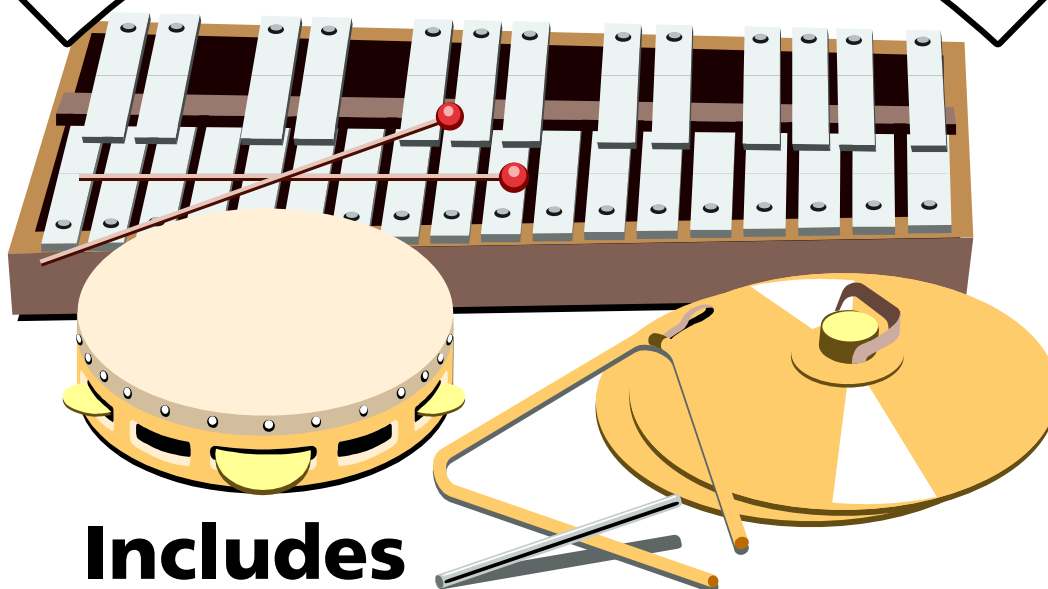


C L A R E S

Music Maestro



Includes

Rythm Bed, Serenade,
Vox Box and Re-Midi

Rhythm-Bed

The Amazing Percussion Program

ProAction

3QD
DEVELOPMENTS LTD

APDL

Rhythm-Bed

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Introduction

About Rhythm-Bed

Over the past few years computers have become a more popular way to enter, edit and perform music. Computers such as the Atari ST and Apple Mac have always had a large choice of notation packages, sequencers and drum sequencers. However, the Acorn RISC OS computers, whilst having a couple of very high quality music notation packages and sequencers, has never really had a full blown drum sequencer. Rhythm-Bed was developed to fill this gap.

This package, together with your computer and a suitable MIDI instrument will provide the versatility and quality unavailable before. With its design based upon ease of use, Rhythm-Bed offers many impressive features to the musician.

Percussion tracks can be built up with the easy to use, yet powerful grid-editing technique. Then they can be linked together in any order, looping as required, to provide a complete backing track. These can then be played from within the program, or transferred into other applications, such as Rhapsody or Serenade.

For those without a MIDI system Rhythm-Bed can access up to eight separate internal sounds. Combined with Vox Box Rhythm-Bed can produce some quite amazing sequences. All that is needed is a little imagination.

Introduction

It is assumed that you are familiar with the operation of your computer.

Error or message dialogue boxes may appear from time to time. When they contain two action icons choosing **OK** will continue with the operation. **Cancel** will abort it.

Typographic conventions

- Mouse buttons or keys on the keyboard appear in capitals, eg. **SELECT**
- Special terms appear in italics when first introduced: '*Script files* may...'
- Instructions to press a key on the keyboard are shown in angled brackets eg < RETURN> . This means press the Return key on the keyboard.
- Menu items that can be selected are in Homerton 'Click on **Info** to...' means choose the item called Info from a menu.
- Menu items which lead to sub-menus have an arrow after them: Info =>
- Something important always appears in bold.

Conventions used in this guide

We use the standard Acorn conventions for the mouse buttons:

SELECT is the left button, and the most commonly used.

MENU is the middle button and is used primarily for opening menus.

ADJUST is the right mouse button.

Unless otherwise stated 'select' or 'choose' means move the mouse pointer over something and Click on it with **SELECT** or **ADJUST**.

ReadMe

A file called ReadMe is supplied on the disc. This gives up to date information that has arisen since this manual was printed. The file is in text format and should be loaded into Edit, which is supplied with your computer.

Setting up your system

Unlike musical instruments, individual drum sounds play at fixed pitches. This means that a number of different sounds, each with its own MIDI note number, are grouped together as one voice on many MIDI keyboards and expanders.

Of course the MIDI note numbers associated with each drum sound are often different on each keyboard or expander. You will therefore need to know which note plays which sound before being able to use Rhythm-Bed. This information will almost certainly be supplied in the instrument's manual.

Rhythm-Bed stores this information in Drum kit files. These files contain a list of all the track settings associated

with the instrument or grid pattern being used (A complete file format is given later). The files themselves can be saved as either separate text files, or they can be included in Rhythm-Bed files (which contain mainly grid data).

A number of separate example drum kits are supplied with Rhythm-Bed in the Drumkits directory.

Editing separate drum kits for use with the program can be done in one of two ways:

Introduction

- You can load the file into a text editor, such as !Edit, and alter the values contained within it. This type of editing is discussed further later
- The other way of editing the files is within Rhythm-Bed itself. This is by far the simplest.

To load a standard Rhythm-Bed file double click the file's icon in its directory- display or drag the icon into the Rhythm-Bed window. This will load the file, overwriting any existing data.

To load a Drum kit text file, drag its icon into any window or icon associated with Rhythm-Bed. Drum kit files cannot be loaded by double-clicking since they are, in effect, text files.

Tutorial

This tutorial will provide you with a quick introduction to the main uses and features of Rhythm-Bed. The functions used are fully described in other parts of the manual and should be consulted when working through the Tutorial.

The example described is simple and only scratches the surface of the programs abilities. The objective is to enter the following pattern into Rhythm-Bed.

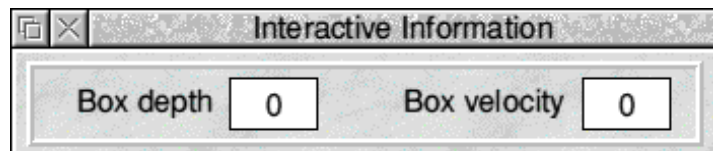
	Bar 1								Bar 2							
Bass drum	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Snare drum	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Hi Hat	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Rim Shot	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Load Rhythm-Bed by double-clicking on its icon. A standard drumkit is installed by default when the program loads, called *Vox Beat's Drumkit*. In this example we are using an internal drumkit but you could use a MIDI drumkit. As we are using the internal drumkit you should set the computer's volume to its loudest.

Click SELECT on the icon bar icon. The main windows will appear.

Check that the first eight tracks have a red rectangle in the column I (for Internal) in the pane window. If not, click on the squares to toggle them on.

Click MENU over the main window to bring up the main menu. Click on **Functions** => **Box info** and a window will appear giving information on the boxes in the grid.

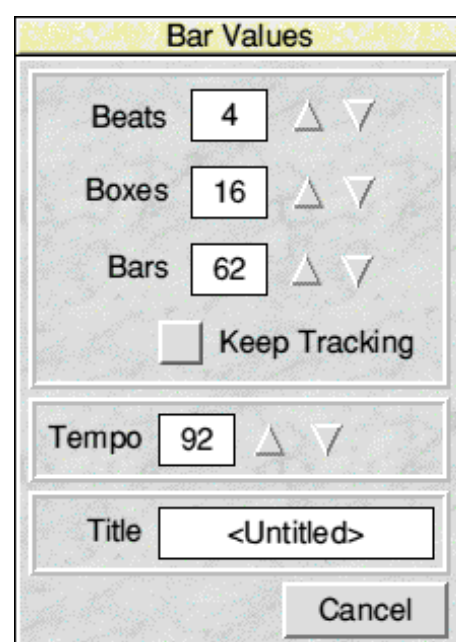


01	■	Bass Drum	C4
02	■	Snare Drum	C#4
03	■	Closed Hi hat	D4
04	■	Open Hi hat	D#4
05	■	Hand Clap	E4
06	■	Rim Shot	F4
07	■	Low Tom	F#4
08	■	High Tom	G4

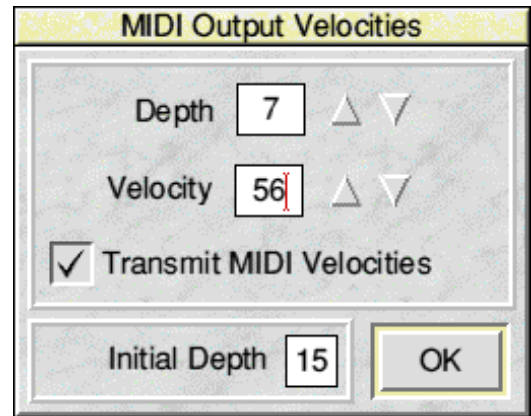
Click MENU again, and go to **Values** => **Bar values**. This opens a dialogue box which is used for altering global aspects of the grid.

