

P3Tools

Special thanks to Colin for his technical support, and for extending the P3 firmware so that P3Tools could do what it needed to do.

1. What is P3Tools ?

P3Tools is a utility that provides a number of useful features that will help you to configure your P3.

2. What can it do ?

A brief summary of the features are:

- The midi port details of one or more P3's can be configured.
- Firmware can be uploaded to a P3 via Midi.
- Patterns, Parts/Playlists, and configuration data can be uploaded and downloaded to/from your selected P3 via Midi.
- Meaningful names can be given to the banks, parts/playlists and patterns.
- Parts/Playlists, Patterns, Banks and All data can be copy/pasted within a P3 configuration or to a separate P3 configuration.
- P3 configuration data can be loaded and saved to .SYX or .SP3 files.
- Various options (such as midi channels, user options etc) can be simply edited.

3. PC or MAC ?

PC, most definitely.

Sorry, but there isn't a MAC version, nor is there likely to be. I simply do not have the hardware or development tools to develop a MAC version.

4. How much does it cost ?

P3Tools costs nothing. I do not require any of your hard earned cash !!

Once I had made the decision that I was going to buy a P3, and while I was waiting for Colin to get his first commercial run of P3's underway, I decided I would make use of the time by developing something I would find useful once my P3 arrived. P3Tools is what came out of that, and if you think it will help you, go ahead and use it.

BUT

Hmmm ... It sounds like there is a catch. Well there is a catch of sorts, but its not actually a big one, at least not in my humble opinion.

If you find P3Tools is useful to you, then there is something I want from you in return for my efforts. I am not going to insist on it. There are no restrictions in P3Tools that requires a serial number or similar. I am simply going to leave it to your conscience. Anyway, like I said earlier, I don't want your money. **I want to hear your music.**

There are a number of P3'ers out there that have released some excellent CD's, so hopefully they will send me a one of their releases. I'm particularly keen on EM, so I have got my eye on Paul, Gert, the RMI guys, and so on ;-). If your music is not EM, I would still love to hear it.

If a CD-R is more convenient then that will be fine. If you are happy to send me a CD or CD-R of a release, send me an email to check that I haven't already bought your CD already, and can reply with my postal address.

If you have never released a CD, and if you are like me, amazed when you manage to come up with anything slightly musical. Well ... don't be shy. I would still love to hear your stuff as well, so email me some mp3's.

5. What else is needed to run it ?

P3Tools has been written using C# and the Microsoft .NET platform. This means that your PC must have a copy of the Microsoft .NET Framework V1.1 installed in order to run.

The Microsoft .NET Framework V1.1 can be downloaded from the Microsoft MSDN website at the following web address.

<http://www.microsoft.com/downloads/details.aspx?FamilyId=262D25E3-F589-4842-8157-034D1E7CF3A3&displaylang=en>

Or search google with the words **dotnetfx.exe download** and that should send you in the right direction.

If you don't know what the .NET framework is ... Well its essentially a suite of library functions that have been written by Microsoft to manage interactions between the software written by developers and the Windows OS. You may be familiar with the term "VB6 Runtimes". Well its a similar concept, just more up to-date.

OS requirements ...

Well I run it (and developed it) on Windows XP, its fine on that.

I have to admit that I have not tried it on any other flavour of Windows so I am not too sure how it would behave. I do know that the .NET Framework has issues with older versions of windows (trivial with newer versions, worse with older versions).

But if I was to guess on its behaviour it would be as follows:

Windows 2000	- Fine I would imagine.
Windows NT 4	- Probably ok with latest service packs.
Windows ME	- A P3 owner has reported that P3Tools works OK.
Windows 98 SE	- A P3 owner has reported that P3Tools works OK.
Windows 98	- No hope (at least that's my guess).

6. Installing/Upgrading P3Tools

Make sure that you have already installed the Microsoft .NET Framework.

Installing P3Tools is really simple. So simple in fact, that all you have to do is copy the required files onto your PC. The files are provided in a standard zip file **P3Tools.zip**.

- Create a folder to put P3Tools in. You can put it wherever you want.
- Unzip P3Tools.zip and copy all the contained files into the folder you have just created.
- Double click the P3Tools.exe file, and P3Tools will run.
- I will leave it to you to decide whether you want to create a shortcut to P3Tools.exe in your start menu or on your desktop.

If you ever want to remove P3Tools from your PC, simply delete your P3Tools folder and all the files it contains.

If you are upgrading P3Tools from an older version, the simplest thing to do is to delete the contents of your current P3Tools folder, put the new P3Tools files in their place, and then setup up your P3's and their midi ports again when you run P3Tools. Of course, if you save your data .SYX and .SP3 files in the same P3Tools folder, then you **should not delete** those. But of course we all back up our important data file regularly don't we ;-) ;-).

