6.3.9 CobraNet® Card (VISTA, OnAir, ROUTE 6000) A949.0445
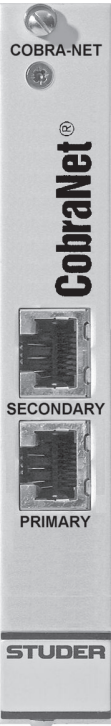
This card allows sending and receiving of up to 32 audio channels to/from a CobraNet®. DIP switches on the card allow setting the number of input or output channels seen by the console. Default setting is 32 output and no input channels. All settings of the CobraNet® module are made through SNMP. Per default, the module is configured to be the conductor (synchronization master) and providing multicast bundles 1-4 to the CobraNet® network. This setting is ideal for e.g. providing audio channels to a PA, installed sound, or monitoring system using CobraNet®.

For further information on CobraNet®, please refer to www.cobranet.info.

Current consumption (5 V)   800 mA
Operating temperature   0-40 °C
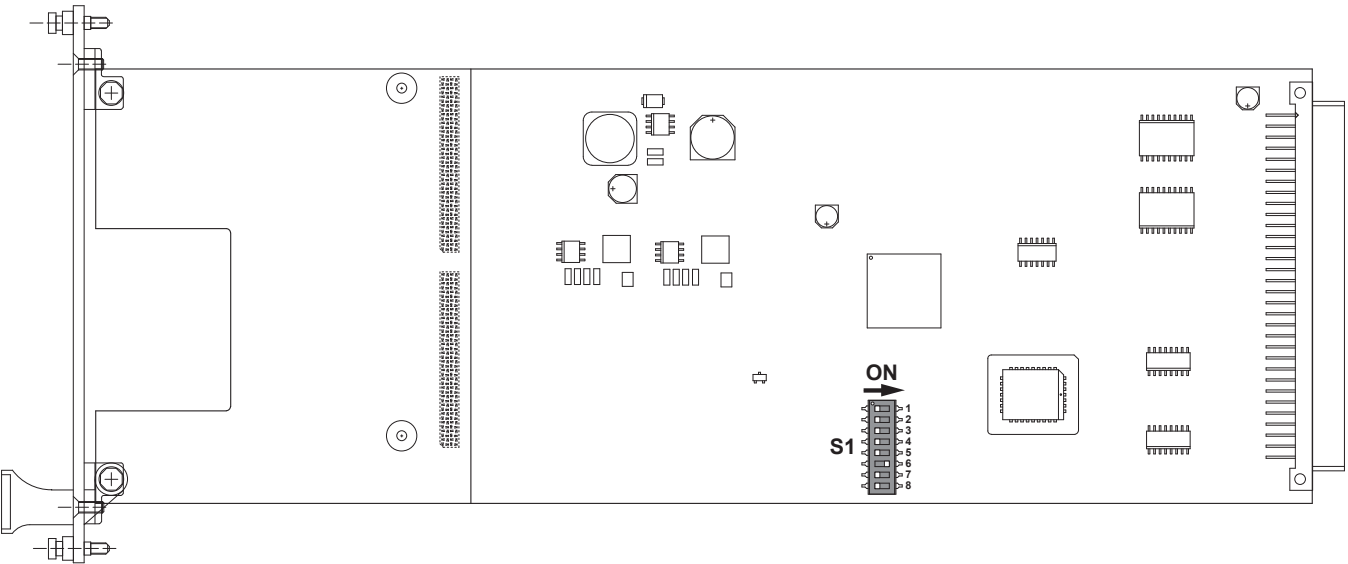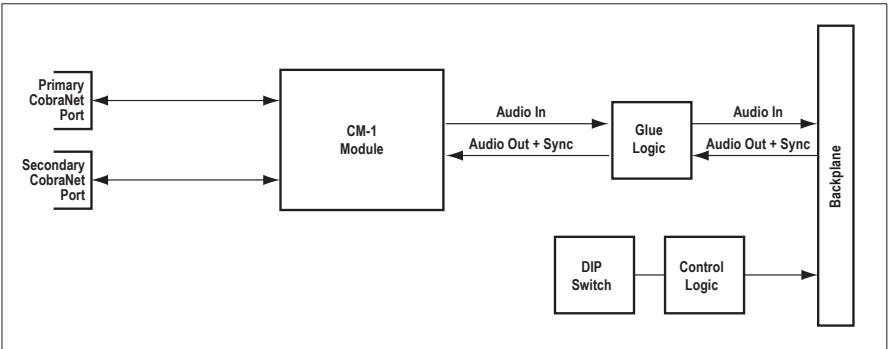
DIP Switch   **S1**   DIP switch for D21m channel count setting:

