miniMusic ™

NOTEPAD APPLICATION
for Palm OS

NotePad 1.3

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www.miniMusic.com

Visit our website for further help, frequently asked questions, and other resources for making music on your handheld computer. Also feel free to e-mail your questions or comments to us at support@minimusic.com

INSTALLING SOFTWARE

IMPORTANT NOTES BEFORE INSTALLATION
• Before installing NotePad on your handheld computer, please read the license found at the end of this manual. INSTALLING THE SOFTWARE SIGNIFIES YOUR ACCEPTANCE OF THIS LICENSE.

• The NotePad application can be installed on any handheld computer that uses the Palm OS (version 3.0 or higher).

• NotePad should be installed directly into your handheld's RAM (not onto a removable memory card).

INSTALLING NOTEPAD ON YOUR HANDHELD
Inside the NotePad folder (or on the NotePad CD-ROM) there is the NotePad application "miniMusic.prc" and a sample song library named "mMusicDB.pdb". The "miniMusic.prc" file is the one you will install on your handheld computer. We recommend that you also install the "mMusicDB.pdb" file, but it is optional (if the sample database is not installed NotePad will create an empty database to store your songs).

If you have an earlier version of NotePad already installed, this .prc file will replace the older one. If you have existing NotePad songs do not install the "mMusicDB.pdb" file; it will write over your existing songs (the sample songs are primarily the same as were included with older versions of the software, so you should already have them).

Consult the documentation that came with your handheld to learn how to install new software.

SONY CLIE USERS
If your Sony Clie has a "High Res Support" feature, please turn it off for NotePad. You will find this option by running the Prefs application that came pre-installed on your Clie. Choose "High Res Support" from the pop-up menu in the top right corner of the Prefs screen and find NotePad in the list of applications.

WINDOWS CONDUIT INSTALLATION
You can download a free HotSync conduit for Windows from our website at this address:
http://www.minimusic.com/conduit.html
The conduit will export songs you write in NotePad to your desktop or laptop computer as a standard MIDI file that can be used in other music software, audio players or posted on websites. After you download, double click the "NotePadConduit.EXE" file; this will automatically install the MiniMusic.dll file on your computer in the proper place and check that you have the necessary versions of other HotSync files. This installer expects that you have already installed the Palm Desktop software that is included with all PalmOS handhelds. The next time you do a HotSync the conduit will run automatically and export MIDI files for all of the songs written with NotePad. The files will be located in a new "miniMusic" folder created by the conduit.

MACINTOSH CONDUIT INSTALLATION
We do not have a Mac OSX version of our conduit; we recommend Mac OSX users to take advantage of the new "Export Song" feature built into NotePad that will create MIDI files on your handheld's removable memory card.

You can download a free HotSync conduit for classic Mac operating systems from our website at this address:
http://www.minimusic.com/conduit.html
To install the conduit on a Macintosh, simply find the "Conduits" folder inside the "Palm" folder on your hard drive. These folders were created when you installed the Palm Desktop software that was included with your handheld (if you haven't installed that software yet, do it now!). Copy the NotePadConduit.PPC file into the "Conduits" folder. The next time you do a HotSync the conduit will run automatically and export MIDI files for all of the songs written with NotePad. The files will be located in a new "NotePad Songs" folder created by the conduit.

MINIMUSIC NOTEPA D

With NotePad you use standard music notation to enter music into your PalmOS handheld, edit it, and play it back. NotePad also lets you enter music using an on-screen piano keyboard, write in notes using Palm's Graffiti handwriting recognition technology, draw notes onto a grid (like a player piano roll) or even play songs on an attached electronic musical instrument (See 'MIDI' section on page 13 for more about that).

Most handhelds today are capable of running the Krikit Audio Engine which is built into NotePad. This "software synthesizer" can generate complex music with chords and different instrument sounds. Most older handhelds are only capable of monophonic playback, meaning they can only play one pitch at a time (no chords or counterpoint). You can also export songs as standard MIDI files to use in other music software on your desktop or laptop computer, or use them on a website.

