HYPERFABRIC

The HyperFabric is a unified framework device designed to allow multi-purpose USB interface to non-USB retro computers.

The HyperFabric will have a single USB input port and several export ports. With the exception to the HyperFabric "mini" which is designed to act as a single interface. The mini will allow you to connect to an analog mouse, keyboard, or joystick interface but only one at any given time.

Physical Setup

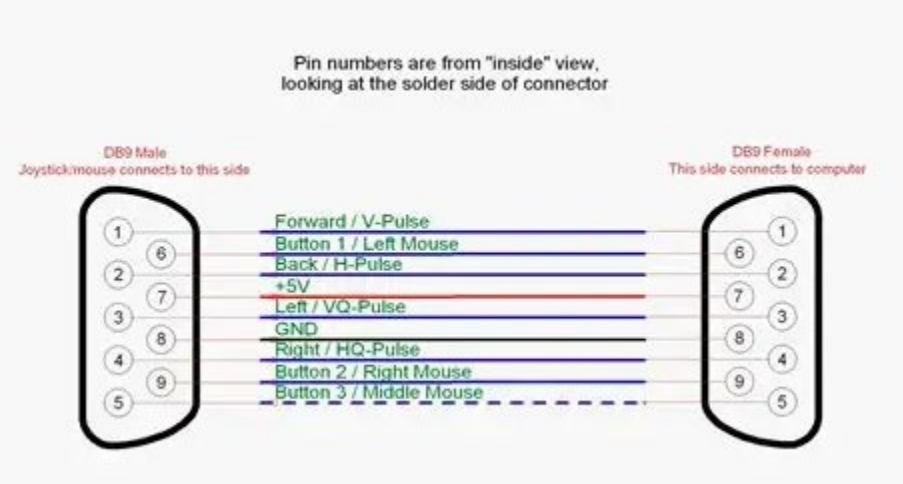
For multi-devices you will need a hub device. You also, may need a USB adapter if your hub has a type of USB connector. Note that not all hubs are compatible with the HyperFabric. (see Troubleshooting) You do NOT need to connect power to the hub since HID devices do not generally need this.

You will need a non-USB retro device cable for each type of device you are connecting. This will be a Keyboard, Mouse, and/or Joystick cable.

Power can be derived from the computer allowing the device to turn on/off with the computer. For this you will need to be sure and connect the 5v pin on at least one of the non-USB cables. Alternatively, you can derive power from the USB port.

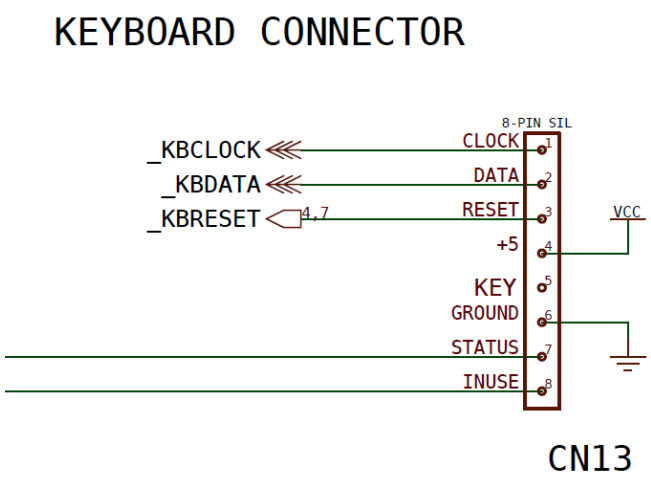
Mouse will typically need a DB9 cable. The HyperFabric will have a 10-pin header with one unused pin as the “key” pin. These pins will be marked. If you are creating your own cable, you can read these text labels and match them up with your DB9 pinout.

Example Amiga DB9 interface



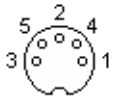
The Keyboard has many different style interfaces. At the time of this writing, the HyperFabric was compatible with the following keyboard interfaces:

- A500: Requires a 7-pin cable (2.54mm pitch like a dupont connector)



- A2000/A3000: Requires a 5-pin DIN cable

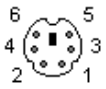
5 PIN DIN 180° (DIN41524) FEMALE at the computer.



5 PIN DIN 180° (DIN41524) MALE at the keyboard.

Pin	Description
1	KCLK
2	KDAT
3	n/c
4	GND
5	+5 Volts

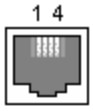
- A4000/CDTV: Requires a 6-pin min-DIN cable



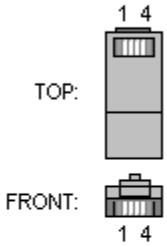
6 PIN MINI-DIN FEMALE (PS/2 STYLE) at the computer.

