you to mount the module in almost any location – even on the rear of the cabinet.

Important Warning

Some power components must be enclosed to protect users from high voltage. This includes the power supply and power control and interface modules.

Q101 Power Control Module

The Q101 Power Control Module is designed to be used on the front panel of your synthesizer. It provides a rocker switch to control the AC power source to the power supply, a DC power output connector to provide power to other cabinets, and three voltage indicators.

The Q101 Power Control Module is used in conjunction with the Q102 AC Power Interface Module.

Connections

A 2-pin male Molex connector is provided to control power to the power supply. This connector will plug into a connector on the Q102 power interface.

Power from the DC cable harness supplies power to the LED indicators and the DC power output connector on the front panel.



Q102 AC Power Interface Module

The Q102 AC Power Interface Module is designed to be used on the rear panel of your synthesizer to deal with the AC power source. It provides a standard 3-prong IEC connector for AC input, an unswitched AC output connector, a switched AC output connector, an AC voltage input selector switch (110 or 220), and a 3AG fuse holder.

The Q102 AC Power Interface Module is used in conjunction with the Q101 Power Control Module.

Connections

A 2-pin female Molex connector is provided to connect to the Q101 control module which turns the power on/off.

A 6-pin female Molex connector supplies AC power to the power supply.



Q103 DC Power Interface Module

The Q103 DC Power Interface Module offers a DC power source for modules mounted in another cabinet which doesn't have its own power supply. The two DC power connectors are connected together internally and can be used as inputs or outputs depending where the power supply resides. DC power is supplied to or from the Q103 module via the cabinet's internal DC power harness. LED voltage indicators are also provided. The Q103 can be used on the rear of cabinets with rear panel openings to hide inter-cabinet wiring.

Connections

Power from the DC cable harness supplies power to the LED indicators and to the DC power output connectors on the front panel.



Q137 Power Control & Interface Module

The Q137 Power Control & Interface Module provides most of the features of both Q101, Q102, Q103 modules while only consuming one module space. This is sometimes important on systems with limited space or with no rear panel openings such as portable systems. A standard IEC connector is provided for AC input, an AC voltage selector (110 or 220), a 5x20 fuse holder, AC power switch, DC power output connector, and LED voltage indicators.

Connections

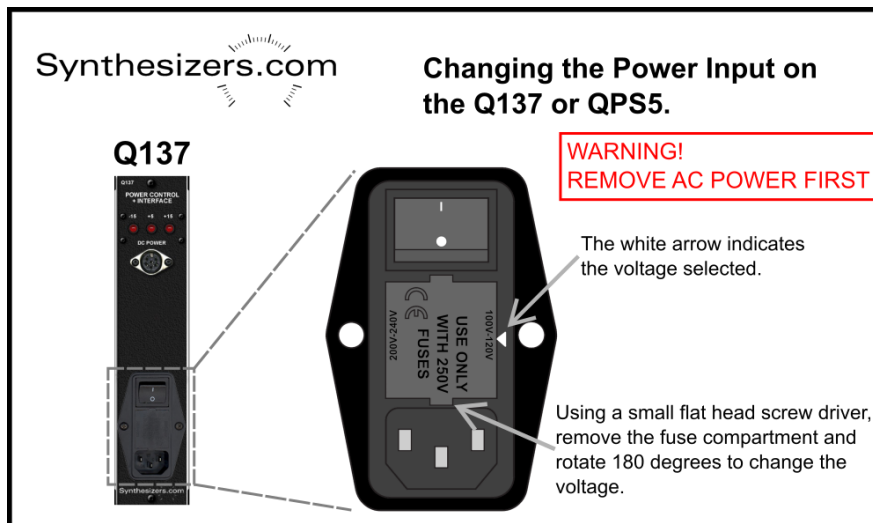
A 6-pin female Molex connector supplies AC power to the power supply.

Power from the DC cable harness supplies power to the LED indicators.



Important Warning

- Some power components must be enclosed to protect users from high voltage. This includes the power supply and power control and interface modules.



QPS1 Power Supply

The QPS1 power supply provides the DC power to run the modules in a system. There are two cables attached to the power supply: One for the AC source, and one for the DC output. The AC source cable connects to a Q102 or Q137 module. The DC output cable connects to the system's DC power harness which distributes DC voltages to the modules.

Determine the amount of power needed by your system by simply adding the current for each voltage needed by each module. Since most modules draw less than 30ma on the +/-15 volt rails, and some draw none, the QPS1 will power a system of 44-66 spaces depending on the types of modules in it.

