



# mLAN Driver Owner's Manual

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This owner's manual assumes that you are already familiar with basic Macintosh operation. If you are not, please refer to the owner's manual which came with your Mac OS software before using mLAN Driver.

For information about hardware requirements, the interconnection of devices and the installation of the mLAN Driver software, refer to the separate "Installation Guide" as well as the owner's manual for the respective mLAN device.

# mLAN Control Panel's Manual

## What is mLAN Control Panel?

"mLAN Control Panel" software enables you to set various parameters when you are using mLAN with a Macintosh computer. For example, it lets you specify the number of sequences and the sampling frequency of audio and MIDI data received or transmitted via mLAN, and specify where to receive or transmit such data. The settings made using the mLAN Control Panel apply globally to all application programs used with mLAN.

**NOTE** The settings are stored as the "mLAN Control Panel Prefs" file in the "System folder" → "Preferences" → "mLAN Prefs" folder. For example, if you have checked (selected) the "Send" parameter in the mLAN Control Panel window, when you start the computer next time the stored settings will automatically be read and data will be output to mLAN according to the settings.

## Starting mLAN Control Panel

Select Apple menu → Control Panels → mLAN Control Panel. Alternatively, open the "System folder" of the start-up disk and double-click "mLAN Control Panel" in the "Control Panels" folder.

**NOTE** If any mLAN-related application programs are open, you may not be able to change the mLAN Control Panel settings. In this case, select "Show Clients..." from the File menu. The system displays the title of the currently-open application(s). Quit the application, then adjust the mLAN Control Panel settings.

# mLAN Control Panel menu

## Apple menu

### About mLAN Control Panel...

Displays the version information of mLAN Control Panel.

## File menu

### Close

Closes mLAN Control Panel. Same as “Quit” in the File menu.

### Set

Same as the [Set] button in the mLAN Control Panel window.

### Revert

Same as the [Revert] button in the mLAN Control Panel window.

### Show Clients...

Displays the title of the currently-open application that uses mLAN.

### Reset FireWire Bus

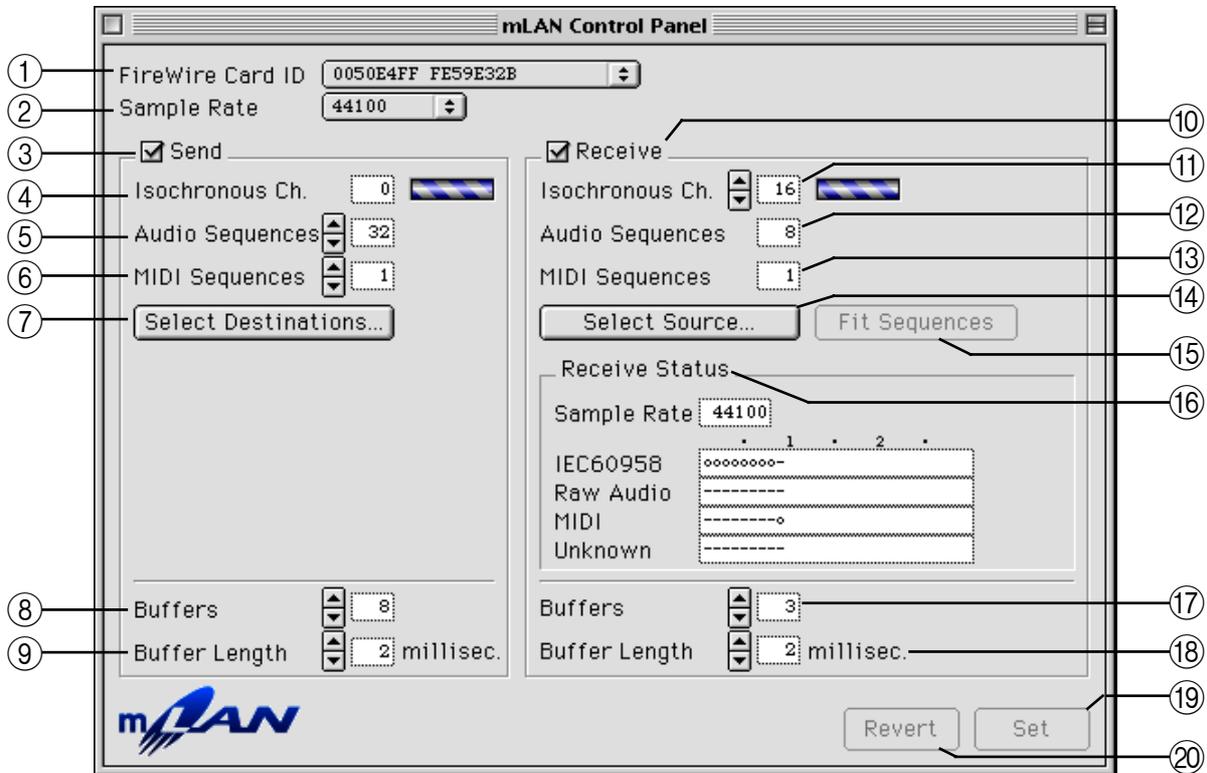
Issues Bus Reset to the FireWire bus that is selected by “FireWire Card ID” in the mLAN Control Panel window. Note that sound may be interrupted if you are currently using an mLAN device.

