CobraNet Discovery Quick Guide

(For CobraNet compatible products from Yamaha)

Foreword

When using CobraNet compatible products from Yamaha (other than the MY16-C), a software application such as the NetworkAmp Manager or CobraNet Manager Lite for Yamaha must be used to set up the audio routing. Both of these applications, however, are designed to run under Windows XP/2000 and operation is not guaranteed under Windows Vista or later operating systems.
This guide describes how CobraNet Discovery can be used to set up CobraNet compatible products from Yamaha. CobraNet Discovery supports the latest Windows operating systems.

Special Notice

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About CobraNet Discovery

CobraNet Discovery is a software application that can be used to set up CobraNet devices provided by Cirrus Logic, Inc. CobraNet Discovery can set up the following parameters, which can also be set up by CobraNet Manager Lite for Yamaha or NetworkAmp Manager applications.

- Audio routing between CobraNet compatible devices (bundle settings)
- Audio latency and bit depth
- Serial data bridge
- Conductor priority

CobraNet Discovery can be downloaded from the following website:

http://cobranet.info/

Refer to license agreement displayed when downloading the software for software license terms and conditions.

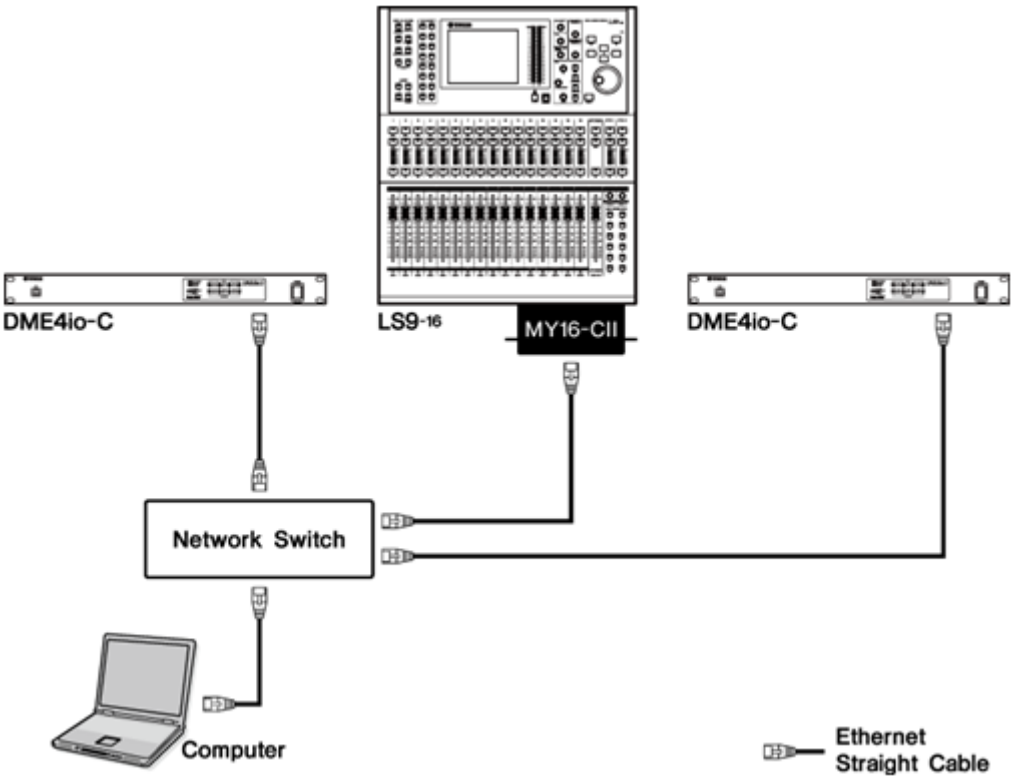
Setup Procedure Using CobraNet Discovery

A system consisting of the following components will be used as an example throughout this quick guide.

- Computer (Windows 7)
- CobraNet Discovery 4.0.5
- MY16CII (CobraNet Firmware V2.11.11)
- LS9-16 (Firmware V1.30)
- DME4io-C (Firmware V3.84)

1. Connect CobraNet Devices to the Computer

Connect the CobraNet devices to a network switch using Ethernet straight cables.



NOTE A CobraNet device can be connected directly to the computer via an Ethernet crossover cable.

2. Assign IP Addresses

Before using CobraNet Discovery to set up the connected CobraNet devices it is necessary to set appropriate IP addresses for the computer and CobraNet devices.

2-1. IP address settings for the computer

1 **Select [Start] → [Control Panel], then click or double-click [Network and Sharing Center] or [View network status and tasks].**

The “Network and Sharing Center” is displayed.

2 **Click [Manage network connection] or [Change Adapter settings] from the “Tasks” list located in the left side of “Network and Sharing Center” window, then double-click [Local Area Connection].**

The “Local Area Connection Status” dialog box will be displayed.