Make sure the number of *Beats* is set to 4 and the number of *Boxes* is set to 16. The grid will have 16 boxes and 4 beats in each bar. hence a time signature of 4/4.

Whilst still in the Bar Values dialogue box, change the *Tempo* to 92, using the arrows.

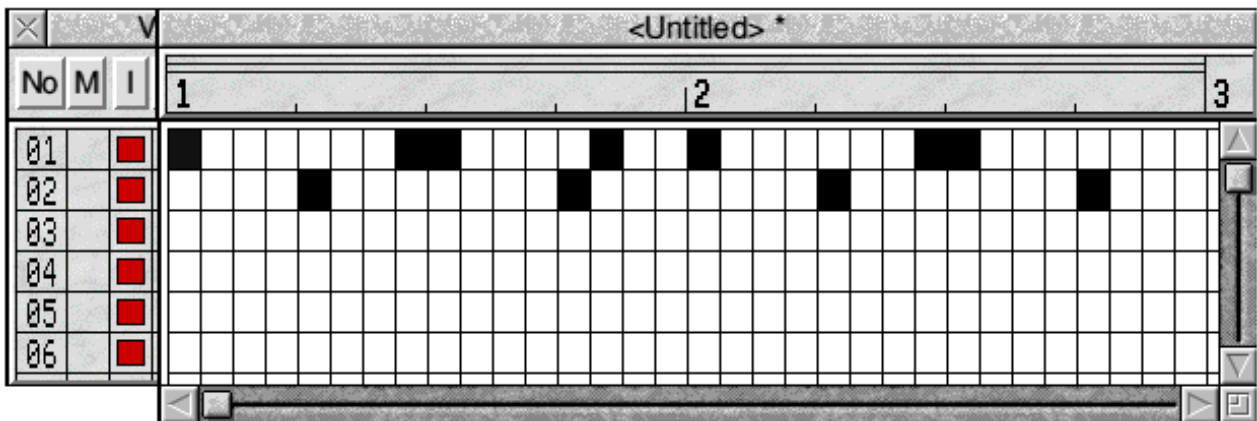


Next go to the **Values => MIDI => Velocity** dialogue box and increase the *Initial Depth* value to 15, by clicking on the number with SELECT until it shows 15. Click on **OK** to confirm the new setting. This will cause any new data entered into the grid to default to the maximum depth level or volume.



We are now ready to enter some data into the grid. By clicking on the relevant boxes with SELECT, enter the pattern below into the *Bass* and *Snare* parts of the grid. ADJUST can be used to correct any mistakes.

Adjust the *Cue points* (the two horizontal lines) in the Ruler window to those shown in the picture. You can do this by clicking SELECT just to the right of the number 1 in bar 1, then ADJUST somewhere in bar 2's ruler section.

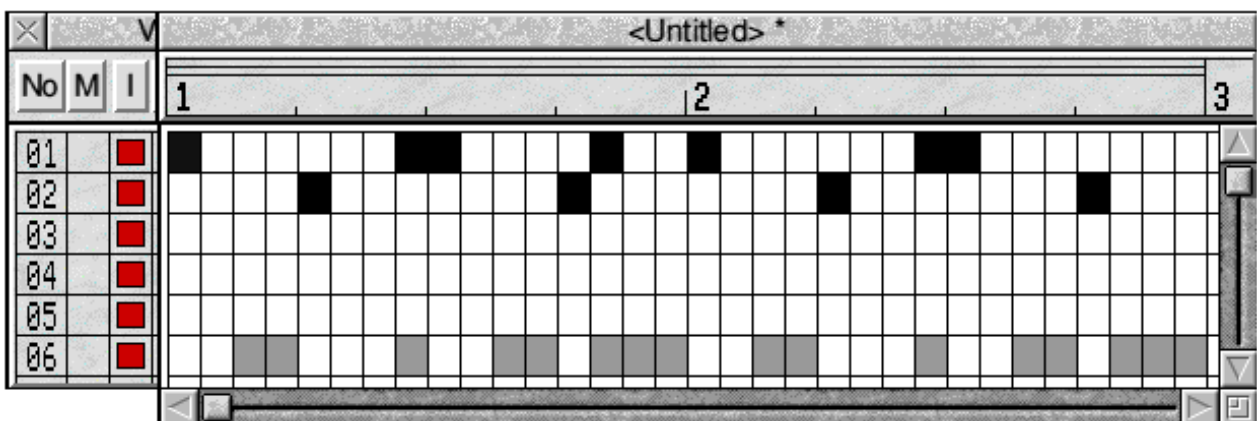


Now click on **Play => Play** in the menu. You should now hear the first two bars being continually played in the background. If not, check the track settings using the Track editor dialogue box.

Click on **Play => Stop** to halt the playing.

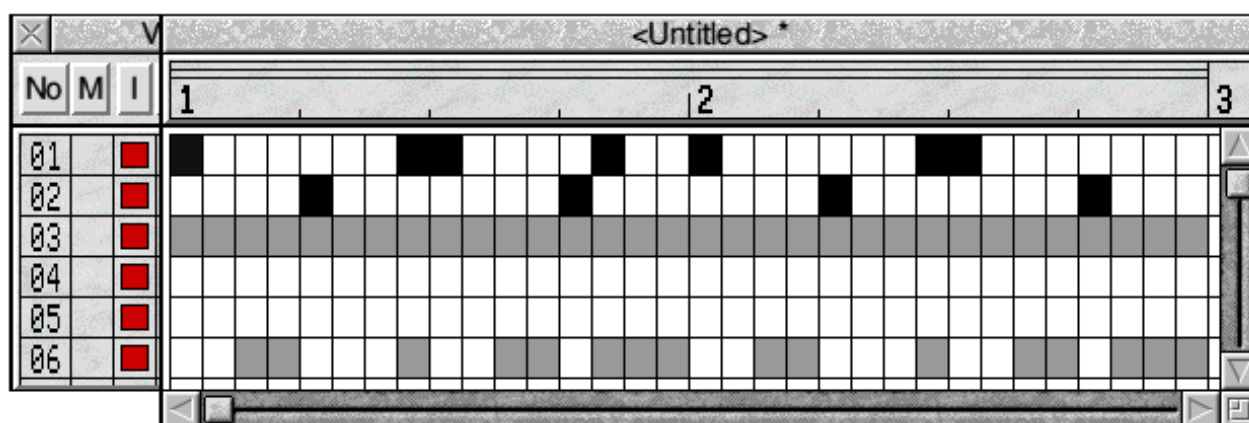
Now open the **Values => MIDI => Velocity** dialogue box again and change the *Initial depth* value to 10 by clicking with ADJUST. Click on **OK** to confirm.

Now we are ready to enter the *Rim Shot* section, as depicted below on track 6. This is done in the same way as the *Snare* and *Bass* parts before.