### Quit

Quits mLAN Control Panel. Same as “Close” in the File menu.

# mLAN Control Panel window

When you start mLAN Control Panel, the system displays the following window.



**NOTE** All changes to the parameters in this window become valid when you click the [Set] button.

## ① FireWire Card ID

This parameter displays the serial number of the FireWire (IEEE1394) interface card. If multiple interface cards are installed on the computer, select the desired card here.

## ② Sample Rate

This parameter enables you to specify the sampling frequency of audio data used via mLAN. This rate is applied to all reception and transmission of audio data via mLAN. Options currently supported are "44.1kHz" and "48kHz."

**NOTE** mLAN supports a sample bit resolution of up to 24-bit for received and transmitted audio data, although this bit resolution may not be available depending on the application program being used.

### ③ Send

This column enables you to set parameters for mLAN data transmission.

Checking the “Send” checkbox enables data transmission to the mLAN bus, and lets you make the necessary settings for transmission. If you do not perform mLAN transmission, remove the check from the checkbox.

**NOTE** If you check the “Send” checkbox, mLAN data is always transmitted from the current computer even if you are not using mLAN. This applies a load to the entire system, including non-mLAN-related application programs. Remove the check from this checkbox when you are not using mLAN.

### ④ Isochronous Ch.

This parameter displays the Isochronous Channel number of the FireWire channel being used for mLAN data transmission. The channel number ranges from 0 through 63, and unused number is automatically assigned. The bar graph on the right displays the progress of transmission. The bar graph scrolls when data is being transmitted, and it stops when no data is transmitted.

### ⑤ Audio Sequences

This parameter enables you to specify the number of sequences of mLAN audio data transmitted from the computer. One sequence corresponds to one channel. The value is an even number ranging from 0 through 32. The specified number of monaural audio sequences is always output to FireWire, regardless of whether the current application uses mLAN. (If the application program does not use mLAN, mLAN audio data indicating “silence (flat waveform with a level of 0)” will be output.)

### ⑥ MIDI Sequences

This parameter enables you to specify the number of sequences of MIDI data transmitted from the computer via mLAN. One sequence corresponds to one MIDI cable. The value ranges from 0 through 8. The specified number of MIDI sequences is always output to FireWire, regardless of whether the current application uses mLAN. (If the application program does not use mLAN, mLAN MIDI data indicating “No data” will be output.)

