Master Tracks Jr

The personal recording studio for your Apple IIgs.
—From Passport Designs

PASSPORT

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Contents

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Master Tracks Jr. was designed by Dave Kusek and Don Williams.
Software written by Don Williams
Apple IIgs version modified by David Howell

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Introducing Master Tracks Jr.

Welcome to Master Tracks Jr. for the Apple IIgs. Master Tracks Jr., from Passport Designs, Inc. is an easy to use and versatile 64 track MIDI sequencer for the Apple IIgs.

Complementing a full line of software products for musicians, Master Tracks Jr. represents Passport's commitment to offering serious musicians and enthusiasts the composition and performance features they want most.

Master Tracks Jr. gives you a free-form approach to composing music. Using as many as 64 separate MIDI tracks, you can create, combine or edit musical phrases of any length, just as you would use a word processor to write a document. You can enter these musical phrases into the 64 track MIDI recorder either by simply playing your MIDI equipped instrument in real or step time. Then you can easily edit, rearrange and combine the tracks in a variety of ways to build complete songs. The program provides real-time and step-time input, song editing, and many powerful editing features all in one package.

features

Master Tracks Jr. includes features which let you do the following:

* Control the sequencer using an on-screen control panel that looks like a tape recorder transport control. Use the mouse and IIgs keyboard to Play, Record, Pause, Stop, Rewind or Fast–Forward.

* Set the meter, tempo and beat independently for each measure.

* Display the elapsed time of any section of your piece.

* Record all MIDI events on the 16 possible MIDI channels simultaneously, including key velocity, after-touch, sustain, modulation and pitch wheel changes and program changes.

* Apply automatic and musically accurate error correction to your music, compensating for imperfect playing technique.

* Merge, delete, transpose, repeat and copy individual tracks, or selected portions of tracks.

* Change the note velocities, note durations, key, tempo, or meter for whole tracks or just selected regions of a track or tracks.

* Change playback tempo instantly or gradually over time.

* Set markers anywhere in a piece and easily jump to those locations for easy editing. An *auto-rewind* feature can be set to quickly "rewind" your composition to a given point for effortless recording of multiple takes of a single track, or of subsequent tracks.

* You can set Master Tracks Jr. to scroll the graphic display of your sequence as it plays it, so you can see your location on screen as you listen.

* You can incorporate your MIDI music into professional audio and video productions utilizing MIDI Song Pointer and external SMPTE synchronizers.

Master Tracks Jr. is similar to a fancy tape recorder, only much more capable. Like a multi-track tape machine, Master Tracks Jr. lets you record one track of music at a time, playing them back later as an ensemble. You can even edit each track individually to make changes or fix mistakes — a feat which is impossible with audio tape recorders. And with a total of 64 tracks available at any given time, Master Tracks Jr. offers much greater flexibility than do most tape machines.

As you may know, there are many MIDI sequencers available today. So, what makes Master Tracks Jr. different? To begin with, Master Tracks uses dynamically allocated tracks. This means that the various tracks in a given musical piece can be of any length, and that length is alterable. Many other sequencers require all tracks to be the same length. Master Track Jr. does not.

Secondly, Master Track Jr. allows you to alter discrete portions of a track or tracks after you've made a recording. This is similar to the ability to mark and alter blocks of text when using a word processor. Regional selections are made in the same way with Master Tracks Jr.. This type of editing is similar to many " Macintosh" oriented programs. After marking a block of music in Master Tracks Jr., you can then modify the selected section in a wide variety of ways.

You record your musical sequences, one track at a time, either in real time (as you play on a MIDI-equipped keyboard), or note by note with your midi keyboard (step entry). For step entry of notes, Master Tracks Jr. provides a special Step Edit screen that clearly shows your location in the sequence and allows you to easily choose note durations, erase mistakes and enter rests.

Tracks can be mixed together with other tracks in a variety of ways to form compositions of various lengths — even very long pieces. Using the Master Tracks Jr.'s *clipboard*, you can cut and paste sections of one piece into another piece to quickly create songs based on a number of existing sequences.

Because of its' intuitive user interface, Master Tracks Jr. is a program that is easy and fun to use.

how it works

Master Tracks Jr.'s many program functions and commands are organized logically into a number of different windows where you work with your sequences. There are four main windows:

▶ Transport window — where you control your MIDI *tape deck* by clicking on Play, Stop, Fast–Forward, etc.

▶ Sequencer window — where you you record and playback your tracks.

▶ Conductor window — where you control tempo, meter and beat settings.

▶ Song Editor window — where you display, cut, copy, paste, and regionally alter tracks. The structure of a sequence is displayed and edited in units of measures.

switching between windows

All of the windows and their associated commands are accessed via the menu bar at the top of the IIgs's screen, You simply point to the name of the window or command you want, press the mouse button and pull the mouse toward you. Then highlight the selection you want from the menu, release the button, and the program does the rest.

Master Track Jr. lets you have several windows "open" and on the screen at the same time. However, at any given time, there is only one *active* window. The active window is the one you are working on at the time. To activate a different window you simply point to it and click the mouse. Additionally, you can move windows around to convenient locations on the screen and size them according to your preferences.

Once you have the windows set up the way you like, you can then easily switch between them. It's a little like setting up your desktop or work area to have everything in a convenient location. A setup we've found useful lines up the Song Editor and Sequencer windows so that tracks line up. The transport control sits at the bottom of the screen, as you see in Figure 1.1, as does the conductor window.

figure 1.1
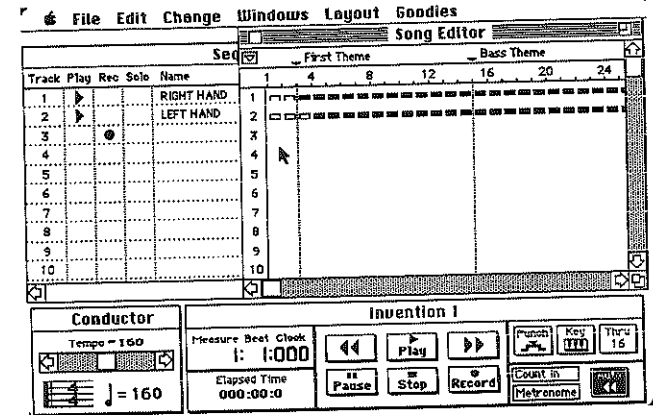
using command keys

The window's menu items all have IIgs keyboard equivalents, too. The three main Master Tracks Jr. windows can be accessed by pressing Command–1, 2, or 3.

Aside from the menu and window selection techniques described above, there are some shortcuts you may want to use. IIgs programs often let you use the Command key to perform certain operations, such as Copy, Paste, and Cut rather than using the menu selections directly.

To use these commands, you press the Command key and the corresponding key at the same time. Sometimes this is the first letter of the command. Having two ways to select and execute commands allows flexibility for individual preferences and situations. You may find that you prefer using the menus while you are learning the program, but that you can get things done faster using the command keys once you're more familiar with the program. If you have questions about this or other Apple IIgs specifics, consult the user's guide supplied with your IIgs. (see the Summary of MT Jr. keyboard commands in Chapter 11)

Now proceed to Chapter 2 to connect up your hardware and install your program.

2

Installation and startup

Before you begin using Master Tracks Jr., you will have to:

▶ Insure that your IIgs has a minimum of 768K total memory.

▶ Hook up your MIDI interface to your IIgs.

▶ Connect your MIDI cables between your synthesizer and computer.

▶ Make a working copy of the Master Tracks Jr. disk or install the software onto your hard disk (if you are using one).

This chapter explains how to do these procedures. Please take the time to read this chapter so that you can begin using Master Tracks Jr. quickly and without any unnecessary headaches.

▶ **Software Installation**

Master Tracks Jr. allows you to make a back-up copy of the program for your use only. **Copying software and giving it away or selling it is illegal.** Copy protection is one method that we could use to protect our legal rights. Other even more unpleasant methods can be employed when necessary. However, we feel these methods are cumbersome for both the manufacturer and the user. We ask you to respect our copyrights and to help ensure future updates and improvements to the program by not copying our software.

Backup disks | If you NEVER store any data files on your program disk it should last you quite a long time. Replacement backups can be purchased from Passport.

customer support | The Master Tracks Jr. system consists of several highly complex and constantly evolving programs. It is very likely that, at some point in time, you will need a program update or some other form of assistance. For this reason it is vitally important that you return your warranty registration card and become a registered owner. Only registered owners will be eligible for customer service. Sending in your warranty card also places you on our database to receive new product and update announcements. So,

Send in your warranty registration card today !

Also, you should have both your original disks and your manuals handy when calling in for customer service. Our personnel may ask you a few simple questions to verify that you are an authorized user.

Keep your original disks in a safe place !

You can play a part in the evolution of Master Tracks Jr.. We are extremely interested in your feedback on the program and your suggestions for future enhancements. The current version of Master Tracks Jr. is the result of suggestions and comments from hundreds of users just like you. Let us know what you want to see next and we will try and implement your ideas.

Remember, you have not just purchased a disk and printed pages, you have invested in the expertise of all the people involved in the entire Master Tracks Jr. project. Thank you for your support.

floppy disk installation | To make a backup copy of the program on a floppy disk, copy the program disk onto a blank disk using the finder or a copy utility. Use this backup as your working disk and keep the original program disk to use as a archival copy.

hard disk installation | To install the program onto a SCSI ("scuzzy") hard disk, simply boot your system off the hard disk to enter the Finder. Next, insert the original program disk into the IIgs and double-click on the disk icon to open the active window. Now drag the Master Tracks Jr. icon onto your hard disk window. Master Tracks Jr. will then be copied onto your hard disk.

Next, open the ICONS folder on your MT Jr. disk and copy the Icon called JRIIGS.ICONS into your ICONS folder on your Hard Disk. Master Tracks Jr. is now ready to be run from your Hard Disk.

modifying your system folder | If you are using a system other than the one provided with your Master Tracks Jr. disk, you must insure that you have the correct MIDI device drivers installed. You must have a DRIVERS folder included in the SYSTEM folder of your startup disk (either floppy or hard disk). There are two files which must be present in your DRIVERS folder before MT Jr. will run properly.
These files are named APPLE.MIDI and CARD6850.MIDI. You will find these files included in the Drivers folder of your System folder which is included on your Master Tracks Jr. disk. Copy these files in the same manner that you copied the JRIIGS.ICONS file into your ICONS folder.

▶Hardware Requirements | Master Tracks Jr. requires a standard 512K Apple IIgs with a minimum extra 256K of memory. For optimum performance, we recommend that you have 1Meg total memory. MT Jr. also requires that you have the IIgs system ROM ver.B installed in your IIgs motherboard. Consult your Apple dealer for details.

▶Hardware Installation | Master Tracks Jr. works with all 1MHz passive MIDI interfaces (such as those from Passport). Master Tracks Jr. is also compatible with the standard Apple II interface. Simply install your interface following the instructions that are supplied with it.

hooking up your MIDI cables | The next step is to hook up your MIDI cables. The exact configuration of cables will vary depending on your particular arsenal of equipment. However, two general schemes are shown in Figure 2.1. You will need at least two cables — one for MIDI–In and one for MIDI–Out. The first cable goes from

MIDI–Out on your synthesizer or keyboard controller to the MIDI–In connector on the MIDI interface connected to your IIgs. The second one goes from MIDI–Out on the interface to MIDI–In on your synthesizer.

You may want to hook up other MIDI cables too, if you have additional synthesizers and sound modules. Some interfaces have additional sockets for such connections. Alternately, you may chain together a number of synthesizers via any MIDI–Thru connectors which your synthesizers have. To do this, you simply run a cable from your main synthesizer's MIDI–Thru socket to the second synthesizer's MIDI–In socket, and so on. Refer to the illustrations on page 2–5 if you are in doubt about cable hookups.

starting up Master Tracks Jr.

To start up Master Tracks Jr., follow these instructions:

1. Turn on your MIDI equipment, then your computer in the normal manner.

2. If you are running the program from a floppy disk, make sure you insert your Master Tracks Jr. working disk.

3. Double-click on the JRIIGS icon..

This will load the program and display the Sequencer window, Song Edit window, Transport control, Conductor and Menu bar. You're ready to go!

