



JM4 Looper



Advanced Guide

An in-depth guide to the features and functionality of the JM4 Looper.

ElectroPhonic Limited Edition

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UPDATED FEATURES

Welcome to the JM4 Looper Advanced Guide. This guide contains in-depth details of your JM4's features and functionality which were not covered in the JM4 Pilot's Handbook.

With the release of v2.07 firmware, working with the JM4 just got a whole lot easier. In addition to a few new menu items and UI tweaks, we've expanded SD card functionality. You can now preview and work with recordings directly off of your SD card. With a turn of the wheel and one click on the Right Arrow button, you can directly load any JAM or WAV file stored on your SD card, then overdub, save changes and perform mixdowns.



SD Browser

- When an SD card is inserted in the JM4's SD card slot, press the **SONG** button and you'll see 4 main tabs in the LCD. In addition to the **Songs**, **Drums** and **Recordings** tabs, we've added an **SD** tab, which gives you access to the **SD Browser**. To browse the files you have saved on your SD card, select **SD** and turn the wheel.



- You'll see a list of all your SD card's recordings and WAV files. To load any file into the JM4's playback buffer, select it by turning the wheel and pressing the R Arrow.



- Once you start using an SD card, we recommend you always save to SD card instead of internal memory. If you have previously saved recordings in internal memory, we recommend you transfer them to SD card also, then delete them from internal memory. This keeps internal memory free for maximum recording time, and makes it easy to back up all your files: pop the SD card into your PC and make copies there.

Playback Levels

Press the **LEVEL** button to access **Playback Levels**. On this screen you have independent level control of the **Song/Drums** track, the **Guitar** track and the **Mic/Aux/Wav** track. These are also the controls you'll use for Mixdowns (see page 2•3 for Mixdown info).



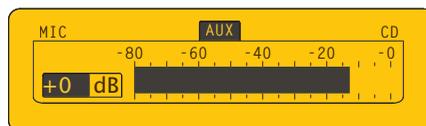
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- Navigate to any of the three **Playback Levels** knobs by pressing either the R Arrow or L Arrow buttons.
- Once you select the playback track you want to adjust, turn the wheel to set the playback level of that track, from 0 (off) to 100%.

This makes it easy to balance the 3 tracks of your currently loaded recording, and also provides a way to mute the individual tracks if desired.

Input Levels

With a 2nd press of the **LEVEL** button you can access the **Mic/Aux/CD Input Levels** screen. This is where you adjust your input levels for the **Mic** input, **Aux** input and **CD** input, displayed as a dynamic bar. Navigate from tab to tab by pressing the L and R Arrow buttons. Set **Input** levels by turning the wheel as you monitor each respective **Input**.



- When setting levels for the **Mic**, **Aux** or **CD** inputs, make sure you first press the **RECORD SELECT** button and toggle it to **Mic/Aux**.
- The dB display on the lower left of the LCD indicates your input level trim setting. You can set it anywhere from **-60dB** to **+12dB**, or set it to **Off**.

When you plan on recording from one of the **Mic**, **Aux** or **CD** inputs, make sure you first press and hold the **RECORD SELECT** button to select the desired **Input Routing**. You can choose between mixing your input with the **Microphone** or **Guitar** track.

Menu Items

Here are some new menu items that have been added since the initial JM4 release:

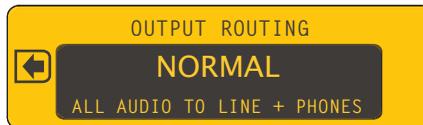
Save Recording To SD Card – this command enables you to save the currently loaded recording to your SD card. Press the **SAVE** button to access it in the menu list.

Save Recording To Internal – this command enables you to save the currently loaded recording to internal memory. Press the **SAVE** button and turn the wheel to access it.

Erase All Internal Recordings – when you have all your recordings backed up to an SD card, you can clear the JM4's internal memory by invoking this command.

Output Routing – press the **SETTINGS** button 3 times then turn the wheel to navigate to this menu item. **Normal** mode is the default. When you select **Performance Mode**, your guitar will play only thru the **Amp Out**.

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It's important to note that if you plug in your headphones, the JM4 reverts to **Normal** routing, and your guitar goes to all outputs. You can manually change the routing back to **Performance Mode**, but it's unlikely you'll want to do so while wearing headphones.