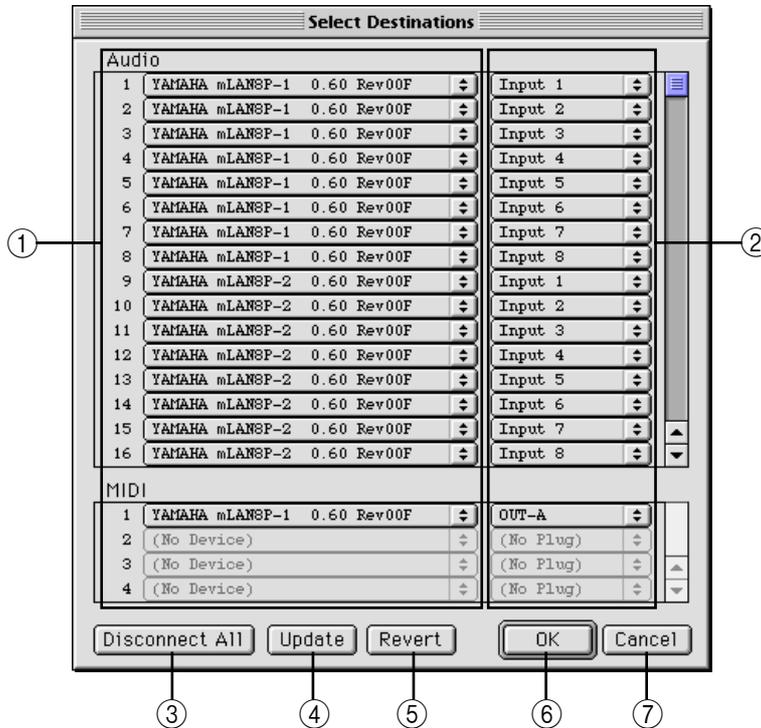
**NOTE** The higher the number of sequences, the greater the load applied to the computer. Set the minimum value possible. The actual number of sequences that can be correctly transmitted depends on the performance of your computer and the type of application program.

### ⑦ Select Destinations...

Click here to open a dialog box that enables you to select an mLAN device to receive mLAN data from the computer. The dialog box (page 6) opens after the system scans and recognizes the connected mLAN devices.

## “Select Destinations” dialog box

This dialog box enables you to specify the mLAN devices and mLAN plugs that receive mLAN data from the computer.



### ① Device pop-up menus

These pop-up menus enable you to select mLAN devices to which data is transmitted. The numbers on the left show the sequence numbers for audio and MIDI data.

**NOTE** When you select the destination mLAN device in one of the Device pop-up menu while holding down the Option key, the same mLAN device will be automatically selected in the subsequent Device pop-up menus. The number of the Device pop-up menus that have the same mLAN device selection corresponds to the number of destination mLAN input plugs.

### ② mLAN plug pop-up menus

These pop-up menus enable you to select the destination mLAN plugs for the mLAN devices selected by the Device pop-up menus (①).

**NOTE** Select the destination mLAN device while holding down the Option key to assign multiple plugs simultaneously.

### ③ Disconnect All

Click this button to change all pop-up menus on the right to “(No Plug).” Click [OK] while “(No Plug)” is selected for all these pop-up menus to disconnect all virtual transmission (mLAN connections) from the computer to the mLAN devices.

④ **Update**

Click this button to have the system check and update the condition of the connected mLAN devices. Use this button if the settings on the mLAN devices are changed after mLAN Control Panel is started.

⑤ **Revert**

Click to reset the dialog box to its original status when first opened.

⑥ **OK**

Click to enable the dialog box settings and close the dialog box.

⑦ **Cancel**

Click to close the dialog box without applying the changes you have made.

**NOTE** The changes made to the dialog box become valid immediately when you click the [OK] button in the lower right corner.

**NOTE** You do not have to click the [Set] button on the mLAN Control Panel.

⑧ **Buffers**

This parameter enables you to specify the number of buffers for transmission inside the mLAN driver. The setting range is 2 through 20. The smaller the value, the less the delay created during audio or MIDI data transmission.

**NOTE** If you specify too small a value, the system may not work correctly, depending on the computer's performance.

⑨ **Buffer Length**

This parameter enables you to specify the length of a transmission buffer inside the mLAN driver in units of milliseconds, in the range of 1 through 100. The smaller the value, the less the delay created during audio or MIDI data transmission.

**NOTE** If you specify too small a value, the system may not work correctly, depending on the computer's performance.

**NOTE** The specified value may change to a different value, depending on the other parameter settings.

⑩ **Receive**

This column enables you to set parameters for mLAN data reception.

Checking the "Receive" checkbox enables data reception from the mLAN bus, and lets you make the necessary settings for reception. If you do not perform mLAN reception, remove the check from the checkbox.

