StudioModule

TOTAL RECALL STUDIO ORGANIZER

Steinberg

Operation Manual by Ernst Nathorst-Böös.

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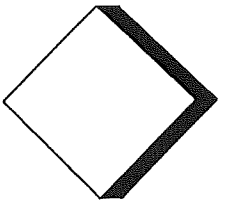

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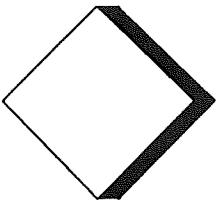


Introduction

Thanks for purchasing the Studio Module! We at Steinberg believe it will be a really welcome addition to your MIDI studio and that it will serve you well for a long time to come.

The Studio Module is a tool for gathering and maintaining settings in your MIDI Devices. It performs this task by retrieving and sending out so called System Exclusive data, which is a very loosely defined type of MIDI data that each manufacture can utilise for its own purposes.

The Studio Module "knows" how to access all these different MIDI Devices via so called *drivers*. A driver (also called a *device driver* in this manual) is a file that contains information about a certain device. With the Studio Module come device drivers for more than 120 devices. Steinberg intend to create drivers for new MIDI equipment that appears on the market (contact your dealer for the latest list).

There is a special program called DMaker which is used for creating your own Device Drivers. This is free to all Studio module users and can be ordered from Steinberg (see the end of this manual). All the ready-made Drivers that come with the Studio Module were created with this program.

Although many great drivers will be created by users, we can only guarantee the functionality of those who were created in-house at Steinberg. Please look at the "Info" about the driver in the Setup window to get information about who created it! (See page 15.)

The Studio Module also extracts *names* out of your MIDI devices (if there are any). As you know, synthesizers and other MIDI devices can be programmed to remember sounds and other settings, with individual names.

One of the unique things about the Studio Module is its total integration into Cubase. It extracts information (such as names and MIDI Channel settings) from the devices and makes this information available in the Arrange window *automatically*, which makes setting up for a Song much, much simpler.

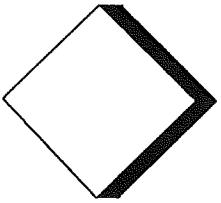
The Drivers also contain a number of Macro Editors, each adapted to a certain device. These allow you to make swift and powerful changes to the settings in your devices. However, not all devices can have a Macro Editor built for them, due to the nature of their MIDI implementation.

The terminology involved with MIDI System Exclusive handling can be a bit bewildering. We have tried to create as consistent a naming scheme as possible in the Studio Module. We have also included a Glossary at the end of this manual where we describe what terminology we use. We also try to hint at what terminology different manufacturers use in their devices.

We don't mean to discourage you, but getting System Exclusive communication working smoothly may take some initial setup work. There are many pitfalls, due to the lack of standardisation between devices. We have provided as detailed information as we possibly can about how to make your setup work, and there is a Troubleshooting section on page 106. We encourage you to follow the instructions in the Installation and Setup chapters down to the last detail.

This said, once you have your system up and running, the Studio Module will provide an unprecedented level of automation for your MIDI system, removing a lot of the "front panel fiddling" you had to do before this tool was developed.

Good Luck, and again: Thanks for purchasing the Studio Module!



Installation

Requirements

The Studio Module requires you to have at least 2 MByte of RAM in your computer. If you have more than a handful devices in your MIDI rig and you work with larger pieces of music, you should definitely have 4 MByte (or more).

Although a hard disk isn't a requirement, we strongly recommend you to get one.

Receiving data dumps sometimes requires the entire MIDI bandwidth, which makes it a demanding task for a computer. If you are using a regular ST or STe (running at 8 MHz) and if you have extra MIDI devices such as a Steinberg Midex or C-Lab Export connected to it, please look up page 110.

The Disk

The Studio Module comes as a module, an addition to Cubase that can be loaded into and out of memory at will, as all Cubase modules. The Studio Modules is disk copy protected. In certain instances the program will request that you insert the original disk, these are described on page 6.

For a full description of how to handle Modules, see the Modules chapter in the main Cubase manual.

The disk contains the following files:

- STUDIO.MOD. This is the actual Studio Module.
- STUDIO.DAT. A folder initially only containing a file called STUDIO.-INF.
- DEVICES. A folder with a number of Device drivers.
- USERS. There *might* be a folder on the disk with this name. This will then contain drivers created by users of the Studio Module. These will not have been tested by Steinberg.
- READ_ME. If any changes were made to the module since this manual was written, a READ_ME text file will contain information about the changes. To read it, simply double click on it on the desktop.

Cubase Versions

The module only works with Cubase version 3.1 or later. If you have an older version you need to install the one that comes with the Module, on a separate disk. Please See Appendix 1 to this manual.

If you have a version older than 3.0, you need to upgrade. Contact your dealer for more information.

Copy Protection

The Studio Module employs disk-based copy protection. The main disk included in this package is a special key disk. You will need to insert this into your disk drive in the following instances:

- When you run the module for the first time (if you run it from hard disk).
- Each time you run the module (if you run it from floppy disk).
- When starting the program the next time after you have added any new driver(s) to your Studio Setup.
- If you moved or copied the module to another location on your hard disk.
- If you have run a hard disk defragmentation program

Do not ever load the module directly from the original disk. Always use a copy, as described below!

Copying Files

For detailed information on how to copy files, see the operation manual that came with your computer.

- Put the STUDIO.DAT folder in the folder where you have your CUBASE.PRG.
- Copy the file "STUDIO.MOD" into the MODULES folder.
- Copy the DEVICE.DEV folder somewhere onto your hard disk. We suggest you put it in the same folder as the CUBASE.PRG file.

Activating the Studio Module

If you have a hard disk

- ❑ Launch Cubase, as usual.
- ❑ When you see your normal DEF Arrangement on the screen, pull down the Modules menu and select "Modules...". The Module selector appears.
- ❑ If the Studio Module has been found in the MODULES folder (if you put it there) it will appear in the list. If it isn't there, click the Add button, use the file selector to locate the STUDIO.MOD file (insert the floppy if necessary) and click OK.
- ❑ Click the "Active" check box. Wait for the module to get loaded into memory. If you run the Studio Module for the first time, you will be requested to insert the original disk into your disk drive.
- ❑ If you have the module in your MODULES folder, you can have it automatically loaded each time you launch Cubase. If you want this, click the "Preload" check box so that it gets activated.

If you use floppy disks

The Studio Module can be used without a hard disk, but we don't recommend it. If you do, you will need to insert the original disk each time you activate the module.

However, do not load the module from the original disk, always use a copy. The original key disk should only be inserted into the drive when asked for by the program!

- ❑ Launch Cubase, as usual.
- ❑ When you see your normal DEF Arrangement on the screen, pull down the Modules menu and select "Modules...". The Module selector appears.
- ❑ Click the Add button, use the file selector to locate the STUDIO.MOD file (insert the floppy if necessary) and click OK.
- ❑ Click the "Active" check box. Wait for the module to get loaded into memory.

Cubase is now running and the module is loaded.

Setting Up Your MIDI System

You probably have your MIDI System set up already. But you might have to make adjustments to it to make full use of the Studio Module. Please read through the following check list:

- ❑ For each device from which you plan to get and send settings, you must have two way communication. In other words, the MIDI Out of the computer must be connected to the MIDI In of the device and the MIDI Out of the device must be connected to the MIDI In of the computer. You can very well have this connection happening via a MIDI Patchbay, or if you have for example a Steinberg Midex which gives your computer additional MIDI Inputs, you can use these. You can for example put some devices on one Midex input and some on another.
  For devices which either *can't* send out their settings via MIDI, or for which you don't *need* to do this, you can forget about the return connection (MIDI Out on the device to MIDI In on the computer), these units can make use of the Studio Module anyway.

- ❑ Try to avoid chaining too many devices via their respective MIDI Thru's. This might lead to lost or corrupted data. Use a MIDI Thru box instead, if needed. Try to create as "clear" a signal path as possible between each device and the computer.

- ❑ If you have a programmable MIDI Patchbay to which you can send Program Changes to select between MIDI Routings, first program this with one Patch that you use for your normal MIDI recording. Then make up additional patches, one for each device in your rig, which give bidirectional communication between the computer and the device. Make sure that only one device at a time is connected to the computer. Make note of the numbers of these patches, and also make sure you know which MIDI Channel to send Program Change messages to the MIDI Patchbay on. If necessary, set up the Patchbay so that it reacts to Program Change messages.

- ❑ If you have a programmable MIDI Patchbay that does *not* react to Program Change messages, still make up the settings as above, but simply make a list on paper of how to switch in each device.

- ❑ Make sure that all devices that are on the same Output have unique Global MIDI Channel numbers. A Global MIDI Channel is an overall MIDI Channel setting used for different things. If your synth can store for example several multitimbral setups (for example called Combis, Performances or Multis) you can probably switch between these by sending Program Change messages on this MIDI channel. If the device can be switched between a multitimbral ("many sounds") mode and a monotimbral ("one sound") mode, this channel might also be used to play one sound in the monotimbral mode. And finally, requests for System Exclusive data might rely on this MIDI Channel number. See the Setup chapter for more detail).

- ❑ If the device has two MIDI Channel settings, one for receiving and one for transmitting, make sure they are set to the same number.

- ❑ Make sure no instrument is set to Omni On mode (sometimes called just Omni mode, or "All" mode). This is a mode where it receives data on all MIDI Channels, and this is probably not to useful in a sequencer setup anyway.

- ❑ Make sure all devices that you plan to access via the Studio Module react to Program Change numbers. Often there are many Program Change On/Off switches, one global and several local ones in each multitimbral setup.

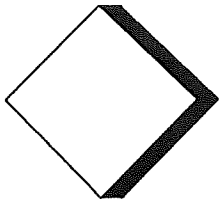
- ❑ If your device uses a so called Program Change map, either disable this or reset it to its default value. The Studio Module can not take Program Change maps in consideration when selecting Patches! The only exception to this rule is if something else is stated in the driver Info box (see page 15).

- ❑ Make sure the devices for which you plan to exchange settings are set to Receive and Send System Exclusive data. In some devices this is a function which has to be activated each time you turn on the instrument!

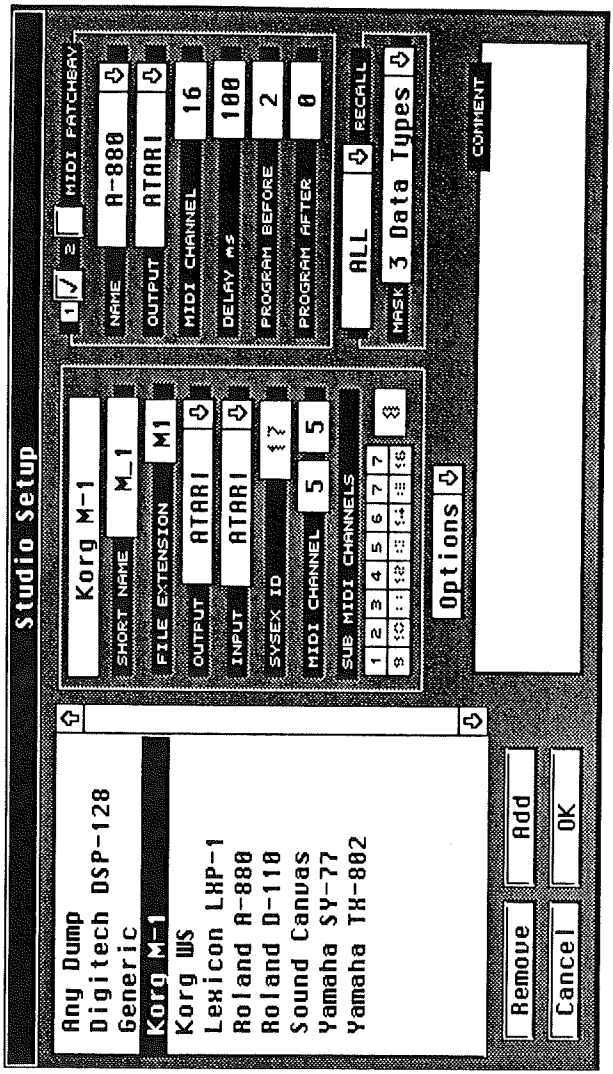
- ❑ If a Device has a MIDI Thru, MIDI Echo or MIDI Merge *function* (we do not mean a MIDI Thru connector) which makes it send out a copy of everything it receives via its MIDI In to its MIDI *Out*, make absolutely sure this function is turned off!

- Some devices have a switch on the back panel for switching one of the MIDI jacks between MIDI Out and MIDI Thru. Make sure this is set to MIDI Out.

OK, all set? Please proceed to the next chapter, "The Setup Window".



The Setup Window

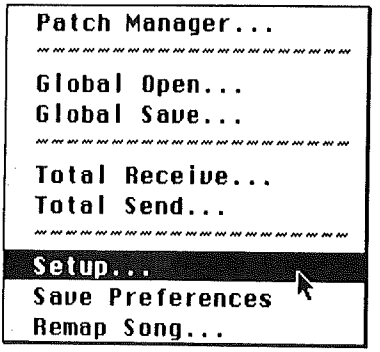

Studio Setup
Any Dump
Digitech DSP-128
Generic
Korg M-1
Korg WS
Lexicon LXP-1
Roland A-880
Roland D-110
Sound Canvas
Yamaha SY-77
Yamaha TX-802
Remove
Add
Cancel
OK
Korg M-1
SHORT NAME
M_1
FILE EXTENSION
M1
OUTPUT
ATARI
INPUT
ATARI
SYSEX ID
MIDI CHANNEL
5
5
SUB MIDI CHANNELS
Options
MIDI PATCHER
NAME
A-880
OUTPUT
ATARI
MIDI CHANNEL
16
DELAY ms
100
PROGRAM BEFORE
2
PROGRAM AFTER
0
ALL
RECALL
MASK
3 Data Types
COMMENT

This window is where you define your Studio, MIDI-wise, so that the Studio Module knows what devices you have, how they are set up and where they can be found in the MIDI "network".

Below, all the parameters are described. After this follows an example to describe how to add and set up a typical device.

Opening the Setup Window

The Setup window is opened by selecting "Studio..." in the Modules menu and then "Setup..." in the menu that appears.



Overview

On the left side of the window, you have a list of the *Devices* in your MIDI rig (it might be empty now). You can have up to 500 such devices in the list. Each Device represents a physical MIDI unit. On the Studio Module disk you have a folder called DEVICES.DEV which contains other folders with ready-made so called *drivers*, descriptions of how a certain unit communicates via MIDI, how it organises its memory etc.

Most drivers are made particularly for a certain make and model. But there are also a few special drivers (called List Drivers) and a "generic" MIDI Driver, which can be set up to work with almost any MIDI unit. These are described on page 100 and below.

Adding a Device To The List

If you click the button called Add, a standard file selector appears where you can locate the file you need.

If you have several "copies" of the same instrument (if you for example own two Korg M1s or if you have a Yamaha TX816, which is a rack of eight identical TF1 modules), you need to add the same device driver several times. Their names then get appended by a number (Korg M1 1, Korg M1 2 etc.). You can later rename them, see below.

A warning for when you later change your Setup in the middle of a session: If you add a Device, all Data Dumps for all devices (see page 117) that you have in computer memory, will be erased. If you wish to keep them, save to disk before you open the Setup window and add device drivers!

If you hold down [Alternate] while clicking Add, the file selector will appear again after adding a device, so that you can add many, quicker.

Removing a Device

You can delete a Device from the list by first selecting it (click on it) and then clicking the Remove button.

If you have added the same device driver to the list several times, the top one will always be removed.

Updating A Driver

If you for some reason get a new driver for one of your MIDI devices, you must first copy this new driver to your DEVICES folder where it will replace the old driver with the same name. You then open Setup, Remove the device driver you have installed, and Add the new one.

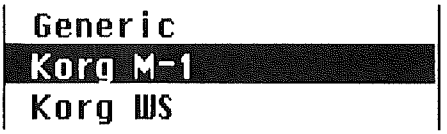
Getting Info

If you double click on a driver in the list, a number of dialog boxes appear. The first displays the driver version and perhaps some special info about the driver (it will be empty for some devices). The second tells you the original file name and the (possibly modified) file name in the STUDIO.DAT folder, how much memory the driver occupies and how much memory any dumps created with this driver currently occupy. The last dialog shows you which version of the Studio Module you are using.

When you add a new driver to the list, check its "Info" for important information.

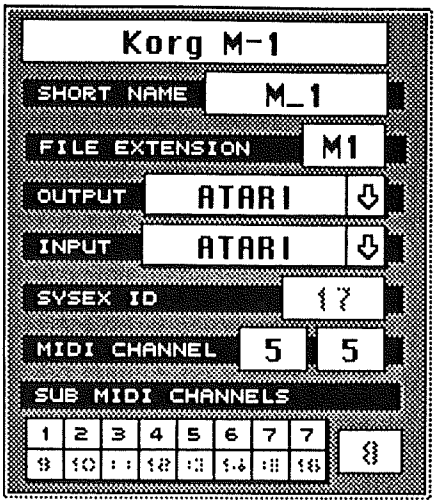
The Settings

To change the settings for a device, first click on it in the list so that it gets selected.



Now the window will show settings for the selected device, arranged in three sections. The first is for the instrument (Device Settings), the second is for MIDI Patchbays in your "MIDI network" (Patchbay Settings) and the third is for so called Total Recall operations. There is also a pop-up Options menu.

Device settings



Device Name

The top item is the name of the Driver. You can change this if you like, and the list to the left will be resorted so that the items are again in alphabetical order. This name will be used when the Device is referred to in pop-ups etc, in various places in the program. You may use naming to differ between two units that use the same driver, for example two devices which use the same Generic or List driver. See page 100 for more info.

Short Name

This field opens up a small text box where you can enter a short name (8 characters) for the Device you are using. This is the name that will be used for this particular device (*not* the device *type*), in places where the full name can't be used, for example in the Arrange Window in Cubase.

All drivers created for a specific device already have a default short name, which will be OK in most situations. However, if you for example have two

of a certain device, you can give them different short names to distinguish between them. You will probably want to rename Generic drivers and List drivers, depending on the device you use them with.

File Extension

When you save a Data Dump file, it will get a so called *extension*, depending on the device. If you want to you can change the extension, use this field. You might want to do this to distinguish between two similar devices, for example an E-Mu Proteus 1 and Proteus 2 ("PR1" and "PR2").

