

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.

Normally, 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.

Normally, 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.

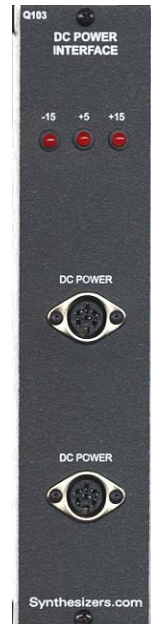


## Q103 DC Power Interface Module

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. A standard IEC connector is provided for AC input, an AC voltage selector switch (110 or 220), a 3AG 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.



### 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.

## DC Inter-Cabinet Power Cables

Use these cables to connect cabinets together using Q103 DC Power Interface modules.  
Uses 6-pin circular DIN connectors.

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



## QPS1 Power Supply

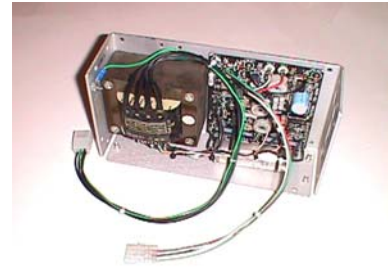
The QPS1 power supply provides the DC power to run the modules in a system. There are two cables attached to the power supply: One for the AC source, and one for the DC output. The AC source cable connects directly to the Q102 or Q137 modules. The DC output cable connects to the system's DC power harness 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 25 or more modules, possibly as many as 50 depending on the types of modules in a system.

### Connections

A 6-pin male Molex connector receives AC power from a Q102 AC Power Interface Module, or a Q137 Power Control & Interface Module.

A 4-pin female Molex connector provides DC voltages to the power harness which goes to the modules.



### ! WARNING !

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

## QPS2 Small 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 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 6 pin .1 MTA style which match the connector on the circuit board of each module. One special leg of the cable has a 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 con-



# Power Components

Jan 2003

## Connector Information

### 6 Pin Circular DIN Connectors

We use these 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.

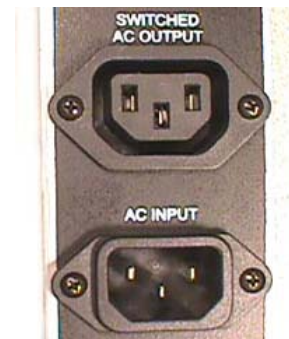
#### Pinout:

- 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

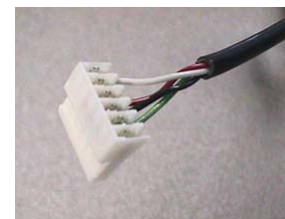
We use 6-pin .1 MTA connectors strictly for DC power supply connections. Modules have the male PCB mount, and the cabinet's cable harness has the female.

**Female 24AWG cable mount:** #6404416

**Male PCB mount:** #6404566

#### Pinout:

- 1 = +15v
- 2 = key
- 3 = +5v
- 4 = Gnd
- 5 = -15v



## 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

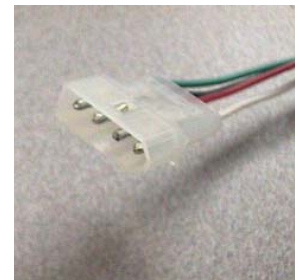
We use 4 pin .093 nylon connectors strictly for connection between the power supply and the DC cable harness to carry the DC voltages. For safety and simplicity we don't use this type of connector anywhere else.

**Female cable mount housing:** #7700751

**Male cable mount housing:** #7700781

**.093 male contact:** #7701471

**.093 female contact:** #7701461



### 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](http://www.synthesizers.com)

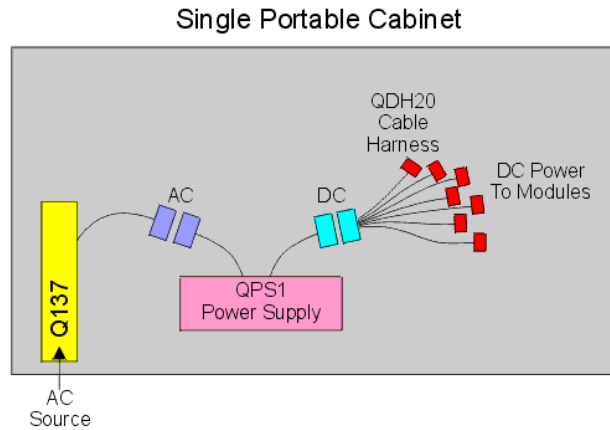
# Power Components

Jan 2003

## Power System Examples

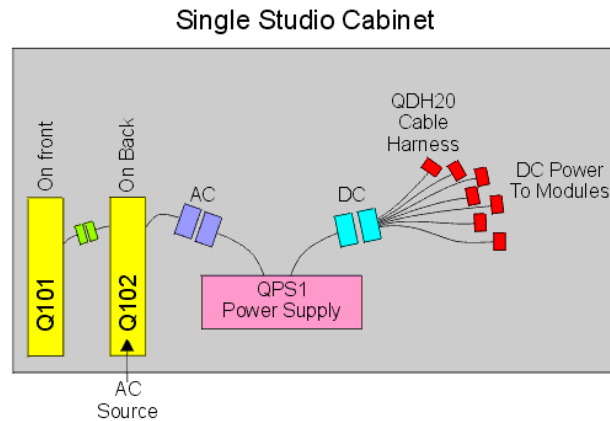
### Single Portable Cabinet Example

Here's an example of a single portable cabinet with room for 22 modules. The Q137 Power Control & Interface Module provides the power switch, AC entry, and external DC access. No other power module is needed.



### Single Studio Cabinet Example

Here's an example of a single studio cabinet with room for 22 modules on the front and 4 on the back. The Q101 Power Control Module is mounted on the front and provides the power switch and external DC access for additional cabinets. The Q102 AC Interface Module is mounted on the back and provides AC entry. You can also put a Q103 DC Interface Module on the back to supply DC power to additional cabinets.



### Multiple Studio Cabinet Example

Here's an example of a multiple studio cabinet setup. Remember, studio cabinets have spaces on the back for modules. The Q101 Power Control Module is mounted on the front of the main cabinet and provides the power switch and external DC access for additional cabinets. The Q102 AC Interface Module is mounted on the back of the main cabinet and provides AC entry. Also on the back is a Q103 DC Interface Module to supply DC power to the other cabinet. A Inter-cabinet cable (QIC) carries power from one cabinet to the other. The top cabinet has a Q103 DC Interface Module to receive power from the main cabinet. Only one power supply is needed.

