Pico Amiga ATX power adaptor install guide

Introduction

The ATX power adaptor allows you to power your Amiga A500/A600/A1200 or CD32 from a modern ATX power supply. This variant of the design has a right angled ATX power connector, suitable for fitment within the Amiga case itself. The picoPSU ™ power adaptor is recommended as it is small enough to fit inside the case.

It does require an existing Amiga PSU lead, perhaps from the PSU that you are replacing. It should take approximately 10 minutes to install and test this adaptor.

Required tools

A pair of wire cutters,
A pair of needle nose pliers,
A small flat blade screwdriver, with a 3mm wide tip,
A multi-meter (optional),
A small knife for insulation removal.

Preparation

First you will need to remove the power lead from your existing PSU, if you have not done so already. Please ensure that the original Amiga PSU is unplugged prior to removing the power lead.

Do not open either the original PSU or the new ATX power supply as lethal voltages can still be present for a considerable time after the last use.

From the end of the Amiga power supply lead farthest from the plug, carefully remove the outer grey insulation approximately 50mm (2”) from the end of the cable. Remove the foil shield from the cable. You should have something that looks like this:

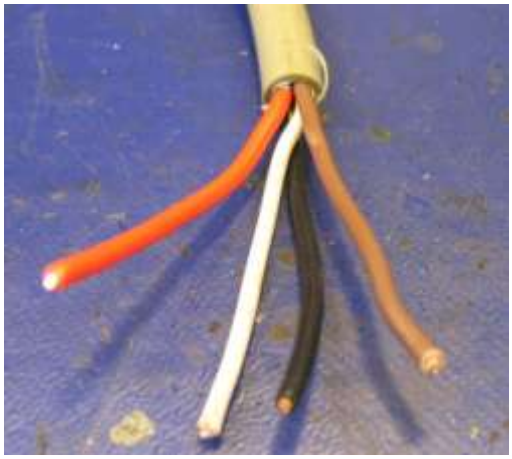


Figure 1 Prepared power lead

The next step is to remove about 10 mm (3/8”) of insulation from each of the wires, then twist them with the needle nose pliers.

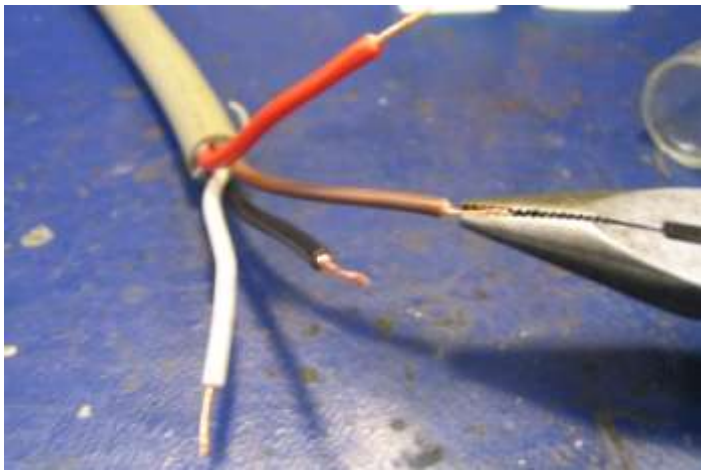


Figure 2 preparing the wire ends

Due to the number of different cable types used it is not possible to conclusively state which colour wire is for which supply voltage.

If you have a multi-meter or circuit tester, check the connectivity of the cable, using this picture as a guide to the power connections:

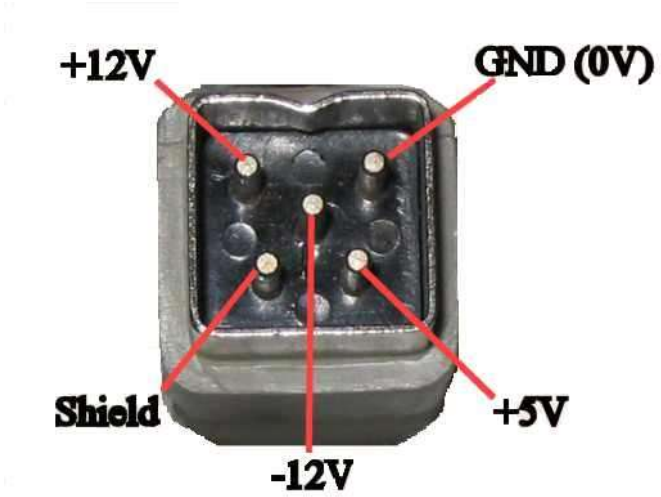


Figure 3 Amiga power plug pinout

Record your connection details in the table here:

Supply	Possible wire colour	Actual wire colour
+12V	Brown	
-12V	White	
+5V	Red	

GND/0V	Black	
Shield	Yellow	

Table 1 Power lead pinout

Wiring connections for a CD32

For the CD32, you can make a new power lead with a few components from an electronic parts supplier.

You need:
1 x 4 pin DIN plug
3 lengths of 18 AWG wire

A simple and cheap solution for the 18AWG wire is to take it from a PC CD/HDD 'Y' adaptor cable.