It is actually possible to run both the old version and new version of P3Tools if you want. To do this, put the newer version of P3Tools in a completely separate folder from the old version.

7. How does P3Tools talk to the P3 ?

P3Tools can communicate with your P3 using midi.

For this to work correctly you must ensure that your PC is connected to both the Midi In and Midi Out ports of the P3.

This is because whenever P3Tools sends configuration data to the P3, requests data from the P3, or uploads firmware to the P3, information is actually transferred in both directions. The P3 and P3Tools have both implemented a protocol which allows the P3Tools to transfer data to and from the P3 as fast as possible while detecting errors in the transfer process as they occur. This means that P3Tools can take action to deal with the error, which usually means that the data is sent again.

You may notice while you are transferring data and firmware between P3Tools and the P3, that the P3 display is occasionally saying that there is a Checksum error or that it received Bad Data. At the same time you should see that P3Tools is incrementing a count of retries on its screen. **Don't worry about this.** This is an indication that P3Tools and the P3 have noticed a problem and have taken steps to make sure the data is transferred correctly.

There is a chance that there are so many errors occurring in the transfer that it is not worth carrying on. In this case P3Tools will display a "Failed" message on its screen, and the transfer will stop. But to be quite honest, this should really never happen. I have seen the "Failed" message several times, and in each case its because I have messed up. Usually its because I have forgotten to put the P3 into SYS EX Receive mode, or Firmware Receive Mode as required.

Ah yes ... SYS EX Receive Mode and Firmware Receive modes ... **You must still** put your P3 in to SYS EX Receive Mode in order to send it patterns, playlists and configuration, and into Firmware Receive Mode in order to send it a firmware.

To get pattern, playlist, and configuration data transferred from the P3 to P3Tools, you **do not** use the SYS EX Send function on the P3. **You actually put the P3 into SYS EX Receive Mode again.** This may sound wacky, but it is actually quite logical. It is the protocol coming into play once again. P3Tools asks the P3 for all the data it wants to receive, and the P3 responds to the requests with the data that it has been asked for. This means that P3Tools can ask for data as fast as it can deal with it, and can ask for it again if it finds a problem with the data it receives from the P3. The P3 must be put into SYS EX Receive Mode so that it can receive the requests for the data.

8. Defining Your P3's

On running P3Tools for the first time, the first thing you should do is to define your P3's. This is done using the **Define Sequentix P3's** screen, which can be reached through the **Define P3's** menu option of the **Options** menu on the main screen.

P3 Name	Midi Input Port	Midi Output Port
First P3	MIDI Yoke NT: 3	MIDI Yoke NT: 4
Second P3	MIDI Yoke NT: 5	MIDI Yoke NT: 6
Real P3	Delta AP MIDI	Delta AP MIDI

P3 Name:

Midi In:

Midi Out:

Add Remove Exit

The table at the top of the screen shows the P3's that you have currently defined. Beneath it are a set of fields and a button to define an additional P3, and a button to remove one of the existing P3 definitions.

As you can see you can define more than one P3. Apparently some people have more than one P3 !!!!! Just plain greedy if you ask me ;-) ;-)

