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Introduction

Welcome to Power Chords Pro! We hope this program will enhance your productivity and enjoyment while creating songs or learning about music.

Power Chords Pro is a powerful song creation tool. Its unique object oriented approach to music makes songwriting quick and easy. Music objects are represented graphically so no knowledge of notation or MIDI data is required to make full use of what Power Chords Pro offers.

How to get started

This introduction will give you a basic understanding of program concepts as well as a brief explanation of how to use the program. It is recommended that you do the following:

1. Read this introduction.
2. Install and configure Power Chords Pro on your system.
3. Run the interactive tutorial.

These steps will help you become familiar with Power Chords Pro quickly and efficiently.

Power Chords Pro was designed with an intuitive interface so make sure you experiment and try different things as you learn. There are often more ways than one to accomplish a certain task.

System requirements

Power Chords Pro requires an IBM compatible computer running Windows 3.1 (or better), a mouse or other pointing device, and a sound card or MIDI interface supported by appropriate Windows drivers.

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Power Chords Pro program concepts

The song

Power Chords Pro is a graphic songwriting tool, hence, the song is the main product created with it. The heart of this program is its song window which provides a structured framework into which song objects are placed. The framework consists of 256 musical bars each of which may contain up to 4 chords, 1 chord rhythm, 1 drum rhythm, 16 melody parts, 1 bass part and 1 set of controls. Groups of bars can be repeated so longer songs can be created.

Song structure

Power Chords is not a track based sequencer. Songs are based on parts. There are six part types:

chord, chord rhythm (strumming or plucking patterns), drum, melody, bass and control. A part lasts the entire length of the song, however, it is usually composed of small repeatable phrases (except the chord and control parts which contain individual items). The phrases are stored on palettes and can be copied from there to any place in the song framework. This means that phrases which are used repeatedly in the song need only be created once. Variations of a phrase are easily created by modifying a copy of the original phrase.

Song objects

Chords, phrases of rhythm (chord, drum, melody and bass) and sets of controls are the objects that are manipulated within Power Chords Pro. Each object is treated as a separate entity with certain characteristics and each object can be edited or moved as a unit. The chord rhythm and drum rhythms repeat automatically in the song. This means that a phrase that will be repeated in consecutive bars need only be entered in the first position. It will repeat until a new rhythm is encountered.

Songwriting technique

The basic concept for song creation using Power Chords Pro is as follows:

1. Create a single copy of each song object needed.
2. Store each song object on a palette (as it is created).
3. Drag copies of each song object into the song framework.

To create chords, use the stringed instrument and/or on-screen keyboard. Store each chord to the chord palette as it is created. The chord palette can hold up to 96 chords.

Chord progressions can be recorded directly from the chord palette into the song window. Click on the Rec button on the rhythm editor then click real-time on the chords on the chord palette while the metronome sounds. When recording stops, the chords will be placed into the song window.

The Rhythm Editor is used in the creation and/or editing of the four types of rhythms. Chord rhythms are the strumming or plucking patterns which determine when the notes of the chords will be played. Drum rhythms determine when each of the 24 drum sounds you have in your drum kit are played. Melody rhythms are the phrases of the melody part and bass rhythms are phrases of the bass part. Please read the section on the Rhythm Editor carefully as it has a very rich set of functions associated with it.

Each of the above rhythm parts can also be played in from a MIDI instrument or imported from a MIDI or Power Chords file. They can also be played in from the on-screen instruments. Store each rhythm to its palette when you are finished editing it.

Sets of controls (patch changes or other MIDI data) are created within the controls palette. Each set of controls can contain one or more control commands.

To complete the song creation process, drag the song objects into the appropriate positions in the song window. Add repeats and tempo changes as desired to finish.

Auditory feedback

Power Chords Pro has been designed to give you access to auditory feedback throughout the songwriting process. The chord on the stringed instrument plays when you click on the stringed instrument window with the right mouse button. The right mouse button will also play any chord or rhythm phrase displayed on the palettes. Just click on the desired item once (with the right mouse button). Click on it with the right mouse button again to stop playing. This feature gives you access to how your song sounds as its components are being created. Be careful in the rhythm editor - the right mouse button changes note velocity there!

In the song window you can turn parts on and off (Song options). This gives you the opportunity to hear how a subset of the song parts sounds together. You can also start playing the song from a particular bar if you want to audition only a part of the song. To do this, double click on the bar with the left mouse button.

Main screen layout

General information

The Power Chords Pro main screen consists of a button bar on the left side of the screen and several menu bar items. The buttons in the button bar act as switches to display or hide program windows. If you prefer, you can use the Windows menu option to control the program windows.

Installing Power Chords Pro

Installation procedure

Insert the Power Chords Pro program disk into your disk drive (eg: drive A).

Start Windows (if not already active). From the Program Manager menu choose File, Run...

In the command line type **A:install** (if the program disk is in drive A) and click on OK.

Follow the instructions given during the installation process.

Note: Most of the files on the installation disk are packed. These files end with the character \$. If you should simply copy these files onto your hard disk they will not be useful - they must be unpacked first. When the install program is run, packed files are unpacked automatically. Included on the installation disk is an unpack utility - UNPACK.EXE. This is a Windows application that will unpack the packed files.

Check the file Readme.txt for late-breaking information that may not be included in any printed documentation or in the help file. To access this file, click on the Power Chords Pro Information icon in the Power Chords Pro program group. This will activate the Notepad function and display the Power Chords Pro Readme.txt file.

Configuring Power Chords Pro

In order to get Power Chords working properly on your system there are a number of steps to undertake.

1: Configure Windows properly for your sound hardware.

2: Power Chords Pro MIDI Configuration

3: Power Chords Pro Drum Configuration

4: Power Chords Pro Instrument Configuration

Configure Windows properly for your sound hardware

Windows

Installing correct sound hardware drivers

Skip this part if you already have appropriate drivers installed.

From the main program group, double click on the control panel icon. Then double click on the drivers icon. The drivers configuration dialog will show you which drivers are currently loaded. To load a driver for your hardware, click on Add. Select the appropriate driver(s) for your hardware. If you have a disk provided with the hardware and you don't see your hardware item on the list, select unlisted or updated driver. You will be asked for the disk and the driver will be loaded from it.

You may be asked for some setup information when you install you driver. For example, when installing the MPU-401 driver, you are prompted for the port and interrupt numbers. If you are unsure about any setup values, try the default ones first.

See the chart in Power Chords Pro MIDI Configuration for a list of sound hardware and drivers.

MIDI mapper general information

If you are not using a General MIDI or Roland GS sound source, we recommend you configure Power Chords Pro to use General MIDI and use the Windows MIDI Mapper.

NOTE: Virtually all sound cards (Sound Blaster and compatibles, Media Vision, Ad Lib and compatibles, UltraSound, cards based on the Aria chip set, etc.) are General MIDI compatible. You will not have to use the MIDI Mapper if you are using one of these devices.

If you wish to use the MIDI mapper, you will have to configure the Windows MIDI mapper before you can use it. Double click on the MIDI mapper icon on the Control Panel to start it. Now you can either modify the Default setup or create one of your own. Select Setups and then click on the New... button to create a new map, or select the default setup and then the Edit... button. In the Port Name column, you will have to tell the MIDI mapper which of the installed devices to use for each channel. For starters, we recommend setting all channels to the same device. Don't worry about the patch maps for now. Save your changes and exit the MIDI mapper by clicking on the Close button. (The Cancel button changes to Close when you make changes).

MIDI mapper detailed description and configuration process

How Power Chords Pro makes music:

Power Chords Pro sends out MIDI messages - electronic codes such as 'Note On', 'Note Off', and 'Patch Change'. These messages are what triggers your sound hardware to play notes or to change instrument sounds.

Windows is involved in all of this as well. Windows provides a way for Power Chords Pro to send out one set of codes, and to have these work with whatever sound hardware you have installed. There is an intermediate piece of software that does the translation from Power Chords Pro to your sound hardware called a driver.

This is why you have to select the MIDI input and output devices inside Power Chords Pro - so Windows knows where to route the MIDI messages Power Chords Pro is sending, and how to do any translation

that is necessary for the hardware.

This is also why you have to install the sound drivers for your hardware from the Drivers applet in Windows before you can make any music. When you bring up Power Chords Pro' MIDI options dialog to select the input and output devices you can choose only from those drivers which you have installed in Windows.

Here is the 'signal path' of a MIDI message coming from Power Chords Pro:

Power Chords Pro -> driver -> sound hardware -> music notes

Patch Changes:

A patch change is a type of MIDI message that tells the sound hardware which music sound to use on a particular MIDI channel. There are sixteen channels in all - each can have a different patch setting if desired. This is how sound hardware can play different sounds at the same time - the MIDI note information for each instrument is on a different channel.