Output

Simply the physical Output on the computer that the Device is connected to (regardless if the connection is made via a MIDI Patchbay or not). As always in Cubase, the Outputs on the menu vary with what MROS devices you have installed. This setting is also used in the Arrange window, see page 79.

Input

Simply the physical Input on the computer the Device is connected to (regardless if the connection is made via a MIDI Patchbay or not).

SysEx ID

This is the Device ID (also called SysEx ID) setting of the Device. If it has no such setting (if it uses MIDI Channels instead, see below) this field will show "---".

SysEx IDs are used so that you can address two devices of the same make and model individually via MIDI. But even if you only have one of a certain instrument, you have to make sure that this setting and the one in your instrument are identical, or things won't work.

For information about how to set the Device ID of your particular Instrument, please refer to the operation manual that came with it. We can here only give you some general guidelines: the Device ID setting is often called "ID", "System Exclusive ID" or something similar. If in doubt when checking in the manual, please remember that you are looking for a setting for *System Exclusive* communication.

This setting may range from 1 to 16, from 1 to 128 or some other interval. It depends on the receiving device.

MIDI Channels

There are two MIDI Channel settings, the reason being that some instruments have two modes, a "single" mode and a "multitimbral" mode. The first MIDI Channel is for the single mode and the second for the multitimbral mode. If your instrument only has one "global" MIDI channel setting (which is the typical situation), you should set both fields to the same value.

These two settings are used for three things:

1. If a System Exclusive ID is not used for distinguishing one "box" from another, then MIDI Channels are used. In your device you will find something called a "Global MIDI Channel" or similar, an overall MIDI Channel setting for the entire device.

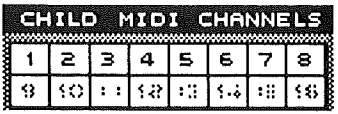
2. If the instrument has a "Single" mode, where it receives on one MIDI Channel only, the Global MIDI Channel will be used to select Patches via MIDI.

3. Often this same MIDI Channel is used to select not only between individual sounds, but from combinations of sounds (called Parent Patches in the Studio Module). If your instrument is multitimbral (if it can play several sounds at the same time) you can probably store such combinations of sounds in memory and select among them by sending Program Change messages on the Global MIDI Channel.

When you open the Patch Manager from the Modules menu (instead of opening it from the Arrange window, see page 81) the first of these two MIDI Channels will be used for selecting individual Patches, and the second will be used for selecting "Parent Patches" (depending on which type of Patch the

Patch Manager window currently displays). More on this in the Patch Manager chapter.

Child MIDI Channels

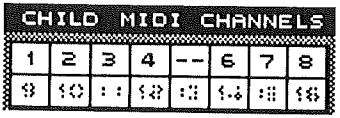


Multitimbral instruments receive on many MIDI Channels, and often you can set which Patch (Program, Sound, Preset) each MIDI Channel should use. One Instrument can receive on up to 16 MIDI Channels.

If there is a dedicated driver for a device, the Studio Module knows how many MIDI Channels this particular device can receive on, and displays this. A Korg M1 for example can receive on eight MIDI Channels, and therefore the last eight boxes in the Child MIDI Channel section will be greyed out.

For some MIDI instruments the MIDI Channel settings in the setup windows are fixed, on others you will be able to change them. If one particular instrument has this last option, you can click on the channel buttons and type in the setting that corresponds to how you have your particular instrument set up. Furthermore, for many Devices, the Studio Module can automatically extract the *current* MIDI Channel settings from the Device (see page 86). If this is the case, it will then not use these Child MIDI Channel settings, but rather the *actual* MIDI Channel settings in the device.

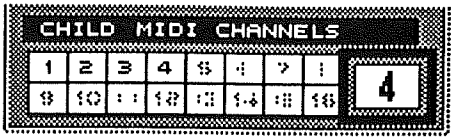
You can also "mute" a Child MIDI Channel yourself by scrolling this value "below" 1.



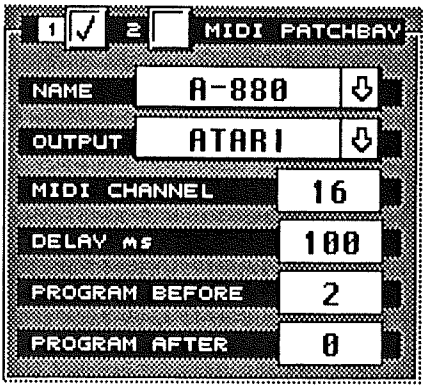
In the picture above, Child 5 is muted.

For List drivers (see page 102) which do not correspond to any physical device, you can use the little number field to the right of all the Child MIDI

Channel buttons to set how many MIDI Channels a device receives on. I you for example set this to 4, the last 12 Child MIDI Channels will be greyed out.



MIDI Patchbay Settings



To be able to utilise the Studio Module to its full extent, you will need to establish two way communication with all your MIDI Devices. In other words, you will not only have to connect the MIDI Out(s) of your computer to the various devices, but you will also have to connect the MIDI Out of each Device to the MIDI In(s) of your computer.

If you have more than a couple of devices, you will need to get a so called MIDI Patchbay (sometimes called MIDI Switcher or MIDI Matrix) to set up this type of connection. You connect your computer and all (or some of) your gear to the Patchbay and then use the front panel of the Patchbay to define what is connected to what.

Normally, you can send MIDI Program Change messages to a MIDI Patchbay, which will make it switch between different sets of routings. If you plan to get

a MIDI Patchbay to specifically use with the Studio Module, make sure you get one that has this feature.

The MIDI Patchbay section of the Setup window is concerned with the settings of your MIDI Patchbay(s).

Patchbay 1 And 2

You can click on the small numbers to select which of the two MIDI Patchbays you want to edit. The Studio Module can handle two Patchbays *per Device*, for very complex setups. The two check boxes are used to turn them on/off. If you for example only have one, turn the other off. When you check/uncheck, the corresponding Patchbay also gets selected.

Name, Output, Channel and Delay

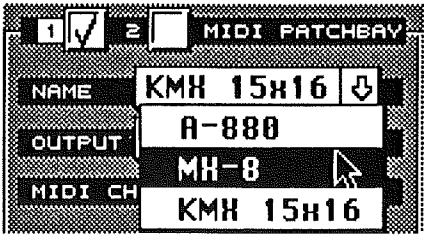
Although you can have "only" two Patchbays per Device, you can have many more Patchbays in your system. To save you some time when setting up each Device, you can pre-define some properties of each Patchbay you own. The settings that can be defined for a certain Patchbay are:

- Which MIDI Output on the computer the Patchbay is connected to.
- Which MIDI Channel it is on. If the Patchbay does not react to Program Change messages, this should be set to MAN, see below.
- How much Delay (in milliseconds) it needs to switch to a new routing. Some MIDI Patchbays take some time to switch in a new set of connections. You can use this value to specify that time. If you for example set this to 100 (=100 milliseconds, one tenth of a second), the Studio Module will always wait 100 milliseconds after "reprogramming" the MIDI Patchbay until it tries to access the Device that it just switched in.

Creating, Renaming and Deleting Patchbays

- To create a new Patchbay definition, first make the Output, Channel and Delay settings, then click in the Name field and type in a new name – for example "A-880" if you have a Roland A-880. Now, when you pull down

the Name pop-up, your "A-880" will appear, and if you select it, the Device which settings you are working on will get those Patchbay settings.



You can define up to 20 Patchbays like this.

- To Rename a Patchbay definition, double click on the existing name, type in a new one and press [Return].
- To Delete a Patchbay definition, double click on the existing name, delete it and press [Return].

Setting Channel to "MAN".
If your MIDI Patchbay doesn't react to Program Change messages, you should set the MIDI Channel to "MAN" (Manual). If you do this, each time a new routing is needed, an alert box will inform you so that you can make the routings directly on the front panel of the Patchbay.

Program Before and After

Program Before is the Program number (starting at 1) that makes the MIDI Patchbay switch in the Device you are now setting up.

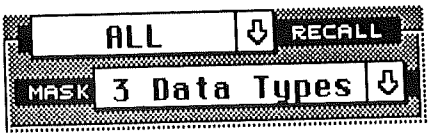
Program After is the Program number that will make your MIDI Patchbay switch to the "normal" connection, the one you use for recording into Cubase. Normally you will set *all* the Devices in the list to the same "Program After" number.

When you perform a Dump, things take place in the following order:
1. Program Before for Patchbay 1 is sent out.
2. Program Before for Patchbay 2 is sent out (if used).
3. The actual Data Dump takes place.
4. Program After for Patchbay 2 is sent out.

5. Program After for Patchbay 1 is sent out (if used).

If the Channel parameter for either Patchbay has been set to MAN (see above) the Program number will instead be used in a dialog box asking you to change the setting of the Patchbay before/after the dump.

Recall & Mask

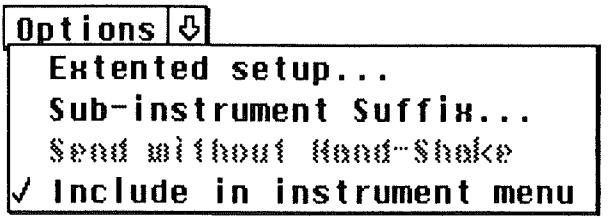


This section contains two pop-ups. The top one holds a number of "total recall patches" that you can make up. Let's explain this in more detail:

A Total Receive is when the Studio Module gathers settings from many devices in your system and stores them on disk. A Total Send is the opposite. For each Device you can define which of its *Data Types* you want saved. For example, a synthesizer may have Programs (individual sounds), Combis (combinations of sounds) and Global (overall) settings. By using the lower pop-up in the Recall section of this dialog, you can turn on/off the recall of each of these Data Types in a Device. The lower pop-up will always tell you how many of these Data Types you currently have activated for recall.

The upper pop-up can be used to make up different sets of such combinations of Data Types. Up to 16 can be defined. By double clicking you can give each one a name. You should keep the default ALL set that extracts *all* the settings out of all Devices, which you use every now and then for safety backups. You should also create at least one set for your everyday work which only recalls the most important Data Types. For more info, see the Total Recall chapter.

Options Pop-up



This Pop-up is found below the main setting sections. It contains a number of options which are also set independently for each device:

Extended Setup

If you use a driver which needs additional settings (for example the driver "Generic"), these will be found in a dialog that appears when you select this item from the pop-up. If a particular device does not have any "extended settings" (most don't) this menu item will be greyed out.

Child Suffix

This brings up a list of alternatives on how to name the different "Children" ("multitimbral slots", sometimes called "Parts" or "Timbres") in a multitimbral instrument. This naming will then be used in the Instrument column on Cubase's Arrange Window. Let's say you have an Yamaha SY-77 and select "Child 1" from the Child Suffix menu. When you later assign for example SY-77 Child Instrument number 5 to a Track, the Instrument column will say "SY-77 Child 5" for that Track.

Send Without Handshake

Some Devices let you decide if two way communication is needed or not, when sending *out* settings via System Exclusive. The advantage of turning this off (when possible, if it isn't, this menu item will be greyed out) is that you won't need to make a new setting on your MIDI Patchbay every time you

want to send out some settings to an instrument. Since you are only sending out data, not receiving any (a Handshake is a received confirmation message), you can keep using the standard Patchbay connection you have made up for recording. The disadvantage is that communications might be slightly less reliable.

Include In Instrument Menu

This is an on/off setting used to decide if a device will appear in Cubase's Instrument menu or not. When you have the Studio Module activated, and click in the Instrument column, a list of all Devices in your "MIDI network" appears, instead of the regular set of Instruments that you define yourself (see page 79 for details). But you might not want *all* your devices included in this menu. For example you might want to exclude devices accessed via the driver "Any Dump", since it can't be used to select Patches anyway. You might also want to exclude drivers corresponding to MIDI Patchbays, since you probably won't select Programs for them from Cubase's Arrange window.

Comment

For each Device you can type in a text in the Comment box. This will be saved in the Setup file in your STUDIO.DAT folder.

OK/Cancel

If you click Cancel, none of the changes you have made in this window this time are stored.

When you click OK, the current settings are saved in the STUDIO.INF file in the STUDIO folder. The information stored is the following:

- All the activated Device drivers and their settings.
- All the settings in the window (including the Mask Settings).
- Everything that is also stored with Save Preferences, see page 93 for more Info.

When adding or removing devices, updating the Setup takes longer than when you only change some settings.

What happens when you Add a driver is that it gets copied into the STUDIO.-DAT folder. This means that in your STUDIO.DAT folder you will have one file for each device in your rig. Also found in this folder is a file called STU-DIO.INF. This contains the settings for your Setup. Make a backup (or two!) of this folder and store in a safe place. Whenever you make a change to your Setup, also make new backups.

In fact, the STUDIO.INF file is so important that whenever you make a major change to your setup, the Studio Module creates a backup copy of it, called STUDIO.BAK, also found in the STUDIO.DAT folder. If you lose or damage your STUDIO.INF file, rename STUDIO.BAK to STUDIO.INF and restart the program. Then check if this file contains all or only parts of the settings you had.

Never move any files manually into or out of the STUDIO.DAT folder. Never save any files to it either, especially not Data Dumps.

Testing communications

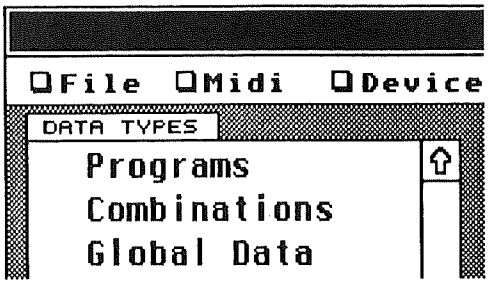
To test that the System Exclusive communication for a device works as ex-pected, try the following:

- ❑ Close the Setup window. Pull down the Modules menu, select "Studio..." and then "Patch Manager...".

- ❑ In the window that appears, click the Data Dump button in the upper left corner.

The Data Dump window appears.

- To the left in this window you will find a list of the Data Types in the Device.



Click on these until only one of them is highlighted. If you know that some will result in longer dumps than others, select one that results in as short a dump as possible, just to speed things up a bit. However, the procedure will work with any of the Data Types selected).

- Pull down the MIDI menu and select Receive. This will bring up the data transfer dialog box informing you of the progress of the transfer. If the bar graph and the counter show you that the dump proceeds uninterrupted to its end, all is well (please note that for some devices, the bar graph will not "grow" to the right, but rather jump to maximum size at the end of the dump). If something else happens, check the connections and settings. For help, see page 106.

- Click Exit and close the Patch Manager window too. If you need to make changes to the settings of the device or if you want to work on the next device, select Setup again from the Studio menu.

Generic Drivers and List Drivers

There are two types of drivers which are not specific to any type of device:

- Generic Drivers. These can be used to send and receive any type of MIDI data.
- List Drivers. These do not send or receive MIDI data at all, instead they are only used to select from predefined name lists.

See page 100 for details.

Generic Drivers

There are two Generic Drivers, called Any Dump and Generic. The first one is used with devices where the only way to make it give away any of its settings is by pressing buttons on the front panel. The "Generic" Driver is more advanced. With this, you can type in System Exclusive codes yourself to create a specialised driver. You can also rename the driver to that of the device you have customised it for. Generic Drivers are described in detail on page 100.

You can add the same Generic Driver to the list several times and give each "instance" of it a new name in the list (probably the name of the Device).

List Drivers

The List Drivers (most often) contain empty cells in the Patch Manager. List drivers are used with instruments for which you either can't, or don't want to collect names via MIDI. An example of a List Driver is the General MIDI one (see Example 2, below) which contains a predefined list of all the Program names in General MIDI compatible devices. But if you yourself have another Device which is not supported otherwise, but for which you would like to select Patches by name, use one of the List Drivers.

The only difference between the different list drivers (found in the LIST folder inside the GENERIC folder in DEVICES) is how their patches are organised. For example the LIST2_64 Driver has two Banks of 64 Patches each in the Patch Manager window. This would be used for example with a Roland Juno 106 which organises its Programs in two Banks of 64.

You can add the same List Driver to the list several times and give each "instance" of it a new name in the list (probably the name of the device).

Example 1 – A Dedicated Driver

Let's say you have a Roland A-880 MIDI Patchbay. Its Input and Output 3 is connected to the standard Atari MIDI In and Out connectors. The A-880 is set to receive Program Change messages on MIDI Channel 16.

Let's also say you have a Korg M1R rack module. This is connected to Input and Output 4 on the A-880.

Here's how to set things up for the Studio Module:

- ❑ Create a Patch in the A880 for your normal recording situation. This should probably allow some keyboard connected to the Patchbay to send its data via the Patchbay's MIDI Out 3, so that what you play can be recorded in Cubase. The MIDI Out from the computer goes to the MIDI In 3 of the Patchbay which distributes it to the other synthesizers in the system, including the Korg M1R on MIDI Out 4. Store this as Patch 11 (the first Patch in the A-880).

- ❑ Create a second Patch where the computer has two way communication with the Korg M1R only! This means the MIDI Out of the computer should be sent to the MIDI In of the M1R, via the Patchbay, and the MIDI Out of the M1R should be connected to the MIDI In of the computer, also via the MIDI Patchbay. Store this as Patch 12 (the second Patch in the A-880).

- ❑ Make sure the A-880 really receives Program Change messages on Input 3 and on MIDI Channel 16.

- ❑ Set the M1R to receive Program Change messages and System Exclusive messages.

- ❑ Set the M1R to some Global MIDI Channel, let's say 5 for the sake of the example.

This is not to be confused with the MIDI Channels that can be set inside a Combi, for each sound. The Global MIDI Channel in a Korg M1R is found among the Global parameters!

Now use the Studio Setup window to set up communications using the information specified above:

- ❑ Click on Add. In the File Selector that appears, open the DEVICES folder, the KORG folder, the M1_T1_T3 folder and select the file M_1.DEV. (If no such file exists, you have to quit the program, find the file and copy it to the correct folder). Click OK and the File Selector goes away.

- ❑ You will now find a new item in the device list, called Korg M-1. Select it.

- ❑ Set both its "Input" and "Output" to "Atari", since the M1R is connected to the Atari port via the Roland A-880.

- ❑ The M1R has no System Exclusive Device ID, so this is greyed out. However, it has a Global MIDI Channel setting. Since the M1R has two modes (Program and Combi) there are two MIDI Channel settings in the Setup dialog. In the M1R, there is actually only one MIDI Channel setting (as stated above) so set *both* these values to 5.

