Bars&Pipes Professional
Version 2.5 Addendum

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Congratulations...

...And welcome to Bars&Pipes Professional Version 2.5. We're pleased to continue the Bars&Pipes tradition with this latest release. Before we begin showing you in detail, please glance over the following list of features and enhancements. We'll cover each of these items in the order they are listed.

Overview

General Features

1. Looping is now an option – the ability to loop any number of measures on all Tracks simultaneously. Real Time and Linear Tracks don't loop, so you have the ability to combine looping Tracks with non-looping Tracks. You can also record over a looping section.

2. An easier way to enter SMPTE times and Song times is implemented – entry gadgets such as those in the Set Flags window automatically format your input for you.

3. The Patch List window is larger to make patch list editing easier.

4. Alphabetizing Tools in the ToolBox is an option, both in normal mode and display Tool names mode.

5. There are now hotkeys to scroll most windows left and right.

6. There is now Amiga Intuition Style Guide compliance for menus.

7. New features make the Workbench 2.0 double-width and double-height screen options even more useable. Windows can easily be moved into any quarter of the double-width/double-height screen. It is easy to switch views from one quarter to another at the touch of a hot key. It is like having four screens on which to work instead of just one.

Track Window Menu Features

1. The new Group/Merge command allows you to merge several Tracks together into one Track with a single command.

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2. The Tool/Replicate command quickly copies a Tool from one Track into every Track in the Song or Group.

3. The Tool/Remove command now removes a Tool from not only a single Track, but also from every Track in the Song or Group if you wish.

4. The Track/Split command splits a Track into several Tracks with a single pitch in each Track. This is ideal for splitting a drum Track into its component drum parts.

5. The Song/Song Length command now shortens as well as lengthens songs.

Edit Window Features

1. When an Edit window is open for a Track, any changes you make are immediately heard when you play from the Transport Controls. There is no longer any need to close the Edit window to hear the changes, or to choose the Update command. You still have the ability to abort your changes and revert to the original contents of the Track before you opened the Edit window.

2. The Listen button in the Edit window now changes to a Stop button when you press it, allowing you to stop the performance at any time you wish.

3. The Display Menu (once again) has the Sizing menu options that may be used instead of the Zoom buttons.

4. The Mix option in the Track and Edit windows includes options to Mix the entire clip into the Track, or only Mix to the right Edit Flag.

5. The option "Anywhere" is now a selection in the Edit window's Prefs/Lock Time To... menu command.

6. In the Edit window, the left/right arrow keys move a note backward and forward in time, following the Lock To... prefs setting. This allows you to move a note backward and forward by a single clock, or by almost any other amount you wish with a single keypress.

7. Step Entry is significantly improved. You can hit the space bar while holding a note to increase its length by a chosen amount. For example, you can leave the default note length on 16th notes, and enter an 8th note by holding a note and hitting the space bar once, or a quarter note by hitting the space bar three times. You can even continue holding one note, hit the space bar and then hit another note while continuing to hold the original, hit the space bar, etc.

8. The Magic Wand now stretches notes in the Hybrid Staff and Piano Roll much more quickly.

9. Surrounding notes in Tablature mode with the Bounding Box now allows you to move notes up and down across strings as well as left and right.

10. The Right Mouse Button now cancels dragging, copying, and wanding operations in the Edit window. For instance, if you grab a note and start to move it, hitting the Right Mouse Button returns it to its original location.

11. You may enter Lyrics with syllable dividers, and they print appropriately. For instance, syl-la-ble would be printed as three separate syllables, spread across an entire measure or section, with dashes between each.

12. There is a Piano Autorange function which causes the Piano Range to automatically range itself from the lowest note to the highest note every time you open a Graphic Edit window.

13. Shift-clicking on the Edit Flags in the Edit window now provides a quick method of opening the Bounds window, allowing you to quickly set the Edit Flag locations.

Song Construction Window Features

1. The Bounding Box is improved so that it is easier to use and it is more obvious which measures are highlighted.

2. The Right Mouse Button now cancels dragging, copying, and wanding operations. For example, if you are dragging a group of measures that you surrounded with the Bounding Box, clicking the Right Mouse Button returns them to their original location.

Toolizing several measures in a row no longer Toolizes measure by measure, but instead Toolizes the entire group of measures at once.

Metronome Features

1. A Lead In button allows you to enable and disable the Lead In function.

2. Global hotkeys turn on and off the internal, MIDI, and visual metronome, as well as the Lead In function.

Printing Features

1. There is a new option to print several ledger lines below the Treble Clef or above the Bass Clef, if you wish.

2. There are new options to precisely set the number of measures to print per line, and the number of staves per page, as well as providing more printing resolutions.

3. Printing Songs or Groups now fills the entire page with Tracks before inserting a page break.

4. You now have the ability to print Tablature along with your staves.

New Tool Features

1. A Tool called Key Finder can analyze a piece of music and provide you with scale and chord suggestions. It can also play scales and chords against each other so you can directly hear the function of a chord within a scale.

2. Automated mixing Tools provide the ability to easily use several brands of automated mixing units.

3. A new Legato Tool provides the ability to make the notes of your music slightly overlap for a true legato sound, create mathematical legato where the previous note ends directly at the beginning of the next one, or even create notes that sound staccato.

4. The Pattern Tool can now be recorded on while simultaneously listening to other Pattern Tools, along with your prerecorded Tracks.

5. The Guitar Tool is an all-in-one guitar extraveganza that provides an on-screen fretboard to solo on or even play chords. You can also perform chords into the Guitar Tool and have them automatically converted into guitar inversions, with several different strumming options. Extensive features allow you to customize the Guitar Tool into your own style of playing and performance preference.

6. The AList Tool displays all events that pass through it. Put AList in a PipeLine and instantly know exactly what MIDI data is flowing. AList allows you to choose which events it displays. It also has a history buffer and printing capability.

7. The Drum Key Tool converts your Amiga keyboard into a drum pad, or even a keyboard instrument. You can use Drum Key to convert almost any keypress on your Amiga keyboard into any note event that you wish.

New Accessory Feature

1. An Accessory called the Logical Accessory provides set functions such as exclusion, intersection, and union that you can perform on any two Tracks. Exclusion removes notes that exist in both Tracks. Intersection removes notes that do not exist in both Tracks. Union merges both Tracks together (this is similar to the Track/Merge menu command, but identical notes in both Tracks are not duplicated). An example of the usefulness of this Accessory is as follows: if you create a copy of a Track and Toolize the copy with the CounterPoint Tool, you now have one Track with the original contents, and another Track with the original contents plus a counter melody. To get rid of the original contents in the second Track, but keep the counter melody, use the Logical Accessory to exclude the original Track's notes from the copy.

Looping

Looping, also known as repeating, is the ability to play several measures in several Tracks over and over a specified number of times.

Access looping via the Song Construction window. You can set each song section to play through once or repeat any number of times.

Creating A Looping Section

The easiest way to learn is by example:

Example: Looping Measures 1-4, 4 Times

1. Open the Song Construction window.
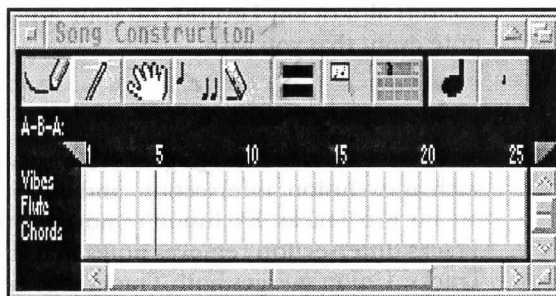
2. Activate the Pencil button.

3. Make sure that there are no existing ABA sections.

NOTE ➔ If you don't see any colored bars to the right of the A-B-A prompt above the measure numbers, there are no ABA sections. If necessary, activate the Eraser button and erase any existing ABA sections, and then reactivate the Pencil.

4. Click in the ABA area with the Pencil. The ABA section requester opens with the default values. The Section Name: should be "A", the Measures: should be "4", and the Repeats: should be "0".