A patch change command can specify a patch number from 1 to 128.

General MIDI

Under General MIDI, patch 1 is always piano. Trumpet is always patch 57, flute is always patch 74, and bagpipe is always patch 110. If your sound device is not General MIDI compatible, the instrument patch names in the Power Chords Pro menus will not match the patch numbers of those sounds on your sound device. In this case, the MIDI Mapper can be used to translate the General MIDI patch numbers to those matching your sound hardware. This will let you still use the instrument menus in Power Chords Pro. As well, your sequences will be compatible with all General MIDI devices.

The MIDI Mapper

The MIDI mapper is provided with Windows 3.1. The MIDI mapper is a 'converter' and it is available to be used as an output device in Power Chords Pro. It can convert General MIDI patch numbers to the patch numbers that match your non-General MIDI sound module.

Here is the 'signal' path of a MIDI message when using the MIDI Mapper:

Power Chords Pro-> MIDI mapper->driver-> sound hardware-> music notes

General MIDI	converts patch	receives patch
flute patch	74 to patch 2	2 - switches
(patch 74)		to flute sound

In order for the MIDI Mapper to translate patches correctly, you have to set it up so that it knows which patch numbers on your sound module match the General MIDI instrument patches.

More and more people are creating MIDI information (song files, standard MIDI files, etc.) that are compatible with the General MIDI patch mapping. It is in your interest to use General MIDI if you can. And it makes Power Chords Pro a lot easier to use, since you can select patches by name, instead of by number.

Configuring the MIDI mapper

(Please note that there is full documentation available from within the MIDI Mapper. Just click on the 'Help' button, or press the F1 key while the MIDI Mapper dialog is up. These instructions are here to try to

clarify some of the aspects of the MIDI Mapper and to allow you to quickly get results with Power Chords Pro. Also, note that the MIDI Mapper is very versatile. You can get the MIDI mapper to do all sorts of complex things (like mapping individual keys) that we won't get into here.)

How do you set up the MIDI mapper? First, double click on the Control Panel icon in Program Manager. Now double click on the MIDI mapper icon.

If there is no MIDI mapper icon, you may have to install it. Double click on the 'Drivers' icon in the Control Panel. Select MIDI mapper from the list of drivers and then click on the 'Add...' button.

Make sure you have already installed the drivers for your sound hardware. If you haven't, install them from the Drivers applet by selecting from the list and clicking the 'Add...' button. If you don't see the driver for your sound hardware, and you have a diskette supplied by the manufacturer with the driver on it, select 'New or Updated Driver' to read it from the diskette.

Now that the MIDI mapper configuration dialog is up, you have to create two things - a patch map to convert General MIDI patches to match your hardware, and a setup to link in the patch maps to each channel.

First of all, check to see if there is a default map already available for your sound hardware. Click on the 'Setups' button. Now click on the button to expand the combo box with the list of setups in it. If you see a setup and description that matches your hardware, all you have to do is select it, and the select 'Close'. You may be asked to restart Windows in order for the new selection to take effect.

For example, there is an MT-32 setup already included with the default MIDI Map, created when Windows is first installed. If there is no default Setup selection that matches your hardware, you will have to create one. First, click on the Patch Map button. Now click on the New button to create a new map.

All you have to do is to match up the instrument descriptions with the patch numbers for your hardware, which should be listed with its documentation.

At the top of the dialog is a box which switches the way patches are numbered. They can be numbered starting from 0 or from 1. Select the patch numbering scheme that matches the way patches are listed in your sound hardware documentation.

If you do not have an patch to match a particular instrument, select a patch for one that is similar. For example if your sound hardware has a flute patch but no piccolo patch, use the flute patch in both the flute and piccolo slots.

Once you have created your map, click on the 'Save' button and enter a name for it. Now the hard part is done.

Back in the main part of the MIDI mapper dialog box, click on the 'Setup' button. Then click on the 'New' button to create a new setup.

In the column marked Port Name you will have to select the driver for your hardware. For example if you are using an MPU-401, then you should have installed the MPU-401 driver previously and you would select the MPU-401 drivers for all 16 channels.

In the column marked Patch Map Name, select the map you created previously for all sixteen channels.

Save the setup by clicking on the 'Save' button. Now close the MIDI Mapper. You may be asked to restart Windows to make the change effective.

Now that you've created a MIDI Mapper setup, all that's left is to configure Power Chords Pro to use the MIDI Mapper for output. Select the 'MIDI...' item from the menu in Power Chords Pro. For the output

device, select the MIDI Mapper. For Patch Mapping, select General MIDI.

Note: If you have a Roland GS Format compatible instrument, you can use it directly without creating a MIDI Map for it - the patches are already General MIDI compatible. However, be sure to select GS Format Patch Mapping in the MIDI options dialog in Power Chords Pro to take advantage of the extended instrument tones available with GS Format.

Now you will be able to select patches by instrument name instead of by number in Power Chords Pro. You'll be able to write Power Chords Pro files and MIDI files that more people can enjoy. And you'll be able to use others Power Chords Pro files more readily, if they conform to the General MIDI specification.

In addition, you can use the MIDI Mapper as the Windows Media Player's device so that you will be able to play MIDI files that conform to the General MIDI specification.

MIDIMAP.CFG

All the MIDI map information including patch maps and setups are stored in a file called MIDIMAP.CFG. Many sound card installation programs install their own copy of this file overtop of the one that was there before. (They also usually make a backup copy of this file - MIDIMAP.OLD for example). Microsoft has not provided any way for a program to insert or remove patch maps from an existing file. This means that wholesale replacement of the file is the only way for a sound card to install a map for itself. This means that any maps you may have created may disappear when you install the software for a sound card. The only way to insert or remove an individual map or setup is to do it manually. If you find this situation causes you grief, we would ask that you suggest to Microsoft that they release the file format for the MIDIMAP.CFG file and/or some routines to access it.

Roland GS Format

Roland GS Format is a superset of General MIDI. In other words, it does everything General MIDI does and more. In addition to having the same patch mapping as General MIDI, other MIDI messages are defined for controlling other parameters in GS Format instruments. For example, Control Change 91 sets the reverb level for any GS format instrument. For more information check the documentation for your GS format instrument or sound module.

Power Chords Pro MIDI Configuration

MIDI configuration general information

Click on MIDI, MIDI Configuration in the main menu bar to display the MIDI Configuration dialog box. There are five items to setup in the MIDI configuration process. You must choose an output driver, set the drum channel, choose an input driver (if any), set the MIDI thru channel for MIDI input (if any) and choose a patch mapping convention.

Selecting and testing the output driver

The following chart lists sound cards and MIDI interfaces and indicates which drivers should be tried with each. Note: this does not imply any recommendation from us. If in doubt, check with the sound hardware

manufacturer for help. Power Chords Pro uses the synthesis portion of sound cards for playing sound. This is different from the digital part of the card.

The chart has three columns following the listed sound hardware. The first column lists a driver to be tried if you do not have any MIDI instruments attached to the hardware. If this is your setup, please leave the MIDI input driver set to <none>. The second column lists a driver to try if you do have MIDI instruments attached to your sound hardware. This driver can be used for both output and input. The third column contains any notes or special information for the sound hardware in that row.

Sound HW Name	No MIDI Devices	With MIDI Devices	Notes
MPC Sound Cards & SB Compatibles	on-board synthesis (FM synthesis) OR AD Lib if compatible		may need to set drum channel to 16 in drum sounds setup
Ad Lib Gold	Yamaha GSS Synth	Yamaha GSS MIDI Out	
Advanced Gravis Ultrasound	Ultrasound MIDI Synth	Ultrasound MIDI Output Port	Use Patch Memory Left in help to monitor patch RAM left. Configure card with conserve memory option - driver setup.
Aria based cards	Aria Multimedia Audio driver	Aria MIDI driver	
Media Vision PAS, etc.	Voyetra FM driver for PAS2	Pro Audio MIDI Output	Thunderboard - its driver or Ad Lib. May need to set drum channel to 16.
MIDIland PCD-GM	Roland MPU-401	Roland MPU-401	
Roland SCC-1	Roland MPU-401	Roland MPU-401	Use GS patch mapping
Sound Blaster	SB Pro Stereo FM	SB MIDI Out	older cards no MIDI devices use SB Windows or Ad Lib driver. May need to set drum channel to 16.
Key Electronics Interfaces	K.E. MS-124 Port-1	K.E. MS-124 Port-1	match the driver name with the model you are using. Run Windows in standard mode (WIN/S).
MIDIMAN MM401	Roland MPU-401	Roland MPU-401	
MIDIMAN Portman PC/P	MIDIMAN Portman PC/P driver	MIDIMAN Portman PC/P driver	external parallel port interface

MIDIMAN Portman PC/S	MIDIMAN Portman PC/S	MIDIMAN Portman PC/S	external serial port interface
Music Quest MIDI Interfaces	Music Quest MIDI driver	Music Quest MIDI driver	
Turtle Beach MultiSound	MultiSound Proteus driver	MultiSound Ext. Out driver	
Roland MPU-401	Roland MPU-401	Roland MPU-401	MPU-401 compatibles also

Setting the drum channel

The second section of the MIDI configuration dialog box deals with setting the drum channel. On most sound hardware the drum sounds are on channel 10. Sometimes they are on channel 16. Use the test drums button to make sure you are getting drum sounds. If what you hear sounds like notes, try another channel. If it is not 10 or 16, click on other and enter a channel number.

