sampling groovebox

MC-909

Roland

Getting Started Guide

What's the Getting Started Guide?

Roland's MC-909 Sampling Groovebox is a hot new dance music workstation packed with exciting features. If you're new to grooveboxes, the MC-909's many features may be a lot to take in at first, what with all of the unfamiliar words and concepts you've got to learn.

Don't worry—we've created this *Getting Started Guide* just for you. We'll explain what you need to know to start having fun with this monster box.

We'll begin with some important words and concepts you may have heard about, but don't yet fully understand. Next, we'll show you how to create your own music on the MC-909. We'll teach you how to sample. Finally, we'll talk about how to move stuff back and forth from the MC-909 to a computer, something that lots of people like to do.

That said, let's get this party started.

Big Ideas

In this section, we'll explain some terms and concepts you really need to understand to get the most from your MC-909.

Audio vs. MIDI

One of the things that groovebox beginners often find confusing is the difference between audio and MIDI. Let's get this straight before we go on. They're two completely different things, and you'll find them both in the MC-909.

Audio is sound.

When you hear something, you're hearing audio. What comes out of your mouth when you sing is audio. What comes out of a tambourine is audio. What comes out of the jack labeled "OUTPUT" on the back of a synthesizer or the MC-909, or out of a 1/4" jack on an electric bass, is audio.
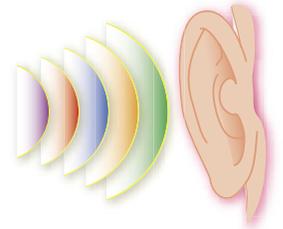
MIDI is a computer-to-computer music language.

MIDI—short for "Musical Instrument Digital Interface"—is a language that computers use to talk to each other about music. Every MIDI device, whether it's a synth, a drum machine or whatever, is actually a computer designed to do something musical. MIDI is all about instructions sent from one MIDI device to another that allows the first device to tell the second one how to do something.

Inside the Box

A good example of this kind of conversation takes place right within your MC-909. The MC-909's case actually holds several separate MIDI devices that are always yapping to each other.
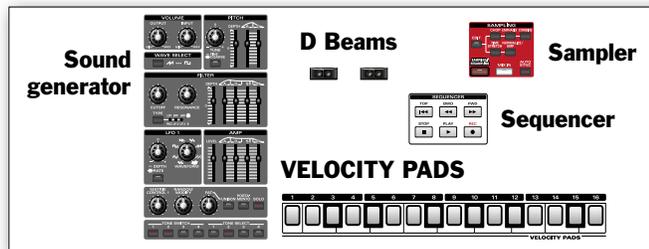
Let's eavesdrop on one of these conversations, between the MC-909's VELOCITY PADS and its sound generator. Here's what these two MIDI devices do:

- The VELOCITY PADS are the things you bang on with your fingers at the bottom edge of the MC-909. They don't make any sounds all by themselves, they just produce MIDI messages.
- The sound generator is the part of the MC-909 that actually produces the notes you hear—in fact, it produces audio.

Each time you strike a pad on the MC-909, the pad sends a MIDI message to the sound generator. If you hit a pad that plays Middle C, for example, the pad sends the sound generator a MIDI message that means, "Hey you, play a Middle C!" The sound generator plays a Middle C. When you let go of the pad, the pad says, in MIDI talk, "That's enough. Stop playing Middle C," and the sound generator stops playing Middle C.

MIDI is actually a very detailed language that allows all sorts of performance information to be passed from one MIDI device to another. To you, it just feels like a simple thing: you hit a pad, you hear a sound. But under the hood, it's really a team effort between multiple MIDI devices chatting in MIDI talk, faithfully converting your playing into sound.

Sequencing

It's possible to capture and record these MIDI messages, and to play them back. That's what the MC-909's "sequencer" does. The sequencer records MIDI messages you play into it—remembering the order you played them in, as well as your timing—and plays them back at your command, causing the sound generator to recreate your original performance.
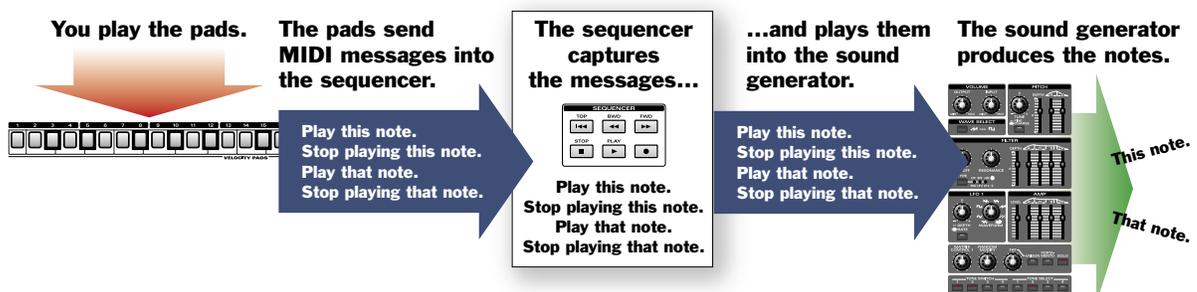
This all feels a lot like recording audio, since you hit the REC (for "RECORD") button, play something, and when you hit PLAY, the MC-909 plays back your performance. But what you're really recording is MIDI messages, not the notes themselves. What you're doing is called "sequencing," and what you're recording is called a "sequence." Each sequence lives inside one of the MC-909's "patterns," as you'll see in a few pages.
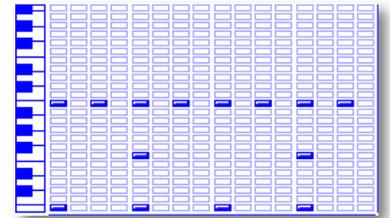
Sequencing lets you do some things that you can't do so easily with audio recordings:

- You can change the speed, or tempo, of a performance even *after* it's been sequenced .
- You can change the sound the performance plays. For example, you can easily change a piano performance into a string performance without re-performing it.
- You can do all sorts of stuff to sequenced MIDI data. You can change its pitch, change its timing, add or remove notes and lots of other things.

Oh, and one more thing. On the MC-909, you can record separate performances for up to 16 different instruments in a single sequence. Each of these performances is called a "part."

A Sequence

1. Bass	9. Lead Vocal Patch
2. Synth 1	10. Main Drum Kit
3. Guitarish	11. Background Vocal Patch 1
4. Main Keys	12. Background Vocal Patch 2
5. Organ	13. Lead Vocal Patch 2
6. Clavinet	14. Hits
7. Tambourine	15. Percussion
8. Claps	16. Bells

Since all of the parts play back together, they sound like they were all recorded at the same time, even though you may have actually built your arrangement one instrument at a time.

Outside the Box

MIDI also allows completely separate MIDI instruments to communicate. You might, for example, connect a MIDI keyboard to the MC-909 so you can play its sounds from the keyboard instead of from the MC-909's own pads. You can even sequence on the MC-909 by performing the desired parts on an external MIDI device.

When you connect two MIDI instruments, you do so using MIDI cables. You connect one end of a MIDI cable to the MIDI OUT jack of the first instrument and the other end to the MIDI IN jack of the second instrument. For a two-way MIDI conversation—something you need in certain situations—another MIDI cable connects the second instrument's MIDI OUT to the first one's MIDI IN. These cables carry MIDI messages, not audio, of course—all they care about is the instructions from one box to another.

MIDI plug from the side and straight-on

The MC-909's rear-panel MIDI jacks

OUT —MIDI— IN
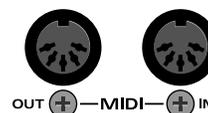
And so...?

The important thing to remember is that audio is something you can hear, while MIDI is merely messages passed between two MIDI devices in a language only MIDI devices can understand. While these messages *result* in sound, they're not the sound itself.

Now that we've got that out of the way, let's introduce some other important ideas.

Whatza Sample?

In many ways on the MC-909, it all starts with the sample. A sample is simply a digital recording of a sound. It can be a mono recording, or a pair of recordings that make up the left and right sides of a stereo audio image.

A sample may be a recording of:

*   something off of a CD.
*   something sung or played into a microphone.
*   an electric instrument such as an electric guitar or bass.
*   the audio output of an electronic instrument such as a synthesizer, a beat box or another sampler.
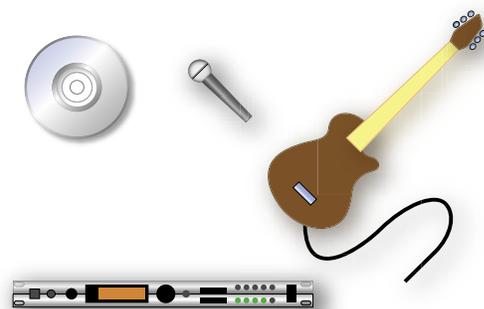
When you capture a sound as a sample, you're sampling. A sampler—such as the MC-909—is a device that can record and play these digital recordings.

On the MC-909's screen, here's what a mono sample looks like.

On the MC-909's screen, here's what a stereo sample looks like.
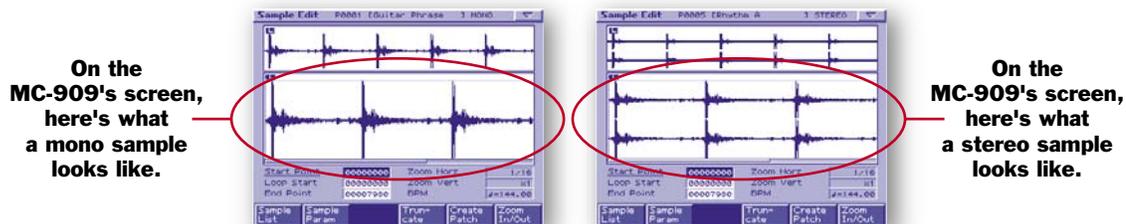
WAV and AIFF Samples

A sample can also be audio that someone else has recorded and stored as a file on a computer, or on some other sampler. These files are stored in various audio file data formats. The most popular are WAV-format and AIFF-format files. The MC-909 can load and play either type of sample file. It can also create WAV and AIFF samples of its own.

The Bottom Line

In the MC-909, when we talk about a sample, we're referring to audio you've recorded yourself, or to a WAV or AIFF file you've imported into the MC-909.

Whatza PCM Waveform?

There's another type of audio that the MC-909 plays: PCM waveforms. A PCM waveform is a sample that Roland has created for you, and that's built into the MC-909's ROM ("Read-Only Memory"). The MC-909 contains 693 of these PCM waveforms. They're recordings of all sorts of things, including drum and percussion instruments, keyboards, guitars, basses, strings, oddball noises and on and on. They form the basis of the MC-909's factory sounds, or "patches."

PCM waveforms, like samples, can be stereo or mono.

Whatza Patch?

When you play a sample or PCM waveform on the MC-909, you play it in something called a "patch." The MC-909 comes from the Roland factory with 800 ready-to-play patches, and you can create your own, too.

A patch is a group of samples and/or PCM waveforms, and a bunch of settings, or "parameters," that determine how each sample or PCM waveform plays. When you play a note, all of the samples and/or PCM waveforms in the patch play together, making one big, interesting sound.

Toning Up

A patch's samples and/or PCM waveforms are organized into four "tones." Each tone plays a stereo sample or PCM waveform, or it can play two mono samples or PCM waveforms. Each tone has its own set of about 90 parameters that determine how its samples or PCM waveforms play. Tones can be set to play together in a different ways, resulting in a bunch of different sounds.
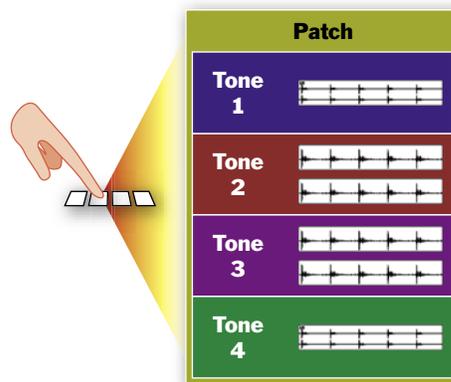
In this patch, Tones 1 and 4 each play a single stereo sample or PCM waveform. Tones 2 and 3 each play two mono samples or PCM waveforms.