DC Power Output: +15V@1500ma, -15V@1500ma, +5V@6000ma.
AC Power Input: 110VAC or 220VAC



! WARNING !

Power supplies must be mounted in an enclosure to protect users from exposed high voltage.

DISCONTINUED

QPS2 Desktop Power Supply with 8 cables

The QPS2 power supply provides a cost-effective solution for small systems of up to 8 modules. A built-in cable harness for 8 modules is provided, and no special power modules for control or interface are needed.

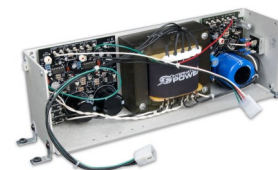
DC Power Output: +15V@250ma, -15V@250ma, +5V@750ma.
AC Power Input: 110VAC or 220VAC



QPS3 Large Power Supply

The QPS3 power supply provides the power needed for very large systems such as 66-space, 88-space, and larger. There are two cables attached to the power supply: One for the AC source, and one for the DC output. The AC source cable connects to a Q102 or Q137 module. The DC output cable connects to the system's DC power harness which distributes DC voltages to the modules.

DC Power Output: +15V@3000ma, -15V@3000ma, +5V@8000ma.
AC Power Input: 110VAC or 220VAC



QPS4 Desktop Power Supply for Controllers

The QPS4 desktop power supply provides the power needed to control keyboards and other controllers. A built-in cable plugs directly into keyboard and controller enclosures. No special power module for control or interface is needed.

DC Power Output: +15V@250ma, -15V@250ma, +5V@750ma.
AC Power Input: 110VAC or 220VAC



Power Components

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QPS5 Desktop Power Supply for up to 66 spaces

The QPS5 power supply provides an attractive solution for large Box11 systems where a power supply cannot be mounted internally. The QPS5 has 8 built-in cables that can be routed to an array of Box11 cabinets. For other setups use the Q103 or QIC-H.

DC Power Output: +15V@1500ma, -15V@1500ma, +5V@6000ma.

DC Power Cables: 8 total. (4) 36" and (4) 60"

AC Power Input: 110VAC or 220VAC



QPS6 Desktop Power Supply for up to 33 spaces

The QPS6 power supply provides a cost-effective solution for small systems of up to 33 modules. A built-in cable plugs directly into some cabinets. For other setups use a Q103 or QIC-W. To power a QDH harness directly use the QIC-H.

DC Power Output: +15V@700ma, -15V@700ma, +5V@2500ma.

AC Power Input: 110VAC or 220VAC



DC Inter-Cabinet Power Cables

Use these cables to power multiple cabinets. Use the standard QIC and QIC-PY with Q103 Power Interface modules to connect multiple studio cabinets and portable cabinet respectively. Use the QPS6 cables to power multiple direct-power cabinets or power a single QDH20. Uses 6-pin circular DIN connectors.

Standard QIC Cables

- QIC-12 12" DC Inter-Cabinet Power Cable
- QIC-16 16" DC Inter-Cabinet Power Cable
- QIC-24 24" DC Inter-Cabinet Power Cable
- QIC-24 36" DC Inter-Cabinet Power Cable
- QIC-48 48" DC Inter-Cabinet Power Cable

QIC Cables for Portable Cabinets

- QIC-PY Y Power Cable for Portables

QIC Cables for use with QPS6

- QIC-W Cable with 1-Female to 3-Male Connectors

Standard QIC



QIC-W



QIC-H



DC Power Harnesses

The QDH20 and QDH40 DC power harnesses carry the DC power to each module in your system. Voltages include +15v, -15v, and +5v. The connectors are female 6 pin .1 MTA style which mate to the male connector on the circuit board of each module. One special leg of the cable has a male 4 pin Molex connector which attaches to the power supply source.



Remember that some modules are not single width and some modules don't require power. The QDH20 harness has 10) 24-inch cables, and 10) 36-inch cables which is normally enough for a 22 single-width-panel system. The QDH40 harness has 20) 24-inch cables, and 20) 36-inch cables which is normally enough for a 44 single-width-panel system. The cables are long enough to allow each module to be removed from the case and easily attach or remove the connector.

Connector Information

6 Pin Circular DIN Connectors

Used strictly to supply DC power to the external world, or between cabinets. See the Q103 DC Power Interface Module for details. These type of connectors are made by a variety of manufacturers.