NOTE The “User Account Control” dialog box may appear. Click [Continue] or [Yes] button.

NOTE If the “Local Area Connection properties” dialog box appears, skip ahead to step 4.

3 **Click [Properties].**

The “Local Area Connection properties” dialog box will be displayed.

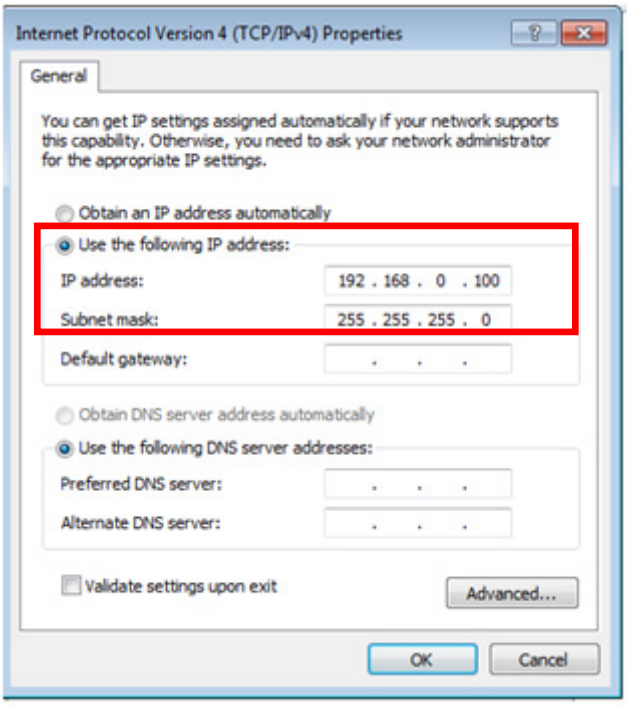
NOTE The “User Account Control” dialog box may appear. Click [Continue] or [Yes] button.

4 **In the [Network] tab, choose [Internet Protocol Version 4 (TCP/IPv4)], and click the [Properties] button.**

The “Internet Protocol Version 4 (TCP/IPv4) Properties” dialog box will be displayed.

5 **Click [Use the Following IP Address].**

6 Enter “192.168.0.100” into [IP address], and “255.255.255.0” into [Subnet mask].



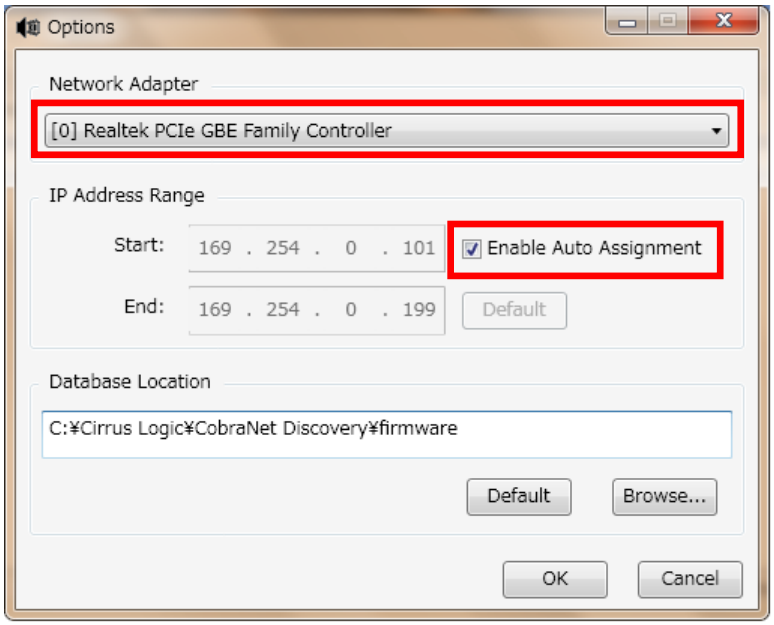
7 Click [OK].

2-2. Assign IP Addresses to the CobraNet Devices

Use CobraNet Discovery to assign appropriate IP addresses to all CobraNet devices on the network.

1 Select [Options…] from the [Tools] menu in the Discovery window (the Discovery window is the first window that appears when CobraNet Discovery is initially launched).

The “Options” dialog box will appear.