Patch Parameters

The number of patch parameters is *huge*—each patch has over *300* different parameters. Some control the sounds of individual tones, and others set the sound of the entire patch. They can control things like:

- how bright or muffled each sample or PCM waveform will sound.
- the tuning of the sample or PCM waveform.
- how the volume of the sample or PCM waveform changes as a note sounds.
- how the patch behaves as you play it.
- much, much more.

When you twiddle many of the knobs and buttons on the MC-909—or use the D Beams—you're actually adjusting these parameters.

Rhythm Sets

A normal patch plays its samples or PCM waveforms over a range of pads, or keys on a connected MIDI keyboard. There's a special kind of drum or percussion patch called a "rhythm set" in which every pad or key plays a different drum or percussion sound.
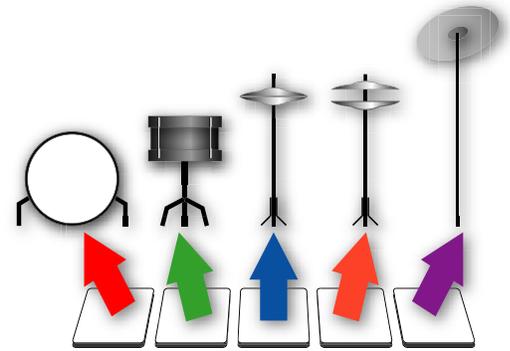
Whatzan Effect?

A big factor in making the MC-909's patches sound as great as they do is the MC-909's "effects." An effect—technically speaking—is an audio process that changes the sound of a sample, PCM waveform or an entire patch in some way. Non-technically speaking, an effect adds interesting new personality traits to the basic sound of a patch.

Some of the more popular effects include:

- *reverb*—Reverb makes a patch sound like it exists in a real-world space, such as a concert hall, or a room of some kind.
- *compression*—Compression takes control of volume changes to make a sound more punchy and tight.
- *step filter*—A step filter makes the brightness of a sound change along with the beat as your music plays.

Step Filter settings

The MC-909 contains a full-time reverb effect and a compressor, and also offers two all-purpose "multi-effect"—or "MFX"—processors that can produce dozens and dozens of effects.

Whatza Pattern?

One of the things you'll do most often on the MC-909 is select and play patterns. You can play one pattern over and over, play one after the other on-the-fly, or chain them together in songs. Obviously, it's a good idea to know just what a pattern is.

The Pattern Play Screen

To put it simply, in the MC-909, a pattern is a chunk of music. More specifically, a pattern contains:

- *a sequence*—A pattern's sequence can be anywhere from one bar to 998 bars long.

- *an effect setup*—Each pattern has its own settings for the MC-909's reverb, compressor and two MFX processors.

- *a part setup*—A pattern contains settings for each of its sequence's 16 parts. Each part has a whole bunch of its own settings, including the patch it plays, its volume, its stereo positioning (called "panning"), its tuning, the effects it uses and more.
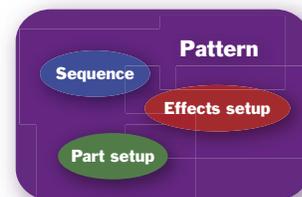
This is the patch setup for the first factory pattern. The screen is called the "Patch Play" screen.

The result of all this is that each pattern contains not only its own sequenced performance, but also its own overall sound, since it uses its own set of patches and its own effects setup.

To learn how to select patterns in Pattern mode, see Pages 24 and 25 in the *MC-909 Owner's Manual*.

Whatza Song?

A song is simply a group of patterns you've strung together, end-to-end. You may have a pattern for an introduction followed by a pattern for a verse, a bridge and then a chorus, and so on. In the MC-909, a song may be as big as 50 patterns long. When you play a song, the string of patterns plays in the correct order.

In this song list, the first five song steps play Patterns 1-5, one after another.

...and so on...

A Note About Saving Your Work in the MC-909

When you've been creating samples, creating or tweaking patches, or recording pattern sequences, you'll want to be able to permanently store your stuff somewhere. You can store samples, patches and patterns in the MC-909's built-in user memory. You can also purchase and install SmartMedia cards for lots of additional storage space.

Housekeeping Made EZ

It's often the case that samples, patches and patterns rely on each other. A patch may require a particular sample you've captured, a pattern may require that patch, and so on.

When you've got a bunch of stuff—samples, patches, patterns—that all belongs together, it's a good idea to store them all in the same place. Save them all in the onboard user memory, or save them all on the same SmartMedia card. That way, you can be confident that you've got all the bits and pieces you need at any given time, without having to keep detailed track of what's where.

School's Out!

Now that we've made our way through the MC-909's basic concepts, we're ready for some fun.

This guide is based on the MC-909's Version 1.10 operating system software. If your MC-909 doesn't behave as described in these pages, please visit *www.RolandUS.com* or call Roland Product Support at 323-890-3700 to learn about obtaining the latest MC-909 software.

How to Sequence

Select an Unused Pattern

Since each sequence in the MC-909 lives within one of its patterns, the first step in recording a sequence is to select an unused pattern. The MC-909 contains 200 patterns into which you can record—these are called the "user" patterns.

We'll record our sequence in User Pattern U:001 (the "U" stands for "User").

1. Press PATTERN to display the Pattern Play screen.
2. Press F1 (List) beneath the display.

> The F1-F6 buttons under the display are called "soft" buttons because their jobs change, depending on what you're currently doing. An F button's current job is shown directly above the button on the display. When we refer to an F button, we add its current job to its name. In Step 2 above, we called F1 "F1 (List)" because "List" appears above it on the display at the moment.

The pattern list appears. By default, the MC-909 shows you the factory patterns, the preset patterns pre-programmed by Roland.

3. Press F2 (User)—the user patterns appear.
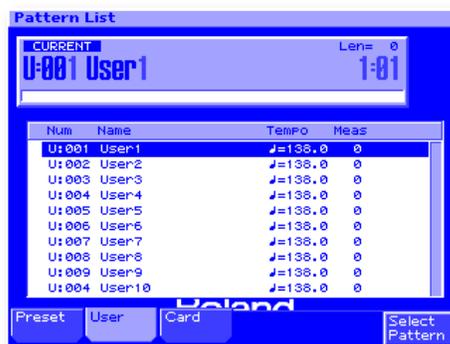
4. Turn the VALUE dial to highlight User Pattern 1, or U:001 Empty. Each unused pattern is named "Empty" by the MC-909's software.

> If you've already saved a pattern in the U:001 pattern memory location, you can select another pattern labeled "Empty" instead for our example.

5. Press F6 (Select Pattern) to select the highlighted pattern—the MC-909 takes you back to the Pattern Play screen.

Select a Part for Recording

The recording process always starts with the selection of the part you want to record.

1. If any of these buttons are lit, press them once to turn off their indicators:

- PART
- MIXER ASSIGN
- PART ASSIGN
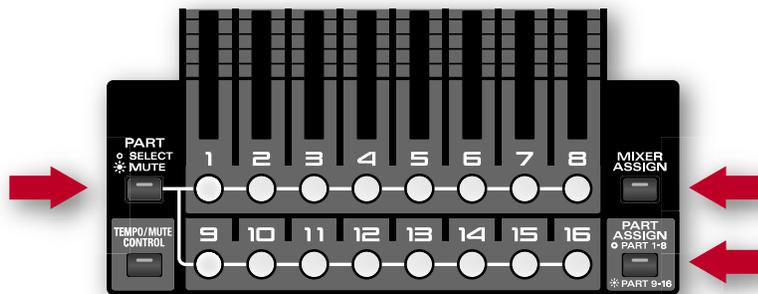
2. Press PART Button 10 so it lights. You've now selected Part 10 for recording.
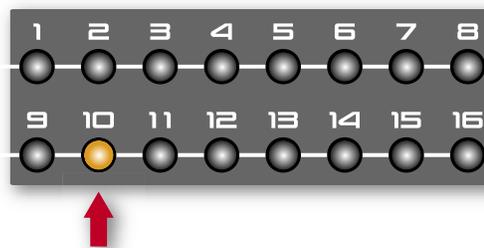
Part 10 is set up to use a rhythm set called "909 TR-909 1." You can play the pads to check it out. Since this is a rhythm set, each pad plays a different kit sound.

> We'll explain how to change a part's sound later on.

Your First Recording

The MC-909 provides several different ways to record. You can record using any of these methods, depending on how you like to work or the kind of part you want to record. You can even switch between methods while working on a part.

Exploring TR-Rec Mode

Turning On TR-Rec Mode

We'll begin with TR-Rec mode, an easy, no-performance-pressure way to record. "TR-Rec" is short for "TR Recording." If you've ever used one of Roland's legendary TR-Series drum machines, you'll recognize this approach. TR-Rec mode lets you turn the desired notes on and off using the VELOCITY PADS. You can see the notes onscreen as you work.

1. Press REC (for "RECORD") so it lights red—the Recording Menu screen appears.

2. Press F2 (TR-Rec) to display the TR-Rec Standby screen. It's called a standby screen because you're not actually recording yet—you're just getting set up to record.

On the TR-Rec Standby screen, the MC-909 offers you three options for how you'd like to set up your sequence. To change a setting—no need to do this now—you'd press ▲ or ▼ to highlight the parameter you wished to change, and then turn the VALUE dial to select the desired value for that parameter. Here's what the three parameters do:

- *Rec Beat*—sets the time signature for the sequence. Most dance and pop music uses a 4/4 time signature. For our example, this should be set to 4/4.

- *Rec Measure Length*—sets the length of the sequence in measures. For now, a 4-measure length is fine.

- *Rec Velocity*—sets the velocity value assigned to each note you turn on in TR-Rec mode. You can set it to Real, so that the force with which you hit a pad determines its recorded velocity, or you can set it to some fixed velocity value. The default setting of 100 means that every note you record will be recorded with a velocity value of 100. That's fine for now.

> What's velocity? MIDI measures how hard you hit a VELOCITY PAD or key, and calls that measurement "velocity." Typically, the greater the velocity, the louder and brighter the resulting note. Velocity can also cause other changes to a patch's sound, depending on how it's programmed to respond to varying velocities as you play.

You don't need to do anything about this now, but—just so you know—you can adjust the way the sequence's parts are mixed by pressing F3 (Mixer), and you can adjust the sequence's speed, or "tempo," by pressing F6 (BPM/Click). We'll discuss these options later. For now, if you can't resist pressing one of these buttons, go ahead. Just press F6 (Close) to return to the TR-Rec Standby screen when you're done snooping around.

Starting TR-Recording

Here we go.

1. Press PLAY—a few things happen:
   - The MC-909's metronome starts beeping as the empty sequence plays over and over.
   - The TR-Rec screen appears and the first of the sequence's four measures appears in a grid.

The TOP POSITION readout tells you the measure you're looking at.