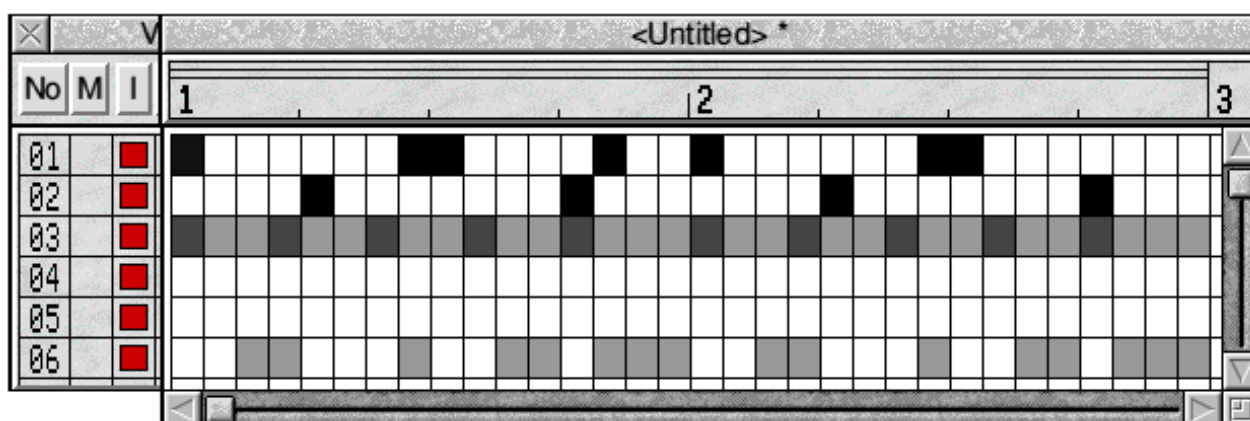


The last section to enter is the *Hi Hats*. You will notice that in the initial diagram that all the Hi Hat boxes are filled. Rhythm-Bed has a facility for this. Firstly, select track 3 by clicking the *Closed Hi hat* text in the pane window. This text should now be inverted (white on black), signifying that the track has been selected.

16. Now select **Edit => Fill => Uniformly**. This will fill track 3 in both bars with constant depth values, dictated by the Initial depth setting.



Lastly increase the relevant boxes in track 3, as shown below, by clicking SELECT on them until they turn black. This is to add *Accents* to the Hi Hats.



The piece is now complete. Click on Play to hear it.

MIDI

The previous section dealt with internal sounds only as this is easier to describe accurately. As there are many different kinds of MIDI instruments this section can only offer a rough guide. You will have to experiment and it will be useful to have your MIDI instrument's manual to hand. It is also assumed that you have connected your MIDI instrument via a MIDI interface connected to the computer.

We will try to set up the same pattern as used above so if you have not done this exercise please do so before moving on.

Open up the directory display called *Drumkits.64-track* This contains files for various MIDI keyboards and drum machines. If there is one for your machine drag this file onto the Rhythm-Bed window. You will note that the Track Names change to reflect the sounds available on that set up.

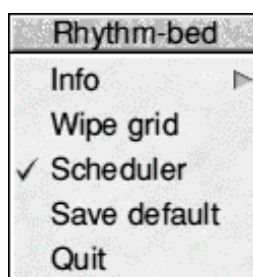
Assuming that you have found a set up for your machine you can now enter the pattern given in the previous tutorial. When you have entered it in you can click on Play to hear the pattern through your MIDI instrument.

If you do not find a Drumkit suitable for your instrument then you will have to create one. This is explained in a later section. You should load one of the supplied files whilst reading this chapter.

The Windows and Menus

The Icon Bar Menu

Clicking MENU on the icon bar icon opens the icon bar menu.



- **Info** leads to a standard RISC OS information box, which gives the name, author and version of the program.
- **Wipe grid** clears all the current score and sequencer data, giving you a new blank grid with which to work. Before using this the user should Save any data that is to be stored for later use.
- **Scheduler.** Rhythm-Bed's play routine (see later) has two different ways of actually playing the grid data, the Scheduling method, and the older Polling method. By far the best of these two is Scheduling, as the timing of the Polling method can be slightly erratic. However, when using the Scheduling routine, editing a grid (with Play selected) can take longer than when using the Polling routine.

Another problem with scheduling is that only one copy of Rhythm-Bed can use it at any one time, so if you have two or more copies running only one may make use of Scheduling. Rhythm-Bed can tell how many copies of itself there are loaded at any one time, and handles this automatically.

To select the Scheduling routine, make sure this Scheduler option is ticked. If it is not, the Polling routine will be used instead. You can only select and de-select this option when not playing any grid data.

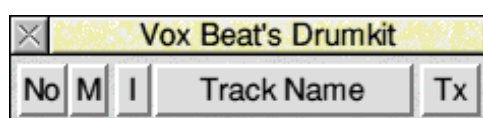
- **Save default.** Click on this to save the current drumkit as the default which will be loaded automatically whenever Rhythm-Bed is loaded.
- **Quit** will terminate the program. If there is any unsaved grid data, a dialogue box will appear to ask you to confirm your decision.

The Windows

Clicking either SELECT or ADJUST over the icon bar icon displays the main grid editor. This is where the main work takes place. There are actually four windows, joined together.

The Title Window

On the top left is the Title window. This provides the titles for the columns below. The window's own title shows the default name of MIDI instrument or internal voices in use at the time. The window also contains the Close icon which removes the current grid from the screen. The grid is not lost, and clicking once more on the bar icon will return the grid for editing.



Pane window

The window below this is called the *Pane window*. This contains information about the tracks in the grid to its right. The first column contains the track numbers from 1 to 64. The next two columns contain various flags used by the tracks.

The red rectangles under the M are the MIDI transmit flags for the relevant track. To select and deselect these either click on them or edit the track data using the *Tracks dialogue box*.

01	☒	Bass Drum	C4
02	☒	Snare Drum	C#4
03	☒	Closed Hi hat	D4
04	☒	Open Hi hat	D#4
05	☒	Hand Clap	E4
06	☒	Rim Shot	F4
07	☒	Low Tom	F#4
08	☒	High Tom	G4

If you do not have a MIDI interface these flags will have no meaning, as no MIDI data is being sent.

The column under the 'I' indicates whether the track will be played through the internal voice system. If there is a red rectangle and a voice is assigned to the track it will be played through the internal voices. If there is no red rectangle then the track is not played through the internal voices. Clicking on the rectangle toggles it on or off.

Assigning voices to tracks can be done using the *Tracks dialogue box*. Note that only the first eight tracks can use internal voices as this is the limit of the computer's sound system. For tracks nine and upwards these flags have no significance and should be set to off.

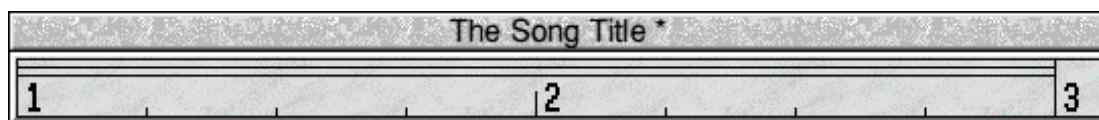
Next to the two flag options is the *Track Name*, typically the drum sound played by that track. These names can be up to 15 characters long, and the names can be changed using the Tracks dialogue box.

Clicking on these names toggles whether that track is selected or not. If it is selected the name is white on a black background, if not it is black on a grey background. The ability to select individual tracks is important when making major alterations to the track. Note that only one track may be selected at a time, selecting another track will change the selection to the new track.

The column to the right of the track name is labelled 'TX' and shows the pitch value for the track. These are expressed in textual format, with the note on the left and the octave number on the right. The values can be changed by clicking on them. SELECT increases the pitch of the track and ADJUST decreases it. These values can also be edited within the Tracks dialogue box.

The Ruler Window

On the right, next to the titles window, is the Ruler window.



This window has several purposes:

The bold figures in this window are the bar numbers. The bars are split up into their beats by the small vertical lines. The number of beats in a bar can easily be altered using the Bar values dialogue box.

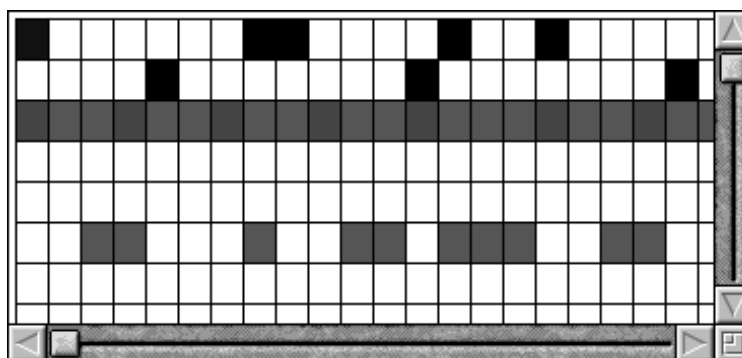
The window's title bar shows the title of the song currently being edited. Again, this can be altered in the Bar values dialogue box. If the grid contains any unsaved data, an asterisk is placed to the right of the title.