1	2	3	4	5	6	7	8	Number of Channels
OFF	OFF	OFF	OFF	-	-	-	-	0 inputs *(factory default)*
OFF	OFF	OFF	ON	-	-	-	-	8 inputs
OFF	OFF	ON	OFF	-	-	-	-	16 inputs
OFF	OFF	ON	ON	-	-	-	-	24 inputs
OFF	ON	OFF	OFF	-	-	-	-	32 inputs
OFF	ON	OFF	ON	-	-	-	-	
:	:	:	:	-	-	-	-	*NOT ALLOWED*
ON	ON	ON	ON	-	-	-	-	
-	-	-	-	OFF	OFF	OFF	OFF	0 outputs
-	-	-	-	OFF	OFF	OFF	ON	8 outputs
-	-	-	-	OFF	OFF	ON	OFF	16 outputs
-	-	-	-	OFF	OFF	ON	ON	24 outputs
-	-	-	-	OFF	ON	OFF	OFF	32 outputs *(factory default)*
-	-	-	-	OFF	ON	OFF	ON	
-	-	-	-	:	:	:	:	*NOT ALLOWED*
-	-	-	-	ON	ON	ON	ON	

6.3.9.1   CobraNet Card Card Setup

This section describes how to use a (laptop) PC running the CobraNet Discovery® utility in order to configure the CobraNet card settings. This applies to all versions of the card.

The configuration of the card will be dictated by the network or other devices that are being connected to the card, so it is not possible to give exact details for individual parameters, but this guide shows how to access and edit those parameters.

It is recommended that setting up a CobraNet network is carried out by an experienced person, but if more information is required, useful documents can be downloaded from the CobraNet website www.cobranet.info.

Installing CobraNet Discovery   CobraNet Discovery is a free utility provided by the manufacturers of CobraNet hardware, Cirrus Logic (http://www.cobranet.info/downloads/disco).

Any earlier version of CobraNet Discovery present on your computer, such as V3.0.2 or V3.4.2, should be uninstalled before. Install the latest version, as some earlier versions require special configuration changes in order to access the bundle configuration of the CobraNet card.

The latest version of the program (V4.0.2 or above) allows not only monitoring the CobraNet device parameters, but also the configuration of settings such as bundle numbers, latency and bit depth. The application can be downloaded from the website www.cobranet.info. Follow the Downloads link on that page. The installation is straightforward.

PC Ethernet Port Setup   First the PC's network port must be configured in such a way that it has a fixed IP address in order to communicate with the CobraNet card (Windows XP™ shown):