Choosing the MIDI input driver

If you do not have any MIDI devices attached to your sound hardware, leave this set to <none>. If you do have MIDI devices attached and you plan to use them for MIDI input, then select the appropriate driver for input. (See previous chart as a guide).

NOTE: Some older versions of the SoundBlaster card with MIDI option do not support MIDI input and output at the same time. Set the MIDI input device to <none> if you have a problem getting both to work. To rectify this situation, contact Creative Labs to get a new chip for your board.

Setting the MIDI thru channel

If you do not have any MIDI devices attached to your sound hardware, leave this set to <none>. You can configure the MIDI input to a specific channel by selecting a channel numerically or there are two other options (besides <none>): Follow the rhythm editor, or Same as input channel.

Follow rhythm editor channel causes the MIDI input data to be sent out on the channel currently being edited in the rhythm editor. Using this option you will hear what you play using the patch currently used in the rhythm editor.

Same as input channel causes the MIDI input data to be sent out on the same channel it came in on.

Choosing a patch mapping convention

If you have a Roland GS sound source, use Roland GS patch mapping. If you have a General MIDI sound source (includes most sound cards) use General MIDI patch mapping. If you do not have a GS or General MIDI sound source, we recommend you choose General MIDI patch mapping and use the MIDI Mapper. If you do not wish to use General MIDI or Roland GS, numeric patch mapping is available.

Channel assignment to song parts

Example: if you have the stringed instrument set up to output on channel 2 and the drum kit is using channel 10, it is wise to plan ahead the channels you are going to use for Melodies and Bass Parts. Channel 3 for Melodies and Channel 4 for Bass Parts might be suitable in this example or you may want to follow the General MIDI channel designations.

All the channels for each music element type should be unique. In other words, keep all Bass Parts on a single channel, all Melodies on a single channel etc. You will find Power Chords easier to work with if you

use the same channels consistently from song to song especially for the Melodies and Bass Parts.
(These channels are specified when you create a new rhythm in the Rhythm Editor and can also be set for existing Melodies and Bass Parts that are stored in their respective palettes.)

Make use of the No Patch Change patch. It is typical to use the same bass sound for a whole song, or for large parts of a song. If you make all the bass parts except the first one use the No Patch Change patch, then it is easy to change the bass part patch for the whole song by changing the patch in the first Bass Part. All the following parts will use that patch.

Power Chords Pro Drum Configuration

Drum sounds configuration general information

To configure the drum sounds click on MIDI, Drum sounds... in the Power Chords Pro menu bar. This will display the Enter drum sounds and MIDI values dialog box.

Drum sounds configuration process

If you are using a Roland GS Format compatible keyboard or sound module, choose Roland GS from the Tone Mapping buttons. If you are using a General MIDI compatible keyboard or sound module, choose General MIDI from the Tone Mapping buttons.

If you do not have a Roland GS Format or General MIDI compatible sound module, you can select the Other tone mapping and enter the drum sound layout, MIDI notes, and MIDI channel as needed. As with other patches mentioned above, it is highly recommended that you use the General MIDI layout, and then create a MIDI map for each sound module you use and let the MIDI mapper translate the General MIDI notes to match your sound module. This is important for ease of use reasons, and one other important reason: drum sounds in the Drum Kit are mapped to note numbers by name. If you are using the standard General MIDI drum sound names, your files are more likely to be usable with other Power Chords users' setups.

You can audition drum sounds by clicking with the right mouse button on either the title or MIDI note edit box for each Drum Sound item. Drum sound mappings can be saved in files (*.SND). You can also save one mapping as the default which is loaded each time you bring up Power Chords Pro. To save the drum sound mapping to a file, click on the Save button. To load a map previously saved, click on Load and choose the map you wish to use. To save a setup as the default, make sure the setup is displayed in the dialog box then click on Default.

This dialog box is also where you set the metronome channel and patch. It does not turn the metronome on or off, it just defines how it will sound when you do choose to use it.

Once you have everything set up the way you like it, click on OK.

Drum kit configuration general information

Power Chords Pro allows 24 drum sounds to be used simultaneously in a song. The 24 sounds it uses are the sounds specified in the drum kit. You can create various kits and save them to files. There is also a default kit that is loaded each time you start Power Chords Pro.

Drum kit configuration process

There are 24 slots in the drum kit dialog box. Select the drum sound name you wish to assign to each position. These drum sounds will be displayed from the top down in the rhythm editor. To save your drum kit setup, click on save and provide a filename (*.KIT). To save a setup as a default, click on default while the kit is displayed in the dialog box. To load a kit previously saved, click on load and choose the filename. When you are finished setting up the drum kit, click on OK. Power Chords Pro can use Power Chords *.KIT files.

NoDrumPatch option

Power Chords Pro sends out a patch change 0 on the drum channel when it starts up as per the General MIDI guidelines. If you would prefer that this not occur, put the following line into the POWCHORD.INI file created in your \WINDOWS directory: **NoDrumPatch=1**

Power Chords Pro Instrument Configuration

Stringed instrument configuration

Click on the instrument options (check mark) button on the stringed instrument window to access the configuration data for the stringed instrument. See [Customizing the Instrument Display](#) for detailed information on the options..

Keyboard configuration

Click on the instrument options (check mark) button on the keyboard window to display the keyboard configuration options. See [Keyboard Configuration Options](#) for detailed information on the options.

Running the Tutorial Scripts

Starting the tutorial

Power Chords Pro must be correctly installed and configured on your system first to operate correctly. Do this before running the tutorial.

The Power Chords Pro tutorial consists of multiple sections. There are two ways to start the Power Chords Pro interactive tutorial from the beginning: one way is to double click on the Power Chords Pro tutorial icon in the Power Chords Pro program group. The second way is to start Power Chords Pro, choose Script, Load And Play Immediately from the menu bar. Load the file TUTORn.SCR (n=1,2,3...).

The Script Facility

1: Overview

2: Script File Operations

3: Script Commands

Script Facility Overview

Script facility description

The Power Chords Pro script facility provides the tools to design interactive tutorials, lessons or presentations. A script file contains a list of commands to Power Chords Pro to do various actions such as display a particular chord, display some text for the user to read, wait for a number of seconds while the user tries out something, etc.

A script file is prepared in advance using the Power Chords Pro script record file operation. Some actions are performed directly in Power Chords Pro, and are recorded to the script file automatically. Other actions are selected from the script menu. Usually these require you to fill in a dialog box of some sort depending on the action selected. When the dialog is complete, the action is stored in the script.

Once a script file is complete, it can be loaded into Power Chords Pro and 'Played'. Script files can be copied freely and transferred between Power Chords Pro users.

Script file contents description

Script files consist of a series of actions such as moving a particular chord to the fretboard, displaying text, or asking a multiple choice question. There are two methods for putting commands into the script file: direct recording and selecting. Commands such as move a window are recorded directly. You click on the window you want to move and move it on the screen. When you release the mouse button, the computer will beep to indicate that the action has been recorded. Other commands such as display text are entered into the script by selecting that command from the script menu bar command list. Again, when the command is complete the computer will beep to indicate successful recording of the command.

Script file example

DISPLAY "The strings of a normal six string guitar are tuned with the following pitches, from lowest to highest: E, A, D, G, B, and E."

DISPLAYTIMED 10 "Welcome to the self running demo version of Power Chords. We hope you enjoy it."

MULTIPLE CHOICE

QUESTION Is this a sample Multiple Choice Question?

CHOICE Yes, it is.

CHOICE No, it is not.

CHOICE Do you think it wants to be a multiple choice question?

CHOICE It may be, and it really doesn't matter.

CHOICE All of the above.