Connect the wires up as shown here:

Wire colour	Voltage
Red	+5V
Yellow	+12V
Black	GND/0V

Table 2 CD32 power lead connections

Figure 4 CD32 PSU pinout

Connections to the adaptor board

Now that you have prepared the cable for your A500/A600/A1200 or CD32 you are ready to connect it to the adaptor board.

The connection is accomplished using the screw terminals on the PCB, shown in detail here:

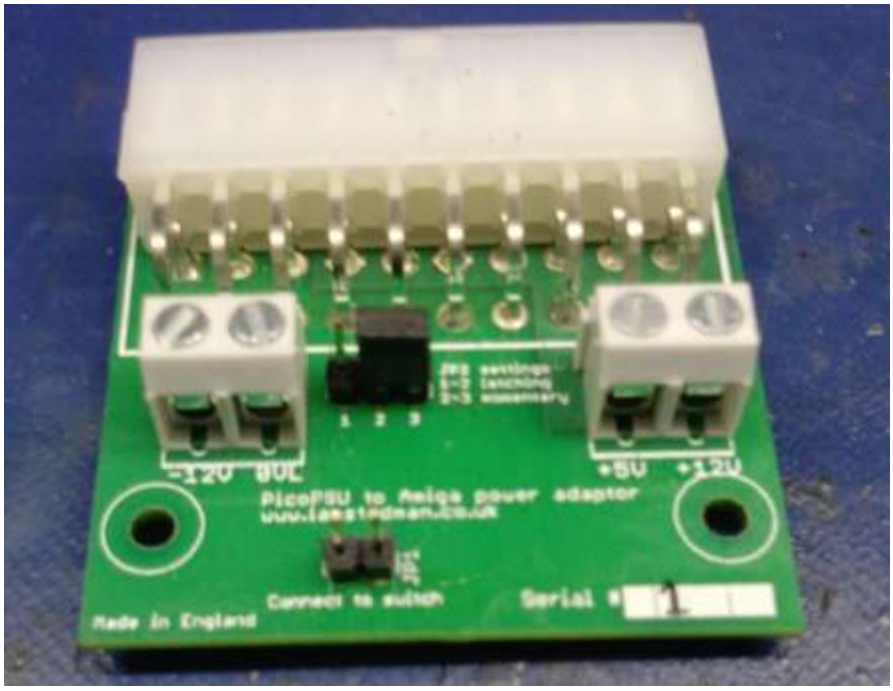


Figure 5 Adaptor board with close up of connection detail

Note, you may need to unscrew the terminals prior to inserting the wire.

Connect each of the coloured wires, referring to table 1 or 2 as appropriate, to the correct terminal. Tighten the screw to secure the wire.

It is acceptable to connect the shield wire of the existing Amiga power lead to the 0V/Ground connection.

It should now look like this

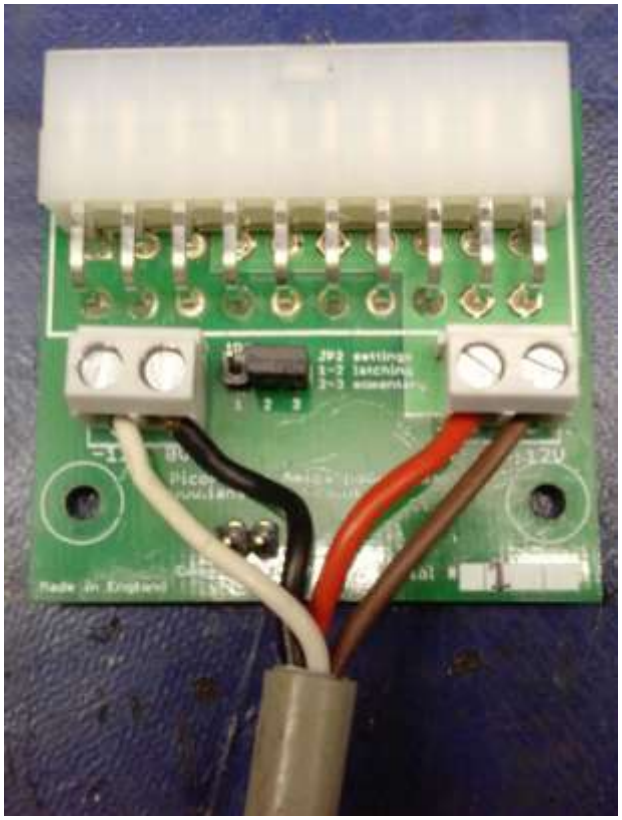


Figure 6 Wired up unit

Testing

Prior to connecting the power lead to your Amiga, you can test the adaptor with just the ATX PSU.
Plug the adaptor board into the ATX PSU.