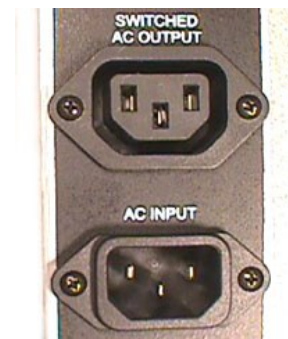
Pinout:

- 1 = +15V
- 3 = +5V
- 4 = Ground
- 5 = -15V



IEC 320 AC Power Connectors

We use standard IEC connectors for the AC power. This allows use of your synthesizer in almost any country with the correct power cord.



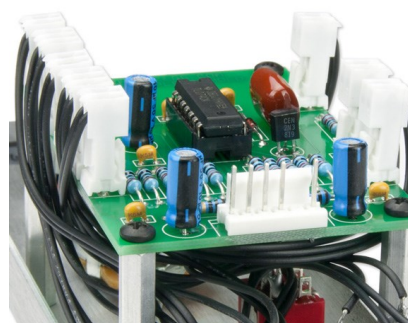
Module DC Power Connectors

6-pin .1 MTA connectors are used strictly for DC power supply connections. Modules have the male PCB mount, and the cabinet's cable harness has the female.

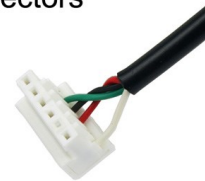
Female 24AWG cable mount: #6404416
Male PCB mount: #6404566

Pinout:

- 1 = +15v (usually White)
- 2 = key
- 3 = +5v (usually Red)
- 4 = Gnd (usually Black)
- 5 = -15v (usually Green)



DC Module Power Connectors



Synthesizers.com

Connector Information Continued...

AC Control Connectors

We use 2 pin .093 nylon connectors strictly for connection between the AC power switch on the Q101 AC Power Control Module, and the Q102 AC Power Interface Module to carry high voltage AC. For safety and simplicity we don't use this type of connector anywhere else.

Female cable mount housing: #7700651

Male cable mount housing: #7700691

.093 male contact: #7701471

.093 female contact: #7701461



Internal DC Power Harness Connector

We use 4 pin .093 nylon connectors strictly for connection between the power supply (female) and the DC cable harness (male) to carry the DC voltages. For safety and simplicity we don't use this type of connector anywhere else.

Female cable mount housing: #7700751

Male cable mount housing: #7700781

.093 male contact: #7701471

.093 female contact: #7701461

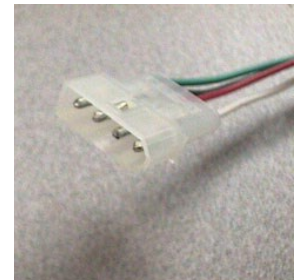
Pinout:

1 = +15v (usually White)

2 = +5v (usually Red)

3 = Gnd (usually Black)

4 = -15v (usually Green)



Internal AC Power Connector

We use 6 pin .093 nylon connectors strictly for connection between the power supply and the AC Power Interface Module or the Power Control & Interface Module to carry high voltage AC. For safety and simplicity we don't use this type of connector anywhere else.