ANSWER 1

MULTIPLE CHOICE

QUESTION What note is a perfect fifth above the one pictured?

CHOICE A

CHOICE Bb

CHOICE G#

ANSWER B

PAUSE 20

PLAY SONG

LOAD SONG TEST.POW
LOAD SONG D:\POWCHORD\ROCKER.POW

LOAD INSTRUMENT BAGPIPES.AXE

LOAD NEW

RESTORE INSTRUMENT 0, 0, 25, 64
MAXIMIZE RHYTHMEDIT
MINIMIZE CONPALETTE
RESTORE STAFF 31, 2, 15, 47
RESTORE DISPLAY <left side (x)>, <top (y)>, <width>, <height>
RESTORE DISPLAY 25, 10, 50, 50

LOAD SCRIPT C:\POWCHORD\TUTOR2.SCR

MOVE CHORD 0,2,2,1,0,0 EMaj TO FRETBOARD
MOVE CHORD 3,5,5,4,3,3 GMaj TO BAR 1,2
MOVE CHORD 0,2,2,1,0,0,2,2,1,0,0,2 EMaj TO STAFF

MCI open waveaudio
MCI play howldog.wav
MCI close waveaudio

This example opens the cd player and does various things with it.

REM First, we open the CD player
MCI open cdaudio
REM Then, we start it playing
MCI play cdaudio
REM pause it..
MCI pause cdaudio
REM and resume"
MCI play cdaudio
REM now we will tell it to play song number 2
MCI set cdaudio time format tmsf
MCI play cdaudio from 2:00:00:00
REM done - stop playing and close the device
MCI stop cdaudio
MCI close cdaudio

There are far too many MCI commands to document here. For more information, consult the **Microsoft Multimedia Developer's Kit Programmer's Reference**.

REM Guitar tutor script Version 1.1

Script File Operations

Load

Choose Script, Load from the main menu to load a Power Chords Pro script file.

Load and Play Immediately

Choose Script, Load and Play Immediately from the main menu to load a Power Chords Pro script file and 'play' the file right away.

Play

Choose Script, Play to play a script file that has been loaded into Power Chords Pro. The tape recorder in the upper right corner indicates script play mode. To stop a script from playing, click on the stop sign button in the message box (if on screen) or choose Script, stop playing from the main menu bar.

Record

Choose Script, Record to record a script file. The tape recorder in the top right corner indicates script record mode. Enter commands into the script file by performing recognized actions on the screen or by choosing commands from the script menu bar item.

Save

Choose Script, Save to save the recorded script commands to a script file. Give a filename when requested (*.scr).

Script Commands

Script menu item select commands

Move chord

The move chord command moves a chord from one window to another.

Display / Displaytimed

The display command displays a box of text on the screen. You will be given a box in which to enter the text. The box will be displayed with go and stop buttons so the user can read at his or her own speed. The displaytimed command displays a box of text for a certain length of time. This is useful in demonstrations as no input from the user is required to go to the next script item. You are given a box in which to enter the text and an edit box to enter the number of seconds you want the text displayed for.

Multiple choice

This command displays a multiple choice question for the user to answer. You are given a box in which to put the question and four answer boxes. You are then asked to indicate which box is the correct answer. The user will receive immediate feedback on whether the answer given is correct or not.

Pause

This command delays the execution of the next command for a number of seconds. You are asked for the pause interval in seconds. This can be used to make the presentation run at a more 'human' speed.

Play song

This command causes the song in the song window to be played. It is equivalent to clicking on the song window play button. The user can stop the song from playing by clicking on the song window stop button. The script will continue as though the song finished on its own.

Direct recording commands

Load song

This command is recorded into the script file when you perform a song load. You will hear a beep to indicate that this action has been recorded.

Load instrument

This command is recorded when you load an instrument tuning.

Load new

This command has the same effect as selecting New under the File menu item. It clears all song information and palettes. It does not clear the rhythm editor.

Minimize / Restore / Maximize

These commands are recorded when you minimize, restore or maximize one of the program windows.

Load script

This command loads a script file into Power Chords Pro. This allows you to run scripts in sequence. The interactive tutorial you did to learn how to use Power Chords Pro is in three sections. This command is recorded when you choose Script Load from the script menu.

Move chord

This command is recorded when you move a chord from one window to another.

Text editor commands

Script files are formatted text files with one command per line. You can use a text editor to alter the contents of a script file and to enter some other commands.

MCI

This is an extremely powerful script command which allows you to access the Windows Media Control Interface (MCI).

MCI is a text language with which you can give commands to Windows to control the various multimedia devices which may be installed on an MPC system. These devices include the MCI MIDI Sequencer, CD-ROM drives, MCI Wave player etc.

The string after the keyword MCI is passed to the Windows function `mciExecute()`.

REM

This command inserts a remark into the script file that is not played by the script player.

The Stringed Instrument Window

1: Overview

2: Instrument Setup

3: Customizing the Instrument Display

4: Chord Creation Using the Fretboard

5: Chord Creation by Chord Name

6: Real-time Recording

The Stringed Instrument Window contains a representation of a stringed Instrument. It can be configured to emulate any stringed instrument such as banjo, guitar, bass, etc. This instrument is used to create, play and experiment with chords.

Instrument Setup

Click on the Tuning Options button on the stringed instrument window to display the Tuning Options dialog box.

Tuning options dialog box general information

What is seen in this dialog box is determined by your choice of patch mapping. If you are using numeric patch mapping, the patch number for each string will be displayed in an edit box under the title patch. If you are using General MIDI or GS, the patch name will be displayed.

Setting the MIDI note value for the strings

You can set the MIDI note value for the 'open' position of each string as well as the channel and patch. To change the MIDI note value, enter a value into the MIDI note value edit box or use the scroll bar to adjust the value. The note name the string is tuned to will be displayed to the left of the MIDI note value edit box.

Setting the channel(s) for the strings

To change the channel for a string, enter a valid value into the strings Chan edit box. If you want all strings on the same channel, enter the channel number into the edit box beside the All button then click the All button. Chord rhythms use this value as a default.

Setting the patch(es) for the strings

To change the patch for a string when using General MIDI or GS patch mapping, click on the string P button to display the Select Patch dialog box. Choose the patch you want, audition it with the right mouse button if desired and click on OK. If you want all strings using the same patch, click on the All button, select the patch and click on OK.

To change the patch for a string when using numerical patch mapping, enter a valid value into the strings patch edit box. To use the same patch for all strings, enter a valid value into the patch edit box next to the All button then click on the All button under the P buttons.

These values are used as default patch values for chord rhythms (i.e. if the chord rhythm patch is set to no patch change).

Changing the number of strings and frets

The instrument can have between 2 and 12 strings and between 4 and 24 frets. Use the #Strings and #Frets edit boxes to change these values.

Instrument setup files - save, load and default

Instrument setups can be saved to files for future use. Click on the save button to save your setup. The file extension for instrument setup files is .AXE. To load a previously saved setup, click on the Load button. You can indicate which setup you want to use as your default setup. The default setup is loaded when you start Power Chords. To save a setup as your default, click on the Default button and answer Yes. This saves the current setup in the file Default.AXE. Power Chords Pro can use Power Chords *.AXE files

Customizing the instrument display

Click on the instrument options (check mark) button on the Stringed Instrument Window. This displays the Instrument Options dialog box.

Instrument options dialog box general information

This dialog box gives you the opportunity to customize what you see on the screen in the Stringed Instrument Window. It also has a control to set the hammer on delay time.

Fretboard display options

The Fretboard Display section lists the two options available for type of finger markers you see on the fretboard. Show dots tells the instrument to indicate where the fingers are positioned using dots. Show note names causes the dots to be replaced with the name of the note the string is playing.

Top display options

The display at the top of the fretboard (Top Display) can show normal symbols (o for an open string and x for a blocked string), note names or MIDI notes. The note names or MIDI notes are the notes to which the strings are tuned.

Show bar markers switch

The Show Bar Markers check box turns displaying of the fret bar markers (the dark yellow rectangles under the strings on the fretboard) on and off (x = on).

Auto chord naming switch

The Auto Chord Naming check box indicates whether or not auto chord naming is on (x = on). When auto chord naming is on the chord name on the chord name button is updated every time a new chord is created on the fretboard. If this function is off, click on the chord name button to choose or enter the chord name.

Hammer on delay options

The Hammer On Delay section gives you the opportunity to set the delay for hammer ons (grace notes). There are three buttons to set standard delays for hammer ons. The delay is the number of clock ticks Power Chords waits after a string is played to play the hammer on note. There are 96 clock ticks per quarter note. Selecting the Quarter button sets the delay to 96. Selecting the Eighth button sets the delay to 48. The Sixteenth button sets the delay to 24. If none of these values is desired, you can use the Clocks edit box to set the delay to another value (valid values range from 1 to n). See section n.4.4 for hammer on creation.