The ruler window also displays the *Cue point* settings. These act as markers when editing, playing and recording. They are represented by two horizontal lines running through the bars, above the bar numbers, in the marked section.

The start and finish of the cue points are represented by full vertical lines. Altering the cue points is a simple matter of clicking SELECT and ADJUST in the Ruler window. Clicking SELECT marks the start of the cue point, and clicking ADJUST marks the end of the cue point to the nearest bar.

The Main Grid Window

The Main Grid window is the bottom right window of the four. This is where all the rhythm or pattern data is entered and edited.



This window also contains the two scroll bars for 'getting around' the score. These scroll bars are the standard RISC OS type. Clicking the horizontal scroll arrows will move the score forward or backwards by 2 boxes, and clicking the blank area contained within the slider's section will scroll the window either forwards or backwards by 4 boxes. The vertical scroll bar is similar, except the scroll arrows move you up and down by 1 box, and the slider's blank area move you up and down by 5 boxes.

The main part of this window contains the Grid. This part of the window is really the focal point of Rhythm-Bed.

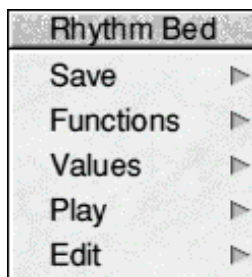
A shaded rectangle in this window indicates a musical event or a sound. The volume, or depth of a box is depicted by its shade of grey. A black rectangle means a 'deep' box, which indicates a loud note. A grey rectangle means a shallower depth, which indicates a softer note. White rectangles mean complete silence.

Clicking SELECT over a white box will place a new box in the grid. Clicking Select on an existing box in the grid will increase the depth of the box at that position. Clicking ADJUST on an existing box in the grid will decrease the depth of the box at that point, thus making the note quieter.

The actual loudness and softness of the depths can be edited using the *Velocity* dialogue box. Currently there are 16 actual depths which can be used, although depth 0 is always considered to be silent, and is displayed as white.

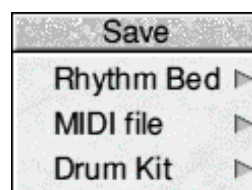
The Menu system

The main menu in Rhythm-Bed is displayed by clicking MENU over any of the four windows previously described. This menu has five items with arrows to the right of them. Moving the pointer over any of these five arrows will produce further menus with more options related to the original.



Save

Saving is done in the standard RISC OS way, using the Save dialogue box. To open these Save dialogue boxes move the pointer over the arrow to the right of **Save** in the main menu and a sub menu will appear with three options



Rhythm Bed

The best method for keeping copies of work created with Rhythm-Bed. They are short and can easily be re-loaded.

A full description of the internal contents of these files is given in Appendix B.

When *Include Drumkit* is selected, the Rhythm-Bed files will include all the Drum kit data (see next page) as well as the grid data. This has the disadvantage of increasing the size of the files by about 2K, however much less setting up is required to play the file.



MIDI file

These files are very useful when exporting data from Rhythm-Bed to another program that will accept MIDI files (Type 0), such as Rhapsody or Serenade.

The disadvantages with these files are that they **cannot be re-loaded into Rhythm-Bed** for further editing and they are often quite large. The two options at the bottom of the dialogue box control the way in which a MIDI file is saved.



Bass and Treble is used to cure problems when saving MIDI files for use in notation packages such as Rhapsody. With this selected the data in the file is split into two groups of notes, those in the Bass clef and those in the Treble clef. Rhythm-Bed does this by saving the data in two MIDI channels, channel 1 and channel 2, therefore it may be necessary to redirect the data when in the notation program. Without this selected, Rhythm-Bed will save all the grid data under the MIDI channel used to play the grid from within the program.

Arrange file, when selected, will arrange the MIDI file's data using the sequencer data. Note that this option can greatly increase the size of the file. Normally a MIDI file's data will be saved as if the program was playing from bar 1 to the last bar containing data but with this option all repeated bars are saved as if they were entered into the grid sequentially.

When exporting MIDI for use in other programs be careful not to overload the program with data. Most sequencing packages should be able to cope with almost any Rhythm-Bed pattern, but with notation packages it is quite easy to over fill the staves with too many notes, or notes that are too high or too low.

Drum Kit

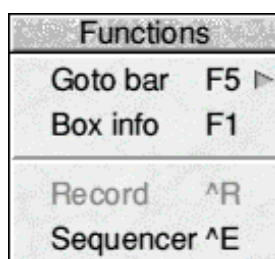
Drum Kit files store track data as a text file for use with the program. The file will not contain any grid data, and is fairly short, about 2k. This data can also be included within Rhythm-Bed's own files, as described above.

When Rhythm-Bed is started a default drum kit file is loaded. This is described further in the ReadMe text file.



Functions

The Functions menu contains four items.



Goto bar

Moving the pointer over the arrow will open the Goto Bar dialogue box. This can be used to jump around the grid.

Clicking on the white writable icon will place the in the icon. Enter the bar number required and press RETURN or click on OK to go to the new bar. Alternatively click on the 'bump' icons to the right of the bar number to increase or decrease it.

There are three icons providing points on the grid you may want to move to.

Start will enter a 1 into the writable icon, as bar 1 will always be the first bar in the grid.

Finish will enter the bar number of the last usable bar in the current grid. This value will increase as the number of bars increase, but initially will produce a value of 62, as this is the largest bar number on loading.

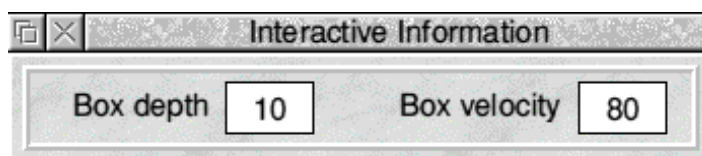
Cue Start will enter the bar number of the starting cue. On loading this value should be the same as the Start value, but when the Ruler window is clicked on and the cue points moved around, this value will change.



Box Info

This will open a window which will provide help with determining the depths of the boxes in the grid.

There are two values in the window



Box depth shows the depth of a box in the grid over which the pointer is situated. This ranges from 0 to 15.

Box velocity shows the MIDI velocity (or volume) at which this box will be played if it is to be played through the MIDI system. The value here can range from 0 to 127, 127 being the loudest.

These values cannot be edited in this dialogue box as it is only for information.

Record

This can only be used if you have a MIDI instrument, usually a keyboard. Before recording can begin you must have the relevant Drumkit file for your keyboard loaded so that the transmit channel is correctly set up. If your keyboard has a **Manual Drums** option you should set this otherwise set your keyboard so you can hear the percussion sounds when you are recording. This may simply be the channel number on which percussion sounds are transmitted.

Select **Record** to open the Record dialogue box, which is used for recording into Rhythm-Bed from a MIDI keyboard,

The first section contains parameters which must first be set in order to record.

There are two basic ways of keeping time when recording, using a Metronome, or playing along to the original drum pattern.



To select either of these click on the relevant icon. If you select *Metronome*, then you may need to choose the correct pitch, which is set in the icon on the right. Each time this value changes the new value is played on the MIDI instrument to help you choose the right sound.

You must now set the number of bars that you want to record by marking the start and end Cue points. Click in the ruler window with **SELECT** to set the start point and with **ADJUST** to set the end point. Data will now be recorded into this area. You should make the number of bars large if you are experimenting or you may run out of time before you get a chance to play.

When satisfied with the setup click on **Record**. This will start the recording operation and change the button to **Finish**. To halt recording click on **Finish**.

The record routine plays an introduction bar using the metronome, and after that any keypress on the MIDI keyboard is entered into the grid, beginning at the cue start point. If your keyboard is velocity sensitive then the notes are recorded with this information.

The number of notes entered into the grid is shown in *Notes Captured*. To close the Record window click on **Cancel**.

