A USERS GUIDE TO THE ROLAND BOUTIQUE
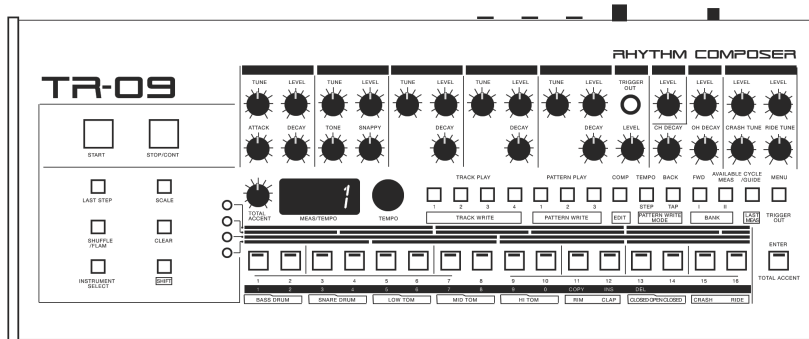
TR-09

RHYTHM COMPOSER

ACKNOWLEDGEMENTS:

This manual was assembled, illustrated, and written by Sunshine Jones. All of the contents is taken from either his personal experience, existing documentation, and techniques submitted and found in the public domain. The document is intended as a companion guide for the Roland Boutique TR-09 Rhythm Composer drum machine. It is in no way offered as a criticism, or intended to be an authoritative guide to replace the official documentation which accompanies the commercial purchase of Roland Boutique, or Roland AIRA musical instruments.

Rather, this manual is intended to support the musician, the user of these and other synthesizer modules and inspire them to create music, share sounds, and fully realize the drum machines in front of them.

In the tradition of owner's manuals, rarely are they opened until problems arise. We tell you over and over again to RTFM, but do you listen? No, no you don't. Manuals should be both tools for reference and instruction, as well as inspirational guides to possibility. An owner's manual should be equally a pre purchase discovery, meant to inspire the curious with capability and possibility, and a post purchase celebration of depth, technique, guidance, and surprises. But this is by no means the last word. So many people have read and re read a manual only to still have no idea what the manual was attempting to suggest. This owner's manual is offered free of charge to anyone curious, or frustrated by the tiny little leaflet which covers the operations of the TR-09 in several languages, as a legible alternative to the official documentation.

This manual is not associated in any way, personally or professionally with anyone connected to the Roland Corporation. The task was initially undertaken in a moment of fury, and assembled, proof read, and then hastily produced exclusively for love, and pleasure. It has continued mainly because of the pleasure it brings to create technical drawings, and re write these leaflets in a time when I am very, very busy.

It is our hope that as the result you will begin to explore and discover layers of rhythm and joy which were previously overlooked. We hope and trust that you will use the pattern worksheets to document your discoveries, and our extensive encouragement to share, and import patches and patterns of your own into a thriving community of exploration and delight.

If you wish to correspond with the author of this manual you may do so by navigating your web browser to the following destination:
http://sunshine-jones.com
The original article and a bank of patterns may be found within the non-fiction section of the site.