Now move ahead to Chapter 3 to quickly learn how to record and play a tune with Master Tracks Jr.

cable hookup for self contained synthesizers

MIDI Interface-plugs into either Serial Port

To Audio Amplifier

MIDI OUT   MIDI IN
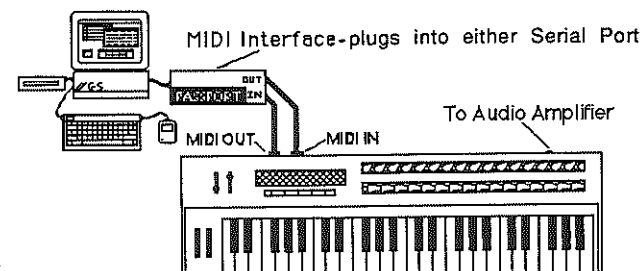
cable hookups for systems with controller keyboards and outboard sound modules

MIDI Interface (Plugs into serial Port)

MIDI IN

MIDI THRU

MIDI OUT

MIDI IN
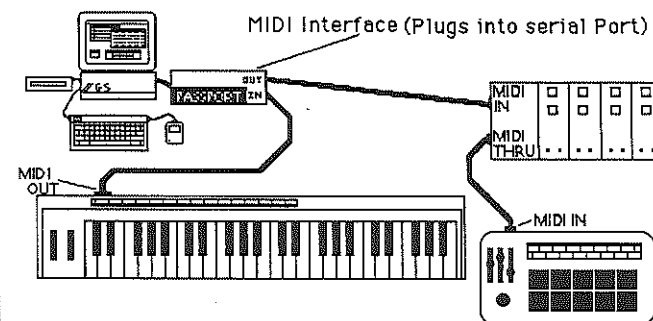
This Chapter walks you through the basics of recording, editing and playing back a tune using Master Tracks Jr.. Only the basics are described here, but it's enough to get you going. We certainly recommend your reading the rest of this manual to take advantage of the full capabilities of the program.

booting up

1. Begin by making sure your MIDI interface and cables are installed properly (see the section on Installation), and then turn on your MIDI instrument.

2. Turn on your Apple IIgs, put your Master Tracks Jr. disk in a disk drive, and wait until the system boots and the Finder window appears on the screen.

3. Double click on the JRIIGS icon in the window to start the program.The Master Tracks Jr. main screen will appear, with the Transport, Sequencer, Song Editor and Conductor windows on the screen as you see in Figure 3.1.

4. Look at the Transport window at the bottom of the screen. This window contains the controls you use for starting, stopping, fast forwarding and rewinding. It also has a pair of counters to show you where you are in the sequence, and a number of other controls on the right side of the window.

5. Notice that the Auto control is highlighted in inverse video, indicating that it is on. When Auto is on, the sequence automatically rewinds to its start point as soon as you stop playing or recording.

figure
3.1

figure
3.2
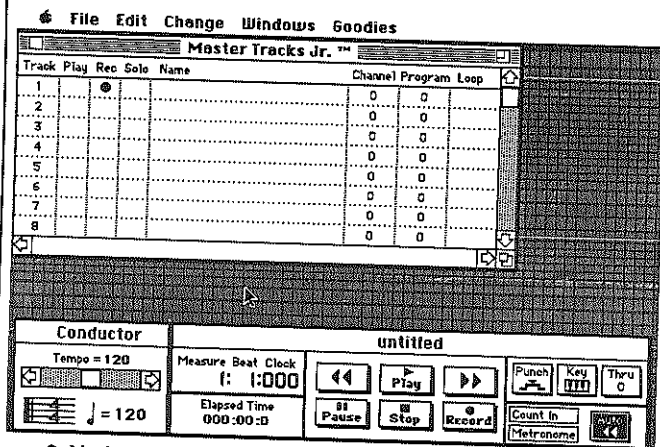
6. Notice the Sequencer window at the upper portion of your screen. Click on the Record box (the one labeled Rec) in the first track of the sequence. Be sure that a solid circle appears in the field, indicating that the track is activated and is ready to record.

recording a track

7. Get your MIDI instrument ready to record your first track, and set it to send and receive on MIDI channel 1. Start the recorder by clicking on Record in the Transport window, or by pressing Enter on the Apple IIgs keyboard. Because of the way the IIgs handles incoming data, do not move the mouse while you are recording. This may cause the loss of some of your MIDI data.

8. Play your music. When you're finished playing, hit the spacebar.

Notice that the counter immediately returns to measure 1, beat 1 as soon as you stop the sequence, because Auto (auto–return) is on. Notice also that in the Sequencer window, the Play box for the track you've just recorded now contains a solid black triangle, meaning that it has been activated for playback.

playing your first track

1. To play back your first track, click on the Record box again to deactivate the track for recording, setting it to Play mode.

2. Click on Play in the Transport window, or press the spacebar on the IIgs keyboard (see Figure 3.2).

3. To stop playback, press the spacebar again.
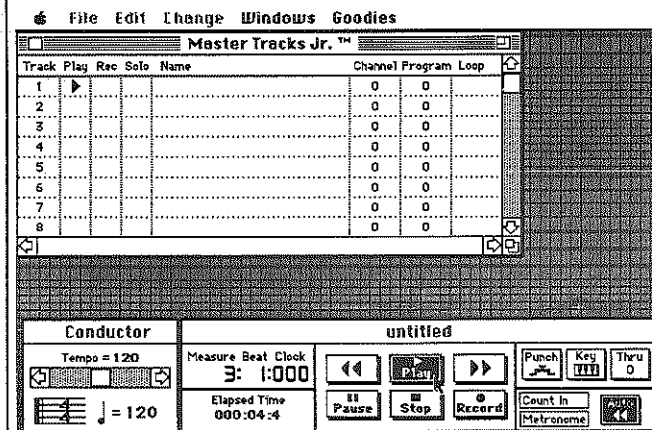
recording a second track

1. To record another track, go back to the Sequencer window and activate the second track for recording by clicking in its Record field. You'll see the solid circle appear in the field.

2. The rest of the process is identical to the steps you used to record your first track: just click on Record or press the Enter key to start the recorder. You'll hear your first track play while you record. When you're through, press the spacebar to stop the recorder.

playing both tracks

By now, it's probably obvious what you have to do to play both tracks of your two-track recording. Simply click on track 2's Record box to deactivate it, and start the playback by clicking on Play or hitting the spacebar.

Master Tracks Jr. lets you give each track a name for easy reference. Typical names might be "Bass", "Horns", "Lead licks", etc.

naming your tracks

1. To name your first track, click over the track name field for the track. A small window pops up, as you see in Figure 3.3, and you can now type in the name you've chosen. When you're through, click on OK or press Return.

figure 3.3

Master Tracks Jr. works like many other Apple IIgs programs when it comes to saving your work on disk. When you're ready to save:
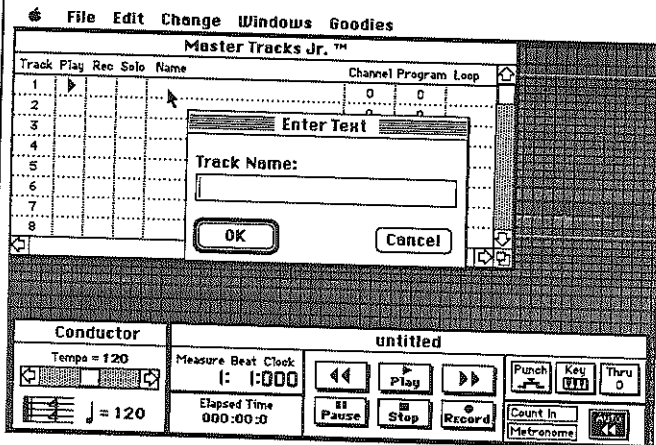
saving the sequence on disk

1. Choose Save as... from the File menu.

2. As soon as you choose the Save as... command, Master Tracks Jr. will pop up a dialog box that lets you name your sequence. You may also select a different Drive or Eject the current disk. Since there is very little space left on your MT Jr. program disk, Eject it and insert a data disk or blank disk. Now type in the name you've chosen, and click on OK or press Return. The file will be saved. (After you've saved a file once, you won't need to enter the name again—it will be saved automatically every time you choose the Save command.)

editing your sequence

Now that you have saved your first sequence, Open the file on your Master Tracks Jr. original disk entitled J.S. Bach Invention #1. You can make changes on groups of measures from the Song Editor window.

1. Choose Song Editor from the Windows menu to call up the window. A graphic representation of the sequence will appear in the window, with each track visible as a row of rectangular boxes.
   Each box represents a measure. If the measure contains any MIDI data, it will appear as a solid black box. If it is entirely empty, the box will appear "hollow," in outline. Both are shown in Figure 3.4.
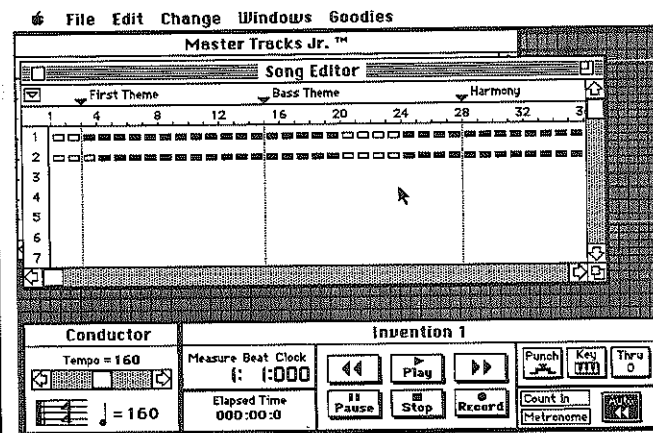
figure 3.4

figure 3.5
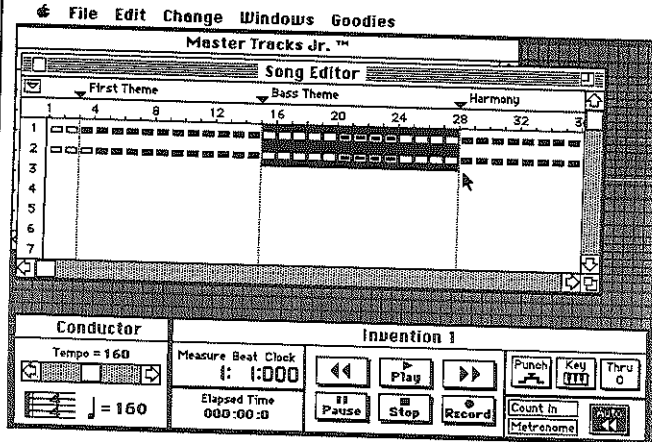
Let's say your sequence has a standard A-B-A pattern, and you want to use the edit commands to repeat the B section.

2. First, copy the B section to the Master Tracks Jr. clipboard, a temporary holding area for MIDI data during the editing process. Click on the first measure in the B section in Track 1 and drag the mouse diagonally (with button still down) across both tracks until the entire B section is highlighted, as in Figure 3.5. This *selects* that range of measures.

3. When all the measures in the B section are selected, choose Copy from the Edit menu. During the brief pause, Master Tracks Jr. copies the selected measures to the clipboard.

4. Next we need to insert some new measures in the sequence to make room for the repeat of the B section. Click on the space in Track 1 between the last measure of the B section and the first measure of the second A section. You'll see a blinking vertical cursor appear at this *insert point*.

figure 3.6
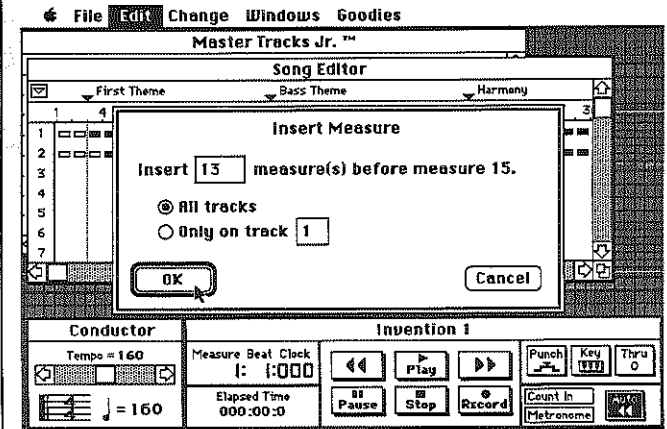
5. Now choose Insert Measures from the Edit menu. When the dialog box pops up, as in Figure 3.6, type in the number of measures that the B section contains. Click on OK or press Return when you've made your entry, and notice that new empty measures will appear in your sequence as hollow boxes.

figure 3.7
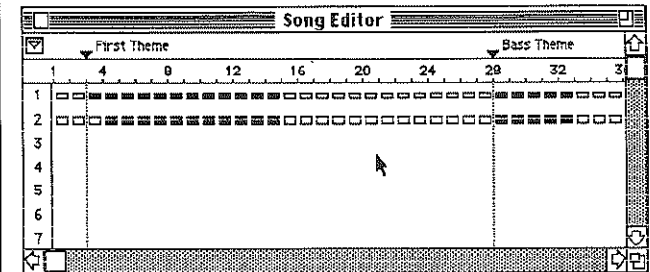
6. Now you're ready to add the B section data into these new measures. Without changing the insert point, choose Paste from the Edit menu.

The entire contents of the clipboard will be emptied into the new empty measures in both tracks of your sequence, and you've just created a repeat of the B section.

7. You can now click on the Play button or press the space bar to hear your revised sequence.

4

Basic sequencer operation

Master Tracks Jr. is designed to work much like a convention-al multi-track tape deck. Although a sequence is stored in the Apple IIgs's memory instead of on tape, you still need con-trols that let you play, record, fast forward, rewind, and stop the sequence. You also need a counter to tell you where you are in the sequence. The Transport window is where Master Tracks Jr. provides these features.

the transport and conductor windows
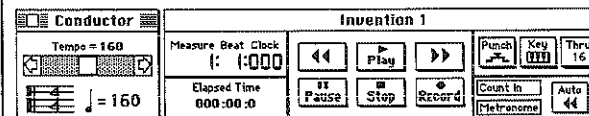
The center portion of the Transport window has six screen "buttons"— play, record, fast forward, rewind, pause and stop. They function just as their counterparts on an actual tape deck. To "press" one of these buttons, you just click on it with the mouse. You can also execute the play, record, and stop functions from the Apple IIgs keyboard.