Also keep in mind that **Master Volume** controls the level of all outputs, including headphones. The exception is when **Output Routing** is set to **Performance Mode**, in which case the **Line Outs** are unaffected by **Master Volume**, putting out 100% level.

Tempo/Pitch Modes – press the **SONG** button twice to access **Tempo/Pitch Modes**. As described on page 3•1, this is where you can select **Time Stretching And Pitch Shifting** or **Varispeed**. Press the R Arrow, then turn the wheel to select the mode you want.



Looping – Looping for 'one shot' Guitar & Mic/Aux tracks can now be set to On or Off for playback and recording. Press **SONG** button twice to access the **Looping** menu item.

SD CARD DETAILS

In this chapter we'll focus on the SD card. With an SD card inserted into your JM4's SD card slot, you can save and load your original recordings, perform mixdowns in WAV file format, import WAV files from your computer, and upgrade your JM4 firmware.

All the SD card-specific menu items described in this chapter are accessed by pressing the **SAVE** button. The first thing you'll want to do is format your SD card.

2•1

Format Card

It's best to start out with a new 1 GB or 2 GB SD card. If you have an existing card, that'll work also, but make sure you've backed up all the data on the card first, because once you do a format, your card will be completely erased. The main reason to format your SD card is to ensure your card is set up with the JM4 filing system. It's also a good way to get a fresh start in organizing your sessions. To format your SD card, follow these steps:

- Insert an SD card (up to 2 GB) into the SD card slot on the JM4 rear panel.
- Press the **SAVE** button; you'll see a list of menu items in the LCD.
- Turn the wheel and navigate to **Format Card**, then press the R Arrow to format.



- Press the Up Arrow to confirm “Yes”. The format process will take a few seconds.
- When the format process is complete, press any button to begin a new session.

As you begin recording with your JM4, before you know it you'll find you've accumulated quite a few recordings. Since internal memory is limited, you'll want to develop a good system for backing them up, for beginning new sessions with a clean slate, and for importing WAV files from your computer. With that in mind, here are 3 good rules to go by:

- Use an SD card as your primary memory bank to keep internal memory freed up.
- Back up every session of internal memory recordings to SD card.
- For maximum recording time, begin every new session with JM4 memory cleared.

Transfer Recording To Card

If you've checked out the JM4 Pilot's Handbook, you already know how to record a guitar track and save that recording to your JM4's internal memory. If you want to keep your recording, your next step will be to back it up to SD card. The easy way to do this is with a Transfer command. To Transfer your current recording to SD card, follow these steps:

- Press the **SAVE** button to display the menu items in the LCD.
- Navigate to **Transfer Recording To Card** and press the R Arrow.



- You'll see a list of your recordings, the ones you've saved to internal memory.
- Turn the wheel to select the recording you want to transfer.
- Press the R Arrow to complete the transfer. Repeat to transfer more recordings.

Your recording is now backed up on the SD card, along with any others you've saved.

Transfer Recording From Card

Once you have recordings saved on SD card, you can easily Transfer any one of them into your JM4's internal memory for playback or overdubbing. To do so, follow these steps:

- Press the **SAVE** button to display the menu items in the LCD.
- Navigate to **Transfer Recording From Card** and press the R Arrow.



- You'll see a list of the recordings you have saved on the SD card.
- Turn the wheel to select the recording file you want to transfer.
- Press the R Arrow to complete the transfer.

Your file will now appear in the list of recordings available from the JM4 **Recordings** tab.

Save Rec Mix As WAV To Card

When you've recorded a multi-track loop, with guitar, bass and drums for example, you can easily mix it down as a WAV file and store it on your SD card, with total control of the mix levels. This is a great feature for creating tracks you may want to use on your computer for further editing, or as building blocks for songs. Here's how to do a Mixdown:

- Press the **LEVEL** button to display the **Playback Levels** screen.
- You'll see 3 virtual knobs for the **Song/Drums**, **Guitar** and **Mic/Aux/WAV** tracks.



- Adjust the levels with the wheel until the mix sounds right to you.
- Press the **SAVE** button and navigate to **Save Rec Mix As WAV To Card**.
- Press the R Arrow to perform the Mixdown. Your mix will be saved to SD card.

*For more details and tips on using the Mixdown feature, see Chapter 5, Workflow.