Now line

If the box above Note Number isn't selected, press F3 (Note Number).
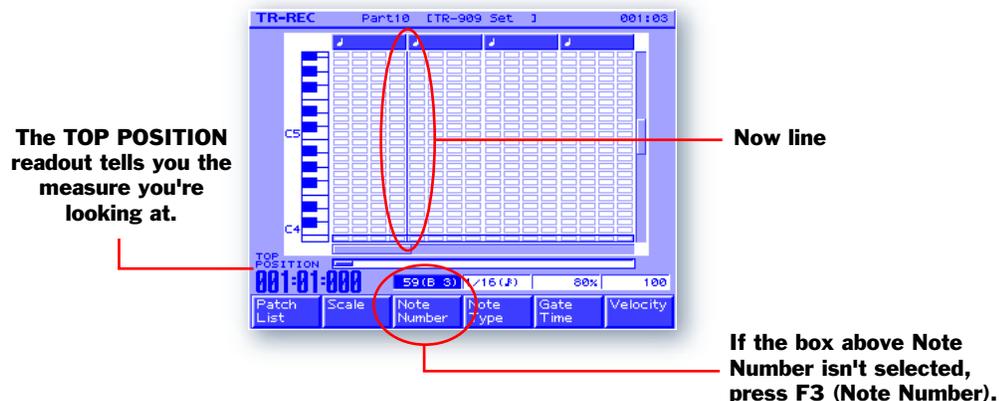
   - A vertical line called the "Now line" moves from left to right across the screen as Measure 1 plays, disappearing off to the right during the sequence's other three measures. The Now line shows you your current position in the sequence.

     In TR-Rec mode, each VELOCITY PAD acts as an on/off switch for one of the sequence's beats. By default, each measure in the sequence is divided up into 16 steps, or 16th notes. Each pad represents one of these 16th notes. The black bars above the pads show how each set of four pads belongs to one of the measure's four beats.

Beat 1   Beat 2   Beat 3   Beat 4
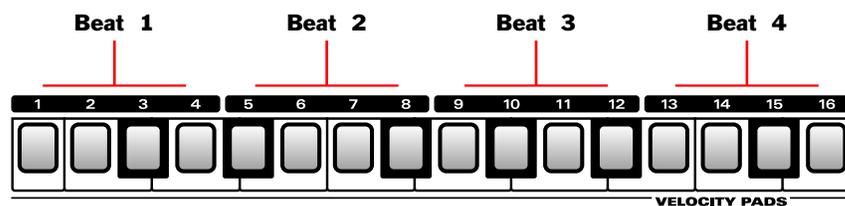
VELOCITY PADS

2. Press ▲ and ▼ to see the note selection box move up and down the screen. This box selects the note you'll be turning on or off. As it moves to each note, you hear the note.

Note selection box
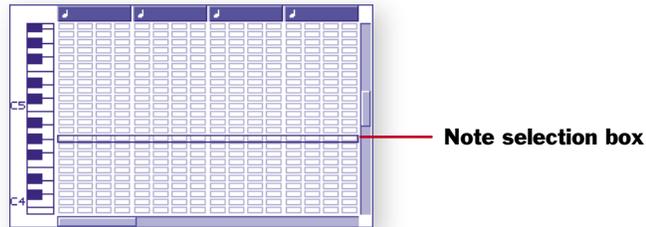
3. Press ▲ and ▼ to select the closed hi-hat at A#4.

A#4

The keys along the left edge are numbered. Each octave starts at C, so you have C1-B1, C2-B2, and so on.

You can see the currently selected note number here.
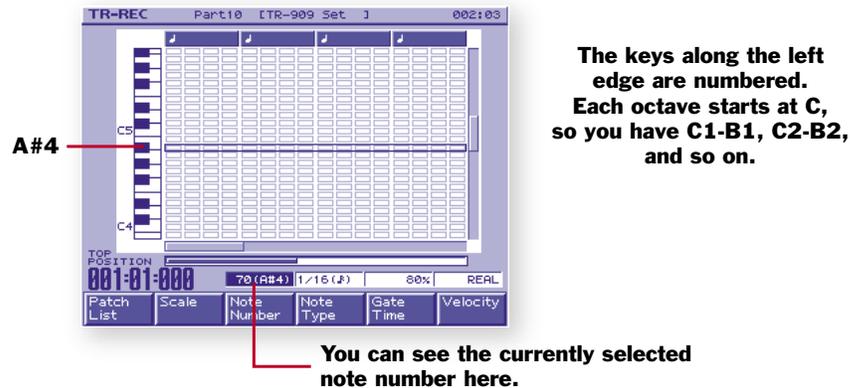
4. Press all of the VELOCITY PADS, one-by-one, so they're all lit. You don't need to do this in rhythm, since in TR-Rec mode, you're just setting each note's on/off switch. As you turn on each pad, its note appears in the grid, until it looks like this.
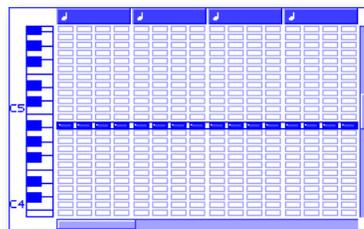
When all of the pads are lit, you'll hear the hi-hat on all 16 16th notes in Measure 1. The other three measures remain silent, since you haven't yet added hi-hat notes there.

Let's replace one of these closed hi-hat sounds with an open hi-hat sound.

5. Press VELOCITY PAD 15 to turn off its light. The next time Measure 1 plays, you can hear that we've created a short space, or "rest" at this 16th note.
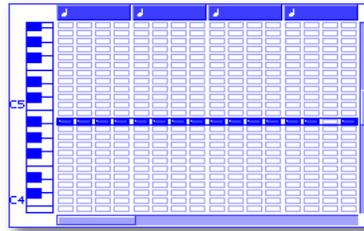
6. Press ▲ twice to select the open hi-hat sound.

7. Press VELOCITY PAD 15 to turn on its light. The next time Measure 1 plays, you can hear the open hi-hat play at this 16th note.
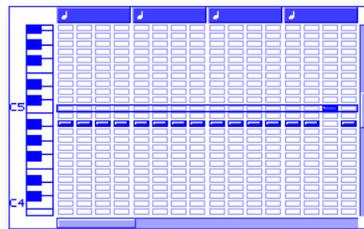
Let's add a bass drum, or "kick," and snare.

8. Press ▼ 12 times to select the kick drum at C4.

9. Press VELOCITY PADS 1 and 9 to light them and place kick drum notes at the start of Beats 1 and 3 in Measure 1.
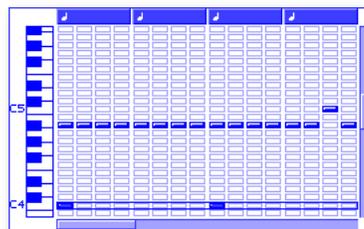
10. Press ▲ four times to select the splashy snare sound.

11. Press VELOCITY PADS 5 and 13 to light them and place snare drum notes at the start of Beats 2 and 4 in Measure 1.
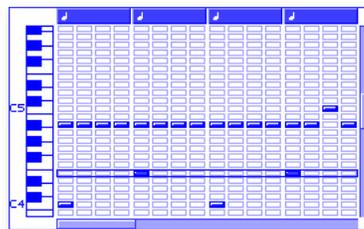
You've just TR-recorded a rhythm in Measure 1. Let's do Measure 2 now.

12. Press ▶ once—the TOP POSITION readout shows that you're now looking at Measure 2.

13. Press ▲ to move the note selection box back up to A#'s closed hi-hat.

14. Light all of the VELOCITY PADS except 11 and 15.

15. Press ▲ twice to get to the open hi-hat.

16. Press VELOCITY PADS 11 and 15 to light them.

17. Repeat Steps 8-11 to add the kick and snare. You've not got two measures recorded.
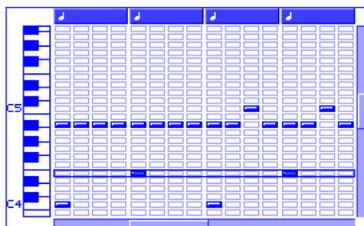
18. Press STOP to stop recording, and press PLAY if you wish to hear your work without the metronome.

A Short Trip to the Editing Planet

Copying Recorded Measures

Let's pause in our recording session to use the MC-909's editing tools to fill up the remaining two blank measures in our sequence.

1. Press F2 (Edit). The Pattern Edit screen appears.
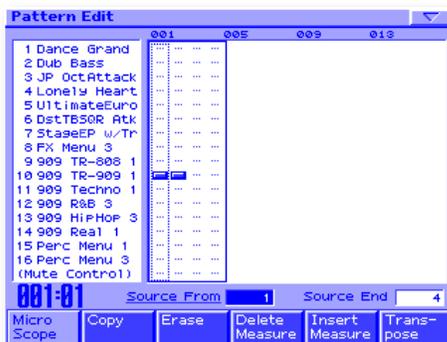
2. On the Pattern Edit screen, the Source From and Source End parameters select the portion of the sequence to be edited. Since we want to make a copy of Measures 1 and 2—the measures we just recorded—we'll set Source From to 1 for Measure 1 and Source End to 2, for Measure 2.

Source From is already set to 1, so press ▶ and turn the VALUE dial to set Source To to 2, as shown here.

3. Press F2 (Copy)—the first Copy window appears so you can select the part from which data is to be copied.

   All of the PART buttons at the bottom of the MC-909 light to show that all 16 sequence parts are currently selected for editing.
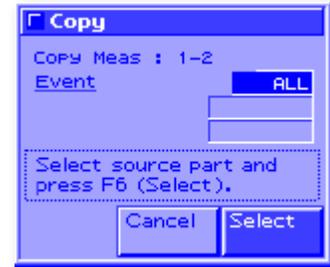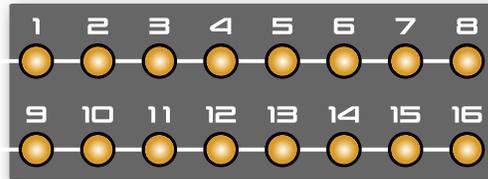
   When all 16 PART buttons are lit, any edit you perform applies to the entire sequence. However, we only need to copy Part 10, so let's select just that one part for editing.

4. Hold down SHIFT and press the Part 10 button so that it's the only PART button lit.

5. Press F6 (Select)—the second Copy window opens. In this window, you can set up how Measures 1 and 2 are to be copied. The default settings are fine for our purposes except for one of them.

6. Press ▼ to select the Destination Meas (for "Destination Measure") parameter and set it to 3, for Measure 3. We want to place a copy of Measures 1 and 2 at the beginning of Measure 3 so that the copy fills up Measures 3 and 4.

7. Finally, let's make sure we'll be copying Measures 1 and 2 to the correct part. The PART 10 button is flashing to show that it's selected as the destination for our copied data. This is just what we want, so we're good to go.

> Don't do this now, but if you'd wanted to copy Measures 1 and 2 to another part, you'd simply press the desired part's button.

8. Press F6 (Execute). The MC-909 displays, "Pattern Edit Completed!"

9. Press PLAY to hear the full four-measure sequence.

10. Press PATTERN to return to the Pattern Play screen.

Changing the Sequence/Pattern Tempo

Let's make our pattern a bit more funky by slowing it down. Right now, its tempo is set to 138.

1. Press PLAY to start playing the sequence.
2. Press F6 (BPM/Click)—the BPM window opens.

> 📌 The speed, or "tempo," of a sequence is measured in BPM, or "beats per minute."

3. Hold down SHIFT and turn the VALUE dial to set the BPM to 100.

> 📌 Holding down SHIFT lets you change the sequence/pattern's tempo in whole BPM steps. You can change it in tenths of a BPM by turning VALUE without holding down SHIFT.

> 💡 You can send the metronome sound to one of the MC-909 outputs from this window by setting the Output Asgn parameter to the desired output, but we don't need to do this now.

4. Press F6 (Close) to close the BPM window.
5. Press STOP to stop playback.

Changing a Part's Sound

One of the great things about MIDI sequencing is that you can change the instrument playing a performance even after you've recorded it. Let's check this out.