- ❑ As you can see, there are eight Child MIDI Channels on the M1. You don't have to worry about their settings though, since the Studio Module will find out about them, itself.

Let's start setting up the Patchbay part of the Setup dialog.

- ❑ Click in the "1" check box at the top of the left column so that a tick mark appears.

- ❑ Set Output to Atari, MIDI Channel to 16 (since the A-880 is set to receive Program Change on MIDI Channel 16) and leave Delay at 100 (this might be a higher Delay value than is actually needed, but you won't notice much difference).

- ❑ Double click in the Name field and type in for example "A-880". This can later be used to select the settings in the point above in one fell swoop.

- Set "Program Before" to 2 (the second actual Program Change number, the first is 1). This will make the A-880 select Patch 12 when communicating specifically with the M1R.

- Set "Program After" to 1. This will make the A-880 switch to Patch 11 when done communicating specifically with the M1R.

- You should now create a "Recall patch" that will download at least the Programs and Combis each time you do a total Recall. Select "New..." from the Recall pop-up, and type in for example "Everyday" and hit [Return]. Set up the Mask pop-up to include for example Programs and Combis only.

- If needed, change any of the settings on the Options menu. You *will* want the M1R to appear in the Instrument list. You *might* turn off handshake.

This completes the setup for the M1R. To add another device, click Add, find the driver and set it up as you did with this. The Name, Output, MIDI Channel and Delay value of the Patchbay will already be defined so that you can select it from the pop-up.

Example 2 - A List Driver

List Drivers are drivers which are *not* used to retrieve and send out Data Dumps, "lumps of settings". Instead these are only used to select Patches.

An example of such a driver is the GEN_MIDI driver which is for all General MIDI compatible devices. Since all GM sound modules have the same Patch names, there is no reason to bother getting the names from the device via MIDI.

Let's say you have Roland Sound Canvas sound module.

- Click Add in Setup. Open the DEVICES folder, open the GENERIC folder, the LISTS folder and select GEN_MIDI.DEV. Click OK.

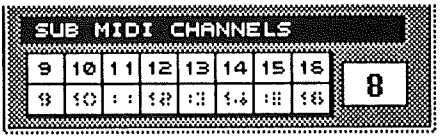
- Select the Driver by clicking on it in the list.

- Rename the driver. Give it for example the long name "Sound Canvas" and the short name "Canvas".

- Set the Output to the MIDI Output the Canvas is connected to.

- Since there is no data to collect from the Sound Canvas, you don't even need to connect its MIDI Out to a MIDI In on the computer. This makes the Input setting redundant. You will just use the driver to select Patches (called Instruments in the Sound Canvas) from the Patch Manager. Therefore, the SysEx ID and main MIDI Channel settings are redundant too. Leave all these settings as they are.

- The Child MIDI Channels, however, are of great interest. Let's assume you only plan to use the first eight MIDI Channels on the Sound Canvas. If this is the case, set the field beside the 16 Child MIDI Channel settings to 8. This will make only the first 8 Child MIDI Channel settings "available". When you later want to use the Sound Canvas from the Arrange window, there will be these eight MIDI Channels to select from. If you'd rather use MIDI Channel 9 to 16, you can change the channel numbers of those eight Child MIDI Channel fields as shown below.



- The main routing in your MIDI Patchbay(s) will allow the computer to play the Sound Canvas and to select Patches on its MIDI Channels. Therefore, you don't need to switch in the Sound Canvas specifically to use it. For this reason, turn off both MIDI Patchbays in the upper right corner of the dialog.

- Since the Sound Canvas isn't used for Total Recall either, you don't have to bother about the Recall "patches" either.

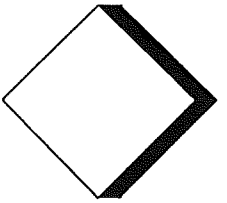
- Pull down the Options menu. The Sound Canvas should be included in the Instrument Menu.

- Pull down the Options menu again, and select Child suffix. From the pop-up, select the bottom option, "1". This will make the Sound Canvas appear on the Instrument pop-up as Canvas 1, Canvas 2, Canvas 3 etc, in other words, the Short Name plus the MIDI Child number.

Closing

When done with all settings for all devices, click OK.

If you are getting yourself acquainted with the Studio Module, please proceed to the next chapter, "Guided Tour".



Guided Tour

This chapter will show you how to retrieve all the settings in your instruments in one go, and store it all on disk. It will then show you what information the Studio Module was able to extract out of those dumps, and how you can use it to make everyday work in Cubase a lot smoother.

This chapter will talk specifically about devices which you might or not might have. However, what we say about one multitimbral synthesizer will apply to most other multitimbral synths; what we say about one effect unit will apply to most effect units, etc.

- First make sure you have set up your devices and have tested them all.

- Also make sure you have done your homework when it comes to Recall "patches". You should have the default "All "setting, plus one more for every day use, which has less Data Types activated for each device.

- The following text assumes that you are currently facing your regular Arrange window.

- Pull down the Modules menu, select Studio Module and from the list that appears, "Total Receive...". If you created a "custom" "Recall Patch", another list appears asking you if you want to use that or the default ALL one. Since this is the first time you do this, you should probably select "ALL" to create a full safety copy of all the settings in all devices.
  A file selector now appears, where you are prompted to type in a name (maybe today's date is a good choice?) and find a location for the file that is being created.

This file might be relatively big, so don't try to store it on an already half full floppy. Do *not* store it in the STUDIO.DAT folder either. The best alternative is probably to use a folder created specially for your data dumps.

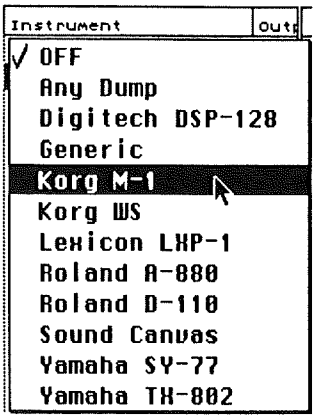
The program will now switch in one device at a time and collect all settings for each one. If your Setup is defined so, you might be prompted to make new MIDI Patchbay settings or to initiate a dump from a devices front panel. If you encounter any problems during this procedure, please look up page 106.

This function can only be used when Cubase is stopped.

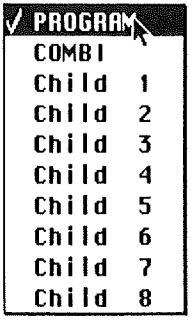
When the dump is done, you return to the Arrange window. Now let's see what the Studio Module has managed to do:

- ❑ Select an empty Track.

- ❑ Press the mouse button in the Instrument column. A pop-up menu appears, listing all your devices.



Select one. If this device can handle several types of Patches (see below) yet another list appears.



For a while, lets assume you have a Korg M1. Then this list will contain items for *Programs*, *Combis* and *Child 1 to 8* (the eight Programs you can access from within a Combi).

While this naming is specific to the M1, the principle applies to all multitimbral synthesizers, as follows:

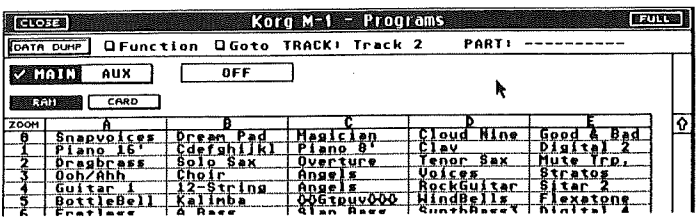
- Selecting *Combi* will do three things: set the M1 to Combi Mode, set the Track to the Output of the M1 and the MIDI Channel to the global MIDI Channel of the M1. This way you will be able to select Combis from that Track. A Combi in an M1 is a selection of up to eight sounds (called Programs in the M1) that are each set to receive on a certain MIDI Channel.

- Selecting *Program* will put the M1 into Program Mode (one Program at a time), and set the Track to the Output and MIDI Channel used to play and select one Program at a time.

- Selecting *Child 1* to *Child 8* will set the M1 to *Combi mode* and make the Track output to one of the *Programs* in the current *Combi*. This is the most advanced and powerful option, so let's leave it for a while. It is described in detail on page page 86. You can of course try it if you want it, the only trick is to get the MIDI Channel setting right. If you have a multitimbral synth which always receives on a fixed set of MIDI Channels, this option will work as expected right away. The specific thing about the M1 (and many other synths) is that the user can set the MIDI Channels in the Combi him/herself, which makes things slightly more complicated.

- To keep things clear for now, select the option that lets you play a single sound on your synthesizer. On the M1 this would be "Program".

- Double click in the Instrument column. This launches the Studio Module's Patch Manager (if the device has Patches, otherwise the Data Dump window appears. If this happens, click Exit and try again with another device).

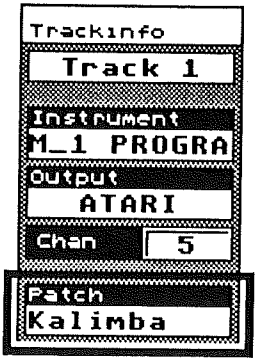


- In the Studio Module we call individual settings in a device *Patches*. A Patch can be a sound, a collection of sounds for a multitimbral setup, an effect setting in a reverb, etc., etc. The definition is: any individual setting that can be selected via MIDI using Bank Select or Program Change messages, or in some cases, System Exclusive messages. In your equipment,

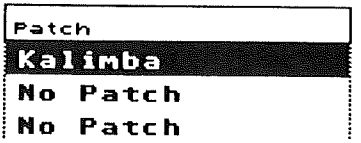
a Patch might be called Program, Voice, Tone, Timbre, etc. No two manufacturers seem to have the same naming...

- The Patch window will display all the Patches in the device you have selected for the Track, by name (if the device uses names) in rows and columns. These names were extracted out of the device during the Total Recall. By clicking on one of them, the corresponding *Patch* gets selected in device, and you can try it out directly by playing your keyboard as you would normally when recording into Cubase (make sure you still have that same Track selected!). Furthermore, the Track will now be permanently set to play this Patch, until you change this. Let's have a look at this:

- Close the Patch Manager, so that you return to the Arrange window. There are two ways to display the Patch selected for a Track: you can open the Inspector and check the Patch field when the Track is selected (do not select any Part!).



You can also double click in the *heading* in the Instrument column, which then switches to say "Patch", and now displays the selected Patch for each Track (you have only selected a Patch for one Track yet!)



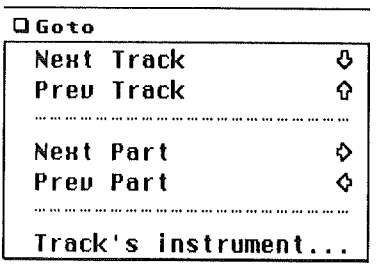
- If you wish, you can create another Track or select a new empty one. Then click in the Instrument/Patch column to select a device for that Track and double click to see all the available Patches for this Instrument.

- When you are in the Patch Manager window, take the time to try out two other features:
  If the memory in your device is divided into Banks (each Bank contains a number of Patches), this will be indicated by a row of Bank buttons to select from.

  Although Memory Cards *are* supported, they require some special handling. For more details, see page 61.

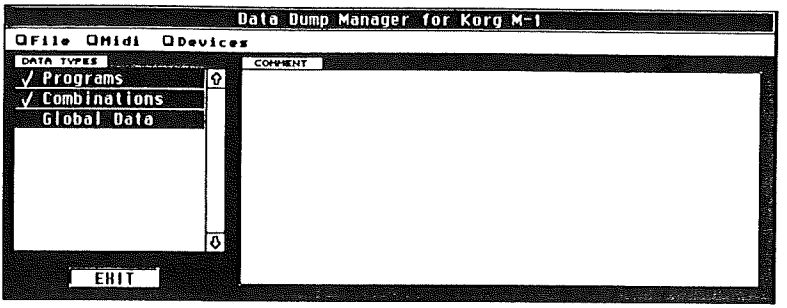
- A Patch can be renamed by holding down [Alternate] and double clicking on a name (just as a Part), assuming the device supports renaming. This does not send out the new name to the actual device, you have to do that specifically (see page 54).

- By using the pop-up Goto menu (or the up/down cursor keys on the computer keyboard) you can pass between the Tracks that you have assigned Instruments to, and the Patch Manager will get updated and show the available Patch for each Track.



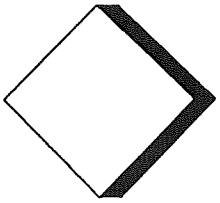
- If you double click on a Patch, a Macro Editor will be opened, if one exists for this particular device. Here you can make adjustments to the Patch. The details can be found on page 74.

Finally, let's have a brief look at the last window in the Studio Module, the Data Dump Manager. This is accessed by clicking on the Data Dump button at the top left in the window.



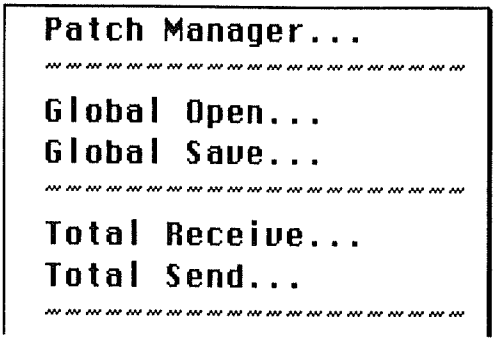
In this window you can get and send data from individual devices. If you for example changed some setting using the front panel of your synthesizer, you can update the Patch Manager by selecting this device from the device menu and then select "Receive..." from the pop-up MIDI menu. Close this window by clicking the Exit button.

Following these instructions you have barely scratched the surface of all the possibilities this ingenious piece of software offers! Please read through the following chapters at least once and try out the possibilities in each section.



Total Recall

The Total Recall functions are accessed via the pop-up menu which appears when you select "Studio..." from the Modules menu. Total Recall is an operation where you can get and retrieve all the settings in all your devices, in one go.



Total Receive

This procedure is very simple, just select "Studio..." from the Modules menu and then "Total Receive".

- If you have defined your own Recall "patches" (see page 23), a menu will appear allowing you to select one of these.

- After this a file selector appears allowing you to define the name and location of a *Global File* (it has the Extension ".MEM"). If the data you are collecting belongs to a certain Song or project, give the file the same name as the Song/project (the ".ALL" file), since this will allow you to have the sounds automatically sent out when you load the Song, as described below.

- The Studio Module will now retrieve all the settings and store them on disk, one device after the other.

This function can only be used when Cubase is stopped.

All the settings of all the devices get stored in one single file. However, you can "replace" and "extract" settings for individual devices into and out of this file. See page 90.

You can stop the operation at any time by pressing the [Esc] key for a second (the current dump has to finish before the dump is aborted).

Total Send

A Total Send is the opposite to Total Receive. In this case settings are read from disk and sent out to all the devices in the system.

If you have defined your own Recall "patches" (see page 23), a menu will appear allowing you to select one of these. Then you will be asked for a Global File to send out.

Only the Data Types (see page 118) that are actually in the file will be sent out, others will not be affected. An example would be the Yamaha SY-77: If the file contains no Tuning and Pan data, only Voices and Multis, the Voices and Multis in the SY-77 will be affected, but the Tuning and Pan settings will remain as they are.

You can stop the operation at any time by pressing the [Esc] key for a second (the current dump has to finish before the dump is aborted).

Autoload With Song

When you load a Cubase Song with the Studio Module active, Cubase will look for a file with the same name as the song (in the same folder), but with the extension "MEM". If such a file can be found, Cubase will automatically suggest a total upload or allow you to load the names into memory (as with Global Open, see below).

Alert Comment

In the Data Dump Manager you can add a so called "Alert Comment" for a file that will appear when you perform a Total Send. Use this to enter text about for example manual settings that have to be done on the front panel of a device before the data is sent. See page 72.

Guidelines

If you have a smaller studio, it will probably be OK to do a Total Receive/Send for each Song. However, if you have many devices in your rig you might be better off only getting/sending those settings that you actually need. This is where the Recall Settings in the Setup window comes in. By making up a few different such "patches" you can make sure you only get/send the data you actually need.

Global Open

This allows you to load an entire Global File into computer memory, a file that was created for example using Total Receive.

- When you select this function, from the pop-up menu which appears after selecting "Studio" from the Modules menu, yet another menu appears asking you which of your Recall "patches" you would like to use. The "All" option will load everything in the file. The other "masks" will only load some data, depending on your settings in the Setup window (see page 23).
- A dialog box appears asking you if you want to load the actual data that makes up the settings in your devices (Data Dumps) or if you only want to load the names (Names).
  If you plan to edit using the Macro editor (see page 74) or if you think you will be copying and pasting data to create new Data Dump banks, you must select Data Dumps.
  If your devices still contain the same settings as in the Global file, (if you for example are working on the same Song as yesterday), and all you plan to do is select Patches by name, then you can click Names. In other words, for your everyday work, loading just names will often do the job.

- The file selector appears displaying files of the type "MEM". Find a file and click OK.

If you have an Atari ST with 2 MByte of RAM and the file is very big and you already have a large Song in memory, you might run out of memory. Try to create a new "Recall patch" which only loads the data absolutely necessary.

Global Save

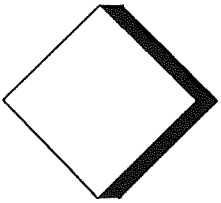
This saves all the Data Dumps currently in memory (including the Patch Names) as a Global File.

- When you select this command, which is just below Global Open, a file dialog box appears asking you to specify a file.

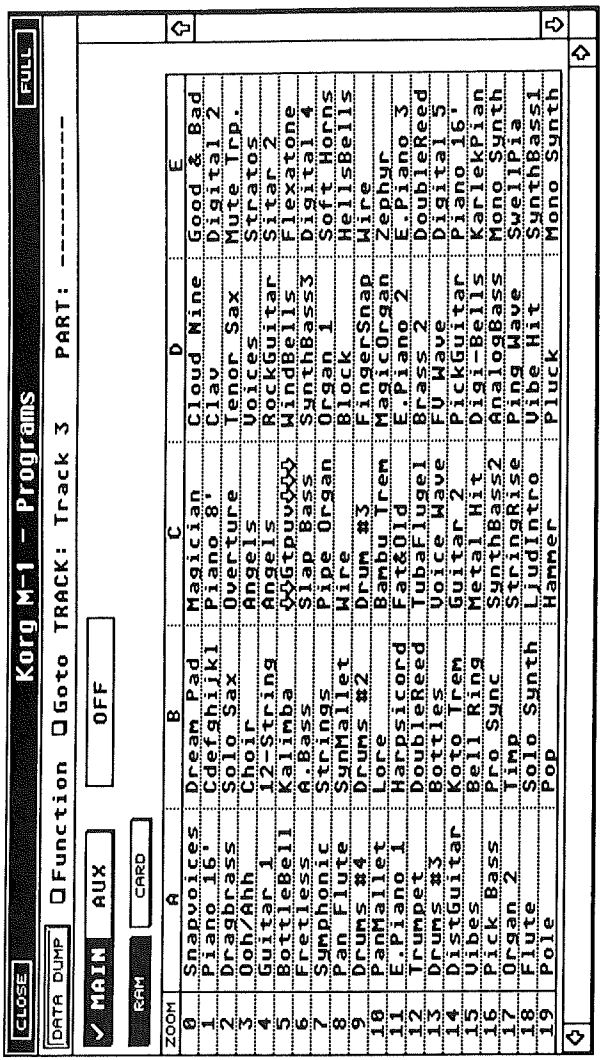
- If you select a file that already exists, you will be asked if you want to overwrite the file or create a backup.