S AVING SONGS

NotePad saves songs as you work on them, so you don't need to take any action to save your work. When you open NotePad everything will be just as you left it. If you want to save the current state of a song before making changes, you should copy and paste the voices from the original song into a new song.
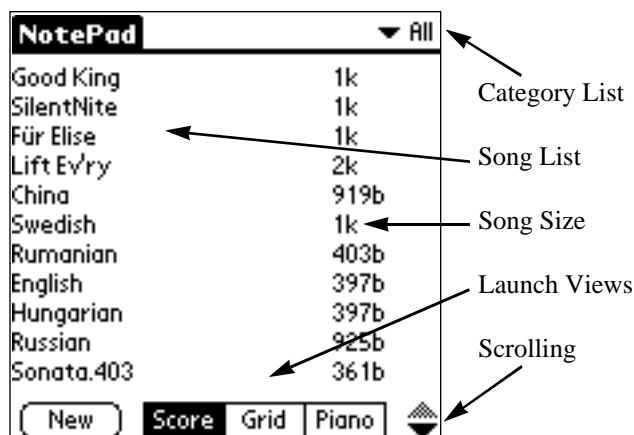
THE LIBRARY SCREEN

When you first open NotePad you will see the **Library** screen (the NotePad Demo opens in the **Score** screen, described below). This screen lists all of your songs. If you did not install the sample library, the list will be empty and your only choice will be to create a new song by tapping the "New" button in the bottom left corner.

If the songs will not fit on the screen, up and down scroll arrows will appear in the lower right corner. The size of each song (in bytes or kilobytes) is listed on the right side of the screen. To play or edit a song, tap on the name of a song. To write a new song, tap the "New" button.

In the top right corner is the category. The "All" category lists every song starting with the most recent. Tap on the word "All" to change to a more specific category.

From the Library screen you can get to any of the three edit screens. At the bottom of the Library screen there are three boxes that say "Score", "Grid", and "Piano". Yo u can select any one of these as your **Launch Scre e n**, the first screen you want to see when you tap on the name of a song. You can always switch to another screen after the song is opened by tapping on the Screen Icons in the lower right corner of each edit screen (Score, Piano, and Grid).

NotePad	▼ All
Good King	1k
SilentNite	1k
Für Elise	1k
Lift Ev'ry	2k
China	919b
Swedish	1k
Rumanian	403b
English	397b
Hungarian	397b
Russian	925b
Sonata.403	361b
(New) Score Grid Piano	⬍

Category List
Song List
Song Size
Launch Views
Scrolling

THE SCORE SCREEN

In the **Score** screen, the grand staff is the main feature. In the top left corner is the name of the current song. To the right of the name are the note durations you can choose from: whole note, half note, quarter note, eighth note, and sixteenth note. To the right of these is the "Rest" toggle (the little squiggly line). Tap this to highlight or un-highlight it; when selected you can write rests of the same duration as the selected note duration (if only the quarter note is highlighted you can write quarter notes; if both the rest tool and quarter note are highlighted you can write quarter rests). In the very top right corner is the voice indicator (see "Working with Voices" on page 9).

To add a note, select the desired duration from the top of the screen (a quarter note, for example) and then tap on the

Tool Bar
Tempo
Staff
Select Tool
Play Button

Scroll Arrows   Screen Icons

s t a ff where you would like that note. Notes will automatically sort themselves by duration: if you tap in an empty area, the note will be added in the first available position to the left; if you tap between two existing notes, the notes to the right will be pushed over to make room. Longer note durations will take up more space on the screen making it easier to see the relative lengths of notes, see the proper number of notes in each measure, and align beats in all voices. To write dotted or tied durations see the Editing section.
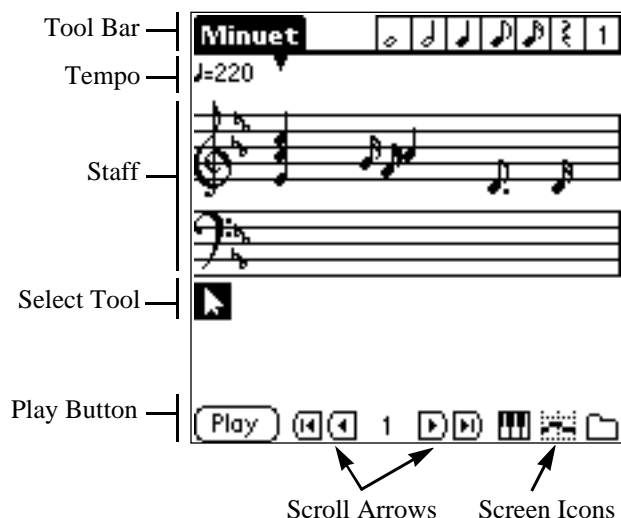
Notes will sometimes be pushed to the right and into the next measure. You can move between measures with the **Scroll Arrows** at the bottom of the screen (immediately to either side of the measure number which appears near the center of the screen).