Chord Creation Using the Fretboard

Chord creation using the fretboard general information

To place notes (finger markers) on the fretboard, click the left mouse button over the desired location. If you drag after placing a finger marker, the finger marker positions will track the mouse movements. To erase a finger marker, click on it with the mouse. If you drag after erasing a finger marker and then contact other finger markers, they will be erased as well. The operation performed while dragging is determined by the first action taken. Click on the Slide Finger Markers buttons (see diagram) to move the finger markers on the fretboard.

Chord name information

If the chord you create is recognized by the program, the name of the chord will be displayed on the Chord Name button at the bottom of the instrument. If the chord name is unacceptable (or none found), click on the Chord Name button to choose or enter a name for the chord.

Playing the chord

To audition the chord, click on the fretboard with the right mouse button. Click and drag in the String Pluck Area to audition the strings individually. Click and drag in the String Bead Area to bend the strings.

Hammer on (grace note) creation

Click on the Hammer On button to enter add hammer ons mode (the cursor appears as a note). Click on the location(s) where you want hammer ons to be. Click on the Hammer On button again to return to normal note entry mode.

Chord Creation by Chord Name

Click on the Chord Request button to display the Chord Request dialog box.

Chord creation by chord name general information

To create a chord, click on the appropriate round buttons in the Root and Triad sections. Click on the check boxes (optional) in the Dominant (Dominant) and Add sections to complete the chord. Note that multiple selections are permitted in the Add section.

Playing the chord

To play the chord, click with the right mouse button inside the dialog box. Click one or more times on OK/Next to generate inversions of the chord. The fretboard is updated with each new inversion to show the chord fingering.

Defining the chord fret range

The Fret Range box defines the number of consecutive frets on the fretboard (inclusive) which the chord can occupy. By increasing the fret range, it is possible to create chords that would be difficult (or impossible) to play on a real instrument.

Strict chord inversion information

The Strict check box indicates whether or not strict inversion is on. If it is on then all inversions of the chord will contain the first n notes from the tonic or first note of the chord on up (n is the number in the strict notes edit box). When Strict is turned off, various notes from the chord in different inversions may be missing. If the strict guideline causes the inability to create a chord, you will be informed via a message box.

Auto-load to fretboard function

The Auto-load function is active when its check box has an X in it. When active this causes the fretboard in the Stringed Instrument Window to be updated every time you make a change to any chord element. If this function is inactive, click on OK/Next to update the fretboard.

Copy chord to chord palette

Click on the To Palette button to put the current chord onto the Chord Palette.

Real-time Recording Using the Stringed Instrument

Recording a melody

To record a melody (or other rhythm type) from the stringed instrument window, click on the Rec button on the rhythm editor while displaying the type of rhythm to be recorded. The metronome will play a lead in bar. Click on the fretboard, in the string bend area, in the chord strum area or in the string pluck area to record rhythm information. The length of the rhythm recorded is determined by the rhythm length set in the rhythm editor.

Once recording has stopped the How to Handle Recorded Data dialog box will be displayed (see section 5.3.2 for detailed information). Select the options you wish to use and click on OK . The data will then be displayed in the rhythm editor.

The Keyboard Window

1: Overview

2: Keyboard Configuration Options

3: Chord creation Using the Keyboard Window

4: Melody Creation Using the Keyboard Window

The keyboard window contains a representation of a musical keyboard. It is used to create chords and melodies. It will also display chords dragged in from other windows.

Keyboard Configuration Options

Keyboard note range

Use the keyboard range scrollbars to set the range of notes displayed on the keyboard. The left scrollbar controls the number of notes to the left of middle C and the scrollbar to the right controls the number of notes to the right of middle C.

Keyboard MIDI output channel

Use this control to select which channel the MIDI output from the keyboard is directed to.

Display options

The display options determines what is seen below the keys on the keyboard. Choose Show Normal to see nothing. Show Note Names shows the chromatic names of the notes directly below the white keys. If the keyboard is transposed, the transposed note names are shown. Show MIDI Notes causes the MIDI note value for the notes to be displayed under the white keys. If the keyboard is transposed, the transposed MIDI note values are shown.

Chord export mapping

If 're-map' it may generate a different voicing. If 'map exact' it will try to place the same notes on the fretboard. This may lose notes.

Auto chord naming

When auto chord naming is active, the chord name is updated every time a key is clicked on when in chord mode. To change the chord name, click on the chord name button. Alternate names for the chord will be shown. Choose one of the alternates or enter your own name.

Variable volume switch

When variable volume is active, clicking on the keys on the on-screen keyboard at different vertical locations causes the notes to be played at different volumes. The lower on the key you click, the louder the sound. When variable volume is off, clicking anywhere on the keys produces the same volume response.

Keyboard transposition

Use the keyboard transposition control to indicate what key mapping to C you want to use. If you choose D, for example, the key of D will be mapped to the key of C.

Chord Creation Using the Keyboard Window

Chord creation

To create chords on the keyboard, click on the chord mode button. When chord mode is activated, each key you click on will be grayed and added to the chord. If you have auto chord naming turned on, the chord name will be updated with each key clicked on.

Changing chord name

To change the chord name, click on the chord name button. Choose one of the generated chord names or enter your own.

Exporting chords to other program windows

Create your chord on the keyboard. Click on the chord export button and drag to the destination window. Release the mouse button to copy the chord to that window. If you dragged the chord to an inappropriate window, no action will be taken.

Playing chords from other program windows

To display a chord from another window such as the stringed instrument window, drag the chord from that window onto the keyboard. To play the chord, click with the right mouse button while the cursor is in the keyboard window.

Melody Creation Using the Keyboard Window

Recording a melody

To create a melody (or other rhythm type) using the on-screen keyboard, click on the note mode button on the keyboard window. Click on the Rec button on the Rhythm Editor while displaying the type of rhythm to be recorded. The metronome will play a lead in bar. Play the melody with the mouse on the keyboard. The length of the melody recorded is determined by the rhythm length set in the Rhythm Editor.

Once recording has stopped the How to Handle Recorded Data dialog box will be displayed (see section 5.3.2 for detailed information). Select the options you wish to use and click on OK . The data will then be displayed in the rhythm editor.

Playing melodies from other windows

Drag a melody over from another program and release it on the keyboard window. The melody will play and the keys will be grayed as the notes in the melody are played.

The Rhythm Editor

1: Overview

2: Rhythm Parameters

3: Rhythm Editor Functions

4: MIDI

Rhythm Editor Overview

General information

The Rhythm Editor is used to create, edit and/or record various types of rhythms. To take full advantage of Power Chords' object oriented nature, it is recommended that you create rhythms in small phrases. There are palettes to hold phrases of each type. Phrases that are to be repeated in a song need only be created once. From the palettes the phrases can be dragged and dropped into the song framework where needed.

Chord rhythms

A chord rhythm is a strumming or plucking pattern used to play chords. It is the second half of the chord part. It provides the timing information which indicates when the strings are to be played. For chord rhythms, the rhythm editor displays a grid with the note the string is tuned to on the left and musical time (beats) on the bottom. The chord played while in the rhythm editor is the chord currently displayed on the fretboard in the stringed instrument window. In the song, the chord rhythm plays the chords in the song and they automatically repeat until a new one is encountered. Chord rhythms are stored on the chord rhythm palette.

Drum rhythms

A drum rhythm is a phrase of the drum part. For drum rhythms, the rhythm editor displays the names of the drums from your drum kit on the left and musical time (beats) on the bottom. As you create and edit drum rhythms, you will hear the drum sounds. Drum rhythms also automatically repeat in the song window. Drum rhythms are stored on the drum rhythm palette.

Melody rhythms

A melody rhythm is a phrase of the melody part. For melody rhythms, the rhythm editor displays a grid with chromatic note names on the left and musical time on the bottom. As you create and edit melody rhythms, you will hear the patch currently chosen for the melody rhythm. Melody rhythms are stored in the melody rhythm palette.

Bass rhythms

A bass rhythm is a phrase of the bass part. For bass rhythms, the rhythm editor displays a grid with chromatic note names on the left and musical time on the bottom. As you create and edit bass rhythms, you will hear the patch currently chosen for the bass rhythm. Melody rhythms are stored in the bass rhythm palette.

Rhythm Parameters

Title

Each rhythm has a title to distinguish it from all other rhythms, especially rhythms of the same type. To change the title of a rhythm while it is in the rhythm editor, click on the check mark button to bring up the rhythm parameters dialog box. Change the title in the box and click on OK.