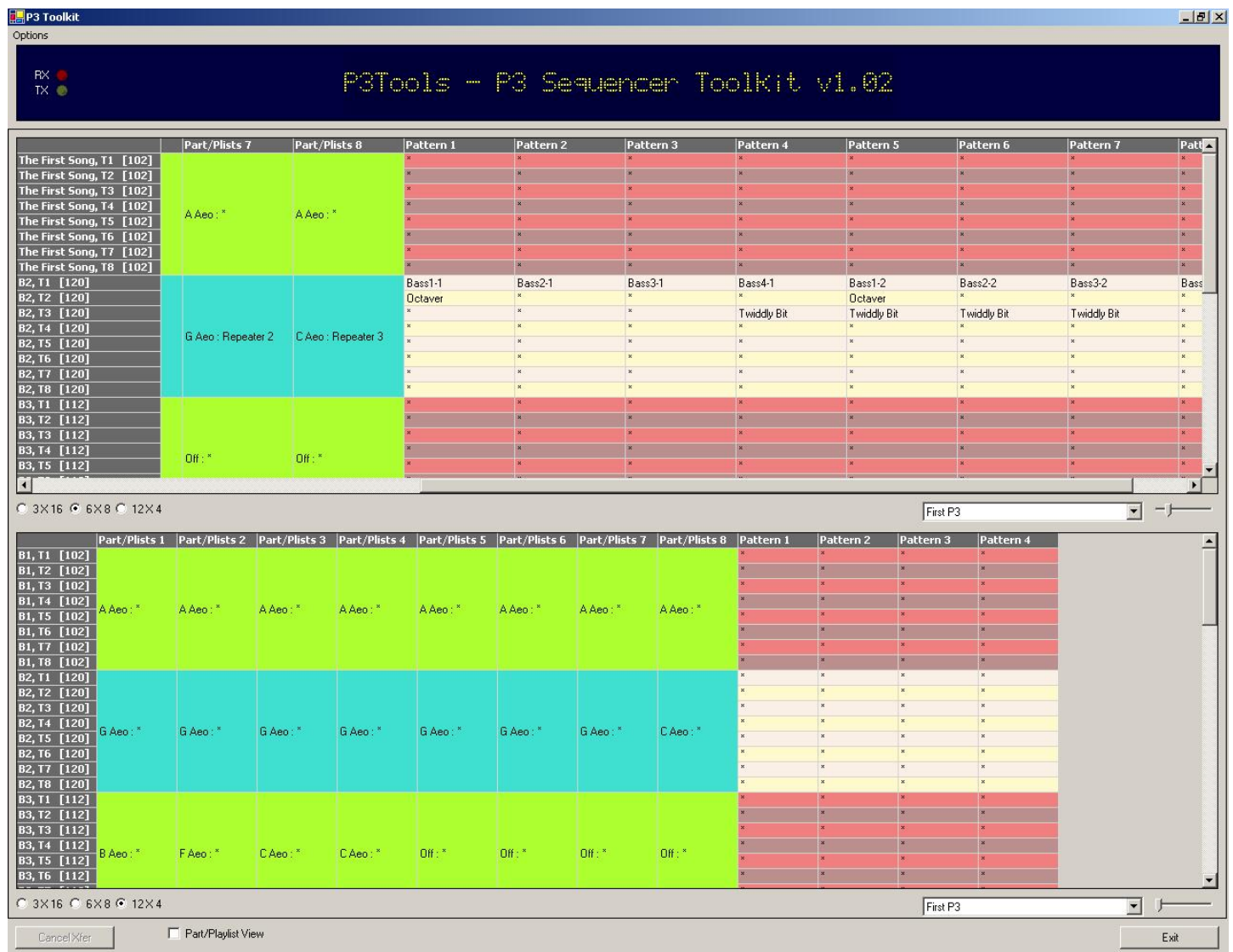
To define a P3, you must give it a name, and define the PC's Midi in and Midi out ports that are used to communicate with the it. Once you have done this, press the Add button, and the definition will be added to the table. The name you give to your P3 can be anything you wish. "Tom", "Dick", "Harry", whatever you wish. The name will appear again on the main screen as you will find out later.

To remove a definition, click the mouse on the required row in the table, and press the Remove button.

Once you have finished updating you P3 definitions, press the Exit button.

9. The Main Screen

The Main Screen looks as shown below.



At the top of the screen is a **Status Display**. The Status Display consists of two “LEDs”, that illuminate when Midi comms between the P3 and P3Tools is in progress. and also an “LCD Panel” which displays messages that P3Tools wants to display to you.

Below that are two separate **P3 Configurations**, each showing the Parts/Playlists and Patterns that are contained within them. The Parts/Playlists and Patterns are organised in their banks and tracks as required. The Part/Playlists are on the left, and the Patterns, in their tracks, are on the right.

Below and on the right of each P3 configuration is a **P3 Selector** and a **Display Size Slider**.



The P3 Selector is a drop down list that contains the names of all the P3's that you have defined. When you perform a Request or Transmit of data on the associated P3 Configuration then the request/transmit will go to the selected P3. The two P3 configurations can be configured to transfer data to the same or different P3's if you wish.

The Display Size Slider changes the width of the blocks that represent the Part/Playlists and Patterns. As you can see, the Part/Playlists and Patterns can be given names. If the names are too long to be displayed then you can increase the width in order to display all the name text.

Below and on the left of each P3 configuration is a **Bank Mode Selector**.



You can pick the mode that you want the associated P3 Configuration to be. The associated P3 Configuration is displayed in a manner that reflects the Bank Mode. When you transmit the P3 Configuration to the P3, it will automatically switch to the Bank Mode you have selected. When you receive a P3 Configuration from a P3, the display and Bank Mode Selector will be set to the Bank Mode that the P3 was operating in.

If you perform a Right Mouse click on a Part/Playlist or Pattern, you will get a menu of operations you can perform. Those operations are described in the following sections.

The Pattern blocks within both P3 Configurations display Content Indicators. The Content Indicators give you a summary of what is contained in the pattern. A sample of the indicators are shown below.