When placing a note, it will be drawn the moment the stylus touches the screen. While the stylus is still down you can drag the note; you can change the pitch by dragging it up or down, or you can move it back and forth through the measure and the existing notes will jump out of the way automatically to make room.

If you place a note directly on top of another note, a chord will be created. The new note's duration will be changed to match the duration of the note that was already there. Sometimes it is hard to tap the stylus directly onto those tiny notes, so it is often easier to place a new note <u>after</u> (to the the right of) where you want to make a chord and, while the stylus is still touching the screen, gently drag the new note to the left until it creates a chord with the previous note. If you drag too fast or too far the notes might simply change places instead of creating a chord. After a couple practice chords this will become very easy to do.

When you lift the stylus, the new note has been successfully placed. A small black arrow above the staff will indicate where a note was most recently added. This little arrow will always indicate the current **Selected Note**, or the beginning of a selection that may include many notes (see 'Editing' on page 8).

When you tap the Play button in the any of the three edit screens, the song will play from the beginning and the Play button will become a Stop. However, a tap anywhere on the screen will stop the playback. Until playback stops, all buttons (including the power button) will be disabled in order to prevent the Palm OS from interrupting playback. No Palm alarms or low battery warnings will occur during playback. When playing songs in the "Simple Sound" mode only the current voice will be played, and only the top note of any chords will be played but the notes will scroll across the screen as they play. All other playback modes will play all four voices and chords, but they will not scroll. See the Preferences section on page 10 for more about these playback modes.

THE PIANO SCREEN

In the **Piano** screen, there is a condensed staff (like in the Score screen) and a piano keyboard underneath it. T h e s t a ff in this view is small enough that you can now see three measures on screen, but to fit it all there are no accidentals or ties shown, the key signature is printed next to the tempo, but not shown on the staff. Also, you cannot enter notes directly on the staff as you can in the Score screen (it's too small to tap the right pitch!); instead, <u>any</u> tap on the staff will select notes.

To add notes in the Piano screen, select the desired duration from the top tool bar, tap the score overview where you want the new note to be added, and play the note you want on the piano keyboard. The new note will appear immediately <u>after</u> the **Selection Pointer** (the little black arrow above the staff). If there is no Selection Pointer new notes will appear at the beginning of the song.

Tool Bar

Score Overview

Piano Keyboard

Navigation Bar

Tapping the keyboard will play a note as long as the stylus is down. However, the new note will only be added when you lift the stylus and it will be of the duration selected at the top of the screen regardless of how long you hold the stylus on the piano keyboard. If you tap on the wrong piano key, simply drag the stylus to the correct key and then lift the stylus. You can also play freely on the keyboard by un-checking the "Transcribe" checkbox just above the keyboard; notes will only be added to the song when it is checked. Two octaves are available to play on-screen; use the arrows on either side of the keyboard to access the lower and higher octaves (each "C" key will be marked with the number of the octave you are in: 1-4. The C labeled with a 3 is "Middle C").
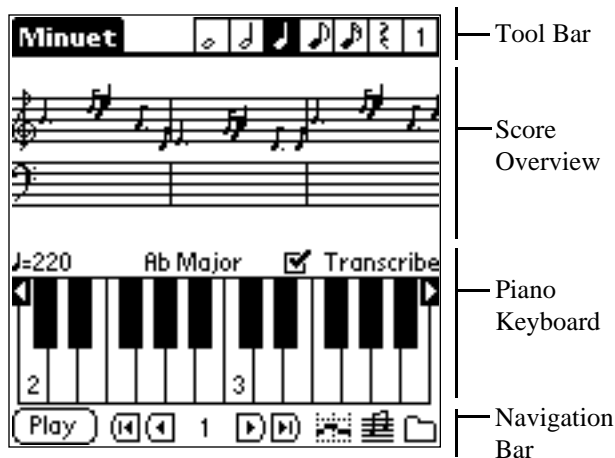
THE GRID SCREEN

In the **Grid** screen you can write music in a graphic format with time running side to side (measures are divided by solid lines, and beats are divided by dotted lines) and pitch running up and down (small keyboard is included for pitch reference).