Import WAV File From Card

You can import any mono 16 bit 44.1 WAV file from your computer for jamming or overdubbing, and it will play back on the Mic/Aux/WAV track. Just follow these steps:

- With your WAV file saved on your SD card, press the JM4's **SAVE** button.
- Navigate to the **Import WAV File From Card** menu item using the 4-way button.



- Press the R Arrow to call up the Import function.
- You'll see a list of the WAV files on your SD card. Use the wheel to choose one.
- Press the R Arrow and your WAV file will be copied to the JM4's internal memory.

Go to the JM4 **Recordings** tab and turn the wheel. Your WAV file will appear in the list.

Transfer All To Card

When you're working with an entire session or live performance set, consisting of a dozen or more songs, instead of saving them one at a time you can back them up all at once with a Transfer All command. To transfer all of your recordings to SD card, follow these steps:

- Press the **SAVE** button to display the menu list in the LCD.
- Turn the wheel and navigate to the **Transfer All To Card** menu item.



- Press the R Arrow and the Transfer will be completed.

All your files will be saved to your SD card in one step, ready to upload to your PC or Spider Jam the next time you want to work with them. After the Transfer is complete, it's always a good idea to browse your SD card files to confirm the Transfer was successful.

Transfer All From Card

When you have a lot of files on your SD card that you'd like to use in your JM4, you can easily transfer them all at once by using the **Transfer All From Card** command. If possible, start with your JM4's internal memory totally free, then follow these steps:

- Press the **SAVE** button to display the menu items in the LCD.
- Turn the wheel to navigate to the **Transfer All From Card** menu item.
- Press the R Arrow to initiate the transfer.



Press the **SONGS** button, then press the R Arrow to navigate to the **Recordings** tab. If you turn the wheel you'll see that all your files now appear in the JM4's list of recordings. *(Note: WAV files are not transferred with this command; they must be imported as described on page 2•3).

Firmware Version

From time to time you may want to check your JM4 firmware version. This may be due to a Customer Support question you may have, for example, where knowing your firmware version will be helpful to the CS rep. Here's how to check your JM4 firmware version:

- Press the **SAVE** button to display the menu items in the LCD.
- Turn the wheel to navigate to the **Firmware Version** menu item.



- Press the R Arrow and your firmware version will be displayed.

Try this now. The firmware version of your JM4 will be displayed as follows:

DSP 2.07 / MCU 1.05

Firmware Upgrade

One of the functions of the SD card is to facilitate firmware upgrades. As with all software-based music devices, from time to time there may be a new JM4 firmware release. This may be due to new features and functionality, or simply an improvement to the user interface. Should a new firmware upgrade be released, here's how to bring your JM4 up to date:

- Download the new firmware file to your computer from www.line6.com.
- Using an SD card reader, copy the file to a freshly formatted SD card.
- Insert the SD card into your JM4, press **SAVE** and navigate to **Firmware Upgrade**.



- Press R Arrow then Up Arrow “Yes” to confirm; the process will begin immediately.

When the progress bar reaches 100%, your JM4 will be reboot and be up to date.

TIME STRETCH & VARISPEED

The JM4 features two different modes for altering the tempo and pitch of your loop. The first is Time Stretch/Pitch Shift; the second is Varispeed. These two processes handle your loop's audio differently, so you have a choice as to how you'd like your loop to sound.

Time Stretch allows you to speed up or slow down your loop's tempo without altering its pitch. Pitch Shift allows you to change the pitch of your loop without altering its tempo. You can engage both of these processes at the same time if you wish. **To enable further DSP and routing options, always save your recording after applying these effects.**

With Varispeed, you can speed up or slow down your loop's tempo and its pitch will be directly affected. When you increase tempo, pitch will also go up. Conversely, if you lower the pitch of your loop, the tempo will also slow down. Tempo is measured as a percentage of your loop's original tempo, and pitch is measured in semi-tones.

Here's how to use these effects, beginning with Time Stretch/Pitch Shift.

Time Stretch/Pitch Shift

- To apply Time Stretch/Pitch Shift, toggle the **SONG** button to display this menu.



- Select **Tempo/Pitch Modes** via the wheel then press R arrow.