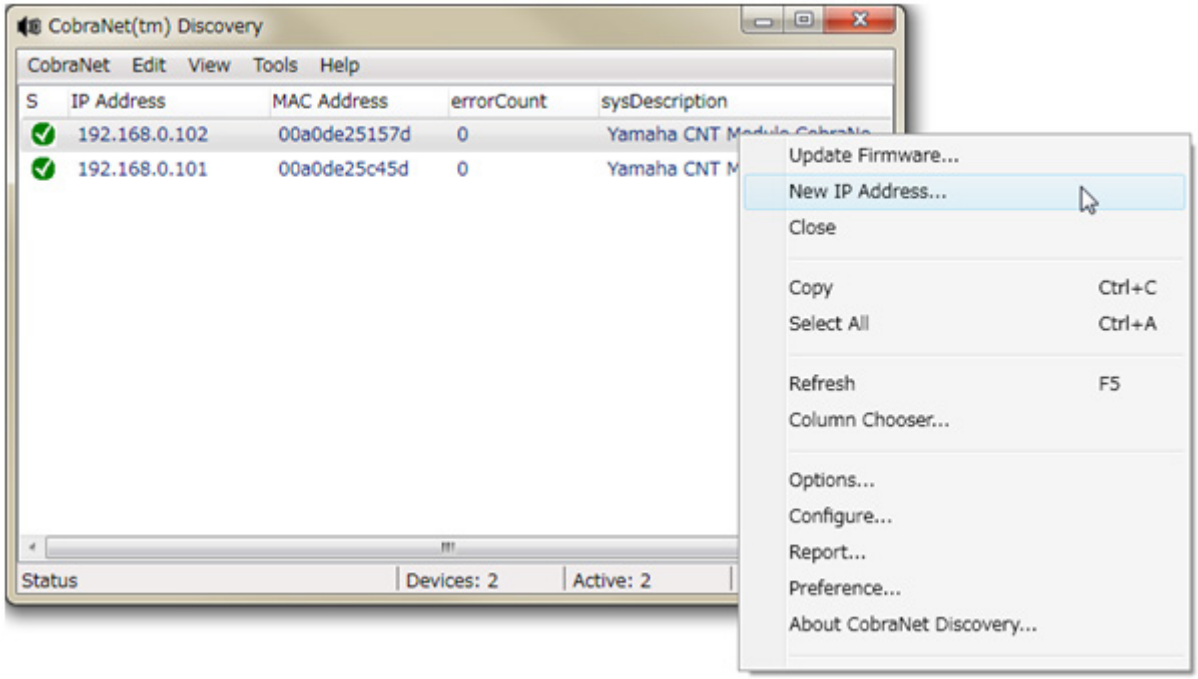
2 Select the adapter you will use from the “Network Adapter” menu.

3 Click [Enable Auto Assignment] so that a checkmark appears in the checkbox.

IP addresses will automatically be assigned to newly discovered CobraNet devices. When IP addresses are properly assigned all CobraNet devices on the network will be listed in the Discovery window.

4 Click [OK].

NOTE IP addresses can be manually assigned to individual CobraNet devices by first selecting the devices in the list and then selecting [New IP Address…]. See 6-2 Manual IP Address Assignment for details.



3. Audio Routing Between CobraNet Devices

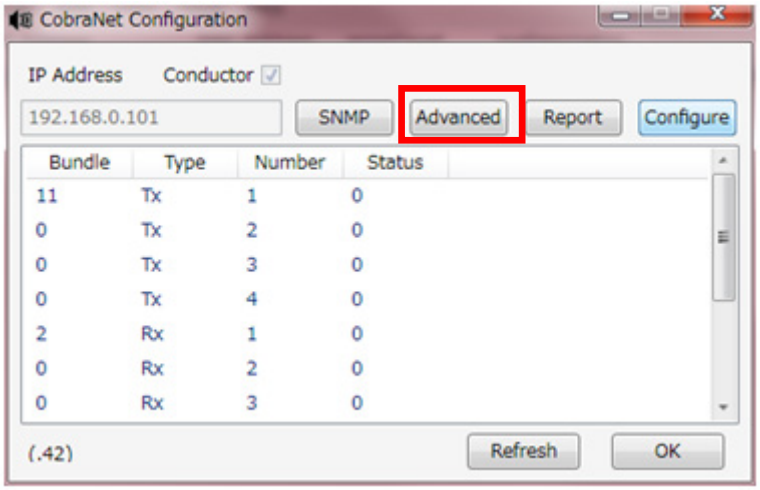
The procedure for setting up audio routing via CobraNet Discovery is described below. For this example we'll route the channel 1 through 8 outputs from the MY16-CII card installed in the LS9-16 console to DME4io-C inputs 1 through 8.

3-1. Sampling Frequency and Latency Settings

The sampling frequency and latency of the transmitting and receiving devices must be set to the same values.