Transferring to the Grid screen may change the song slightly. If the song does not fill the three measures on screen, NotePad will automatically add rests to the end of the song. T h i s enables you to draw freely anywhere on the screen without notes "jumping" out from under your stylus. Because the Grid screen will fill in rests as needed, scrolling forward through the song will continue to add rests and measures indefinitely. You can always erase these rests in one of the other views; Just select the rests and write an "x" in the Graff i t i area to clear the selected material (see "Editing" on page 8 for more about Selecting and Graffiti). But we recommend that you just don't worry about the extra rests at the end; if you use the Grid screen a lot it will just keep adding them anyway, and they do not effect playback.
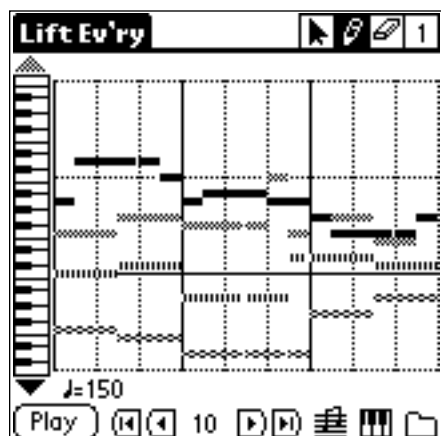
The tool bar at the top of the screen has the same Arrow tool and Vo i c e Indicator as you saw in the Score screen, plus a Pencil tool and Eraser tool. With the Pencil tool chosen, tapping on the screen will add a new note. It will start as a sixteenth note. While you hold the stylus down, you can change the pitch of the new note by dragging up or down. Yo u can also stretch the note to the right for a longer duration. The note will automatically "write over" any existing notes and rests as you stretch it. Since it is writing over existing material, you cannot un-stretch it. Notes in diff e r e n t voices will be drawn in different patterns; if you have a color display the voices will be drawn in different colors. The Eraser tool clears notes in a similar fashion (It is actually "drawing" a rest, but this is not visible in the Grid screen; if you switch to the Score or Piano screen you will see the rests).

After a note is drawn, you can still change its length (this is true in all three edit screens) by simply making forward or back strokes in the Graffiti area (the space and backspace characters). To add notes without writing over existing notes: either switch to another screen or use Graffiti (see "Graffiti" on page 9 for more information about Graff i t i) .

Unlike the other views, only three of the four octaves fit on the screen at once (vertically). To see or draw notes in the lowest or highest octaves, use the up/down octave arrows above and below the piano keyboard along the left side of the screen. The keyboard is here only as a reference and will not play when you tap on it.

EDITING

SELECTING NOTES
Whenever you add a note to a song, either by placing it on the staff in the Score screen, tapping the keyboard in the Piano screen or otherwise, a small black arrow will appear directly above the new note. This is the **Selection Pointer**, and means that the note is 'selected' and is ready to be edited (so you can easily clear a wrong note or correct its pitch or duration immediately after it is added).

To select a note other than the one you just added, or a range of notes, choose the "Arrow" tool (just beneath the bass clef in the Score screen, or in the top tool bar of the Grid screen), and tap on the note you'd like to select. T h e Piano screen has no arrow tool; any tap on the staff can select a note. To select several notes, tap on the first note (the black arrow will appear) and while holding the stylus down, drag it to the right until the white arrow appears above the last note you wish to select. You cannot select a note that is tied over from a previous off-screen measure; you must first move back to the measure where the note starts and then select it.

To select longer phrases than appear on the screen at one time: first tap on the first note you wish to select (the beginning of the selection). With the stylus still down, drag it to the right edge of the screen. NotePad will begin scrolling forward. When you see the measure containing the last note you wish to select, drag the stylus over to that note until you see the "open" or "white" arrow appear above it marking the end of the selection, then lift the stylus. If you scroll too far through the song you can drag the stylus to the left edge of the screen to scroll back. You cannot scroll back to a measure before the beginning of the selection.

G r a ffiti and Edit Menu commands can be performed on any selected material. The up/down hardware buttons on your handheld (or the equivilant Graffiti strokes) will transpose selected notes up or down.

Options Menu
Get Info – Displays information about the NotePad software (e.g. version number).
Help – Shows a short version of these instructions.
Preferences – Shows the song/application preferences screen (see Preferences section on page 10).
Krikit Settings – Displays the settings for the built-in synthesizer.
Beam Song – Sends a copy of the song to another handheld (both handhelds must have NotePad installed).
Export Song – Creates a MIDI file version of the song on a removable memory card (SD card or Memory Stick).
Delete Song – Erases the song from the database and returns to the Library screen.

Edit Menu
Cut – Copies selection to the clipboard and removes it from the song.
Copy – Places a copy of the selection in the clipboard without removing it from the song.
Paste – Insert contents of the clipboard into the song immediately after the current selection.
Clear – Remove selection from song without changing the clipboard.
Select Voice – Select the entire current voice.
Invert – Flip selection vertically, highest note becomes the lowest, etc. Centered on first note of selection.
Retrograde – Flip the selection horizontally, first note becomes last, etc.
Triplet – Make selected notes into triplets, or make normal if they already are triplets.
Flip Stem – Changes the direction the note stem points on notes that have stems.