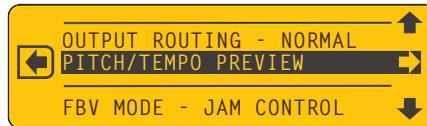
- Use the wheel to select **Time Stretching And Pitch Shifting** then press R arrow.



- Set the Tempo and/or Pitch to your liking while listening to your loop.

Pitch/Tempo Preview

When you play back a recorded guitar track and apply Time Stretch/Pitch Shift, the guitar sound will be slightly altered. For the best playback quality while previewing, you can optimize the sound for either the Amp Out or the Line Outs. Here's how:



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- Toggle the **SETTINGS** button, navigate to **Pitch/Tempo Preview**, then press the R arrow.



- Turn the wheel to optimize your sound, either **For Amp Out** or **For Line Outs**.

Varispeed

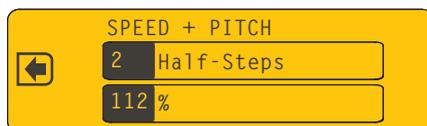
To use Varispeed, toggle the **SONG** button to display the same **Tempo/Pitch Modes** menu item you displayed previously when setting up Time Stretch/Pitch Shift.



- With the **Tempo/Pitch Modes** menu item selected, press the R arrow.



- Turn the wheel to toggle between **Time Stretch** and **Varispeed**. Select **Varispeed**.



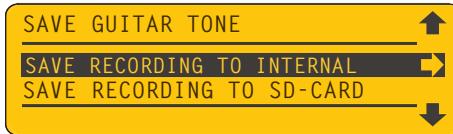
- Use the wheel to select the desired speed and pitch. You'll notice the two values are directly related, changing together. Then play back or record your track as usual.

Recording Restrictions

When using Time Stretch/Pitch Shift, the main restriction to keep in mind is that only one mono instance of processing can be applied per active session. To work around this, all you have to do is save your recording before adding your next overdub. That way, you can start fresh with a rendered audio file and be free to apply Time Stretch/Pitch Shift again.

For example, to record along with one of the JM4's internal Songs, begin by loading the Song as usual. If you'd like to record in a lower key at the same tempo, press the **SONG** button and navigate to the **Tempo/Pitch Modes** menu item. Press the R Arrow, select the **Time Stretching And Pitch Shifting** menu item, then lower the pitch to where you want it and record your loop, setting the loop start and end points as you normally would.

Now before you overdub a new guitar track to your loop, you must save the loop as a Recording. Press the **SAVE** button, navigate to **Save Recording To Internal**, then press the R Arrow, name your recording and complete the save. This frees up the JM4's Time Stretch/Pitch Shift processing for the next layer of overdubs. You can then load your recording, overdub a new guitar track, and change the tempo or pitch again if desired.



Another example would be changing the tempo or key of a guitar track after it's already been recorded. As mentioned on the previous page, if you want to preview your guitar track in a different key or tempo, you can use Time Stretch/Pitch Shift to listen to it, but the sound won't be exactly right until you actually save it as a new recording.

The way to do this would be to set your **Pitch/Tempo Preview** to optimize the sound for whichever output you're listening to, either the JM4's **Amp Out** or the **Line Outs**, then apply Time Stretch/Pitch Shift to the guitar track and adjust the tempo or pitch until you get it sounding right.

When you've decided on the final tempo and pitch of your guitar track, save it as a Recording and give it a new name. You can then load your saved guitar track for playback and overdubbing, and be able to change the tempo or pitch again if desired.

In summary: **always save or mix down your recording after applying Time Stretch or Pitch Shift.** This frees up the processing engine so you can use it again if you want to.

FOOTSWITCH MODES

Jam Control Mode

All Amp Model & FX controls, the buttons, wheel and 4-way are available in this mode.



You'll spend most of your time in Jam Control Mode, although you have the option of engaging one of the Alternate Footswitch Modes at any time, as outlined in the descriptions on the following pages. Here's how the 4 switches operate in Jam Control Mode:

A Record/Overdub – step on **Record** to begin recording your loop. If you start with a Song or Drum countoff, recording begins after the count. If you punch in while a track is playing, recording begins on the nearest beat. Overdub on an existing track at any time.

B Play/Stop – this switch simply plays or stops your loop. On your first pass, when you initially record your loop, hitting **Stop** also sets your loop out-point.

C Undo – step on this switch to undo your last recording take. To clear a track, press and hold for a few seconds, then select **Clear** from the LCD menu and press **Undo** again.