Section Name: A

Measures: ⫿ < > 4

Repeats: ⫿ < > 0

Okay | Cancel
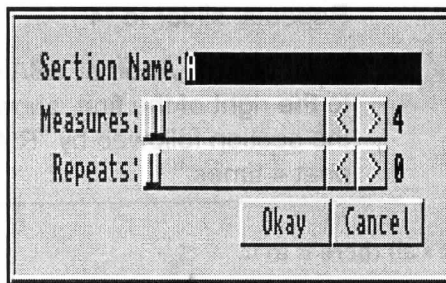
5. Slide the Repeats: slider to "4".

6. Select Okay. The ABA section appears to the right of the A-B-A: prompt, showing the name of the ABA section, followed by "R:4".

NOTE ➜ The "R:4" denotes "repeat this section 4 times."

That's it! Play your song from the beginning, and measures 1 through 4 will repeat 4 times.

Example: Looping Measures 12-20, 4 Times

1. Clear all sections with the eraser, then use the pencil to enter a new section. Again, this opens the ABA section requester.

2. Slide the Measures: slider to "11", and leave the Repeats: slider at "0".

3. Select Okay. The ABA section appears to the right of the A-B-A: prompt, showing only the name of the section.

4. Click in the ABA area again with the Pencil, to the right of the first section you just created. The ABA section requester opens again.

5. Slide the Measures: slider to "8" and the Repeats: slider to "4".

6. Select Okay. Another ABA section appears to the right of the first, showing the name of the section followed by "R:4", denoting "repeat 4 times."

That's all there is to it.

Example: General Looping Procedure

1. If you want a loop beginning with measure 1, then follow Example 1 and adjust the Measures: and Repeats: sliders in the section requester according to how many measures you want to loop and how many times to loop them.

2. If you want a loop beginning with a measure other than 1, then you must first enter a section long enough to cover measures 1 through the measure before you want to begin the loop. Then, you must create another section of the appropriate length and repeat count, as in example 2.

Changing The Number Of Times A Looping Section Repeats

To change the number of times an existing Section repeats:

Example: Changing Section Repeat Count

1. Open the Song Construction window.

2. Activate the Magic Wand.

3. Click with the Wand on the looping Section. The ABA section requester opens.

4. Adjust the Repeats: slider accordingly.

5. Select Okay. The ABA section appears after the A-B-A: prompt. It shows the name of the section, followed by an R:#, where # denotes the repeat count.

Changing The Length Of A Looping Section

To change the length (number of measures) of an existing looping section:

Example: Changing Section Length

1. Open the Song Construction window.

2. Activate the Magic Wand.

3. Click with the Wand on the looping Section. The ABA section requester opens.

4. Adjust the Measures: slider accordingly.

5. Select Okay. The ABA section appears after the A-B-A: prompt, showing the name of the section followed by an R:#, where # denotes the repeat count. The length of the ABA section changes to reflect your new choice.

Changing The Position Of A Looping Section

Change the position of a looping section by either by dragging it with the hand or changing the length of sections that precede it.

For instance, if you want to move an existing looping section to the right by 3 measures, you increase the length of one or more sections to the left of the looping section by a total of 3 measures.

Recording Over A Looping Section

Of course, there will be times when you record a Track of music over other looping Tracks. Here's how:

Example: Overwriting A Looped Section

1. Create a looping section of music.

2. Set up a Track on which to record. Make sure the Input Arrow or MIDI Channel (in multi-in mode) are correct, and the red **R** indicates that the Track is in record mode.

3. Activate sequencer record mode by highlighting **R** in the Transport.

4. Click on **Start** to begin recording.

5. Record music. You should hear the other Tracks looping as you overdub on top of them. You do not hear what you record looping. You are, in essence, recording a linear Track on top of the looping Tracks.

6. Click on **Stop**. A requester appears.

7. Choose **Create**. A new, special linear Track is created. This Track does not loop like the others. This way, you hear your music <u>as you recorded it</u>.

8. Click on **Play** in the Transport to hear the results.

You should notice that the new Linear Track looks slightly different than the other Tracks. Its colors are light grey when nonhighlighted, and the notes are purple when highlighted, instead of yellow. It is very similar to a RealTime Track.

Double click on the Linear Track's name (it's named the same as the Track from which it was created).

Notice that the **Linear** button is highlighted. This indicates that this Track is linear in nature, and does not loop like other Tracks.

Excluding A Track From Looping

Real Time Tracks and Linear Tracks do not loop. The difference between a Real Time Track and a Linear Track is that Real Time Tracks do not follow tempo changes, while Linear Tracks do.

Linear Tracks are explained in the previous section, while Real Time Tracks are explained elsewhere in the manual.

To change an existing Track into a Linear or RealTime Track, double click on the Track's name. The Track Name requester opens. Highlight either the RealTime or the Linear button and choose OK.

Time Entry Fields

Several windows and requesters have fields for entering times in either SMPTE format or measures, beats, and clocks format.

For example, let's look at the Set Flags window, since it has several of these time entry fields.
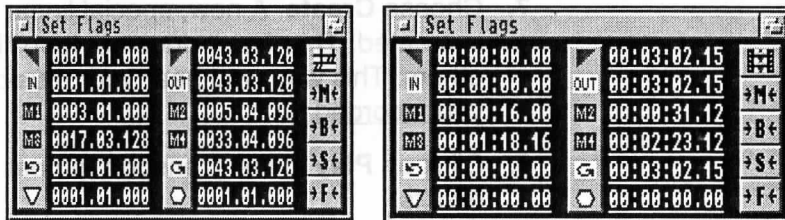
The left example shows the Set Flags window in measures, beats, and clocks format, while the right example shows the window in SMPTE format. Toggle between the two formats by clicking on the button in the upper right hand corner of the windows, above the "M" button.

Changing The Time

Click on the number you would like to change, press the number or numbers on your Amiga keyboard or keypad, and hit the return or Enter key.

There is no need to use the Delete key or Backspace key unless you wish, because all numbers you enter overstrike the previous number.

You also need not worry about the colons or periods, as these automatically stay in place, and you can not type over them.

After you hit return, or click elsewhere in the screen, the number will revert to its orginal value if you've entered an illegal or invalid number. If this happens, enter a valid number instead. A leading cause of invalid numbers is typing a zero for the beats in measures, beats, and clocks format.

Special Keys

There are several special keys that can make entering new times easier. All movement keys skip over colons and periods automatically.

1. Delete - the delete key acts just like hitting a zero. It sets the current number beneath the cursor to zero and moves the cursor to the right.

2. Backspace - the backspace key moves the cursor to the left, setting the number beneath the cursor to zero.

3. Left arrow - moves the cursor one space to the left.

4. **Right arrow** - moves the cursor one space to the right.

5. **Shift/Left arrow** - moves the cursor to the next field space.

6. **Shift/Right arrow** - moves the cursor left one field space.

7. **Up arrow** - increments the number beneath the cursor by one.

8. **Down arrow** - decrements the number beneath the cursor by one.

Track Editing Features

Several new track editing features are available.

Merging Groups Of Tracks Together

You can merge several Tracks into one Track in a single operation. This is useful for merging several Tracks of drums into a single drum track, or merging several Tracks recorded from different MIDI channels from a guitar controller into a single Track for tablature printing.

★TIP★ In the latter case, where each guitar string is recorded on a separate track, open the Graphic Editor for each track separately, and tabulate on the correct string for each track. Then, merge the Tracks together. The notes retain their original string assignments for accurate tablature transcriptions.

Example: Merging Several Tracks

1. Open the main Tracks window. Choose a blank, unused track to merge the tracks into. If you do not have a blank track, select **New** from the Track menu to create a new blank track.

2. Activate one of the Group button numbers (1-8) in the upper left hand corner of the Tracks window. This places Bars&Pipes Professional in Group mode. If any tracks turn white, they are already members of this group, and you should chose a different number.