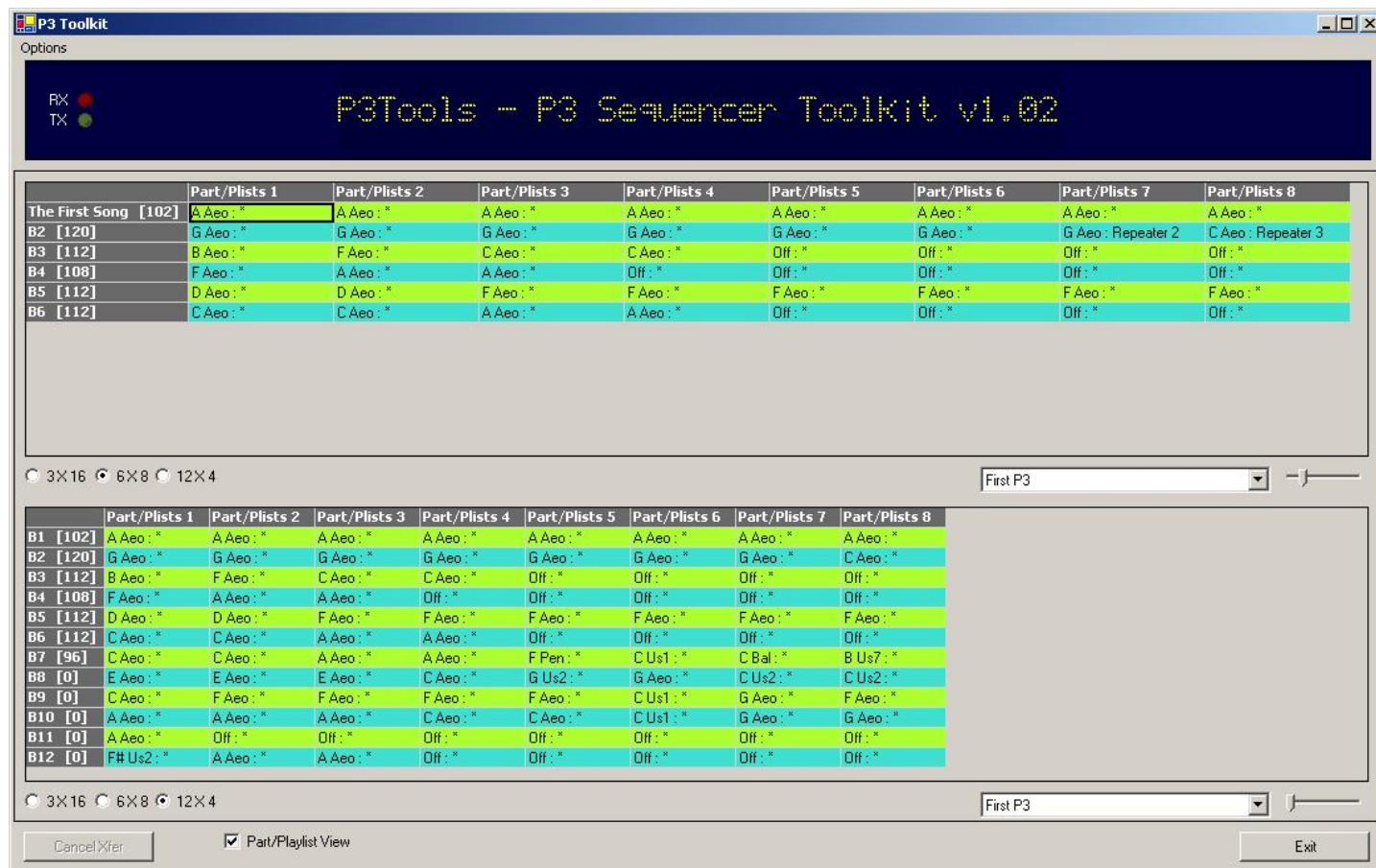
N :	*	N :	*
NAd :	*	*	*
N :	*	*	*
N :	*	NABC :	*
N :	*	A :	*
N :	*	N :	*
MA :	*	*	*

The letters before the : character are the Content Indicators. Each letter has a different meaning as follows.

Indicator	Meaning
N	The pattern contains notes. i.e. You have enabled a gate on at least one step between the first an last step.
a	The pattern will send out a CC on Aux A. i.e. You have configured Aux A to send a CC, and enabled it on at least one step between the first an last step.
b	The pattern will send out a CC on Aux B. i.e. You have configured Aux B to send a CC, and enabled it on at least one step between the first an last step.
c	The pattern will send out a CC on Aux C. i.e. You have configured Aux C to send a CC, and enabled it on at least one step between the first an last step.
d	The pattern will send out a CC on Aux D. i.e. You have configured Aux D to send a CC, and enabled it on at least one step between the first an last step.
A	The pattern will process an Aux Event on Aux A. i.e. You have configured Aux A as an Aux Event, and enabled it on at least one step between the first an last step.
B	The pattern will process an Aux Event on Aux B. i.e. You have configured Aux B as an Aux Event, and enabled it on at least one step between the first an last step.