Def.Mem

If you save a Global File under the name DEF.MEM, and in the same folder as your Cubase program, the Studio Module will automatically load this file when you launch Cubase. However, only names are loaded, not the actual settings data.



The Patch Manager


CLOSE
Korg M-1 - Programs
FULL
DATA DUMP
Function
Goto TRACK: Track 3
PART: ----------
MAIN
AUX
OFF
RAM
CARD
ZOOM
A
B
C
D
E
0 Snapvoices Dream Pad Magician Cloud Nine Good & Bad
1 Piano 16' Cdefghijkl Piano 8' Clav Digital 2
2 Dragbrass Solo Sax Overture Tenor Sax Mute Trp.
3 Ooh/Ahh Choir Angels Voices Strato
4 Guitar 1 12-String Angels RockGuitar Sitar 2
5 BottleBell Kalimba ◇◇tpuv◇◇◇ WindBells Flexatone
6 Fretless A.Bass Slap Bass SynthBass3 Digital 4
7 Symphonic Strings Pipe Organ Organ 1 Soft Horns
8 Pan Flute SynMallet Wire Block HellsBells
9 Drums #4 Drums #2 Drum #3 FingerSnap Wire
10 PanMallet Lore Bambu Trem MagicOrgan Zephyr
11 E.Piano 1 Harpsicord Fat&Old E.Piano 2 E.Piano 3
12 Trumpet 1 DoubleReed TubaFlugel Brass 2 DoubleReed
13 Drums #3 Bottles Voice Wave FU Wave Digital 5
14 Distguitar Koto Trem Guitar 2 PickGuitar Piano 16'
15 Vibes Bell Ring Metal Hit Digi-Bells KarlekPian
16 Pick Bass Pro Sync SynthBass2 AnalogBass Mono Synth
17 Organ 2 Timp StringRise Ping Wave SwellPia
18 Flute Solo Synth LiudIntro Vibe Hit SynthBass1
19 Pole Pop Hammer Pluck Mono Synth

The Patch Manager's Two Guises

The Patch Manager can be opened in two ways.

- By selecting "Studio" from the Modules menu and then "Patch Manager" in the menu that appears.
- By double clicking Instrument/Patch in the Track list or in the Inspector in the Arrange window.

There are distinct differences to these two modes. The functionality in the window is mostly identical, but your actions lead to slightly different results. The details are referred to later in this chapter and in the chapter "The Arrange Window" on page 77, but the general difference is important to understand even at this point:

- When you open the Patch Manager from the *Arrange window*, what you see in the window is related to what Instrument you have selected on the Track, and actions in the Patch Manager will affect your Arrangement. You also get a Goto pop-up menu and a line showing you the active Track/Part in the Arrange window, which you don't when you open it from the Modules menu.

- When you open the Patch Manager from the *Modules menu*, you do not affect your Song in any way, the Studio Module behaves more like a separate program than a part of Cubase. You will probably use this way of accessing the Patch manager for housekeeping chores, assembling banks, storing to and getting from disk etc. You get a Device pop-up menu that lets you select between the different devices in the rig (which you won't do if you opened this window from the Arrange window).

  Also, when you open the Patch Manager from the *Modules menu*, for some devices you will have more control than when you open it from the Arrange window. For example, with the Roland D-10 you get the ability to select "Tones" for a Timbre (Roland terminology) which you can't from the Arrange window. To find out the abilities of a driver for a certain device, try opening the Patch Manager in both ways and also have a look in the "info" dialog in the Setup window.

If you try to open the Patch Manager but the device can not handle individual Patches at all, via MIDI, only complete Data Dumps (as will be the case with some MIDI utility devices) the Data Dump window will open instead of the Patch Manager. **See page 64.**

Overview

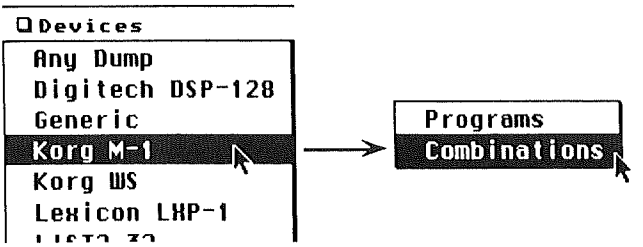
The main part of the Patch Manager window is occupied by the Patch list which is divided into rows (numbered) and columns (alphabetised). The cells might be filled with names, see below.

At the top you will find pop-up menus and information fields for "navigating" the window.

Viewing Different Devices/Data Types

From the Modules Menu

If you open the Patch Manager from the Modules menu, you use the Devices pop-up menu to view different devices. This lists all devices. If you select one that has several Data Types, a new menu will appear listing those. Select one.



Please observe that the display may show the device you are interested in, but not the data type you are looking for. For example, in a Korg M1 you might see the names of all Combis instead of all Programs. To change this, use the Device menu to select the same device as you already have, but in the second menu that appears, select the Data type you are interested in.

If you select a device for which there is no Patch window (such as the ANY_-DUMP driver, you get the Data Dump window instead.

From the Arrange Window

If you open the Patch Manager from the Arrange window, you will already have assigned a device and Data Type to the Track, and the window is then automatically set to display just that.

Patch Names

Many devices name their patches. When the Studio Module receives data from such a device it can extract the names and display them in the Patch Manger.

But even if the device doesn't use names on its front panel (for example, many effect devices don't) the Studio Module will allow you to type in names for the Patches, to make it easier to select between them.

Saving Names
When you save a Data Dump to disk, the names are saved with it. If you have no Data Dump in memory, you won't be able to save the names either, the two always go together. (Well, there is an exception for some rare devices and their memory cards where the names can be saved without the dump. An example of such a device is the Roland R8M.)

Loading Names
There are quite a few ways to load names into memory:

- By performing a Total Receive (see page 42). When you do this, you collect data and names from the devices in your MIDI rig.
- By using the Data Dump manager (see next chapter). When you get data from one device at a time the names will be collected too.
- When you load a dump from disk. This can be done using Global Open, by using the Functions pop-up in the Patch Manager, or by using the File menu in the Data Dump window.
- You can load names *only*, (no dumps) by using the Load Names function on the Function pop-up in the Patch Manager window.

- Some drivers have predefined names, which means there will be names in the Patch Manger right from the start (for example the General MIDI driver). This might be the case if the device has Patches that can't be modified or deleted (ROM Patches).
- And as stated above, you can type in names yourself for those devices which don't use names on their front panel.

See page 91 and page 102 for more info.

Patches vs. Names Only

There are two ways to get to a situation where you work with names only:

- When you perform a Global Open, the program asks you if you want to load only the names of the Patches in the file.
- You can delete the Data Dumps, but keep the names, in the Data Dump window, see next chapter.

So, why would you want to do that? The main reason is to conserve memory space (RAM) in your computer. If you are working on a large piece of music (and maybe only have 2 MByte of RAM in your computer) you will want to reserve as much memory as possible for your recordings.

If all you want to do is to select Patches by name, then you don't need to have the Data Dumps in memory at all, you can just as well work with names only. There are two ways to achieve this: either you only load names with Global Open when you start your work, or you delete the data in the Data Dump window. This last option comes in handy if you in the middle of a session find out you need more RAM for recordings.

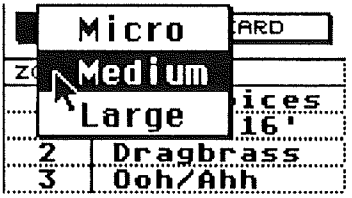
However, there are cases when you *do* need to have the data loaded too: when you want to be able to send out complete Patches to reprogram a Device (see page 54) or when you want to use the Macro Editor (see page 74). And as stated above, to be able to save the name changes, you must have some data in memory to save the names together with.

Furthermore, some Drivers (List Drivers and Hybrid Drivers, see page 102) can't handle complete Patches at all, *only names.*

Customising the Display

The are several settings you can do to make the view of the Patches fit your needs.

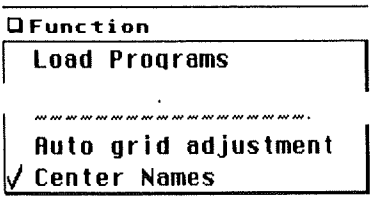
Zoom



If you click in the upper left corner of the name "grid", a pop-up allows you to select from three different text sizes.

Centre Names

This option on the pop-up Functions menu lets you decide if you want the text in each cell left-justified (no tick) or centred (tick).



Auto Grid Adjustment

Normally (Auto Grid Adjustment off) there is a setting in the driver that decides how many rows and columns the Patches are divided in. The Patch Manager tries to organise Patches as sensibly as possible, depending on how many they are and how they are organised in the actual device.

If you activate Auto Grid Adjustment, on the pop-up Functions menu, the number of rows and columns are instead adjusted after the size of the window. In this "mode", even if you resize the window you will always see all columns (but perhaps not all rows).

Selecting Patches

When you click on a Patch, it gets selected in the device. Well, there's one hitch, and it has to do with the MIDI Channels:

Singles
If you have a device which can only receive on one MIDI channel there's no problem. The MIDI Channel you have entered in the Setup window will be used. This includes old synths and most effect units.

Parents
The same is true for selecting between complete multitimbral setups in a synthesizer (called Parent Patches in the Studio Module), since this is also most often done on the so called Global MIDI Channel, which is the one you have defined in the Setup.

Children
Things get slightly trickier when it comes to multitimbral instruments which can receive on several MIDI Channels at the same time (each MIDI Channel is then called a *Child* in the Studio Module). Let's get into further detail on this:

If you opened the Patch Manager from the Arrange window, the Studio Module stands a good chance of figuring out which MIDI Channel you currently intend to select a Patch for. Hence, when you use this function to set up a multitimbral instrument you should open the Patch Manager from the Arrange window and proceed as described in detail on page 77.

If you open the Patch Manager from the Modules menu, the Studio Module will (if possible) switch your device into a mode where it plays one Patch at a time on one MIDI Channel (the MIDI Channel defined in Setup). If your device is always in multitimbral mode, please beware. The Studio Module will

try to select Patches on the MIDI Channel defined in the Setup window, and that could be confusing.

Reprogramming A Patch

If you hold down [Control] and click on a Patch name, the Patch *currently selected in the device* will be reprogrammed with the settings of the Patch you clicked on.

There are a few situations when this is very useful:

- When you have changed the name of a Patch and wish to send out the entire Patch with the new name.
- When you have worked with the Auxiliary Bank (see page 58) and you wish to re-program the device with the original Patch in the Main Bank.
- When you want to rearrange the Patches in your device.

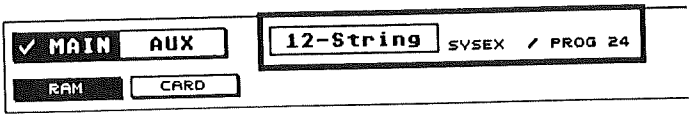
This assumes the device supports reprogramming of *individual* Patches via MIDI. If it doesn't you will have to send out the entire Bank, using the Data Dump window, instead. The Studio Module helps you find out if this is needed. Look at the button called MAIN:

- If there is a tick mark to the left in the button, the Patches in the window are current with the ones in the device.
- If there is a star at the left side of the button, the Patches in the window are "out of sync" with the device and you will need to use the Data Dump window to send out the entire Bank.

About Program Change Messages

The Studio Module usually selects Patches in your devices via Program Change. However, that's not good enough if the device has more than 128 Patches. If it does, some combination of messages is used, for example Bank Select plus Program Change or a combination of two Program Change messages, or even System Exclusive. Regardless, the Studio Module will always allow you to select directly between *all* the Patches in your device. It even tells

you at the top of the window, in a box and beside it, which Patch is selected, and how it was done.



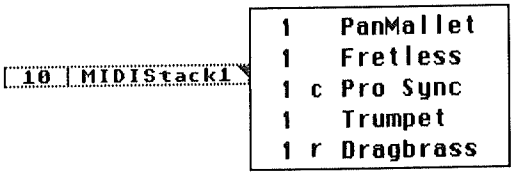
If this line says simply "PROG" followed by a number, only one Program Change was used. If it says BANK # / PROG #, a combination of Bank Select and Program Change was used. If it says SYSEX, System Exclusive messages were used to select the Patch. In some cases for example two Program Change messages were needed, in which cases it says PROG # / PROG #.

Make sure to turn off Program Change tables in your devices, as described in the check list on page 8.

Parents With Children

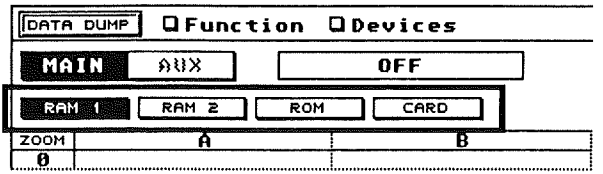
In a multitimbral instrument you often have basic sounds which you combine into multitimbral setups (Parents). As described on page 115 the Studio Module calls the individual sounds in a Parent, *Children*.

If the Patches displayed in the window are of the "Parent" type, a black triangle is displayed in the upper right corner of each cell. Clicking here brings up a pop-up with the names of the "Child Patches" this "Parent Patch" is made up of. There might also be a "c" (the Child Patch is on a memory card) or an "r" (the Child Patch is in a ROM bank).



Working With Banks

If the Patches in a device are divided into Banks, there will be a number of Bank buttons, just above the grid. You can click on these buttons to view the Patches in the Bank.



If there is a ROM bank of Patches – Patches that can't be altered by the user – the driver will still (often) contain the names for it, so you can select Patches from this ROM Bank anyway. Sometimes these names can be edited.

If there is one or more CARD banks (for Patches on memory cards) these will always be empty (most often it is impossible for the Studio Module to extract data on a card via MIDI). But the Studio Module has a special procedure for getting the names out of the cards automatically anyway, see page 61.

Some devices do not allow selection of Patches on a Card directly via MIDI. In these cases no Card Banks will appear in the Patch Manager or you won't be able to select Patches from the Card bank, only view them.

Similar models of the same make may differ in what Patches are in the ROM banks. Please make sure you select the correct driver. For example, if you have a Yamaha TG-77 (a rack mounted synthesizer) do not use the SY-77 (keyboard synthesizer) driver, even though the two are identical in most aspects.

Managing Patches

Renaming

if you hold down [Alternate] and double click on a Patch, you can rename it (or give it a name if it doesn't have any). This will not change the name in the display in the device, only in Cubase. If you want to send out the name to the

device to permanently rename it, hold down [Control] and click on the Patch name. This assumes your device has the possibility to reprogram one Patch at a time (with some devices you must send out the entire bank in one go, see page 64).

There are reasons to rename Patches in the cells even if you don't send them out permanently. Your device may use short cryptic names and the Studio Module can handle longer names and maybe more special characters. Furthermore, in many effect devices and other "smaller" MIDI devices no names at all are used on the front panel. You can then use this feature to type in names for all or some of your favourite Patches. Saving the Bank will include the names.

For details on names and their File Handling, see page 91.

Find and Find Next

Find, on the pop-up Functions menu displays a dialog box where you can type in some text and hit [Return]. The program then searches through all the Banks for Patches which contain this text. If one is found, this will be highlighted on the screen, and the corresponding Patch will also *get selected in the device*. The keyboard command for Find is [Alternate]-[F].

If you select Find Next or press [Alternate]-[G], the program searches for the next occurrence of the string you typed when selecting Find.

For example, if you are searching for the perfect piano sound, activate Find and type in for example "pia". You can then use Find Next to quickly step through and audition all sounds with names containing the text "pia".

Editing

Many devices have special Macro Editor definitions as part of the device Driver. To access this, simply double click on a Patch name. The Macro editor is described in detail on page 74.

Copying and Pasting

You can Copy and Paste Patches between cells (one Patch at a time). If you have the Patches loaded into memory, this will not only copy the settings within Cubase, it will permanently rearrange the Patches within your devices. For more detail on Copy and Paste, see the chapter "The Edit Menu" in the main Cubase manual.

Loading and Saving

There's a Load and Save command on the pop-up Functions menu. This allows you to save the Patches you currently see in the Patch Manager as a "Device File", or to fill the cells in the Patch Manager with Patches in a file on disk. For details on File Handling, see page 89.

Please observe that these options only load/save one Data Type at a time, the Data Type you currently have visible in the window.

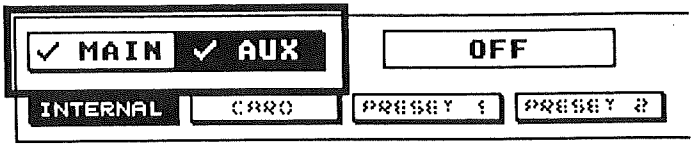
Working With the Auxiliary Bank

Before starting to work with the Auxiliary Bank, make sure the Main Bank contains a current set of the Patches in your device, so that you can get them back. This is because when you are using the Auxiliary Bank you are actually *reprogramming* your devices with new settings.

One of the intentions of the Studio Module is to facilitate assembly of new Banks of Patches from Banks you might have on memory cards or on disk. One of the tools for achieving this is the Auxiliary bank.

You can only use the Auxiliary Bank with devices which support reprogramming of *individual* Patches, via MIDI. If a certain device doesn't, the Aux button (see below) will be greyed out.

You can switch between the main Bank and the Auxiliary one by using the Main/Aux buttons at the top of the window. These will show a tick mark to the left of the name if Patches are loaded into memory.



The Main Bank will show an "n" if only names are loaded.

