StereoBrain

Network Interface Set-up

Safety Instruction

Warning*:*

The socket-outlet for the DC Converter mains shall be installed near the equipment and be easily accessible, the product has no disconnect device.

To maintain conformance requirements only utilise the supplied interconnection cables or provide equivalents as specified below:

Audio connection	Toshiba optical SPDIF
Ethernet connection	Screened CAT5/CAT6 cable
BNC connection	Belden 1694A cable

No User-Serviceable parts inside. Do not remove covers – Refer to appointed Service Agent only.

Cautions:

There are no hazardous voltages within this product however damage may result if not operated with the supplied DC Converter. This will also invalidate both conformance and warranty conditions.

Important Safety Instructions to observe:

1. Read and retain these instructions.
2. Do not use this apparatus near water, hot objects or naked flames.
3. Do not block the vent holes on the top cover.

Installation

The StereoBrain is a stand-alone unit and requires no special fixings.

Unpacking

The StereoBrain is shipped in a carton, which may contain other optional items within the packing, and care should be taken to ensure that these are not thrown away.

The contents of the carton are as indicated on the delivery note. Carefully unpack and check for shipping damage and shortages.   Report without delay, any damage or shortages to your distributor.

Operation

All of the units have a power indicator as shown on the picture below.   The units are powered by a 12V desktop style power supply, and are connected by a locking DC Jack.

To lock   Power Jack Correct operation will be

Insert and   twist one indicated by the

Quarter turn   illumination of the green Clockwise.   LED

Airflow

The StereoBrain has been designed to conduct heat efficiently from a single FPGA device to the external case. This effectively increases the size of the FPGA heat-sink to encompass the entire case. As a consequence, the case may appear slightly warmer than expected but this is quite normal and closely reflects the running temperature of the FPGA.

The units should never be covered or stacked as this can reduce the airflow and radiated heat from the unit - potentially causing it to overheat.

Web Browser control

The Ethernet module used in the StereoBrain is a "Digi Connect ME" device manufactured by Digi International Inc. The unit supports a wide range of Ethernet communication protocols and can be accessed via a direct connection to a laptop/PC or via the use of a DHCP router.

Two connection methods can be used to connect to the StereoBrain and control it's parameters via a web browser:

1) Direct connection to a laptop via a cross-over cable, StereoBrain has a fixed IP address (**Default**).
2) DHCP server connection to StereoBrain via a router.

The StereoBrain is shipped with a utility program, **finder.exe**, that can be used to find the IP address of the Digi module within the StereoBrain and configure it with a manual address of the users choice, or allow a DHCP server to auto-assign an address. Both of these methods are detailed below.

Direct Connection to StereoBrain

The StereoBrain unit is shipped with the following fixed IP address allowing control of the unit via a direct connection to a laptop or pc:
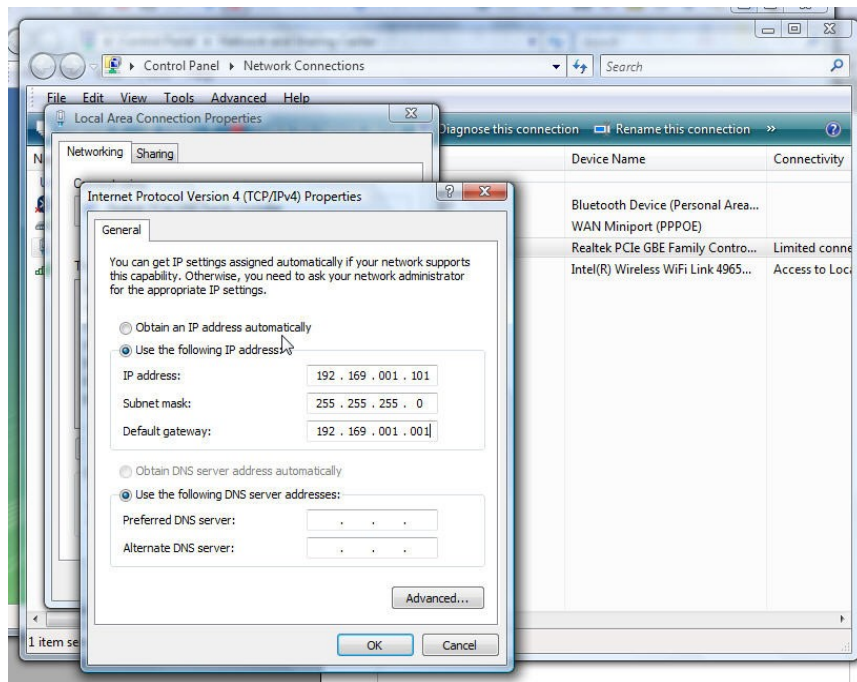