Here's how each of these transport functions works:

play	Plays the sequence beginning at the point currently indicated in the counter. Pressing the spacebar on the IIgs keyboard also starts playback. Before starting playback, remember to be sure that the MIDI channels set for each track agree with the instrument(s) that you are using to play the track. Also, the track or tracks you want to hear must be selected (see *selecting which tracks play* on page 4-6).
record	Click on the Record button to start recording on the track selected on the Sequencer window, beginning at the location in the sequence indicated in the Measure Counter. Pressing the Enter key on the IIgs keyboard also starts the recording. To optimize the performance of MT Jr. when recording, we recommend that you do not move the mouse while you are in Record. (See chap.11, pg. 11-6 on "using the mouse") A track must be selected before you start recording, or the command will not function. See *selecting which tracks record* on page 4-6 for details. Each time you record on a track, the new data is recorded over any data previously recorded. You can have Master Tracks Jr. start recording at any point in the sequence, and existing data in the track before that point is left intact. Likewise, any data in the remainder of the track past the point at which you stop recording remains untouched.
rewind	Click on rewind to rewind the sequence a measure at a time. You can also move instantly to the beginning of the sequence by double clicking on this control.
fast forward	Click on the fast forward control to advance through the sequence a measure at a time. Double click to move instantly to the end of the sequence.
stop	As you'd expect, clicking on the Stop button stops playback and recording. If the Auto function is on, the sequence automatically rewinds to wherever you last started playback. You can also use the spacebar on the IIgs keyboard to stop the sequence during playback or recording.
all notes off	Pressing the spacebar, or clicking Stop, sends an "all notes off" command to all MIDI channels.
pause	Clicking on the Pause button pauses both play and record. Click again and the sequence resumes playing or recording.

the transport window counters

On the left side of the Transport window are two counters that let you locate your current position in the sequence. The Measure Counter at the top left displays the position in the sequence in measures, beats, and individual clock ticks (Master Tracks Jr.'s internal clock divides a quarter note into 48 parts [2ticks]). See the section on the Conductor window for more information about sequence timing).

You can move to any location in the sequence directly by clicking on the measure, beat or clock field in the Measure Counter, and typing in the number from the IIgs keyboard.

seeing elapsed time

The Elapsed Time Counter shows the actual time (in minutes, seconds, and tenths of seconds) that has elapsed since the begining of the sequence. With AUTO OFF, the Elapsed Time Indicator will indicate the time from the beginning of the piece when you click at any location in an active window or use it's scroll bar. The Elapsed Time Indicator can be reset to zero at any time by clicking directly in it. This allows you to time any section from any point even while playing.

As you'd expect, playing the same sequence at different tempos will result in different elapsed time readings. The Elapsed Time Counter comes in handy for syncing music to video segments or commercials of predetermined length. At the right side of the Transport window are a variety of miscellaneous controls:

other transport window settings
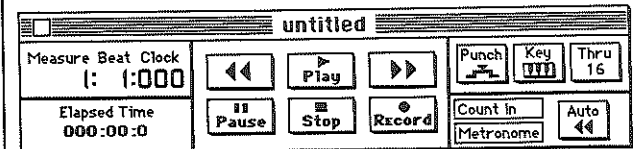
wait for MIDI keypress

▶ **Key** Clicking on the Key control highlights the control. Now when you select play or record Master Tracks Jr. will wait until it detects that a MIDI key has been pressed and released before it begins recording or playing.

auto

▶ **Auto** Turn on Auto by clicking on it. When Auto is on, whenever you stop the sequence it will automatically "rewind" to the point where playback started last.

count in

▶ **Count In** When this control is on, Master Tracks Jr.'s metronome counts off one measure according to the meter set in the Conductor window before starting to play or record.

metronome

▶ **Metronome** Clicking on Metronome highlights the control, and turns the metronome on. Now, when you play or record a sequence, you'll hear a click tone on each beat of each measure over the Apple IIgs's internal speaker for the entire length of the piece.

MIDI thru

▶ **MIDI Thru** This control is used when you're recording from a master MIDI controller, that doesn't produce sound itself, or when you want to use one synthesizer to control another while recording. Click on MIDI Thru to highlight it. With MIDI Thru on, the MIDI data you send to the Apple IIgs will be passed out the MIDI Out port on your IIgs's MIDI interface. All the data will be sent out on the MIDI channel indicated in the MIDI Thru box. If no channel is assigned ("0"), all data will pass thru on it's incoming channel(s). The Thru channel follows the channel set for any track set to Record in the Sequencer Window. For the best results when using Thru, do not move the mouse while Thru is enabled. (See chap.11, pg. 11-6 on "using the mouse")

Punch In/Out

▶ **Punch** Click the Punch button to activate the Punch In/Out record mode. There are two ways to select the Punch region. Double click the Punch button and a dialog box appears, letting you type in the In and Out locations. The second way to select a region is to use the mouse in the Song window and then "OK" your selection from the dialog box. Any area selected for editing will be the Punch region. You may start the transport from any point by clicking Record or pressing Enter or using your MIDI keyboard. Recording will start and end automatically for the selected region.
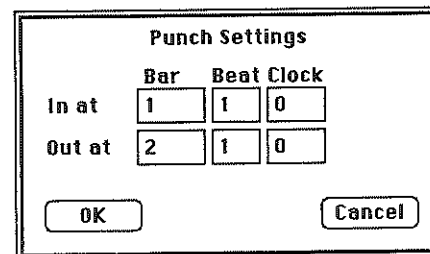
the sequencer window

The Sequencer window is the display window for some of the most basic information about your sequence. It lists the 64 tracks available in Master Tracks Jr., and allows you to select the tracks that will record or play. You can also select a MIDI channel for all data in each track, choose a name and an initial MIDI program number for the track, solo single tracks, and loop tracks independently.
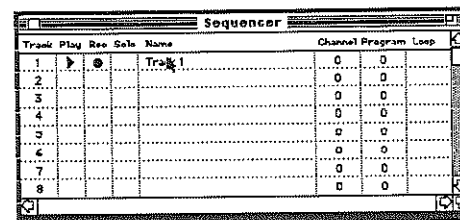
If the Sequencer window is not already on your screen, or if it is hidden by other windows, you can activate it by choosing it from the Windows menu, or by pressing Command–1 on the Apple IIgs keyboard.

Sequencer window basics are simple. To change any item in the window, just click in the box of the item you want to change. For settings that are either on or off, an icon in the box indicates the setting is on, while an empty field means that the setting is off. For parameters that require you to enter text or numeric values, a Change Value window will pop up, allowing you to enter the information.

A "0" in the channel or program columns indicates that the function is <u>OFF</u> for that track.

selecting which tracks play

You can select any combination of tracks in your sequence to play back. Other tracks that are not selected will not play, even if they contain MIDI data.

Click in the Play box of each of the tracks that you want to select for playback. The triangular play icon ▶ appears in each track's Play box to show that the track is selected, and will be played when you start the sequence. In addition immediately after you complete a recording on a track, that track is automatically set to playback.

To turn play off for that track, click in the box again. The play icon will become hollow, and the track will not be played when you start the sequence.

selecting which tracks record

Only one track can be selected for recording at a time. To select a track for recording, click in the Record box for that track. A solid circle appears in the Record box to indicate that the track is selected. When you start the recording, all incoming MIDI data will be recorded on that track.

To deactivate a track for recording without selecting another track, just click on the Record column for that track again. The record icon disappears.

soloing tracks

The Solo command gives you an easy way to play back a single track or a few tracks without having to individually deactivate the play box on all the other tracks. Then, when you want to hear more tracks again, you only have to turn off Solo on the selected tracks.

To select a track for soloing, just click on the track's Solo box. You'll see a solid black diamond pop up in the box. To turn solo off, just click on the box again. Any number of tracks can be soloed at a time.

naming tracks

Each track can have a name, which serves as a memo you can use to describe the music in the track or to remind yourself of which instrument and/or sound you've chosen to play the track. These track names are saved permanently with the sequence file when you store it on a disk.

Click on the Name box in the track you wish to name (you can name any track, even if it does not contain MIDI data). A dialog box pops up and asks you to type in the name of the track. You can use any combination of characters you wish.

When you're finished, click on OK or press Return to complete your entry. Or click on Cancel if you want to return to the Sequencer window without making any changes.

selecting the MIDI playback channel

The Channel box contains the current MIDI channel setting for playback of the track. To use this feature, you need a little background on the way the program handles MIDI channel information.

Master Tracks Jr. supports multiple-channel tracks. You can record on any combination of channels within a track, and you can freely mix data from one track to another, retaining all the original channel data.

If you enter a channel number of 1-16 in the Channel box, all data in the track will be played on that channel. On the other hand, a channel value of 0 plays back the track exactly as it is stored in memory, on the same channel(s) it was received on.

To change the channel, click in the Channel box. A small data entry window will pop up. Type in the number of the channel you want for the track, or use the arrow controls to change the setting. When the channel number is correct, click on OK or press Return to enter it and return to the Sequencer window. Of course, you can click on Cancel to leave the setting as it was. Thru follows the channel for any track set to record.

setting the program number

A *program* is the MIDI term for a MIDI device's programmed setup, stored in the memory of the device. On a synthesizer, a program is equivalent to a "patch" or sound. On a drum machine, a program may select a particular song, and on a MIDI effects device it may select a configuration setting with pre-programmed values for all the parameters on the device. Each program has a number, and when a MIDI program change message is sent to the device, the device responds by switching to that program number.

On the Sequencer window, the number in the Program field refers only to the program number that Master Tracks Jr. will send when the sequence begins playing from the beginning.

If the program setting is 0 (the default), no program change is sent when the sequence begins---your instrument will remain set to whatever program it's already on, until it receives a program change from the sequence data. Likewise, if you

start the sequence from some point other than the very beginning, the program indicated in the Program field is not sent, and only program changes stored in the sequence data will be sent.

To change the program setting, click on the Program field for the track you want. When the small data entry window pops up, type in the number of the program you wish, or click on the arrow keys to raise or lower the value. When the number is correct, click on OK or press Return to enter it and return to the Sequencer window, or click on Cancel to return without entering the change. The program change will be sent out whenever you click OK or press Return even when a sequence is playing.

looping a track

Each track in a Master Tracks Jr. sequence can be independently looped. When the sequence gets to the end of a track, it plays the track over again from the beginning, no matter what other tracks are doing.

Since the Record function always rounds recorded tracks to the nearest complete measure, the track always plays to the end of a measure before looping back, even if no notes are playing in the measure.

Another important detail is that looping only works if you start playback before any of the tracks in the sequence have ended. If you have a short track and start playback in the middle of the song, after that track has ended, the looped track won't play.

To set a track to loop, simply click in the Loop box for the track, at the far right of the Sequencer window. The Loop icon ↺ will appear in the box. To shut the loop function off, click on the loop box again, and the icon disappears.

playing a sequence

To play a sequence, first be sure to select the tracks you want to play, and check that the MIDI channels agree on your MIDI devices with the data in the sequence. If you wish, use the transport controls to move the Measure Counter to the point in the sequence where you want to begin playback.

You can start playback in one of two ways:

▶ click on the Play button in the Transport window.

▶ press the spacebar on the IIgs keyboard.

Once you start the play function with one of these controls, the sequence will immediately begin to play if the Key and Count In settings on the Transport window are off, and if Sync is set to internal with the MIDI setup command on the Goodies menu. If Key is on, however, Master Tracks Jr. will pause before beginning to play until it detects that a MIDI key has been played and released. If Count In is on, you'll get a one measure count-in, and then play will begin. Finally, if Sync is set to MIDI, Master Tracks Jr. will wait to begin playback until it receives a Start command from the external MIDI sync source.

During playback, you can change sequence tempo with the left and right arrow keys..

recording a track

To record a track, first select it for recording by clicking in the Sequencer window Record box as described earlier.

The program can record on all 16 MIDI channels simultaneously. If you wish, however, you can use the Record Filter on the Goodies menu to select a particular channel before you start recording (check Chapter 10 for details on the Record Filter).

If you do select a channel on the Record Filter, Master Tracks Jr. will only record the data from that channel, and will ignore any data it receives on other channels. In this case, you'll need to be sure that your synthesizer is set to send on the same channel before you start to record.

Master Tracks Jr. can record all types of MIDI data, but you can also use the Record Filter to filter out any types you don't want to record. Again, check Chapter 10 for more details.

Start recording with one of these two options:

▶ Click on the Record button on the Transport window

▶ Press the Enter key on the Apple IIgs keyboard.

At this point, if the Key and Count In controls on the Transport window are off, and if Sync is set to Internal with the MIDI Setup command, Master Tracks Jr. will immediately begin to record.   Remember, for the best results, do not move the mouse while you are recording.