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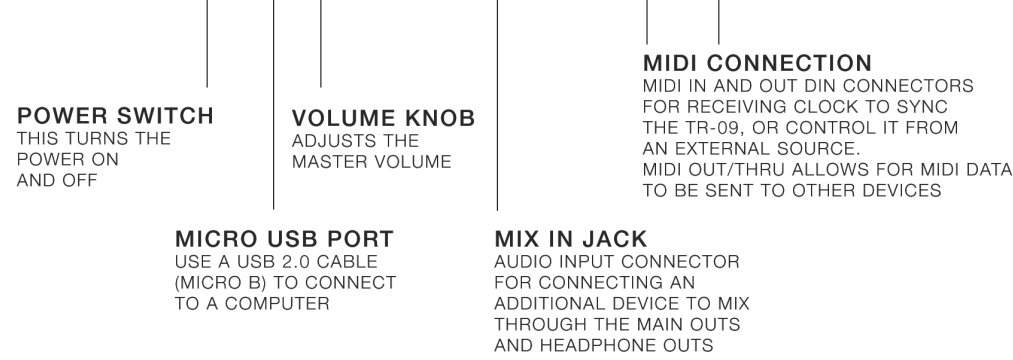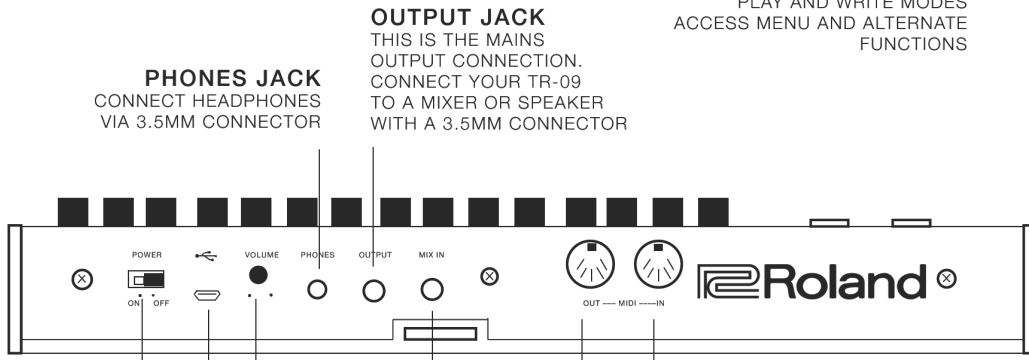