**NOTE** If you check the "Receive" checkbox, mLAN data will always be received by the current computer even if you are not using mLAN. This applies a load to the entire system, including non-mLAN-related application programs. Remove the check from this checkbox when you are not using mLAN.

### ⑪ Isochronous Ch.

This parameter determines and displays the Isochronous Channel number of the FireWire channel being used for mLAN data reception. The bar graph on the right displays the progress of reception. The bar graph scrolls when data is being received, and it stops when no data is received. The channel number ranges from 0 through 63. Usually, you do not have to set the channel number. The number is automatically assigned when you click the [OK] button in the “Select Source” dialog box.

**NOTE** If the computer receives IEEE1394 audio/MIDI data via a non-mLAN device such as another computer and if you know its Isochronous Channel number, the data can be received by specifying that number here.

### ⑫ Audio Sequences

This parameter displays the number of mLAN audio sequences to be received. If this number does not match the actual number in the received data, a red warning message “Not Match” flashes on the right. To match the number to that of the data being received, click the [Fit Sequences] button.

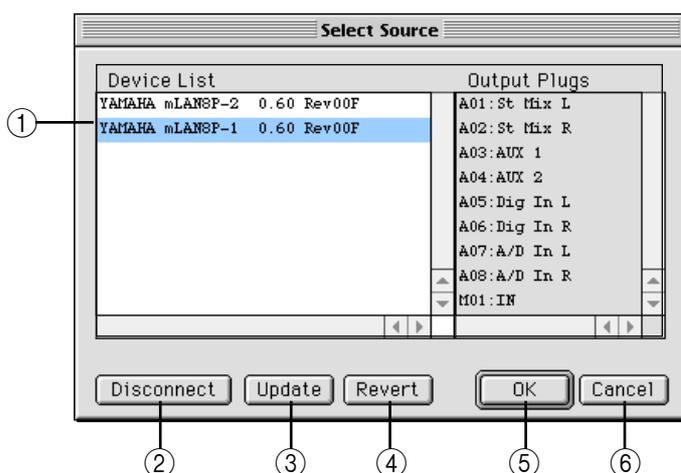
### ⑬ MIDI Sequences

This parameter displays the number of mLAN MIDI sequences to be received. If this number does not match the actual number in the received data, a red warning message “Not Match” flashes on the right. To match the number to that of the data being received, click the [Fit Sequences] button.

### ⑭ Select Source...

Click here to open the dialog box to select an mLAN device that transmits mLAN data to the computer. The dialog box opens after the system scans and recognizes the connected mLAN devices.

## “Select Source” dialog box



This dialog box enables you to specify the mLAN device that transmits mLAN data to the computer.

### ① Device List/Output Plugs

The Device List displays the list of connected mLAN devices. Select a device, and the Output Plugs column will show a list of mLAN plugs included in the selected device. When you select a transmitting device and click the [OK] button, the selected device starts transmitting mLAN data to the computer.

**NOTE** “Axx:” and “Mxx:” in the plug names mean “the xxth audio sequence” and “the xxth MIDI sequence” respectively. The sequences are received in the order shown in the Output Plugs list.

### ② Disconnect

Click this button to cancel the device selection. Click [OK] under this condition to disconnect all virtual transmission (mLAN connections) from the mLAN devices to the computer.

### ③ Update

Click this button to initiate a system check and update of the condition of the connected mLAN devices. Use this button if the settings on the mLAN devices are changed after the mLAN Control Panel is started.

### ④ Revert

Click to reset the dialog box to its original status when first opened.

### ⑤ OK

Click to enable the dialog box settings and close the dialog box.

### ⑥ Cancel

Click to close the dialog box without applying the changes you have made.

**NOTE** The changes made to the dialog box become valid immediately when you click the [OK] button in the lower right corner. You do not have to click the [Set] button on the mLAN Control Panel. At this time, the Isochronous Ch. parameter of the mLAN Control Panel is automatically assigned.

**NOTE** You can specify only one mLAN device as the source device.

## ⑮ Fit Sequences

If the number of sequences does not match the actual number in the received data, a red warning message “Not Match” flashes to the right of the number parameter. To match the number to that of the data being received, click this button.