The Auxiliary Bank is actually quite different from the Main Bank:

- If you use the Auxiliary Bank with a multitimbral device, please note that it can only handle "Single Patches", that is single basic sounds, not combinations of sounds. However, for effect units etc. which only handle one type of Patch ("single"), it works like the Main bank in this respect.
- The Auxiliary Bank can *not* be loaded with names only. It always contains complete Patches (including names if the device supports it).
- When you click on a Patch in the Auxiliary Bank, the complete settings of the Patch is sent out to the device. If the device has a so called "buffer" – an area of memory where Patches can be put temporarily – it will wind up there. If the device *doesn't* have a buffer, the current Patch will be reprogrammed with the settings sent out, so beware! (see below for more details).

Opening And Saving a Bank

To load a Bank of Patches into the Auxiliary Bank, use the pop-up Function menu and select Open. The file selector that appears defaults to show only files which contain settings from the devices you are editing. But if you change the extension to ".MEM" you can *extract* settings out of a Total Recall file. See page 89 for details on File Handling.

The Aux Bank and the Data Dump Window

You can use MIDI to get Patches into and out of the Auxiliary Bank, just as with the Main Bank. Just select the Aux Bank, click the Data Dump button and proceed as normal. Switching over to the Data Dump window also allows you to erase the entire Aux Bank.

Sending Out A Patch

When you click on a Patch in the Aux Bank, all its settings are sent out. This can have two effects, depending on the capabilities of the device:

1. The Patch is sent to the "edit buffer" of the device where you can try it out directly. This means none of the other Patches will be overwritten, but you if you wish to keep the Patch, you have to manually save it using the front panel of the device.
2. The selected Patch in the device gets *reprogrammed* with the settings of the Patch you clicked on. This occurs if the device has no edit buffer.

From the Auxiliary Bank you do not *select* between existing Patches in the device, as you do from the Main Bank.

The way you would use this feature is when you're hunting for the perfect Patch in a number of disk banks. Just load a Bank, and try out the Patches by clicking on them.

As with the Main Bank, there can be a tick mark or a star in the Aux button to aid you in finding out if the window is "in sync" with the device.

"In Sync"

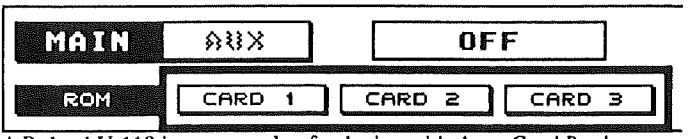
"Out Of Sync"

If you want to go back to the Patch you had originally, switch back to the Main Bank, and hold down [Control] and click on it. This will send out the settings in this Patch to the device, to reprogram it.

Copying And Pasting

You can Copy and Paste one Patch at a time between the Main and Auxiliary Banks. This is just as when pasting within the Main Bank, see page 60.

Handling Names in Card Banks



A Roland U-110 is an example of a device with three *Card Banks*.

The Studio Module does not directly support Patches on Cards, for good reasons. Many devices can not perform MIDI dumps of data on cards, and even if they can, many cards are of the Read Only (ROM) type, you can not change the data in them anyway.

However, you will often want to *select* Patches on Cards, and the Studio Module supports this, via its name handling.

Creating A Bank of Card Names

If you have Patches on a Memory Card and would like to get the names their names into the Patch Manager window, proceed as follows:

- Use the Data Dump window, to make a safety copy of the device's Patches in *internal* memory. Save the Bank to disk.
- Copy the Patches that are on the card, into the device's internal memory (the operation manual that came with the device will tell you how to do this).
- Open the Data Dump window and get the Patches that are now in internal memory in the device, into the Main Bank in the Patch Manager.
- Pull down the pop-up Functions menu in the Patch Manager and select "Save Names...". In the file selector that appears, type in a file name and save to disk.
- Select the Card Bank by clicking on the Card button in the Patch manager window (if your device can handle several cards there will be one button for each card).
- Select "Load Names" on the pop-up Function menu. In the File Selector that appears, located the name file you just created and load it into the Card Bank.

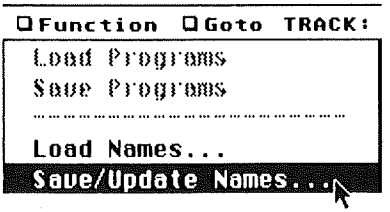
- Use the Data Dump window to Open the original Patches in the Main Bank that you backed up at the beginning of this procedure, and send them out to the device.
- Make sure selecting Patches in the Card Bank in Patch Manager works as expected.
- Use "Save..." on the pop-up Functions menu to save to disk. This will create one file containing *all Patches and names for all Banks.*

Erase Names

This function, on the pop-up Functions menu, is used to clear all names in a Card Bank window.

Save/Update Names

The Save Names function is used with Card Banks, as described above. But, if you have a device displayed in the window which uses names but doesn't handle Data Dumps, the Save Names menu item will switch to saying Save/ Update Names.



This will be true for all List Drivers and some specific device drivers, where the device does not allow extraction of names via MIDI.

When you then select Save/Update Names, a dialog will ask you if you wish to:

- Save a separate Name file, as described for Cards above, or...
- Store the names *in the device driver*, so that the names always appear in the Patch Manager when you select this driver.

For info about Name File Handling, see page 91. For more info on driver types, see page 98.

Arrange Window Functions

There are two Functions on the Functions pop-up which are specifically related to using the Patch Manager from Cubase's Arrange window. They are described in detail in the chapter The Arrange window, but here's a summary:

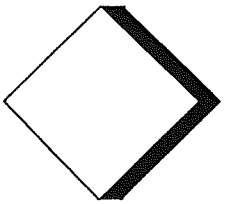
Rename Track/Part

This will change the name of the selected Track/Part to that of the currently selected Patch. This function will be deactivated if you open the Patch Manager from the Module menu.

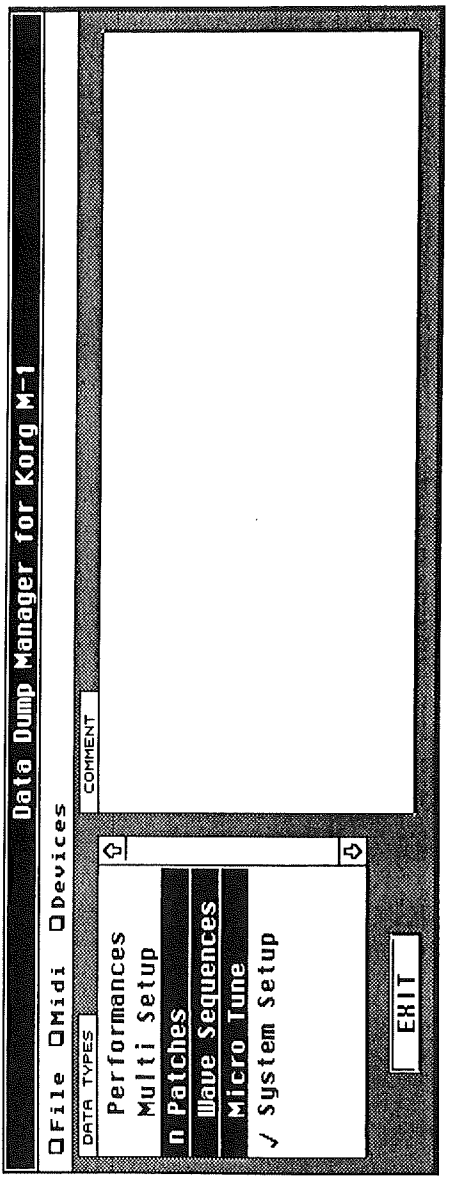
Pass To Active Track

This will take the System Exclusive data that make up the settings for a Patch and store them in a new Part in the Arrange window. This will not be available for all devices

This function can only be used when Cubase is stopped.



The Data Dump Window


Data Dump Manager for Korg M-1
File
Midi
Devices
DATA TYPES
Performances
Multi Setup
Patches
Wave Sequences
Micro Tune
System Setup
COMMENT
EXIT

This window can be opened in two ways:

- By clicking the Data Dump button in the Patch Manager window (see page 46).
- By trying to open the Patch Manager for a certain device for which no Patch Manager definition exists (this will be the case with some rare MIDI utilities and with the Any Dump driver).

The Data Dump window consists of a *Data Types list* (see below) a Comment box and three pop-up menus.

Devices which you manage via *List Drivers* (see page 102), do not have any Data Dump window, since these drivers only handle names, not actual settings.

Which Device Am I Looking At?

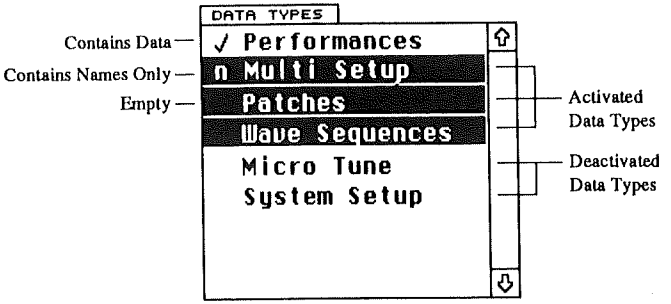
The window title contains the name of the device you double clicked on to open the window. This will be the same device you last worked with in the Patch Manager. If you want to see and work with another device, select it from the pop-up Device menu.

Getting Info About the Driver

At the bottom of the pop-up MIDI menu you will find an item called Info. Selecting this will give you the same dialogs as in Setup, see page 15.

When you add a new device to your setup, check this dialog box for important information.

The Data Types List



This list contains the names of all the Data Types in a certain device. For example, a Korg M1 has three Data Types: Programs, Combinations and Global Data, which can all be treated individually. A Lexicon LXP-1 reverb only has Effects, a MIDI Patchbay may have Routings, etc. In other words, how many types of data and their naming is individual to each type of device.

When a Data Type is loaded with some data (settings from an instrument), there will be a check mark ("√") to the left of the type. When the Data Type only contains names (see page 91) there will be an "n" to the left of the type.

Selecting

The Data Types list is actually a set of switches, allowing you turn the different Data Types on and off for certain operations. Each time you click on a Data Type in the list it will get activated/deactivated.

Purpose

The activation of Data Types is used in the following operations:

- When using this window to transfer System Exclusive data (settings) between the devices and the computer.
- When clearing dumps.

Getting Data from the Device

If you want to get the settings from a device into the computer, activate the Data Types you want to retrieve, and select Receive from the MIDI menu. At least one type has to be activated, or there will be nothing for the program to retrieve, right?

While the settings are being transferred, the communications dialog will show up, indicating the status of the transfer. If there is a problem, you will be informed (see page 106). After the dump, a tick mark will appear next to the Data Types which have been loaded into memory.

This function can only be used when Cubase is stopped.

This type of transfer does not mean the data is stored on disk, it only resides in computer memory. If you don't save to disk, it will be lost when you turn off power.

You can stop the "download" by pressing both [Shift] buttons at the same time. The process will be aborted right after the current dump is finished.

Sending Data to the Device

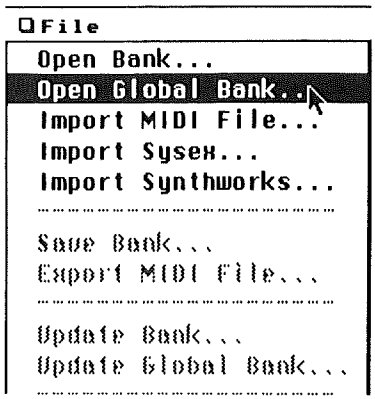
To send some data that you have in the computer, out to the device, activate the Data Types you wish to send, and select Send for the MIDI menu.

For the transfer to work, you will need to have loaded something into the Data Type "slots", either from disk or from the device (loaded slots are indicated by a tick mark).

While the settings are being transferred, the communications dialog will show up, indicating the status of the transfer. If there is a problem, you will be informed (see page 106).

You can stop the "download" by pressing both [Shift] buttons at the same time. The process will be aborted right after the current dump is finished.

Saving and Updating Data



If you have downloaded some settings from a device, you can save them to disk by using the File menu. You can also Update a dump, which means to replace *some* of its contents with new data.

Select the Data Types to be saved, by activating them in the list. Save, Export or Update from the File menu (the different options are described below). A standard File Selector appears where you specify name and location as usual.

Save...
This saves the file in regular Studio Module format. The file extension depends on the device and on your Setup settings (see page 17). Saving over a file with the same name deletes the existing file or allows you to create a back-up, see page 91.

Export MIDI File
The data is saved as a Standard MIDI File (type 0), which can be loaded into most MIDI programs, and even transferred between computers of different types. Use this only when you plan to load the data using some other computer program or similar.

Update Device File
If you have already saved a file to disk (in Studio Format) you can replace some or all of the data in it. For example, a Korg M1 file can contain Programs, Combinations and Global data. If you have saved all these Data Types

in a file, you can replace the Programs only, or the Global data only, by turning on only Program in the Data Type List and use the first of the two Update options on the file pop-up.

Update Global File
The second Update option on the pop-up File menu is identical to the first, except it allows you to replace (not add!) one or more Data Type dumps in a Global (".MEM") file. Everything else is as described above.

During any type of Save, Export or Update, do not forget to first activate all the Data Types you want included in the file!

See page 89 for more details on File Handling.

Loading and Importing Data from Disk

You can load in data by using the first four options in the pop-up File menu.

First select the Data Types you want to have "filled" with data from the disk file. Only those types activated will be affected by the loading. Then select the type of file to be loaded:

Open Device File
The first option is used to load data from a data file that contains Studio Module data from a single device.

Open Global (MEM) File
The second menu option is used to extract data for a device from a Global File.

Import MIDI File
This loads a Standard MIDI File (type 0), which could have been created in another program, even on another computer.

Import SysEx
Some other programs save "raw" System Exclusive data on disk. Selecting this file type allows you to load such files. This format is also compatible with Steinberg Satellite and some Synthworks "autosend" files, as listed below.

Importing MIDI Files and SysEx is not foolproof. The degree of success depends on how the information was stored in the file. The Studio Module does its best to extract as much information as possible. Watch the check marks to the left of the Data Types in the list to see which types got imported properly.

Import Synthworks
This option can be selected to load data saved using Steinberg Synthworks, as listed below.

In the following table you will find a list of instruments (or families of instruments) from which the Studio Module can load Synthworks files. The table also tells if regular Synthworks and/or "autosend" (select SysEx file type) are supported:

Device name	Synthworks files loaded?	Autosend/Selfsend file loaded?
Yamaha DX-7	Yes (extension ".SND")	No
Ensoniq ESQ-1	Yes (extension ".SND")	No
Roland D-50	Yes (extension ".SNS")	No
Kawai K1	Yes (extension ".SND")	No
Korg M1 (etc.)	Yes (extension ".SND")	Yes
E-mu Proteus	Yes (extension ".SND")	No
Yamaha SY-77 (etc.)	No	Yes
Korg Wavestation (etc.)	No	Yes

Loading Only Some Data Types

As stated above you can mix and match data from several files (in Studio Module format) by activating/deactivating Data Types in the list. Only those types that are activated when you use Open will actually be loaded, the rest remain intact. This allows you to pick one Data Type from one file and another Data Type from another file.

Mixing and Matching

By using the possibility to extract data from one device (and even one Data Type for that device) together with the possibility to "inject" any Data Type into an existing file, you can build up new Device Files and Global (MEM) files out of existing, with any combination of data needed for a certain project.

Clearing

You can delete data from memory by first activating one or more Data Types (by clicking on them), and then selecting Delete from the Edit menu or pressing [Backspace].

If one ore more Data Types contain item names, you will be asked if you want to delete only the actual settings data (not in the device, and not on the disk, only in the computer) and leave the names. If you leave the names, you will still be able to select Patches by name in the Patch Manager. The tick mark beside the name will change into an "n".

You can not save a Bank to disk which only contains names. When you save to disk, Data Dumps and Names have to go together.

Comments

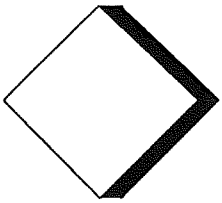
In the Comment box you can type in any text you want associated with the Data Types you plan to save to disk.

- Click in the comment box, and type in the text.
- When you save the file, the comment will be saved with it.
- If you activate Alert Comment on the File menu, before saving the file, the Comment text will be displayed in a dialog box when you do a Total Send, see page 43. This allows you to give yourself (or someone else) a reminder, like, "Remember to turn Reception of System Exclusive data on in the ESQ-1".

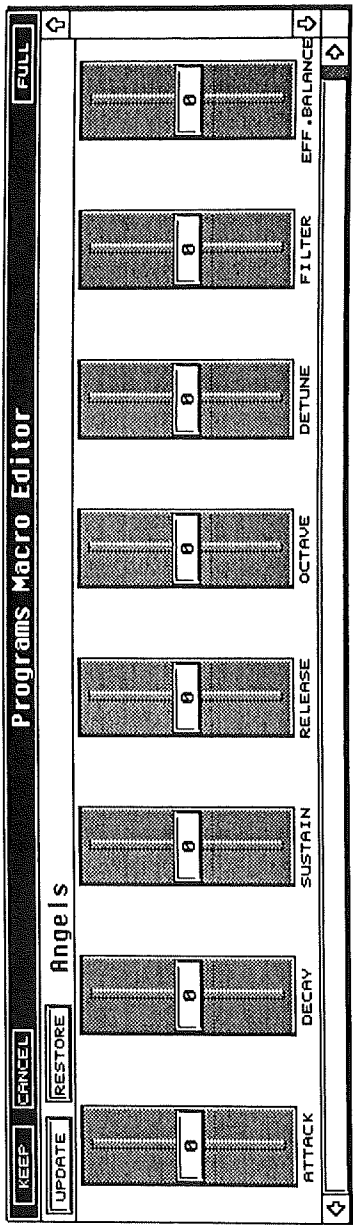
Drivers that do not perform any data dumps (such as List Drivers) can not have any comment, since they don't save anything to disk.

Closing

Clicking the Exit button or pressing [Return] takes you back to the Data Dump Manager, which displays the same device as it did when you opened the Data Dump window.



The Macro Editor


KEEP
CANCEL
Programs Macro Editor
FULL
UPDATE
RESTORE
Angels
ATTACK
DECAY
SUSTAIN
RELEASE
OCTAVE
DETUNE
FILTER
EFF.BALANCE

The Studio Module contains a so called Macro Editor. "Macro" because it doesn't access every little parameter in your devices. Instead, it gives you a quick and powerful way of changing important properties of for example a synth sound, by adjusting "Attack", "Release" or "Brightness".