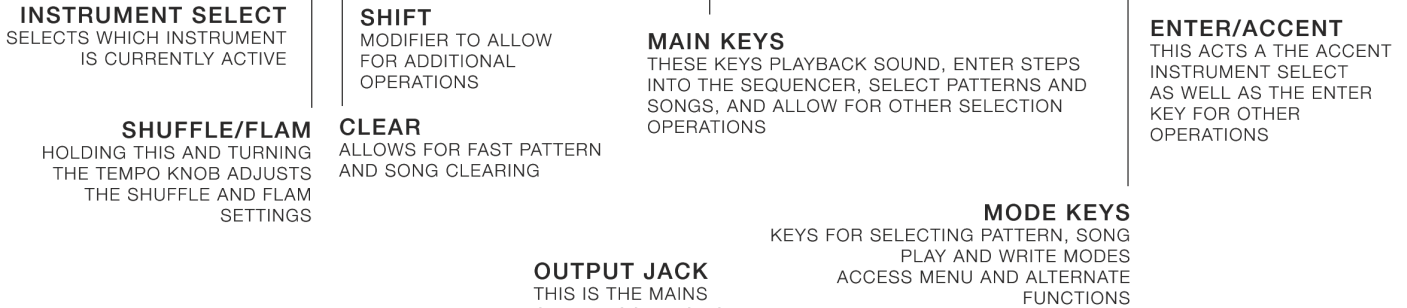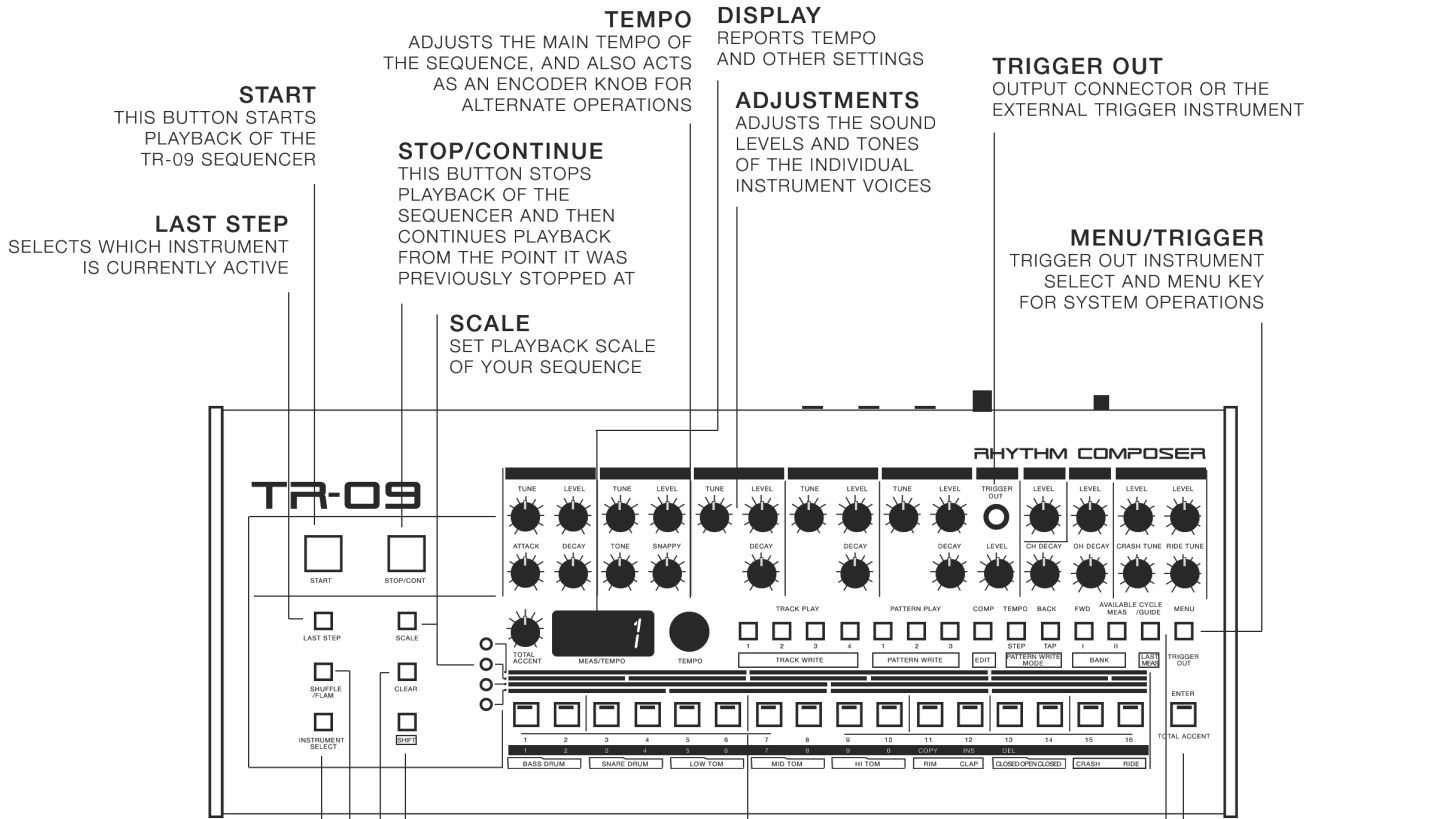
With **Love**