D Mode Switch – step on this switch and the JM4 enters Alternate Footswitch Mode. Hit it again within 1.5 seconds and you'll toggle thru the 4 alternate modes. After 1.5 seconds of inactivity, it will remain in the currently selected mode. Return to Jam Control Mode by simply stepping on the switch again. This will exit the current mode and put you back where you started, so you'll always be one switch away from controlling your loop.

Loop FX Mode

When you step on the D footswitch, the JM4's LCD will display Loop FX Mode. This is the first of 4 alternate footswitch modes, and if you don't hit the D footswitch again within 1.5 seconds, Loop FX Mode will remain active. Here are the controls for Loop FX Mode:



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- A No Function** – this switch has no function in Loop FX Mode.
- B No Function** – this switch has no function in Loop FX Mode.
- C 1/2 Speed** – this switch toggles half speed playback on and off.
- D Exit** – hit this switch to exit Loop FX Mode & return to Jam Control Mode.

Record Select Mode

After you enter Loop FX Mode, as described above, if you step on the D footswitch a second time within 1.5 seconds, the JM4 will toggle to Record Select Mode. This enables you to load any of your Recordings and toggle Recording Input Select, as follows:



- A Next Recording** – this switch selects the next Recording in your Recording list.
- B Previous Recording** – this selects the previous Recording in your list.
- C Input Select** – toggles between Guitar or Mic/Aux for your recording input.
- D Exit** – hit this switch to exit Record Select Mode & return to Jam Control Mode.

Guitar Preset Mode

When you step on the D footswitch again within 1.5 seconds, the JM4 will enter Guitar Preset Mode. Here you can select guitar Presets and FX Tap times. As with the other 2 previous footswitch modes, you can exit by stepping on the D footswitch again.



- A Preset Up** – increments the next Guitar Preset in the User Bank.
- B Preset Down** – decrements to the previous Guitar Preset in the User Bank.
- C Tap/Tuner** – a Tap Tempo control for your time-based FX, plus Tuner entry.
- D Exit** – hit this switch to exit Guitar Preset Mode & return to Jam Control Mode.

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Amp Model / FX Mode

The fourth alternate footswitch mode is Guitar Amp/FX Mode. Again you must toggle the D footswitch within 1.5 seconds of your last footswitch action to enter this mode. If you don't, you'll remain here until you choose to exit. Here are the footswitch details:



- A Amp Model Select** – this switch toggles your Amp Model on or off (bypassed).
- B Mod On/Off** – step on this switch to toggle your Mod FX on or off.
- C Delay On/Off** – this switch toggles your Delay FX on or off.
- D Exit** – hit this switch to exit Guitar Amp/FX Mode & return to Jam Control Mode.

WORKFLOW

There are many ways to work with the JM4. You may want to use only the Amp Models and FX for your guitar sound while jamming to a Song. Or you may want to record and overdub complex loops, with or without a reference Drum track, or create your own custom loops.

Once you begin recording, you'll want to develop an efficient workflow to keep your recordings backed up and organized as you go. You should also keep in mind the JM4 has limited memory, so it's best to avoid filling it up. The key is to backup to SD card often.

As described in Chapter 1, if you follow a few simple guidelines, it's easy to keep organized. Start out with a clean SD card, back up often, and keep the JM4's internal memory as free as possible. With that in mind, let's review a few of the basics:

Recording

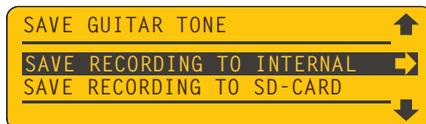
You can either record to a Drum or Song loop, or record in free time. As described in the Pilot's Handbook, to create a Drum loop, select the **Drums** tab, load a Drum track, then press **Record**. Press **Stop** after 4 bars, for example. You'll be automatically taken to the **Recordings** tab. From there, simply press **Record** again and begin overdubbing. If you'd like to record in free time instead, select the **Recordings** tab and you'll see this screen:



From here, just step on the **Record** switch and play. When you're done, hit the **Stop** switch. Your end-point will be set and your guitar track will loop accordingly. It's usually best to use a Drum track for groove based loops, which you can always mute later on.