Pin	Name	Dir	Description
1	/DATA	↔	Data
2	n/c	-	Not connected
3	GND	—	Ground
4	+5V	→	+5 Volts DC (100 mA max)
5	CLOCK	←	Clock
6	n/c	-	Not connected

- A1000: Requires a 4-pin RJ22 cable



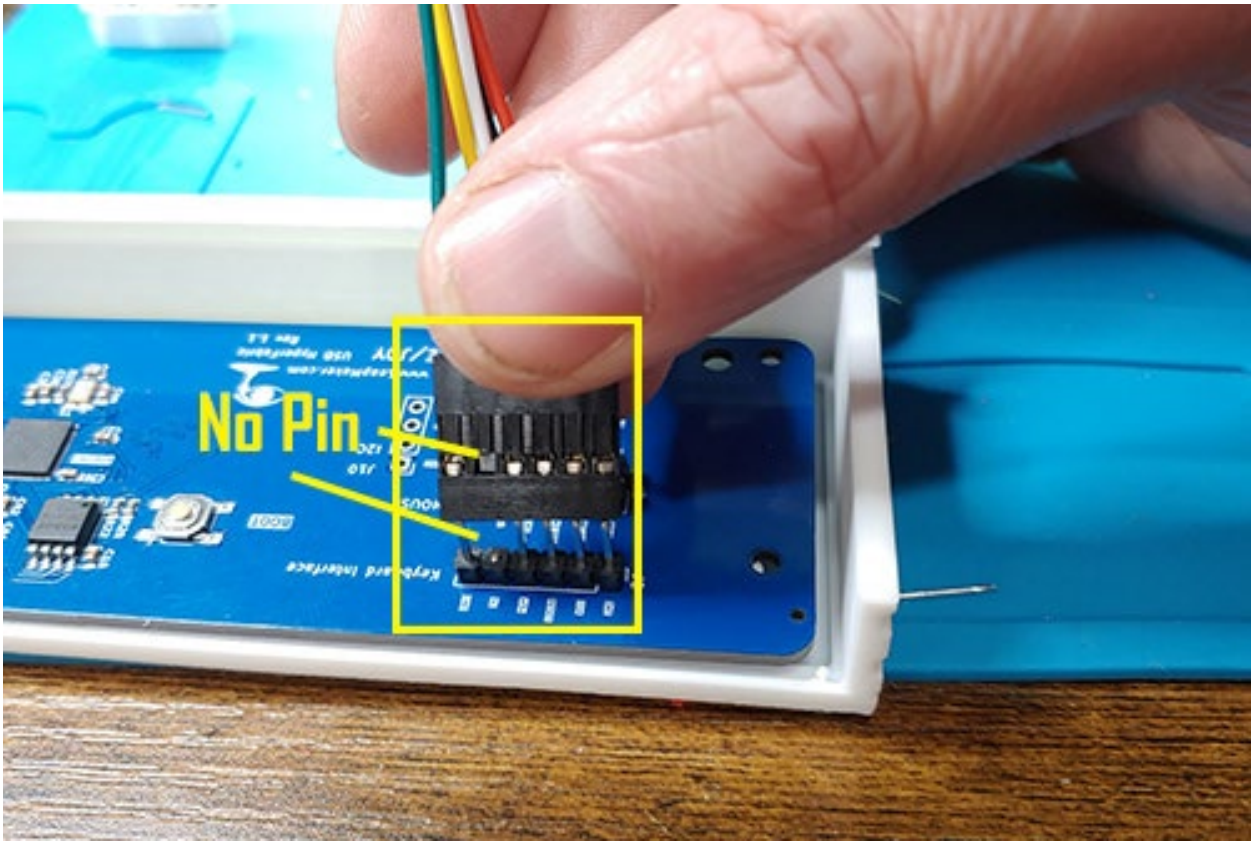
RJ11 FEMALE CONNECTOR at the computer.



RJ11 MALE CONNECTOR at the keyboard.

Pin	Description
1	+5 Volts
2	CLOCK
3	DATA
4	GND

When you are using a provided cable, make sure to use the key pin to determine orientation.



Once everything is physically connected, you may need to reset the HyperFabric by pressing the reset button.

Troubleshooting

In the event no input is happening:

1. Make sure all the cables are connected with the correct orientation.
2. Try resetting the HyperFabric with the reset button, watch activity light after reset. You should see the “long pulse” extended lumination on boot which tells you the HyperFabric is booting with a good firmware. Should you NOT see the “long pulse”, try flashing the latest firmware (see Appendix A)
3. When you do something, does the activity light show activity? If not, the USB hub or USB device may not be working, compatible, or not have enough power. Try a different hub or connecting the device directly without the hub.
4. Check your custom retro cable pins against the pinout of your device. Also check, the power/ground pins.
5. Try a different USB Keyboard/Mouse/Joystick.
6. Finally, contact LeapMaker via various support options like eMail or Discord.

Appendix A

Updating the Firmware

Visit https://support.leapmaker.com/products.php?collectionId=4 and select your HyperFabric version. Download the latest firmware under “Software”.

The USB port on the HyperFabric can be used to update the firmware. You will plug the USB port into a computer that can USB thumb drives.

To place the HyperFabric into firmware update mode, press and hold the “boot” button then press and release the “reset” button. Alternatively, press and hold the “boot” button while plugging in the USB cable.

A drive will show up on your computer called “RPI-RP2”. Copy the firmware file to this drive’s root. The HyperFabric will reboot, and load the firmware.

You can verify the firmware successfully booted when you see the “long pulse” activity light. The “long pulse” will also be seen on reset or when the device receives power.