Sunshine Jones
October 2017
San Francisco, California

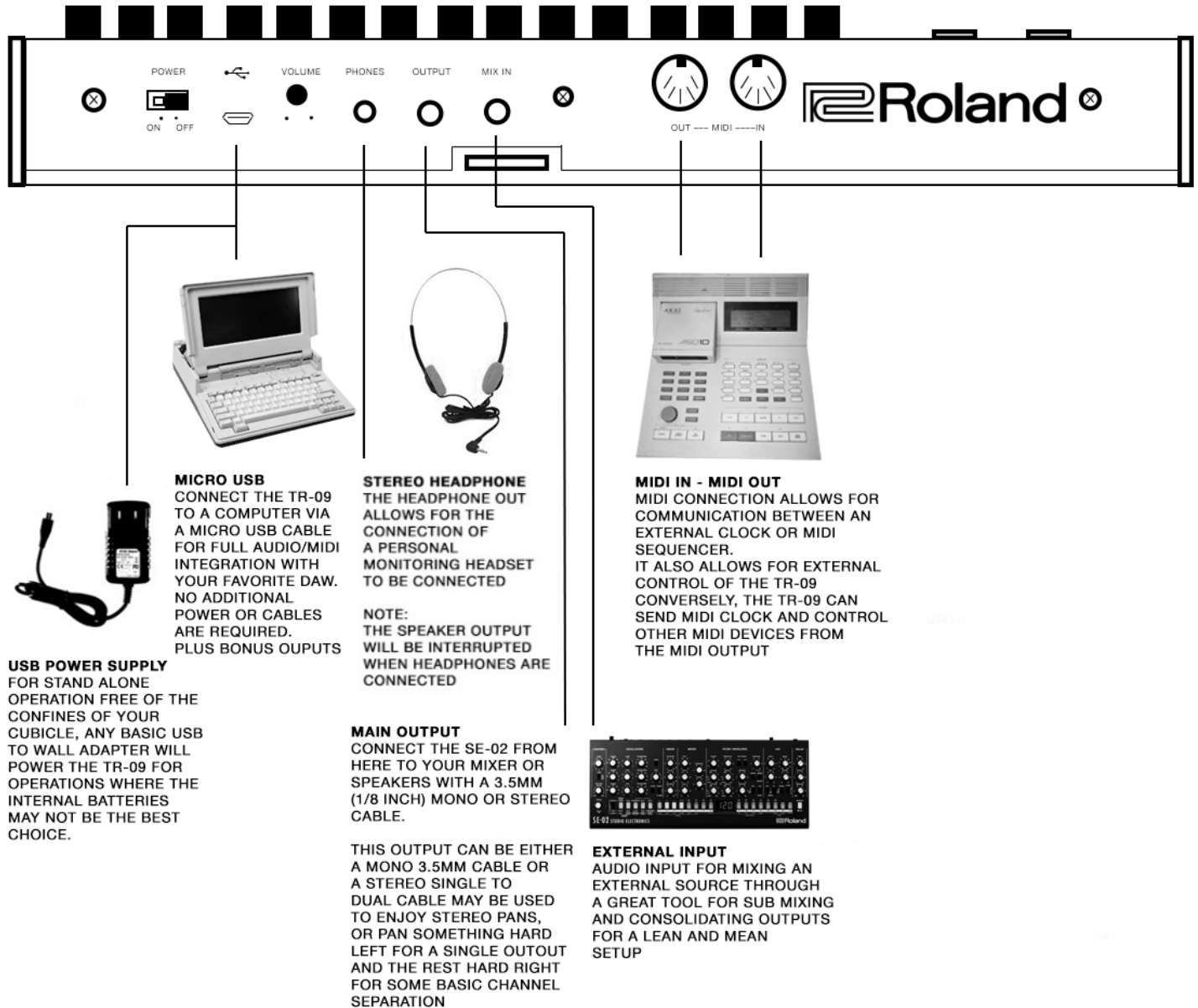Version 0.01

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MAIN OUTPUT
CONNECT THE SE-02 FROM
HERE TO YOUR MIXER OR
SPEAKERS WITH A 3.5MM
(1/8 INCH) MONO OR STEREO
CABLE.

THIS OUTPUT CAN BE EITHER
A MONO 3.5MM CABLE OR
A STEREO SINGLE TO
DUAL CABLE MAY BE USED
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NOTE - the use of the Tandy 1400TL™ for the purposes of illustrating a personal computer in this diagram does not suggest that a Tandy 1400TL™ will work in this instance. The fact is, the Tandy 1400TL™ doesn't even have a USB port on it, nor do we know of a currently produced or functional serial bus to USB adaptation technique. The Tandy 1400TL™ was used in this illustration because it looks cool, it fit into the graphic nicely, and also perhaps to subconsciously introduce the idea that perhaps a computer is less of an inspirational musical instrument in the end than we might have originally hoped it would be. The idea of computers and music was once a thrilling concept - what sequencer isn't a computer of sorts, right? And yet as the world funnels down into tiny screens, and distraction it seems that our focus might be better placed into a more diverse and authentically inspirational tools which give back in a deeper and broader way.

INTRODUCTION

The TR-09 is a sound module that uses cutting edge modeling technology to faithfully model the Roland TR-909 drum machine which went on sale in 1983. In addition to its compact size, it allows battery-powered operation and contains a small speaker. You'll be able to enjoy full fledged TR-909 sound anywhere.

• The TR-09 can operate on batteries or on USB power. If you are using batteries, insert four AA batteries, making sure that the batteries are oriented correctly.
• If you handle batteries improperly, you risk explosion and fluid leakage. Make sue that you carefully observe all of the items related to batteries that are listed in the "USING THE UNIT SAFELY" and "IMPORTANT NOTES" leaflet that came with your machine.
• When turning the unit over, be careful so as to protect the buttons and knobs from damage. Also, handle the unit carefully. Do not drop it.
• When the batteries run low, the "btLo" blinks on the display. Replace the batteries as soon as you can and this message will go away.

From the Roland Web Site regarding the TR-09:
The influence of the TR-909 drum machine is still heard—and felt—more than three decades after it was launched. Now, the 909 sound is available as part of the Roland Boutique series in the form of the TR-09. Featuring the same front-panel layout and user interface of the original, the TR-09 is powered by Roland's ACB technology, delivering the speaker-pummelling power of the TR-909 in a super-affordable and portable format. Offering precise control over an array of drum parameters and the ability to keep playing when switching modes, the TR-09 may be compact, but it still has the power to move people. Studio sessions are well catered for too, with four separate outputs via USB audio, external instrument control via a trigger output, and USB MIDI.