192.169.001.100

In order to control the StereoBrain, you will need to connect a crossover cable (Cat5/Cat6) between the Ethernet port on the rear of the StereoBrain and the Ethernet port of your pc or laptop. (Some newer computers can auto sense the requirement for a cross over cable and so can be cabled with a normal Ethernet cable, the computer will reconfigure it's IP port to mimic a crossover cable.)
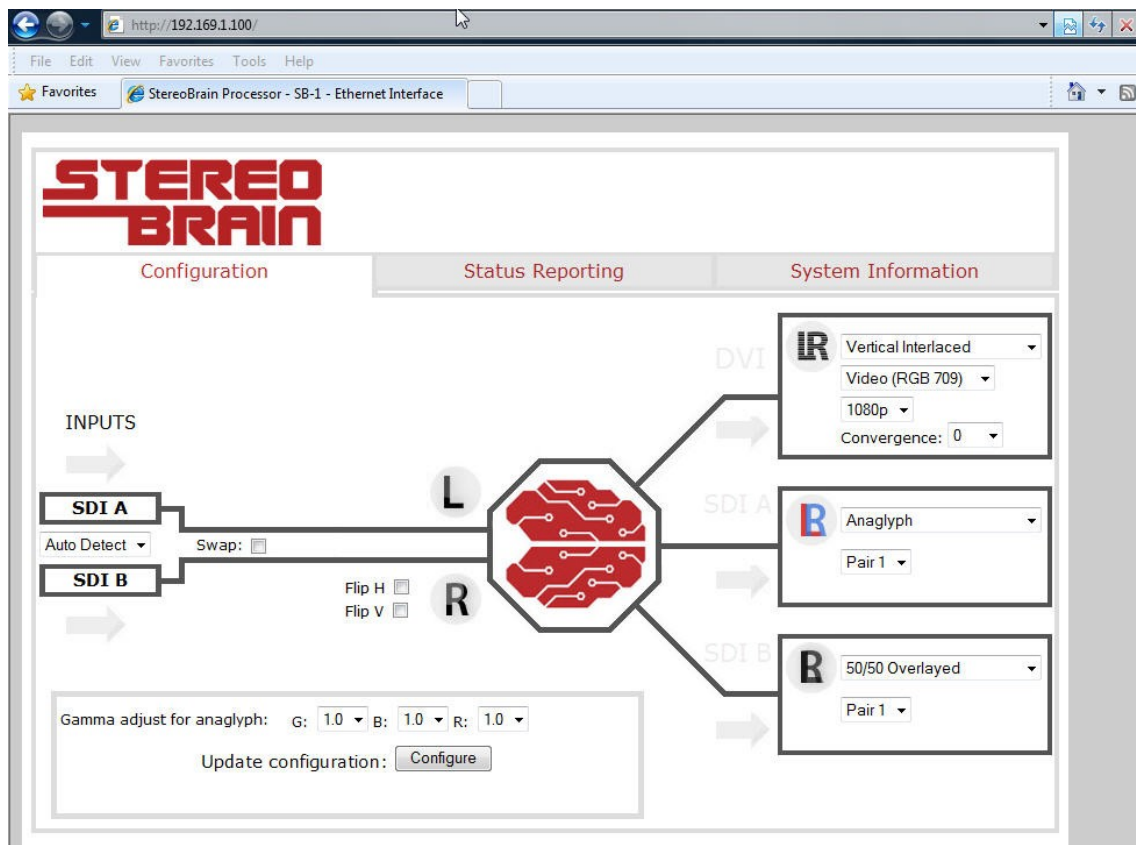
In order for the computer to be able to talk to the StereoBrain you will need to set the TCP/IP properties as shown overleaf. In Vista, for example, one way to access the TCP/IP properties is to click the **Start** button, click **Control Panel**, double click **Network and Sharing Center**. Then click **Manage network connections,** right click **Local Area Connection** and then click **Properties**. Highlight **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**, this should give you the page shown overleaf.

Hitting OK will then configure the computer LAN properties to enable your pc to communicate with the StereoBrain.

Web Browser control

The next step is to open an internet browser window (such as Explorer) and enter the IP address 192.169.001.100 and the StereoBrain browser page should appear as shown below.