C	The pattern will process an Aux Event on Aux C. i.e. You have configured Aux C as an Aux Event, and enabled it on at least one step between the first an last step.
D	The pattern will process an Aux Event on Aux D. i.e. You have configured Aux D as an Aux Event, and enabled it on at least one step between the first an last step.

The Main Screen can be placed into a **Part/Playlist View** mode which is shown below.



To place it into this mode, put a tick into the **Part/Playlist View** checkbox that you can see at the bottom of the screen.

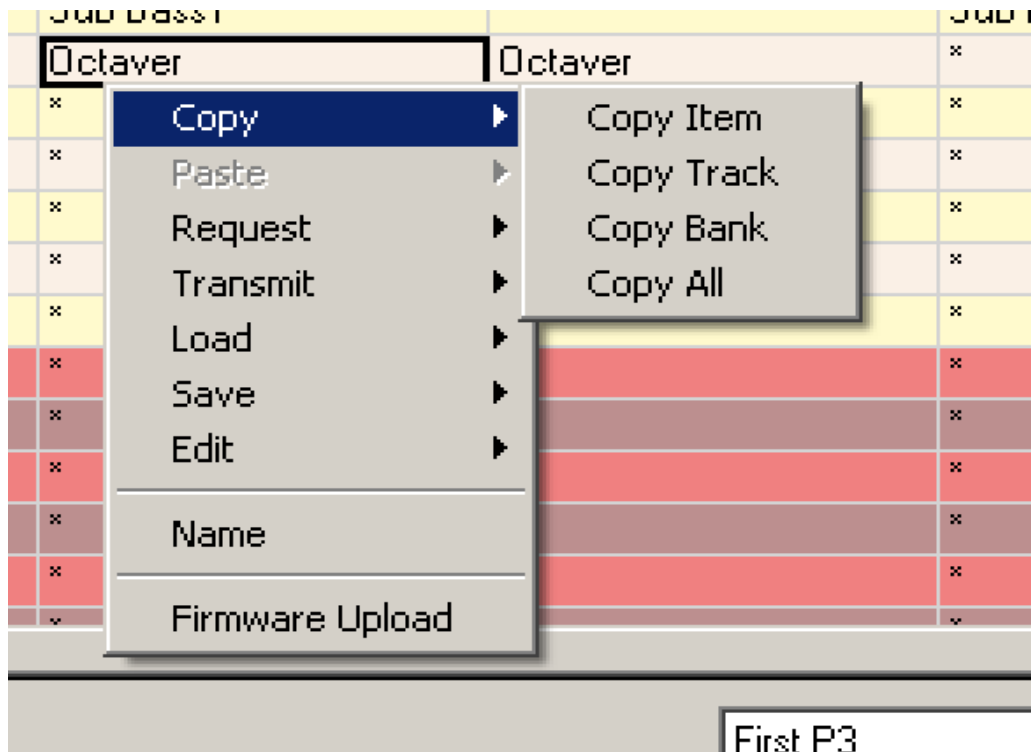
Part Playlist View does not display the Patterns, but still displays the Part/Playlists that make up each Bank. As the Patterns are not displayed, it is possible to display the Parts/Playlists in a more compressed form so that it is possible to more easily each bank without the need for scrolling.

In both variants of the main screen, the Bank name is displayed on the left hand side of the P3 configuration data. If no Bank name has been set, then the Bank number will be shown, e.g. B1, B2 and so on. Along with the Bank name/number and in square brackets, the Bank Temp is displayed.

In both variants of the main screen, the Part/Playlists display the FTS settings just in front of any name that you have given the Part/Playlist. The FTS setting is displayed using the same shortened version of the FTS setting as the P3 displays.

10. Copy/Paste Operations

The Copy Menu is as follows:



- Copy Item** Copies the individual Part/Playlist or Pattern that you right clicked on.
- Copy Track** Copies all the Patterns in the track that you right clicked on.
- Copy Bank** Copies all the Part/Playlists and Patterns that you right clicked on. It also ensures that all the midi channels for the bank are copied.
- Copy All** Copies all the Part/Playlists and all the Patterns for the entire P3 are copied. It also copies the Bank and FTS data, and all other configuration details for the P3.

The Paste menu is basically identical to the Copy Menu.