909 Power via Roland's ACB Technology
The original TR-909 blended analog kick, snare, and tom drums with six-bit samples for the hi-hats and cymbals. This hybrid approach to sound generation meant that the 909 sounded like no other drum machine. Accurately recreating such an influential sound while retaining the ability to edit and tweak the various parameters is only possible via Roland's ACB (Analog Circuit Behavior) technology, which is also found in the popular AIRA series.

Connect with External Gear
The TR-09 is designed to easily connect with other gear. The main stereo mini-jack output can also be reconfigured to send the selected instrument to the right channel, with the other instruments output to the left. A mix input routes external audio through the main outputs, while the trigger output lets the TR-09 drive vintage analog synths such as the SH-101 or JX-3P, or modern gear like the current SYSTEM-500 modular series. Sync and control other gear via standard MIDI ports or USB, and even send the audio of four individual drum parts via USB to continue working in your favorite DAW.

USB Audio Interface for Direct Recording to Your DAW
Via its USB port, the TR-09 also functions as a high-quality audio interface, providing a simple and reliable way of recording directly to your DAW application. You can even send individual drums to separate channels, thanks to the TR-09's four discrete outputs over USB. Saving your favorite settings and sequencer patterns is easy too via the USB data backup function.

Classic TR-REC Sequencer with Enhanced Functions
Dedicated TR-909 users will recognise the classic TR-REC style of programming found in the TR-09, with a choice of Step or Tap write modes. You can even change modes while the pattern continues playing, something not possible on the original. The TR-09 sequencer has 16 steps, and each has 16 sub-steps so you can fine-tune your performances. And just like the original TR-909, the Shuffle/Flam parameter can be selected using the buttons—but if you need greater control, simply use the display and rotary encoder to perfect your pattern.

Battery or USB Bus Power
Some of the best music is made away from the studio, so the Roland Boutique series runs on 4 x AA batteries, ready for when inspiration strikes. Alternatively, you can power the TR-09 with USB bus power.

I. INSTANT GRATIFICATION
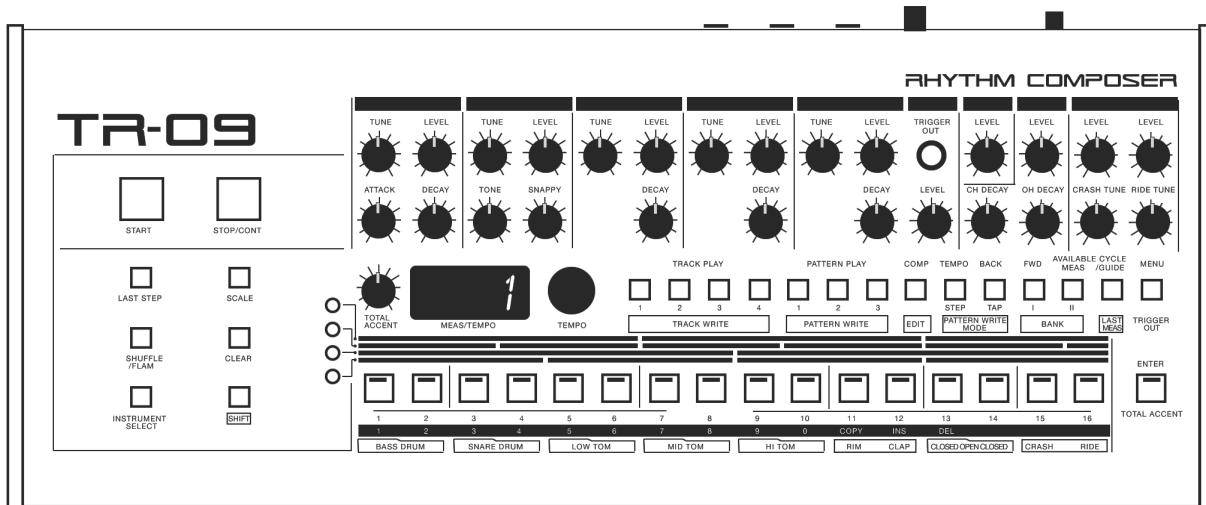
There's nothing worse that getting a new thing and then being confronted with questions you didn't expect and tiny little instructions in a leaflet that you can never re fold correclty before you get to deeply enjoy, or even just casually check out your new instrument. Drum machines are more difficult than your average synth, because with synthesizers there are keys to play, and patches to step through and you can find yourself playing your favorite Mr. Fingers jam and singing at the top of your lungs in no time. But with a drum machine it's usually a situation where you turn it on, and press play and things happen, but you haven't connected headphones or the speakers yet, so you pause, and hook up the wires and then press play again. Then you hear some messed up track mode rendition of the preset patterns and it's a let down.

