

2720 and 4700 series patch cords, MIDI Control via 9308 FatMan or the 9700 MIDI2CV8, and possibly the 9756 L2E.

The patch cords for 2720 and 4700 series modulares consisted of 1/8" mini phone plugs for the audio cables and pin plugs for the control voltages/triggers. Flexible, rubberized test lead cable is best suited for the patch cords.

The pin plugs aren't as readily available as the 1/8" phone plugs, but Mouser 800-346-6873 has them (stk #530-105-0302-1) but they describe them as tip plugs. Mouser has the rubberized test cable too. Solid, 14ga insulated wire with about an inch stripped off at each end can be used for the cv patches. Test leads as used on inexpensive multi-testers are often the right size. Since everything in the 2720 or 4700 series systems is on the same power supply, they already have a common ground, so the cables need only be a single conductor wire. When patching to the external equipment, or between a 4700 series analog keyboard controller, one cord will need to be patched between a ground circuit jack (could be a black one?) on the synth and the device ground to establish a common ground between them.

Flexible, rubber insulation, test-lead cable

<http://www.mouser.com/Search/ProductDetail.aspx?qs=sGAEpiMZZMtW9UaYX5J1tC1Hv8XlqifgHHyhpXoKZdw%3d>

Tip (pin) plugs

<http://www.mouser.com/Search/Refine.aspx?Keyword=530-105-0302-1>

Mini (3.5mm) Phone Plugs

<http://www.mouser.com/Search/ProductDetail.aspx?qs=XuGxlpNJLihY4R8jdQS%252bvQ%3d%3d>

FatMan as a MIDI to Control Voltage Converter

FatMan's Pitch and Velocity control voltage outputs and Gate trigger output are compatible with the inputs on the 4700 and 2720 series. To patch or connect one to the other, special cables would need to be made with a RCA Phono plug on one end and pin (tip) plugs on the other. Mouser Electronics website/catalog has Tip plugs and Phono plugs that can be soldered to wire or cable to make the patch cords. On the FatMan end, the center post on the RCA Plug is the control voltage or trigger and the shell is the ground/common. The 4700/2720 end would have two, and in some instances one, pin/tip plug. One is for the control voltage and the other for a ground/common at a multiple panel. If there isn't a multiple

panel with a row of three ground pin/tip jacks, a 'dummy' mini-phone plug into an unused patch point can be used to establish a common ground with the sleeve terminal attached to the FatMan RCA Phono connector ground wire.

The most obvious patch would be to use FatMan's Pitch CV and Gate trigger as a substitute for the set from a keyboard controller in the 4700 or 2720 system. Velocity CV could be patched to a VCA input or VCF input for modulation according to the playing dynamics on the MIDI keyboard controller connected to FatMan.

A Phone plug to mini-phone plug cable can be used to patch the FatMan audio output to a VCF, VCA, or Mixer input on the modular system being controlled for further processing and or layering.

9308 FatMan

<http://www.paia.com/fatman.asp>

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This reprint of an article by John Simonton describing building and using the 2720R synthesizer is a good practical guide useful for understanding and connecting older 2720 and 4700 series synthesizer modules.

Build A Modular Synthesizer

<http://www.paia.com/manuals/docs/2720-buildamodular-article.pdf>

Below are links to user's guides for 2720 and 4700 series modular systems.

Using the 2720 Synthesizer

<http://www.paia.com/talk/viewtopic.php?f=6&t=124>

Using the 4700 Synthesizer

<http://www.paia.com/talk/viewtopic.php?f=6&t=83>

MIDI2CV8 – MIDI to Control Voltage Converter

To control the linear response VCOs in the 2720 and 4700 series modulars using the 9700 MIDI2CV8, the 9700VHZ option must be added.

We are out of stock on the printed circuit board item used for the option and it is currently out of production and not available. The function exists within the EPROM Firmware; however, it is only activated when the option printed-circuit-board is added. It wouldn't be too difficult to

build one on a DIP IC experimenter's board and wire it in as a substitute VHZ option. The schematic and phantom image of the board is in the 9700K manual. The circuit uses a 4051 IC, some NPN transistors, resistors, and trims.

RadioShack has these boards for wiring IC circuits:

[http://www.radioshack.com/product/index.jsp?
productId=2102845&cp=2032058.2032230.2032265&parentPage=family](http://www.radioshack.com/product/index.jsp?productId=2102845&cp=2032058.2032230.2032265&parentPage=family)

Scroll down to the second page of the MIDI2CV8 schematic to see the vhz circuit option:

midi2sch.pdf (application/pdf Object)

<http://www.paia.com/prodimages/midi2sch.pdf>

9756 Linear to Exponential Converter

The 9756 L2E converter module can be used to convert a linear, v/oct pitch control voltage to the exponential, v/hz pitch control voltage needed by 2720 and 4700 series VCOs. Note; however, this module isn't necessarily for this purpose, but less critical applications such as control voltages applied to linear-response filters, amplifiers, etc.