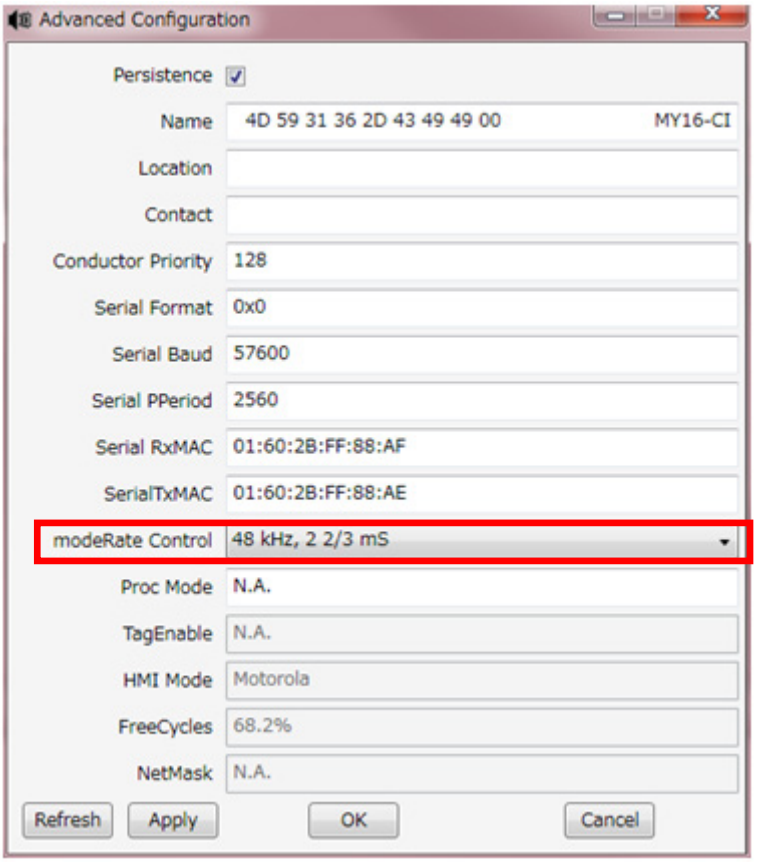
■3-1-1. Transmitting Device（MY16-CII）Settings

1 Select the MY16-CII in the Discovery window, then select [Configure…] from the [Tools] menu.



2 Click [Advanced].

The "Advanced Configuration" dialog box will appear.



3 Select the appropriate sampling frequency and latency pair from the [modeRate Control] pull-down menu.

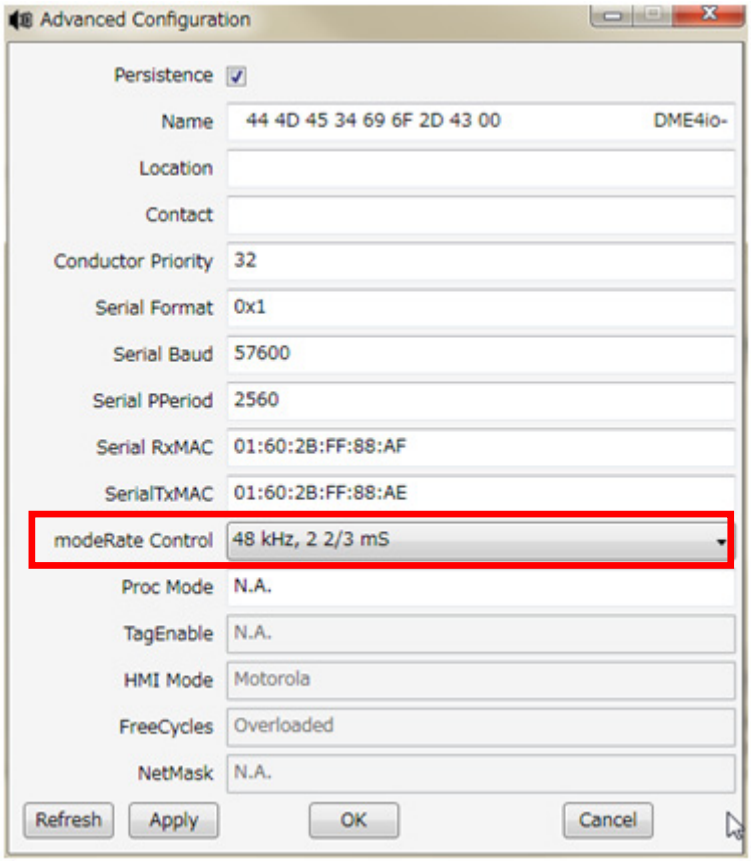
(The above example shows the 48 kHz + 2 2/3 mS pair selected: 48 kHz sampling frequency and 2.67 millisecond latency).

NOTE Set the MY16-CII sampling frequency to 48 kHz, and the host device sampling frequency to either 48 kHz or 96 kHz. Other settings will result in a CobraNet Discovery “Invalid Mode Rate Value” error.

4 Click [Apply], and then [OK].

■3.1.2. Receiving Device（DME4io-C）Settings

Following the same procedure used for the transmitting device, set the receiving device [modRate Control] field values to match those of the transmitting device.