1. Press PLAY.
2. Press PATCH/SAMPLE. The Patch Play screen shows the setup of all of the sequence's parts.

3. Part 10 should be selected. If it's not, press the round PART 10 button so it's lit.

4. Press F1 (List) to show a list of available patches. Since Part 10 currently uses a rhythm set, the MC-909 presents you a list of rhythm set patches.

5. Press ▼ to hear how your recording sounds with different rhythm sets.

6. When you've finished experimenting, return to PR-A:001 909 TR-909 1, and then exit the screen by pressing F6 (Select).

7. Press PATTERN to return to the Pattern Play screen.

8. Press STOP to end playback.

Saving a Pattern

Until you actually save your work, the MC-909 holds it in RAM ("Random Access Memory")—if you select another pattern or power-down the MC-909, your work is lost. To keep it safe, you've got to save, or "write," the pattern into the MC-909's memory. Here's how:

1. Press the WRITE button to display the Write Menu screen.

Notice that "Pattern" is highlighted on the screen. Since we're currently in Pattern mode, the MC-909 assumes you want to save a pattern. Whenever you press WRITE, the MC-909 selects whatever it is you're working on for you in its Write menu. You can always select something else to save by turning the VALUE dial or pressing the desired F button, but you don't need to do that now. We *do* want to save a pattern.

2. Press ENTER to confirm that you want to write a pattern.

The MC-909 presents its Pattern Name screen.
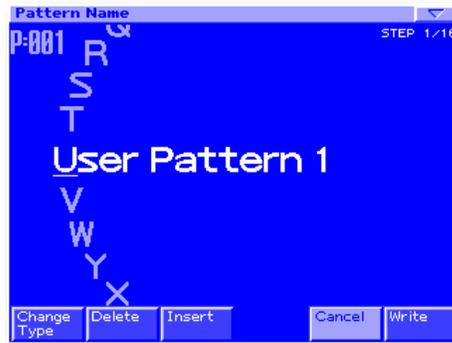
Whenever you save something on the MC-909, you can name it on a screen that looks just like this one.

Names in the MC-909 can have up to 16 characters in them. Each character has a position on the display, which is shown by an underline. (Right now, the first character position is underlined.) You create the name you want by selecting each of its character positions and dialing in the desired letter, number or punctuation mark.

Let's name this pattern "Get Started!"

1. Turn the VALUE dial to select a capital "G. "As you turn the dial, you can see the available characters swing in and out of view.

2. Press ▶ once to select the second character position.
3. Dial in a lower-case "e."

> To save time, you can repeatedly press F1 (Change Type) to jump between capital "A," lower-case "a" and zero.

4. Continue to press ► and dial in the desired characters to name "Get Started!" Put a space between the two words—the blank space character is just before "A."

> To erase a character, press ◄ or ► to move to its position and press F2 (Delete). To add a character into the middle of the name, move to its position and press F3 (Insert)—all of the rest of the characters shift one position to the right.

When you've finished naming the pattern, it should look like this:

5. Press F6 (Write)—the MC-909 presents you with a list of user pattern memory locations in which you can store your pattern.
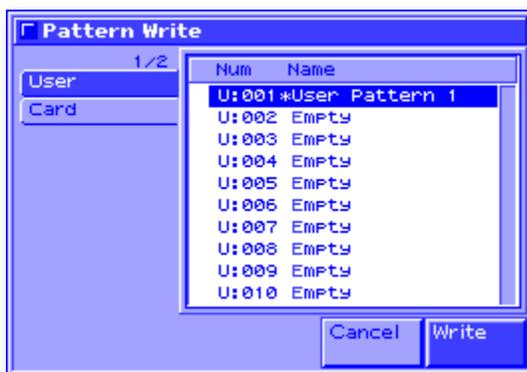
Locations that don't yet contain one of your patterns are named "Empty." The pattern location in which you're currently working has an asterisk in front of its name. You can select a different location by turning the VALUE dial. However, for now, let's save the pattern just where it is.

6. Press F6 (Write)—the MC-909 asks if you're sure.
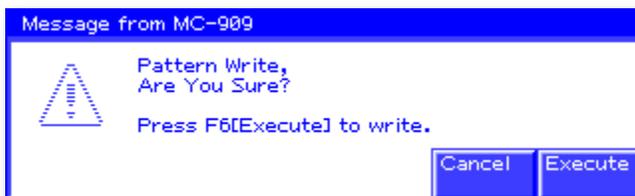
The reason the MC-909 requests this confirmation is simple: When you select a memory location that already contains a pattern, the new pattern you're writing will replace the older pattern permanently. There's no way to get the older pattern back, so it's always a good idea to take a moment to make sure you want to proceed.

7. Press F6 (Execute) to finish storing your pattern.

```
Write
Pattern Write




          Now Writing...
```

The MC-909 writes the pattern into its memory and displays "Pattern Write Completed!" when it's done.

While we've just saved a pattern, the procedure for saving anything else in the MC-909 is pretty much identical.

In this example, we've stored our pattern in the MC-909's built-in user memory. If you've installed a SmartMedia card, you can also save patterns on the SmartMedia card.

Recording More Parts

Exploring Realtime Recording Mode

When we recorded using TR-Rec mode, we entered notes on a grid. Of course, it can be a lot more fun to simply *play* a part to record it—that's what Realtime recording is. Let's add a bass part to Get Started! using the Realtime recording method.

Getting Bass-ic

We'll begin by setting up a bass part and configuring the VELOCITY PADS for bass recording.

1. Press PATCH/SAMPLE to display the Patch Play screen.
2. Press the round PART 2 button beneath the faders so the button lights—this selects Part 2 on the Patch Play screen.
3. Press F1 (List). The MC-909 presents a list of patches.
4. Turn the VALUE dial to select PR-C:66 PeakofTEBE. This is a buzzy bass sound that'll go well with the drums.
5. Press F6 (Select) to confirm your choice and return to the Patch Play screen.

Drop It

If you play PeakofTEBE on the VELOCITY PADS, you'll notice it doesn't sound much like a bass patch. That's because we're playing it too high in pitch. By default, the VELOCITY PADS act like a keyboard playing in the middle of its range. In fact, VELOCITY PAD 2 plays Middle C.
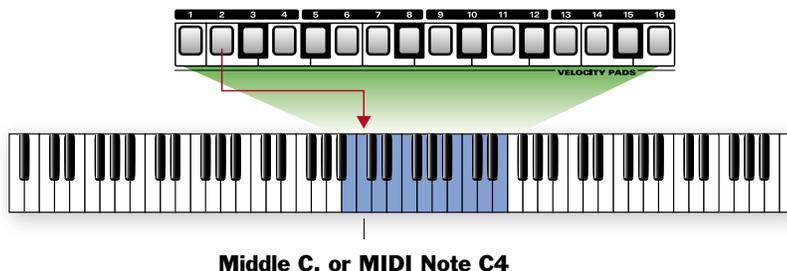
The pads play the notes shown in blue.

Middle C, or MIDI Note C4

For a rhythm set patch, that's fine because that's where you'll find the rhythm sets' sounds. For a bass patch, though, this is too high up the keyboard—bass notes are down low.

Not to worry. When you're playing a pitched patch—which is any patch other than drums, percussion or sound effects—you can lower or raise the pitch of the notes you play on the pads using the OCT buttons to the left of the pads.

Let's lower the VELOCITY PADS down to a more sensible bass range.

1. Play any pad to hear how it sounds, and then press -OCT once. A window pops open on the display briefly to show you that the pads are now shifted downward by one octave.

Middle C, or MIDI Note C4
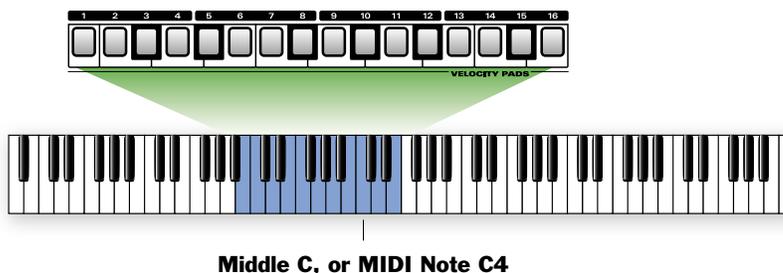
2. Play the pad again to hear how its pitch has dropped.
3. Press -OCT twice more to lower the pitch of the pads to -3 octaves.

Middle C, or MIDI Note C4
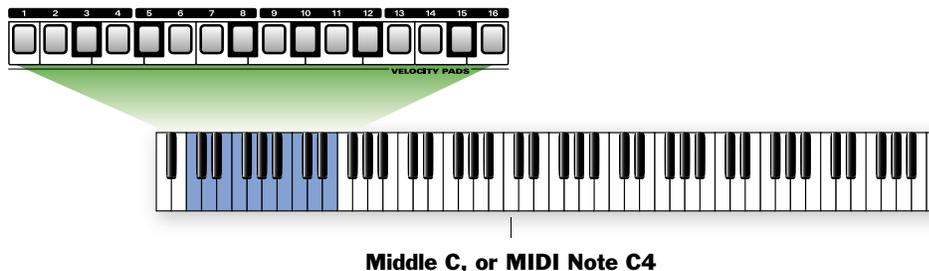
4. Play the pads again—*now* we're in bass territory.

Setting Up Realtime Recording

The process starts with setting up the way in which you're going to record in realtime.

1. Press REC to display the Recording Menu.
2. Press F1 (Realtime) to display the Realtime Standby screen, and to start the metronome.
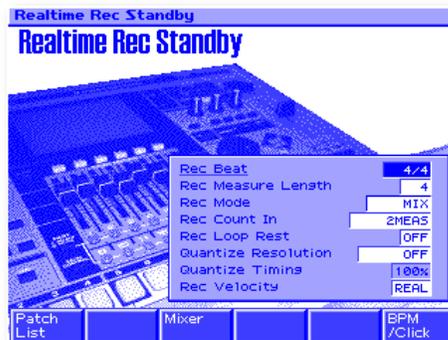
As with TR-Rec mode, you've got a variety of options that determine what happens when you start to record. Here's what each Realtime mode parameters does.

- *Rec Beat*—sets the pattern's time signature. You can change this setting only when you're recording a pattern's first part. Once you've recorded in a pattern, this parameter can't be changed. Since this is our second part, 4/4 is what it is.

- *Rec Measure Length*—sets the length of the pattern. Since our pattern already contains a four-measure drum part, this can't be set to less than four measures. If you wanted to, you could make this part longer, thus lengthening the whole pattern. For now, leave it set to 4, for 4 measures.

- *Rec Mode*—sets your recording mode. In Mix mode, each time you begin recording, or the pattern returns to the beginning, what you play is combined with what's already been recorded. In Replace mode, your new performance replaces anything already recorded in the part. For now, leave this set to Mix.

- *Rec Count In*—determines how long a warning you'll have before recording actually starts. Set this parameter to 1MEAS, for 1 measure: the good old "1-2-3-4, go."

- *Rec Loop Rest*—turns a silent measure at the end of the pattern on or off. This is actually quite handy. The MC-909 plays each pattern over and over again during recording, allowing you to add more notes each time. This is especially cool for quickly layering percussion parts. Rec Loop Rest gives you a short break after each playing of the pattern so you can get your bearings before it comes around again. Set this parameter to On.

- *Quantize Resolution*—turns quantizing on or off. Quantizing corrects any timing mistakes you make as your record so that each note is automatically planted exactly where it belongs rhythmically. Set this parameter to 1/16 to move everything you play to the nearest 16th note.

- *Quantize Timing*—makes quantizing more (at 100%) or less (at 0%) perfect and machine-like. For now, leave it at 100%

- *Rec Velocity*—sets the velocity value assigned to each note you play during recording. We'll leave it set to Real to capture your performance most faithfully.