Any parameter changes made using this browser page will only take affect when **Configure** is clicked. All parameter changes are reflected in the browser page and also memorised so that the unit will power up in the same state it was when powered down.
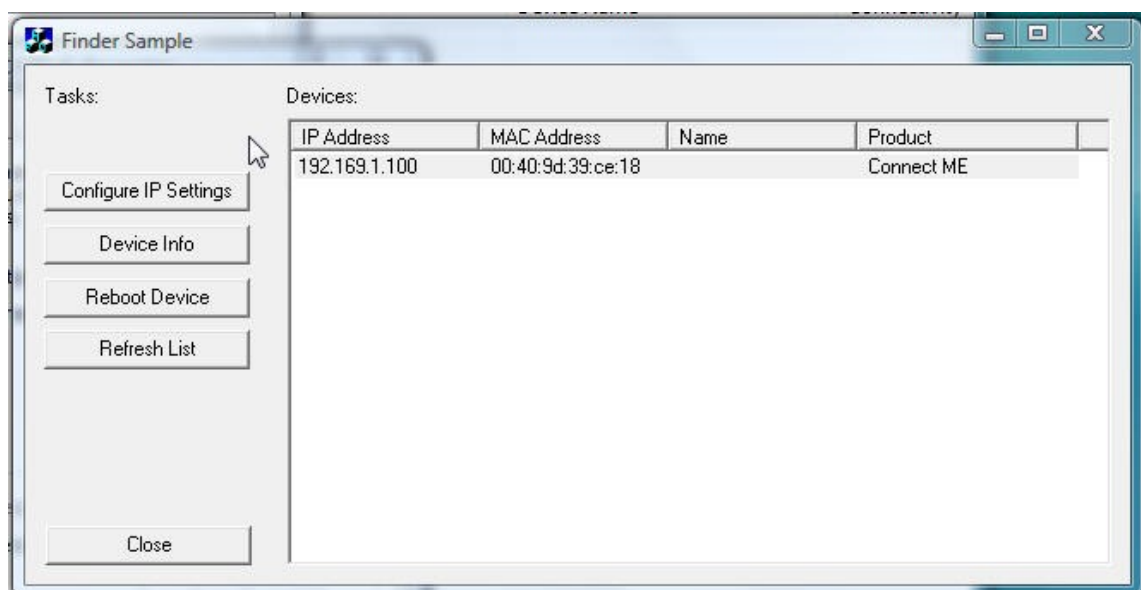
DHCP Connection to StereoBrain (or to Manually configure fixed IP address)

To determine the IP address that is currently assigned to the StereoBrain module run the executable file finder.exe

When the utility opens, it scans the LAN looking for Digi Ethernet modules. Note that it may take a minute after powering on the StereoBrain before the LAN negotiates the connection with the Digi module. Hit **Refresh List** in the left column after a minute or so if the utility fails to see the unit when you start it.