Sequencer

If you select the bottom item on the Functions menu the Sequencer dialogue box will open. This provides a facility to arrange the bars created in the grid editor into a sequenced order that will be useful when exporting a MIDI file to an external sequencer to run alongside a musical piece.

There are three major sections in this window.

The first section contains all the editable sequence data. All the numbers here can be entered manually, or with the arrows.

Sequence Part can hold a value between 1 and 255. These are the sections of the sequence. When playing the sequence, the computer will run through the sequence parts, playing whatever it associates with that particular part.

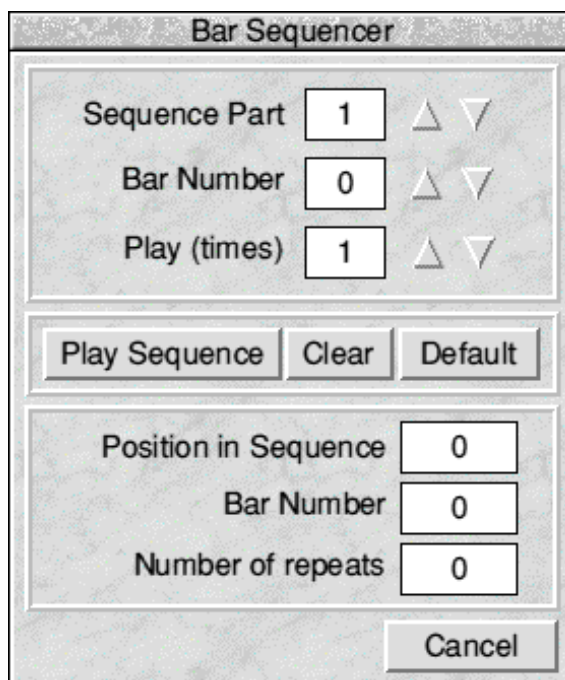
Bar Number is the bar number associated with *Sequence Part*. A bar number of zero indicates the end of the sequence.

Play (times) signifies how many times the bar will be played. Therefore, a value of 4 will play the bar four times. This value can range from 1 to 255.

Play Sequence will do just that. To stop the sequence playing at any time just click the mouse again. Note that while the sequence is playing you cannot do anything on the desktop.

Clear will make the Bar Number in all the sequence parts zero and set all the Play (times) values to 1.

Default will make all the Bar Numbers equal to the corresponding Sequence Part number. Clicking on Play Sequence will then play the whole of the pattern



The screenshot shows a dialog box titled "Bar Sequencer". It has three input fields at the top: "Sequence Part" with the value "1", "Bar Number" with the value "0", and "Play (times)" with the value "1". Each field has up and down arrow buttons to its right. Below these fields are three buttons: "Play Sequence", "Clear", and "Default". At the bottom of the dialog, there are three more input fields: "Position in Sequence" with the value "0", "Bar Number" with the value "0", and "Number of repeats" with the value "0". A "Cancel" button is located at the bottom right of the dialog.

The next section of the dialogue box contains information which may be useful when the sequence is being played. These values cannot be edited by the user.

Position in sequence displays the Sequence Part currently being played. A value of zero indicates that the sequence is not being played.

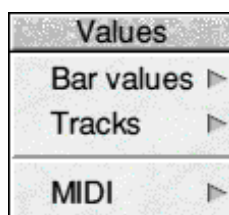
Bar Number displays the bar number currently being played.

Repeat loop displays the number of repeats left to play of the current part.

To close the dialogue box, click Cancel.

Values

The Values menu has three items. The first two lead directly to dialogue boxes.



Bar values

This opens a window which is divided into three main sections.

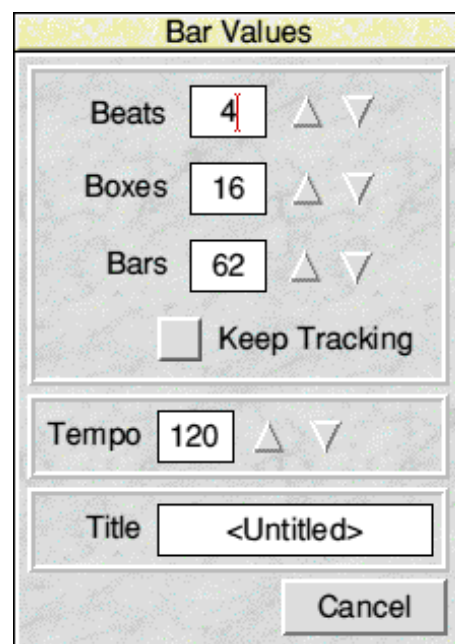
The first section contains the numerical information related to the bars.

Beats shows the number of beats currently in a bar. To change this value either enter a new value manually or use the two 'bump' icons. Only certain beat values are allowed, depending of the number of Boxes in the bar.

Boxes shows the number of boxes in each bar. This is the shortest note permitted in a bar. As before, a new value can either be entered manually or the old value can be increased or decreased using the arrows.

When altering the number of boxes in the bar if **Keep tracking** is selected the computer will try to realign all the grid data present into the same 'time' positions in the new bars. This should be used with care, as often the computer cannot find exact positions and may delete the data from the grid. If you are to use this option it is important that the new Boxes value is entered manually, as it is difficult to work out what the next Boxes value selected by the computer will be.

Bars holds the number of bars in the grid. Normally the initial value will be enough, but if more are required the number can be entered directly or changed using the 'bump' icons.



Tempo is the second section and this shows the tempo at which the score will be played. The value displayed in the Tempo icon is in beats per minute. New values can be entered either manually or with the arrows.

Title is the third section and this has a writable icon with the title of the grid. This title is displayed in the ruler's title icon. Titles can have up to 15 characters.

Tracks

This opens the **Track Editor** window, which is the focal point for editing track data. All the information in the window can be saved with a Drumkit file.

The dialogue box is divided into three sections, the **MIDI** section, the **Internal Voice** section and the **Settings** section at the bottom.

Track Number is the track number selected for editing. You can change this by entering the number in the icon or by using the two 'bump' icons.

Track name shows the name of the drum sound associated with the track. This is also displayed in the pane window to the left of the main window.

Track pitch has two icons. The one to the left contains the pitch at which the track will be played as a standard MIDI! note number. The icon to the right has this in text format, as displayed in the pane window.

To alter these values, click on either of the two white icons or the arrows. As the value changes it is updated in the pane window in the TX column. The track pitch value may also be edited by clicking either SELECT or ADJUST just over the relevant box below Tx in the pane window.

MIDI Transmit controls whether the track is played via MIDI. This option is also present in the pane window in the 'M' column for the relevant track. Clicking either this, or the icon in the dialogue box will toggle the flag on or off.

Internal Voices

Below the MIDI options are three internal voice options.

The first of these shows the name of the internal voice to be used with the track. To cycle through the available voices, click on any of the three icons. If the voice selected is Off, which means no voice, then the relevant rectangle below the I in the pane window will be cleared, and the computer will not play this track through the internal voice system. At present only the first eight voices can contain internal voice data as this is the limit of the computer.

To use your own internal voices with the program you must first install the voices. This can be done by saving a sampled voice as a Relocatable Module, and double-clicking its icon in a directory display. There are two problems with this approach. Firstly, the resulting sound emitted from the computer will be very quiet.

Secondly, only one sound can be saved in the module, so keeping track of the modules becomes a problem.

To solve both these problems, you can use the companion program *Vox Beat* (a member of the *Vox Box* suite). This program will take up to twelve samples and squash them into one module, with different pitch values assigned to each sound. Using these modules it is possible to treat the internal sound system like a MIDI expander, with different sounds on different keys.

Note that if Rhythm-Bed loads a Drum kit file and cannot find the relevant internal voice it will switch the internal voice option Off for this channel. It is therefore best to load any sounds required before loading the Drum kit file.

Sound voice toggles the internally voiced tracks on and off. The track will only sound through the internal voice system if this is selected and a voice has been allocated to the track. If these conditions are met then a red rectangle will appear in the pane window under the I heading for the relevant track. Clicking on this rectangle will toggle the Sound voice option on and off.

Internal pitch will play the track at the pitch associated with the track if selected. With the internal 'system' drum sounds this will not make any difference, but with *Vox Beat* modules this option is a necessity.