Turning On Realtime Recording

Breathe Deeply

Unlike TR-Rec mode, Realtime mode can be a little scary until you get used to it—after all, the pressure's on to play well, just like in a real studio or onstage. Fortunately, the MC-909 offers some tools to make things easier. For now, trust us. We'll keep things pressure-free here.

Round and Round

Once we start recording, the MC-909 plays the sequence over and over so you can add or remove notes without stopping.

Here We Go

1. Press PLAY—the one-measure countoff starts and the Realtime Recording screen appears. Don't worry. You don't have to play anything yet. We're just going to let the MC-909 run for a bit to get our bearings.

Each time the pattern reaches its end, you hear an extra, empty measure—four beats of the metronome. This is the result of our turning on the Rec Loop Rest parameter. It's like getting a fresh countoff each time the pattern plays through.

   On the Realtime Recording screen, there's a keyboard. When you start recording, you'll see that when you strike a pad, its corresponding key lights onscreen. You can also adjust your quantizing and velocity settings as you record, though we won't need to do that.

2. Press F4 (Rehearsal) so that it becomes checkmarked. This turns on the MC-909's Rehearsal mode, where you can work out a part without actually recording it.

3. Now that you're in Rehearsal mode, play the pads to work out a bass part for the pattern. Play whatever you like, and take as long as you like—we're not recording yet.

4. Once you're ready to record, press F4 (Rehearsal) again to un-check it and leave Rehearsal mode.

5. Wait until the top of the pattern comes around again and play your bass part.

6. Let the MC-909 keep going—you can hear your bass part play back as the sequence plays.

Erasing Notes and Adding Notes in Realtime

You can easily fix any wrong notes you've recorded without stopping the MC-909. Simply erase the notes you don't want, and then add in the ones you *do* want.

1. Press F2 (Erase)—the Realtime Erase window opens.
2. Turn VALUE to set Erase Type to NOTE.
3. Just before an unwanted note plays, hold down its pad for a moment and then let go. The note doesn't play, and it's erased from the sequence.
4. Repeat these steps for any notes you want to remove.
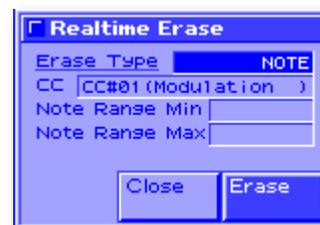
> If you'd like to remove a group of notes—such as those in a chord—at once, hold down the pads for the lowest and highest notes you want to get rid of wherever they were recorded.

5. Press F5 (Close) to close the Realtime Erase window.
6. To add a new note—or to replace one you've just erased—just play it where you want it to be. Remember, you're still recording.

> You can open and close the Realtime Erase window at any time as you record whenever you want to quickly get rid of unwanted notes.

> There's all sorts of stuff you can get rid of using Realtime Erase, as described on Page 39 in the *MC-909 Owner's Manual*.

Recording Performance Controllers

Realtime recording also captures every knob-twist and slider slide in the MC-909's sound generator area, as well as any D Beam moves. Let's record some knob-twists:

1. Locate the FILTER CUTOFF and RESONANCE knobs on the MC-909's panel.
2. The next time the sequence gets back to the top, experiment with the two knobs together and listen to how they change the sound of the bass. The MC-909 records your moves and plays them back the next time the sequence comes around.
3. Keep playing with the knobs until you've got something you like.
4. Press STOP to finish recording.

> If you'd like to keep your recording work, save the pattern again—see Page 19 to refresh your memory if necessary.

In our example, we recorded the bass part and then stopped. In real-world applications, you can keep recording other parts without stopping simply by pressing the PART button of any part you wish to record.

Before We Continue...

Let's return the pads to their normal octave for the things we'll be doing later in the *Getting Started Guide*.

1. Press OCT + three times—the display shows "Octave Shift 0."

Other Ways to Record

The MC-909 offers two other recording modes:

- Step mode
- Tempo/Mute mode

Step Recording

Step mode allows you to record by entering notes and chords beat-by-beat. This is the slowest way to record for most people, but does allow you to create parts that are just too complicated to play by hand. It's described on Page 41 of the *MC-909 Owner's Manual*.

Tempo/Mute Recording

Tempo/Mute recording is actually two types of recording rolled into one:

- *Tempo recording*—allows you to record changes in a sequence's tempo, locking in the ways in which you want it to speed up or slow down as it plays. Tempo changes can make a song more exciting, taking the listener through different grooves and moods.
- *Mute recording*—allows you to record parts being turned on and/or off. (Each time you turn off a part, you're "muting" it.) This is a great way to build up and tear down dance tracks and remixes.

How to Sample

First, Some Things to Know About Sampling

Before we actually start sampling, here are a few things you'll need to know in order to master the MC-909's sampling power.

Measuring Sample Memory

Samples come in all sorts of sizes, depending on their length and whether they're stereo or mono.

Samples are measured in bytes, the way things are usually measured in computer-based devices. Since most samples you record are thousands of bytes in size, the MC-909 counts them in thousands, to make life easier. Each thousand bytes is called a "kilobyte," and is abbreviated on the MC-909's display as simply "KB," as in "100 KB," "32752 KB," and so on.

Here are a couple of examples that show how a sample's length—and whether it's stereo or mono—affect its size. The roughly five-second "There's no other love" sample that ships in the MC-909 is a stereo sample whose left side and right side are both 257 KB in size. "257 KB" means 257,000 bytes, so the sample's size is 514,000 bytes in total. On the other hand, the short, mono R&B Guitar sample is only 76 KB. Most samples you're likely to create will be in the hundreds of KBs.

Number	Sample Name	Ch	Size
P0001	R&B Vocal1	L	257KB
P0002		R	257KB
P0003	R&B Vocal2	L	288KB
P0004		R	288KB
P0005	R&B Guitar1	L	876KB
P0006	R&B Guitar2	R	160KB
P0007	Break It On	MONO	34KB
P0008	Chek It Out	MONO	28KB
P0009	I Like That	MONO	45KB
P0010	Thats Tight	MONO	22KB

This is a list of the factory preset samples.

Really, though, you don't have to think about all this *too* much. It is worth noting, however, that the amount of memory you have for sampling and sample storage is counted in "megabytes," or "MB," so you'll need to do a little math to make sure you've got enough memory for what you want to sample. Each MB is a thousand KBs, or one million bytes. That means that even an unexpanded MC-909 straight from the factory has 11,000,000—yup, that's 11 million—bytes available for sampling. Yipes.

Forget to Remember to Forget—Types of Sample Memory

The MC-909 holds and stores samples using as many as three different types of sample memory. This may sound scary, but each one has its own job to perform, and they all come in handy. Let's talk a bit about what they are and how they get used. This'll help you get the most from the MC-909's sampling power. It'll also help you avoid becoming confused as you start sampling on the MC-909.

Sample Storage Memory

As you start digging into the MC-909, it's likely that you'll be building a library of your own samples to use whenever you want. The MC-909 allows you to permanently store samples in two different places. Each has its advantages and disadvantages, and you can store samples in both places if you want. It all depends on how you like to work.

You can permanently store samples:

- *in the MC-909's user memory*—Technically speaking, user memory is a form of computer memory called "flash memory." Flash memory is very reliable, so it's a great place to stash your samples for safekeeping. The advantage of user memory is that it's built-in, so it's always there when you turn on your MC-909. On the other hand, the MC-909's user memory is 16 MB in size, which may not be large enough for your entire sample library.

- *on 3.3V SmartMedia cards*—SmartMedia cards come in a variety of sizes from 4 MB all the way up to 128 MB. There are two big advantages to SmartMedia cards. First of all, they can offer a lot of reliable storage space. Second, if you fill one up, you can just pop another one into the MC-909, providing you an infinite amount of sample storage space. On the other side of the coin, you have to purchase SmartMedia cards separately, although they *are* fairly inexpensive. You also have to remember to take them along whenever you take your MC-909 somewhere. (The drawing on the face of the MC-909 below the SmartMedia slot shows how to install a card.)
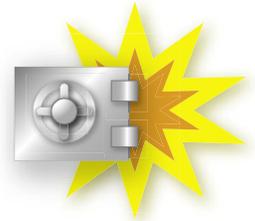
Speed Counts

Although both user memory and SmartMedia memory provide secure places in which to store your stuff, neither is especially fast. It takes a few moments to write a sample to flash or SmartMedia, and it takes a few moments to retrieve one, too. While this is fine for storage purposes, the MC-909 needs a faster place to hold samples when it's time to actually work with them.

Live Sample Memory

The MC-909's live sample memory is just that place. It uses a form of computer memory called "SDRAM memory" ("SDRAM" stands for "Synchronous Dynamic Random Access Memory," if you're curious). SDRAM is lightning-fast, so it's the perfect type of memory for capturing new samples, editing samples, and playing them. The MC-909 comes with 16 MB of live sample memory, and you can expand it to a honking 256 MB by installing additional DIMM (for "Dynamic In-Line Memory Module") chips that you've purchased separately. For more on expanding the MC-909's live sample memory, see Page 146 of the *MC-909 Owner's Manual*.

Here Today, Gone Tomorrow

The MC-909's live sample memory holds onto its contents only until you turn off the MC-909. At that point, the live sample memory is cleared out, giving you a fresh start each time you power up. This means that you've got to save any samples you want to keep *before* you power down—that's what user memory and SmartMedia cards are for. Once your work is safely stashed in one of these two places, you can reload it into live sample memory as you need it. In fact, the MC-909 offers some options for automatically re-loading your samples the next time you turn it on. We'll explain how to do this at the end of our sampling examples.

Capturing a Sample

Getting Ready to Sample

There are a few items you'll need for our example:

- The SAMPLE SHOW CD that came with your MC-909.
- A CD player.
- Cables required for connecting your CD player's output to the MC-909's inputs. If you're connecting the CD player to:
  - *the MC-909's stereo pair of analog INPUT jacks*—use two 1/4" cables. (We recommend sampling in stereo in the following sections.)
  - *the MC-909's stereo coaxial or optical S/P DIF digital IN jack*—use a high-quality RCA-style coaxial cable or an optical cable, respectively.

Connect your CD player to the MC-909.

Before we begin, press the round PART 16 button—we'll put our sample on Part 16 in Get Started!

The Sampling Standby Setup Screen

1. Press SAMPLING/RESAMPLING on the MC-909. The Sampling Menu screen appears.

2. Press F1 (Sampling) to display the Sampling Standby screen.
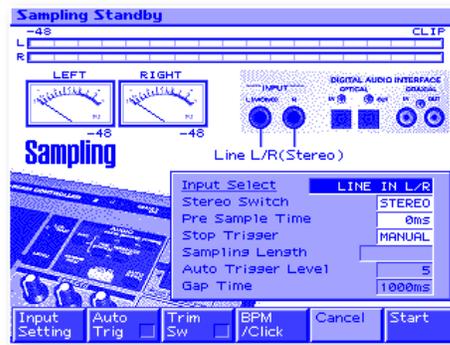
The Sampling Standby screen offers a selection of options that allow you to set up your sampling session. Here's what the parameters do:

- *Input Select*—The setting for this parameter instructs the MC-909 to sample from a specific input. You can choose:
  - *LINE IN L/R*—When you've connected your CD player or other line-level device in stereo to the MC-909's L(MONO) and R INPUT jacks, choose this setting.
  - *LINE IN L*—With this setting, the MC-909 samples a line-level device in mono from the L(MONO) INPUT jack.
  - *DIGITAL (OPT)*—To sample from the stereo COAXIAL DIGITAL jack, select this value.
  - *DIGITAL (CO-AX)*—To sample from the stereo OPTICAL DIGITAL jack, select this value.
  - *MICROPHONE*—Use this when you want to sample from a mic or mic-level device connected to the L(MONO) INPUT jack.