On the other hand, if Key is on, the program will wait until it detects that a MIDI key has been pressed and released before it begins recording. If Count–in is on, you'll get a one-measure count-in (you can hear it if the metronome is on), and then the recorder starts. If sync is set to MIDI, Master Tracks Jr. will pause until it receives the signal to start from an external MIDI device.

When you've finished recording, hit the spacebar on the IIgs keyboard.

As soon as you have finished recording a track, the program automatically activates the track for playback, and the play icon appears in the track's Play box.

It's a good idea to get in the habit of deactivating a track's record mode right after you've recorded it so you don't record over it accidentally next time. Click on the track's Record box in the Sequencer window, so that the circle disappears from the box, protecting the track.

```
+----------------------------------+
|           Conductor              |
|       Tempo = 120                |
|   <|  [||||||||  []|||||||  |>    |
|   ____                           |
|   4                              |
|   4    ♩ = 120                   |
+----------------------------------+
```
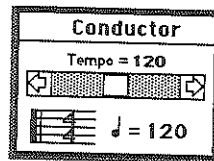
the
conductor
window

The Conductor window is a small but very important Master Tracks Jr. window, since it displays sequence timing information. On the Conductor window, you'll see the current values for the tempo, the beat, and the meter, as set on a special Master Tracks Jr. track called the Conductor track. If the Conductor window is not on the screen, or if it is hidden behind other windows, you can make it visible by choosing Conductor on the Windows menu.

changing
the
tempo

You can use the tempo scroll bar in the Conductor window to change the tempo, even while a sequence is playing. There are three ways to do this:

▶ You can click and hold on the scroll box in the scroll bar, and drag it directly to a new value.

▶ Clicking anywhere in the grey part of the scroll bar moves the scroll box rapidly toward that location, and causes a corresponding rapid change in the tempo setting.

▶ Finally you can click and hold over one of the arrow controls at either end of the scroll bar. This changes the tempo value one value at a time.

Because adusting the tempo requires using the mouse, It is important to remember that you can change the tempo only when there is no incoming MIDI data.

the
conductor
track

The Conductor track is a separate track in a Master Tracks Jr. sequence that determines timing for the entire sequence. The Conductor track allows each measure to have its own meter, tempo, and beat note, and the tempo can change gradually, even within a single measure.

You can think of tempo changes you make with the scroll bar in the Conductor window as offsets to the actual tempo value stored in the Conductor track. The play tempo in the Conductor window automatically follows the changes in the Conductor track tempo. When you change the play tempo using the Conductor window scroll bar, all the original tempo changes in the Conductor track are preserved, but during playback, they are scaled proportionally to the change you make. When you click in an active window with Auto Off, the elapsed time setting is calculated based on the actual Conductor track, not the playback offset. Once you settle on a tempo you like, it is a good idea to use the Conductor dialog from the change dialog to adjust the actual Conductor track tempo.   If you have tempo changes in your sequence, this adjustment should be made using the percentage box to preserve the tempo changes.

To enter new Conductor track settings for the entire
sequence or a given range of measures, you may select the
Change Conductor dialog box, either by clicking over the
meter display in the Conductor window, or by choosing
Conductor... on the Change menu. See the section on
changing Conductor values in Chapter 8 for details.

Song Editor Window

The Song Editor allows you to edit large blocks of music at
one time. Working on groups of measures, you can move
sections of music within a sequence or build new sequences
from segments of other sequences. You can also modify the
data in a variety of ways using the commands in the Edit and
Change menus.

Select the Song Editor window by choosing it from the
Windows menu, or by typing Command–2 on the IIgs
keyboard.

Bar Numbers(measure ruler)

End of conductor track

song
editor
window

Track Numbers

Empty Measure
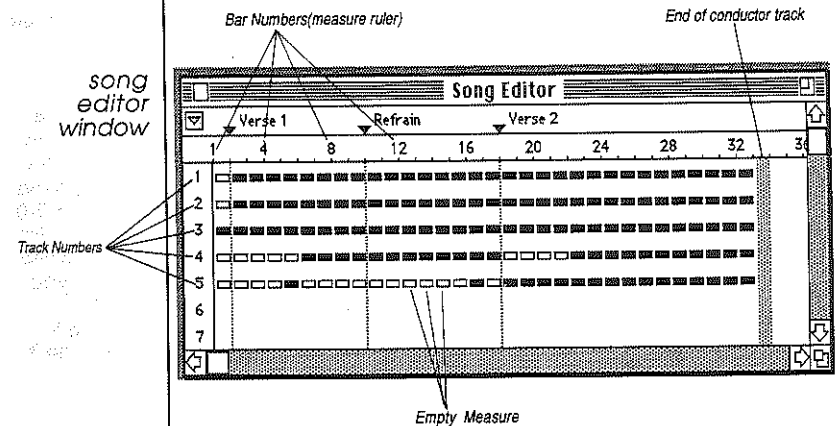
Like the sequencer window, the song editor is a table of tracks in which each track is listed on a separate row. But instead of alpha-numeric information, the Song Editor window provides a graphic representation of the musical data that the track contains, in one-measure blocks.

The left border of the window is marked with the track numbers, and the top border is a *measure ruler* which marks off the measure numbers. Tracks containing MIDI data appear on the screen as a row of rectangular boxes, each box representing a measure. Solid black boxes contain MIDI data, while hollow boxes are measures of rests, without any MIDI data.

The grey vertical bar at the end of the data area represents the end of the conductor track for the sequence. Even if the tracks you're looking at are completely empty of MIDI data, and no measure boxes are on the screen, the grey bar will still appear at the measure where the conductor track ends.

scrolling through the song editor window

You can scroll through the track data on the Song Editor window using the scroll bars. You can also scroll using the method described for selecting blocks of measures in the section on "Selecting measures to edit," below.

playback point

Clicking anywhere in the Song Window with Auto OFF, will set the transport to start playing or recording from that point.

the measure ruler

The row of numbers at the top of the Song Editor window is the measure ruler. It marks off measures in the sequence so that you can keep track of which part of the sequence you're looking at. You can change the numbering scheme displayed on the measure ruler by pressing one of the number keys 3-0 across the top of the IIgs keyboard. If you press 3, every third measure on the ruler (1,3,6,9, and so on) is numbered, while the rest of the measures are indicated by hash marks. If you press 4, every fourth measure is numbered, and so on. Pressing 0 numbers every tenth measure. The "+" key will increment your selection by one and the "-" key will change it back again.

using song markers

Master Tracks Jr. provides *markers* that let you identify a particular location in your sequence so that you can return to it any time you wish. Markers always mark the beginning of a measure. Master Tracks Jr. markers look and act like tab stops in word processing programs and are useful for quickly going to a desired location in the Song Window. Markers are displayed at the top of the Song Editor window, just below the window's title bar, on another horizontal bar called the *marker ruler*.

When the marker ruler is visible, you'll see a small box at its left edge containing a hollow upside-down triangle. This box is called the *well*. To place a marker into the marker ruler, click and hold over the well. Another upside-down triangle, the marker you'll be placing, will appear just below the well.

placing markers

Now, while still holding down the mouse button, drag the new marker to the measure where you want to place it. Once you've positioned the marker, release the mouse button. The marker will remain where you've placed it, and will become solid black. In addition, a vertical dotted line will appear below the marker, extending through the track list to help you see exactly where the marked measure is in your track. You can move the marker any time you're in the Song Window, by clicking and holding on it, and dragging to its new location.

moving to a marker

To move the Song Editor to the next marker in the ruler, press the Tab key on the Apple IIgs keyboard. The data in the window will move so that the next marker is at the extreme left of the window. Press the Tab key repeatedly until you reach the marker you wish.

To move to a previous marker, press Shift-Tab. Again, the data lines up so that the marker is at the left edge of the window.

naming a marker

In a large composition, you may want to make a note to yourself to help you remember the music each marker is pointing to. Master Tracks Jr. helps out by letting you name the markers on the screen. Once you've named a marker, the name appears to its immediate right on the marker ruler.

To name a marker or change its name, from the Song Editor window, you can double click on the marker to bring up a dialog box for the marker name. Type in the name from the IIgs keyboard, then click on OK or press Return to enter it and return to the Song Editor.

editing MIDI data

The Song Editor lets you easily change MIDI data in large regions using all the commands on both the Edit and Change menus. Again, the smallest unit available for editing changes in the Song Editor window is an entire measure, and all edits are done on multiples of whole measures.

To make changes to one or more measures of your sequence using menu commands, the region of measures must first be *selected*. Selected measures appear on the screen highlighted in inverse video.

selecting measures to edit

To select one or more adjacent measures in a single track, click over the first measure in the track, and drag over the entire group.
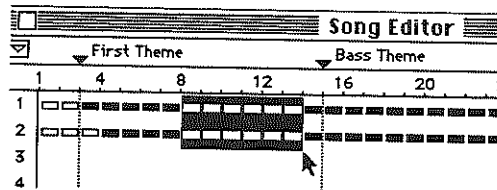
selecting an entire track

To select an entire track, click on the track number in the left hand column. To select several adjacent entire tracks, click and hold over the first track number in the group, and drag the mouse up or down in the track number field.

selecting measures across all tracks

To select one measure in all tracks, click on the column for that measure in the measure ruler at the top of the window. To select adjacent measures in all tracks, click and hold on the column for the first measure in the group and drag to the column for the last measure.
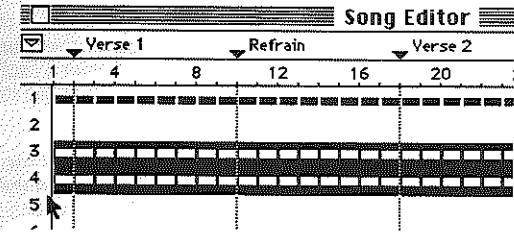
To deselect a selected area, simply click anywhere on the Song Editor window.
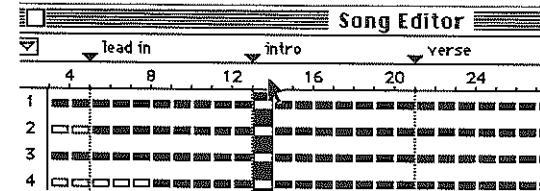
selecting a block of measures

There are two ways to select a block of measures across multiple tracks. First, you can position the mouse pointer at one corner of the block, click, and drag towards the diagonally opposite corner until the inverse highlight covers the measures you want to select. If all the measures you want to select aren't visible on the screen, you can scroll the screen simply by dragging to any edge of the window. The window will scroll and the selection highlight will move with it.

shift click

This technique can be used to scroll the Song Editor window, even if you don't want to select that particular block of measures. When you're through scrolling, simply click again, and the selected block will be unselected.

Second, a block can be defined by clicking at one corner of the block, holding down the shift key on the IIgs keyboard, and then clicking on the diagonally opposite corner. To define a block that is larger than one screen, you can scroll with the scroll bars after clicking on the first corner, but you must hold down the shift key before you click on the data area again.

Note: If you plan to Cut, Copy, or Clear a region that includes notes that are tied from or to other measures, you should be sure you understand the way Master Tracks Jr. handles this situation. Read the section on tied notes in Chapter 7 for details.

editing the selected music	Once you have selected a measure or measures, you can edit the region using the commands on the Edit or Change menus. See Chapters 7 and 8 for instructions.
erasing data from measures	Cutting a selected measure or a block of measures inside the song window will remove data from those measures leaving them blank, and placing a copy of the data on the clipboard.
erasing an entire track	Cutting an entire selected track (selected by clicking it's track number) will remove it entirely, placing a copy of it on the clipboard.
removing data and / or time from a sequence	Cutting measures across all tracks (selected by clicking and / or dragging in the measure ruler) will remove that section from the sequence and remove those bars from the conductor track.
playing a sequence from the song editor	Master Tracks Jr. lets you play your sequence no matter what window you're using, and the Song Editor window is no exception. Just click on the Transport's Play button or hit the spacebar to start playback.
scrolling during playback	If the Song Window is selected as the Active Window, a vertical highlight bar moves along the track data to mark the measure that is currently playing.
	You can also use the Song Editor to determine at what point the song begins playing. This capability is useful when you want to hear just the part of the song you're working with, and you can also use it as an alternative to the fast forward and rewind buttons on the transport window.
playback point	To use the Song Editor to determine the point at which play begins, you must first turn the Transport window's Auto

control off. With Auto off, and the Song Editor Window active, click in the window at the place you want playback to begin. It's that simple.

Using the File Menu

The File menu has a variety of commands that let you manage your sequence files. These commands work just as they do in most other Apple IIgs applications, so if you've had any previous experience with the IIgs you'll already be familiar with how to use them.