Saving

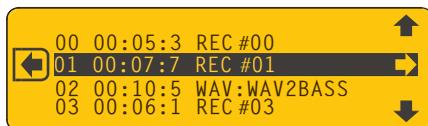
If you like the track you just recorded, you'll want to save it. Press **SAVE** and navigate to the **Save Recording To Internal** menu item, press R Arrow, name your track and save it.



Your track is now saved to the JM4's internal memory, ready for overdubs.

JAM Files

All saved recording files in the JM4 use a proprietary file format called JAM. Each JAM file contains a Guitar track, a Mic/Aux/WAV track, and a track that contains information regarding all the appropriate settings for that recording. To view your list of saved recordings, navigate to the **Recordings** tab and turn the wheel. You'll see a list like this:



Think of a JAM file as a folder. Within that folder are three files that make up each recording. Storing them as one JAM file makes it a lot easier to keep track of all your files. You'll see the JAM file extension if you look at your file names on your computer.

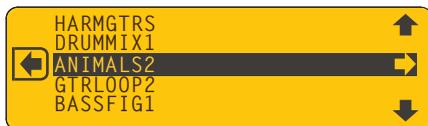
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WARNING: do not change the names of your JAM files on your computer. If you do, they may not play back properly in the JM4. To avoid issues, always name your files in the JM4 when you first save them. Try to stay within the JM4's 8 character limit.

WAV Files

JM4 also uses WAV files. All Mixdown files are 16 bit 44.1 mono WAV files. Every time you do a Mixdown to SD card, as described on Page 2•3, you'll be rendering a WAV file on your SD card.

A WAV file can be imported back into the JM4 for overdubbing (it will play back on the Mic/Aux/WAV track), or it can be copied to your computer for further recording, editing and mixing in your DAW. When you import a WAV file from your SD card, you'll see it listed in the JM4's display, along with the other recordings you have stored on SD card.



You can also import WAV files created on your computer for playback and overdubbing in the JM4. As mentioned above, each WAV file will play back on the Mic/Aux/WAV track, leaving you an open Guitar track for overdubs. There are also ways to sync up a WAV file imported from SD card with a JM4 Drum track, as described on the next page.

Loops

JM4 loops come in 2 flavors, either as part of a recording that you created in the JM4, or as a WAV file that was either mixed down from a JM4 recording or imported from your computer. Loops created in the JM4 will always work together with the Song or Drum track you started with, but there are many other creative ways to work with loops. Here are two examples of how you might use WAV files to create multiple loops in the JM4:

- Record multiple overdubs to your original loop, then mix them down as individual WAV files using the Playback Level controls to mute the other tracks. Build any number of tracks that will sync together, then edit and mix them in your DAW.
- Create custom loops on your computer, then import them into the JM4 for jamming, performing, or further overdubbing. As long as your imported WAV files match the exact length of the original reference loop, they'll sync and loop together perfectly.

Any mono 16 bit 44.1 WAV file can be imported and looped in the JM4 for further overdubbing, including JM4 Mixdown files. This greatly extends the functionality of the JM4. To demonstrate the possibilities, here's a multi-track tutorial you might want to try:

- Press the **SONG** button, navigate to the **Drums** tab, then turn the wheel to select 095 Straight Groove (or use any other Drum track). Press the R Arrow to load it.



- Press the **SONG** button again to display the **Tempo/Pitch Modes** menu item. Select it, then press R Arrow and turn the wheel to select **Time Stretch**. Set the tempo to 101 bpm. Press **RECORD** and watch the count in the display. After 4 bars, press **STOP**.



- You just created a 4 bar drum loop at 101 bpm. Now select an Amp Model that sounds good to you, press **PLAY** and jam along with the Drum track until you have a rhythm guitar part that works with the drums. When you're ready, press **RECORD** to overdub your guitar part. Play for 4 bars then press **STOP**. Listen to your take. If you're not happy with it, press **UNDO** to clear it, press **RECORD** and overdub your guitar part again. Repeat the process until you have a guitar track you like.

- Now save your recording. Press the **SAVE** button, navigate to **Save Recording To Internal** and press the R Arrow. Rename your recording **Beat+Gtr** and confirm.