When using Internal voices it is advisable to have as few voices sounding together as possible, and those that are sounding are best at the top of the grid. This is because the volume of the sounds reduces as each extra sound is played ie the volume is spread over the number of voices sounding. If you are intending to use the internal sound options, it is best to amplify the sound output of the computer.

Keyboard name is the name of the current Drum kit. The text is displayed in the title icon of the Titles window. To alter the name, click in the writable icon and edit the text. If no Drum kit data is included with a Rhythm-Bed file, the text here shows the last Drum kit name used. A message pops up with the name of the drumkit and it is then up to you to load this Drum kit.

MIDI Channel is the channel the computer uses to transmit the MIDI data when playing. Note: this is very important if you are using MIDI. If the channel number is wrong you will either hear nothing or distorted sounds.

The image shows a 'Track Editor' dialog box with the following controls:

- Track Number:** A numeric input field set to '1' with up and down arrow buttons.
- Track name:** A text input field containing 'Bass Drum'.
- Track pitch:** A numeric input field set to '60' and a text input field set to 'C4', both with up and down arrow buttons.
- MIDI Transmit:** An unchecked checkbox.
- DrumKitU20:** A text input field with up and down arrow buttons.
- Sound voice:** A checked checkbox.
- Internal Pitch:** A checked checkbox.
- Keyboard Name:** A text input field containing 'Vox Beat's Drumkit'.
- MIDI Channel:** A numeric input field set to '7' with up and down arrow buttons.
- OK:** A button at the bottom right.

MIDI

The final item on the Values menu is MIDI. This provides a further MIDI menu with three entries, *Velocity*, *TX reset* and *TX notes off*.

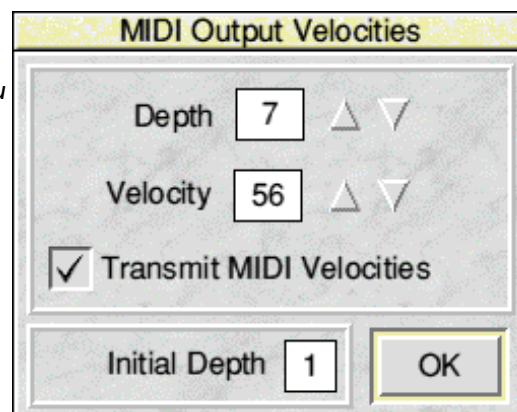
Velocity

This leads to a window where the overall velocity values (volume of notes) can be varied. NB: *This window may be useful even if you are not using MIDI.*

There are two sections to this box, the *Velocity* section and the *Initial Depth* section.

The Velocity section lets you assign a MIDI velocity to each of the 15 depth levels. These velocities would normally increase as the depth value increases.

Changing the Depth also changes the Velocity value below it to show the current velocity associated with the chosen depth.



Velocities are not used by the internal sound system as it is specific to MIDI.

Transmit MIDI velocities should only be selected with velocity sensitive expanders and keyboards. If it is not selected a steady value of 64 will be transmitted for all sounding boxes, regardless of their depth.

Initial Depth (not to be confused with the Depth value above) is used for editing the grid. When you click SELECT over a blank box to enter a new value into the box it is given the value in the Initial Depth icon. So changing this value to 15 and entering data into a blank grid would produce black boxes indicating maximum depth or volume. This can be used without MIDI equipment as internal voices also rely on the depths of the boxes for volume.

TX reset

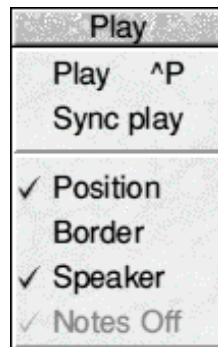
This will transmit a *MIDI_Init* call through the MIDI interface. This resets the interface to a power-on state.

TX notes off

This should be used to cure hanging notes, that is, notes which are still sounding when they should not be. If a score is played through *Strings* instead of *Drums* and the *Notes off* option in the Play menu was not on, then hanging notes will occur.

Play

This is the fourth item on the main menu and leads to a sub-menu.



There are three ways of playing the grid or pattern in Rhythm-Bed and two of these can be found in the Play menu.

Play

The simplest way of playing a score is to click on **Play**. The grid data between the cue points will be continually played. When playing is underway a tick appears to the left of Play on the main menu, and the first option in the Play menu will change to **Stop**. Clicking on this will terminate playing.

Sync play

Another way of playing is to use **Sync play**. This will wait for you to generate some form of event, and then start playing. There are three basic events which Rhythm-Bed recognises:

- **MIDI data** - a note has been pressed on a MIDI keyboard, the pitch wheel has been moved, etc.
- **Keyboard data** - key on the computer keyboard has been pressed.
- **Mouse data** - a mouse button has been pressed.

Any of these will trigger the playing routine as if **Play** had been selected.

Flags

Below the two play on the Play menu there are another four items. if any of these items are active a tick will appear to their left.

Position

When this is selected a moving cursor will indicate the current play position in the grid. This cursor is shown in the Ruler window.

Border

If this is selected the border will flash every time the play position reaches a new Beat. Beats are indicated by small vertical lines in the ruler window.

Speaker

This indicates whether the internal speaker is switched on or off. If an external amplifier is being used, it is recommended that this should be unticked.

Notes Off

This is a MIDI only option. If it is selected then just before transmitting new *Notes On* commands, the computer will transmit *Notes off* commands to all the previously used notes. This is used for keyboards which do not automatically trigger a Notes Off when new data is sent.

Notes Off sends a MIDI command to the keyboard to switch off any notes that are currently playing.

Edit

This is the final item on the main menu and leads to the Edit menu.



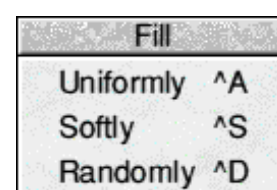
The four items on the menu lead to other menus or dialogue boxes.

Most editing requires sections of the grid to be Marked. This is done with the *Cue points* in the Ruler window and by selecting the track in the Pane window. If no track is selected then the editing will be applied to all 64 tracks.

Fill menu

The first item in the Edit menu leads to the Fill menu. This is used for filling the grid with data. The three options provide three different functions:

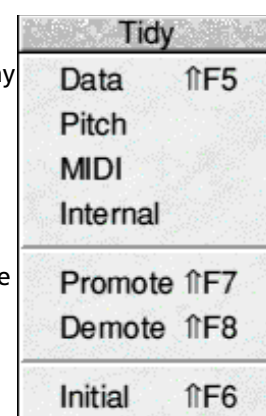
- **Uniformly** means that all the boxes in the marked area are filled with a constant, uniform value, as set by **Initial Depth** in the **Velocities** window.
- **Softly** fills the marked area with random data using low depths, below 6. This is useful for things like Closed hi-hat sections as it adds a human feel.
- **Randomly** fills the marked area with completely random data. Sometimes this can give you an idea for a new rhythm.



Tidy menu

This leads to the Tidy menu. This has several items which are used to clean up the display of track positions.

- **Data** will shuffle tracks containing grid data to the top of the pane window and move blank tracks to the bottom.
- **Pitch** will sort the tracks into the order of their pitch, the lower the pitch the lower the track number, so high pitch tracks will move to the bottom of the pane window.
- **MIDI** will move all tracks with a MIDI transmit flag set to the top of the pane window, and all others to the bottom.
- **Internal** will shuffle the first eight tracks so that the tracks that play with internal voices are nearer the top of the pane window. This can also be used to increase the volume of internal sounds.
- **Promote** will promote the currently selected track to the top position, shuffling all the tracks in between down one space.
- **Demote** will demote the currently selected track to the bottom position, shuffling all the tracks in between up one space.
- **Initial** will shuffle the tracks into their initial positions. This will be performed automatically before loading files.



Note that these options can move the first eight Internally voiced tracks to new positions, and the new top eight tracks will become the Internal voice tracks.

Alter menu

The third item in the Edit menu leads to the Alter dialogue box:

This can be used to alter the depths of boxes in the grid in a way defined by you.

There are four ways of altering data in the grid, and these are listed in this dialogue box, together with radio icons which are used to select which of the four ways of altering the data you want to use. For example, if you select *Increase by* then that is used when you click on OK.

Increase by will increase the depth of the boxes in the marked area. The boxes will be increased by the number of steps shown in the white icon, not to that number.