1   Click Start - Connect to - Show all connections - Local Area connection. Right-click on the 'Local Area Connection' icon and select 'Properties':
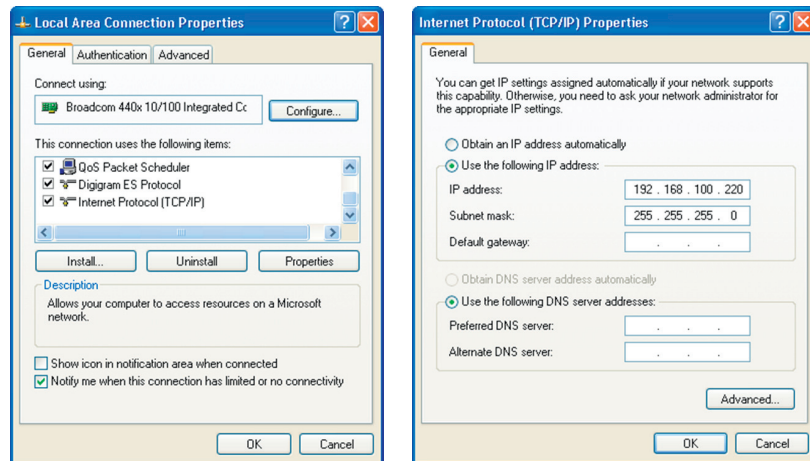
2 Select 'Internet Protocol (TCP/IP)' and click on 'Properties'.
3 Select 'Use the following IP address' and enter IP address (192.168.100.220) and subnet mask (255.255.255.0), as shown above.
Click 'OK' to close the Internet Protocol (TCP/IP) Properties dialog box.
4 In the Local Area Connection box, select the 'Advanced' tab at the top, and then click on the Windows Firewall 'Settings' button:
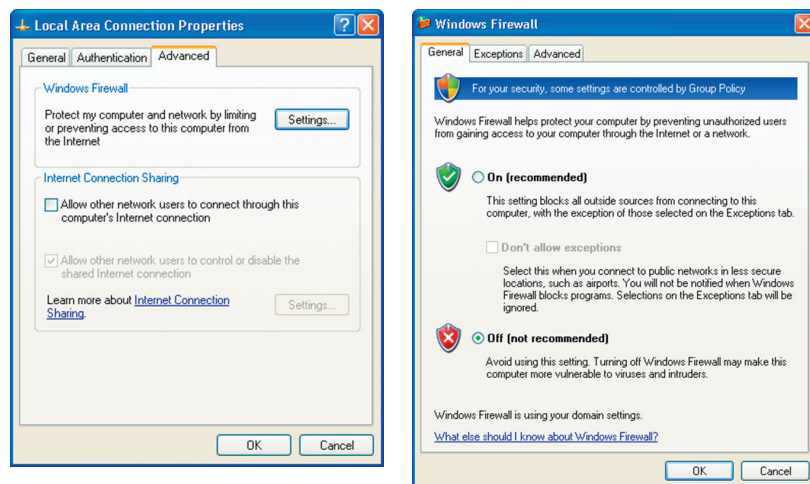
Make sure the firewall is set to 'Off'.
Click OK in the following dialogs to exit the Local Area Connection properties.

Note *You will have to reverse the above settings 1-4 if you subsequently need to connect the PC to a business LAN, so it is recommended to use a separate network port, if available.*

CobraNet Discovery Setup 1 Power up the console and connect the PC's Ethernet port to the Primary port on the CobraNet card. This should be done with a 'crossover' Ethernet cable. Depending on the PC, a 'straight' cable may be used if the PC supports both cable types (most recent PCs do).
Alternatively, a network switch can be connected between the PC and the CobraNet card. In this case 'straight' cables would be used.
Using a switch also enables several other CobraNet devices to be connected to the PC at the same time as the console, and their configuration inspected and changed if necessary to match the console.
In case your system should contain BSS London components, make sure that *none* of their CobraNet parameters are changed using CNDiscovery.

Both LEDs on the CobraNet card should start flashing when connected to the PC.

2   Start the CobraNet Discovery program and go to 'Tools/Options'.
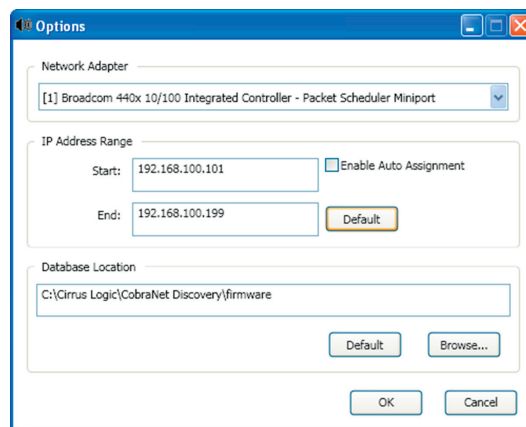
In the 'Network Adapter' section of the dialog, select the network controller that your PC uses for the Ethernet port to which the CobraNet card is connected.
In the 'IP Address Range' enter values as above (Start: 192.168.100.101; End: 192.168.100.199), and check the 'Enable Auto Assignment box'.
Click OK and return to the main Discovery window.