Female cable mount housing: #7700861

Male cable mount housing: #7700901

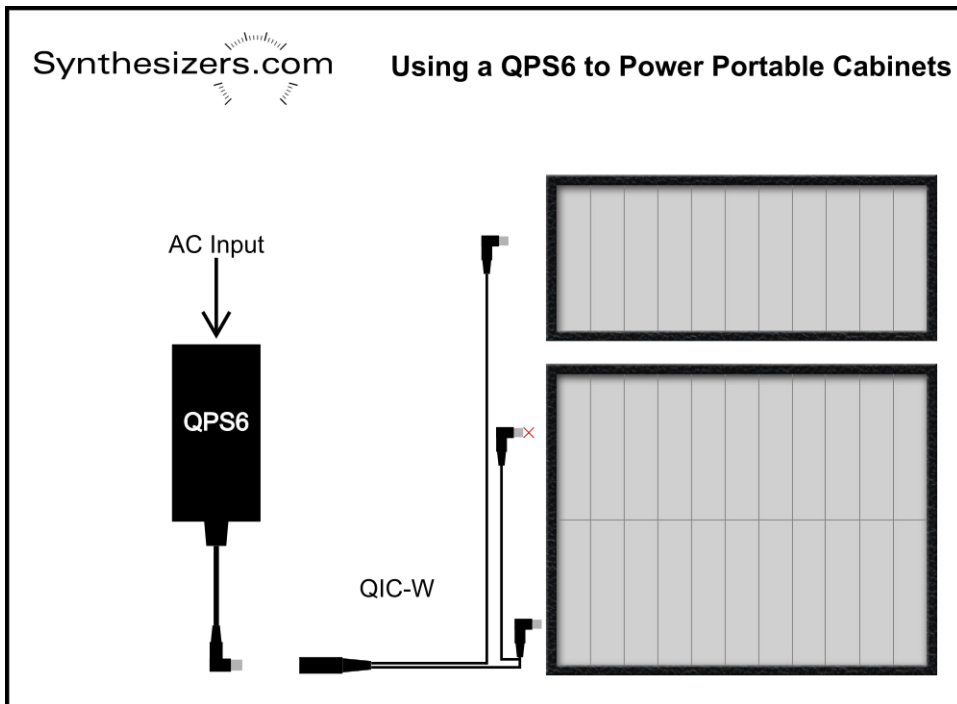
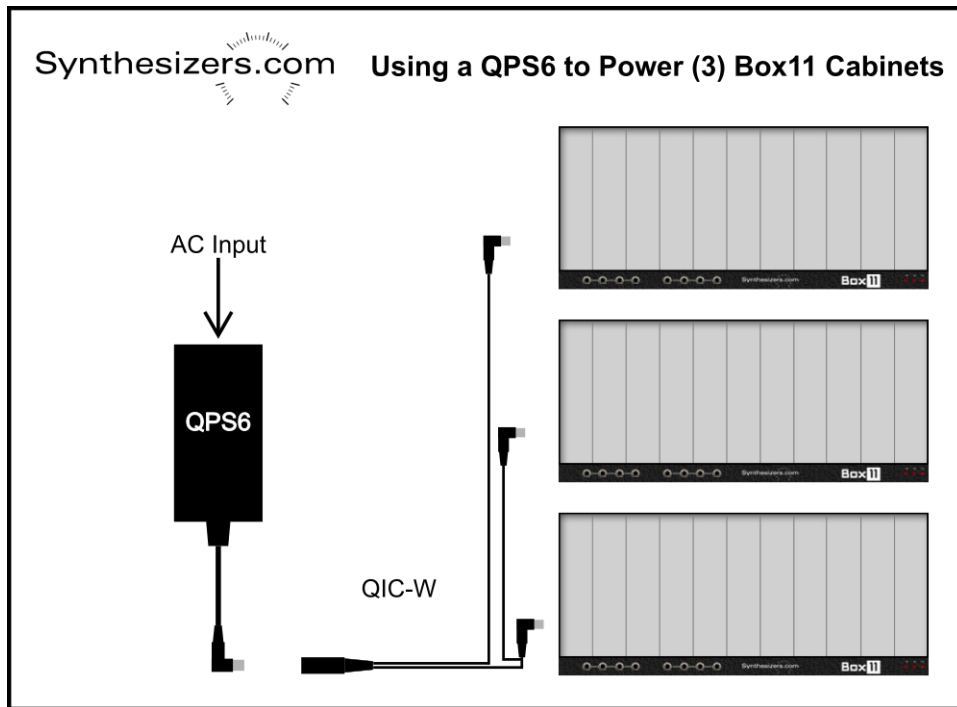
.093 male contact: #7701471