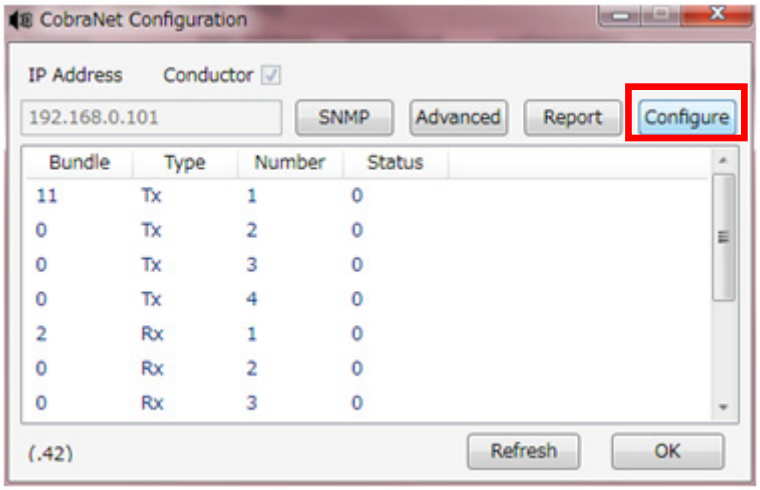
4. Audio Routing Settings

Transmit and receive device bundle numbers must be properly matched in order to transfer audio data over a CobraNet network.

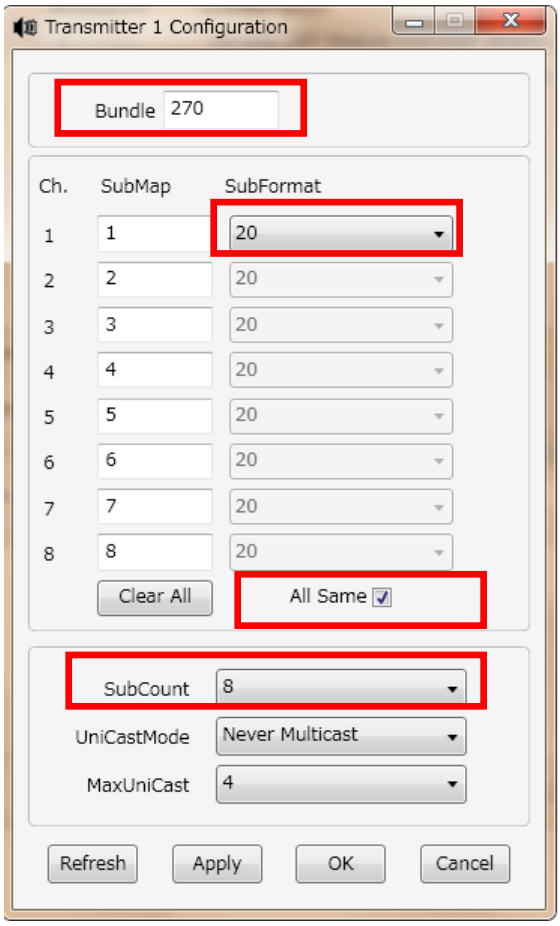
4-1. Transmit Bundle Settings

1 **Select the MY16-CII in the Discovery window, and then select [Configure] from the [Tools] menu.**

Four transmit bundles and eight receive bundles will be shown in a list.



2 **Double click transmit bundle number 1, or select it and then click [Configure].**



3 Enter an appropriate bundle number in the “Bundle” field.

NOTE Enter a number that is not already used as a transmit bundle number anywhere else on the network.

4 Select the bit depth to be used for audio transfer from the “SubFormat” pull-down menu.

Check the [All Same] checkbox to set all channels in the bundle, and all bundles for the device, to the same value. Bit depth only needs to be set for the transmitting device. No bit depth setting is required for the receiving device.

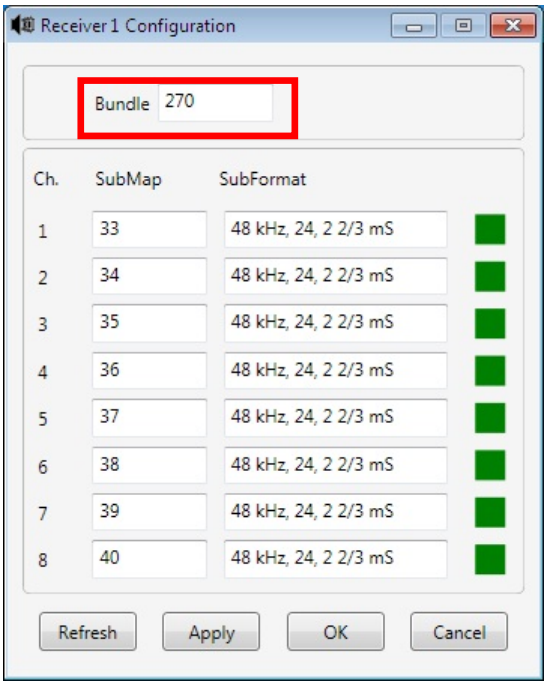
When latency is set to 5.33 msecs and bit depth is set to 24 bits, the maximum number of channels that can be transmitted per bundle is limited to seven. In such cases set the SubCount field to “7”. Refer to the MY16-CII or DME8i-C/DME8o-C/DME4io-C owner’s manual for details on the relationship between bit depth and the number of channels that can be handled per bundle.