File	Edit	Change	U

```
┌─────────────────────────────┐
│ File  Edit  Change  U        │
├─────────────────────────────┤
│ New                    ⌘N    │
│ Open...                ⌘O    │
├─────────────────────────────┤
│ Close Invention 1            │
│ Save                   ⌘S    │
│ Save As...                   │
│ Revert to Saved              │
├─────────────────────────────┤
│ Import MIDI File...          │
│ Export MIDI File...          │
├─────────────────────────────┤
│ Quit                   ⌘Q    │
└─────────────────────────────┘
```

The File menu includes commands that allow you to read and write standard MIDI files. MIDI Files are an industry standard format for storing MIDI sequences. If you own any programs that support this new format, you will be able to share sequence files with these programs. You can save your sequence as a MIDI File (Export), or Import a MIDI File created with another program.

about
sequence
files

A Master Tracks Jr. file is a single sequence, either in its temporary form in your Apple IIgs's memory, or stored more permanently on a disk. A file is *open* when you're working with it in your IIgs's active memory, whether you loaded it from disk or started a new sequence from scratch. When you close a file, it is removed from memory, and you can only work on it again by reloading it from the disk.

You can only have one sequence file open at a time in Master Tracks Jr.. If you're already working on a file, Master Tracks Jr. gives you a chance to save it when you create a new file or when you load a file from disk.

Be sure to **save your sequence files frequently while you work with them,** so that you don't lose your work because of a power failure or other problems with your system. You can store files on any disk or drive in your system, as long as there is enough space, using options in the Save and Save As... commands.

starting
a new
file

To create a brand new sequence, choose the New command on the File menu or press Command-N on the IIgs keyboard. Since you can only have one file open at a time, this command closes the file you've been working on, if any, giving you a chance to save it first if you like.

When the new file is opened, any windows you had open remain on screen in the same position, but all the existing data disappears. Master Tracks Jr. calls the new file "Untitled" until you rename it with a name of your own choice using the "Save As" command (the file name is always displayed in the Transport window title bar).

opening
an
existing
file

Choose the Open command or press Command-O on the IIgs keyboard when you want to load an existing disk file into Master Tracks Jr. for playback or further editing. When you choose the Open command, Master Tracks Jr. will first give you a chance to save the file you're currently working on, if any.

Next, a dialog box will pop up, showing the name of the disk in the currently selected drive at the upper right, and the names of all the Master Tracks Jr. files stored on that disk in a scrollable box at the left. If the list of files is too long to fit into this box, you can use the scroll bar at the right side to scroll

through the list to the file you want.

If the file you want is on a disk in another drive, click on Drive to select another drive. If you want a file on a disk that's not currently in a drive, click on Eject, wait for the drive to eject the disk, and insert the disk you want.

Once you've located the file you want to open, click over any portion of the name. The name will now be highlighted, indicating that it is selected. If you make a mistake, you can select a new file name just by clicking on it. When you've selected the correct file, click on Open. The dialog box will disappear, and Master Tracks Jr. will load the file.

Another way to open the file is simply to double click on its name, either when it shows up in the dialog box while you are running Master Tracks Jr., or from the Apple IIgs finder. If you do this from the finder, Master Tracks Jr. will automatically be loaded (if it can be found on the available disks at the time), and your file will be opened for use.

After the file is opened, the same set of windows you were using before you opened the file will still be on the screen, but the data in the windows will now be from the newly opened file.

closing
a
sequence
file

Use the Close command to end work on a particular file without leaving Master Tracks Jr.. When you choose the Close command, you'll be given an opportunity to save your current work if you've made any changes since it was last saved.

All windows you've been using remain on the screen, but they are now empty of data. Essentially, the Close command gives you another way of starting a new sequence.

saving
a
sequence
file

The Save command stores the sequence that's currently open on disk, if an earlier version of the file has already been saved. As soon as you choose the Save command or press Command-S on the IIgs keyboard, Master Tracks Jr. will save the current version of the sequence in the same disk file, without any further action on your part, overwriting the existing file of the same name.

```
┌─────────────────────────────────┐
│      ┌─ Sequences ─┐             │
│  ┌───────────────────┐ ⬆️⬁Relax/Sea...│
│  │ 🗋 for monica ┐     │ 🡅          │
│  │ 🗋 go home    ↖    │  ┌─ Eject ─┐│
│  │ 🗋 heartbreaker    │  ├─ Drive ─┤│
│  │ 🗋 Higher Love     │  └────────┘ │
│  │ 🗋 Higher Love CES │             │
│  │ 🗋 hrfbrk midi 1   │ ⬇️          │
│  └───────────────────┘             │
│  Saue current score as:  ┌─ Saue ─┐│
│  ┌──────────────────┐    ├─ Cancel┤│
│  │ Invention 1      │    └────────┘│
│  └──────────────────┘             │
└─────────────────────────────────┘
```
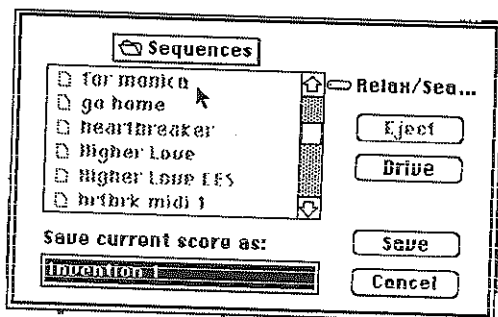
using the
Save as...
command

If your file has not been saved before, or if you haven't made any changes since the last time you saved it, the Save command is disabled and appears in grey instead of black on the File menu. To save a file for the first time, or to resave a file that has already been saved, use the Save as... command instead.

The Save As... command lets you save a new file for the first time, or resave a file that has previously been saved, using a new name if you wish. You may also save your file on a different disk. In addition to its importance for saving new files, this command is especially useful when you want to store your latest edits as a different file to avoid erasing an earlier version of the sequence.

When you choose the Save As... command, a dialog box appears, which allows you to choose a name for the file before you save it. The field where you enter the file name is labeled "Save current score as:." If you're saving a new file, the program will supply the name "Untitled" in the file name field. If you're saving a previously saved file, the current name of the file appears in the file name field.
If you want to change the name supplied by the program, type in the new name. If you leave the file name field highlighted, the name in the field will disappear as soon as you start to type in the new name.

The Save As... dialog box also lets you select the drive and disk where you want to store the new version of the file. At the right side of the box, you'll see the name of the disk in the currently selected drive. Click on Eject to eject the disk. When the disk pops out, insert the disk you want to use. Or click on Drive to select another drive for the save operation.

If you decide you don't want to save the file after all, you can click on Cancel at any time. To go ahead and save the file with its new name, click on Save. After a few minutes, you'll be returned to the main Master Tracks Jr. screen.

using the
Revert to Saved
command

Choosing the Revert to Saved command loads the disk version of the file that you're currently working on, restoring the file to the way it was when you last saved it. Use this command when you've made changes in a sequence that you know you don't want to keep.

When you choose the Revert to Saved command, Master Tracks Jr. pops up a dialog box asking you if you're sure that you want to discard the changes you've made since the last time you saved the file. If you want to go ahead with the command, click on Yes, and the last saved version of the file will be loaded, replacing the data that was in memory. To cancel the command, click on Cancel.

importing and
exporting
MIDI files

MIDI Files are an industry standard format that has been adopted by many software and hardware manufacturers. This allows you to use Master Tracks Jr. to play or edit files created on other sequencers or to use your Master Tracks Jr. files with other sequencers or notation programs. Both types of MIDI Files are about 35% smaller than a normal Master Tracks Jr. file and thus take less room on your disk and less time to transmit by modem.

Type 0	All channels merged to a single multi-channel track. Channel assignments saved Text and program change assignments not saved. Loop assignments and markers not saved.
Type 1	Parallel multi- channel tracks. Channel assignments saved. Text and program change assignments saved. Loop assignments and markers not saved.

When you select EXPORT from the File menu, a dialog box gives you the choice of type 1 or type 0. When you select IMPORT from the File menu, Master Tracks Jr. will display any MIDI files on current disks.

quitting
Master Tracks Jr.

Choose the Quit command or press Command - Q on the Ilgs keyboard when you want to end a Master Tracks Jr. session. If you haven't saved the file you've been working on when you choose the Quit command, Master Tracks Jr. gives you a chance to do so via a dialog box with the message "Save changes before quitting?"

Click on Yes or press Return to save the final version of the file before quitting. Click on No if you want to quit without saving the file. If you decide not to quit after all, click on Cancel.

Using the Edit Menu

Master Tracks Jr.'s Edit menu contains commands that are used within the Song Editor, Step Editor, or MIDI Data windows to edit MIDI data in selected measures or regions.

Edit	Change	Windows
Undo Paste		⌘Z
Cut		⌘X
Copy		⌘C
Paste		⌘P
Clear		
Midi Data		⌘M
Insert Measure...		⌘I
Select All		⌘A
Show Clipboard		

To use any of these commands on a specific region, the region must first be selected using the mouse as described in the chapter on the Song Editor. If you want to use an Edit command on an entire sequence or track, you can skip that step by using the File menu's special command, Select All. This command selects the entire sequence at once if chosen when the Song Editor is the active window. See the description of the Select All command later in this chapter for details. The Edit menu capabilities start with basic Cut, Copy, Paste, and Undo editing commands. With Cut, Copy, and Paste, and a couple of supplemental commands, you can transfer data from any location in a sequence to any other location, or even to another sequence entirely.

Before covering the Edit menu commands individually, there are a few things that you'll want to know about.

working with tied notes

There will probably be times when you'll want to select regions in the Song Editor window that include notes tied from the measure immediately before or after the selection. Master Tracks Jr. will recognize the tied notes when you use the Edit menu commands Cut, Copy, and Clear.

When you use one of these commands, the program removes or copies only the portion of the note that falls within the measures in which the selected region is located. With the Cut and Copy commands, this portion of the note is moved to the clipboard, and appropriate note—on and note—off events are added to it to make it a complete event. When you use Cut or Clear, the program also removes this portion of the note from the sequence, and inserts new note—on and note—off events for the parts of the note that remain.

about the clipboard

The *clipboard* is the temporary storage location for MIDI data that Master Tracks uses when you move or copy within a sequence, or from one sequence to another. For faster performance, the Master Tracks Jr. clipboard is stored in RAM, the computer's internal memory, and not on disk like some Apple IIgs clipboard files. The effect of this is to speed up editing considerably. But there is a trade—off. The problem with this approach is that the data in the clipboard will be lost if you lose power or the computer fails for some other reason. Don't expect the clipboard file to be saved when you power down your computer. You must paste it into a sequence and save it using the File menu commands.

the Undo command

At the top of the Edit menu is the Undo command, which can also be executed by pressing Command—Z on the IIgs keyboard. This command allows you to cancel the last alteration you made to your sequence with the commands on the Edit or Change menus. You may also Undo your most recent recording. Remember, though, that Undo only applies to the last change you made in the sequence. As soon as you use another Edit or Change command or start recording a new track, the change is now permanent and can no longer be removed with Undo.

cutting

Use the Cut command to remove MIDI data from the region you've selected, and place it in the Master Tracks Jr. clipboard. You can execute the Cut command by choosing it from the Edit menu, or by pressing Command—X on the IIgs keyboard.

The exact way that data is removed by the Cut command depends on how you've selected the data:

cutting entire tracks

▶ If you've selected one or more entire tracks in the Song Editor window, the Cut command removes their data entirely.

cutting an entire sequence

▶ If you've selected the entire sequence using the Select All command, or with the mouse in the Song Editor window, Cut removes all data.

cutting time and data from a sequence

▶ If you select one or more adjacent measures across _all_ tracks in the sequence, the measures are completely removed and the remainder of the sequence is shifted to the left to fill in the gap.

cutting data from measures

▶ If you select a region within a track or tracks, but not all tracks in the song, Cut removes the data but leaves the measures intact. In other words, the rest of the data in the track(s) is *not* shifted to the left to fill in the gap. This is done to preserve the Conductor template across all the tracks. After this sort of cut, you'll see hollow measure bars indicating empty measures in the Song Editor window.

Remember, a Cut command can be reversed with the Undo command.

copying

The Copy command makes a copy of the data in the selected region and puts it in the Master Tracks Jr. clipboard. The existing data is not changed. In addition to selecting the Copy command with the mouse, you can also execute it by pressing Command—C on the IIgs keyboard.

pasting

Paste places the contents of the clipboard into the sequence beginning at the location of the blinking cursor. You can choose the command with the mouse, or use Command–V from the IIgs keyboard.

If the clipboard contains data from more than one track, data from the lowest numbered track in the clipboard goes into the track marked by the cursor. Data in the clipboard from subsequent tracks are automatically inserted into the next tracks in order.

To use Paste, first select an insert point by placing the cursor at the beginning of the measure where you want to insert the clipboard data. Then select the command. <u>The data you paste in replaces any existing data in the sequence</u>. (To merge the clipboard data with the existing data, use the Mix Data command.)

You can paste data into empty tracks anywhere you like. Just position the cursor at the measure location where you want the pasted data to start, and execute the command. Remember, too, that you can Paste clipboard data from one sequence to an entirely different sequence if you wish.

clearing

Clear works exactly like Cut, except that the data is removed without placing it in the clipboard. This gives you an alternative way to remove portions of your sequence. You may find it useful when you want to remove data from your sequence, but you don't want to erase the contents of the clipboard.