- Paste Item** Pastes the item just copied into the right clicked item. This can be within the same P3 configuration or within the other P3 Configuration.
- Paste Track** Pastes the track just copied into the right clicked track. This can be within the same P3 configuration or within the other P3 Configuration.
- Paste Bank** Pastes the Bank just copied into the right clicked Bank. This can be within the same P3 configuration or within the other P3 Configuration.
- Paste All** Pastes all the Part/Playlists, Patterns and config data just copied. The paste must be into the opposite P3 Configuration from the Copy.

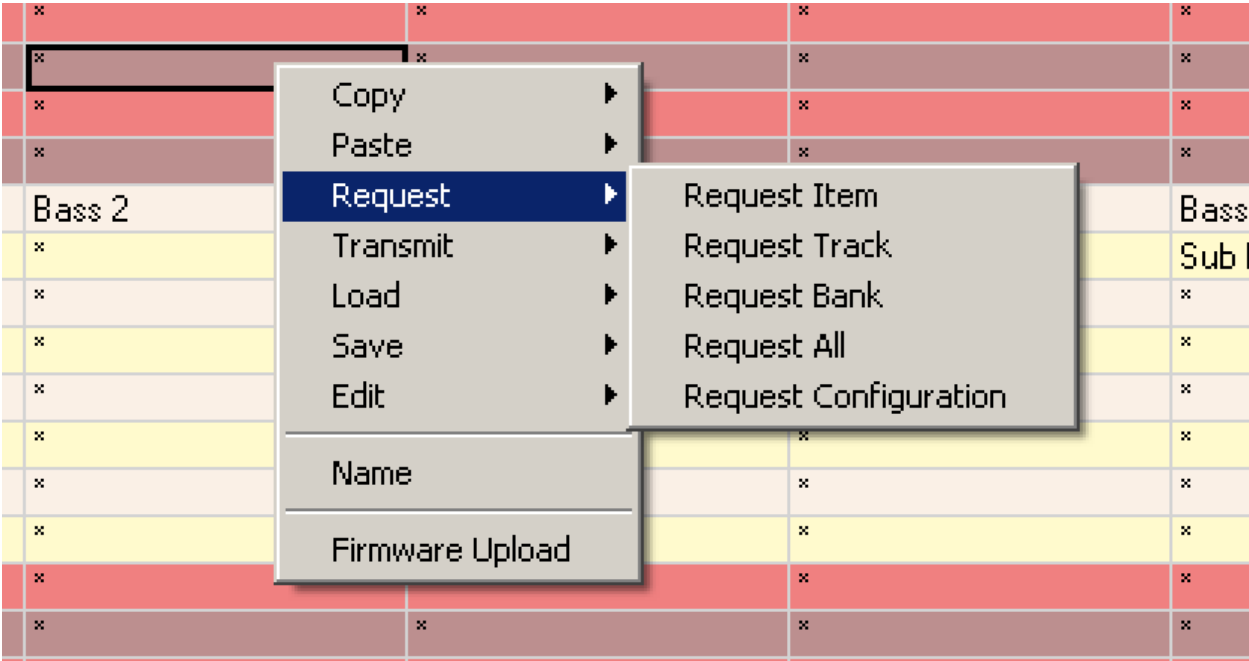
Individual Part/Playlists and individual Patterns can also be copied by using the mouse to **drag-and-drop** the items around the two P3 Configurations.

Copying Part/Playlists and Patterns will also copy any names associated with them.

11. Request/Transmit Operations

In order to Request data from the P3, or Transmit data to the P3, the P3 must be in SYS EX Receive Mode.

The Request Menu contains commands that requests data from the P3.



- Request Item**

Request Track

Request Bank

Request All

Request Configuration
- Requests the individual Part/Playlist or Pattern that you right clicked on.

Requests all the Patterns in the track that you right clicked on.

Requests all the Part/Playlists and Patterns that you right clicked on.

Requests all data for the entire P3.

Requests the general configuration data from the P3.