5 Click [Apply] and then [OK].

4-2. Receive Bundle Settings

1 **Select the DME4io-C (the receiving device) in the Discovery window, and then select [Configure] from the [Tools] window.**

2 **Select receive bundle number 1, and then click [Configure].**



3 **Enter the same bundle number as set for the MY16-CII.**

The settings made thus far enable audio data transfer from the MY16-CII installed in the LS9-16 console to the DME4io-C satellite unit. The green indicators on the right side of the window shown above will appear when audio data is being properly received.

4 **Click [Apply] and then [OK].**

5. Serial Bridge Settings

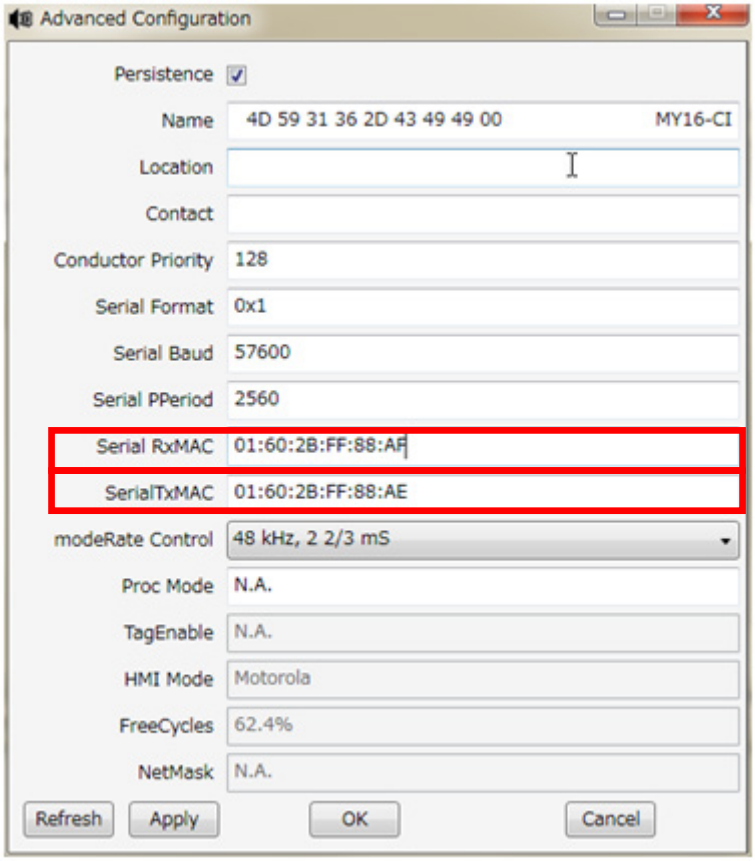
The serial bridge settings described below allow asynchronous serial data communication between CobraNet devices. In this example serial bridging will be used to allow DME4io-C head amp gain control from the LS9-16 via the CobraNet network. Only the CobraNet Discovery settings will be discussed here. Refer to the LS9-16 and DME4io-C owner's manuals for details on setting up those devices for remote head amp control.

5-1. Transmitting Device (MY16-CII) Settings

1 Select the MY16-CII in the Discovery window, and then select [Configure] from the [Tools] menu.

2 Click [Advanced].

The [Advanced Configuration] dialog box will appear.