Play Menu
Play Song – play entire song.
Play Section – play the current selection or start play from the current measure when using MIDI.
Loop Section – repeat the selection until another event occurs. Will loop from the current measure to the end of the song when using MIDI.

GRAFFITI

Rather than fill the small screen with lots of tool bars and tabs and options to be selected or toggled, NotePad takes advantage of Graffiti handwriting recognition so that you can use simple gestures for many common tasks.

The most frequently used gestures are for changing a note's duration and deleting notes. The Graffiti strokes for space and backspace (simple lines from left to right, or right to left) will lengthen or shorten a notes duration. T h e lower case Graffiti 'x'will delete selected notes (the same as the "Clear"command found in the edit menu).

Writing a lower case letter (a–g) will add a note of that pitch to the song immediately after the selection pointer (or at the beginning of the song). Write a 't'or 'r'to make selected notes into triplet durations (the 'r'is recommended on handhelds with Graffiti 2).

You can write the letter 'p'to play a song, 's'to play a section, or 'o'to loop a section (the same as the commands in the Play menu). Write a number from 1–4 to make that the current voice (see the next section "Working with Voices"). The letter 'v'will toggle the "show 4 voices" option found on the Preferences screen.

WORKING WITH VOICES

You can write four simultaneous voices in a song, numbered 1–4. These voices are used to write counterpoint (two or more different melodic lines playing together) or parts for different instruments. Most modern handheld comput-ers are able to run our Krikit Audio Engine (or Krikit Synth) which is built into NotePad. The Krikit Synth lets you hear all four voices played together; on older handhelds (Palm OS 4 or earlier) you will only be able to hear the current voice played, unless your handheld has a sound card or is connected to MIDI hardware.

In the upper right corner of any of the three edit screens is a little box with a number in it (it is set to "1" when you start NotePad for the first time); this is the **Voice Indicator**. Tapping on the voice indicator brings up the **VoicePreferences** screen where you can change settings and see what voice you are writing in.

Tap on one of the numbered boxes to make changes to that voice. Instead of bringing up the Voice Preferences screen, you can also change voices by simply writing in the number (1–4) of the desired voice in the Graffiti area. The current voice will always be shown in the top right corner.

Each voice can have a different name. This is useful when writing music for many instruments. Use the arrows to set a MIDI channel for each voice (1–16). Set the channel to 10 to use a drum kit. Each channel can be set to a different instrument; if two or more voices share a channel they will be played on the same instrument.

Using the slider you can set the MIDI instrument. Whenever you move the slider the instrument name will change to the general MIDI instru-ment for that number. Press the "Test" button to hear a sample note played with the current instrument (remember: this will only work when connected to a MIDI instrument). Also, you can use the checkbox in the lower left corner to mute any particular voice. This will let you listen to a single voice, or a combination of two or three voices.
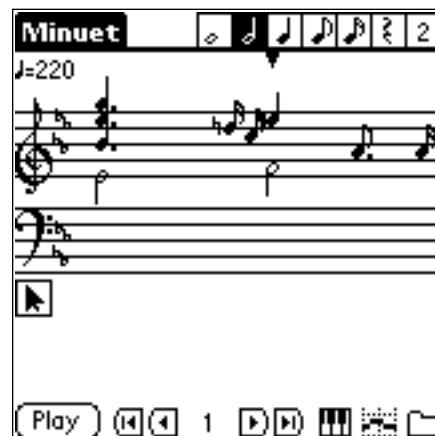
Adding a note to Voice 2

It that Voice 1 is intended to be the highest voice and Voice 4 the lowest. You will see these intended positions reflected in the placement of rests and the stem directions of the notes (notes in Voice 1 & 3 will have stems up, Voice 2 & 4 stems down).