To use the Clear command, choose it from the Edit menu after you've selected the region you want to clear. Alternately, you can simply press the backspace key after selecting a region.

mixing data

The Mix Data command works identically to the Paste command, except that the data in the clipboard that you're inserting in the sequence is merged with existing data already in the sequence.

To use the Mix Data command, first place the blinking cursor to the left of the first measure in the block where you want to place the clipboard data. Then choose the Mix Data command from the Edit menu, or type Command–M on the IIgs keyboard.

▶ Only one track can be mixed at a time with another. So if you want to "bounce down" several tracks to a single track, you must do them one by one.

inserting measures

With the Insert Measure command, you can lengthen the sequence by adding empty measures within it. You might use this command to insert a new section into the middle of a composition or to add a blank space or countdown to the beginning.

You may insert measures in all the tracks in the sequence, or only a single track. The newly inserted measures will all have the same meter and tempo as the last measure prior to the inserted section. Use the Change Conductor command in the Change menu to alter these timing settings.

When you choose Insert Measure, or type Command-I on the IIgs keyboard, a dialog box pops up on screen. Type in the number of measures you wish to insert, and if you wish to affect all tracks or just a single track. Click on OK or press Return to confirm your entry. Click on Cancel to return without inserting measures.

```
┌─────────────────────────────────────────────┐
│              Insert Measure                  │
│                                              │
│  Insert [ 1 ] measure(s) before measure 14.  │
│                                              │
│  ⦿ All tracks                                │
│  ○ Only on track [ 1 ]                       │
│                                              │
│  ( Ok )                        ( Cancel )    │
└─────────────────────────────────────────────┘
```

In the Song Editor window, place the cursor at the beginning of the measure before which you want to insert the new measure(s). After executing the command, the new measures will appear on the screen as hollow measure boxes, indicating they are empty of MIDI data, with the cursor positioned at the beginning of the first measure in the inserted group. All the remaining measures in the sequence will have been pushed to the right and renumbered.

For example, say you want to insert two measures beginning after the eighth measure in the sequence, and just before what's now the ninth measure. Place the cursor between the eighth and ninth measures and select the Insert Measure command. Once you've completed the insertion, the newly inserted measures will be measures nine and ten, while what was formerly measure nine will now be measure eleven.

select all

The Select All command lets you select the entire sequence for use with the editing commands. From the Song Editor window, just choose Select All from the Edit menu, or type Command–A on the IIgs keyboard. Any visible data becomes highlighted, indicating that it is selected.

show/hide clipboard

Show Clipboard pops up a small window which describes the current contents of Master Tracks Jr.'s clipboard. The window tells you which tracks and bars the data was copied from, how long the data lasts in bars (measures), beats, and clock ticks, and whether the data was cut or copied.

```
        Clipboard
Data was copied:

From: Track 1
      Bar 4 Beat 1 Clock 0

Thru: Track 2
      Bar 7 Beat 4 Clock 239
```
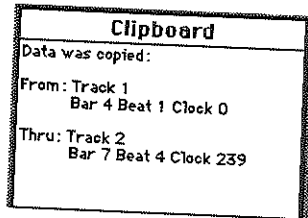
The Clipboard window remains on screen until you close it, although it's likely to get buried under other screen windows. If you like, you can leave the clipboard window open on the screen. If it gets hidden behind other windows, however, you must either move or close them to see the clipboard window again, or choose Show Clipboard from the Edit menu.

Using the Change Menu

While the Edit menu commands let you move or delete regions of notes, the Change Menu contains commands that allow you to regionally alter MIDI and timing data in sophisticated ways. All of the Change menu commands work on any region you select in the Song Editor.

Included are commands for changing note duration, note velocity, and tempo and meter in the selected region. There are also commands for transposing pitch, and for changing the rhythmic relationships of MIDI events.

```
Change   Wind
Conductor...
Duration...
Quantize...
Transpose...
Velocity...
```
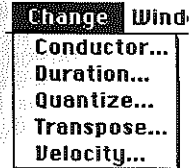
As with Edit menu commands, you must first select a region before you can use the Change commands. To select a region, use the mouse as described in the chapter on the Song Editor.

change
duration

Choosing the Duration... command pops up a dialog box that allows you to alter the duration of each note in the region—how long it plays.

```
┌─────────────────────────────────────────────────┐
│              Change Duration                    │
│                                                 │
│  ◉ Set all values to  ♪ ▲▼ [60]  □ Tuplet [3] : [2] │
│                                                 │
│  ○ Change to [100] % of current values          │
│                                                 │
│  ( OK )                            ( Cancel )   │
└─────────────────────────────────────────────────┘
```

The dialog box gives you two choices for changing note durations.

The first option in the box lets you set all notes in the region to a specified duration. Activate this option by clicking in the circle next to it. A solid black dot appears within the circle when the option is selected.

Next, select the duration you wish by using the arrow controls to choose the appropriate note duration icon.

To select a tuplet resolution, click on the box next to "Tuplet," and enter the tuplet values you wish by clicking on the appropriate boxes and typing in the new numbers.

Based on the duration you choose, the number of clock ticks each note will receive in the region appears in a box to the right of the arrow controls. If you prefer, you can type in any duration value, expressed in clock ticks, you wish into this box.

The second option in the Change Duration dialog box allows you to scale all duration values in the selected region by a percentage of their current values. Again, click on the circle beside this option to select it, so that the solid black dot appears. Now type in the percentage of the current duration values, within the range of 1 to 999%, you wish to use. With this option, the relative timing of all the notes is preserved.

After selecting the option you wish, Click on OK or press Return to complete the command, or click on Cancel to return to your work without making any changes.

change
velocity

The Dialog box that pops up when you choose the Velocity... command lets you change the velocity values for all notes in a selected region.

```
┌─────────────────────────────────────────────────┐
│              Change Velocity                    │
│                                                 │
│     ◉ On Velocities   ○ Off Velocities          │
│                                                 │
│  ◉ Set all velocities to [64]                   │
│  ○ Change to [    ] % of current values         │
│  ○ Change smoothly from [25] to [96]            │
│  ○ Add [    ] to all values                     │
│                                                 │
│  ( OK )                            ( Cancel )   │
└─────────────────────────────────────────────────┘
```

Changing velocity is useful for adding punches to a track or to mix the loudness of a track or passage relative to other tracks. It can also be used to bring velocity values up or down over time to create swells, crescendos, and decrescendos.

First, you need to decide whether your changes will apply to note-on velocities, note-off velocities, or both. Click over the circle to the right of one or both of these choices in the dialog box. Most synths do not transmit or recognize note-off velocities.

Next, you can decide from among four options for altering the velocity values. Click over the circle next to the option you select:

1. You can set all velocity values in the region to a specific value.

2. You can change all velocity values by a specific percentage.

3. You can have all velocity values in the region change smoothly from one value at the beginning of the region to another value at the end of the region.

4. You can add or subtract (with a minus value) a set amount to all velocity values in the region.

After selecting which of these four options you wish, click on the appropriate data box(es) for that option and type in the value or percentage you've chosen. Click on OK or press Return to enter the value.

Valid MIDI velocity values are between 1 and 127. A velocity value of "0" is the same as a "note off" command. If you enter a velocity value below 1 or above 127 in options 1 or 3 above, Master Tracks Jr. will tell you that the value is out of range. You'll then be returned to to the Change Velocity dialog box with a highlight on the invalid value. If the values you've entered in options 2 or 4 throw existing velocity values out of the valid range, Master Tracks Jr. will clip them to 1 or 127 as appropriate.

*change
conductor*

Master Tracks Jr. has a separate Conductor track with which you can determine the rhythmic structure of your entire sequence. All tracks in the sequence follow the settings in the Conductor track for meter, tempo, and the type of note that gets the beat, but you can vary these settings from measure to measure as often as you like. You can even change tempos gradually for ritardandos and accelerandos anywhere in your sequence. The vertical grey bar in the Song Editor window represents the end of the Conductor track.

Choose the Conductor... command on the Change menu to bring up the Change Conductor dialog box. Optionally, you can access the Change Conductor dialog box from the Conductor window by clicking on the time signature in the window.

```
┌─────────────────────────────────────┐
│          Change Conductor           │
│                                     │
│   From Measure  [1]   to  [22]      │
│                                     │
│                    3                │
│   ○ Set Meter to  ─   and Beat to [♪ ⬆]  │
│                    4               ⬇  │
│   ◉ Set all Tempos to  [124]        │
│   ○ Change to  [    ] % of current values │
│   ○ Change smoothly from [160] to [160] │
│   ○ Add  [    ]  to all values      │
│                                     │
│   ( OK )              ( Cancel )    │
└─────────────────────────────────────┘
```

Unlike other Change menu commands, you don't have to select a region before you use the Conductor command. If you have selected a region, however, the first and last measures in the region will appear in the appropriate boxes at the top of the dialog box. You can define a new region by typing in different measure numbers.

*changing
beat*

If you wish to set the meter or beat note for the region, click on the circle next to that option in the dialog box. Then type in the new meter values. Select the note icon for the beat note with the arrow controls at the right. In 4/4 time, if a quarter note beat is selected, you will hear 4 beeps per measure from the metronome with an accent on each first beat and you will see four main divisions in each measure in the Step Edit Window. If you change the beat to an eighth note, you will now hear 8 beeps per measure and see 8 main divisions per measure. Tempo will now be half speed since it is measured in "beats" per minute so you may wish to double the tempo for this region.

*changing
tempo*

You have four options for setting a new tempo in the region:

1. You can set all tempo values in the region to a specific value.

2. You can change all tempo values by a specific percentage.

3. You can have all tempo values in the region change smoothly from one value at the beginning of the region to another value at the end of the region.

4. You can add or subtract (with a minus value) a set amount to all tempo values in the region.

tempo range

After selecting which of these four options you wish, click on the appropriate data box(es) for that option and type in the value or percentage you've chosen. The range of permissible values for tempo setting is 10 to 300 with beat set to quarter note, but with beat set to sixteenth note, tempos can be up to 1200 BPM. If you enter a value outside this range with option 1 or 3, Master Tracks Jr. will highlight the illegal value and ask you to change it before you can return to your work. Any existing tempo values changed by options 2 or 4 so that they are out of range will be truncated to the maximum or minimum values.

Click on OK or press Return to complete the Conductor command. Click on Cancel to exit the command without making any changes.

changing meter

The Conductor track allows you to have multiple meters in the same song. One way to use multiple meters is to create the rhythmic structure of your sequence with the Conductor track before you record any music. The Conductor track is equivalent to a "tempo map" and a "meter map" combined into a single structure. Use the Conductor command to define meter and tempo for each section in turn. Once you've created this Conductor template, you can record your music, and the program will automatically shift meters at the correct measures as you record.

To see how this process works, try this example: First, select New from the File menu to clear the IIgs's memory. Now choose the Conductor command from the Change menu. Set bars 1 to 4 to a 4/4 meter at 100 beats per minute with a quarter note beat. Now choose the Conductor command again, and set bars 5 to 8 to 3/4 at 140 beats per minute. Choose the command a third time, and set bars 9 to 12 to 2/4 at 80 bpm.

In the Song Editor window, you'll now see that you have a 12 bar score. If you move the transport with the fast forward button, or "play" the empty sequence, you'll see the tempo and meter settings in the Conductor window change as you reach each new section of the Conductor track. You can view the Conductor track graphically by pressing Command-0 or choosing Conductor from the Windows menu.

conductor template

If you wish, you can save a Conductor track template as a disk file before you enter any music, and use it for as many separate sequences as you like.

transpose

The Transpose command changes the pitch of all the notes in the selected region from one key to another. The Transpose command recognizes individual clock ticks, so you can use it on regions that include portions of measures.

When you choose this command, a dialog box appears, and you are asked to enter the key from which you are transposing, and the new key to which you want to transpose.

Transpose

Transpose notes from [C3] to [C4]

[OK]   [Cancel]
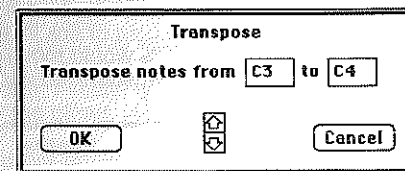
To enter these keys, click on the appropriate box, and then type in a pitch letter name, a # sign if you're entering an accidental, and the octave number or play the appropriate note on your MIDI keyboard. Valid pitches range between C-2 and G8. You must enter all accidentals as sharps. Press Return or click on OK to enter the transposition and return to your work. Click on Cancel to exit without making any changes.

quantize

The Quantize command aligns the start times of all notes and other MIDI events in the selected region to an imaginary timing "grid." The grid divides the region into intervals of a set number of clock ticks. When you use the Quantize command, the command moves the start time of every note within the region so that it falls precisely at the beginning of the nearest grid interval. You can choose to Quantize the entire note or just the attack times, leaving the note offs at their current locations. This could be used to create a more accurate rhythm while preserving release times of envelopes on synthesizers.