To avoid this let's look at how to make some sounds with your fingers right now, and then how to play a few of the preset patterns and avoid track mode all together for the moment, shall we?

PLAYING SOUNDS
The TR-09 boots up in TRACK MODE. That's the song mode we were talking about above. The onyl thing TRACK MODE is good for besides sequencing your own patterns together into your own song is auditioning sounds.

So no need to look at MODE just yet, have a go and press the BASS DRUM main key. Hear anything?
The TR-09 has a speaker, so you should hear something. If you don't take a look and check three things:
1. Is the volume up on the back of the TR-09? Turn that black knob at the back and see that it's at least at 12 o'clock
2. Is the volume up on the BASS DRUM sound knobs? Make sure it's at least at 12 o'clock
3. Is there a cable connected to the main output? Inserting a cable there will cut off the sound of the spaker. So if there's something plugged in, but it isn't connected to the speakers, or isn't on yet, then you won't hear anything.

Play the sounds.
Mess with the knobs.
Sounds like a TR-909 doesn't it? Isn't that just completely awesome?

PLAYING PATTERNS
To play a pattern you need to get into PATTERN PLAY MODE
Look across the MAIN section and just below, and right in between the MID TOM decay button, and the HI TOM tune button is the PATTERN PLAY section.
Press PATTERN PLAY I
Now press MAIN KEY [1-16] it's a gambler's world, so the choice it yours. I would personally start at 1 and then go to 2, and then 3 and so on, but you can choose whichever you like.
Press START

Now a pattern should be playing. If you bought the machine second hand, that means someone may have added their own patterns, or dutifully erased all the patters so this could explain why
A. there's no pattern playing, or
B. why it's a total mess and you hate it. Select a few more patterns and listen.

Mess with the knobs and the volume controls. Sounds like a TR-909 drum machine playing someone else's patterns doesn't it? That is so exciting. Damn.

Ok, now let's get into this and figure out what things do and how things work and start making out own situation come together, ok?