Length

The length of a rhythm is measured in bars. To change the length of a rhythm while it is in the rhythm editor, click on the check mark button to bring up the rhythm parameters dialog box. Change the length of the rhythm and click on OK. The rhythm editor will now display the rhythm with the new length. If you have shortened an existing rhythm, the notes not shown are still recoverable if you make the rhythm longer again.

Channel

For drums, use the drum channel set in the Drum Sounds dialog.

Each other rhythm has a MIDI channel associated with it. This determines which channel will receive this rhythms data when it is played. To change the channel, click on the check mark button to display the rhythm parameters dialog box. Change the channel for the rhythm and click OK. The rhythm data will now be sent out on the channel you selected. Please note that the type of sounds you hear will depend on what type of sound you have selected for that channel. For example, if you have drums on channel 10 and you map a melody rhythm to channel 10, you will hear your melody rhythm played with drum sounds.

Patch

Each rhythm has a patch associated with it (except drums). To change the patch, click on the check mark button to display the rhythm parameters dialog box. Change the patch for the rhythm and click OK. The rhythm data will now be played using the patch you selected.

Melody or bass rhythm note range

You can set the note range displayed for melody and bass rhythms. To change the note range, click on the check mark button to display the rhythm parameters dialog box. Change the note range for the rhythm and click OK. The rhythm editor will now display the rhythm using the note range you set.

Rhythm Editor Functions

Importing existing rhythms

To import a rhythm from one of the palettes, click on the rhythm in the palette (not its title) and drag it to the Rhythm Editor. The Rhythm Editor will then display the rhythm as the appropriate type. If you want to import one rhythm type into another, display the target rhythm type in the Rhythm Editor. Click on the lock button to lock the Rhythm Editor. Click on the rhythm in the palette you wish to import and drag it to the Rhythm Editor. Release the mouse and the rhythm will be merged with the existing rhythm (if present). Click on the lock button again to release the Rhythm Editor.

To import a rhythm from the MIDI file contents window, highlight the desired region in the track in that window then click on it and drag to the Rhythm Editor. The lock button works the same for this function as for importing from the palettes.

Recording from the on-screen instruments

Click on the Rec button to record real-time from the on-screen instruments. Once recording has stopped the How to Handle Recorded Data dialog box will be displayed.

Recorded MIDI data should

The data recorded from the on-screen instrument can replace the data currently displayed in the Rhythm Editor or it can be merged with the data. If the merge option is selected, the recorded data will be used if a conflict arises with data already in the Rhythm Editor.

Data recorded from the MIDI cable should be

Power Chords Pro allows recording from the on-screen instruments concurrently with the MIDI input cable. You have the choice of including or discarding data recorded from the MIDI cable.

Data recorded from the mouse should be

Power Chords Pro allows recording from the on-screen instruments concurrently with the MIDI input cable. You have the choice of including or discarding data recorded from the mouse.

Adding notes with the mouse

Click or click and drag in the grid area starting in an empty cell to add notes to the rhythm. The note velocity used for the new notes is taken from the velocity scale on the right of the grid. Darker notes are louder and lighter notes are softer. To enter notes of different durations, use the resolution scroll bar to set the grid size. New notes added will be the size of the cells. To add notes of a longer length than the grid cell size (sustain), hold the shift key down, click on an empty cell and drag to the right. The note will grow to the right.

Deleting notes

To delete notes click or click and drag in the grid starting on an existing note. To delete a region of notes, select the region and press the del key on the keyboard.

Changing note velocity

To change the velocity (loudness) of a note, click on a note in the grid with the right mouse button. Drag up to increase the velocity and down to decrease the velocity. This method gives a finer degree of

control over note velocity than the velocity scale.

Using Power Effects

General Information

Click on the Power Effects button (knob button under Rec button) on the Rhythm Editor to display the Select Effect dialog box. The effect chosen will be applied to the rhythm currently displayed in the Rhythm Editor or to the region of notes currently highlighted (see section 5.3.6). The effect can be tested on the rhythm and undone if it is not what you want.

Strum up / Strum down / Alternating

Choose this effect to do up, down or alternating strums. This effect can be applied to any rhythm type. The percentage you choose to use determines how drastic the effect is. The higher the percentage, the larger the change to the original data.

Humanize Velocity

This effect randomly changes the velocity of the notes in the rhythm. The percentage determines the degree of change from the original data. The lower the percentage, the smaller the change to the original data.

Roll / Pick

This effect is used to create drum rolls, mallet rolls and alternating picking. The percentage determines the amount of variation in the length of the notes. This effect looks for consecutive notes to apply the effect to.

Random Notes

This effect creates rhythms by randomly putting notes into the Rhythm Editor. The percentage determines the percentage of note cells that will have notes in them. The higher the percentage, the more notes in the rhythm.

Arpeggiate

This effect creates arpeggiated notes. The note jump percentage determines the probability that the next note in the sequence will not be adjacent to the previous note.

Quantize

Quantize causes the notes in the Rhythm Editor to start at the divisions currently displayed.

Selecting and manipulating regions of notes

To select a region of notes in the rhythm editor, click on the select tool button. Click or click and drag in the grid area to highlight a group of notes. The highlighted notes will be drawn in red and will be bounded by a black outline. All notes that start within the bounding box will be selected.

To move the selected group of notes to another location in the grid, click on the highlighted area and drag to the new location. The highlighted area will appear in inverse video as it is dragged. Release the mouse button when you are at the correct new location. The notes will be drawn in the new location and deleted from the original location. For melody and bass rhythms, moving the highlighted area off the top, bottom or right will cause either the note range to be increased (top/bottom) or the length of the rhythm to be increased (right).

To copy the selected group of notes, hold down the control key then click on the selected area and drag to the new location. The notes will then be copied to the new location leaving the original area the same.

To use effects on the selected group of notes, click on the effects tool button. The effect you use will be applied only to the selected group of notes.

To change the velocity of the selected notes, click on the selected area with the right mouse button and drag up to increase and down to decrease. The shade of red gets deeper for higher velocity and lighter for lower.

To delete the selected region of notes, press the delete key.

Playing a rhythm

To play the rhythm shown in the rhythm editor once through click on the Play button. To play the rhythm through multiple times as a loop, click on the loop button. To stop the rhythm from playing, click on the stop button. To start playing at a particular beat, click at the top of the beat to display the beat marker then click play.

Exporting rhythms to rhythm palettes

Click on the rhythm export button and drag to the correct palette or palette icon. This will transfer the rhythm currently in the rhythm editor into the palette. If the rhythm has not been named yet, you will be prompted to enter a rhythm name.

Rhythm Editor MIDI Functions

Recording in from a MIDI instrument

Click on the Rec button to begin recording. The metronome will play a lead-in bar. Play the rhythm on your MIDI instrument. What you will hear while recording is dependent on how you have your MIDI through configured. The length of rhythm that will be recorded is determined by the number of bars currently selected in the Rhythm Editor.

Once recording has stopped the How to Handle Recorded Data dialog box will be displayed (see section 5.3.2 for detailed information). Select the options you wish to use and click on OK. The data will then be displayed in the rhythm editor.

The Palettes

1: Overview

2: Common Palette Functions (except Controls)

3: Controls Palette Functions

4: Recording a Chord Progression

The Palettes Overview

General information

The palettes are the holding areas for the different types of song parts. Each palette item is a separate object from every other palette item. The chord palette holds up to 128 chords and each rhythm palette holds up to 64 rhythms.

The chord palette

The chord palette holds the chords created on one of the instruments or chords imported with a song. The chord is shown as a chord diagram with a title above it.

The chord rhythm palette

The chord rhythm palette holds the chord rhythms created with the rhythm editor or imported in with a song. The chord rhythms are shown as miniaturized versions of the chord rhythms as they would appear in the rhythm editor. The title of each chord rhythm is shown above its graph.

The drum rhythm palette

The drum rhythms palette holds the drum rhythms created with the rhythm editor or imported in with a song. The drum rhythms are shown as miniaturized versions of the drum rhythms as they would appear in the rhythm editor. The title of each drum rhythm is shown above its graph.

The melody rhythm palette

The melody rhythms palette holds the melody rhythms created with the rhythm editor or imported in with a song. The melody rhythms are represented by melody icons with a title above each.

The bass rhythm palette

The bass rhythms palette holds the bass rhythms created with the rhythm editor or imported in with a song. The bass rhythms are represented by bass icons with a title above each.

The controls palette

The controls palette is used to create and store controls items. Each item appears as a control icon with a title.