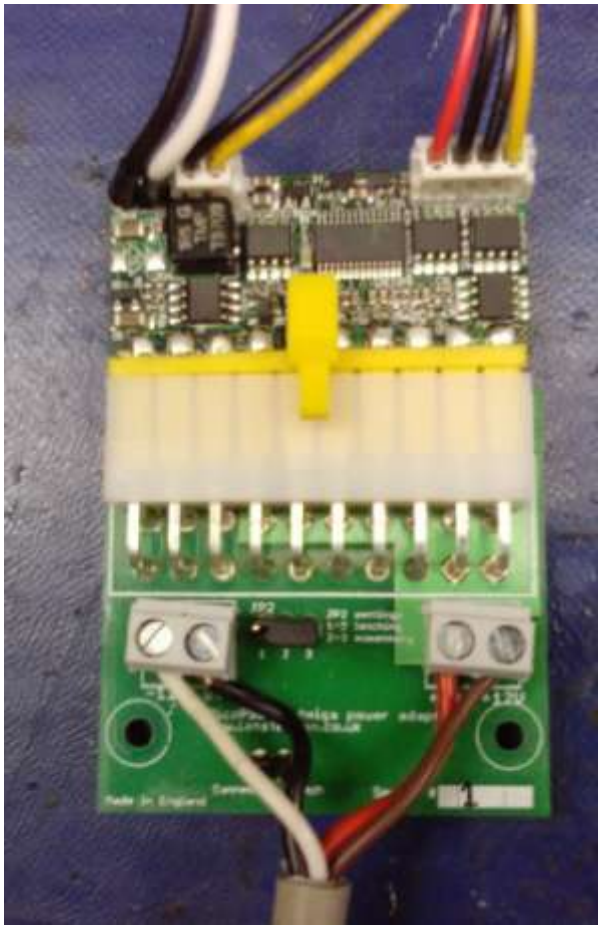


Figure 7 Unit connected to the ATX power supply

If you now connect the ATX power supply to the mains, you can proceed to test the unit.

By momentarily depressing the blue button, the power supply should turn on, indicated in most instances, by the fan activating.

Prior to connecting the power lead to your Amiga, if you have a multi-meter, refer to figure 3 (A500/A600/A1200) or figure 4 (CD32) and ensure that the correct voltage is present on the correct pins.

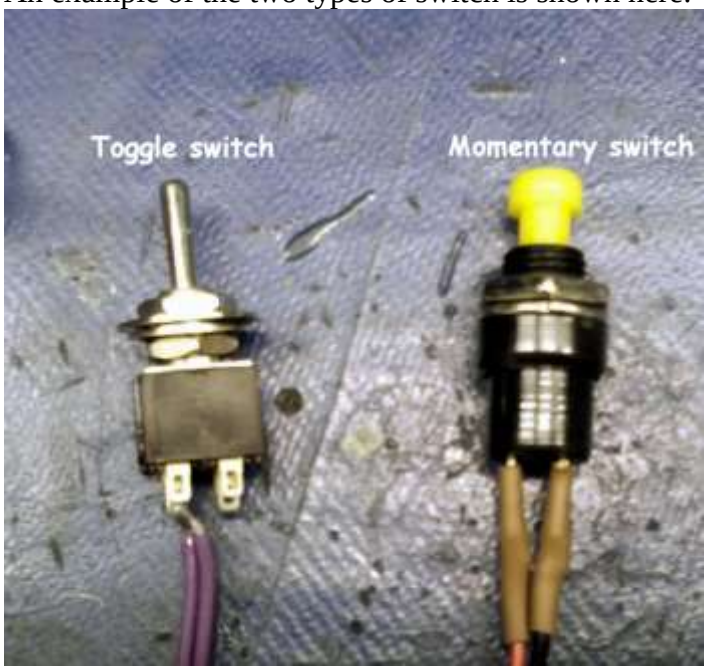
Once you are satisfied the correct voltages are present on the right pins, you can easily affix the unit inside of your Amiga by suitable means. Velcro tape (not supplied) is recommended.

Power switch setting

There is a 2 pin header on the PCB for connecting to the power switch of your choice. There are two type of power switch, momentary which you have to hold to make contact and the toggle switch.
What type of switch is used is your choice; the PCB accommodates both types but does require a Jumper to be set.

Switch type	Jumper setting
Momentary	2-3
Toggle/latching	1-2

An example of the two types of switch is shown here:



An ATX case normally has a momentary switch.

Troubleshooting and support

You can always contact me via email at the following address if there are any issues amigasales@ianstedman.co.uk

If the system fails to power up when you depress the power button, first try the unit using the small blue button on the PCB. If this works, the case power button or leads could be defective.

If the system still fails to power up, you may have a short circuit. Remove the power lead from the ATX PSU and wait 30 seconds. Disconnect the Amiga power lead from the Amiga. Then reconnect the ATX mains supply and switch on the mains power. Now try powering up the system. If it now operates, it could be due to the Amiga and or peripherals attached to it.

If the system still fails to power up, substitute the existing PSU for another known good unit to see if the fault lies with the PSU or adaptor board.

If you believe the adaptor board is faulty, please contact me via email and arrangements can be made to send a replacement board.
Alternatively, if you are technically minded and able to use a multi-meter, I can provide a few simple tests to determine if the board is operating correctly.