II. GENERAL FUNCTIONS
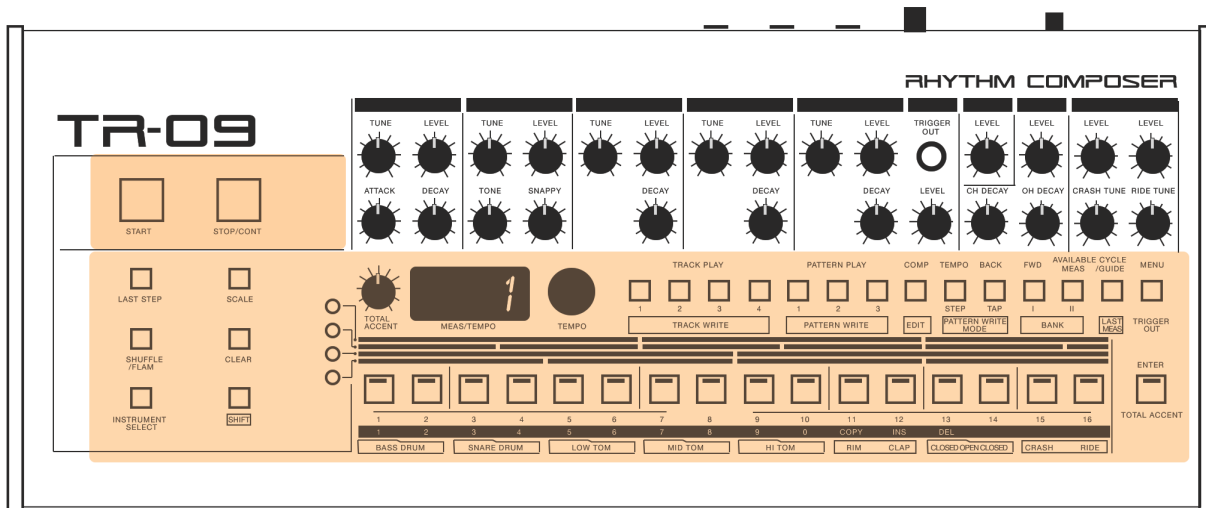
COMMON SECTION

The common section of the TR-09 Rhythm Composer includes everything you need to program and play rhythm patterns, pattern chains, tracks, and also access to the system and internal sound sections for extended editing, and sound creation operations not immediately available on the front panel. In this section there is also the master tempo knob/data wheel, real time access to the pattern length, shuffle and flam amounts, instrument selection, compression amounts, gain adjustment, tune, decay, pan, midii channel selection, sync source options, automatic shut off timing, access to the LED demo settings, a choice of programming modes, USB audio/midi output assignments, output assignment for the physical 3.5mm output connection, and a scale button lock so the scale doesn't change in a performance or during composition by mistake. The common section also features the main start and stop/continue transport buttons, and a shift button for accessing alternate modes for writing, and editing, and there's a clear button for swift and simple erasure of entire tracks and patterns.

TRANSPORT

The transport section of the TR-09 is how we start and stop the instrument's internal sequencer. It seems basic enough, but there are some things to know.

START - begins playback when sync is set to AUTO or INT and no other incoming clock is present. If sync is set to AUTO and another clock is in control, the internal tempo will be ignored and the display will show —- to illustate that another clock is synchronizing the TR-09. INT sync settings will ignore any other incoming clock source, but then you must be sure that the TR-09 is the master clock in your particular situation if syncronization between devices is desired.

STOP/CONT - stops playback of the internal sequencer regardless of the clock source. Pressing CONT will resume playback from the point at which the squence stopped. To begin again from the beginning after pressing STOP, press START and you will being the rhythm again from the first beat of the pattern.

SYNC

To select sync settings, press the MENU button and use the TEMPO knob to scroll through the options. When you arrive at SYNC, press the ENTER key and select between your options. Once selected, press ENTER again to return to the MENU. Press Menu again to return to the TR-09 main section.
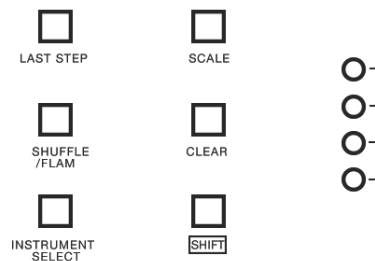
[MENU] - 1. CH 2. SYNC 3. A.OFF 4. dEMO 5. PrG.n 6. USb1 7. USb2 8. USb3 9. USb4 10. OUT 11. SCAL
[SYNC] 1. AUTO 2. INT

TEMPO

The tempo knob serves two primary purposes:
1.   To set and adjust the internal tempo of the drum machine
2.   To act as a rotary encoder for various sub functions to make adjustments to settings

LAST STEP

The last step function is a way to set the length of the pattern being played. the choices are 1 - 16 steps and this can be adjusted during playback. For example the basic sequence length of the TR-09 in the default scale is 16 beats. Holding down the LAST STEP button allows you to change this length from 1 (a looping first beat only) to 8 (half of the pattern) to 16 (the entire pattern again) and all stages in between.

To adjust the LAST STEP
Press and hold the [LAST STEP] button.
Either select the length from the [main keys] 1-16
Or scroll the [tempo knob] and choose this way

The change is instant, and these is no benefit to choosing with either the temo knob or the main buttons, but play with this and see which way makes more sense to you personally. It's esy to screw up when messing with this, so a little practice can build confidence. The results are pretty fun in a performance.

NOTE - Last Step is a very nice feature for live improvisations, but it does not stay. This feature does not actually change the length of the pattern as a saved length. Rather, it only lasts for as long as you are holding down the [LAST STEP] button. When you release the button, the length returns to 16 at the next [1] beat.