To open the Macro Editor, simply double click on a Patch in the Patch Window. If a Macro Editor exists for this device and for the Data Type selected, a new window will open containing a number of faders. These are labelled after function. How many faders and their exact functionality will vary depending of the device, hopefully they will be self explanatory if you know something about the possibilities in your particular device.

The fader you moved last can also be "nudged" up and down using the [↑] and [↓] keys and set o 0 by pressing [Clr/Home].

Update

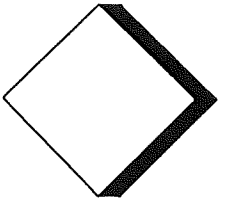
If you have made any changes, you can make them permanent by clicking the Update button. This will permanently change the Patch in your device and reset the faders to their "zero" settings.

Restore

This resets all faders to their middle position.

Closing the Window

Closing the Window with Keep or [Return] will make the changes permanent in the device just as with Update. Using Cancel or [Esc] will close the window without making the changes permanent. If you then select this Patch from the Patch Manager, it will (most likely) return to its old "state".



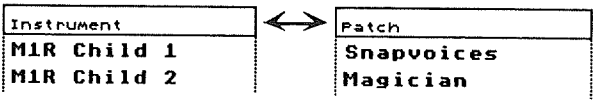
The Arrange Window

One of the main advantages of using the Studio Module with Cubase is that you can select Patches by name from the Arrange window. This chapter assumes you are reasonably familiar with the Patch Manager's workings. If you aren't, please read the chapter The Patch Manager first.

Instrument/Patch Mode

The Arrange window gets some new functionality when the Studio Module is active:

- By double clicking on the title of the Instrument column, it changes to Patch, click again and it switches back. In the following text we will talk about switching between *Instrument Mode* and *Patch Mode*.



- There's also a new field in the Inspector, called Patch.

About Instruments and Patches

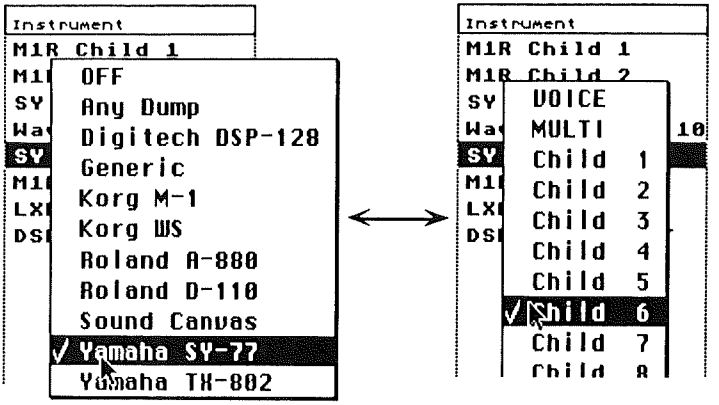
When you use the Studio Module, new power is given to the Cubase concept of Instruments. With the Studio Module, an Instrument is an Output and a MIDI Channel as before, but also more: setting a Track to play an Instrument tells the Studio Module *which device* and what *type of Patch* you want the Track to play. For a definition of the Studio Module concept of Instrument Categories and Patches, see page 117.

Please note that other parts of Cubase, for example the MIDI Mixer and the Drum Editor also displays instruments. If you have two Instruments in the Track list set to the same MIDI Channel and Output, the Mixer and Drum Editor might get confused about which instrument is which. Please try to avoid this.

Selecting Instruments

This is done as usual, by clicking in the Instrument column (regardless of which mode it is switched to). A pop-up menu appears listing all your devices, or rather the ones you have set to be displayed in the Arrange window, when you made the settings in the Setup window.

If the Instrument you select has several Data Types to choose from, these will appear on yet another list.



The Studio Module uses the same naming as the manufacturer does in the display and in the manual that comes with the device. However, the Studio Module Instruments are divided into three general categories (if you know the modes of your instrument you will understand what they correspond to):

- *Single type Instruments.* If the device only has one type of Patch this is it. Some devices which can receive on several MIDI channels can also be switched to a mode where they receive on one MIDI Channel only. Select this type of Instrument when you want to play a single sound on the device.
- *Parent type Instruments.* If you have a multitimbral instrument, where you can store several multitimbral setups, you can set the Track to this type of Instrument. This will allow you to use the Patch Manager to select between different multitimbral setups. It will also make the Studio Module "aware" of how the multitimbral setup is defined, which "Child Instruments (see below) receive on which MIDI Channels, etc.

If you see the text "(Multi)" after an Instrument category, please look up page 104.

- *Child type Instruments*. If you have a multitimbral Instrument, the menu will list these Children, each with a number. These each represent a MIDI Channel in the device.

This terminology is explained in more detail on page 116.

Most instruments can only be in either "Single Mode" or "Parent Mode". In this case it doesn't really make sense to set one Track to play the Instrument in its "Single Mode" and another to play it in its "Parent Mode". Please try to avoid this since it will lead to confusion when selecting Patches (see below).

If you select a new Instrument category (Single, Parent, Child) for a Track, all Parts and the Track will be set to "No Patch", in other words, the Track/Parts will no longer be set to play any particular Patch.

If you happen to open a Song where a Track has been set to play a device which is not in your Setup, the Instrument column will show "Unknown Instrum". See page 94 for more info.

Please note that you don't have to use all the Children ("multitimbral slots") in a device if you don't want to. In Setup you can define yourself how many and which MIDI Channels in a device you want to use, by turning off (muting) some Child MIDI Channels. This will also make the Instrument pop-up shorter and less cluttered.

Auto Extraction Of Channels

Some multitimbral Instruments always receive on the same set of MIDI Channels (for example 1 to 8 or 1 to 16). With others there are a number of "slots" which can each be set to play one Patch on one MIDI Channel. To make the Studio Module aware of which MIDI Channels are currently available in such a device, proceed as follows:

- Create a Track. Pull down the menu in the Instrument column and select the item that corresponds to the "Parent" mode.

- Select a "Parent Patch" for the Track, as described below. This will make the Studio Module aware of how the MIDI Channels are organised in that particular "Parent Patch".
- Select a new Track. Pull down the menu in Instrument column and select one of the "Child Instruments" for the device. This will be indicated by a text followed by a number, or by just a number, depending on how you set things up in the Setup window.
- Now the Track will be set to the correct Output and MIDI Channel automatically.

Working With Assignable MIDI Channels

Please beware when you have a multitimbral device with freely assignable MIDI Channels. If you set it up so that several different sounds are played on the same MIDI Channel, things will not work as expected. When you later select Patches, all those Children that are set to the same MIDI Channel will be switched to the same Patch, since they will receive the same Program Change messages on the same MIDI Channel! (which is probably not what you want).

In fact if you have such a device, we recommend you to set up one "scratch" multitimbral setup (Parent Patch), where all Children are set to *different* MIDI Channels (For example 1 to 8). If you run out of channels, turn off the ones you don't think you will use, both in the actual device, and by "muting" Child MIDI Channels in the Setup dialog. You can even make up a DEF.ALL song with this Parent Patch selected on a Track, so that you make sure the device is always initiated to the correct state.

If you follow this advice, the Studio Module will always make sure that when you load a Song, the correct Parent Patch is switched in, and all its "Child Patches" are assigned, automatically.

Selecting Patches

If you have assigned an Instrument to a Track as described above, you can use the Studio Module to select Patches by name. This of course assumes you have used Total Recall or the Data Dump window to extract the names out of

your devices. Or that you have typed in the names yourself, or used a driver with predefined names (see page 102).

Make sure no two devices receive on the same Output and MIDI Channel before you start selecting Patches!

Please note that not all MIDI devices allow all types of Patches to be selected via MIDI. For example you might be able to select Patches in one Bank but not another. It all depends on the MIDI implementation of the device.

Instrument/Patch Column

When you double click in the Instrument/Patch column, you are automatically taken to the Patch Manager window displaying the Patches in that device. To select one, simply click on it.

When the Instrument column is switched to Patch mode (as described above) it will show the name of the Patch the Track is currently playing. In other words, if there is a Patch change somewhere on the Track (see below) this column will display it, updated in *realtime* during playback.

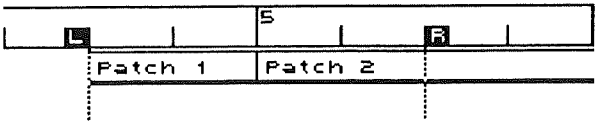
With Parts

If you want to make a certain Part play a Patch, you can hold down [Control] and double click on that Part. The Patch Manager opens, just as it does when you double click in the Instrument/Patch column in the Track list. This allows you to insert a Patch change somewhere on the Track.

Please note that many devices temporarily go silent when they receive Program Change or Bank Select (or any other MIDI message that make them select a new Patch). If this is a problem (if notes at the beginning of the Part get cut off), try using the Pencil tool to lengthen the Part slightly to the left (see Part Operations in the main Cubase manual), since the Patch change occurs exactly where the Part begins.

Also note that if a Part starts at the beginning of a Cycle, its Patch will only be selected the first time that Part is played back. If you have a Part

in the middle of the Cycle that selects another Patch, the device will have the wrong Patch selected when the program jumps back to the beginning of the Cycle. Please set the beginning of the Cycle (the Left Locator) to an earlier position.



When the program enters the Cycle above, it will play Patch 1. Then, in the middle of the Cycle it will switch to Patch 2. However, it will *not* switch back to Patch 1 when jumping back to the beginning of the Cycle.

Inspector

The Inspector has an Instrument field *and* a Patch field which can be used to select and view the Instrument and Patch of the selected Track. If only a Track is selected (no Part is selected) this works just like when you select a new Patch or Instrument in the Track column.

If *one* Part is selected, you can use the Inspector to make that Part play a specific Patch, just as when you select a Patch from the Part directly, as described above.

- The Patch field will show the name of the Patch for the selected Track/Part.

- The Bank and Prg field will show the Bank Select and Program Change number used to select the Patch. If you click on it, the Patch Manager opens.
- If a special message (such as System Exclusive or combined Program Change messages) were used to select the Patch, Bank and Prg might show "STU".

About Chase

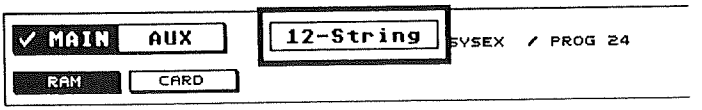
We recommend you to turn on Cubase's Chase function when you use the Studio Module. If you do, you will always have the right Patches selected in all your devices, regardless of how you Rewind and Fast Forward, etc.

About Freeze Play Parameter

This function, found on Cubase's main Functions menu, will make the Patch Change messages in the Parts/Tracks a permanent part of the MIDI data in the Parts. Read more about the use of this parameter in the main Cubase manual.

No Patch Selected and Global Off

To "undefine" a Track that already plays a Patch, so that it doesn't play a certain Patch any more, open the Patch Manager as when you select a Patch, and double click on the selected Patch indicator at the top of the window.



When No Patch is selected (because you haven't done any selection yet or because you have selected No Patch), the Patch column will say "No Patch" for this Track.

You can also "unselect" Patches for *all* Parts on the Track by selecting "Global Off" from the pop-up Functions menu.

Moving Parts Between Tracks

If you move a Part from one Track to another Track that plays the same Instrument, it will play the same Patch as it did on the Track it was previously on. If the Track plays *another* Instrument, the Part will get the Patch setting of the Track it is moved to.

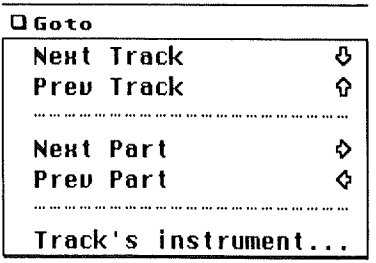
Selecting Tracks/Parts From the Patch Manager

If you want to select Patches for a number of Tracks or Parts (for which you have already selected the appropriate Instruments) you can do this without closing the Patch Manager in between.

The currently selected Track/Part is shown at the top of the Patch Manager window.

There are two ways to select a new Track/Part:

Goto Next/Previous Track/Part



You can use the pop-up Goto menu or the arrow keys on the computer keyboard (the Goto menu shows you which keys to use). When you have the right Track/Part selected, you simply click on a Patch name and that Part/Track will be set to play the Patch.

The Goto menu only lets you step between Tracks that have Instruments assigned to them.

Goto Track's Instrument
You can select Tracks's Instrument from the Goto pop-up. This invokes a list of all Tracks and the Instruments assigned to them. Click on one to display it.

Parents And Children

As described above, when you have a Parent Patch selected on one Track, the Studio Module becomes "aware" of how this Parent Patch is built up, and uses this information for setting the Tracks that are assigned "Child Instruments" to the correct Outputs and MIDI Channels, but it does more than so:

- If the MIDI Implementation of the device allows, the names of the Children currently assigned *in the device* will appear on the "Child Tracks".
- If you select a new Parent Patch, all the Tracks set to play Children will now be set to play the Child Patches of the new Parent Patch.
- When you open the Patch Manager to select a new Child Patch, the Patch Manager will show the Patch the Child currently is set to play, in *italics*.

As there is a relation between Parents and Children you will have to observe the following:

- In Cubase, Tracks are played back from the top down. Therefore, always put Parent Patches "above" Child Patches, so that the Program Change messages (etc.) get sent out in the right order. It might be a good idea to put all the Tracks assigned to Parent Instruments at the top of the Arrange window.
- When receiving a Parent Patch change message, some devices for a short while get "immune" to messages asking them to select Child Patches. This is an idiosyncrasy in the device that the Studio Module can't do much about. Playing the Song from the beginning one more time (when the correct Parent Patch is already selected) will probably do the trick.
- If you insert Parent Patch changes in the middle of the Song, make sure you leave a short "gap" before any Parts begin which assign Child Patches, for the same reason as above.

Using Children Without Parents

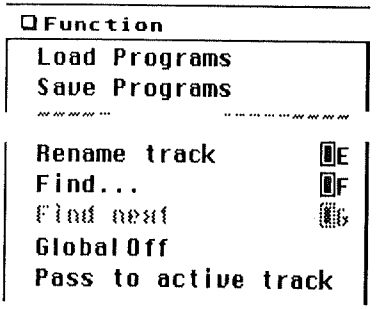
The idea of assigning a Parent Instrument and Patch to a Track is to make the Studio Module aware of how that Parent is made up. But this might not always be necessary. Some devices always receive on a fixed set of MIDI Channels, for example 1 to 8 or all 16), and when you turn them on they are always ready to receive on these MIDI Channels.

If you have such a device, you might forget about using Parents. You can just set up a number of Tracks and assign Child Patches to the MIDI Channels in the device.

The same can be true even if your device has "assignable MIDI Channels" (as above). Just create a Parent Patch manually within the device that receives on a fixed set of channels, and make sure the device always has this Patch ready when you turn on power. This way, you will always have the same set of MIDI Channels to assign Child Instruments/Patches to.

Patch Manager Functions

The Patch Manager's menus are described in the previous chapter, but below follows a description of two items on the pop-up Functions menu which are directly related to opening it from the Arrange window.



Rename Track/Part

This allows you to give the Active Track or selected Part (depending on if only a Track is selected or if a Part is) the name of the currently selected Patch. By using the Goto menu or the arrow keys (see above) you can rename all Tracks/Parts in this way, from within the Patch Manager.

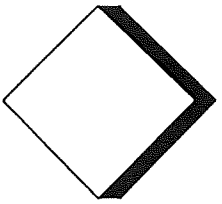
If you take the time to rename all Tracks/Parts with the Patch they are playing, you can set Part appearance to Show Names, and the Arrange window will display the names of all Patches in your song.

Pass Data To Active Track

If the device you are editing are of the type where you can hold down [Control] and click to send out settings (see page 54), there is a special function for inserting System Exclusive data for a Patch into the Arrange window.

Pass Data To Active Track automatically creates a Part on the Active Track, at the Song Position that contains the System Exclusive settings for the selected Patch. This feature can for example be used if you want to save the Song as a MIDI File. If you inject the Patch settings as System Exclusive in the Arrangement, this information will be included into the MIDI File, and the file can be used to program a device with your Patches, even if you play it back from another sequencer or computer.

This function can only be used when Cubase is stopped.



File Handling

If you have come this far into the manual you have probably already tried Saving to and Loading from disk. However, we suggest you read through the following paragraphs about the Studio Module's file handling.

File Types

When you are saving and loading data, you will create files with different extensions:

- *Global Files* have the extension "MEM". These are files that contain data from many devices, or at least more than one. Such files are created when you perform a Total Receive, and when you use Global Save (on the pop-up that appears when you select "Studio..." from the Modules menu). You also work with Global Files when you use Update Global Bank (in the Data Dump Manager).
- *Device Files* contain data for one device only. Their extension depends on the device, as defined in the Setup window. You work with Device files when you use Load and Save in the Patch Manager and when you Open, Save and Update Bank in the Data Dump window.

Prepare yourself for the truth: These files are actually exactly the same. A Device File is actually a Global File that happens to only contain settings from one device. This has the following implications:

- You can transform a Device File into a Global File by just changing its extension to "MEM" (see below for further details). However, we recommend you to not do the opposite, simply because it might be confusing to you, it might seem as if you had "hidden" data in a file.
- When you use the various Open Device File options, you can extract settings for one device out of a Global File by simply changing the extension in the File Selector to "MEM", pressing [Return], locating a file and selecting it.

Saving vs. Updating

In various places in the studio Module you will be able to *Save* or *Update* :

- When you are *Saving*, you create an entirely new file containing only what you are now saving. If a file with the same name already exists, that file gets replaced by the one you currently create. A dialog box will warn you about this, and allow you to create a backup file as an alternative. This file will have the same name but it will get the extension "BAK".
  Save commands are found in the Studio menu, in the Patch Manager and in the Data Dump Manager.
- When you are *Updating* you are overwriting only parts of the contents of the file. Let's say you are working on some Yamaha SY-77 Voices. On disk you have a file with SY-77 Voices, Multis and Panning data. If you now Update this file, The Voices will be replaced by the ones you have in computer memory, but the Multi and Panning data will remain as they were. Do not confuse Updating with adding: to be able to update a file you must already have some data of the same type in the file, to replace.