.093 female contact: #7701461

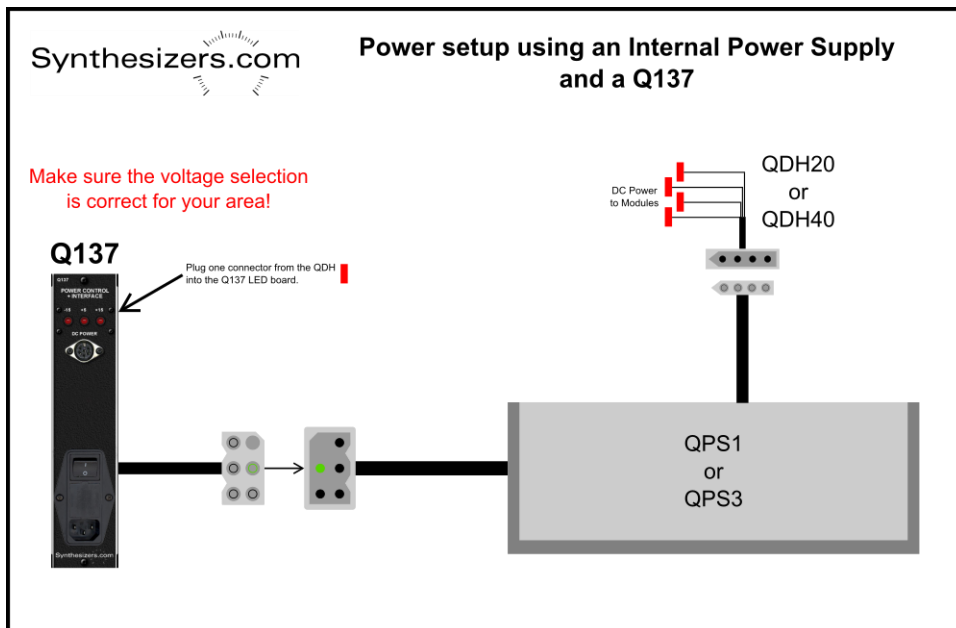
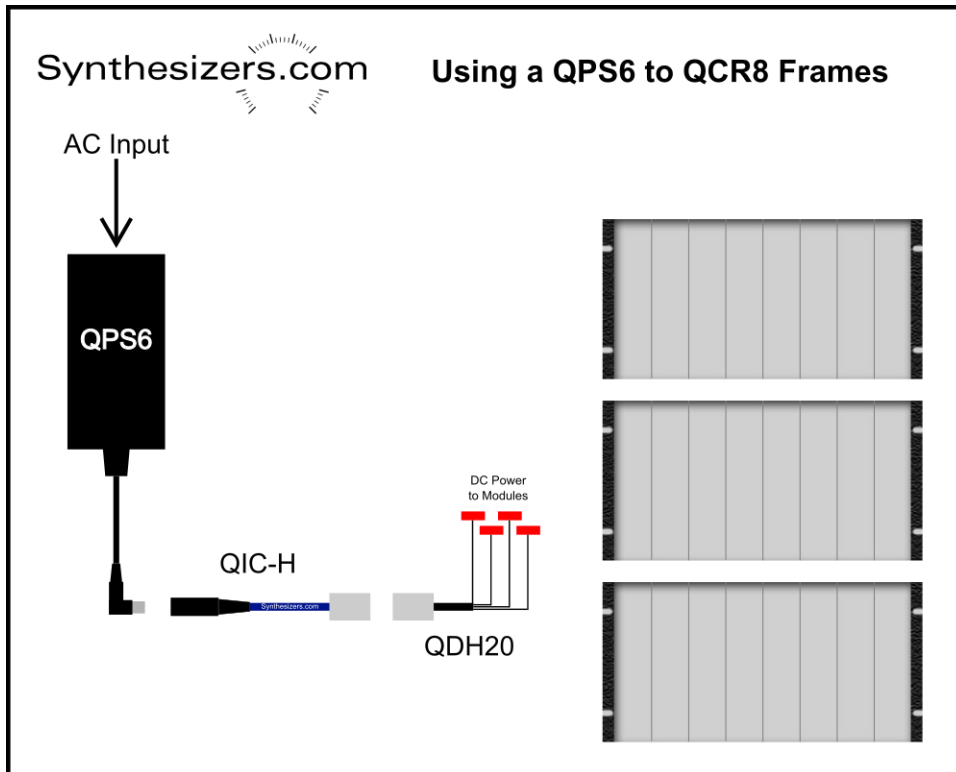