3. Activate the Group button (the button that says "Group" on it). This places you in Group Edit mode. Any track you click on becomes a member of this new group.

4. Click on the tracks to merge together. Each track turns white to indicate it is a member of the group.

5. Deactivate the Group button, but leave the Group Number button active. This takes you out of Group edit mode and back into Group mode.

6. Choose the **Group/Merge...** menu command. "Select the Merge Track:" appears in the Track window's title bar.

7. Click on an empty Track. The Track fills with the merged contents of the group of tracks. The original group is left intact.

8. If desired, choose the **Group/Remove** menu command to remove all the original tracks from the song. Alternatively, you may wish to click on the solo/mute button until the group of tracks is muted, in case you ever wish to reuse the original group of tracks.

9. Deactivate the Group Number button to return to normal track editing mode.

★TIP★   Optionally, use multiple selection to create a temporary group. To do so, hold down on the shift key and click one by one on the Tracks that you would like to merge.

Replicate A Tool From One Track Into Other Tracks

There are times when it is desireable to copy a Tool from one Track into several other Tracks. For example, you may wish to replace MIDI Out Tools on all Tracks with One-Stop Out Tools. Or, you may wish to take a Quantize Tool that you've configured on one Track and copy it to all Tracks.

One way to do this is by using the mouse: clicking and dragging copies of the Tool one by one. However, this can be cumbersome for several Tracks. The Tool menu provides a Replicate command to make this process easier.

Example: Copying A Tool From One Track Into All Tracks Of The Song

1. Open the main Tracks window.

2. Click on the Tool you wish to copy. It then appears surrounded by a red square.

3. Choose the **Tool/Replicate To... All Tracks** menu command. A copy of the Tool appears in all tracks of the song.

Example: Copying A Tool From One Track Into A Group Of Tracks

1. Follow steps 1 and 2 of example 1 above.

2. Activate the Group Number button in the upper left hand corner of the Tracks window of the group you wish to copy the Tool to every track of.

3. Choose the **Tool/Replicate To... Group**
    menu command. A copy of the Tool ap-
    pears in all tracks of the group.

Removing Tools

One way to remove a Tool from a track is to click on the Tool and hit
the Del key on the Amiga keyboard, or choose the **Tool/Remove
From Track** menu command.

If you wish to remove a similar Tool from a group or song, the
Tool/Remove From Group and **Tool/Remove From All Tracks** menu
commands are also available.

Splitting A Drum Track Into Several Tracks

There are times when you might wish to split a single track of multiple
drum sounds into several tracks of single drum sounds. For instance,
this might be useful if you wish to set an echo on the snare drum, but
not the bass drum.

The **Track/Split** menu command provides the ability to split a Track
into component parts in a single move.

★TIP★   You can also accomplish similar and sometimes even more intruiging results
using different Tools from a variety of Tool Kits available.

Example: Splitting A Drum Track Into Component Drum Parts

1. Open the main Tracks window.

2. Click on the track that you wish to split.

3. Choose the **Track/Split** menu command. A
    requester appears that tells you how many
    Tracks will be created if you choose to
    continue.

4. Choose Yes to split the track. The track splits into several tracks, all having the same name, Tools, and MIDI channel as the original track.

NOTE → You can reconstruct the original track by merging all split tracks back together. Please see merging groups, earlier in this addendum.

Mixing A Clip Into A Track

There are times when you may cut or copy a clip from one Track and wish to mix (e.g. merge) its contents into another Track.

NOTE → When you paste a clip into a Track, it actually inserts the clip into the Track, moving the contents of the Track to the right to make room for the clip. If you mix the clip into the Track instead, it does not move the Track's original contents to the right.

Example: Mixing The Contents Of Measures 5-8 Of One Track Into Measures 10-13 Of Another

1. Open the main Tracks window.

2. Click on the Track to copy the clip from. The Track highlights in white.

3. Set the Left Edit flag at the beginning of measure 5.

4. Set the Right Edit flag at the beginning of measure 9.

5. Click on the Solo button in the upper left hand corner of the Tracks window. All Tracks except the highlighted one become muted.

NOTE → This causes the next Edit operation to work only on the soloed track.

6. Choose the **Edit/Copy** menu command. If it is not already open, the Clipboard window opens and displays the new clip. It highlights the new clip in red, and it displays the name after the Clip Name: prompt. The name in the list appears with an "S", signifying a single track, and "0003.00.00" signifying a length of 3 measures, no beats, and no clocks.

7. Click on the destination Track. It highlights in white.

8. Once again, click on the solo button to solo the Track.

9. Move the Left Edit flag to the beginning of measure 10. It does not matter where the Right Edit flag is.

10. Choose the **Edit/Mix To End Of Clip** menu command. The entire contents of the clip are mixed into the track.

The menu option **Edit/Mix To Right Edit Flag** works similarly to the **Mix To End Of Clip** command, except that it stops mixing the clip when it reaches the Right Edit flag.

For instance, if the Right Edit flag had been set at the beginning of measure 11 in the above example, only the first measure of the clip would have been mixed into the track.

Graphic Editor Features

The Graphic Editor has been significantly improved.

Listening To Your Edits

The Listen button in the Graphic and List Editors now turns into a Stop button when you press it. This allows you to stop the playback at any time.

Also, if you disable the **Prefs/Listen Auto-Stop** menu option, the listening doesn't stop at the right of the window. It continues until you press the Stop button, making listening to several measures easier.

★TIP★ Use the Display/Scroll with Performance menu option if you would like to enable or disable the automatic scrolling of the Graphic Editor as you listen to the music.

The **Prefs/Perfrom All Tracks** menu option is still available. Choosing this option causes all Tracks to play when you press the Listen button. Otherwise, you only hear the current window's performance.

Another way to listen to your edits in context with the rest of your tracks is to hit play on the Transport Controls.

★TIP★ It is no longer necessary to close the Edit window or choose the Edit/Update menu command to hear your edits from the Transport Controls. Just hit Play on any Transport and you're ready to go! However, if you select Edit/Abort, the Track reverts to the original performance.

Display/Sizing Menu Option

The **Display/Sizing** menu option provides a function identical to the Zoom In and Zoom Out gadgets. You can select Very Large, Large, Normal, Small, or Very Small.

NOTE → Unlike previous versions of Bars&Pipes Professional, the zoom setting no longer affects the way notation is printed. Please see the section on printing, in this addendum, for more information.

Mixing A Clip

New **Edit/Mix** commands are available.

Please see *Mixing A Clip Into A Track* in the Track Editing Features section of this addendum for more information.

Moving Events Backwards And Forwards With The Keyboard

The left and right arrow keys on the Amiga keyboard now move events backwards and forwards in time, following the **Prefs/Lock Time To** menu setting.

Example: Using Arrow Keys To Move A Note Backward And Forward By One Clock

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1. With the Graphic Editor open, choose the **Prefs/Lock Time To Anywhere** menu option.

2. Activate the Hand button.

3. Highlight a note by passing the mouse pointer over the note. The note turns red when it is highlighted.

4. Press the left or right arrow keys on the Amiga keyboard. The note moves one clock backward or forward.

5. Hold the arrow key down. The note starts quickly moving backward or forward in single clock increments.

New Step Entry Functions

Step Entry is easier to use than ever. Choose the smallest note in your music (for instance, 16th notes), and use the space bar to stretch your notes out and easily create 8th notes, quarter notes, etc.

Learning by example is the quickest and easiest way. The following example builds an arpeggio where each note begins a 16th note after the preceding note, and each note lasts for a quarter note:

Example: Building An Arpeggio With Step Entry

1. With the Graphic Editor open, activate Step Entry by clicking on the Step Entry button (the 9th button from the left that looks like a keyboard).

2. Show the Hybrid Staff by choosing the **Show/Staff-Hybrid** menu command and adjusting the right scroll bar if necessary.

3. Set the default note to 16th notes by clicking on the button to the right of the Step Entry button and choosing the 16th note.