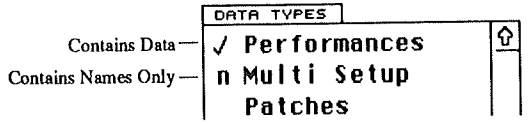
Names vs. Patches

For a Device you might be able to handle Names, Data or both.

- Most drivers allow you to handle data *with* names. They can get the data from the device, via a data dump, and extract the names out of this. When you save a Device File or a Global File or when you perform a Total Recall , the names will be saved with the data.
- Some drivers do not manage dumps, but still use names. Those drivers are: all *List Drivers* (including the General MIDI Driver), *"preset" List drivers* where the only thing the Studio Module can do is select Patches via MIDI and finally drivers which *do* perform data dumps but out of which the Studio Module can't extract names. For more information about different types of drivers, see page 98.
  In some of these cases you may be able to change the names (see page 50) and some cases not. The general rule is that if the names can't be modified in the device itself, they can't be in the Studio Module driver either, but there are exceptions.

With the drivers that handle names but not dumps, the names are stored in the driver file itself. Saving is done by selecting Save/Update Names in the Patch Manager, as described on page 62.

When you Save to disk or Update, the Studio Module stores data with or without names, you don't have to worry. But if you have no data, you won't be able to save the names in a Device file. In the Data Dump Manager and in the Patch Manager, you will see if a Bank contains data (a check mark appears to the left of it) or only names (an "n" appears to the left of it).



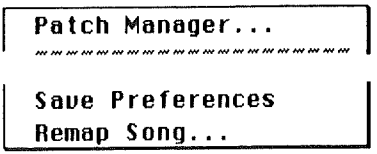
Autoload With Song

When you load a Cubase Song, the program will look in the same folder for a file with same name, but with the extension "MEM". If such a file exists, the Studio Module will automatically propose to either perform a Total Send of the file or to load the Names only.

Def.Mem

If you save the file under the name DEF.MEM, and in the same folder as your Cubase program, the Studio Module will automatically load the *names*, from this file when you launch Cubase.

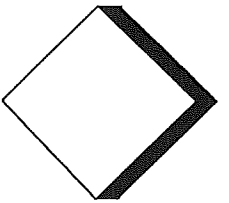
Save Preferences



This item, on the Studio menu, stores the following things with the Studio Module:

- All the settings in the Setup window.
- All the Patch Manager's settings: zoom factor and other display options, window positions and sizes, fader positions; all individually for each window and each device. You might use this to for example arrange all your windows as they best suit you and then Save Preferences to always get them this way when you launch the program.
- All file paths, that is, where you last stored a data dump for each device. When you then want to Open or Save a Device File, this disk and folder will be suggested.

When you click OK in the Setup dialog (see page 11), the Studio Module automatically performs a Save Preferences.



Moving Between Rigs

When you set a Track to play an Instrument, you create a link between the Track and the devices in *your* Setup. Please note that this is not an absolute link to a certain type of device. Of example, just because a Track is linked to *your* definition of a Roland JD-800, this does not mean this Track will automatically access the JD-800 in *any* MIDI rig. In other words, you can't just automatically move Songs between rigs, you have to make adjustments to the Setup to get things working properly.

Bringing Your Songs To Another Rig

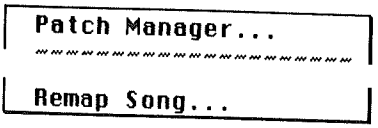
If you're a musician doing studio gigs, you will often be playing someone else's MIDI rig. The Studio Module lets you reprogram someone else's devices with your Patches, relatively easily. You will need to bring not only your Song files, but also your STUDIO.DAT folder to the studio.

- ❑ Make a backup of your own STUDIO.DAT folder.
- ❑ If you are working on someone else computer, you will have to replace their STUDIO.DAT with yours. Then, when you make modifications to the Setup it will be a copy of *your* STUDIO.DAT you are working on. **Make a backup of the studio's STUDIO.DAT folder before you overwrite it!!!**
  If you bring your own computer, it will of course be your own (backed up) STUDIO.DAT folder you are modifying.
- ❑ Open Setup and modify your settings to fit the rig you are currently working with. Add Drivers if needed, and change SysEx/MIDI Channel settings and Patchbay routings. Close the Setup window.
- ❑ If needed, create a new Recall "patch", so that a Total Send only changes what is absolutely needed to change in the rig you are working on.
- ❑ Open the Song you plan to work with and perform a Total Send.
- ❑ When you are done working in this studio, make a backup of the current STUDIO.DAT folder, and store it with your other project files. If needed, restore the studio's STUDIO.DAT folder.
- ❑ If you used your own computer, you will need to bring out your original STUDIO.DAT folder and use it to replace the one you currently have on disk, before you start working in your own studio again.

Someone Else's Song On Your Rig

If you need to work on a Song that was created by someone else who is also using the Studio Module, there are two ways to go:

Using "Remap Song"



This function (which is found at the bottom of the menu that appears when you select "Studio..." from the Module menu) automatically changes the Song to fit as many of your devices as possible:

- ❑ Make sure you get a copy of the Song file, the MEM file with the dumps for it, and a "STUDIO.INF" file from the person that created the song.
- ❑ Load the Song, or perhaps a backup of it.
- ❑ Select "Remap Song...".
- ❑ A File Selector appears. Locate the STUDIO.INF file you got with the Song (not your own!), select it and click OK.

The Studio Module now analyses the Song and the "INF" file and compares it with *your* Setup. If it finds that a Track is set to play a device that you have, it will change its Instrument setting to match your rig. If it doesn't find a matching Instrument for a Track, it will be set to play no particular Instrument, and all the Patch changes will be cleared for that Track.

- ❑ Save the Song (under a modified name).
- ❑ Use Total Send (see page 43) to transmit all the settings needed for the Song, to your devices.

Note that you can only call this function once for each Song, or the Instruments will be all wrong (you will be modifying a Song that is now set up for *your* rig, with *someone else's* STUDIO.INF file).

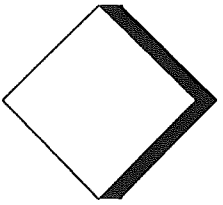
While this function does its best to make all the settings in the Song suit your setup, it can't really succeed if a device that was used for the Song does not

exist in your rig. To make the deassigned Tracks play some other devices, use the Arrange window's Instrument and Patch settings.

If you often work with someone else's Songs, you may want to create an alternative Setup that you can use to load these Songs without converting at all. This is done by...

Modifying Your Setup

- ❑ Make a safety copy of your STUDIO.DAT folder.
- ❑ When you get the Song, also bring a copy of the other person's STUDIO.DAT folder, and use this to replace yours.
- ❑ Modify the settings in the Setup window to suit your MIDI rig.
- ❑ Load the Song and perform a Total Send.
- ❑ When you are done, make a backup of the STUDIO.DAT folder as it is, store it with the project, and "put back" your normal working version of the STUDIO.DAT folder.



About Drivers

As stated in the Introduction to this manual, drivers are instructions to the Studio Module on how to communicate with a certain MIDI device.

The capabilities of each driver varies with the MIDI Implementation of the device. We try to extract as much functionality as we can out of each device. If something can't be done with a certain device, this is most certainly because the MIDI Implementation doesn't allow it (or makes it enormously complex).

Complete Drivers for Multitimbral Instruments

Most Drivers for "modern" multitimbral instruments will be able to do the following:

- Handle different Data Types separately: Receive, Send, Save to disk etc.
- Set the Instrument to different modes by selecting Instrument categories from the Arrange Window.
- Extract names out of the received data.
- Extract "Child data", like MIDI Channel settings and names, out of "Parent Patches".
- Select Patches (in the device's different modes).
- Macro Edit individual Patches (not implemented for all devices).

As stated above, some pieces may be missing from this puzzle, depending on the device's MIDI capabilities.

Complete Drivers for "Single Mode" Synthesizers, Effect units, MIDI Patchbays, etc.

This will be just as above, only that these devices don't have modes. You get and receive your Patches and select between them and that's that. Normally there are not Macro Editors for effect devices.

"Generic" and "Any Dump"

These two drivers are used when you wish to Receive and Send data, but no specific driver exists for a device.

Any Dump

This driver has ANY_DUMP as a file name and is located in the UNIVERSAL folder in the GENERIC folder among the device drivers that come with the Studio Module.

Any Dump is a pretty simple driver. It assumes the device only supports System Exclusive dumps by pressing buttons on the front panel. By adding it to the Setup list several times, renaming it each time, you can use it with several devices in your rig.

Any Dump does not have a Patch Manager window since it only handles "bulk" Data Dumps. Therefore, if you try to open the Patch Manager for this device, you instead get the Data Dump Window. This driver is best suited for creating "safety copies" of the settings in a device.

Any Dump has four Data Types, so you can receive up to four System Exclusive Dumps in "one go". When you select Receive (see page 68 for details), a dialog appears asking you to initiate the transfer from the device's front panel.

When you are done, press any key. If you have more than one Data Type activated in the list, you will be prompted for the next, until all are done.

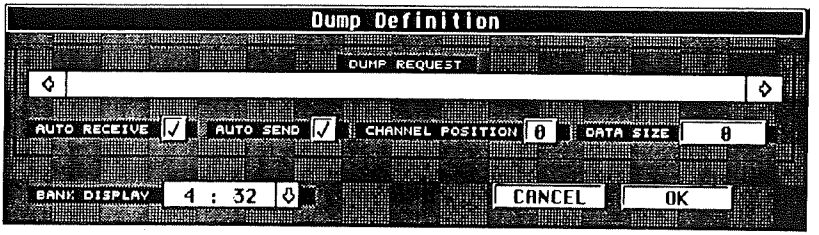
You can then save this data to disk and include it in a Total Send, as with any other Data Dump.

Please note that this will only work if the device does not require *handshaking*. However, if the device supports dumping from the front panel, it *probably* won't require handshaking.

Generic

This driver allows you to (with a little effort) automate a data dump for a device for which there is no specific driver. The following description assumes you have some experience with MIDI System Exclusive messages.

- In Setup, make all the settings for the driver, as you would with any other.
- Note that you can set the number of "Child MIDI Channels" for the device if it is multitimbral. It will then have as many Child Instruments as you define here.
- Rename the driver to the name of your device. Make up a Short Name and type in a file extension of your choice.
- Select Extended setup from the pop-up Options menu. The Dump Definition dialog appears.



- If you wish to create an automatic "Receive" operation, activate the Auto Receive option and fill out the Dump Request, as described below. If you leave Auto Receive unticked, this driver will behave like Any Dump, see above.
- To add a byte to the dump request, double click on a position, type in the byte in hexadecimal notation and press [Return]. If the string is long you can scroll the line using the two arrows at each end.
  The message you are trying to create should be a System Exclusive message (beginning with F0 and ending with F7) that makes the device dump some or all of its settings via MIDI. To find out exactly what to input you will have to look in the device's System Exclusive implementation documentation.
  Note that this assumes a dump can be performed without a handshake. If handshaking is required, this will not work!
- To define where in the Dump Request message the Studio Module should insert the MIDI Channel specified in the Setup dialog, use the Channel Position value. If you set this to 0, no Channel number will be inserted,

the dump will be sent out exactly as typed in. If you set this to any other value, the byte specified will be modified so that the least significant nibble (the right hex character) will be replaced by the MIDI Channel value entered in the Setup dialog.

- In the Data Size field, enter the size of the dump you will receive. If you don't know this number, you may enter "0", but then you will manually have to "tell" the Studio Module when the entire dump has been received, as with Any Dump, see above.
- If you want the dump to be sent out automatically during for example a Total Send, activate Auto Send. If you'd rather have the Studio Module prompt you to, for example, manually put the device in a mode where it expects to receive a dump, leave this option unticked.
- Finally, use the Bank Display pop-up to indicate how your device organises its Patches (this is for selecting Patches from the Patch Manager, see below), in for example one group of hundred Patches (1:100), in four groups of 32 Patches (4:32), etc.
- Click OK to close the window.

If you used all the features of this driver, it will automatically get data from your device when you perform a total Receive or when you use the Data Dump window to "manually" Receive a dump. It will also be able to send out data during a Total Send.

In the Patch Manager, you will get a number of empty cells, which you can name yourself (after performing the dump! Not before!). Clicking on them will send out the corresponding Program Change message (see page 53). This will allow you to select Patches by name. Saving the Bank will save the data and the names.

List Drivers and the General MIDI Driver

List Drivers are simply name lists. They do not make use of the Data Dump Window at all. Instead they contain (possibly) named cells used to send out Program Change messages to a device. Use this with devices in which you never change the Patches (maybe because you can't?), but for which you would still like to select Patches from the Patch Manager.

The List Drivers are in the LISTS folder inside the GENERIC folder among your device folders. There are a number of Lists, and their names correspond to how the device organises its Patches, in four banks of 32 Patches (LIST4_32) one bank of 100 (LIST_100), etc.

There are not many settings to be made for a List Driver in Setup. But please note that you can set the number of "Child MIDI Channels" for the device if it is multitimbral. It will then have as many Child Instruments as you define here.

When you access this driver via the Patch Manager, you will see a number of empty cells. Type in the names of the Patches in the device. Use Save/Update Names on the pop-up Functions menu, and select the Update option. This will store the names in the actual *driver* file.

When you click on one cell, the corresponding Program Change message is sent out. List Drivers do not support Bank Select.

The General MIDI Driver

The driver for General MIDI and GS devices is a list driver. But in this, the names can't be changed. However, it supports the "multiple Child MIDI Channels" option so that you can use it to access Patches on all 16 MIDI Channels of a General MIDI/GS instrument.

In the Patch window, the Patches for the General MIDI driver are organised into Banks, corresponding to the instrument groups defined in General MIDI.

When you have the General MIDI driver assigned, the Instrument transmitting on MIDI Channel 10 will be labelled "Drums".

Hybrid Drivers and Special Cases

- Some devices perform dumps but do not extract names (because the device doesn't allow it). In this case, there might be a number of preset names already typed in the Patch Manager cells.

- Some specific drivers are more like lists drivers, they allow you to select between Patches, but they do not do any data dumps (because the device doesn't support it). The names may be editable or not.

- If you wonder about naming, open the Patch Manager for a device. Hold down [Alternate] and double click on a cell. You will then note if the name can be edited or not. If the names *can* be edited, pull down the pop-up Functions menu and check the items. If one says Save Names, then names are saved with the *data* in the Bank. If it says Save/Update Names, this is some sort of list driver. The names are saved (Updated) into the *driver file* itself.

Multiple Parent Modes and the Korg 03R/W

The Korg 03R/W is an example of a device which has two Parent modes. There is first of all a Combi mode where the 03R/W receives on eight MIDI Channels. This is the mode you should normally use when you want to use the 03R/W multitimbrally. But there is also a more "primitive" Multi Mode where it receives on sixteen MIDI Channels, which you *might* want to access.

The Studio Module handles the 03R/W's Multi Mode like this:
When you pull down the Instrument menu and select the 03R/W an Instrument category menu appears which lists the possibilities: "Program", "Program (Multi)", "Combi" and "Child".

Setting one Track to the "Program (Multi)" Instrument, puts the 03R/W in its Multi Mode. If you wish, you can set *several* Tracks to Multi and then manually set them all to different MIDI Channels and assign different Patches to them, but in Multi mode there is none of the automation of "Child handling" that you get in Combi mode.

Whenever you see an Instrument Category with the text "(Multi)" appended to it, it will be for reasons similar to that of the Korg 03R/W.

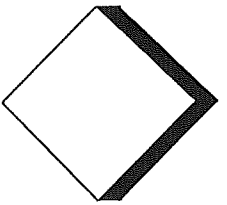
The Roland D-series

The Roland D-5, D-10, D-20 and D-110 synthesizers have one idiosyncrasy you should know about:

- The Patches that you select for Children in multitimbral mode are called Timbres. However, Timbres don't have names. Instead, Timbres play Tones, which *do* have names (but that can't be edited). So, when you click on a cell, you select a Timbre, but you see Tone names (Sorry, if this is hard to grasp...).
- Furthermore, the D-5, D-10 and D-20 do not allow selection of Timbres via MIDI in their multitimbral mode. You *will* be able to set a Track to the right "Child Instrument", but you won't be able to select a Patch for it. Sorry!
- When opening the Patch Manager from the Modules menu, you can Macro Edit and Rename the Tones.
- You will only be able to access the Macro Editor if you are trying with a Tone in a "RAM " bank that is currently loaded into computer memory.

Card Names But No Ram Data

Some very rare devices have no data associated with a certain Data type, but still, there will be card names to select from (the only case known, as of this writing, is the Roland R8-M). In this case, *only names* will be stored with a Data Dump when you save it to disk.



Troubleshooting

The following sections tries to list problems that might appear in different sections of the program.

General

The System Locks Up and the Mouse Can't be Moved
You have probably created a MIDI loop, where data coming out from the computer somehow is infinitely fed back to its input. Try unplugging cables, reprogramming the MIDI Patchbay and turning off "MIDI Echo" (sometimes called MIDI Merge or MIDI Thru) in your devices.

MIDI Error In Device
If for some reason, you get a MIDI Error message in the display on one of your devices, you must "reset" it before you can go on. This is probably most easily done by turning the unit off and then on again after a few seconds, but please note that this might make you lose settings that have not yet been permanently stored in the device.

Total Recall and Data Dump

No Contact With Device or Devices Refuses To Send /Receive Data Dumps
If you don't get any contact with a device this could be for a number of different reasons:

- The Setup window is set to the wrong MIDI Output/Input.
- The Setup window (or the device) is set to the wrong MIDI Channel/ID Number. Please note some devices have more than one MIDI Channel setting that must be correct.
- The device is set to "System Exclusive Off".
- The device is not in the correct mode to react to System Exclusive.
- The MIDI Patchbay is not programmed correctly, or it isn't correctly set up in Setup. Try connecting directly to the Atari port (don't forget to redo the Setup settings if needed).
- You may be using the wrong driver file. Some model names are very similar! Do not assume the driver for a keyboard synth works with the rack mounted version!

- ❑ The cables are faulty or not connected properly. Check and replace if needed.
- ❑ The synth may have an old software version. Check with your dealer that you have the latest.
- ❑ Check the corrupt transfers problems below. Sometimes a corrupt transfer may "look" like one where there is no contact at all.
- ❑ Try Reset Devices on Cubase's pop-up Options menu.