- Press the **RECORD SELECT** button to select **Mic/Aux**. Plug a bass guitar into the JM4 Aux In jack. Press the **LEVEL** button twice then navigate to the **Aux** tab. Play your bass and set a strong input level by turning the wheel and watching the level bar in the display. Press **PLAY** and jam along with your track.
- When you're happy with your bass part, play along as the track rolls, pause in the 4th bar then press **RECORD**. Overdub your 4 bar bass part when the loop hits the downbeat. If you're not happy with your take, press **UNDO** and repeat the process. When you have a good take, save your recording as **Beat+Bas** (like you did before).
- Now it's time for a Mixdown. Press the **LEVEL** button then press **PLAY** to hear your recording. Mute the Guitar track by turning the wheel to **Off**. Reduce the Drum track to 90% or whatever level works with your Bass track at 100%. Press the **SAVE** button and navigate to **Save Rec Mix As WAV To Card**. Press R Arrow and keep the name **Beat+Bas**. Press the Down Arrow to complete the save to your SD card.



- You now have a **Beat+Bas** WAV loop on your SD card. Press the **SAVE** button, navigate to **Import WAV File From Card** and press R Arrow. Select **WAV:Beat+Bas** and press R Arrow to import the file. Press the **SONG** button; you'll see the track is loaded, ready for overdubbing. Press **RECORD SELECT** and select **Guitar**.
- Go back to playing guitar now and overdub the same rhythm guitar part you played earlier. When done, save your recording as **Gtr2**. Reload your **WAV:Beat+Bas** track and overdub a melody guitar line for 4 bars and save it. Overdub a harmony part.
- Now do a series of Mixdowns, isolating each track you just recorded by muting the others. When you're done, you should have a Bass & Drums loop, 2 rhythm guitar parts, a melody guitar line plus a harmony guitar line, all saved as WAV files.

Copy these tracks to your DAW and you'll have a multi-track session to work on, with each track playing back in perfect sync. Pan the guitars L & R to create a stereo mix.

APPENDIX : FAQ

The following are various questions and answers about JM4 features and functionality:

Available Recording Time

Q: Whenever I load a track into the JM4's memory for overdubbing, I notice my available recording time is reduced by double the duration of that track; why is that?

A: In order for the JM4 to perform an Undo function, it must buffer the currently loaded track in memory. This results in allocating additional memory equal to the size of each currently loaded track, which reduces your available recording time accordingly.

Duplicate WAV Files

Q: When I copy a WAV file from my Mac to SD card, then copy that to my Win PC, I see a duplicate file that doesn't play back. What's happening here?

A: When you copy a WAV file on a Mac, the OS creates a hidden file for its own use. The JM4 will ignore this hidden file, and you should ignore it on your PC as well.

Time Stamp

Q: When I'm working on my computer and I do a 'get info' on one of my JM4 recordings or WAV files, the date is displayed as unknown. Why isn't a creation date displayed?

A: The JM4 has no date stamping feature, so it doesn't create a date for your files.

Pitch Shift

Q: I recorded a blues lead guitar jam to one of the JM4 Songs, changing the key by raising the Pitch Shift by 2 semitones, 4 times over 5 minutes. When I mixed it down, my guitar was in the same key the entire time. Why didn't the guitar change key?

A: Only 1 instance of Pitch Shift can be applied per active session. When you mixed your guitar as a WAV file, the Pitch Shift was being applied to the JM4 Song, changing pitch the way you originally set it, so it couldn't process your guitar at the same time. Next time, mix the Song as a WAV first, then overdub your guitar to the WAV mix.

Time Stretch Won't Work A Second Time

Q: I made an 8-bar loop of a Drum track, then sped it up from 100 bpm to 110 bpm. After I recorded a guitar track, it felt too fast, so I tried to slow everything down to 105 bpm. The JM4 locked me out of changing the tempo again. Why is that?

A: The Time Stretch feature can only work on one mono track at a time. Since the JM4 Drum track is being processed to match your recorded guitar track, you can't re-adjust the tempo of the 'live' drums and recorded guitar at the same time. To change the tempo again, you could do a Mixdown, a Clear All, then load your Mix to start fresh. This is one reason why we suggest you determine your tempo before you record.

Loop Overdub Volume

Q: I like to overdub several harmony guitars to a loop, but when I let it roll for 3 or 4 passes my backing track loses volume. Why is this happening?