Common Palette Functions (Except Controls Palette)

Customizing the palette display

Click on the tile button in the palette to display the palette items in a tiled format. Click on the Cascade button to display the palette items in a cascaded format.

Adding items to the palette

Clicking on the export button in one of the instrument windows and dragging to the chord palette or chord palette icon and releasing the mouse button copies the current chord to the chord palette. Clicking on the To Palette button in the chord request window copies the current chord to the chord palette.

Clicking on the export button in the rhythm editor and dragging to the appropriate rhythm palette or rhythm palette icon copies the rhythm currently displayed in the rhythm editor to the palette. If you drag a rhythm of the wrong type to the palette, it will not be copied.

When a song is loaded into Power Chords Pro via the File, Open menu item, all items saved in the palettes for the song are copied into the palettes. Items that were already in the palettes remain in the palettes.

All of the song part items are brought into the palette when you select Song, Dump... to... from the menu bar.

Deleting items from the palette

To delete an item from the palette, click on the item (not the title) and drag it to the garbage can.

To quickly delete a number of items, hold down the Del key and click on the items to be deleted.

To delete all items from the palette, select Palette, Clear... from the Power Chords Pro menu bar.

Auditioning items on the palette

To audition an item on the palette, click on the item with the right mouse button. The chord palette has a sound button. Click on the sound button to hear each chord played once. The chord will be highlighted when played.

Changing palette item parameters (rhythms only - not chords)

Double click on a palette item to display the edit rhythm parameters dialog box. See section r.2 for more information on rhythm parameters.

Copying palette items to other program windows

To copy a palette item to the song window, click on the item (not title) and drag to the song window. Release the mouse button when the cursor is over the correct bar.

To copy a chord to one of the instrument windows or the staff, click on the chord in the palette (not title) and drag to the instrument window.

Release the mouse button while the cursor is in the window. The chord will be displayed on the instrument or staff.

To copy a rhythm to the rhythm editor, click on the item in the palette (not title) and drag to the rhythm

editor. Release the mouse button while the cursor is in the window. The rhythm editor will display the rhythm in the current rhythm type shown. This makes it possible to try the same pattern in a different rhythm type.

Controls Palette Functions

Creating new controls items

Click on the new button to display the Enter Midi Information dialog box. Enter the item name into the title edit box. Select the control type in the control section. Enter the Midi channel, patch and if appropriate controller number into the edit boxes provided. Click on the next button to add another control command to this item.

Editing controls

Double click on the controls item you wish to edit. This will display the Enter Midi Information dialog box. Alter the data as you wish and click on OK when complete.

Deleting controls

To delete an item from the controls palette, click on the item (not title) and drag it to the garbage can. To delete all items from the controls palette, select Palette, Clear control palette from the menu bar. To delete part of an item, double click on the palette item to display the Enter Midi Information dialog box. For the part to be deleted, remove all the information from the edit boxes then click on OK.

Copying controls to other program windows

To copy an item from the controls palette to the song window, click on the item (not title) and drag to the appropriate bar in the song window. The item is put into that bar of the song when the mouse button is released. If display controls is turned on the in the Song, Options menu bar item, an icon representing the control information will be displayed in the bar of the song.

Recording a Chord Progression

Recording a chord progression

To record a chord progression, click on the Rec button on the rhythm editor. The metronome will play a lead in bar. Click on the chord pictures on the chord palette as they are to appear in the song. When recording stops, the chords will be shown in the song window. Each bar can have up to 4 chords in it to the nearest eighth of a bar.

The Song Window

1: Overview

2: Song Window Configuration Options

3: Song Window Operations

4: Playing the Song

Song Window Overview

General information

The song window provides a bar by bar framework in which the song can be created. It is the place where the various music elements (chords and rhythm phrases) are dropped into place. The display is configurable and there are edit options available for manipulating individual or groups of song elements.

Chord and drum rhythms automatically repeat in the song window, so you do not need to insert a repeating pattern more than once consecutively. A new rhythm will be started as soon as it is reached when playing the song. If the previous rhythm is not yet finished, the new rhythm will be started and the old one stopped.

Song Window Configuration Options

Song options general information

Click on Song, Options from the Power Chords menu bar to display the Song Options dialog box.

Show/hide display of song parts

In the tracks section of the dialog box, the left check boxes indicate which of the song elements are displayed on the screen in the song window. An element does not have to be displayed to be heard. Use this display option to show or hide the various elements as you work with them.

Play/mute playing of song parts

Use the check boxes on the right side of the tracks section to indicate which song parts you want to hear when you play the song. It can be useful to turn off some of the song parts while working on other ones.

Change song title

To change the song title, select the name in the title box in the Song Options dialog box and enter the new song name.

Configure song framework display

To change the number of beats per bar, enter the value you wish to use into the Beats Per Bar edit box. To change the number of bars per line displayed in the song window, enter the value into the Bars Per Line edit box. If you want to show more of the song at one time, click on the Compact Display check box. This will visually compress the data shown in the song window.

The melodies section in the bar can be configured as well. Enter the number of melodies per row and the number of rows of melodies you want displayed in each bar into the appropriate edit boxes. The melody section in the bars in the song window will be redrawn as specified.

The metronome and lead in bars

To activate the metronome, click on the metronome check box. To change the metronome channel or patch, click on MIDI, Drum Sounds from the Power Chords menu bar and enter the values where appropriate (see section xxx.xxx).

To add lead in bars to the song, enter the number of lead in bars you want into the Lead In Bars edit box.

Intelligent Arranger support

If you are using an intelligent arranger box, click on the Want Intelligent Arranger check box to activate sending of information to this unit. Also enter the correct channel number into the Channel edit box.

Song Window Operations

Basic editing

Adding chords and rhythms

Chords can be added from the instrument windows or the chord palette. Click on the chord export button on the instrument window and drag to the song window. Release the mouse button when the cursor is over the bar you want the chord in. To add a chord from the chord palette, click on the chord in the palette and drag into the correct location in the song.

If you want more than one chord per bar, click on the cleaver button at the top of the song window. This is the tool used to section the bars. The cleaver can cut the bar as fine as an eighth at a time, however, there is a maximum limit of four chords per bar. Click on the cleaver button again to end bar splitting mode.

Editing rhythm parameters

To edit the parameters for a chord, drum, melody or bass rhythm in the song, double click on the rhythm. This will display the edit rhythm parameters dialog box. See section r.2 for an explanation of the rhythm parameters.

To change the information for a control part, double click on the control part in the song. This will display the Enter Midi Information dialog box. To change the control part title, enter a title into the title edit box. Use the control section to indicate what type of control information this element sends. Set the Midi channel and patch in the appropriate edit boxes. Use the prev and next buttons to access the various control elements sequentially backwards or forwards.

Copying chords and rhythms

To move a chord or rhythm from one bar to another, click on the part and drag to the new location. Release the mouse button and the element is drawn in the new location and is left in the original location.

Deleting chords and rhythms

To delete a chord or rhythm from the song, click on it and drag it to the garbage can (usually located in the lower right corner of the screen). The item is deleted from the song when the mouse button is released. To quickly delete a number of items, hold down the Del key and click on the items to be deleted.

Auditioning chords and rhythms

To audition any chord or rhythm (or to send control information) click on the element with the right mouse button. The element will play alone. To stop it, click on it again with the right mouse button.

Adding repeats

To repeat a number of bars, click on the repeat button at the top of the song window. Enter the bar range (inclusive) that you want repeated and the number of times to repeat them then click on OK. To remove an existing repeat, click on the repeat button, enter the bar range the repeat is for and enter 0 for the number of times to repeat. Click on OK and the repeat will be removed from the song.

Tempo changes

To insert a tempo change in a song, click on the metronome button on the song window. The Enter

tempo change dialog box will be displayed. Enter the bar number and tempo and click on OK. The tempo change will be entered into the song in the appropriate bar.

Selecting and manipulating groups of bars

To select a range of bars, click on the select button at the top of the window. Click and drag to highlight the range of bars you want to use.

To move the highlighted bars to another location, click and drag to the new location. The bars will be moved to the new location with the range starting in the bar the cursor is in. Release the mouse button and the bars will be deleted from their original location and drawn in their new location.

To copy the highlighted bars to another location, hold the control key and click and drag to the new location. The first bar of the highlighted group will be drawn where the cursor is located. Release the mouse button and the bars are drawn in the new location and left in the original location.

Importing song objects from other songs

To import song objects from other songs choose File, import from the main menu. This will display the import dialog box. Choose the objects you are interested in, audition them if you wish then click on OK. The objects will then be added to the current palettes. They can then be dragged into the song from there.