**NOTE** While the “Not Match” message is flashing, audio/MIDI data cannot be correctly received (recorded) from the application.

## ⑯ Receive Status

This parameter displays the status of the data being received. If mLAN data is received properly, the “Sample Rate” parameter displays the sampling frequency of the data. The fields below display symbols that represent the data sequence in each format received. The symbol “o” indicates that data in the corresponding format is being received. The symbol “-” indicates that data in a different format is being received.

For example, the symbol “oooooooo-” in the “IEC60958” field indicates that nine sequences have been received, and the first eight sequences are in the IEC60958 audio data format. The “Unknown” field displays symbols if sequences in unknown formats are received.

These fields are blank if no mLAN data is received.

If an error occurs during reception, a red warning message flashes to the right of the “Sample Rate” parameter. In this case, check the transmission device.

**NOTE** Some error messages, such as “Data Protected,” may not disappear even after the cause of the error is removed, until reception resumes. In this case, remove the “Receive” checkbox, click the [Set] button, then check the “Receive” checkbox again and click the [Set] button.

## ⑰ Buffers

This parameter enables you to specify the number of buffers for reception inside the mLAN driver. The setting range is 2 through 20. The smaller the value, the less the delay created during audio or MIDI data reception.

**NOTE** If you specify too small a value, the system may not work correctly, depending on the computer’s performance.

## ⑱ Buffer Length

This parameter enables you to specify the length of a reception buffer inside the mLAN driver in units of milliseconds, in the range of 1 through 100. The smaller the value, the less the delay created during audio or MIDI data reception.

**NOTE** If you specify too small a value, the system may not work correctly, depending on the computer’s performance.

**NOTE** The specified value may change, depending on the other parameter settings.

①9 **Set**

Click this button to enable the mLAN Control Panel settings. The settings do not take effect until you click the [Set] button.

**NOTE** The settings in the dialog box that opens when you click the [Select Destinations...] or [Select Source...] button become valid when you click the [OK] button in the corresponding dialog box.

②0 **Revert**

Click this button to restore the most recent settings to mLAN Control Panel. Once you click the [Set] button, you cannot restore the previous status.

# ASIO mLAN Driver's Manual

## What is the ASIO mLAN driver?

The "ASIO mLAN driver" software enables transmission and reception of audio data via mLAN, using an ASIO-supporting application program.

## Installing the driver

**NOTE** Before you install the ASIO mLAN driver, first install the mLAN driver and ASIO-supporting application program.

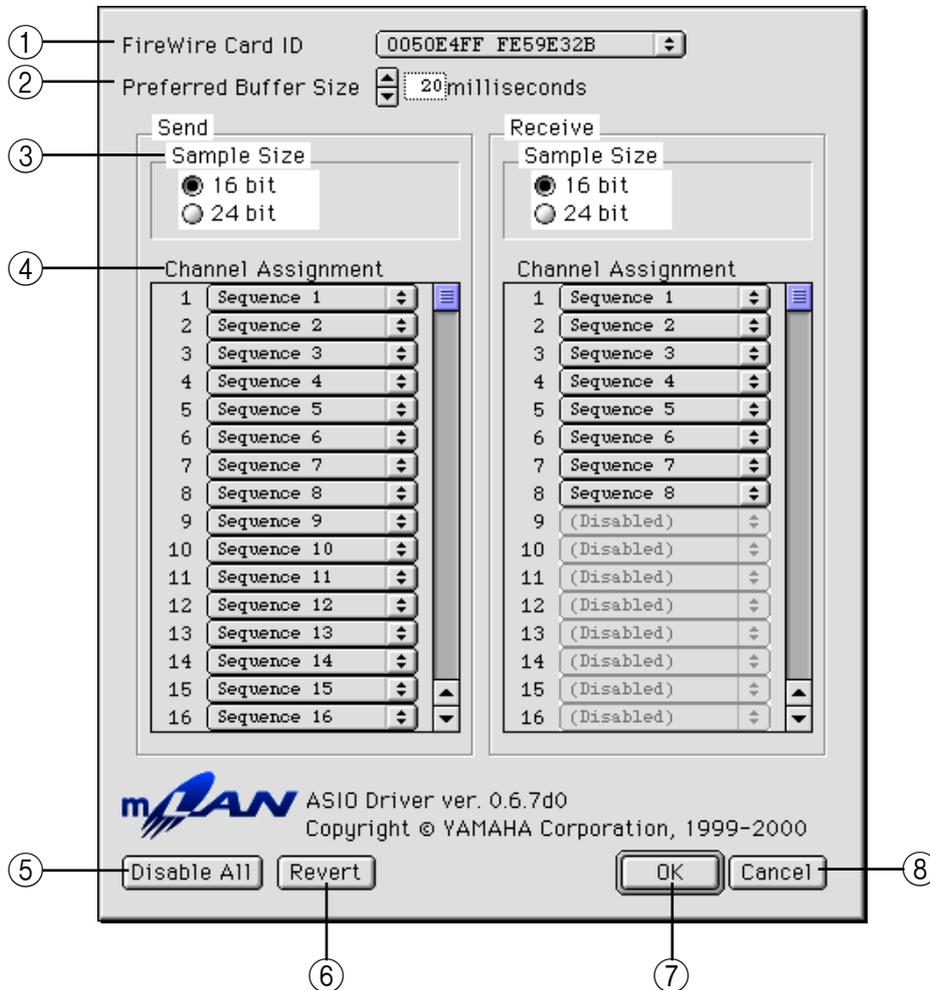
Drag and drop the "ASIO mLAN" file in the "into ASIO Drivers" folder into the "ASIO Drivers" folder of the ASIO-supporting application. For information on selecting ASIO drivers, refer to the owner's manual for the corresponding ASIO-supporting application.