Of course, you'll usually quantize to a grid based on a standard note type, such as to the closest quarter or sixteenth note. But Master Tracks Jr. gives you the freedom to quantize to any interval you wish.

percentage ahead of the beat

Master Tracks Jr.™ defaults to a Quantize setting of 35% ahead of the beat. In other words, if you are quantizing to 16th note values, it will include (shift, align) any notes which fall from 35% before the current 16th note and up to 65% behind the current 16th note. If a note falls more than 35% early, it will be quantized to the previous 16th note position. This range can be adjusted to your specific situation by entering a different value in the percentage box. If you tend to rush a particular passage you may wish to set the range to include notes that fall a larger percentage ahead of the beat.

intensity

The intensity (degree) of quantization is also adjustable. It has a default value of 100 %, meaning that notes will be quantized fully to the note or tick interval you specify. An intensity setting of 50% would move notes only half the distance to the nearest specified interval.

If you wish to select an offset for quantization, click on the box for the "slide notes" option so that an "x" appears in the box. Decide whether you want to slide notes before(**left**) or after (**right**) the grid boundaries, and click on the circle next to your choice. Finally, type in the number of clock ticks that you want for the offset. (48 per quarter note)

When you've entered your selections, click on OK or press Return to complete the Quantize command. If you wish, you can click on Cancel to exit without making any changes.

```
                    Quantize

           O Entire note  ⦿ Attacks only

   ⊠ Quantize to  ♪ [▲][▼] [60]  □ Tuplet [3] : [2]

      Include notes up to [35] % ahead of the beat.
      Intensity [100] %

      □ Slide notes [0]    clocks to the ○ left ⦿ right

   ( OK )                              [Cancel]
```

slide notes

The Quantize command also allows you to shift start times in the quantized region slightly away from the grid interval. This feature is valuable for creating passages that are a little ahead of or behind the beat, sliding the notes in a track.

using quantize

Begin by choosing Quantize from the Change menu to bring up the Quantize dialog box. Then select the quantization value by using the arrow controls to choose the corresponding note duration icon. To select a tuplet resolution, click on the box next to "Tuplet." Then enter the tuplet values you wish by clicking on the appropriate boxes and typing in the numbers.

Based on the duration you choose, the number of clock ticks in each note value will appear in a box to the right of the arrow controls. If you prefer, you can simply type in any duration value you wish in this box. If you wish to slide notes without quantizing them, click in the box next to the words "Quantize to", removing the "x" from it.

Using the Windows Menu

Windows	Goodies
Sequencer	⌘1
Song Editor	⌘2
Conductor	
✓Transport	

The Windows menu provides access to any of the main
Master Tracks Jr. windows. If a window is not currently on the
screen, or if it is hidden behind other windows, you can bring
it to the front and activate it from the Windows menu in one of
two ways.

- You can choose the window you wish by name from
the Windows menu

- You can press a Command–key sequence on your
IIgs keyboard.

Here's a brief description of each of the main Master Tracks
Jr. windows, including the Command-key sequence you can
use to call up the window from the IIgs keyboard:

sequencer   ▶ Command–1

The Sequencer window allows you to see and name all the
tracks in your sequence. In addition, it lets you choose which
tracks play, record, solo, and loop. You can also enter MIDI
channel settings and initial MIDI program numbers for each
track in the sequence.

song editor | ▶ Command–2

The Song Editor window provides a graphic display of your sequence in units of measures, and shows you where the end of the sequence falls. Blocks of measures can be selected and edited with a variety of powerful commands. You can place and display markers that allow to quickly find specific places in your sequence.

conductor | The Conductor window shows the Tempo, Time Signature, and Beat for the current measure. A playback offset tempo is also displayed and can be adjusted with the scroll bar. Choose Conductor from the windows menu to bring it to the front and make it active.

transport | The Transport window contains buttons for playback, record, and all operational controls for the sequencer, including Auto, Punch In, MIDI Thru, Metronome, Count In and Wait for MIDI Keypress. It also contains the counters. Choose Transport from the windows menu to bring it to the front and make it active.

Goodies

The Goodies menu brings together many powerful and sophisticated features on a single menu and includes many of Master Tracks Jr.'s unique features.

Goodies
Memory
Midi Setup...
Step Record...
Record Filter...   ⌘R

display memory use | Selecting Memory brings up a small window that shows how much memory, in bytes, that your score is using, how much memory is being used by Master Tracks Jr.'s clipboard, and how much memory is still available. The memory window will remain on the screen until you close it, or cover it with another window. Bring it to the front by selecting Memory again.

▤□▤ Memory ▤
Score Size = 126K
Clipboard Size = 48K
Free Memory = 324K
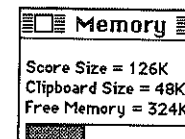
configuring your MIDI port setup	The MIDI Setup command lets you choose which Apple IIgs port your MIDI interface is connected to, and whether Master Tracks Jr. uses its own internal clock for sync timing, or follows an external MIDI clock source.

```
┌─────────────────────────────────────┐
│            MIDI Setup                │
│                                      │
│   Port:              Sync:           │
│   ◉ Modem            ◉ Internal      │
│   ○ Printer          ○ MIDI          │
│   ○ Internal Card                    │
│     in slot  [2]                     │
│                                      │
│   ( OK )            ( Cancel )       │
└─────────────────────────────────────┘
```
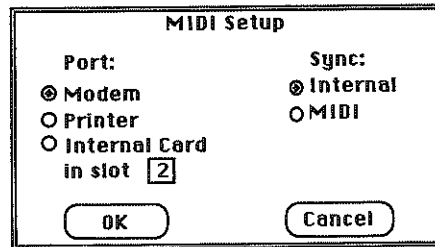
Selecting the command brings up a dialog box that lets you make these choices. Once you've made your changes, click on OK to to enter them and return to the program, or click on Cancel to go back without saving your changes.

assigning MIDI data port	Master Tracks Jr. allows you to use either the modem or printer port for your MIDI interface. You also have the option of using the standard Apple II internal interface. To do so, simply click on the appropriate circle on the left side of the MIDI Setup dialog box. A smaller solid black circle will appear within the circle when the selection is made.
using the internal interface	If you are using the internal interface you must also select which slot the card will reside in. You must also change the control panel of the IIgs to make use of this option. To enter the control panel, hold down the open apple(command) key, the control key and the escape key simultaneously. (See your IIgs manual for details.) Once in the control panel, go to the section called slots and make sure that the slot that your card is in indicates "Your Card". If you are using an external interface, make sure the control panel indicates "Modem Port" or "Printer Port" respectively.
selecting the timing source	The timing of a Master Tracks Jr. sequence can be set by its own internal clock or by an external MIDI clock. If you use an external MIDI source for timing, Master Tracks Jr. responds to all MIDI timing messages, including Start, Stop, Continue, Song Pointer, and MIDI clocks.

assigning a port for MIDI sync	Only one clock source can be active at a time. To set the sync source to the program's internal clock, click over the circle next to "Internal" on the right side of the MIDI Setup dialog box. If you want to sync the sequence to an external MIDI clock source, click instead on the circle next to "MIDI". Only one port can be active to record and play back MIDI data. However, you can use the same port for MIDI sync information if you wish. If you're using the single port for both note data and sync information, be sure to select "MIDI" in the Setup dialog box. Chapter 11 goes into more detail about syncing to external sources.
step recording	Some compositions contain passages which are extremely difficult or even impossible to play in real time. Master Tracks Jr. provides an easy way to enter these passages with it's Step Record feature. Choose Step Record from the Goodies Menu to bring up the Step Record dialog box. You have a track enabled for Record in the Sequencer Window to enter the Step Record mode. That track number is displayed in the dialog box.
selecting duration	When the Step Record Dialog box is on your screen, Master Tracks Jr. will record the pitch on any notes you play on your MIDI keyboard. You select the duration of these notes by clicking on the appropriate note icon from the row of note icons at the top of the Step Record dialog box. By holding the Shift key while you click on an icon you can add it to an already selected note value. The total clock value of your chosen duration appears to the right of the "=" sign. The clock value will change when you select or add different note values by clicking on them. You may also choose among three different articulations for your Step Entered passage, Stacatto, Normal, or Legato. This choice will also affect the clock value.
tuplets	Tuplet values can be chosen by clicking in the small square box next to the word "Tuplet' and then clicking in each field to the right to enter the appropriate value.

```
                      Step Record

[ o ][ ♩ ][ ♩ ][ ♪ ][ ♪ ][ ♪ ][ ♪ ][ . ]  = 192 clocks

○ Stacatto  ⦿ Normal  ○ Legato    ☐ Tuplet [3] : [2]

                    Measure  Beat  Clock
Track 3       [◀◀]    [: [:000]    [▶▶]     Data
Channel                                       ○
  [1]       [ Back Step ] [ Rest ] [ Measure ]

[   OK   ]                              [ Cancel ]
```
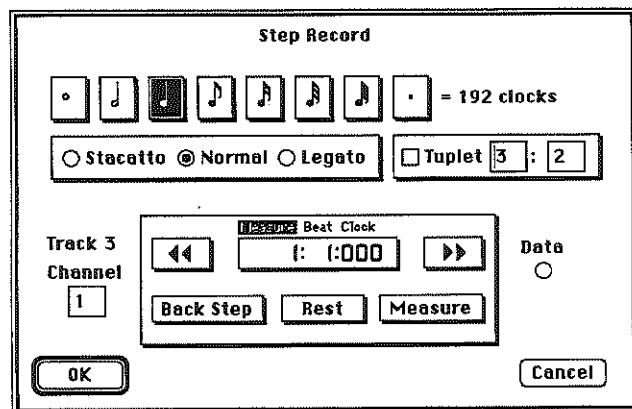
selecting recording location

Step Recording can begin at any location. To move the Transport to your desired location click the appropriate arrows to move forward or backward in your sequence. The counter will move one measure, beat, or clock depending on which word above the counter is highlighted. To highlight measure, beat, or clock simply click on the word.

erasing mistakes

There are three buttons below the counter display. The first one "Back Step" lets you back over notes you may have played accidentally, erasing them.

rests

The second button, "Rest", will enter a rest of the selected note value when you click it. The third button, "measure", will enter a full measure of rest when clicked.

MIDI channel

Click in the box below the word "Channel' to enter the MIDi channel you wish to record on.

MIDI data indicator

The Data indicator to the right of the Transport counter will flash when incoming data is received.

overdubbing

You may add parts to an existing track ("Overdub") in Step Record mode at any time since notes entered in Step Record

are actually mixed in with existing data. To record over an existing track in Step Record mode, replacing the existing data, you must first erase the track in the Song Window. (See Chapter 5 for details)

exiting step record

When you have completed "Stepping in" your recording click on "OK" to exit the Step Record dialog box. Click on "Cancel" to exit without keeping your recording.

using the record filter

Master Tracks Jr. can selectively record only the MIDI data you wish, while it filters out any data that you don't want to record. Choose the Record Filter command on the Goodies menu to bring up a dialog box that lets you choose which combination of MIDI data types Master Tracks Jr. will record.

With this feature, you can independently select or disable each MIDI data type, including pitch bend, channel pressure (also known as monophonic key pressure or aftertouch), polyphonic key pressure, modulation, program changes, note data, and other MIDI controllers. You can also have the program quantize note timing while you are recording.

As a simple example, you may want to conserve memory by filtering out aftertouch or modulation wheel data (since both of these controllers send data continuously, they can quickly fill up large amounts of your system memory). Filtering out the aftertouch and mod wheel data is a simple matter of deactivating these options on the Record Filter dialog box.

You can choose not to record notes at all, so that you can create a separate track for, say, pitch bend data. That way, you can concentrate on making your pitch bends as accurate as possible. You can choose a single channel that Master Tracks Jr. will "listen to" while recording, while it ignores incoming data on other channels. You can also quantize on input as many drum machines do.

changing record filter settings

To change the Record Filter settings, first choose Record Filter on the Goodies menu. In response, the Record Filter dialog box appears.

Each MIDI data type appears in the dialog box with a corresponding box to the left of its name. When an "x" appears in the box, that data type will be recorded. When the box is empty, that data type is disabled, and it will be ignored

during recording. You can select or disable any combination of data types you wish. Clicking on the boxes toggles them between the selected and disabled settings.

```
┌─────────────────────────────────────────┐
│            Record Filter                 │
│                                          │
│       Select type of data to be recorded │
│                                          │
│  ☒ Notes            ☒ Controllers        │
│  ☒ Pitch Bend       ☒ Modulation         │
│  ☒ Channel Pressure ☒ Program Change     │
│  ☒ Polyphonic Key Pressure               │
│                                          │
│  ☐ Only on channel [1]                   │
│                                          │
│  ☐ Quantize to  [♪▲][60]  ☐ Tuplet [3]:[2]│
│                                          │
│  Shift all notes up to [35] % ahead of the beat. │
│                                          │
│  ( OK )                      ( Cancel )   │
└─────────────────────────────────────────┘
```

miscellaneous controllers

The Controllers option in the Record Filter dialog box refers to all miscellaneous MIDI controllers other than the ones specifically listed in the box. Most popular synthesizers respond at most to only a few of these miscellaneous controllers, and many don't recognize anything beyond pitch bend, modulation, and after touch. Consult your synthesizer owner's manual for the numbers of any controllers that your instrument can send or receive.

selecting individual channels on the record filter

Another choice on the Record Filter dialog box, "Only on Channel" allows you to filter out data from all but one MIDI channel when you record. When this setting is active, the box beside it contains an "x". You can deactivate this option by clicking on the box beside so that it is empty, and data from all channels will be recorded.