When "Show 4 Voices" is checked in the Preferences screen (see next section: "Preferences"), all four voices will be drawn on screen. When it is un-checked, only the **Current Voice** will be drawn (the Current Voice number is the one shown in the top right corner). You can toggle between them by writing a Graffiti "v". New notes will be added to the Current Vo i c e .
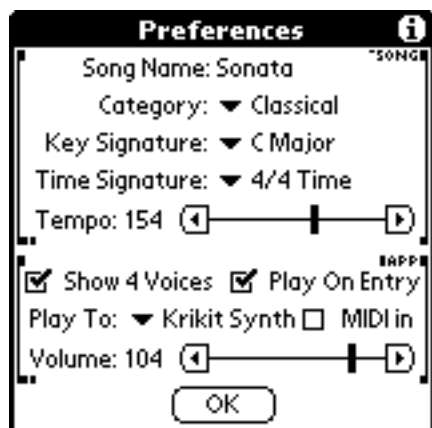
PREFERENCES

The top half of the screen contains preferences for the current song (like its name, category and key signature) while the bottom half of the screen contains application wide preferences (like volume and playback options). The application preferences will remain the same from song to song. Get to the Preferences screen by tapping on the tempo marking in any edit screen or choose "Preferences" from the Options menu. Anew song will be set by default to the key of C-Major (a-minor), 4/4 time, and a tempo of 120 beats per minute.

To name the song in the field at the top of the screen use Graffiti or the pop-up keyboard. Songs will be set to "Untitled" by default but it is okay to have multiple songs with the same name. The only conflict that may result from several songs having the same name is when you are exporting songs as MIDI files; they must have unique names or one will overwrite the other.

You may place songs into different categories, just as you would in the Palm's built-in applications (like Date Book and Memo Pad). Choose the category here for this song, or create a new category.

Akey signature can be set for each song. This will only be drawn in the Score screen (and written in the Piano View), but will affect notes entered when using Graffiti in all three views. If you are in the Piano screen and in the key of B-flat. When you write a Graffiti "b" a B-flat will be added to the song, because it is in the song's key, but since you are in the Piano screen no accidentals will be shown.

The third pop-up menu will let you choose a time signature for the song. You have your choice of 3/4, 4/4, 5/8, and 7/8. We have restricted it to these values so that you can always see at least one full measure on the screen even when filled with sixteen sixteenth notes. They cover the basic sub-divisions, so you could use the 3/4 setting to write music in 6/8, or the 4/4 setting to write two bars of 4/8. The tempo will always be displayed for the quarter note regardless of the selected time signature.

The last item in the Song preferences section is a tempo slider and indicator. Slide the marker to the right for faster tempos, and to the left for slower tempos. Tap on the arrows to make small changes in the tempo.

The Application preferences section begins with three checkboxes. "Show 4 Voices" will draw material in all four voices on screen simultaneously. When this is un-checked, only the Current Voice will appear (see the previous section "Working with Voices" for more information). "Play On Entry" means that you will hear a pitch played whenever you add a note to a song. You will still hear the song play when this is unchecked, but not when notes are entered. Finally, "MIDI in" will allow you to step record notes played on an attached electronic instrument (see "Using MIDI" on page 13 to learn how to connect your Palm to an electronic music instrument).

The "Play To:" pop-up menu lets you choose how music is played. "Simple Sound" plays only the current voice on the speaker built into your handheld. "Serial Port" will play the song on an attached electronic musical instrument (see the MIDI section for details). "Sound Card" uses the enhanced sound capabilities of some handhelds (The Tapwave Zodiac, The Sony T, TG, NR, NX and NZ series Clies, or a Handspring Visor with the Beat Plus springboard module). The default on most handhelds is "Krikit Synth" which uses our powerful software synthesizer to generate rich audio. See the next section: "Krikit Audio Engine" for more information.

Move the volume slider right to make it louder and left to make it quieter. A value of 127 is the loudest and 0 is silent. This will effect the volume of the built-in speaker or headphones and MIDI playback as well.

<div align="center">

K R I K I T AUDIO ENGINE

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Palm OS 5.0 ("Garnet") or later is needed to use the Krikit Audio Engine (or "Krikit Synth"). Some handhelds have OS 5 but are missing needed sound libraries (e.g. the Zire 21). If your OS 5 handheld has a headphone jack it should support the Krikit Synth.

The Krikit Audio Engine is a polyphonic, multi-timbral software synthesizer. That means it can play many diff e r e n t pitches simultaneously and use different instrument sounds. The Krikit Synth uses banks of instrument sounds designed with the miniMusic SoundPad application. Each bank can contain up to 256 different instruments.

When using the Krikit Synth, each of NotePad's voices can be assigned to a different instrument in the Vo i c e Preferences screen (see "Working with Voices" above). To the right of the instrument number you will see how many oscillators are needed to play that instrument sound (a number from 1-4). The Krikit Synth has a limited number of oscillators available; if they are all being used, a new note will cause an older note to stop.

At the top of the Krikit Settings screen (choose "Krikit Settings" from the Options menu) you can set how many oscillators are available. You can have up to 32 oscillators, but this requires extra processing power. Handhelds with slower CPUs will have to be set at a lower number.