  For our purposes, select LINE IN L/R, DIGITAL (OPT) or DIGITAL (CO-AX), depending on the type of connection you've made between your CD player and the MC-909.

- *Stereo Switch*—This switch determines whether the MC-909 samples in stereo or mono. We want to set the parameter to STEREO now.

- *Pre Sample Time*—The MC-909 can add a little bit of time to the front of a sample to help ensure that the very beginning of your audio doesn't get chopped off. For now, leave this set to 0ms ("0 milliseconds").

- *Stop Trigger*—The MC-909 can stop sampling automatically after a specified number of beats or length of time. In our example, we'll stop sampling manually, so set this to MANUAL.

- *Sampling Length*—When Stop Trigger is set to BEAT or TIME, Sampling Length allows you to specify the number of beats or duration after which sampling automatically stops. This parameter can't be adjusted right now since we've set Stop Trigger to MANUAL.

- *Auto Trigger Level*—When the MC-909's Auto Trigger feature is turned on, it automatically starts sampling when the input signal reaches the level specified by this parameter. We'll be using Auto Trigger in our example, and the default setting of 5 will be fine for us.

- *Gap Time*—Though we won't be exploring this feature in this guide, the MC-909's Auto Divide Sampling feature automatically splits up a longer sample into smaller parts at silent spaces, or "gaps," in the sample. This parameter determines how long such a gap must be.

Setting the Sampling Level

We'll set the sampling level using the MC-909's INPUT VOLUME knob.

1. On the SAMPLE SHOW CD, locate Track 27 and play it. As you set the sampling level, you can replay this selection or let the CD run—most of its tracks are roughly the same volume.

2. Adjust the INPUT VOLUME knob until the signal is as loud as possible without triggering the CLIP indicators in the onscreen meters. If "CLIP" appears, lower the input level until it no longer does.

Clip indicators
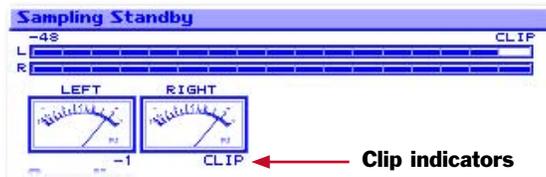
It's okay if the loud click at the end of the groove clips—we'll be cutting that click off of our sample anyway.

Capturing the Sample

Now we're ready to go.

1. Cue up your CD player to Track 27 and hit its Pause button so Track 27 is ready to start when you press Play.

2. Press F3 (Trim Sw) to checkmark it. The Trim Switch helpfully sets some important sample parameters for us, as we'll see a bit later.

3. On the MC-909, press F2 (Auto Trig) to turn on Auto Triggering by checkmarking it. This sets the MC-909 to start sampling automatically when it hears the CD selection begin. At the top of the screen, the MC-909 announces, "Now, Waiting for The Input Signal."

Before we capture the sample, here's what's about to happen, just so you're ready when it does:

• When the CD player plays Track 27, the MC-909 will automatically begin sampling it. You'll see the sampling time count away on the MC-909 as the sample is captured.

• When you hear the loud click at the end of Track 27, you'll stop sampling by pressing F5 (Stop) on the MC-909. Locate the F5 button now so you're ready to move quickly. (F5 is currently the Cancel button, but that'll change once sampling begins.)

Ready?

1. Press Play on your CD player and look at the MC-909's screen to see what's going on.

2. When you hear the loud click at the end of the drum groove, press F5 (Stop).

That's it. You've just sampled the Track 27 drum groove . The MC-909 takes a moment to draw its waveform on the Sample Edit screen, allowing you to see what you've just captured.
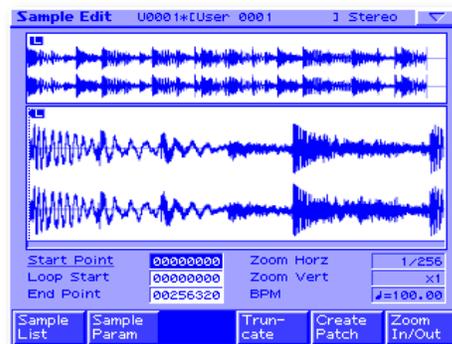
Playing Back a Sample

Before playing the sample, make sure that the TURNTABLE EMULATION slide is in its center position—you can feel a click in the slider when it moves to this position. The slider can adjust a sample's pitch, something we don't need to do now.

1. Press and hold VELOCITY PAD 2 to hear the sample play through. By default, samples are assigned to C4—Middle C—the note that VELOCITY PAD 2 plays when the OCT buttons are turned off.

Editing a Sample

Now that we've captured this drum groove, we'll edit the sample to prepare it for use by:

- setting its tempo by adjusting its BPM value.
- trimming, or "truncating," it to get rid of that loud click and silence at the end of the sample.
- setting its optimum volume by "normalizing" the sample.

We recommend performing all three operations on every sample you capture.

Setting a Sample's BPM

The MC-909 can do some pretty amazing things to a sample to make it fit into any musical context. In order to do this, the MC-909 needs to know the sample's original tempo. Let's tell it now:

1. Press F2 (Sample Param) to display the Sample Prm (for "Sample Parameter") screen.

On this screen, you can see a variety of parameters that determine how the sample behaves. The one we're concerned with now is BPM.

2. Press ▼ three times to select the BPM parameter.

Inside the SAMPLE SHOW CD, we can learn that Track 27's original tempo is 90 BPM.

3. Hold down SHIFT and turn the VALUE dial to set BPM to 90.

4. Press F5 (Close) to return to the Sample Edit screen.

To learn about the other sample parameters, see Page 116 in the *MC-909 Owner's Manual*.

Truncating a Sample

Here's what the parameters on the Sample Edit screen mean:

- *Start Point*—The Start Point is the position within the sample from which the sample starts to play when you strike its pad. The Trim Switch we turned on earlier automatically set this to the beginning of the sample.

- *Loop Start*—When a sample loops, so it plays over and over, this parameter sets the location within the sample at which it repeats. We won't be looping our sample here.

- *End Point*—The End Point is the position within the sample at which the sample stops playing when you hold down its pad. The Trim Switch automatically set this to the end of the sample.

- *Zoom Horz*—On this screen, you can zoom in or out on the displayed waveform to show bigger or smaller chunks of time. The smaller the view, the greater, the detail. This readout shows the current time, or "horizontal," magnification. To learn about zooming in or out, see Page 114 in the *MC-909 Owner's Manual*.

- *Zoom Vert*—This readout shows the amount of level, or "vertical," magnification. See Page 114 in the *MC-909 Owner's Manual* for details.

- *BPM*—This readout shows the sample's original tempo, which we set in the last section.

Let's trim the loud click off the back of the sample.

1. Highlight the End Point parameter—the display jumps to the back end of the sample. The dotted line with the E flag at the top shows us the current End Point setting.
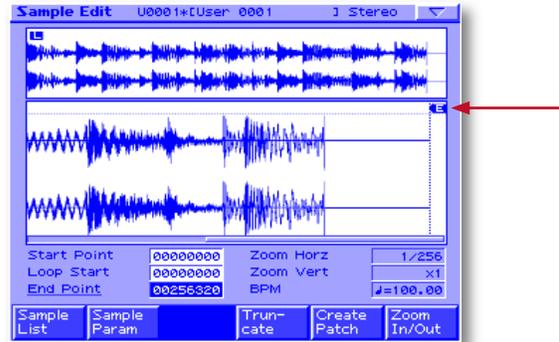
2. Start turning the VALUE dial counter-clockwise. As you turn the dial, the End Point line moves to the left.

3. Keep turning the VALUE dial until the End Point line sits just to the left of the big jump in the sample's level at the end of the waveform—that's the loud click.

The loud click
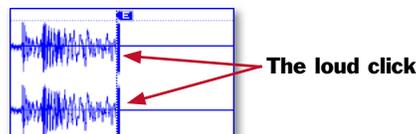
4. Press and hold down VELOCITY PAD 2 to hear your trimmed sample.

5. Adjust the End Point line's position until the click is cleanly lopped off, losing as little of the groove as possible. You can audition it as many times as you need to by pressing and holding VELOCITY PAD 2.

6. When you're satisfied, press F4 (Truncate)—the Truncate screen appears.

7. Press F4 (Overwrite) to checkmark it so that the trimmed version of the sample replaces the original version in the MC-909's live sample memory.

> If Overwrite is turned off, the MC-909 creates an edited copy of the sample, taking up additional live sample memory space. The benefit of this is that you have a separate copy of the sample at every stage of its editing in case you wish to go back a few steps in time. On the other hand, your live sample memory fills up more quickly.

8. Press F6 (Execute). The MC-909 asks if you're sure you want to proceed.
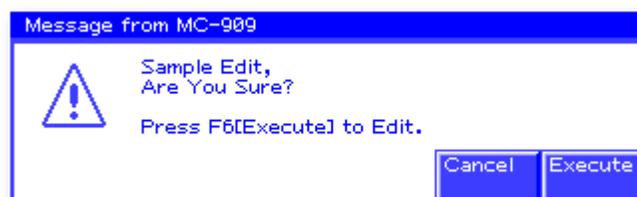
9. Press F6 (Execute) to finish truncating the sample.

Normalizing a Sample

Normalizing is a process that guarantees that a sample is at its absolute optimum volume by boosting the sample's level if necessary. Let's normalize our groove.

1. Press the NORMALIZE button to display the Normalize screen.

2. Press F4 (Overwrite) to checkmark it so that the normalized version of the sample replaces the original version in the live sample memory.

3. Press F6 (Execute). The MC-909 asks if you're sure you want to proceed.

4. Press F6 (Execute) to finish normalizing the sample.
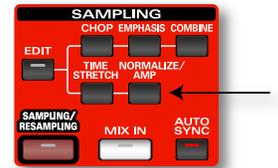
Saving a Sample

As we discussed earlier, the MC-909's live sample memory is cleared when you turn off the MC-909. To preserve a sample, you must save it in the MC-909's user memory or an a SmartMedia card. Let's save the sample we've captured to user memory.

1. Press WRITE. The Write Menu screen appears with Sample already selected.

2. Press ENTER to display the sample naming screen.

3. Name the sample "TR 27 Sample" for our purposes.

4. Press F6 (Write). The MC-909 presents sample-writing locations in its user memory.

5. Select an unused user memory location in which to store the sample. For now, you can select User Location 001.

> The MC-909 protects your work by not allowing you to store a new sample in a location that already contains an older one. To replace a stored sample, you must manually delete it first. See Page 123 in the *MC-909 Owner's Manual* for further information.

6. Press F6 (Write.) The MC-909 asks if you're sure you want to proceed.

7. Press F6 (Execute) to finish storing the sample in user memory.

Creating a Sample-Playing Patch

In order to use a sample you've captured and saved, you've got to set up a patch that plays the sample. As we mentioned earlier, any MC-909 patch can play your samples, all by themselves or along with PCM waveforms.

The quickest way to create a sample-playing patch is to use the MC-909's Create Patch feature—this feature instantly sets up a patch that plays the currently selected sample. Our sample, TR 27 Sample is still selected, so let's fire up the Create Patch feature.

1. Press the SAMPLING EDIT button to return to the main sample-editing page.
2. Press F5 (Create Patch). The patch-naming screen appears.
3. Name the new patch "TR 27 Patch."
4. Press F6 (Write)—the Patch Write window opens, showing you a list of user and card patch memory locations.
5. Select the USER:001 memory location.
6. Press F6 (Write). The MC-909 asks if you're sure you want to finish saving the patch.
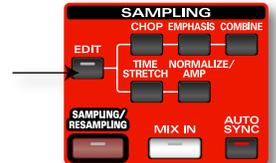
7. Press F6 (Execute) to proceed.