If you wish to use this option, enter the channel number by clicking on the data box on the right of the option, and then typing in the channel number, from 1 to 16.

quantizing while recording

You can use the option on the Record Filter labeled "Quantize to" to quantize notes while you record them, much as a drum machine does. Activate this option by clicking in the box next to it. An "x" appears in the box when it is active.

Next, select the resolution for quantization by using the arrow keys to choose the appropriate note duration icon. To quantize to a tuplet resolution, click on the box next to "Tuplet," and enter the tuplet values you wish by clicking on the value boxes and typing in the new numbers. You may also change the percentage value that determines how far ahead of the beat Master Tracks Jr. will reach to quantize a note. (see chap. 10 Quantize)

exiting the record filter

When you're finished making your Record Filter selections, return to the main Master Tracks Jr. screen by clicking on OK. Any settings you make in the Record Filter can be saved using the Preferences command in the File menu. To return without entering the changes you made, click on Cancel.
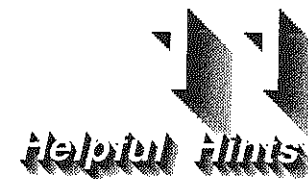
In this chapter you'll find information about how you can put Master Tracks Jr. to work on your most sophisticated musical chores, including looping, punch in recording, MIDI and SMPTE sync, and more.

conductor track settings

The program stores tempo, beat and meter values in a separate "Conductor Track" along with each measure in the score, providing an elegant way of setting up conductor "templates" of meter and tempo changes. These values are stored in the Conductor Track and control how the MIDI data is broken up into measures. Conductor templates can be saved to disk as a score for later use. The vertical grey bar in the Song Editor represents the end of the Conductor Track.

re-barring to remove a beat

The Conductor track can be utilized to remove measures or even a single beat from your sequence. For example, if you have a 4/4 measure in your piece (say measure 6) which you have decided need the last beat removed. Select measure 6 and choose Conductor from the Change Menu. Change the meter of measure 6 from 4/4 to 1/4 time. Now when you return to the Song Editor Window you will see 4 measures occupying the space previously taken up by measure 6. In the Song Editor Window, Cut the last of these new measures (#9) by selecting it along the measure ruler at the top of the window. Selecting measures in this manner cuts time out of the sequence on all 64 tracks. You can now select the 3 remaining 1/4 measures (#6 - #8) and choose Conductor once again from the Change Menu and rebar those three measures to 3/4 time making them one measure again.

looping

Individual tracks can be looped during playback. This feature is especially useful with short repeating sections such as bass or drum parts.

Record the part once, and then edit if necessary. You can trim your loops using the Cut command to get the the proper number of measures to loop. A track ends where there are no more filled or hollow measures present in the Song Editor. For reference, the grey vertical bar in the Song Editor indicates the end of the conductor track.
Turn on the track's loop control and let the part play back. Lay down other parts or even other loops against it by recording on other tracks.

Remember that the loop is only stored in memory once, and always starts at the beginning of the sequence. That means if you start playback past the point of the loop, the track will not playback. That also means if you are copying tracks from one sequence to another it may not be possible to preserve the loops that begin later in the piece. This is the reason to create literal copies of your loops, especially before building songs.

Loops encourage speed and spontaneity in music making and also save memory. Use them to work out your ideas. However, once your song or song section is complete, copy and paste the looped part into the track so that it fills out to the end of the sequence. This will give you the flexibility of Master Tracks Jr.'s song structure. This will also let you create subtle variations in the loop each time it plays using the Change menu or other regional editing commands.

auto paste

Once you have copied your looped part you can append as many copies of it as you like by repeatedly selecting Paste or pressing Command-V. The insert point automatically moves to the end of the last paste.

looping to the half bar

Master Tracks Jr.'s Loop feature requires you to loop to the nearest measure but if your phrase ends in the middle of a measure and you want to loop it anyway, it can be accomplished by re-barring the last measure of the track. Let's say you're working in 4/4 time but you want the track to loop a two and a half bar phrase. Select bar 3 (presumably the last bar of the track) and choose Conductor from the Change Menu. Click in the circle next to Set Meter and set the meter to 1/4 time. You will now have 4 measures with one beat each in them in the place of old measure #3 which had four beats in it. Select the last two of these new measures and Cut them.

Your track will now loop the way you want it to.

building songs

Master Tracks Jr. provides up to 9999 measures by 64 tracks of literal track data in which to work provided you have enough memory in your computer. Variations and combinations of two song building techniques give you many ways of building songs from segments without giving up the ability to edit or add additional tracks over the entire length of the song. Using these techniques make it possible to add variation and sweetening to repeating sections and help to keep your song organized in a single file.

The first method separates songs into sections within the same long sequence. Build a conductor template and lay out the song structure using markers. You can begin record or play at any point, so you can work on whatever section you like at any time. Leave several blank measures between sections to avoid accidentally erasing anything, and then, using the Cut command, remove the blank measures later when you've finished recording. You can copy and paste between sections at will and your file will save all sections at once.

Another method lets you build songs in a more traditional way by appending different files together from the disk. For example, you could record three separate sequences and save them individually on the disk in separate files called Intro, Verse and Chorus. Open the verse and copy it. Then Open the Intro and paste the Verse onto the end of it. Set markers if you wish and use Save as... to save the new file. Call it Song. Open the Chorus file and copy it. Open the Song file and paste the Chorus at the end of the Verse. You will now have a large Song in memory based on Intro, Verse and Chorus which you can add to and edit further. This Song can also be used as part of another, longer, song.

song list mode

If you have enough memory in your IIgs, you can have Master Tracks Jr. accompany you (or entertain you) for a list of songs. Use the method described above but replace "Intro, Verse, and Chorus" with actual songs. Insert a few blank bars between each song and place markers at the beginning and end of each song. The markers allow you to quickly TAB from song to song. To determine the time between songs, select the inserted blank bars and use the Conductor dialog box from the Change menu to adjust the tempo in the blank measures.

sequence data structure and ties

Master Tracks Jr. stores sequences as groups of tracks and measures along with a separate conductor track. The conductor track determines how data is stored, displayed and played back based on the meter, beat and tempo values stored with each measure. Storing data in measures is not required for MIDI sequencing but becomes more important when you begin to provide sophisticated graphic editing operations as those found in Master Tracks Jr., and when you desire to convert your MIDI sequences to music notation (more about this later).

Ties are a special case of MIDI data and may cause problems for you when you cut and paste across tied notes. Some MIDI events are single events such as Program Change #7 or Sustain Pedal On. Because notes have a certain duration between note on and note off and Master Tracks Jr. stores notes in groups of measures, notes that tie across measure "boundaries" are stored internally as notes tied to one another, just as you would with music notation. When you cut across ties (not usually recommended) the ties will automatically be clipped with note on or note off events added so that no notes hang in the sequence or on the clipboard.

MIDI delay

You can delay a track by individual clock ticks (there are 48 clock ticks per quarter note).
To produce MIDI delay or even MIDI PRE- Delay use the offset feature in the Quantize Dialog Box from the Change Menu. You can experiment with different values for the number of clocks until you get something that does the job. If you wish to offset start times without quantizing, click in the quantize box to remove the "x" in it.

MIDI delay can be used to "fatten up" a track's sound by playing two tracks together to separate channels slightly delayed. More radical delays or offsets can be achieved using the song editor to delay tracks by measures using cut and paste. Rounds or echoing effects can be easily done and undone until you have something you like.

MIDI Sync Song Pointer

Master Tracks Jr. generates its own internal time base when sync is set to Internal in MIDI Setup using a resolution of 48 clock ticks per quarter note. It will send out MIDI timing messages, including Song Pointer, Start, Continue, MIDI clocks, and Stop corresponding to the Transport activity. For example, whenever you move the Transport to a new location

in the sequence, a corresponding MIDI Song Pointer message is sent out.

SMPTE

If Sync is set to MIDI in the MIDI Setup, the program accepts the timebase reference from an external MIDI source and interpolates 48 clocks per quarter note based on the incoming MIDI clock rate. It will receive and autolocate to MIDI Song Pointer when in MIDI Sync mode. Using MIDI Sync mode with an external SMPTE-to-MIDI sync device such as Roland SBX-80, Fostex 4050, Garfield Master Beat, Cooper PPS-1 and others, you can sync Master Tracks Jr. to SMPTE. Connect the MIDI out of the external sync box to the MIDI in of your Apple IIgs MIDI interface and connect the interface to either the Modem port or the Printer port. Select MIDI Setup from the Goodies Menu and configure the setup so it matches your interface connections.

midi merging

If you want to record while you are in external sync, you must use a MIDI merging device. To do this connect the MIDI output from the device that will be generating the sync signal to one of the inputs of the MIDI merger. Next, take the MIDI out from your MIDI controller and connect it to the other MIDI in of the merger. The MIDI merger will combine the two signals together and send that signal to its MIDI out. Connect the MIDI out of the merger to the MIDI in of the IIgs interface. You can now record new tracks while Master Tracks Jr. runs in sync with your SMPTE striped video or audio tape. If your external sync box supports MIDI Song Pointer, Master Tracks Jr. will "chase" the tape transport and start anywhere in the piece.
When synced to MIDI or SMPTE, the Conductor Track becomes unnecessary since the Tempo map should be coming from the SMPTE to MIDI converter. When used in this application, leave the Conductor set to 4/4 bars with quarter note beats.

notepad

Master Tracks Jr. has 64 tracks on which to record. Most people use only 16 to 30 of them most of the time. This leaves a lot of empty space that can be used for making notes about your work. Just scroll down to an unused area in the Sequencer Window, click in a Track Name field and jot down whatever you like, perhaps information about the patches used and the numbers of your drum machine patterns.

adding controllers to a track	Controller data can be added to an existing track by recording it onto a fresh track while listening to the original track. Use Thru assigned to the same Channel as the existing track to hear the effect of the controller while you play.
adding program changes	Program Changes can also be recorded after the fact using the method described above.
memory management	The memory window (selected from the Windows menu) tells you how much memory your score takes up, how much memory is being used by the clipboard and how much memory is available for more notes. You can clear the clipboard memory by copying or cutting a blank measure. This frees up additional memory for the score.
using the mouse	For optimum performance of Master Tracks Jr., we recommend that you don't move the mouse while you are recording a track or while you have the MIDI thru (on the Transport window) enabled. If the mouse is moved while you are recording or "thruing", you may experience a loss of MIDI data or the loss of your thru capability. If this does happen, you can reset the thru by opening the thru dialog box and re-enabling it by hitting the "OK" with the mouse (or by pressing return).

keyboard commands

SUMMARY OF KEYBOARD COMMANDS

TRANSPORT COMMANDS

Space Bar	Start and Stop Transport
Enter Key	Record
Tab Key	Move to next Marker
Shift-Tab	Move to previous Marker

GENERAL COMMANDS

Backspace	Clears selected area in Song Window.
Numbers 3 - 0	Change measure ruler display values
+, -	Change numbering from odd to even display

WINDOW COMMANDS

Command - 1	Sequencer Window
Command - 2	Song Editor Window

FILE COMMANDS

Command - N	Start with new sequence
Command - O	Open sequence from disk
Command - S	Save current sequence to disk
Command - Q	Quit Master Tracks Jr.™

EDIT COMMANDS

Command - Z	Undo last edit or change operation
Command - X	Cut
Command - C	Copy
Command - V	Paste
Command - M	Mix
Command - I	Insert measure
Command - A	Select All
Clear	Cancels a dialog box

GOODIES COMMANDS

Command - R	Record Filter

controller
listing

MOST COMMONLY USED MIDI CONTROLLERS

CONTROLLER #1	MODULATION WHEEL
CONTROLLER #2	BREATH CONTROLLER
CONTROLLER #4	FOOT MODULATION
CONTROLLER #5	PORTAMENTO TIME
CONTROLLER #6	DATA ENTRY SLIDER
CONTROLLER #7	MAIN VOLUME
CONTROLLER #8	BALANCE
CONTROLLER #10	PAN
CONTROLLER #64	SUSTAIN (DAMPER PEDAL)
CONTROLLER #65	PORTAMENTO
CONTROLLER #66	SOSTENUTO (MIDDLE PEDAL)
CONTROLLER #67	SOFT PEDAL
CONTROLLER #92	TREMELO DEPTH
CONTROLLER #93	CHORUS DEPTH
CONTROLLER #94	CELESTE (DETUNE) DEPTH
CONTROLLER #95	PHASER DEPTH
CONTROLLER #96	DATA INCREMENT
CONTROLLER #97	DATA DECREMENT
CONTROLLER #122	LOCAL CONTROL (OFF=0, ON=127)
CONTROLLER #123	ALL NOTES OFF
CONTROLLER #124	OMNI MODE OFF
CONTROLLER #125	OMNI MODE ON
CONTROLLER #126	MONO MODE ON
CONTROLLER #127	POLY MODE ON