4. Make sure that the Note Modifier button (the next button to the right) is set on a normal note, and not a dotted or triplet note.

5. Choose the Note Articulation you wish by setting the next button to the right of the Note Modifier button. A good choice is full articulation (two notes with a tie) or legato articulation (a note with an underscore).

6. Set the Left Edit flag where you wish to begin the arpeggio. For practice, the beginning of measure 1 is a good choice.

7. On your MIDI instrument, select a C note and hold it down. The note appears in red on the hybrid staff as a 16th note.

NOTE ➡ If the note does not appear on the hybrid staff, it can be due to several things. Check to make sure that you are choosing a C note that is in range of the hybrid staff. Make certain that the Input Arrow is selected on the Track that you're working on in the main Tracks window. Also, check to be sure that your MIDI is functioning properly.

8. Press the space bar. The Left Edit flag moves to the right by a 16th note, and the note grows by a 16th note (and turns into an 8th note).

9. Select and hold the E above the C you are holding on your MIDI instrument. Continue holding both notes. The E note appears in red above the C note in the hybrid staff.

10. Press the space bar again. The Left Edit flag moves and both notes grow by a 16th note.

11. Select and hold the G above the E you are holding on your MIDI instrument. Continue holding all three notes. The note G appears in red above the E note in the hybrid staff.

12. Press the space bar again. The Left Edit flag moves and all three notes grow by a 16th note.

13. Release the original C note you've been holding. The C note on the hybrid staff turns blue. It is a quarter note long, since you've hit the space bar three times, which equals four 16th notes, which equals one quarter note.

14. Press and hold the C note an octave above the original C note, while continuing to hold the other E and G notes.

15. Press the space bar. Notice that all the red notes increase in length, while the C blue note does not.

16. Release the E note. The E note turns blue.

17. Press the space bar.

18. Release the G note. It turns blue.

19. Press the space bar.

20. Release the C note. It turns blue. The arpeggio is complete!

★TIP★   If you make mistakes, remember that you can hit the backspace key to back up.

Cancelling Drag, Copy, And Wand Operations

Sometimes, while editing, you may find that you've accidentally grabbed the wrong note with the Hand, or stretched a note with the Magic Wand but decide that you want to abort the stretch.

If you grab a note or event and realize that you don't really want to change the note after all, continue holding the left mouse button while you click the right mouse button to cancel the operation. Then, release the left mouse button.

Entering And Printing Lyrics With Separated Syllables

Enter lyrics normally; if you wish the syllables to be separated, enter them with dashes between the syllables. Like this: syl-la-bles.

When you print out your music with lyrics, the lyrics' syllables are spread out, with dashes between each syllable.

Setting The Piano Range Display To Automatically Range Itself Every Time You Open The Graphic Editor

Choose the **Prefs/Piano Autorange** menu option. Each time you re-open the Graphic Editor, the Piano Roll then automatically ranges itself from the highest note to the lowest note in the Track.

Quickly Setting Edit Flag Locations

Hold down the shift key and click on an Edit flag to open the bounds requester. Type in the new location you wish to put the flag.

Metronome Features

The major additions for the metronome are hotkeys to control its function.

The following keys toggle the metronome functions:

1. **I** - toggles the Internal Amiga sound metronome on and off.

2. **V** - toggles the Visual metronome on and off.

3. **O** - toggles the Output (e.g. MIDI) metronome on and off.

4. **L** - toggles the Lead In function on and off.

Miscellaneous Features

Navigating Double-Width And Double-Height Screens

With Workbench 2.0 and above, Bars&Pipes has the ability to open on a double-width and/or double-height screen. This is done by choosing the **Preferences/Environment** menu option.

New hotkeys make navigating this huge screen easier.

The **Alt** key, in conjunction with the **arrow** keys moves the screen by one screenful. Hold down the **Alt** key and press the **arrow** keys to navigate the extra large screen. The window icons always appear in the current screen for easy access.

Holding the **Shift** key causes the currently active window to move into the new view area. Hold down both the **Shift** and **Alt** keys while pressing the **arrow** keys.

These features can make it seem like Bars&Pipes Professional is four screens instead of one! For instance, you could open Mix Maestro in one quadrant, the Track window in another, and still have two full screens for other windows. Keep in mind, however, that open windows consume CPU and memory resources.

Alphabetizing Your Toolbox

It is easier to find Tools if they are in alphabetical order. You can click on a Tool in the ToolBox, see its name in the ToolBox title bar, and instantly know if the Tool you are looking for is before or after.

Open the ToolBox or click inside of it to activate the ToolBox window. Then, choose the **Preferences/Alphabetize** menu command. The Tools in the ToolBox alphabetize themselves.

Printing Features

Several new printing features help you to customize your printouts.

Printing Ledger Lines

When printing a single staff, it is usually desireable to print several ledger lines above and below the staff.

The Graphic Editor's **Notation/Print Options/Set Ledger Lines...** menu command allows you to customize the way that each Track's staves are notated and printed.

Example: Print Treble Clef With As Many Ledger Lines Below As Possible

1. Open the Graphic Editor for a Track by double-clicking on the Track in main Tracks window (or, single-click and hit the Return key).

2. Make sure that the notation staff is showing. If it isn't, select the **Show/Staff-Notation** menu option.

3. Choose the **Notation/Print Options/Set Ledger Lines...** menu command. The Adjust Ledger Lines requester opens.

```
Adjust Ledger Lines
(for single-staff printing)


       ↑

  cs
       ↓


       Okay    Cancel
```
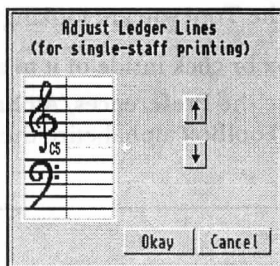
4. Click on the down arrow until the white arrow pointing to the staff is at the bottom. This arrow denotes the center position between the bass clef and the treble clef.

NOTE → If you want to print a bass clef with as many ledger lines above as possible, click the up arrow until the white arrow is as high as possible.

5. Click Okay. Bars&Pipes asks if you would like to renotate your entire Track.

6. Click Yes. Bars&Pipes renotates the Track with the new ledger line positions. Notice that most notes in the bass clef are now actually part of the treble clef.

NOTE → If you choose No, Bars&Pipes does not renotate, and your music prints the same way it always did. This allows you to renotate only the measures that you wish, using the Notation/Transcribe/Between Flags menu option.

Printing Tablature

To enable Tablature printing for a Track, open the Graphics Editor and choose the **Notation/Print Options/Tablature** menu option.

NOTE → Tablature can not print by itself. It requires that you also print at least one staff, or both staves along with it.

Make sure that you've tabulated your music before you print. If necessary, choose the **Tablature/Tabulate** menu option from the Graphics Editor.

Formatting The Printed Page

You can easily tell Bars&Pipes how many measures to print per line and how many grand staves to print per page.

You can set these options in one of two ways:

1. Choose **Notation/Print Options/Page Options...** from the Graphics Editor.

2. Choose **Preferences/Page Print Options...** from the main Tracks window.

The Adjust Page Print Options requester opens.

```
┌─────────────────────────────────────┐
│     Adjust Page Print Options         │
│  Measures/line:  ▐         │ < │ > │ 4 │
│  Full Staves/Page: ▐       │ < │ > │ 4 │
│                                       │
│  Note Spacing:  │   │ < │ > │ Normal   │
│                                       │
│            Okay  │  Cancel            │
└─────────────────────────────────────┘
```
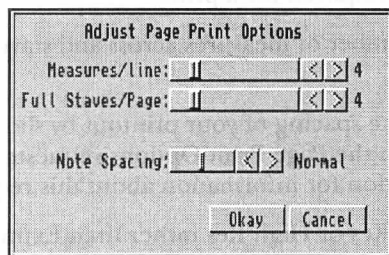
Slide the Measures/line: slider to the number of measures per line you would like to print.

Slide the Full Staves/Page: slider to the number of full staves you would like to print per page.