If Ignore Silence is selected when using 'increase by' then any blank (ie. zero depth) boxes will be skipped.

Decrease by is very similar to Increase by, except that it will decrease each box instead of increasing. Ignore Silence has no effect as blank boxes can't be decreased!

Split point is slightly more complicated. It will divide all the relevant grid data into two groups; those with a depth lower than that set as the split point are cleared, whilst the rest are given a depth value chosen by you as the To value.

This operation could be useful if you have a MIDI instrument which is not velocity sensitive. If you were given a Rhythm-Bed file which had a rhythm that depended on some drums being quiet and some loud, then you could hear the main section by itself without being distracted by the quiet section suddenly becoming the same volume.

Force depth is the simplest operation in this window. It searches through the relevant boxes, changing all the boxes with non-zero depths to the depth set.

Ignore Silence is used for the increase option, and is discussed above.

Marked Area sets whether the Alter procedure should just keep within the cue points. If this option is not selected, the program will perform the operation on the whole score. Note that if a track is selected and the Marked Area option is off, the program will still confine its alterations to the selected track. To achieve completely global altering it is necessary to deselect any selected track

Alter Depth Values in Score

☒ Increase by 1 ☐ Decrease by 1 ☐ Split point 7 ☐ Force depth 15

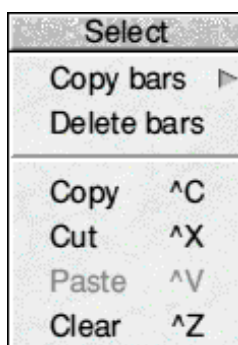
To 15

☒ Ignore Silence ☒ Marked Area

Cancel OK

Select menu

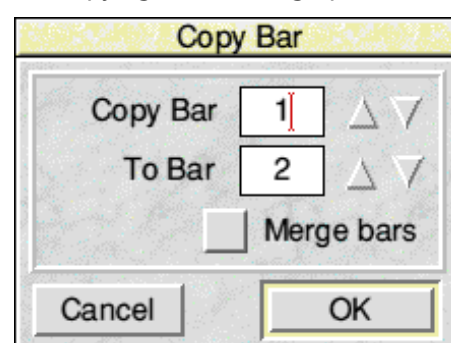
Rhythms are mainly about repetition. Therefore a rhythm sequencer should have some form of allowing you to repeat certain parts. This is done using the Copy functions.



Sliding off **Select** in the Edit menu will open the **Select menu** which contains copying and clearing options.

Copy bars will open the *Copy Bar* dialogue box. This can be used to copy whole bars in the score.

- **Copy Bar** is the Bar number from which to copy. As expected, this can be altered either manually or with the arrows.
- **To Bar** is the bar number to which the bar will be copied.
- **Merge bars**, if selected, copies all non zero boxes from the source bar to the destination bar but if a box is already filled in both the source and destination bars the data from the source bar overwrites the data in the destination bar.



Delete bars is used to delete whole bars. The bars deleted are those contained within the *cued* area. After the bars have been deleted, the bars that follow those to be deleted are moved up the required amount.

Copy will take the selected track, between the cue points and copy it to the *paste buffer* leaving the original intact. From here it can be pasted into a new position.

Cut is the same as Copy, that is, that it copies the selected data into the paste buffer, but it also deletes the original data.

Paste. Assuming the paste buffer contains something you can paste data into a new position. This is done by selecting the new track, selecting new cue points and clicking on the **Paste** option or pressing **Ctrl V**. If the area within the cue points is not large enough for the data, then the end of the data will be clipped to fill the space. If the area enclosed by the cue points is too large, the spare area at the end of the space will be cleared.

Clear will fill the marked area with blank boxes. Warning is given before this is done. This is different from the last three in that a specific Track does not need to be selected for the operation to proceed. If no track is selected then all bars in the marked area are cleared. The paste buffer is not affected by this action.

Common Problems

- *I am trying to use the internal sound system to play the drums, but when I select 'Play' I cannot hear anything.*

The internal sounds will only sound the data in the first eight tracks. For these tracks to be heard the third column in the pane window (under the I) must contain red rectangles for each of the tracks. Also you must select internal voices for each one to play through. Check that these voices are set using the Track Editor dialogue box from the Values menu.

If you saved your grid using a voice module not present in ROM, you must load the module before loading the grid, otherwise the voices using the module will be set to 'Off'.

Finally, it is highly recommended that the internal sounds be amplified in some way. It might be possible to amplify the internal sounds through your monitor if it has an internal speaker, check the manual to see.

- *I have a MIDI keyboard connected to my machine, but when in play mode no sound comes from the keyboard.*

This problem could be caused by one of several things.

Firstly check that the MIDI leads are connected up in the right way (IN to OUT, OUT to IN, etc). Also check that the MIDI channel in the Track Editor corresponds to the Rhythm receive channel on the keyboard.

Check that you have loaded the correct Drum Kit file for your keyboard. Also check that the second column in the pane window (under the M) contains red rectangles for each track.

Check that you have not unplugged any of the MIDI modules (Press F12, and type *ROMMODULES followed by <RETURN>. Details of how to re-initialise them can be found in your User Guide).

Lastly, check that each of the Velocity entries in the MIDI output velocities dialogue box are greater than zero.

- *When I load a demonstration pattern no red rectangles appear in the pane window, and hence no sound comes from the computer when I select Play.*

If you are trying to load a pattern that uses the internal sound system you must make sure that the various sound modules required are loaded before loading the pattern.

Also if you are loading a pattern that does not have its drumkit included, you must remember to load the relevant drumkit.

- *I am using a colour monitor, but some of the grid depths appear to be the same colour.*

It is advisable to use Rhythm-Bed in a 256 colour mode so that each depth has a different colour.

- *I am using the sequencer to string a long piece together. The problem is that when it is playing it suddenly stops halfway through.*

This is probably because your sequencer data contains a zero in the Bar number icon at some point. Zero is used here to signify the end of a sequence, so when the sequencer is playing and it finds a zero it will stop.

- *When using Rhythm-Bed, sometimes I find that other applications running in the desktop are slowed down quite considerably.*

You are probably trying to make Rhythm-Bed do too much. For instance if you have the tempo set to 240 and have 64 boxes per beat, you are making Rhythm-Bed play 256 events every second, which is quite a lot.

To solve this, decrease the tempo and the number of boxes and increase the number of beats per bar. Another possible solution would be to turn the Position option off in the Play menu.

- *It says in the manual that Rhythm-Bed uses hot keys, hut sometimes they just don't do anything.*

For hot keys to work the Rhythm-Bed must have the input focus. Click with SELECT or AD JUST in any of the four main windows or on the icon bar. It is probably best to click somewhere in the Titles window, as clicking here will not alter anything else. Make sure you click in the window itself and not the title bar of the window. The title bar will turn cream to indicate that Rhythm-Bed has the input focus.

- *When I am editing a grid, Rhythm-Bed's play routine does not keep very good time.*

Rhythm-Bed has two different play routines. The behaviour is characteristic of the *Polling* method. To solve this switch to the *Scheduling* method by checking that the Scheduler option in the icon-bar menu is ticked.

Appendix A - Drumkit File Format

Drum kit files are used to store all the information concerning the tracks and their relation to your MIDI instrument when relevant. They contain the information needed by the program to play grid data correctly. Often they are included with Rhythm-Bed files, but can also be loaded and saved separately. When saved separately, the files themselves are text files. One reason for this is that it is quicker to type in a new setup than to alter each track in turn.

The problem with typing in a Drum kit file is mistakes. Rhythm-Bed is particular about the way that the file is arranged. This form of entering should therefore only be used by 'advanced' users. For those who consider themselves 'advanced', the following might come in useful.

Creating a new Drum kit file by text entry

1. Enter the desktop environment and load !Edit in the standard way.
2. Load an already existing Drum kit file into !Edit.
3. Go through each of the lines, changing the text as required. The format of the file is given below.
4. Check the file thoroughly for errors, a missed out number could cause Rhythm-Bed to crash.
5. Save the file.
6. Drag the file into Rhythm-Bed. If there were any errors go back to stage 3.