## Starting the ASIO mLAN Control Panel

From the menu of the ASIO-supporting application, select "ASIO Device Control Panel." (This option title may vary depending on the application.) Alternatively, click the button in the application window.

# ASIO mLAN Control Panel

When you start the ASIO mLAN Control Panel, the system displays the following dialog box (ASIO mLAN Control Panel).



## ① FireWire Card ID

This parameter displays the serial number of the FireWire (IEEE1394) interface card. If multiple interface cards are installed in the computer, select the desired card here.

**NOTE** You cannot use multiple interface cards simultaneously via the ASIO driver.

## ② Preferred Buffer Size

This parameter enables you to specify the default size of the buffer inside the ASIO mLAN driver. This value is applied if the application that uses the ASIO mLAN driver does not specify a buffer size for the driver.

## ③ Sample Size

This parameter enables you to specify the bit resolution of the audio data transmission and reception.

#### ④ Channel Assignment

The pop-up menus in the “Send” and “Receive” columns enable you to specify which mLAN audio sequences are transmitted and received by the computer via which audio channels. The maximum number of audio channels is 32, but the maximum number of channels that can actually be used is equivalent to the number of audio sequences specified in the mLAN Control Panel. You cannot use sequences that have already been used by another application.

**NOTE** The settings are stored in the “ASIO mLAN Prefs” file inside the “ASIO Drivers” folder of the application.

**NOTE** The sampling rate specified in the mLAN Control Panel will be used.

#### ⑤ Disable All

Click this button to disable all pop-up menus in the Channel Assignment column. Under this condition, clicking [OK] will disable mLAN operation via the ASIO mLAN driver.

#### ⑥ Revert

Click to reset the dialog box to its original status when first opened.

#### ⑦ OK

Click to store the settings and in the “ASIO mLAN Prefs” file and close the dialog box.

**NOTE** The changes made to the dialog box are stored when you click the [OK] button.

**NOTE** To enable all changes, quit the application and restart it.

#### ⑧ Cancel

Click to close the dialog box without changing the settings.

# mLAN OMS Driver's Manual

## What is the mLAN OMS Driver?

The "mLAN OMS Driver" software is used for MIDI data transfer with the mLAN bus via OMS. Using the mLAN OMS Driver enables MIDI data transmission and reception via mLAN, using sequencer software that supports OMS.