NOTE ➜ If you open the requester from the Graphics Editor, and you've chosen to only print one staff, the second slider reads "Half Staves/Page" instead of "Full Staves/Page", and is double the number of full staves per page.

The Note Spacing: slider controls the overall resolution of the printout. The only real way to know the best note spacing on your particular system is to try a few sample printouts.

★TIP★   Low note spacings tend to look chunkier and clutter the notes together. High note spacings make the notes thinner and more spaced apart. Normal note spacing is a compromise between the two.

Printing Memory Requirements

Printing requires large amounts of free and contiguous (e.g. non-fragmented) graphics memory. Bars&Pipes Professional Tools and Accessories, along with any other application running on your system, consume this precious resource.

For a common example of memory usage, let's say that you wish to print a page of four measures across and four full staves down at normal note spacing and normal resolution. This operation requires 64 Kilobytes of free graphics memory. At high note spacing, this memory requirement increases to 283 Kilobytes.

There are several things you can do in order to decrease the amount of graphics memory required for a print:

1.   Decrease the number of measures across and staves down you wish to print.

2.   Decrease the note spacing of your printout by sliding the Note Spacing: slider in the Page Print Options requester (please see the previous section for information about this requester).

3.   Print in Default Res or High Res rather than Extra Hi Res.

Also, make sure that no other applications are running, and that all unneccessary Bars&Pipes Professional Tools and Accessories are removed from your system.

★TIP★   On may Amigas, you can see how much contiguous free graphics memory you have by opening a Shell and typing "avail". The amount shown to the right of "chip" and beneath "largest" is the amount of contiguous free graphics memory.

Tools

The following outlines in detail each new Tool included with Bars&Pipes Professional 2.5:

NAME: AList

DESCRIPTION: The AList control window displays MIDI events as they pass through. It displays all MIDI events except System Exclusive events.

USAGE: Pipeline.

CONTROLS: The AList Tool's control window contains a large window for MIDI event viewing, and several filter buttons to control which MIDI events are displayed, along with a scroll bar that allows you to view events that have scrolled off the top of the display.

There are also buttons that allow you to print the MIDI events, as well as menu commands that aid in formatting the printout.

The title bar of the AList control window usually displays two sets of numbers. The first set appears like "15-28" and means that lines 15 through 28 of the buffer are currently displayed. The second set appears like "33:34" and means that there are a total of 34 lines in the buffer and 33 lines are selected for display.
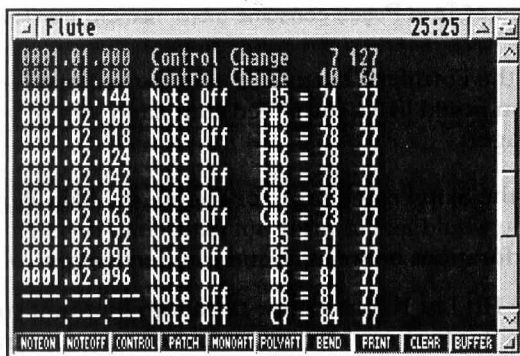
Filtering The Display

The first seven buttons at the bottom of AList's control window determine which MIDI events AList displays. By default, AList displays all seven. Click and deactivate a button to filter that MIDI type from the display.

Printing The List Of Events

The next three buttons allow AList to print the MIDI events.

Click on the Print button to print the list.

Click on the Clear button to reset AList's display and empty the buffer.

Click on the Buffer button to format AList's printout. This can also be done by adjusting AList's menu options. This button displays "Full" when the buffer becomes full.

Choosing Print Options

To choose Print Options, click on the Buffer button or choose the **Page Length...** menu command. The Print Buffer Options requester opens.

First, choose the Lines Per Page that your printer prints by sliding the Lines per Page slider. Then, choose the maximum number of pages you would like to set aside as a memory buffer by sliding the Total Pages slider. AList displays the total number of lines it can store beneath the Formfeed and Skip Perfs buttons.

NOTE ➜   High numbers of Total Pages consume more memory than low numbers.

Highlight the Formfeed button, or choose the **Formfeed** menu command if you would like a form feed command sent to your printer after each page.

Highlight the Skip Perfs button, or choose the **Skip Perfs** menu command if you would like to print out extra lines on each page in order to skip perforations between continuous feed pages.

Toggle the Hit List Names/Show Durations button if you would like displayed notes to show their hit list names or their durations.


NAME: Auto_Mix

DESCRIPTION: The Auto_Mix Tool makes the process of automated mixing with a hardware mixing board such as the Mackie 1604 or the CM automated mixing module easier.

USAGE: PipeLine (mainly Output PipeLine.)

CONTROLS: The Auto_Mix Tool's control window provides several graphic sliders that send out user-definable control changes. By

---

default, the leftmost slider sends out CC #0, and each slider to the right increments this number by one. This is typically how an automated mixing unit is set up.
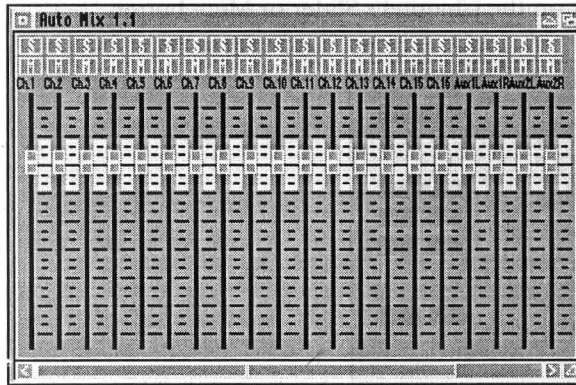
Each slider also has its own Mute and Solo buttons. Mute buttons mute the automated mixer's track. Solo buttons solo the track.

Sliders may be grouped into subgroups. Subgroups allow you to have all sliders move relative to each other, or provide crossfading (which is also useful for stereo panning, if one slider is designated as a right channel output and the other is a left channel output.)

Mute buttons may be also be grouped in one of two modes. In one mode, only one mute button in a group may be active at any one time. In the other mode all mutes toggle at the same time.

All slider movements and mute button toggles are recorded directly into the Track containing the Mixer Tool. Slider movements are recorded as continuous control messages (Control Change #'s.) Mute buttons are recorded as Poly After Touch messages.

These Poly After Touch messages are converted into Note On and Note Off events by the Mixer Tool. For this reason, the automated mixing track must always have the Mixer Tool in its Output Pipeline to work properly. (If you don't use the Mute buttons, you can remove the Mixer Tool when your mix is complete, since the Control Change information does not need to be converted.)

The conversion from Poly After Touch to Note On/Off is necessary because Bars&Pipes Professional can not store a Note Off independently of a Note on.

Opening A Channel's Subgroup Requester

Double-click on a slider's name to open the Channel's subgroup requester. Alternatively, hold down one of the Amiga's shift keys and click on the Channel's Slider or Mute button.

```
Set Ch.1  SubGroup
Channel Name: Ch.1
   [C] ▌ Free
   Top Scale:    127
Bottom Scale:      0
   Control #:      0
   [C] M: Free
Mute Note #:      0
 ─ Okay     [Cancel]
```
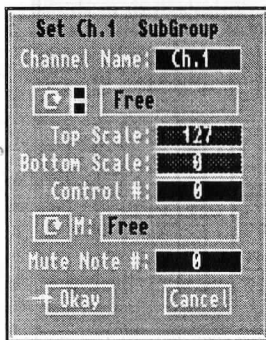
Changing A Channel's Name

Open the Channel subgroup requester. Change the channel name after the Channel Name: prompt by clicking in the field and editing.

Changing A Channel's Control Change

Open the Channel subgroup requester. Change the number after the Control #: prompt. Note that this change is NOT retroactive! Prerecorded slider movements retain their original numbers.

Changing A Channel's Mute Note

Open the Channel subgroup requester. Change the number after the Mute Note #: promp. Note that this change is NOT retroactive! Prerecorded Mute button changes retain their original numbers.