The Sample Rate determines how many digital samples are generated every second. The 44.1 rate gives you higher quality audio, however the 22.05 rate will allow a slower CPU to run more oscillators.

Trying to use more oscillators than your CPU can handle will result is stuttering, broken audio. Reduce the number of oscillators or reduce the sample rate to improve playback.

The Sound Bank pop-up menu will let you access other banks of instrument sounds. The miniMusic SoundPad application will let you edit or create your own sound banks.

With 'Auto-Gain' turned on, the Krikit Synth will automatically lower the master volume during playback to prevent 'clipping'. Clipping occurs when the combined volume of all the sounds being mixed has exceeded to maximum volume available in the digital audio hardware. You can turn auto-gain off to get slightly more volume (but expect some clipping).

With 'Play Octave Up' selected, notes will be played an octave higher than written. This greatly improves playback on the built-in speakers of most handhelds as they cannot play low frequencies well. This setting is less important when using headphones.
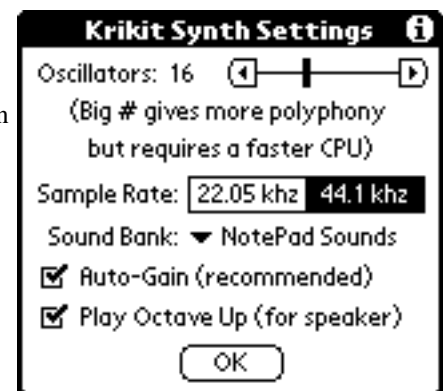
MINIALARM & THE NOTEPAD CONDUIT

Two utilities have been included with NotePad. The miniAlarm utility allows you to create Palm alarms sounds out of any song in your NotePad Song Library. The NotePad Conduit will automatically export songs to your desktop computer as standard MIDI files that can be used with almost any music software available for your desktop computer or even posted on the internet (like the music in those greeting cards on-line!).

MINIALARM
The miniAlarm utility (minialarm.prc) can be installed the same way as the NotePad application, and resides on your PalmOS handheld as a separate application. When you open miniAlarm, it resembles the NotePad Library screen. All of your songs are displayed and the same categories are available. However, when you tap on the name of a song, instead of going to one of the Edit Views you are asked if you wish to create a System Alarm out of that song. If you tap OK, an alarm (with the same name as the song) is added to the Alarms on your Palm. These alarms are used by built-in applications like Palm's Date Book, and other third party applications. Alarms must be a single voice, so only Voice 1 will be used from the selected song. If there are chords in Voice 1, only the first pitch written will be used in the alarm.

Some of the handhelds include other clock applications that to different alarms than the Date Book does; we may add support for exporting these alarms or for ringtones in the future. We intend to incorporate miniAlarm entirely into the next version of NotePad so there will no longer be a separate program to install.

NOTEPAD CONDUIT
If the NotePad conduit was not included in your purchase, you can download it for free from our website at:
w w w.miniMusic.com/conduit.html

The NotePad Conduit is used by Palm's HotSync Manager to synchronize NotePad with your desktop computer. Whenever you perform a HotSync, Standard MIDI files will be created on your desktop computer for any songs that have been modified since the previous HotSync. The very first time you use the NotePad Conduit every song will be exported.

There are separate versions of the NotePad Conduit for Macintosh OS 9 and Windows desktop computers. Instructions for installation and use are provided at the beginning of this manual (page 2).

MIDI

WHAT IS MIDI?

MIDI (Musical Instrument Digital Interface) is an industry standard for communicating with electronic musical instruments. Acomputer might communicate with an electronic instrument or one electronic instrument might be communicating with another.

MIDI consists of very simple performance commands. This allows MIDI information to be very fast and stored in very small files making it ideal for the Palm platform. It is also very easy to make changes to MIDI data giving it much more flexibility than a Digital Audio or MP3 file.

CONNECTING YOUR PALM TO A MIDI INSTRUMENT.

Connecting to MIDI hardware requires an "RS232 Serial" connection. This was available on all early handheld computers, but is no longer common. Most handhelds today use USB and ship with USB cradles or cables. Since these handhelds can't act as USB hosts, they can't connect to MIDI hardware using USB. Many handhelds still o ffer limited support for serial connections (those using PalmOne's multi-connector, for example) but often is not full RS232 serial and would require additional hardware to bridge to a MIDI device. Future handhelds may be able to act as USB hosts and can then use USB-MIDI interfaces.