A: Your Recorder Overdub Volume is probably set to something less than 100%, so your volume decreases every time your track loops in Overdub mode. Press the Drums/Song button twice and navigate to the Recorder Overdub menu item, then press the R Arrow to select it. Use the wheel to set your Volume to 100% and it won't decrease.

Quick Capture

Q: The JM4 silkscreen reads Rec+Undo = Quick Capture; why doesn't this work?

A: To engage Quick Capture, you must first step on Undo, then the Record switch. We're sorry we didn't make this clear in the Pilot's Handbook.

Can't Overdub To A Time Stretched Recording

Q: I recorded a simple rhythm guitar track, then I did a Time Stretch to slow it down. When I tried to overdub a lead guitar part, I was locked out of doing so. Why?

A: The Time Stretch setting you applied to your guitar track has 'claimed' the DSP processing, which can only work on one track at a time. Since the Time Stretch is still active, you must first Save your recording at the new tempo, then do a Clear All. At that point, simply recall your saved recording, then you can overdub guitar as usual.

Naming Restrictions

Q: Whenever I import a WAV file from my computer into the JM4, why does it always cut off the last part of the name?

A: The JM4 has an 8-character name limit. Although your original file name will remain unchanged on your PC, it's a good idea to use shorter names whenever possible.

Routing Goes To Mono

Q: I recorded a vocal on the Mic/Aux track, and a guitar on the Guitar track. I'm routing my vocal to a P.A. and my guitar to a guitar amp. I'd like to slow the tempo down a bit then overdub a harmony guitar part, but when I do so, all my tracks go to mono, routed to both the P.A. and guitar amp. How can I avoid this?

A: When applying Time Stretch to two different tracks, they will be summed to mono. This is because the Time Stretch DSP can only operate on one mono track at a time, so your routing was summed to mono. To return to normal routing, you must first Save your current recording to internal memory with Time Stretch applied.

Audio Hiss

Q: Sometimes I hear unwanted hiss on my audio output. How can I eliminate this?

A: Make sure your mic Volume knob is off when not using the Mic Input. JM4 inputs are 'live' at all times, so if no mic is plugged in, you may hear hiss from the mic preamp.

Aux Track Distortion

Q: When I use the Aux track for recording my guitar track and I add Aux FX Presets, my guitar sometimes sounds distorted when I play it back; it sounds fine while recording. What's up?

A: When recording to the Aux track, you're essentially in "input monitor" mode, meaning you're hearing your guitar's input, not its output. When you add Aux FX like EQ, for example, you're also boosting level. This can result in distortion that you only hear on playback. The cure for this is, if you're recording on the Aux track and you're boosting your level with Aux FX, simply lower your input level to avoid distortion.

SD Card Backup Details

Q: I've been recording with my JM4 and my internal memory is filling up. I'm about to buy an SD card to backup my files, but I'm a bit confused about the best way to work. Can you give me a detailed outline of the best way to keep my recordings organized?

A: If you've already got some recordings stored in the JM4's internal memory, we recommend that when you add an SD card to your setup you do the following:

- Transfer all your internal recordings to the SD card with a Transfer All command.
- Remove the SD card from your JM4 and back it up to your computer ('open' the SD card's icon on your computer, then you should be able to drag and drop the Line 6 Folder to your computer's desktop, making a copy of everything on the SD card).
- Return the SD card to your JM4 and confirm you can load one of the recordings from it, just to triple check that everything is working as expected.
- Now that you're sure everything is on the SD card, and also backed up on your computer, delete all recordings from your JM4's internal memory.
- When making new recordings, always save them to the SD card.
- Periodically return the SD card to your computer and re-do your backup, so copies of your latest files are always backed up on your computer. (Create new folders on your computer, if necessary, organized by date. For example, create a folder for each month, then copy your current JM4 Line 6 folder into the current month's folder).
- Keeping all recordings on your SD card, rather than internal memory, means you're always ready to quickly backup your data, and everything is quickly and easily accessible from your computer. This is similar to the way that most digital cameras work with an SD card.
- It also means that the maximum internal memory is always available for use when making new recordings. This memory is used as the working memory for recording, and if you've got lots of memory taken up internally by saved recordings, you may find that you run out of working memory to do new recordings, especially if you make longer recordings.
- And last but not least, working this way means you never have to wonder whether the latest version of a recording was saved to internal memory or SD card, which can happen if you try to use both for recordings that you continue to update.