Setting A Slider's Subgroup

Open the Channel subgroup requester. Click on the cycle button beneath the Channel Name: prompt to cycle between the ten available subgroup colors.

Alternatively, hold down a number key along the top of the Amiga keyboard and click on a Channel slider to assign a subgroup.

Setting A Slider Subgroup Type

You can assign each subgroup color to be one of six types. Open the Channel subgroup requester for a member of the subgroup you wish to set. Click on the button to the right of the cycle button beneath the Channel Name: prompt.

(Note that while moving subgroups, some sliders appear to lag behind the slider you grab and slide manually. This is due to the slowness of the graphical update. The other sliders record the correct information – the CPU is just too slow to show it properly. Sliders are displayed as borders only in order to increase the graphical refresh speed.)

The subgroup types are:

1. Free - all sliders of this type move independantly of each other.

2. Equal - all sliders of this type move as a unit at the same level.

3. Scaled - sliders move relative to each other according to the values after the Top Scale: and Bottom Scale: prompts. These values are set independantly for each slider in the Scaled Subgroup.

4. Buffered - sliders retain their positions relative to each other. At the extreme upper and lower boundaries, sliders "remember" and return to their relative positions.

5. Nonbuffered - same as Buffered, except that when sliders are squashed into an upper or lower boundary, they assume new relative positions to each other.

6. Crossfade - moving one slider causes all other sliders to move in the opposite direction and absolute value.

Temporarily Defeating A Subgroup To Move A Slider Independently

Occasionally it is desireable to move a slider independently of the subgroup it is in. To do so, hold down the Amiga's Ctrl key and slide the slider.

Setting The Scaling Factor Of Sliders In A Scaled Subgroup

Use the Subgroup requester or hold down the Ctrl key and slide the slider.

Setting A Mute Subgroup

Open the Channel subgroup requester. Click on the cycle button above the Mute Note #: prompt to cycle between the ten available Mute subgroups.

Alternatively, hold down a number key along the top of the Amiga keyboard and click on a Mute button to assign a subgroup.

Setting A Mute Subgroup Type

You can assign each Mute subgroup as one of two modes:

1. One At A Time: Only one Mute button in the subgroup is un-muted at any one time. All other Mutes in the subgroup are muted. This is useful when you have several Tracks and wish to switch between them (switch between the best vocal phrases, for instance.)

2. All Toggle: All Mute buttons toggle together.

Temporarily Defeating A Mute Subgroup

Hold down the Amiga's Ctrl key and click the Mute button.

Menu Options

Clear Mix: clear the currently recorded mix and start from scratch.

Load and Save Mix: load and save current mix to disk.

Snapshot: insert the current Slider and Mute button positions into the current Song Position.

Rehearse Mix: Channel slider and Mute button changes are not re-corded while this is active. This allows you to practice your mix changes.

Bypass Mix: filters out all mix information from going down the pipeline, but leaves the information in the sequencer. Temporarily disables the mix.

Set Base Controller: sets the leftmost Slider control change number, and sets each slider incrementally to the right.

Set Base Note Number: sets the leftmost Mute button note number, and sets each button incrementally to the right.

**Edit Subgroup**: provides an alternate method for opening the Channel Subgroup requester.

NAME: Drum Key

DESCRIPTION: The Drum Key Tool turns your Amiga console keyboard into a drum pad. Each key can be mapped to any MIDI note number.

USAGE: PipeLine.

CONTROLS: The Drum Key control window contains two sliders: one to pick the key on the Amiga keyboard and the other to assign a MIDI note to that key.

```
| Track 6                              |
| Key:  [ I ]        < | >   Space Bar |
| Drum: [ I ]        < | >       B2    |
```
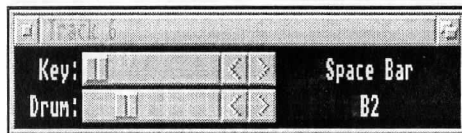
Slide the top slider to the key you wish to assign a MIDI note. Slide the bottom slider to the note you wish to assign.

NOTE ➜ You must use the shift or caps lock key to play the capital letters.

Loading And Saving Drum Key Maps

After assigning notes to keys, use the **Save...** menu option to save your map to disk.

Use the **Load...** menu option to load in a previously saved map from disk.

Reseting Drum Key

Use the **Reset** menu option to reset Drum Key to its original values.

Automatically Display Played Notes

Choose the **AutoNote** menu option to automatically change the drum key's display to the note you press on your Amiga console. This makes the process of creating a note map very easy, but also slows down the reaction time of Drum Key. It's recommended that you turn this option off when using Drum Key to play drums.


NAME: Guitar

DESCRIPTION: The Guitar Tool helps to make music played on a keyboard sound as if it were played on a guitar. It also provides an onscreen fretboard that guitarists can use to enter music.

USAGE: Pipeline, ToolPad.

CONTROLS: Guitar's control window looks like a guitar fretboard. The tuning knobs turn to tune the strings, the tuning pegs disable strings from sounding, and two buttons in the title bar open special control windows that enhance the Guitar Tool's capabilities.
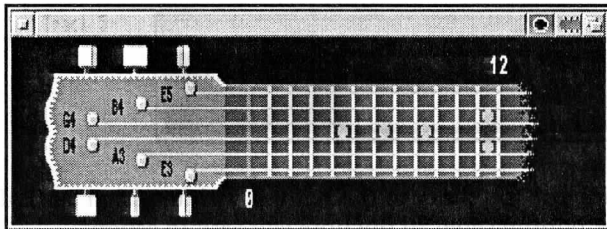
Most of Guitar Tool's windows are very friendly, in that they display the function of the button that the mouse pointer is over in the title bar.

The Guitar Tool maps a different chord to potentially every fret on the fretboard. The default chord map is all major chords. We also provide a default chord bank file that contains major, minor, augmented, diminished, suspended, fifths, octaves, and single note.

NOTE ➜ The Guitar Tool is somewhat complex. First, we'll explain how to use the main control window to play chords by playing on the fretboard, change tunings, etc. Then, we'll explain the different playing options. Finally, we'll explain how to load, create, and save your own custom chords.

Playing Chords Or Single Notes From The Fretboard

Click on the frets of the fretboard to play the current chord bank. Notes in the key of C major appear as white dots, while notes outside the key appear as black dots. The names of the notes appear to the right of the fretboard.

NOTE ➜ The dots and note names can be disabled in the Play Options window. Disabling these options make the Guitar Tool use less CPU power.

To play single note lines, choose the single note chord bank. Please see the sections "Loading The Default Chord Banks" and "Selecting A Chord Bank," below.

Pitch Bending And Automodulating Chords

While holding the left mouse button on the fretboard, hold the right mouse button and drag the mouse up and down to bend the pitch. Drag the mouse left and right to automodulate the vibrato.

NOTE ➜ These functions can be turned off in the Play Options window.

Changing String Tunings

Click on the tuning knob for the string you would like to change. Drag the mouse left and right while holding the left mouse button.

Muting Strings

You can mute a string by clicking on its tuning peg (the round circle next to the note's tuning display). The string becomes ghosted while muted.


Using The Guitar Tool To Convert Keyboard Voicings Into Guitar Voicings

By playing chords into the Guitar Tool from your MIDI keyboard, or by Toolizing and existing track, chords are automatically converted into guitar voicings.

You can drag the blue and red bars left and right to limit the range of the chords played. By default, the range is from the 0th fret to the 12th fret.

Opening The Play Options Window

Click on the circular button in the title bar of the Guitar Tool's control window, or choose the Play Options menu command to open the Play Options window.
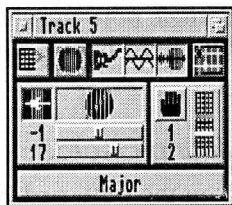
Changing Chord Strumming Options

The Guitar Tool strums chords in one of four ways: no strum, strum up, strum down, or strum both ways. When a chord enters the Guitar tool, it applies whichever strum selection you wish to the chord, causing the chord to sound like it was strummed on a guitar. The speed and duration of the strum are also changeable.