Note   *This step must only be performed when you connect to the CobraNet card for the first time.*

3   You should now see the CobraNet module in the Discovery window, with a green 'tick' icon on the left and an IP address similar to that shown:
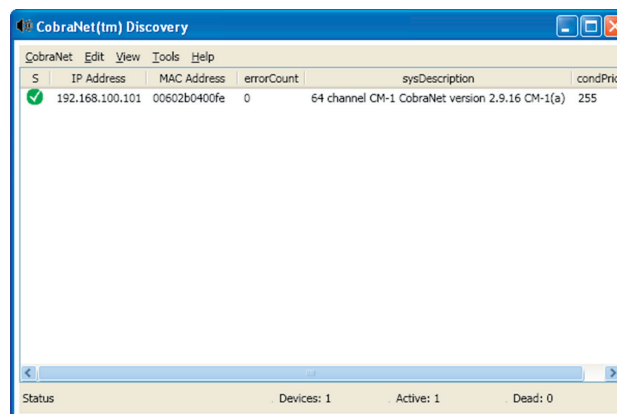
The IP address is only used for connecting to the configuration computer. The actual address does not matter, as long as it is in the same subnet as the PC's Ethernet port. If you have followed the previous instructions correctly, it will be.

4   To configure the CobraNet card, click on the CobraNet device to select it, then choose Tools/Configure, or just double-click the device.
The Configuration box appears, showing the current bundle number setup.
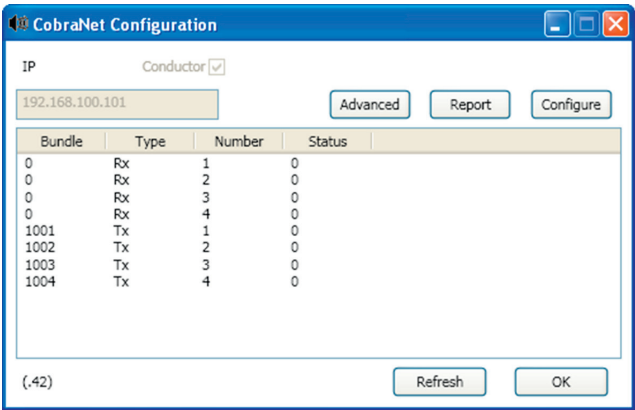
You will need to change the bundle configuration of either the CobraNet card or the external equipment in such a way that the transmit (Tx) number of one matches the receive (Rx) number of the other, in order to pass audio.

5 The bundle numbers can now be changed as required by either directly editing the bundle number field, or selecting one of the four transmit or receive bundles and clicking the 'Configure' button, which opens a more detailed 'Configuration' dialog box:
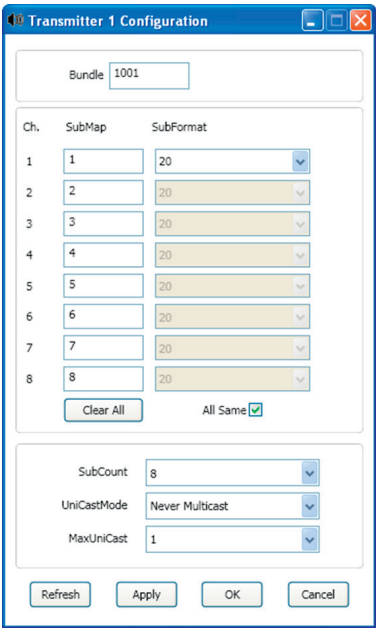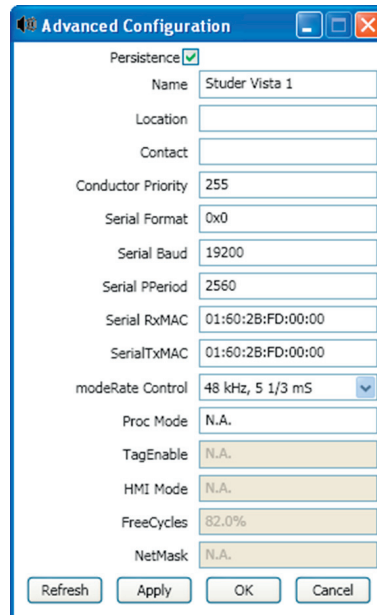