Playing the Song

Loading a song file

To load a song into Power Chords Pro, choose File, Open from the main menu. You will then be asked to choose the song file. Power Chords Pro can load Power Chords Pro songs as well as Power Chords files. The song will be displayed in the song window.

Play and stop buttons

Click on the play button to play the song. Which parts are heard when the song is played is determined by the selections indicated in the Song Options dialog box. See section 7.2.4 on page 65 for more information.

Click on the stop button to stop the song while it is playing.

Playing the song from a particular bar

Double click on the bar you want to start playing from. The song will play from that bar forward. To stop playing, click on the stop button.

Copy song objects to palettes

To copy the chord and rhythm objects in the song to the palettes, click on Song in the Power Chords Pro menu bar. Select the Dump... to... option for the parts you wish to put into the palette.

Saving to a song file

To save the current song to a song file, choose File Save or File Save As from the main menu. The save command saves the song to the currently open song file if there is one. If one is not currently open you will be asked to supply a filename. Power Chords Pro song files end with .POP. The Save As command always prompts you to enter a filename.

Exporting a song as a standard MIDI file

To export a song as a standard MIDI file, choose File, Export to MIDI file from the main menu. You will be prompted to enter a filename. MIDI files end in .MID.

Clearing the song window

To clear the song window, choose Song, Zap song from the main menu. This will remove all items from the song window.

MIDI Operations

MIDI input instruments and MIDI thru

About MIDI thru

Many standard MIDI interfaces such as the Roland MPU-401 and compatibles can take MIDI input from a keyboard and direct it immediately out on a MIDI channel to an attached sound module, as well as passing it in through the interface as normal. This is handy when you are using a MIDI controller that has no built in sounds such as the Roland PC-150, PC-200, or the Novation MM10.

However, Windows shuts off the MIDI Thru capability of MPU-401 compatible interfaces. Power Chords provides an extensive software based MIDI Thru capability with a number of options.

To set MIDI Thru, select Options from the main menu, and then MIDI... to get the MIDI configuration dialog. To get MIDI Thru working, you must select the correct input device and then select the MIDI Thru option you desire.

MIDI thru options

The MIDI thru options are described in section 2.2.2.6 on page 25.

Recording MIDI input

Power Chords Pro can accept input from a MIDI device into the rhythm editor. See section r.4.2 on page n for a description of the recording process.

MIDI Import Window

Importing from MIDI files

Loading a MIDI file

To load a MIDI file into Power Chords Pro, choose File, Load MIDI file from the main menu. The MIDI file will be loaded into the MIDI file import window.

The merged drums track

Power Chords Pro is not a track based sequencer, so when a MIDI file is brought into it, the drum tracks are merged and copied into an available track (the original drum tracks are also brought in). The program will do its best to match the drum sounds used in the MIDI file to the drum sounds specified in your current drum kit. If the MIDI file contains drum sounds not listed in your current drum kit, you will be given the opportunity to assign drum sounds from your kit to the unknown sounds. Once the merged drum track has been created, the MIDI file will be displayed in the MIDI file import window. It can then be brought into the rhythm editor drum section for editing.

The MIDI file import window

The MIDI file import window displays the tracks of the MIDI file. It will give you access to the data in the MIDI file as you create your song. Sections of tracks can be highlighted, auditioned and brought into the rhythm editor. The gray squares indicate the presence of MIDI data in that bar of the song.

MIDI file import window diagram

Auditioning tracks and parts of tracks

To audition a track, click on the track name. The track will play from the beginning. A bar marker will indicate the current bar being played. To play a section of a track, click and drag to highlight the section you want to hear, then click on the highlighted section with the right mouse button. To stop playing, click again with the right mouse button.

Importing parts to the Rhythm Editor

Display the Rhythm Editor on the screen as well as the MIDI import window. Choose the rhythm type in the rhythm editor. Please note that you can bring in items from the MIDI window into different part types. This gives you the ability to experiment with different sounds. For example, you can bring drum information into a melody etc.

To import an entire track, click on the track name and drag to the Rhythm Editor. To import a section of a track, click and drag in the MIDI window to highlight the area you want then click on the highlighted area and drag to the Rhythm Editor. Release the mouse button over the rhythm editor and the data will be displayed.

Importing parts to the palettes

When importing to a palette, you have the option to divide a track or a section of a track that is 8 bars or longer into smaller chunks. Either click on the track name and drag to the palette or highlight the section of the track you want and click on it and drag to the palette. When you release the mouse button, the Import MIDI Divide Track dialog box will be displayed.

You have the choice of bringing in the part in 1 piece or breaking it down into pieces 1, 2, 3, 4, 8, or 16

bars in length. There is an option to discard duplicate rhythms. You are also given the opportunity to give the rhythm a name. If you divide the section or track into chunks, they will be named with a numeric extension after the original rhythm name.

Clipboard function

Click on Edit, Copy Rhythm Editor to Clipboard from the main menu. This copies the information in the Rhythm Editor in standard MIDI file format to the Clipboard for importation into other programs.

Creating a MIDI file

File - export to MIDI file

To export your song as a standard type 1 MIDI file, choose File, Export to MIDI file from the main menu. Provide a valid filename for the MIDI file. Your song will be saved to that file.

MIDI output driver control

Suspend MIDI / Resume MIDI

Choose Help, Suspend MIDI from the main menu. This option turns off the MIDI output and frees the MIDI output driver currently selected in the MIDI Configuration. This is handy for when you want to switch between two or more MIDI programs that use the same output driver.

Note that when you select Suspend MIDI the menu item changes to Resume MIDI. Selecting Resume MIDI turns MIDI output back on.

Power Chords Pro Information

Minimum Number of Strings on Instrument:	2
Maximum Number of Strings on Instrument:	12
Minimum Number of Frets on Instrument:	4
Maximum Number of Frets on Instrument:	24
Maximum Number of Chords in Palette:	128
Maximum Number of Chord Rhythms in Palette:	64
Maximum Number of Drum Parts in Palette:	64
Maximum Number of Melodies in Palette:	64
Maximum Number of Bass Parts in Palette:	64
Maximum Number of Controls in Palette:	64

There are hidden palettes in the Song for each Rhythm Type. They have the same capacities as the regular palettes. So for example, the maximum number of different Chord Rhythms in a song is 48.

Maximum Number of Bars per Rhythm:	16
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Melodies and Bass Parts imported from MIDI files are allowed to exceed 16 bars.

Number of Chords in Bar:	4
Minimum Number of Beats per Bar:	2
Maximum Number of Beats per Bar:	6
Number of Bars in Song:	256

Minimum Tempo:	32 Beats Per Minute
Maximum Tempo:	256 Beats Per Minute
Internal Clock Resolution:	96 ticks per quarter note.
Minimum Note Length:	1/96th of a quarter note.

Number of Drum Sounds in Palette:	74
Number of Drum Sounds in Kit:	24

Maximum Notes in Rhythm Editor Playback Buffer: 4096 notes or 8192 MIDI Events
Parts can be longer than this - playback will be truncated in the Rhythm Editor or when played by clicking with the right mouse button.
The total number of MIDI Events in a song is limited by the amount of available memory.

Maximum Script Size:	32768 characters.
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Power Chords was created by Eric and Karen Bell.
Special recognition for achievements in vocal work to Jinx.

You can use the **right mouse button** to sound an individual string/channel/patch combination by clicking on the tuning scroll bar for the string. If you click the right mouse button while not on any control (ie: on a blank area of the dialog box) all activated strings/patches will sound. This is a handy way of trying out patches before okaying an instrument setup.

Staff Window

The staff window displays a normal music staff with treble and bass clefs. When you drag a chord onto the staff window the notes that make up the chord are displayed on the staves.

You may also drag chords out of the staff window to the Instrument, Song, Chord Palette, or Garbage windows.

Use the Right mouse button inside the window to sound the whole chord. If you put the cursor on a particular note, that note may be sounded using the Left mouse button. This helps you learn about the individual tones that make up a chord.

Tempo Window

This window is used to set the tempo for song or rhythm playback. You can set a tempo from 32 beats per minute to 250 beats per minute.

The tempo specified is also used when Exporting a standard MIDI file as the default tempo to play the song back at.

Garbage Window

The Garbage window can be used to discard all sorts of objects by dragging them to it and releasing the mouse button. Objects that can be deleted are chords, chord rhythms, drum rhythms, melodies, bass parts and controls.

If you drag a chord to the Garbage window from the Instrument or Staff windows, the chord in the window will be cleared.

If you drag any type of rhythm to the Garbage window from the Rhythm Editor, that rhythm will be cleared from the Rhythm Editor. This is the same as the Zap button in the rhythm editor.

Quick delete: hold down the delete key and click on items to be deleted.