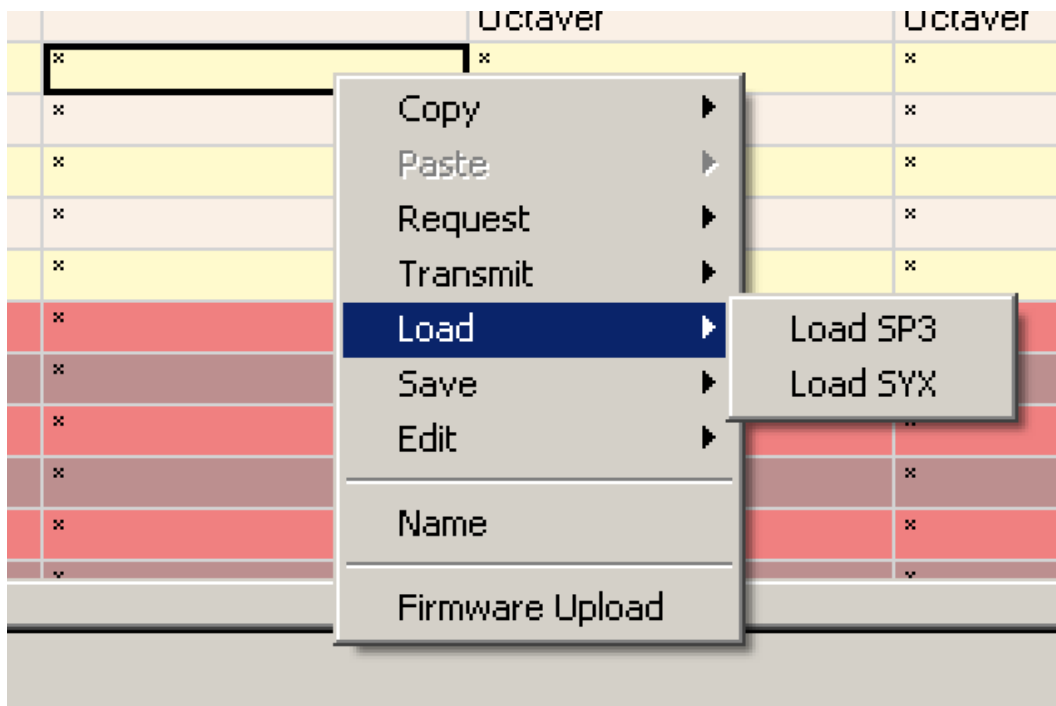
The Transmit Menu is the same as the Request menu, except the data is transmitted from P3Tools to the P3.

Data is Requested from, and Transmitted to the P3 whose name you have selected.

12. Load/Save Operations

P3 Configuration can loaded from files or saved to files.

The Load menu is :



Load SP3 Loads all configuration data from an .sp3 file.

Load SYX Loads all configuration data from an .syx file.

Both of these options will display a “File Open” dialog, to allow you to select the file to load.

You will all know what a .syx file is, but the .sp3 is new and is P3Tools specific. This should be your preferred file format when using P3Tools. It is similar in function to a .syx file, except it has the additional ability to store the names that you have given to items.

The Save menu is similar to the Load Menu:

Save SP3 Saves all configuration data to an .sp3 file.

Save SYX Saves all configuration data from an .syx file.

Both of these options will display a “Save As” dialog, to allow you to specify the file to save into.

13. Edit Operations

There are 2 edit operations. The first allows you to edit the P3's General Configuration items.

The following screen is displayed to edit the configuration:

Edit P3 Configuration

Misc Settings

TX Midi Clock ☒ Thru Channel **Off**

Safe Stop ☐ Apply FTS To Thru Notes ☐

Record Settings

Play Mode Midi Thru ☒ Apply FTS To Thru Notes ☒

Pattern Edit Midi Thru ☒ Note Overdub ☐

Tie Overlapped Notes ☒

Arpeggio Settings

Reset On New Group ☒

User Settings

Quick Pattern Select ☐ Lock Bank Tempo ☐

Hold Chain Mute ☒ Start On Continue Msg ☐

Aux Edit Sets On ☒ Redir CCs to Rec Chan ☐

Send BPGM On Run ☐ Midi Channels Per Bank ☐

Randomizer Settings

Upper Range **0** To **127** Inclusive

Note Range **C-5** To **C-8** Inclusive

Midi Channels

	1	2	3	4	5	6	7	8	PGM
1	1	2	3	4	5	6	7	8	9
2	1	2	3	4	5	6	7	8	9
3	1	2	3	4	5	6	7	8	9
4	1	2	3	4	5	6	7	8	9
5	1	2	3	4	5	6	7	8	9
6	1	2	3	4	5	6	7	8	9
7	1	2	3	4	5	6	7	8	9
8	1	2	3	4	5	6	7	8	9
9	1	2	3	4	5	6	7	8	9
10	1	2	3	4	5	6	7	8	9
11	1	2	3	4	5	6	7	8	9
12	1	2	3	4	5	6	7	8	9

Save + TX Save Cancel

I won't describe what each of the configuration options is, read the P3 Manual for that.

To edit the midi channels, simply start typing in the table. To finish the edit press the return key. You can scroll around the table or click into the table with the mouse.

You can abort all the changes you made, by pressing the Cancel button. You can save the changes you made into the P3 Configuration by pressing the Save Button. You can save the changes you made and immediatly attempt to transmit it to the P3 by pressing the Save + TX Button.