IMPORTANT! The CobraNet card is factory-set to have four transmit bundles (32 channels), but no receive bundles active.

The number of transmit and receive channels is also set on the CobraNet card PCB via DIP switches. These switches determine how many channels are available in the console's Input/Output patch touchscreen pages. Therefore, if the number of transmit and/or receive channels is changed from the default, the DIP switches on the CobraNet card must also be changed to match.

The SubFormat parameter allows the bit depth to be changed to match the network. Please note that if changing this to 24 bits, it is not possible to use all eight channels in the bundle.

6   Changing latency, sample rate and card name:

Please *do not change* any fields different from the ones indicated below! In particular, the 'Persistence' box must never be unchecked, otherwise all setup data will be erased.

The 'Advanced Configuration' dialog box is used to set the latency and sampling rate of the CobraNet card (this is the parameter called 'modeRate Control'). These *must* match the other devices in the network, otherwise the system will not work.

Please note that with latency setting of 1.33 ms, only *seven channels per bundle* are allowed.

IMPORTANT!   The 'Conductor Priority' parameter *must* be left at a value of 255. This is the highest priority and indicates that the console will always be the clock master for the entire network.
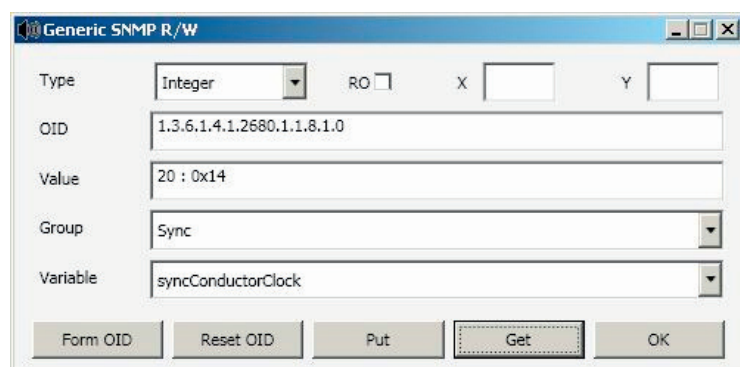
If necessary, the 'Name', 'Location' and 'Contact' fields can be changed to identify the console in more detail.

Do not change any other fields!

In particular, the 'Persistence' box must never be unchecked, otherwise all setup data will be erased.

7   Setting the SNMP variables:

This is also done with the CobraNet discovery utility. Enable SNMP by selecting the check box under 'Tools - Preferences'. A right-click on 'Device - Configure' will open a dialog in which you can perform the SNMP configuration.

The following default variables have to be modified:

Subtree	Name	Value	Comment
sync	syncConductorClock	20	External Master Clock with External Sample Synchronization
sync	syncPerformerClock	20	Esternal Master Clock with External Sample Synchronization
flash	flashPersistEnable	1	Makes parameters to be stored after power down
conductor	condPriority	255	set to highest priority
transmitters.txTable.txEntry	txChannel.1	1	Ch 1-8 are tx multicast bundle 1
transmitters.txTable.txEntry	txChannel.2	2	Ch 9-16 are tx multicast bundle 2
transmitters.txTable.txEntry	txChannel.3	3	Ch 17-24 are tx multicast bundle 3
transmitters.txTable.txEntry	txChannel.4	4	Ch 25-32 are tx multicast bundle 4

When Finished

Please remember to reset the computer's IP address, subnet mask and to reactivate the Windows Firewall.

For more information on CobraNet parameters, please refer to www.cobranet. info