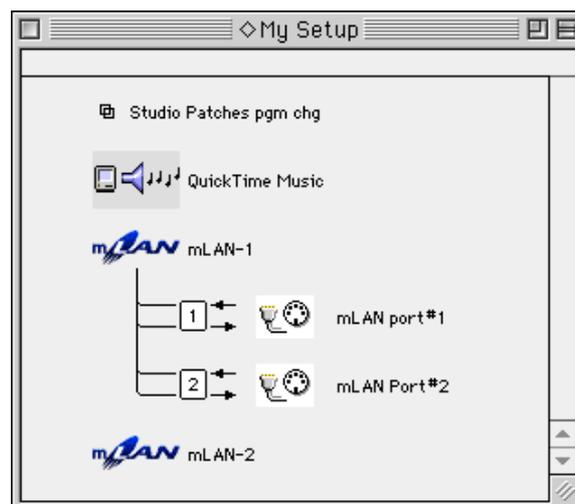
## Installing the driver

**NOTE** First, install mLAN driver and OMS.

Drag and drop the "OMS mLAN" file into the "OMS" folder inside the "System" folder.

When you start the OMS Setup application and select "MIDI Cards & Interfaces..." from the "Studio" menu, mLAN icons equivalent to the number of installed FireWire (IEEE1394) interface cards appear.

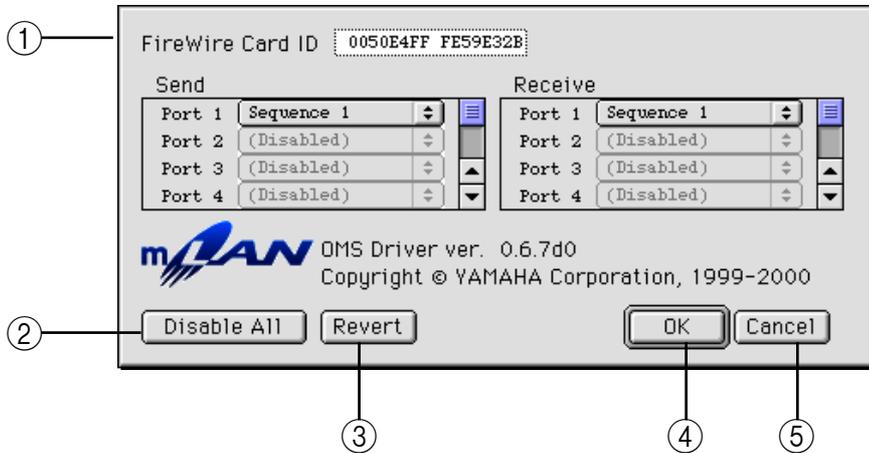
OMS regards mLAN as MIDI interface. Therefore, to transmit and receive MIDI data, select "Studio" → "New device..." and create a number of devices to match the number of ports used by mLAN, and connect them under the mLAN device. It is a good idea to name these devices, for example, as "mLAN port#1," "mLAN port#2," etc.



Two FireWire interface cards are installed.  
The first card uses two ports for MIDI.

# mLAN OMS Device Info dialog box

Double-click the mLAN device icon, or select the mLAN device and select “MIDI Device Info...” from the “Studio” menu. The following Device Info dialog box appears.



In this dialog box, you can use the pop-up menus in the “Send” and “Receive” columns to specify which mLAN MIDI sequences (that are transmitted and received by the computer) are assigned to which port.

**NOTE** The settings are stored as “mLAN OMS Driver Prefs” in the “mLAN Prefs” folder inside the “Preferences” folder in the “System” folder.

**NOTE** The maximum number of ports is 8, but the maximum number of ports that can actually be used equals the number of MIDI sequences specified in the mLAN Control Panel. You cannot use sequences that have already been used by another application.

## ① FireWire Card ID

This parameter displays the serial number of the FireWire (IEEE1394) interface card.

## ② Disable All

Click this button to disable all pop-up menus in the Channel Assignment column. Under this condition, clicking [OK] will disable mLAN operation via the mLAN OMS driver.

## ③ Revert

Click to reset the dialog box to its original status when first opened.

## ④ OK

Click to enable the dialog box settings and close the dialog box.

## ⑤ Cancel

Click to close the dialog box without changing the settings.

**NOTE** The changes made to the dialog box become valid immediately when you click the [OK] button in the lower right corner.

**NOTE** You do not have to save the Studio Setup using the OMS Setup menu.