Corrupt Transfers

If you can't get data to be transferred properly between the Studio Module and the device, ("MIDI Error", "Data Error", "MIDI Buffer Full") check the following points:

- ❑ Are you running the data through the MIDI Thrus of many devices? Try connecting directly to the computer instead.
- ❑ Are you using an extra MIDI Interface? Try connecting directly to the Atari ports instead (see below), or at least via a MIDI Patchbay connected to the Atari ports.
- ❑ You may be using the wrong driver file. Some model names are very similar! Do not assume the driver for a keyboard synth works with the rack mounted version!
- ❑ The synth may have an old software version. Check with your dealer that you have the latest.
- ❑ Does your MIDI Patchbay have merging of MIDI data? Some mergers do not handle merging of System Exclusive kindly.
- ❑ Try Reset Devices on Cubase's pop-up Options menu.
- ❑ Try shorter MIDI cables!
- ❑ Please, do not move the mouse during a dump.
- ❑ You might have a hardware problem, check the heading "Hardware Weaknesses", below.

Some Data Type Doesn't Seem To Get Included

- ❑ When you receive data from a device, from the Data Dump window, make sure all the Data Types you are interested in are activated in the list.
- ❑ When you do a Total Receive, make sure you use a "Recall Preset" that includes this Data Type for the device.
- ❑ When you Send data to a device from the Data Dump window, make sure that this Data Type is actually in memory. It should have a tick mark to the left of it (see page 67).
- ❑ When you do a Total Send, check that the "Recall Preset" actually includes this Data Type. Also check that the file actually contains this data

type. If in doubt, use Global Open instead and check in the Data dump window. The Data Type you are interested in should have a tick mark to the left of it.

Patch Manager

No Patch Gets Selected In the Device

- ❑ Is the device set to react to Program Change? Are you positive? There might be several switches for this. How about Bank Select? System Exclusive? (You will be able to see if SysEx is needed to select Patches by looking in the Patch Manager. See page 48).
- ❑ Are you sending on the correct MIDI Channel? Remember that if you open the Patch Manager from the Studio menu, Patch changes are always sent out on the MIDI Channel you have entered in Setup, for its Single/Parent Modes.
- ❑ If the device can't handle Running Status (if it is *very* old), turn this off in Cubase (see "The Options Menu" chapter in the main Cubase manual).
- ❑ If you came in to the Patch Manager via the Arrange window, please see below.

The Wrong Patch Gets Selected In the Device

- ❑ If the device has a so called Program Change map, either disable this or reset it to its default value.
- ❑ If you came in to the Patch Manager via the Arrange window, check the "Arrange Window" heading below.

Can't Open Macro Editor

- ❑ Does this device driver have a Macro Editor?
- ❑ Do you really have any Patches in memory to edit?

Can't Edit Name

- ❑ Are you sure the device is not accessed via a List Driver or Hybrid Driver?
- ❑ If you are using the Generic driver, did you Load/Receive and data yet?

Arrange Window

No Patch gets Selected In the Device

- ❑ Is the device set to react to Program Change? Are you positive? There might be several switches for this. How about Bank Select? System Exclusive? (You will be able to see if SysEx is needed to select Patches by looking in the Patch Manager. See page 48).
- ❑ If the device can't handle Running Status (if it is *very* old), turn this off in Cubase (see "The Options Menu" chapter in the main Cubase manual).
- ❑ Are you sending on the correct MIDI Channel? Check the Track and the text below.

The Wrong Patch gets Selected In the Device

- ❑ If the device has a so called Program Change map, either disable this or reset it to its default value.
- ❑ Are you trying to select Parents or Children? Check the mode on the device's front panel.
- ❑ If you are trying to select Children, do you have a Parent Patch assigned to a Track, so that the device gets put in the right mode and the Studio Module becomes aware of the MIDI Channels in the Parent Patch?

Selecting An Instrument Sets the Track To The Wrong MIDI Channel

- ❑ If you set the Track to play a Child, do you have a Parent Patch assigned to a Track, so that the Studio Module becomes aware of the MIDI Channels in the Parent Patch?
- ❑ Did you (accidentally) change the Child MIDI Channels in Setup?

A Device Doesn't Appear In the Instrument List

Maybe you haven't activated "Include in Instrument menu" on the pop-up Options menu in Setup?

Hardware Weaknesses

While the Atari STs and STe and Mega STes are very capable computers, you must also remember that receiving System Exclusive dumps is a very heavy task for a computer. If you are not fortunate enough to own an Atari TT or Falcon, please check the following points:

- ❑ Make sure you never receive MIDI dumps on two inputs at the same time.
- ❑ Remove any Desk accessories which continuously steal processing power (for example clocks).
- ❑ Do not send out larger dumps (more than single Patches) while Cubase is playing on the same output.
- ❑ Be aware of the limitations of the computer: asking it to drive a Steinberg Midex and a C-Lab Export, synchronizing to time code and sending out larger MIDI data dumps – all at the same time – might simply be asking to much.

If you have problems with dumps ("Data Error", "MIDI Error" or MIDI Buffer Full") that can't be attributed to any of the points above, check the following:

- ❑ Are you using a large monitor (19")? Try switching to a regular 12".
- ❑ Are you using an accelerator card? If possible, try without it.
- ❑ On a Mega STe, do you have memory cache turned on? Try switching it off.
- ❑ Are you using non-Steinberg MIDI interfaces connected to the computer? Try without them.

Error and Alert Messages

Below follows some of the Alert messages in the program, for which you might need some additional information:

This Patch can't be selected via MIDI.
This Patch can not be edited when assigned to a Child instrument.
Sorry, it isn't possible to select Child Patches for this Device.
These are all due to limitations in the MIDI implementation of a device.

The STUDIO.DAT folder could not be found. Please refer to the manual!
The STUDIO.DAT folder contains all your device drivers and Setup settings. Without it nothing works. You will either have to locate it and put it back to its original position or you will have to redo the entire Setup.

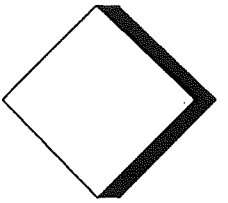
Nothing has been saved!
Nothing has been loaded.
Some selected Data Types have no data loaded in memory. Please use Open or Receive.
See Troubleshooting, above.

The Data Dump on disk has a different size. The operation has been cancelled.
With some devices the Data Dumps vary in size. The Studio Module is unable to Update a file if the new Data Dump isn't of the same size as the one in the file. Try Saving instead.

Data Error! Memory overflow.
Data Error! Header not found.
Data Error! Wrong block number.
Data Error! Wrong data size.

The MIDI data that you received or loaded was somehow damaged or incomplete. Please try again.
MIDI Communication Error. Please try again.
MIDI Checksum Error. Please try again.
MIDI Data is incomplete. Please try again.
MIDI Device is not Responding. Please check Connections and Settings.
These messages might appear during a MIDI transfer. See Troubleshooting above.

This Patch can't be edited (it isn't a 'RAM' Patch)
This Patch can not be edited. It resides in 'ROM' memory in the device.
If the Patch can't be modified in the device, you can't edit it in the Studio Module either. Maybe you can copy it to a RAM location first?



Keyboard Commands

Patch Manager Window

[↑]	Previous track
[↓]	Next track
[←]	Previous part
[→]	Next part
[Clr Home]	Switch between Main and Auxiliary banks
[Undo]	Undo last operation
[Tab]	Next Patch
[Shift+Tab]	Previous Patch
[Alternate+Tab]	Next Bank
[Alternate+Shift+Tab]	Previous Bank
[Insert]	Rename Patch
[Control]-[C]	Copy Patch
[Control]-[V]	Paste Patch
[Alternate]-[E]	Rename Part or Track
[Alternate]-[F]	Find
[Alternate]-[G]	Find Next
[Escape] or [Return]	Close Window

Data Dump Window

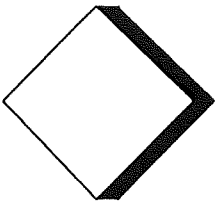
[Backspace]	Clear selected Data Types

Macro Editor

[↑]	Move last touched fader one step up
[↓]	Move last touched fader one step down
[Clr/Home]	Reset last touched fader to 0
[Esc]	Undo all changes and close window
[Return]	Make changes permanent and close Window

Setup Window

[Esc]	Close window and cancel all changes
[Return]	Close window & update Setup.



Terminology

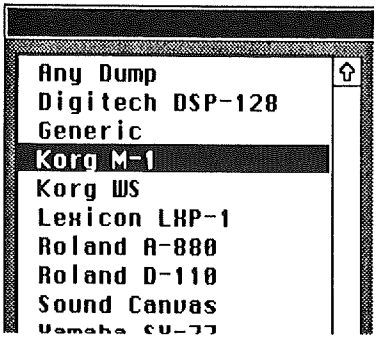
One of the problems with handling System Exclusive data for a large number of manufacturers is that they all structure their data in different ways. And to make things even more complicated, they all use different naming too! This has forced us to create a pretty wide concept of how data is structured in the Studio Module and to invent a set of names for these structures.

Below you will find our concept and the names we use, explained in pretty much detail.

Please note that the meaning of the words below is the way *we* use them in this manual and in the Studio Module. Other manufacturer's may interpret some terminology differently.

Device

A Device is defined by the MIDI Manufacturers Association to be a "hunk of plastic and metal", in other words, a synthesizer, an effect unit, a drum machine etc. This is also the way the Studio Module uses this concept.

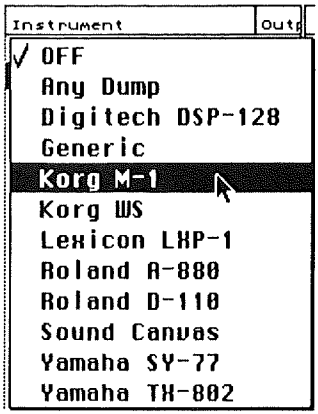


The Setup dialog lists all your Devices

Instrument

This is a Cubase concept, which exists independently of the Studio Module. In Cubase, an Instrument is a MIDI Channel and an Output, which can be given a name. In the Studio Module, this concept has been slightly expanded. However, an Instrument is still something you select in the Instrument column in the Arrange window, and it still includes a MIDI Channel and an Output.

But with the Studio Module, an Instrument also defines *which device* the Track plays and *which mode* it is in (see below). Also, with the Studio Module you don't create Instruments yourself, it puts them in for you.



All your Instruments are found on the Instrument pop-up in the Arrange window.

Instrument Categories
The Studio Module handles three categories of Instruments: Single, Parent and Child, as described below.

Dump/Data Dump

Dump is a verb *and* a noun. *A Dump* (also called a Data Dump) is data that originally comes from a MIDI device. It normally is a "lump" of so called System Exclusive data that represents settings in the device. If you know how to decipher these settings (the Studio Module does!), you can find out how the device was set up, how the sounds were programmed, what names were used etc.

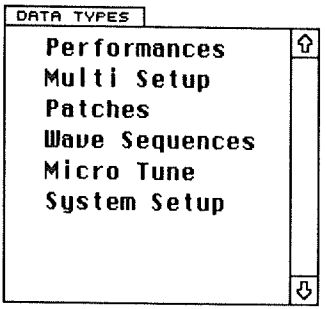
To Dump, means to either get those settings out of the device or to transmit them to it. When you send a Dump out to a device, it normally gets totally or partially reprogrammed with the setting that the Dump contains.

Data Types

The different types of dumps and data structures in a device.

A MIDI device can often do just not one type of dump, but several. Lets take a synthesizer as an example. It might have basic sounds that can be programmed to taste (one Data Type). It might have multitimbral setups, where you can combine those basic sounds into complex setups (another Data Type). It might have effects that can be adjusted separately (yet another Data Type), etc, etc.
Most often, at least in newer MIDI devices, you will be able to perform a dump of each Data Type, separately.

In the Studio Module, the Data Dump window contains a list of each device's Data types. See page 67.



A Korg Wavestation has six Data Types.

Bank

A Bank is a Data Dump that can be broken down into *Patches* (see below). In other words, a Bank is a collection settings, for example containing some or all the programmed sounds in a synth, some or all effect settings in a reverb, etc.

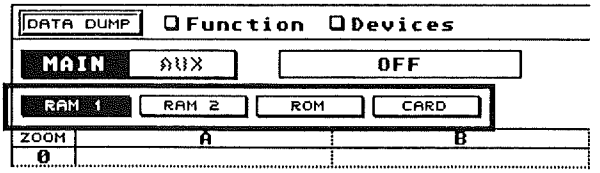
When we talk about Banks as they are organised in the actual device, they brake down into three main categories:

RAM Banks
These are Banks which the user can modify. If you can change the settings of for example a sound in synth, and store it again at the same memory location, it resides in a RAM Bank (RAM is an acronym for Random Access Memory).

ROM Banks
These are Banks which you can read from, *but not save to*. Often on for example a synthesizer, there will be a ROM Bank of factory sounds which you will be able to uses as a basis for your own sounds, (by saving into a RAM Bank) but which you can not modify permanently.

Card Banks
These are Banks that reside on memory cards that you can plug into the device. Card banks may be of the ROM or RAM type, it differs. However, normally you *can't* do a Data Dump via MIDI of the data on a card. Therefore, the Studio Module has special tools for handling Card Banks, see page 61.

Although there are only these three *types* of Banks, a device might be able to handle any number of Banks, and more than one Card Bank. Banks may also have names.

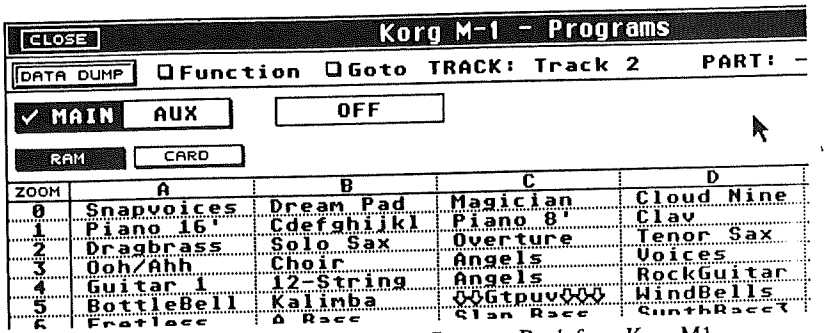


A Korg Wavestation has four Banks.

Patch

A single complete setting in a device, for example: a sound in a synth, a reverb setting in an effect unit, a routing in a MIDI Patchbay etc. Patches can be recalled from the front panel of the device, and can most often be named. On almost all devices you can select between Patches using MIDI Program Change messages.

A number of Patches make up a Bank.



ZOOM	A	B	C	D
0	Snapvoices	Dream Pad	Magician	Cloud Nine
1	Piano 16'	Cdefghijkl	Piano 8'	Clav
2	Dragbrass	Solo Sax	Overture	Tenor Sax
3	Ooh/Ahh	Choir	Angels	Voices
4	Guitar 1	12-String	Angels	RockGuitar
5	BottleBell	Kalimba	◊◊Gtpuv◊◊◊	WindBells
6	Fretless	A Bass	Slap Bass	SynthBass1

A section of the 100 Patches that make up the Program Bank for a Korg M1.

In many devices there will be several types of Patches, one for each Data Type. In a synthesizer there might be Patches for individual sounds, Patches for multitimbral setups, etc. The Studio Module will let you handle these individually via its Instrument and Patch Categories: Single, Parent and Child.

Single, Parent and Child

These are the three Instrument and Patch Categories. These also correspond to the Data Types and Banks. Let's get into these concepts by starting to talk about Single, Parent and Child *Instruments*.

When you pull down the Instrument column in the Arrange window and select a device, a new menu might appear with a list of all the Instruments that this device can handle. These Instruments will be divided into the three categories Single, Parent and Child, if the device can handle all three categories. Otherwise as many as applies will be shown. There will only be one Single Instrument (maybe named Program, Voice or Patch), there will only be one Parent Instrument (maybe named Combi, Multi or Performance) but there will be as many Children as the device has MIDI Channels to receive on (if you haven't changed the default setting for Child MIDI Channels in the Setup Window).

Single

When you use the Arrange window (with the Studio Module loaded) to set a Track to play a Single Instrument, the device will be put into a mode where it plays one Patch at a time. In other words, in this mode it will not be multitimbral. Older synths are always in Single mode, they *can* only play one Patch at

a time. Most other MIDI devices (not synths, that is) are also always in Single Mode. As you know, most effect units can only handle one effect Patch at a time, MIDI Patchbays can of course only have one complete routing loaded at a time, etc.

A Single *Patch* is a Patch that a device can play when set to Single mode.

Parent
When a device is multitimbral (when it can play several Patches at the same time) you will probably have the possibility to make up a multitimbral setup and store it in memory as a Patch (although it will probably not be called Patch on the front panel of your instrument). We call it Parent because it takes other Patches (Children, see below) under its wings and guards them...

Some devices are multitimbral but do not have Parent Patches. These can only hold one multitimbral setup in memory at a time.

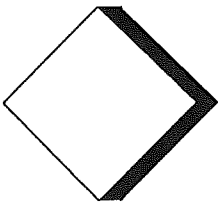
Setting a Track to play a Parent Instrument will put the device in a multitimbral mode (if it has one, or if it isn't always in a multitimbral mode).

A Parent *Patch* is a Patch that makes the device switch in a complete multitimbral setup.

Child
Parent Patches are made up of Child Patches. When you are setting up a device to play a number of sounds you need for a Song, you are assigning Child Patches to a Parent Patch. There's a very special feature in the Studio Module where when you set a Track to Play a Parent Patch, the Arrangement becomes "aware" of how this Parent Patch is built up and shows you this. See page 86 for details.

How many children a device can access depends on it's capability (how many MIDI Channels it can receive on at the same time, typically 6, 8 or 16). Some manufacturers call Child Instruments "Parts", other call them "Timbres" or "Channels".

The Child Patches available will probably be the same collection as in the device's Single mode.

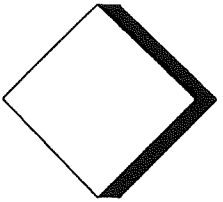


Writing Your Own Drivers

Those of you who are interested in creating more advanced drivers than those that can be produced by customising the "GENERIC" driver, can obtain the program we at Steinberg use to make all the drivers included with the Studio Module. This program is called DMaker and is free to all Studio module owners. To acquire a copy of DMaker, please write (preferably in English) to:

Steinberg Soft- & Hardware GmbH
Studio Module Department
Eiffestrasse 569
20537 Hamburg
Germany

Or send a fax to:
Steinberg Soft- & Hardware GmbH
Studio Module Department
Fax number: Int+49 40 21 15 98



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