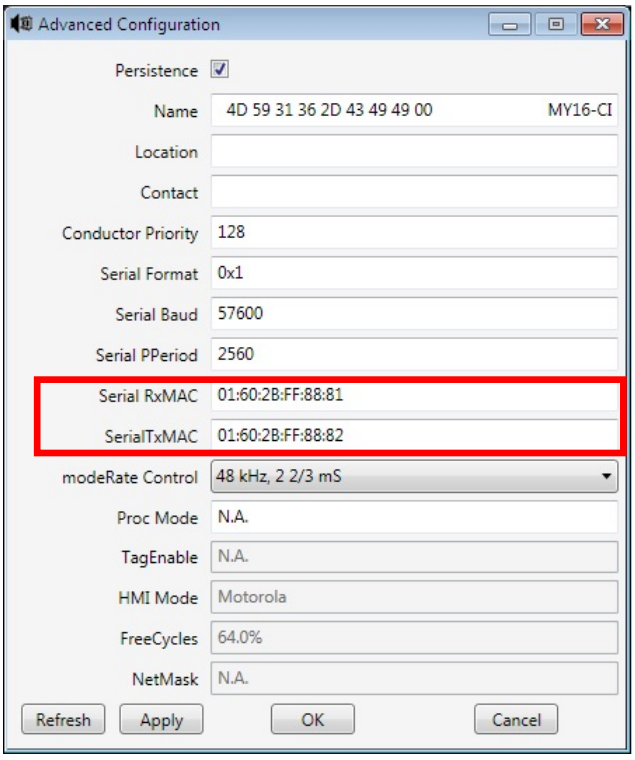
3 Referring to the chart below, set the serial channel numbers in the SerialTxMAC (transmit) and SerialRxMAC (receive) fields so that they match.

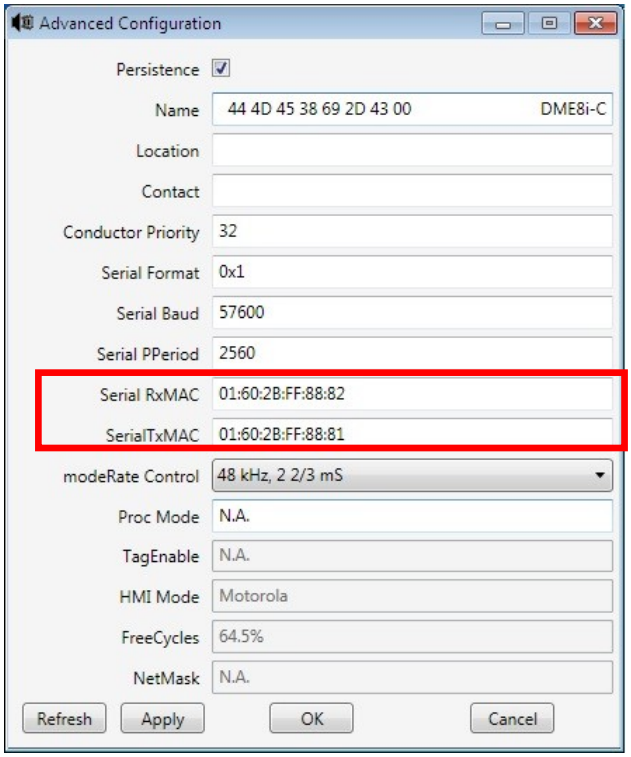
NOTE The SerialTxMAC and SerialRxMAC field values must be entered in MAC address format, corresponding to serial channels 1 through 15.

Serial Channel	SerialRxMAC	SerialTxMAC
OFF	01:60:2B:FF:88:**AF**	01:60:2B:FF:88:**AE**
1	01:60:2B:FF:88:81	
2	01:60:2B:FF:88:82	
3	01:60:2B:FF:88:83	
4	01:60:2B:FF:88:84	
5	01:60:2B:FF:88:85	
6	01:60:2B:FF:88:86	
7	01:60:2B:FF:88:87	
8	01:60:2B:FF:88:88	
9	01:60:2B:FF:88:89	
10	01:60:2B:FF:88:8A	
11	01:60:2B:FF:88:8B	
12	01:60:2B:FF:88:8C	
13	01:60:2B:FF:88:8D	
14	01:60:2B:FF:88:8E	
15	01:60:2B:FF:88:8F	

4 Click [Apply] and then [OK].

In the example below, channel 2 is used for serial data transmission from the MY16-CII to the DME4io-C, and channel 1 is used for serial data transmission from the DME4io-C to the MY16-CII.





6. Other Settings

6.1. Conductor Priority Settings

Conductor priority determines which network node functions as the conductor. Refer to the MY16-CII owner's manual for information on CobraNet conductors and performers.
It is normally not necessary to set conductor priority manually. Refer to the CobraNet Manager Lite for Yamaha owner's manual for information on conditions that make manual setup necessary.

1 In the Discovery window, select [Preference] in the [Tools] menu.

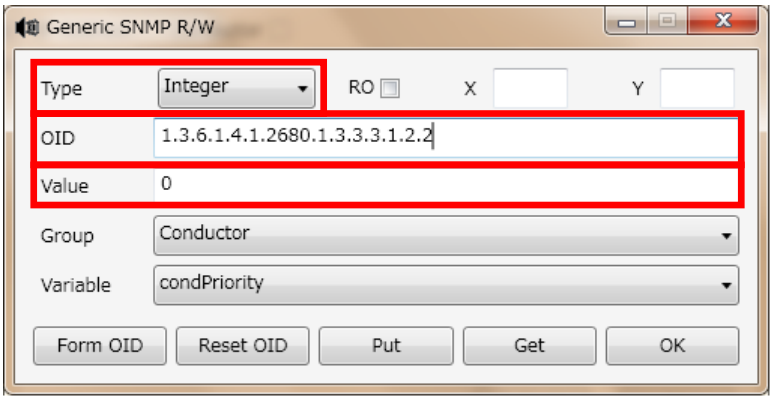
2 Check the [Enable SNMP] checkbox.