Additional technical information can be seen at www.synthesizers.com

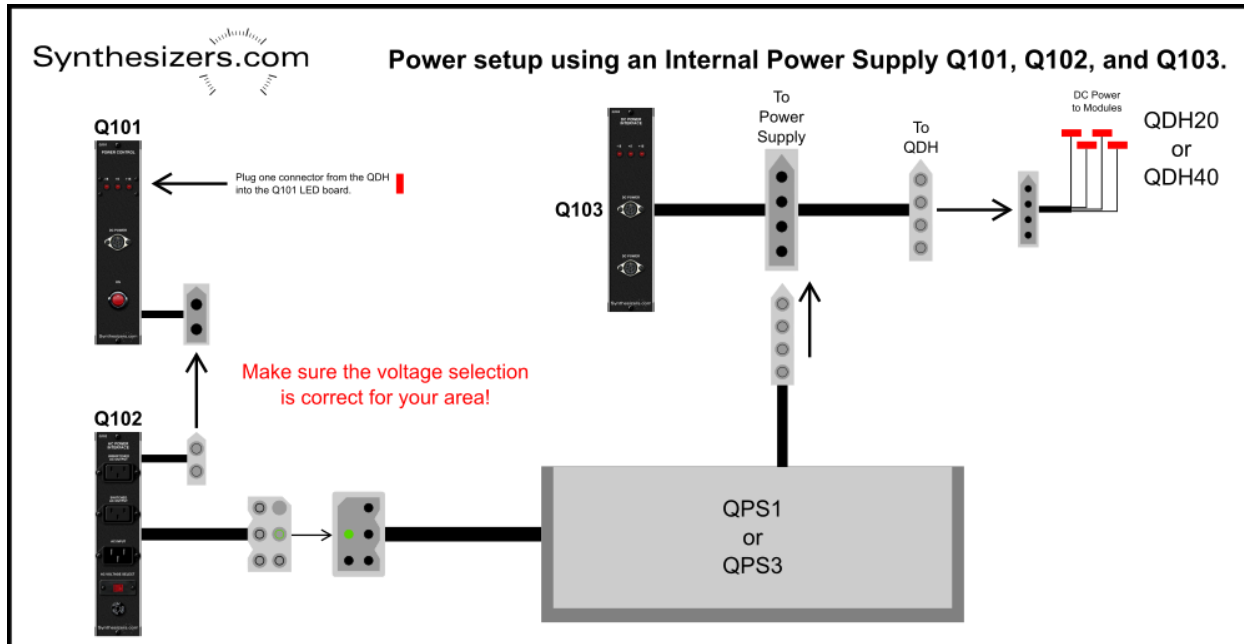
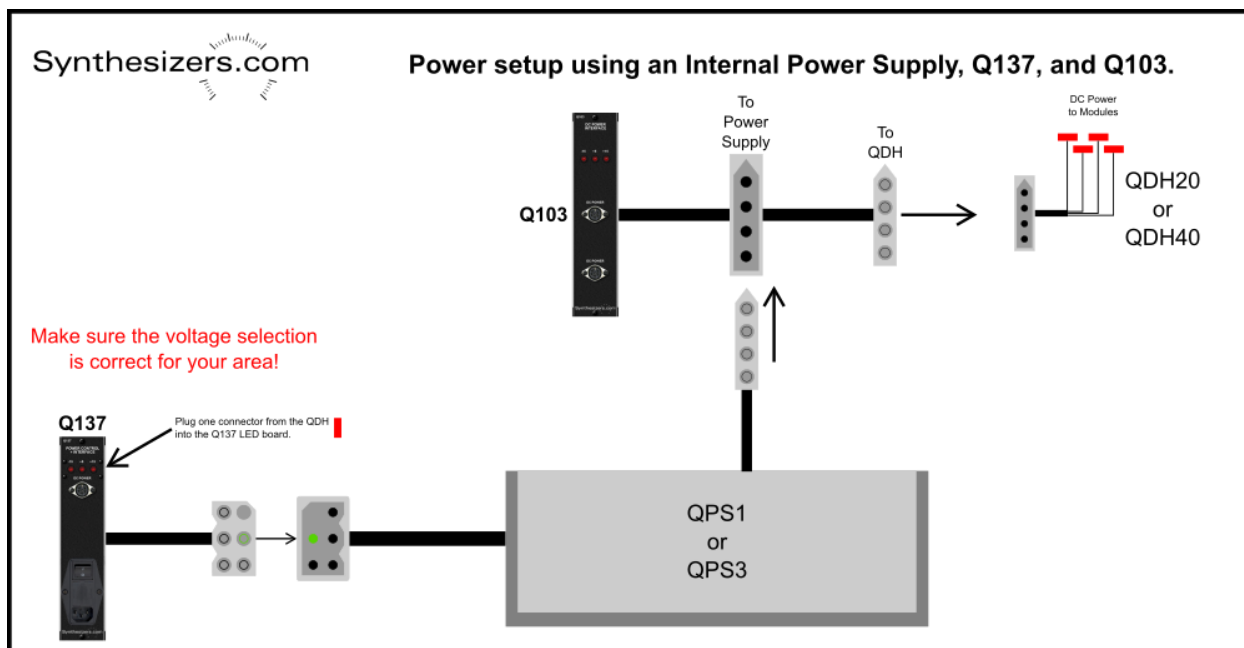
Power System Examples



Power System Examples



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Power System Examples