In some situations it is possible that the Windows Firewall or other firewall such as Zone Alarm will block the Digi Device Discovery from being able to see the StereoBrain. It is advisable to turn the Windows Firewall off while performing these tasks.
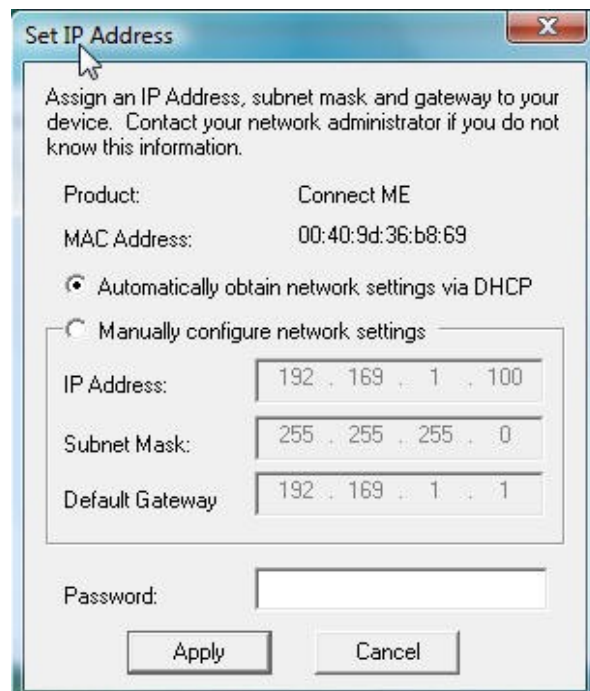
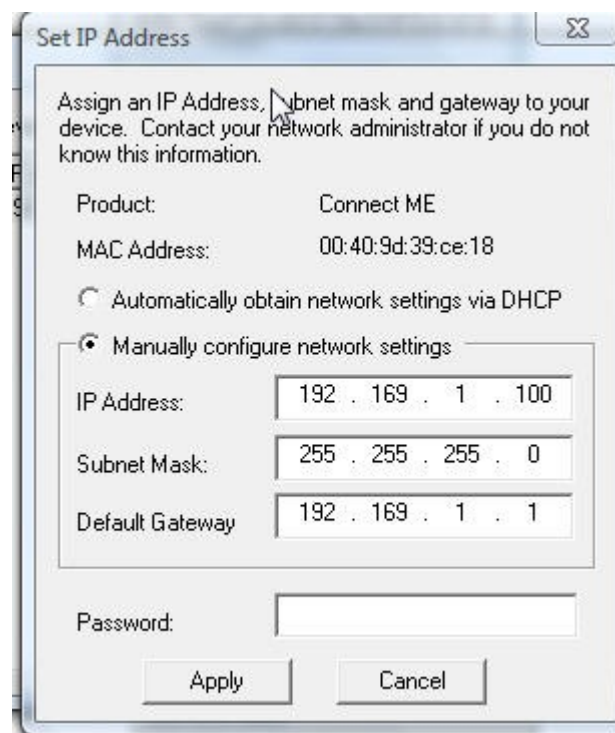When the application has completed, a list of StereoBrains will be displayed as shown below:

Clicking on the **Configure IP Settings** button will open up the option table as shown overleaf. This will allow the StereoBrain to be set up for DHCP or a fixed IP address to be configured.

To set the StereoBrain to allow DHCP connections, click on the **Automatically obtain network settings via DHCP** button. Then the **Password** "**Netsilicon**" should be entered to enable the changes to be applied (NB. **N** is upper-case).

Web Browser control

To fix the IP address, click on the **Manually configure network settings** button as shown below. Once the IP Address, subnet mask and gateway parameters have been selected, the **Password** "**Netsilicon**" should be entered to enable the changes to be applied (NB. **N** is upper-case).

Web Browser control

In both cases, once the IP address is configured, **Reboot Device** from the main menu must be clicked. This brings up the following window where the **Password** "**Netsilicon**" should be entered to reboot the Digi device within the StereoBrain (NB. **N** is upper-case).

Power cycling the StereoBrain will also reconfigure the new IP address but the user will need to wait about one minute after powering the device on for communication to be established.

Note that if a static IP address is assigned that is incompatible with the LAN, all communication including access to the StereoBrains settings will no longer be possible over the LAN. If this happens a crossover cable must be used with a PC to access the StereoBrain Digi settings using the "finder.exe" utility.

These procedures were tested using PC platforms with Windows 2000 SP4, Windows XP SP2 and Windows Vista.

The following is a guide to the most likely reasons for not being able to connect to the StereoBrain:

1. The StereoBrain is shipped with a **Default** address of **192.169.001.100**. If you wish to connect to a DHCP router, such as the Linksys WRT45G, the StereoBrain must be reconfigured with finder.exe to allow this (see previous Section).

2. If you wish to directly connect to the StereoBrain but don't want to use the **Default** IP address (**192.169.001.100**), the StereoBrain must be reconfigured with finder.exe (see previous section).

3. If the IP address has been reconfigured, **Reboot device** must be run or the StereoBrain power cycled for the address to be accepted. If the power is recycled you should wait at least a minute before using finder otherwise it is unlikely to find the StereoBrain. If finder was run too early and it reports **No devices found**, just hit **Refresh List** after approximately one minute from power on.

4. If the Finder application does not detect the StereoBrain check that firewall applications such as ZoneAlarm are disabled. The StereoBrain may not be detected if a firewall application is enabled.

5. If the Finder application correctly detects the IP address of the unit but the unit is not visible when the IP address is entered into the browser then a firewall application may still be operating.

6. Windows XP and Vista applications have a Network Sharing facility, which must be enabled in order to allow network visibility. To change the network discovery setting, click the **Start** button, click **Control Panel**, click **Network and Internet**, and then click **Network and Sharing Center**. Click the arrow button to expand the Network Discovery section, click **Turn on network discovery**, and then click **Apply**.