Open the Play Options window. Do change the direction of the strum or disable strumming, click on the button to the left of the sound hole. The title bar displays either "AutoStrum Off," "Up AutoStrum," "Down AutoStrum," or "Strum Both Ways." Select your choice from the pop-up menu.

Slide the sliders beneath the sound hole to change the delay and duration of the strum. The top slider affects the delay, and the bottom slider affects the duration. The sound hole graphically displays the results of your choices.

Changing The Number Of Frets A Chord Can Span

There are chords on the guitar that no guitarist could ever play, and chords that only guitarists with very large hands can play. The Guitar Tool allows you to choose the span over which it selects notes in a chord.

Open the Play Options window. The Hand button turns on and off chord stretching. The title bar displays the state of the button with "Chord Stretch On" or "Chord Stretch Off." If chord stretch is off, any chord can play regardless of the physical capability to play the chord.

With chord stretch on, the chords only play if they are in range of the mini fretboard to the right of the Hand button. The Yellow bar on the mini fretboard denotes the number of frets ahead of the root note that the chord can stretch, while the blue bar denotes the number of frets behind the root note that the chord can stretch.

Click in the mini fretboard to change the amount of chord stretch. The numbers below the Hand button reflect the amount you've chosen.

Using Tablature With The Guitar Tool

The Guitar Tool has the ability to display incoming notes on its fretboard. If a Track is recorded and Tabulated, you may wish to see the notes played out on the fretboard on the strings to which they are tabulated.

Open the Play Options window, and activate the first button at the top: the Tablature Mode button. When you activate this function, all notes are mapped to the appropriate string according to the string they are tabulated.

Playing Chords With Single Notes

The Guitar Tool can automatically create a chord when a single MIDI note enters. This is similar to clicking on the fretboard to create a chord.

Open the Play Options window, and activate the second button at the top: the AutoChord button. When you activate this function, single notes entering into the Guitar Tool are converted to chords. Subsequent notes entering the Tool are discarded until the original note is released.

Enabling And Disabling Pitch Bending

To disable pitch bending when clicking on the Guitar fretboard to play notes or chords, open the Play Options window and click on the third button at the top. This toggles the AutoBend function on and off.

Toggling Between Pitch Bending Up And Bending Up And Down

The fourth button at the top of the Play Options window toggles the pitch bending function between only bending notes up (as on a real guitar without a whammy bar) or bending notes up and down (allowing whammy bar functionality.)

Enabling And Disabling Automodulation

The fifth button at the top of the Play Options window toggles the AutoModulation (vibrato) on and off.

Changing The Default Inversion Of Chords

Usually, the Guitar Tool tries to put root notes on the low strings. If you would like to put root notes on the high strings instead, click on the rightmost button at the top of the Play Options window.

Opening The Chord Banks Window

Open the Chord Banks window by choosing the **Chord Banks** menu command or clicking on the tuning peg icon in the title bar (the button to the left of the window front/back button).
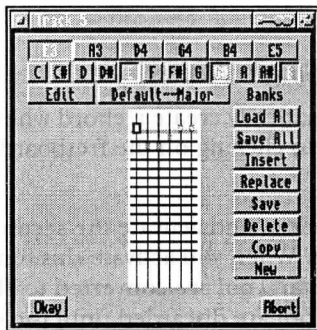
Loading The Default Chord Banks

1. Open the Chord Banks window.

2. Click on the Load All button. A requester askes if you want to re-place all of the chord banks.

3. Click on Yes. The Load All Guitar Chord Banks file requester opens. Normally, the default chord bank is in the B&P_Pro/Support file area.

4. Find the Support file area. For example, if your hard drive is named Work, choose the Work:B&P_Pro/Support drawer. You should see "default.gchord" or just "default" appear in the file area.

5. Click on the "default" file name and choose Load.

Selecting A Chord Bank

In the Chord Banks window, place the mouse pointer over the button to the right of the Edit button. Notice that the title bar displays "Select Bank." Click down and select the chord bank you wish to use from the pop-up list.

In the Play Options window, place the mouse pointer over the lower button. The title bar displays "Select Chord Bank." Click down and se-lect the chord bank you wish to use from the pop-up list.

Loading, Saving, And Editing Chord Banks

In the Chord Banks window, the buttons under the "Banks" prompt provide the ability to load, save, remove, copy, and create new chord banks.

1. **Load All** - replaces all chord banks with one from disk.

2. **Save All** - saves all chord banks to disk in one file.

3. **Insert** - inserts a single chord bank from disk into the current list of chord banks.

4. **Replace** - replaces the current chord bank with a different chord bank from disk.

5. **Save** - saves the current chord bank to disk.

6. **Delete** - removes the current chord bank from memory.

7. **Copy** - makes a copy of the current chord bank.

8. **New** - creates a new, blank chord bank.

Testing Chords

In the Chord Banks window, listen to the chords by clicking on the vertical fretboard, or by clicking on the top two rows of buttons.

The top row of buttons represent each string from left to right (usually, low E to high E). The second row of buttons represent the notes in the chord.

In the vertical fretboard, the red square represents the root note of the chord. Only the root note on the selected string appears red. Other notes of the same pitch value appear blue, as do all other notes in the chord.

The fret that contains the current chord is denoted by a black square. This square may surround one of the member notes of the chord (usually, the root note). However, it may also be by itself, which actually means that the chord doesn't even contain the fret upon which it is built!

Notes in the open position appear hollow. Strings that are muted have a little grey square at the top of the vertical fretboard.

Editing Chords

Click on the Edit button to enter into edit mode. The window changes slightly.
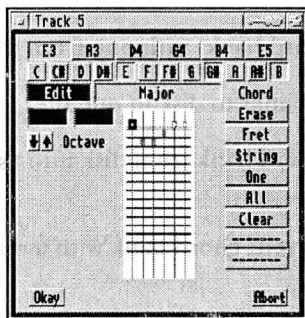
Each fret on each string can have a different chord assigned to it. Choose the fret to edit by clicking on the top two rows of buttons: click on the top row to choose the string to edit, and the second row to choose the fretted note to edit.

NOTE ➡ Although several note buttons in the second row may be highlighted, only one of the highlighted buttons actually represents the selected fret, which is displayed as a black hollow square on the fretboard (which may contain a red solid square inside of it, if the root note of the chord is also the selected fret).

Click on the fretboard to change the note assignments of the current chord. As you change the note assignments, they are reflected by highlighting the second row of buttons.

When you finish editing your chords, deactivate the Edit button and click on the Save button to save your new bank.

Clearing And Copying Chords

The buttons beneath the Chord prompt provide an easy facility to clear and copy chords from one or all frets on a single string or all strings.

1. **Erase** - clears all notes from the current fret's chord.

2. **Fret** - copy the current fret's chord to the same fret on all the other strings.

3. **String** - copy the current fret's chord to all frets on the same string.

4. **One** - copy the current fret's chord to one other fret on any string. The words "Select New Location" appear in the title bar. Click in the fretboard on the fret to which you would like to copy the current chord.

5. **All** - copy the current fret's chord to all frets on all strings.

6. **Clear** - clear all frets on all strings.

Changing The Name Of A Bank

Highlight the Edit button to enter into edit mode. Click on the Bank's name and type in the new name. Use the Delete and Back-space keys if necessary.

Accessing The Main Guitar Control Window From The Chord Bank Window

Click on the guitar icon in the Chord Bank window's title bar. This toggles the main window to the front and back.

Instantly Changing The Octaves On All Strings

In the Chord Banks window, highlight the Edit button to enter into edit mode. Click on the up and down Octave buttons to raise and lower the octaves on all strings simultaneously.
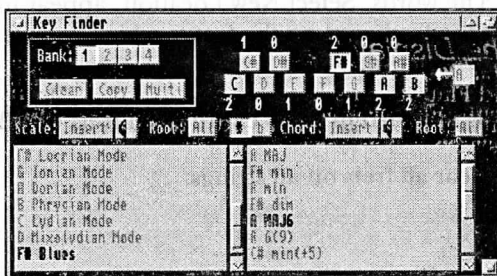

NAME: Key Finder

DESCRIPTION: Key Finder analyzes your recorded performance and determines which scales and chords fit with the music.