Text Format of the Drum kit file

Note: Each line must be terminated with a <RETURN> character immediately after the text. Do NOT add any extra spaces.

```
"Setup file v1"
```

- used to tell Rhythm-Bed which format of file it is looking at. Be careful not to put a space before the <Return>.

```
"Default Setup File"
```

- the name of the Drum kit file. Do not exceed 20 characters here.

```
" TX : 7 "
```

- the MIDI transmit channel (7). Can be anything between 1 and 16. Again, be careful of unwanted spaces. It is crucial that this information is correct.

```
"Flags : 1110 "
```

- these are four flags used by Rhythm-Bed. The values can either be 0 or 1, nothing else. The meanings of the flags are -

Position Flag (Play Menu), **Tx Note Off Flag** (Play Menu), **Transmit MIDI velocities** (MIDI Velocity dialogue box) and **Border Flag** (Play Menu).

After these there comes the main data. There should be 64 entries here, unless a Blank track exists (see below).

All entries must strictly obey the following format (with <RETURN> being &OA preferably - this is the standard Edit format):

```
"Text Name,1,35,0,5" <RETURN>
```

Text Name can be up to 15 characters long and is the text used in the Pane window to show the instrument's name.

1 is the MIDI Tx flag. 1 means transmit this track on MIDI, and 0 means don't. 35 is the numerical pitch value, as used by the MIDI system. This can be anywhere between 1 and 127. Middle C is 60 as standard, so 35 will be the 'B' just off the bottom of most standard size keyboards.

0 is the Internal Pitch flag, as found in the Tracks dialogue box. This value can be 0 or 1, and only applies to the first 8 tracks, although it should be included with all 64.

5 is the Internal Voice number. This should be a number between 0 and 31. If a drum kit is loaded, where the

value here is larger than the number of installed voices, the track's voice will be set to 'Off, as it would if the value was zero.

Blank tracks

A blank track is used to signify the end of readable track data. Such a track has the format:

```
"Blank,0,0,0,0" <RETURN>
```

If Rhythm-Bed finds a track entry such as this it assumes all the tracks following this are blank too, and hence ignores them. It is advisable to place one of these at the end of a drum kit in case the number of Tracks entered falls short of 64.

If the above description is unclear, load a few Drum kit files into !Edit and have a look at them. IReadMe contains a list of files included on the disk, it may be best to consult this first.

Appendix B - Rhythm-Bed file format

Rhythm-Bed files provide a quick and easy way of storing data entered into Rhythm-Bed for later use. They contain a lot of information in a very small space. The file-type for these files is C5S.

In the following description of the file format there are two columns. The one on the left is the number of 8-bit bytes which the information occupies, and on the right is the information itself. Where a string of 'x's or 0's appear these are the values for each bit, so '00000000' would be an eight bit byte of value 0, and 'xxxxx' would be a 5 bit value.

11 "Rhythm-Bed" followed by &OD

1 "2" or "3", the type of Rhythm-Bed file:

Type 1 was used for early versions of Rhythm-Bed (Drummer), and is not supported any more.

Type 2 signifies an ordinary Rhythm-Bed file, without a drumkit included.

Type 3 signifies a file the same as type 2, but with the drumkit information, as text, directly after the 'Fish' (see below).

?? Title of Song followed by &OD.

?? Title of Drum kit followed by &OD (only used as a message to the user when loading a file, this item is completely ignored for type 3 files)

4 Total number of boxes in score.

1 Total number of boxes in each bar (maximum value is 64).

1 Total number of beats in each bar (maximum value is 64).

4 00000000000000000000000000000000 - used as a check. If not found, then this item is the tempo, and the file contains no cue-point information.

4 The bar number of the starting cue-point.

4 The bar number of the finishing cue-point.

1 Tempo of piece in 'beats per minute' (20-250).

15 List of velocity values from depth 1 to depth 15 (maximum velocity value for each depth is 127).

The next group of values are aligned with word boundaries, so a few spare bytes are placed here to bring the pointer to a word boundary

4 Number of events to follow.

FOR F=1 TO Number of events

4 Event number F, xxxxxxxxxxxxxxxxxxxxxxxx xxxxxx xxxx

x position (0-4194304)	track depth
------------------------	-------------

Note: Events are stored in order, going from track 0-63 first, then X positions of 0-4194304. So track 0, box 1 is first in the list, unless it is blank.

NEXT F

4 00000000000000000000000000000000 - just as a check. The program will report if this is not so.

4 Number of Sequencer 'parts', or events.

FOR F=1 TO Number of Sequencer events

4 Sequence part F, xxxxxxxxxxxxxxxxxx xxxxxxxx 00000000

Bar number	Repeats	Zero
1	1	0
2	1	0
3	1	0
4	1	0
5	1	0
6	1	0
7	1	0
8	1	0
9	1	0
10	1	0
11	1	0
12	1	0
13	1	0
14	1	0
15	1	0
16	1	0
17	1	0
18	1	0
19	1	0
20	1	0
21	1	0
22	1	0
23	1	0
24	1	0
25	1	0
26	1	0
27	1	0
28	1	0
29	1	0
30	1	0
31	1	0
32	1	0
33	1	0
34	1	0
35	1	0
36	1	0
37	1	0
38	1	0
39	1	0
40	1	0
41	1	0
42	1	0
43	1	0
44	1	0
45	1	0
46	1	0
47	1	0
48	1	0
49	1	0
50	1	0
51	1	0
52	1	0
53	1	0
54	1	0
55	1	0
56	1	0
57	1	0
58	1	0
59	1	0
60	1	0
61	1	0
62	1	0
63	1	0
64	1	0
65	1	0
66	1	0
67	1	0
68	1	0
69	1	0
70	1	0
71	1	0
72	1	0
73	1	0
74	1	0
75	1	0
76	1	0
77	1	0
78	1	0
79	1	0
80	1	0
81	1	0
82	1	0
83	1	0
84	1	0
85	1	0
86	1	0
87	1	0
88	1	0
89	1	0
90	1	0
91	1	0
92	1	0
93	1	0
94	1	0
95	1	0
96	1	0
97	1	0
98	1	0
99	1	0
100	1	0

NEXT F

4 00000000000000000000000000000000 - another check.

5 "Fish[OD]", this signifies the end of a type 2 file.

If the file is type 3, then the drum kit data, as specified in the previous chapter starts here.

Appendix C - Hot keys

To use any of the keys, Rhythm-Bed must have the input focus. To obtain this click SELECT or ADJUST in any of the four main windows. The title bar turns cream to indicate that Rhythm-Bed has the input focus.

Note that when you use a key press to open a dialogue box the dialogue box will remain on screen until you click on either **Cancel** or **OK**.

CTRL A	Same as selecting 'Uniformly' in fill menu
CTRL C	Same as selecting 'Copy' in select menu
CTRL D	Same as selecting 'Randomly' in fill menu
CTRL E	Same as selecting 'Sequencer' in functions menu
CTRL O	Same as selecting 'Sync play' in play menu
CTRL P	Same as selecting 'Play' in main/play menus
CTRL R	Same as selecting 'Record' in functions menu
CTRL S	Same as selecting 'Softly' in fill menu
CTRL T	Same as selecting 'Tx notes off in MIDI menu
CTRL V	Same as selecting 'Paste' in select menu
CTRL X	Same as selecting 'Cut bars' in select menu
CTRL Z	Same as selecting 'cLear' in select menu
F1	Same as selecting 'Box info' in functions menu
F3	Opens 'Save as:' dialogue box
F5	Opens 'Goto Bar dialogue box
F6	Opens 'Alter Depths' dialogue box
F7	Opens 'Copy Bars' dialogue box
F8	Opens 'Velocities' dialogue box
F9	Opens 'Tracks' dialogue box
F10	Opens 'Bar values' dialogue box
Shift F5	Same as selecting 'Data' in tidy menu
Shift F6	Same as selecting 'Initial' in tidy menu
Shift F7	Same as selecting 'Promote' in tidy menu
Shift F8	Same as selecting 'Demote' in tidy menu
Page Up/Shift up	Move up 5 tracks
Page Down/Shift down	Move down 5 tracks
Shift right	Move right by 1 bar
Shift left	Move left by 1 bar
Ctrl left/Home	Go to start of grid
Ctrl right	Go to end of grid
Ctrl down	Go to track 64
Ctrl up	Go to track 1
Cursor up	Move up by 1 track
Cursor down	Move down by 1 track
Cursor right	Move right by 1 box
Cursor left	Move left by 1 box

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