The second edit operation allows you to edit a Pattern's configuration. An example of which is shown below.

Edit Pattern Configuration

Name:

Aux A
Event ☒

Aux B
Event ☒

Aux C
Event ☐

Aux D
Event ☐

Accumulator Options
Reset On Pattern Select ☒
Aux D Accumulator Disconnect ☐

Note Accumulator
Limit:
Limit Behaviour:
Result Behaviour:

Velocity Accumulator
Limit:
Limit Behaviour:
Result Behaviour:

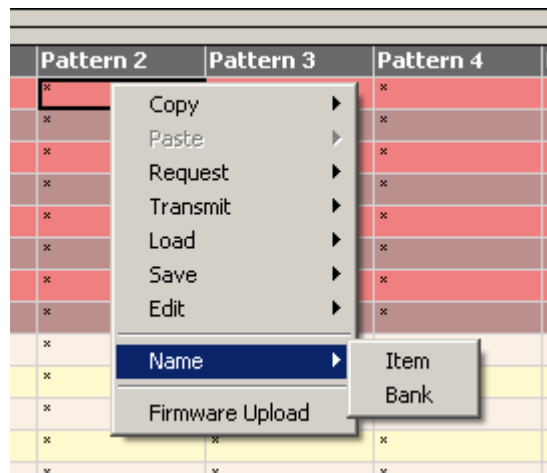
AuxD Accumulator
Limit:
Limit Behaviour:
Result Behaviour:

Save + TX Save Cancel

Once again, if you want to know more about what these items are, read the P3 manual.

14. Naming Operations

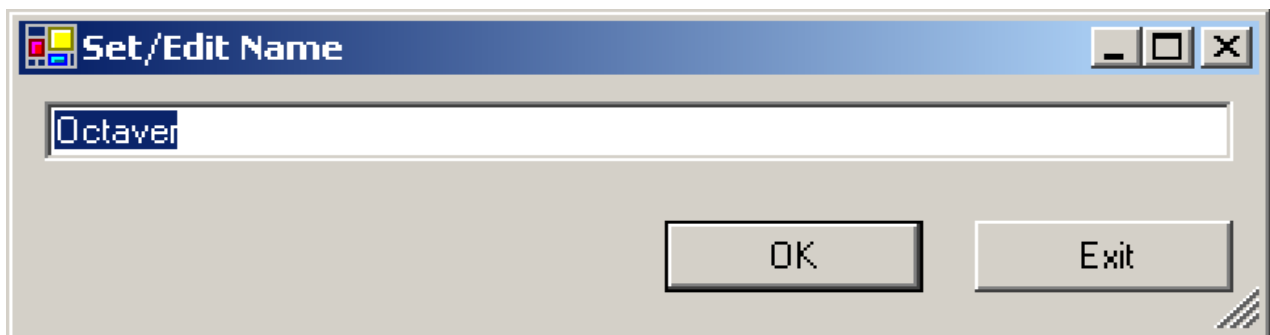
The Naming menu is:



Item Names the Part/Playlist or Pattern that you right clicked on.

Bank Names the Bank of the Part/Playlist or Pattern that you right clicked on.

When you name a Part/Playlist, Pattern or Bank, the following screen will be displayed:



For Parts/Playlists you can also go directly to this naming screen by double-clicking the item in the P3 Configuration.

When you double-click a pattern in the P3 Configuration, you will get the Pattern Configuration editor screen, but you can change the name of the pattern there as well.

15. Firmware Upload Operations

You can start a Firmware Upload to a P3 using the Firmware Upload menu option. The P3 must be in Firmware Receive Mode.

This will display a “File Open” screen so you can pick the .syx file containing the firmware.

The firmware is uploaded to the P3 whose name you have selected.

16. History

1.00

- First version.

1.02

- Part/Playlist View mode.
- Name Banks.
- Show Bank Tempo with bank name.
- Display FTS settings in Part/Playlist.
- Support for official Sequentix Manufacturers ID in SYS EX

Note that if you load P3 configuration data from a .SYX or .SP3 file where the SYS-EX's contain Colin's old unofficial Manufacturers ID of "CJF", then they will be automatically converted to the official ID on loading. They will remain converted when you re-save this data back to .SYX or .SP3 files.

The Manufacturers ID in .SYX files containing P3 firmware are left unchanged.

1.03

- Oops ... Can't remember.

1.04

- Pattern Configuration Editor.
- Pattern Content Indicators in the main P3 screen.

1.05

- Make sure the Aux Event selection list is complete.

1.06

- Fixed rendering problem when bank layout read from p3 is different to current displayed.
- Old Format to New Format Aux Event convertor.
- Latest User Config editing.