



Viper System 12V Power Supply Setup

Alpha Technology

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1 Introductory Comments

The Alpha Technology Viper System consists of a chassis, a SOM Board, and one to five Scrypt Boards. The system uses an external 12V power supply to provide power to the SOM Board and the Scrypt Boards. The 12V power supply must be enabled for operation by making a minor modification to the power supply. This document explains the procedure to modify the 12V power supply.

1.1 Power Supplies for Viper System

All system testing at Alpha Technology's labs has been performed using Corsair power supplies. The Corsair Hx1200i power supply is shown in this document, but this procedure can also be applied to the Corsair Ax1200i power supply which is similar but not identical to the Hx1200i power supply. The Hx1200i and the Ax1200i power supplies can provide up to 1200 Watts of power, which is sufficient to power a Viper System with five Scrypt boards installed.

For smaller Viper systems with one to three Scrypt boards installed, the Corsair Hx860 power supply can be used to provide power to the system.

1.2 AC Input Connections and Safety

This procedure shows only the 12V connections to the Viper System. It is the responsibility of the user to ensure that the appropriate power supply and AC line cord is used for their particular line voltage (110V, 220V etc). It is also the responsibility of the user to ensure that the AC power outlet and building wiring can safely provide the required AC current that the Viper System requires. If the AC outlet used for the Viper System cannot provide the required Voltage and Current, then the end user must consult a licensed electrician to install the correct AC outlet, wiring and/or circuit breakers. Do not overload an AC line circuit as it may result in a potential fire hazard.

Never make any modifications to the Power Supply when the power supply's power switch is turned on, or when the power supply's AC line cord is plugged into an AC outlet. Any modifications to the power supply should be made by a qualified electrician or a qualified technician. The user must understand that any modifications to the power supply may void the power supply's warranty.

1.3 Corsair Link

Some Corsair power supply models have the option of a 'Corsair Link' which allows the end user to use a GUI to display the power supplied to the Viper System and for some Corsair models, the power supplied to each Scrypt Board. Please consult the Corsair documentation for information regarding the Corsair Link.

2 Hx1200i Configuration

This section discusses the configuration of the Hx1200i power supply for use with the Viper System.

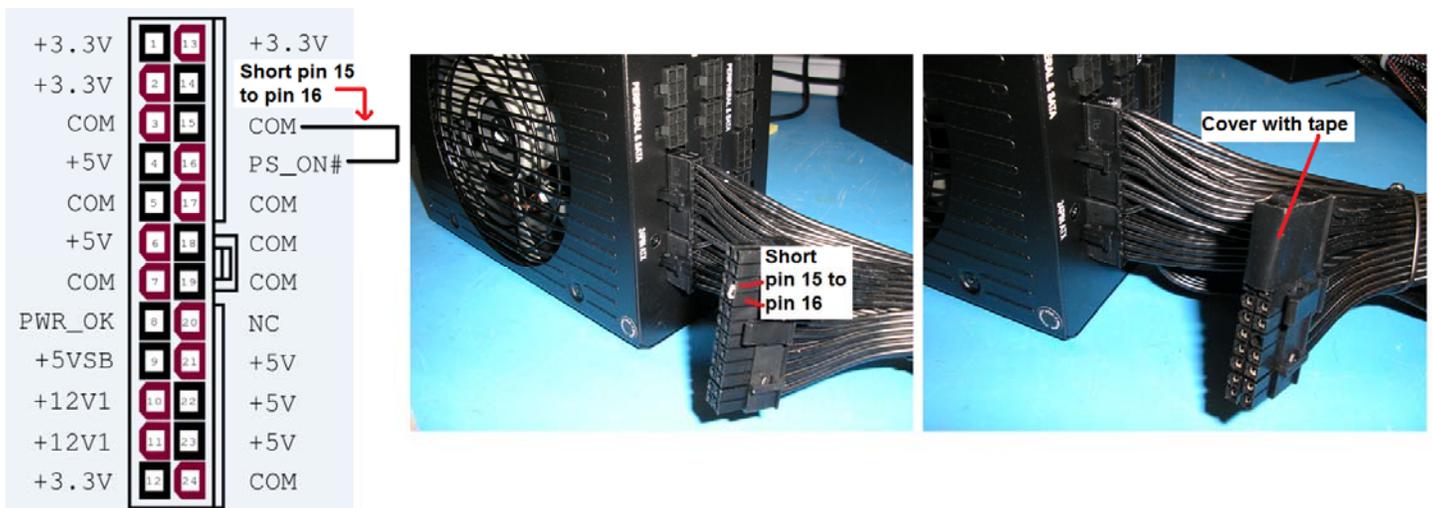
WARNING: For safety reasons, any modifications to the power supply must be done **after** the power supply's power switch has been turned off, and the AC line cord for the power supply has been unplugged from the AC outlet.

2.1 24-Pin ATX Connector

The Hx1200i, Ax12000i, and HX860 power supplies are typically used to power a high-end PC. These power supplies have a 24-pin ATX connector which is typically used to provide power to a PC motherboard, if the power supply is used for a PC.