    The MC-909 now thoughtfully offers to assign the new patch to the currently selected part, Part 16.
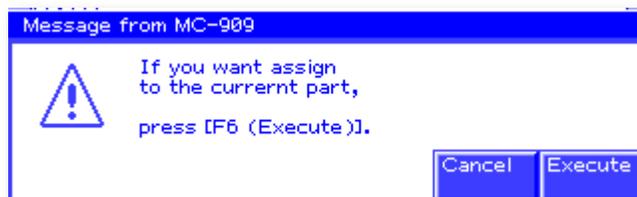
8. Let's take advantage of this time-saving suggestion. Press F6 (Execute). We've now saved a patch that plays our sample and have assigned the patch to Part 16.

In order to keep your sample and patch housekeeping as simple as possible, we recommend that you save samples and the patches that play them in the same memory area, as we have here. In other words, if you've saved your sample in user memory, save your patch there, too. This becomes especially useful when you're saving stuff to a SmartMedia card. By saving the samples and patches to the same card, you can be sure that any time you grab the card holding your patches, you'll have also grabbed the card containing the samples they play.

Auto Sync

The MC-909's powerful Auto Sync feature allows you to change a sample's timing so it fits perfectly into a pattern that uses a different tempo. Auto Sync is super-simple to use, as we'll see. Let's use Auto Sync to make our 90 BPM sample work with our 100 BPM pattern.

1. Make sure that Part 16—the part that plays the patch we just created—is selected.
2. Press the AUTO SYNC button so it lights. That's all there is to it.

   Remember how we set the sample's tempo during editing? This gave the MC-909 all it needed to know in order to do the necessary Auto Sync math.

   Let's listen to what just happened.
3. Press PLAY so Get Started! plays.
4. Press VELOCITY PAD 2 on the first beat of the pattern, and listen to how our originally-90-BPM sample now plays in time with the 100 BPM pattern.
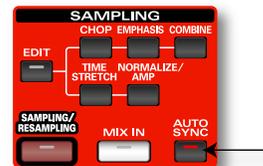
> Whenever you want to re-time a sample to fit a pattern, select its part and turn on Auto Sync.

5. To really lock our sample in, let's record a part using it.
6. Press REC, and then F1 (Realtime).
7. Set Quantize Resolution to 1/4 notes this time to make sure we plant our groove right on the beat.

   Here's what's going to happen.

   You'll play the loop twice: once at the top of the pattern, and again at Measure 3—if you're unsure of where Measure 3 starts, you can watch the onscreen counter.

   Each time you press VELOCITY PAD 2, you'll hold it down for two measures so the groove keeps playing. Here we go.
8. Press PLAY, and after the countoff, press VELOCITY PAD 2 at the very first beat and hold it down.
9. At Measure 3, press and hold VELOCITY PAD 2 again.

> If you need to, you can erase notes and then re-record them as we described earlier.

10. At the end of the pattern, press STOP, TOP, and then PLAY to hear how the drum groove totally locks in.

To hear the sampled groove, you've got to play the pattern from the top. If you start playback in the middle of the pattern, you won't hear the sampled groove until the next time it starts playing, at Beat 1 or 3.

Tweaking the Mix

Let's adjust the volume balance between our parts to make the mix a bit better-sounding.

1. Press MIXER ASSIGN—the MC-909 presents its built-in mixer.

Faders control the boxed parts
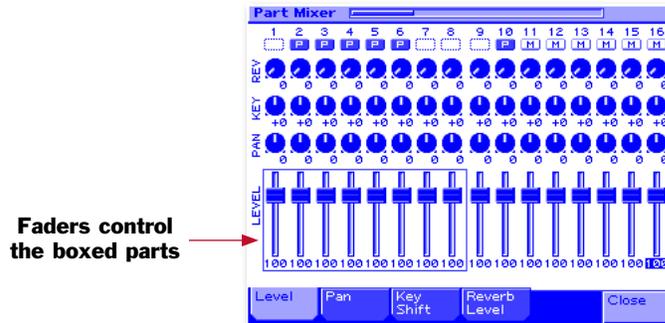
Though we'll only be adjusting volume here, you can see that you can also set each part's stereo panning, pitch and reverb from the Part Mixer screen.

The part mixer's eight physical faders can control the settings for eight of the current pattern's parts at a time. To select the set of eight parts that the faders control, you press the PART ASSIGN button so it's unlit or lit. When it's:

• *unlit*—the physical faders control Parts 1-8.

• *lit*—the physical faders control Parts 9-16.

Onscreen, a box encloses the currently selected parts, as shown in the illustration above.

2. We want to adjust the level of Part 10, our drum part, so press PART ASSIGN so it's lit. You can see that the onscreen box now surrounds Parts 9-16.

3. Using the second fader—the one above Parts 2 and 10—set Part 10's level to 55.

4. Ah, that's better! Press STOP when you've had enough.

Before moving on, let's re-save our pattern. We'll need it in the next section.

5. Press WRITE, then ENTER. Press F6 (Write) twice and then F6 (Execute).

Resampling

Once you've created some big, monstrous sound—by recording a pattern or by playing, or by adding some of the MC-909's amazing effects—you can "resample" the whole thing. When you resample, the MC-909 makes a new sample from the audio coming out of its own outputs. Since this is all done digitally, you can sample and resample over and over, and it can sound better and better and better. This is a great way to build up insanely rich, complex sounds.

You can also stretch a pattern way beyond its 16 parts by filling up all of the parts, resampling and then creating a new pattern with the sample played by a single part—this'll leave you 15 free parts for additional performances, or even more resampled stuff.

Let's learn how to resample using Get Started!

1. Press the round PART 8 button to select the unused Part 8.
2. Press SAMPLING/RESAMPLING to go back to the Sampling Menu.
3. Press F2 (Resampling). The Sampling Standby screen appears.
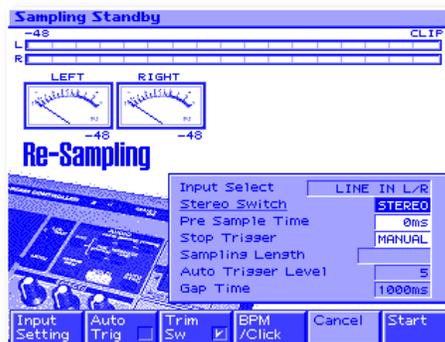
The parameters on this screen are pretty much the same ones we saw when we first sampled. One difference, though, is that we can no longer change the Input Select parameter—with resampling, the MC-909 *always* listens to its own outputs. There's also no level to be set—turning the OUTPUT and INPUT knobs does nothing here—the MC-909 automatically takes control of levels in resampling.

4. Let's set the other resampling parameters as follows:
    *   *Stereo Switch*—We'll leave this one alone since we want to resample Get Started! in stereo.
    *   *Pre Sample Time*—is fine at 0ms.
    *   *Stop Trigger*—Since we know the length of our pattern—16 beats—we can take advantage of the MC-909's Stop Trigger feature. Set Stop Trigger to BEAT.
    *   *Sampling Length*—The MC-909 automatically sets this to 16. (You're not the only one who knows how long the selected pattern is!)
    *   *Auto Trigger Length and Gap Time*—These parameters have no bearing on what we're doing.
5. Press F2 (Auto Trig) and F3 (Trim Sw) to checkmark them.
6. Press TOP to make sure we've returned to the beginning of the pattern.
7. Press PLAY—Get Started! is resampled. The MC-909 stops resampling when it reaches the end of the pattern. The pattern also automatically stops playing after 16 beats.

8. Press VELOCITY PAD 2 to hear The Pattern Formerly Known as Get Started!, which is now The Sample Known As Whatever You Name It. In fact, you can play any pad to hear the resampled pattern at different pitches and speeds.

> When you've resampled as we just have—using the Stop Trigger feature—there's no sample trimming required; it's already perfectly 16 beats long. Also, the MC-909 steals the pattern's BPM setting and applies it to the sample, so it's already set correctly to 100 BPM without our having to manually set it.

Chopping a Sample

One of the handiest of the MC-909's talents is its "chopping" ability. Chopping allows you to "slice" up a groove or a sampled series of sounds into individual samples. Once chopped up, these individual samples can easily be assigned to their own pads for playing. In the MC-909, you can chop up a sample manually wherever you like, or you can let the MC-909 do it for you using its AutoChop feature.

Let's see how Auto Chop works using the resampled pattern we just made.

1. Press CHOP—the Chop screen appears.
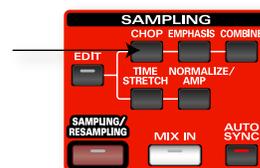
2. Press F4 (Auto Chop)—the Auto Chop window opens.

You can set Auto Chop to divide up a sample by:

• *Level*—so Auto Chop divides sample the each time its volume reaches a specified level.
• *Beat*—so Auto Chop divides the sample at each beat. It knows where the beats are since it knows the sample's BPM setting.
• *Divide X*—sets Auto Chop to divide the sample into a specified number of equal chunks.

3. For our example, set Auto Chop to Beat.
4. Press ▼ and turn VALUE to set Beat to 1/2 notes.

5. Press F6 (Auto Chop). The MC-909 takes a moment to divide up the sample into two-beat chunks. When it's done, it assigns each chunk to a pad. VELOCITY PADS 1-8 light up, with each one playing two beats from the sampled pattern.

6. Try twisting the resampled pattern around by playing the pads in any order that amuses you.

7. Since this works fine for our example, press F6 (Execute).

> When you're setting up an Auto Chop on your own, you can try different Auto Chop settings. Press F6 (Execute) when you're satisfied with what you've got, or F5 (Cancel) and then F4 (Auto Chop) to try out other settings.

8. When the MC-909 asks if you're sure you want to proceed, press F6 (Execute) again. The MC-909 chops the sample—saving each chunk into user memory—and lays them out across the first eight VELOCITY PADS.

9. When the MC-909 asks if you'd like to create a rhythm set that plays your chopped-up, resampled pattern, press F6 (Execute), name the rhythm set anything you like, and finish saving it. You can save it to the first rhythm set memory location, USER:001.

10. Finally, when the MC-909 asks if you'd like to assign the new rhythm set to the current part, press F6 (Execute). The chopped pattern is now a rhythm set assigned to Part 8.

11. Re-save the pattern by pressing WRITE, F1 (Ptn), and then ENTER. Press F6 (Write) twice and then F6 (Execute).

Automatically Loading Stored Samples into the Live Sample Memory

You may prefer to leave the live sample memory empty on power-up, ready to capture a new bunch of samples. Otherwise, though, you can set the MC-909 to automatically load your samples—such as the ones we just captured—when it powers up. It can automatically load:

• samples stored in user memory and on any currently installed SmartMedia card.

• the factory preset samples that the MC-909 demos and preset patches use.

Here's how to set up your MC-909 to automatically load samples at power-up.

1. Press EXIT repeatedly if necessary to display the Pattern Play screen.

2. Press MENU—the main menu appears in the display with System selected.
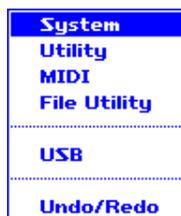
3. Press ENTER to display the System Menu screen.

4. Press F4 (Sampling) to display the System/Sampling screen.

5. Select the samples you'd like the MC-909 to load at startup. To load:
   - *the factory preset samples*—set Preset Default Load to On.
   - *all of the samples in user memory and on the currently installed SmartMedia card*—set Sample Default Load to On.

Note that when you turn on Sample Default Load, all of the samples from both user memory and your SmartMedia card are loaded. There's no way to automatically load user memory or the contents of a card separately.

It only makes sense that you shouldn't try and load more stuff into the live sample memory than you've got room for. If your live sample memory is only 16 MB, and you try to automatically load all of the contents of user memory and a 128 MB SmartMedia card—duh—it's not going to work. Take care to automatically load only what will actually fit into your live sample memory. Of course, the larger your live sample memory—which you can expand by adding DIMM chips—the less of a problem this'll be.