SPECIAL TYPE: Branching.

USAGE: Pipeline, ToolPad.

★TIP★   Key Finder is probably most effective in the ToolPad.

CONTROLS: The Key Finder control window contains buttons for bank operations, note selections, and various display and listening options. It also contains two sliding lists that contain scale and chord suggestions. There are also a couple of menu options.

Viewing Scales And Chords; The Scale And Chord Lists

The sliding lists are the heart of the Key Finder Tool. The leftmost list displays potential scales, while the rightmost list contains potential chords. These lists usually display several selections. The active selection in each list is shown in red.

Changing The Active Selection

Change the active selection by clicking on the scale or chord name with the mouse, or use the A and Z keys to change the scale and the up and down arrows to change the chord.

Changing The Scales And Chords Displayed

The sliding lists respond directly to the note selection buttons. When there are no notes selected, the lists show all available scales and, for the active scale, all available chords. As soon as you select notes by either clicking on the note selection buttons or Toolizing notes, the lists change to show only scales and chords that contain the selected notes.

The **Chord Display** menu controls the whether the chord list displays all chords that exist in the currently selected key, or only chords in the currently selected key that also contain the selected notes.

Displaying Only Root Scales And Chords

The Root buttons cause the scale and chord displays to show either all currently selectable scales and chords, or only ones that begin with a certain root note. Click on the Root button and then one of the Note Selection buttons to set a root note. Only scales or chords with that root will appear in the list. Click on the Root button twice to clear it to All.

Toggling The Display Between Sharps And Flats

The Sharp and Flat buttons toggle Key Finder to show notes, scales, and chords with either sharps as accidentals or flats.

Selecting Notes: The Note Selection Buttons

The note selection buttons define which scales and chords appear in the lists. When no buttons are selected, all scales appear. All chords for the currently selected scale also appear.

One of the main intentions of the Key Finder Tool is to analyze a piece of music. Therefore, Toolizing a section of music is a good way to set the note selection buttons. Optionally, open the graphic editor and select the Key Finder Tool in the Toolpad, and use the Wrench on the notes in the graphic editor.

Whenever a note enters the Key Finder Tool in one of these fashions, the number above or below the note selection button increments to show how many times that note has been selected. Click with the mouse on a note selection button to toggle its state on and off, but not affect the increment number.

Using Banks: The Bank Buttons

The Key Finder Tool supplies four banks in order to analyze four different note selections. The Clear button clears all note selections for the current bank, and clears the increment numbers for the notes. The Copy button copies one bank to another. The Multi button allows viewing of multiple banks simultaneously. If one bank contains C and D#, and another bank contains C, E, and F, Multi displays the combination of the two, or C, D#, E, and F.

The number buttons 1 through 4 on the Amiga keyboard (not the keypad numbers) are an alternative to using the Bank buttons.

NOTE ➜ The Clear and Copy buttons do not function while the Multi button is active.

Inserting Scales And Chords Into A Song

The Insert buttons insert the current Scale or Chord into the Track or Master Parameters at the current song position. Inside the graphic editor, they insert at the left edit flag position. Note that these buttons insert the scale or chord song parameters and do not actually insert any notes into the Track.

Listening To The Active Selection

To hear the active selection, click and hold the speaker button above the list. Alternatively, use the Left Alt key on the Amiga keyboard to

listen to the active scale, and the Right Alt key to listen to the active chord.

When Key Finder is in the ToolPad, the notes are sent down the top Track in the Track window.

If Key Finder is in a Track, the chords can play out a different Track than the scale by connecting Key Finder to a Merge In Tool on the other Track. This prevents chords from voice stealing from the scales and vice versa.

Changing The Volume Of The Scales And Chords

The **Volume** menu option causes the scales and chords to be played at a soft, midrange, or loud volume.

Changing The Chord Display Options

The **Chord Options** affect whether the chord list displays all chords available in the active scale, or only chords in the active scale that are also selected by the Note Selection buttons.

Display all chords available in the active scale to listen to several different chords over a melody. Display only chords that are members of the Note Selection buttons to predict the harmony of a certain piece.

NAME: Legato

DESCRIPTION: The Legato Tool changes music so that it has a legato feel. Each note plays until another note plays, giving a smooth character to the music. Legato provides a parameter that causes notes to overlap slightly, or not at all.

★TIP★   Legato can be very useful in violin or other string tracks.

NOTE → This Legato Tool effectively replaces the original Legato Tool from Bars&Pipes Professional 2.0, and is completely compatible.

USAGE: ToolPad, PipeLine. Most effective in ToolPad.

NOTE → Legato operates slightly differently in the ToolPad than it does in the PipeLine. In the ToolPad, simultaneous notes are all lengthened equally to the next note. In the PipeLine, simultaneous notes are not allowed, and extra notes are cut off.

CONTROLS: The Legato control window provides a single slider that determines how much overlap occurs from one note to the next. A graphic representation of the notes in the Legato control window helps to visualize this feature.
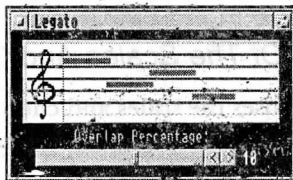
Adjusting The Overlap Percentage

Slide the Overlap Percentage slider to adjust the amount each note overlaps the following note. The graphic display changes as you drag the slider, to show the result.

★TIP★ The default Overlap Percentage of 10% is a good choice for many string patches.
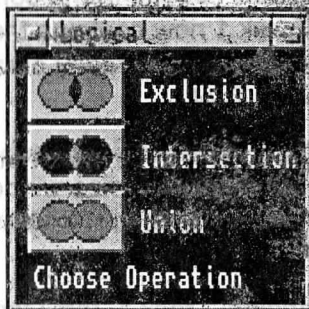
Logic Accessory

The Logic Accessory compares two Tracks and performs logical operations on the notes within them. This Accessory can be very useful with Tools such as Counterpoint. Be sure to read the example, below.

Control Window And Function

The Logic Accessory works on two Tracks. First, open the Logic Accessory by double-clicking on its icon in the Accessories window. Then, click on the first Track, choose one of the three buttons in the Logic Accessory's window, and then click on the second Track to perform the function.

There are three buttons in the Logic Accessory's control window:

1. Exclusion - removes all notes from the second Track that are identical to notes in the first Track.

2. Intersection - removes all notes from the second Track that are not identical to notes in the first Track.

3. Union - merges notes from the first Track into the second Track, if those notes are not already in the second Track.

When comparing notes in Tracks, the Logic Accessory bases its comparison on note time and duration only. For example, if a note "C5" exists at the beginning of measure 1 of the first Track, with a duration of 600 clocks, the Logic Accessory looks for a "C5" in the second Track with a duration of 600 clocks. Note velocity is unimportant in this comparison.

Example: Creating A Counterpoint Track

1. Create a melody in Track 1.

2. Open the main Tracks window, and highlight Track 1.

3. Choose the **Track/Copy** menu command. A duplicate of Track 1 is created, and appears highlighted.

4. Put the Counterpoint Tool in the ToolPad.

5. Choose the Track/Toolize menu command. The copy of Track 1 now contains the original melody plus the counterpoint created by the Counterpoint Tool.

6. Open the Logical Accessory by double-clicking on it in the Accessories window. The Logical Accessory control window opens.

7. Click on the original Track 1, the Track without the counterpoint.

8. Click on the Exclusion button in the Logical Accessory. The bottom of its control window says "Click on a Track."

9. Click on the copy of Track 1. The original melody is removed, leaving behind only the counterpoint melody.

This example should give you a good idea as to the usefulness of the Logical Accessory.