3 Click [OK].

4 Select the target device in the Discovery window, and select [Configure] from the [Tools] menu.

5 Click the [SNMP] button.

The [Generic SNMP R/W] dialog box will appear.



6 Enter the following values in each field.

- Type : Integer
- OID : 1.3.6.1.4.1.2680.1.3.3.3.1.2.2
- Enter "0" (Zero) for Auto, otherwise enter a value between 0x80000000 and 0x800000ff.

7 Click [Put].

To confirm the currently set value click [Get].

NOTE A setting of 0x80000000 results in a priority of 0, and a setting of 0x80000001 results in a priority of 1.

6-2. Manual IP Address Setup

In order to specify an IP address that can communicate with the computer, it is first necessary to know the computer's IP address.

1 To find the computer's IP address, first select [Start] → [Control Panel], then click or double-click [Network and Sharing Center] or [View network status and tasks].

The "Network and Sharing Center" is displayed.

2 Click [Manage Network Connection] or [Change Adapter Settings] from the "Tasks" list located in the left side of "Network and Sharing Center" window, then double-click [Local Area Connection].

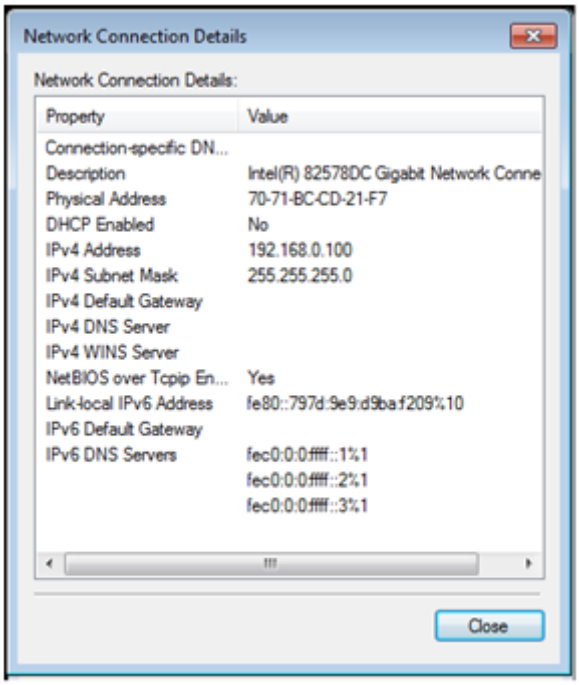
The "Local Area Connection Status" dialog box will be displayed.

NOTE "User Account Control" dialog box may appear. Click [Continue] or [Yes] button.

3 Click [Details …].

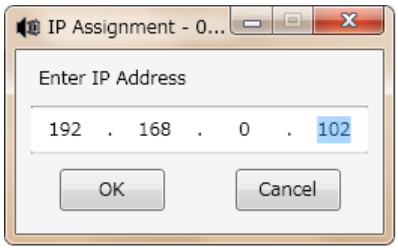
The "Network Connection Details" dialog box will be displayed.

The "IPv4 Address" shown in the details list is the computer's IP address.



4 Right-click the device you want to update in the Discovery window, and select [New IP Address] from the pop-up menu.

The IP assignment dialog box will be displayed.

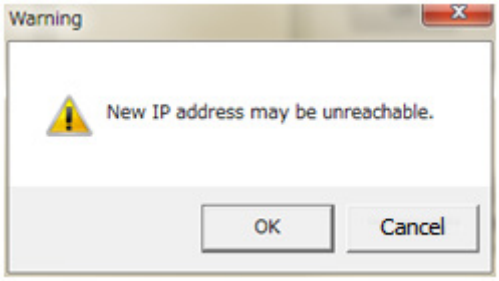


5 Enter the IP address.

The first three numbers should be the same as the computer's IP address. For example, if the computer's IP address is "192.168.0.100", then the first three numbers of the new IP address should be "192.168.0". The fourth number can be any number from 1 through 254 that is *not* the same as the fourth number of the computer's IP address. If the fourth number of the computer's IP address is "100", for example, you could use "102."

6 Click [OK].

If a warning message like the one shown below appears, click [OK] to close it.



Yamaha Pro Audio global web site:

http://www.yamahaproaudio.com/

Yamaha Manual Library:

http://www.yamaha.co.jp/manual/

C.S.G., Pro Audio Division

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