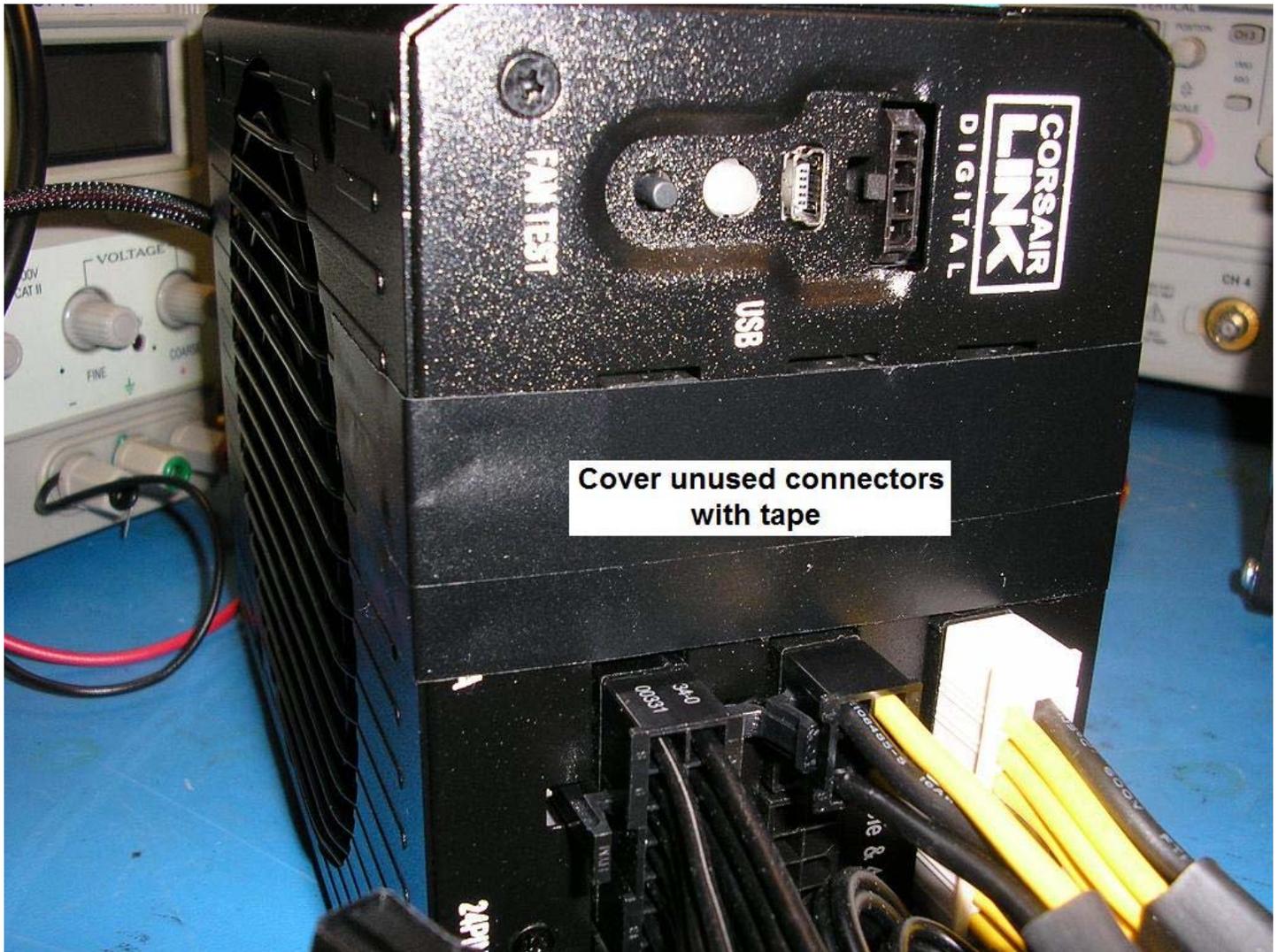
The 24-pin ATX connector has a signal on pin 16 of the 24-pin ATX connector that is usually named PS_ON# . This signal must be connected to GND in order for the power supply to fully turn on. Normally the PC motherboard connects the PS_ON# signal to GND when the user wishes to turn the PC on. When the Hx1200i, Ax12000i, or HX860 power supplies are used with the Viper system, the PS_ON# signal must be connected to GND by the user. This modification should be made by a qualified electrician or a qualified technician. Be sure to turn the power switch of the power supply to the OFF position and ensure that the power supply's AC line cord is NOT plugged in to an AC outlet.

There are different ways to perform the modification. The following procedure is one way to perform the modification. The diagram and photographs below show the required connections. Pin 16 of the 24-pin ATX connector is shorted to Pin 15 of the ATX connector. Typically, a large paper clip cut to the proper length and bent into a "U" shape is used to short the pins together. Next, the shorting connection is covered with an insulator. In this case, black electrical tape was used.



2.2 Cover Unused Power Supply Connectors (Hx1200i)

The Hx1200i power supply has nine connectors that will not be used to power the Viper System. These power supply connectors can be covered with electrical tape to reduce confusion when connecting power to the Viper System. Please see the figure below.



3 Document Change Log

Ver	Date	Change
1.0	1/12/2019	Initial Revision of Document; based on ASY-002 document