Older handhelds (like the Palm m100 or m500 series) can use our MIDI interface designed specifically for the Palm. It converts a Serial HotSync Cradle or Cable into a MIDI-out interface that you can connect to any electronic music instrument. Our interface can be ordered from our website at minimusic.com/interface.html and it is included in our Mobile Software Pack. Some OS 5 handhelds with the "Universal Connector" (like the Tungsten T or Zire 71) can be connected to MIDI hardware either with our interface or with a direct serial connection as described below.

DIRECT SERIAL CONNECTIONS FROM YOUR HANDHELD TO MIDI HARDWA R E .

Many MIDI keyboards, sound modules, samplers, and synthesizers allow for "direct" serial connections (diff e r e n t than the usual large round 5-pin MIDI-In and MIDI-Out ports). This direct serial port is a smaller round 8-pin port usually labeled "serial", "host" or "to host" on the MIDI instrument. This additional port is intended for a direct connection to your computer (as opposed to another MIDI device) and will often have a Mac/PC switch next to it.

To connect the bottom of your handheld computer to the "to host" serial port on a MIDI device you will need either the Serial HotSync Cradle that came with your handheld, or the optional Serial HotSync Cable. These HotSync cables/cradles end with a somewhat rectangular 9-pin connector. To make this fit in the round "to host" port you will need the "Macintosh Serial Adapter" available from Palm for about $5 US.

The "To Host" port will usually have a switch associated with it. This switch should be set to "Mac" (as opposed to "PC-1" or any other option). Consult the manual for your MIDI hardware for any special settings that it may require to receive serial data from a computer.

Most electronic music products made in the 90s have the "to host" serial port. Newer products may have a USB port instead which cannot be used to connect to any current handhelds.

USING OTHER MIDI INTERFACES WITH YOUR PA L M

With a Serial HotSync cradle/cable as described above, you can plug into a number of older (pre-USB) MIDI adapters made for the Macintosh. We have successfully plugged Palm handhelds into interfaces from Opcode (like the "Professional Plus" 1-in/3-out MIDI adapter) to drive MIDI hardware and our users have reported success with a variety of other Mac interfaces. Such interfaces have the small round serial port and full size round 5-pin MIDI ports to connect to other MIDI hardware.

There are also some small third party MIDI solutions designed specifically for the Palm platform. Several web sites will either sell you handmade interfaces or show you how to build your own.

MIDI HARDWARE FOR THE PA L M
General MIDI tone modules for the Palm (like a sound card) were made for some handheld models. The SG20 from Swivel Systems will clip onto the base of Palm III or Palm VII style handhelds. The Tsunamidi is designed for the Palm V or Vx. For all of you Visor owners there was the Beat Plus Springboard module.

SAMPLE SONG LIBRARY

CLASSICAL SONG CAT E G O RY:
Sonata.403 - Mozart: Sonata for Violin and Piano, K. 403 (III)
German - Schubert: German Dance
F rench #6 - J.S.Bach: French Suite No. 6 BWV 817 (minuet)
Invention - J.S.Bach: Two-Part Invention No. 14 BWV 785 (arranged by C. Mealey)
Sonata - Beethoven: Piano Sonata, Op. 13 (III)
P relude - Chopin: Prelude, Op. 28, No. 6
Trout - Schubert: "Trout" Quintet, D 667 (IV)
Mazurka - Chopin: Mazurka, Op. Posth. 67, No. 4

FOLK SONG CAT E G O RY:
Lift Ev'ry - J. R. Johnson & J.W. Johnson: Lift Ev'ry Voice and Sing
Chinese - Peking Opera aria transcribed from the recording, The Ruse of the Empty City
Swedish - "Polska" transcribed by Bruno Nettl
Rumanian - from Walter Wiora, Europaischer Volksgesang
English - from Jan P. Schinhan, ed., The Music of the Ballads
Hungarian - from Zoltan Kodaly, Folk Music of Hungary
Russian - from Elsa Mahler, Altrussiche Volkslieder aus dem Pecoryland
Morris - Morris Dance, English

X-MAS CAT E G O RY:
Angles We - Angles We Have Heard on High
JingleBell - Jingle Bells
The1stNoel - The First Noel
Deck Halls - Deck The Halls
O Xmas Tre e - O Christmas Tr e e
Good King - Good King Wenceslas
SilentNite - Silent Night, Holy Night
J o y 2 World - Joy To The Wo r l d
G reensl'vs - What Child is T h i s

UNFILED CAT E G O RY:
miniDemo - C. Mealey (with quotes from Arthur "Guitar Boogie" Smith and Mykola Dmytrovich Leontovych)

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