6. When you've finished setting the desired parameters, press F6 (System Write) to confirm your changes.
7. Press EXIT to return to the Pattern Play screen.

Swapping Files with a Computer

About the MC-909's USB Connection

The MC-909's USB connector makes it easy to swap files with your personal computer. In order to exchange data with the MC-909, your computer must have a USB jack. In addition:

- *Windows users*—must be running Windows ME/2000.XP or later.
- *Mac users*—must be running Mac OS 9.04 or higher.

Every USB plug and jack is labeled with this symbol

By connecting the MC-909 to your computer, you can move samples and sequences back and forth between the two machines. The computer sees the MC-909 as just another removable drive—like a CD or a Zip disk.

Movable Sample Files

As we mentioned earlier, the MC-909's samples are stored in its memory as industry-standard WAV- or AIFF-format sound files. Most audio programs can open and play these files, so:

- you can move samples from the MC-909 to a computer for more detailed editing, or to process them with software plug-ins before returning them to the MC-909.
- you can load samples into the MC-909 that you've collected on your computer from any one of a variety or sources, including sample CDs, friends and so on.

Both WAV and AIFF files are high-quality formats. If a particular computer software program prefers one over the other, you can set the MC-909 to store samples in the desired format. See the description of the Default File Type parameter on Page 129 in the *MC-909 Owner's Manual* for details.

Movable Sequences

The MC-909 can export its sequences as Standard MIDI Files. "Standard MIDI Files," or "SMFs," are sequences that are stored in the Standard MIDI File data format. Whazzis mean? It means this: Most modern software sequencers can load and play SMFs, and can export their own 16-track sequences as SMFs that the MC-909 can load. Therefore:

- you can move sequences (as SMFs) you've recorded on the MC-909 to a software sequencing program for further work or to add additional tracks.
- you can export 16-track (or less) sequences you've created on a software sequencing program to the MC-909 for more work, or to use in performance.

When you've moved an MC-909-recorded sequence to a computer sequencer, you can still use the MC-909's sounds by connecting the MC-909 to the computer via MIDI and using it as a sound module.

Preparing to Move Data from the MC-909 to a Computer

Getting Samples Ready

Before you begin moving samples, you'll need to be able to identify them. WAV/AIFF sample files are named on disk according to the user or card memory location they occupy—though a sample uses the name you created when it's in the MC-909, its disk file is named after its memory location.

To learn a sample's WAV/AIFF file name:

1. Press the SAMPLING EDIT button.
2. Press F1 (Sample List)—the Sample List screen appears.
3. Select the area of memory where the sample is stored. Press F2 (User) or F3 (Card) as desired.
4. Turn the VALUE dial—if necessary—to display the sample you'll be moving.
5. Look to the left of the sample's MC-909 name to learn the number of its memory location. This number will identify the sample when you see it on your computer.

6. Make note of the sample's number.
7. Repeat Steps 3-5 for any other samples you want to move.

Getting a Sequence Ready by Exporting It as an SMF

To move a sequence from the MC-909 to a software sequencer, you have to convert the sequence into an SMF. Here's how.

1. Press PATTERN and turn the VALUE dial to select the pattern containing the sequence you want to move.
2. Press MENU.
3. Select Utility and press ENTER to display the UTILITY menu.

4. Press F2 (Save as SMF)—the Save as SMF screen appears.
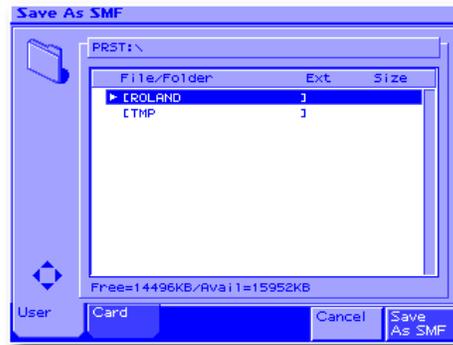
5. Press F1 (User) or F2 (Card) to select the area of memory in which you want to temporarily hold the SMF for transfer.

When the MC-909 is hooked up to a computer, it connects either its user memory or its card memory to the computer. You can hold your SMF in either area. After you've copied the SMF to the desktop or a folder on your computer, you can delete the SMF from user or card memory to free up space.

6. Press F6 (Save as SMF).
7. When the MC-909 asks if you're sure, press F6 (Execute) to finish exporting the sequence as an SMF.

Wiring and Activating the USB Connection

Hook-Up

Before you can turn on USB communication, you've got to physically connect the MC-909 to your computer using an A/B-style USB cable.

An A/B-style USB cable has a squarish USB plug at one end and a flatter USB plug at the other.

1. With the MC-909 powered off, connect the squarer end of your USB cable to the MC-909's USB jack, and the other end to a USB jack on your computer.
2. Power up the MC-909.

Activating the Connection

Here's how to establish USB communication between the MC-909 and your computer:

1. Press PATTERN to make sure you're on the Pattern Play screen.
2. Press MENU.
3. Select USB and press ENTER.

The USB screen appears.
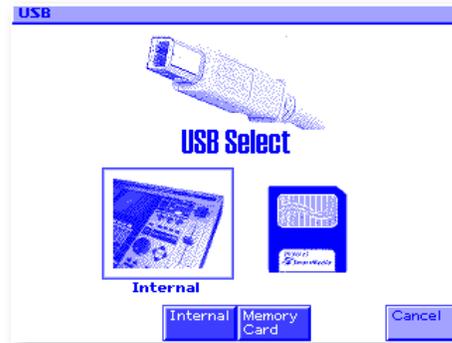
4. Select the area of memory you want to connect to the computer. To connect:
   - *your user memory to the computer*—press F3 (Internal).
   - *your SmartMedia card to the computer*—press F4 (Card).

   In a few moments, the MC-909 shows "Connected" to tell you that USB communication's been established with the computer. Then:
   - *on a Windows XP computer*—a window pops open showing you the contents of the area of memory your selected in Step 4.
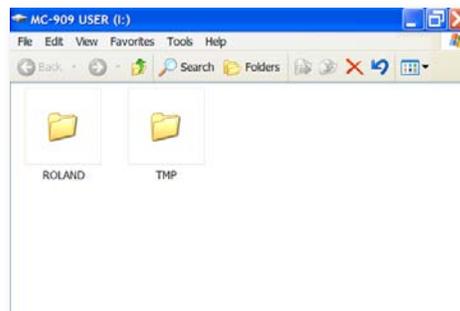
   - *on a computer running a different version of Windows*—an MC-909 USER or MC-909 CARD volume, depending on the area of memory you selected in Step 4, appears when you double-click My Computer.
   - *on a Mac*—an MC-909 USER or MC-909 CARD volume appears on the desktop, depending on the area of memory you selected in Step 4.

5. On a Mac and any PC computer other than one that's running Windows XP, double-click the volume to view its contents.

> While USB communication is turned on, the MC-909 displays its USB screen. To do other things on the MC-909, you must first turn off USB communication and exit this screen.

> When USB communication is turned on, be careful not to unplug the USB cables connecting the MC-909 and the computer. Just as important, both PCs and Macs must "eject" the MC-909 before USB communication is stopped—otherwise your data may become damaged. See your computer's documentation to learn how to eject removable media before turning off USB communication on the MC-909 itself.

Moving Files From the MC-909 to the Computer

Since the computer sees the MC-909 as just another disk drive, all you need to do to move files is to drag them to the desired location on your computer, such as its desktop or into a folder of your choosing. To locate and move:

- a *sample file*—double-click the ROLAND folder, double-click the SMPL folder, locate the desired WAV or AIFF file and drag it to the desired location.
- an *SMF*—look for the .MID file that has the same name as the pattern from which the sequence was exported, and drag it from the USER or CARD volume to the desired location on your computer.

Moving Files from the Computer to the MC-909

Once again, the computer sees the MC-909's USER or CARD volume as just another drive. As a result, all you have to do to move a sample or SMF from the computer to the currently connected area of the MC-909's memory is to drag it there.

We strongly recommend that you drag files to the root level of the USER or CARD volume, and not into the ROLAND or TMP folder. After you've dragged the file to its destination, you should see it in the same folder/view as the ROLAND and TMP folders, as shown here.

Disconnecting the MC-909 from the Computer

This is a two-step process. First, you've got to turn off USB communication. Next, you'll disconnect the two devices physically if desired.

> You don't *have* to physically disconnect the MC-909 and your computer. If you prefer, you can leave them connected and simply turn USB communication on or off as needed.

Turning Off USB Communication

> We said this already, but it bears repeating: To avoid damage to your data, don't turn off USB communication on the MC-909 until your computer has first ejected the MC-909 volume.

1. On the MC-909, press F6 (Exit).

> USB Disconnecting ...

USB communication is stopped and you're returned to the first USB screen.

2. Press PATTERN to return to Pattern Play mode.

Disconnecting the MC-909 From the Computer

1. Power down the MC-909.
2. Unplug the USB devices connecting the MC-909 to the computer.

Importing Samples and SMFs

Once you've moved files from a computer into the MC-909's user or card memory, you'll need to import them for use.

Importing a Sample

1. In you're not on the Pattern Play screen, press PATTERN.
2. Press MENU, and select UTILITY.
3. Press ENTER to display the UTILITY menu.
4. Press F3 (Import Wav/AIF)—the Import WAV/AIFF screen appears.
5. Select the sample—the .wav or .aif file—you want to import.
6. Press F6 (Import Wav/AIF)—the MC-909 asks if you're sure.

   The sample is loaded into live sample memory and selected. The MC-909 displays the Sample edit screen.

7. Save the sample into user or card memory by:
    - pressing WRITE
    - pressing ENTER
    - naming the sample
    - pressing F6 (Write)
    - selecting the desired memory location
    - pressing F6 (Write)
    - pressing F6 (Execute)

8. Create a patch that plays the sample by pressing F5 (Create Patch).

7. Save the new sample-playing patch to the same memory area into which you saved the sample.

Importing an SMF

1. In you're not on the Pattern Play screen, press PATTERN.
2. Press MENU, and select UTILITY.
3. Press ENTER to display the UTILITY menu.
4. Press F1 (Import SMF)—the Import SMF screen appears.
5. Select the SMF you want to import.
6. Press F6 (Import SMF)—the MC-909 presents a destination pattern list.
7. Select the pattern into which you'd like to import the SMF. You can select a used pattern—to replace its sequence—or an empty pattern.
8. When the MC-909 asks if you're sure, press F6 (Execute).

> If you're re-importing a sequence that started on the MC-909 back into an empty pattern, the pattern is assigned the same name as the pattern from which the sequence originally came.

Moving On...

Well, that's it. We've explored some of the MC-909's major features, and covered quite a bit of ground. Of course, the MC-909 is a feature-packed box and we've only scratched the surface.

Now that you know your way around, go have some fun with the MC-909. As you work on your own music, don't be afraid to dive into the *MC-909 Owner's Manual*. You'll find procedures, tips and at least a handful of eye-popping things you didn't know the MC-909 could do.

For more MC-909 materials—including demo videos and software updates—visit us at the Roland US Web site, *www.RolandUS.com*. If you need help with your MC-909, give Roland's Product Support specialists a call at 323-890-3700.

For the latest info on new products, support documents, upcoming Roland events and more, visit our Website, *www.RolandUS.com*.

24 hours a day, 7 days a week, you can receive a library of support materials and product information on your fax machine—and it's all FREE! Just call (323) 890-3780.

If it's a real-live person you want, we've got a team of Product Specialists that can't be beat. They're on call from 8:30am to 5:00pm PST Monday through Friday at (323) 890-3740.