SCALE & BACKBEATS

SCALE is the method of adressing the timing of the pattern's rhythm. The TR-09 allows you to choose between 16th note triplet (where 6 notes will be one beat,) 8th note triplet (where 3 notes will be one beat), 32nd note (where 8 notes will be one beat), and 16th note (where 4 notes will be one beat.)
To adjust the SCALE
First note that unless you are in PATTERN WRITE mode the SCALE button will not do anything.
To enter PATTERN WRITE mode hold the [SHIFT] button and press the [PATTERN PLAY] button. This puts you into PATTERN WRITE MODE. More about MODE later on.
Press the [SCALE] button and select

O - 16th Note Triplet
O - 8th Note Triplet
O - 32nd Note
O - 16th Note

In standatrd dance, or popular music the 16th note scale is most common, but scale can be used to play with time and deliver interesting and more complex rhythms. Maybe don't just stick to 4/4 16th note scale and struggle, why not play with time a little and see what it feels like?

BACKBEAT is a micro adjustment of any given beat in the 16 step grid. In effect it is a process of applying a different scale to an individual beat as opposed to the whole pattern.

To apply a BACKBEAT, note that this only works in PATTERN WRITE mode just like the scale function above.
Once in PATTERN WRITE mode, choose the instrument you wish to apply a BACKBEAT to
Hold [INSTRUMENT SELECT] and press the MAIN KEY [1-16] which represents the instrument you wish to work with
Hold the [ENTER] button, and press a MAIN KEY [1-16]

Notice how basically you now have access to the steps surrounding the main SCALE and can create lovely triplets, and agressing tom rolls and fills and trill the cymbals wihtout having to choose a whole different scale or multiple patterns to do so. Mess around with this. Don't blow it off. It's very cool.

SHUFFLE/FLAM

SHUFFLE is essentiallythe same thing as what we refer to as swing. The higher the number [-50 - 0 - 50] the greater the amount of positive swing, the lower the number the greater amount of negative swing, and at 0 there is no swing at all. SHUFFLE is a way of pushing the beat away from the beat and adjusting the rynthm's time signature in between the beats. An extreme shuffle is literally swinging the beats from the 1 count. Subtle amounts can deliver a feel or a little bit of softness to an otherwise stiff and computer sounding rhythm.

Setting the SHUFFLE amount
This can only be done in PATTERN WRITE mode.
Hold the [SHUFFLE/FLAM] button and perform one of two options
1 - Select between MAIN KEYS [1-7] to choose preset amounts
2 - Rotate the TEMPO knob and manually dial in a value which feel right [-50-0-50]
MAIN KEY [8] turns SHUFFLE OFF

FLAM is the rhythmic effect of a double hit. Two beats so close together they create an interesting, driving rhythmic result. FLAM is made with two hands, and the settings here allow you to adjust the space between each hit.
Setting the FLAM amount
This can only be done in PATTERN WRITE mode.
Hold the [SHUFFLE/FLAM] button and perform one of two options
1 - Select between MAIN KEYS [9-16] to choose preset amounts
2 - Rotate the TEMPO knob and manually dial in a value which feel right [0-50]

PROGRAMMING A FLAM
FLAM may be entered only for BASS DRUM, SNARE DRUM, LOW TOM, MID TOM, and HI TOM.
This operation is best when applied in STEP WRITE MODE.
1. Hold down [INSTRUMENT SELECT] and press one of the MAIN KEYS which reflect the intstrument you wish to FLAM. Press BOTH of the instrument's MAIN Keys in order to define the FLAM entry. So for example if you were going to FLAM the bass drum, when selecting the instrument you would choose both MAIN KEY 1 and MAIN KEY 2 at the same time. In effect you then have selected a FLAMMED BASS DRUM as the instrument.
2. In PATTERN WRITE mode, wiht the sequencer running select which step the FLAM will happen on
3. Hold down the [SHUFFLE/FLAM] button and press the FLAM keys [9-16] and select the spacing you like best. Higher numbers produce greater spacing, and you can also use the TEMPO knob to refine the details.

CLEAR

The clear button is used for clearing the current pattern or track. Doesn't do anything when you are in PATTERN or TRACK PLAY mode.

To clear a pattern enter **PATTERN WRITE** mode
Hold [**SHIFT**] and press the **PATTERN** or **TRACK** bank you want to erase in. The bank button blinks, indicating that you are in **WRITE** mode.

Clearing a pattern
Hold down the [CLEAR] button and press one of the main keys [1]–[16] to select the pattern that you want to clear.

Holding down [CLEAR] and pressing all of the patterns you want to clear is a fast way of preparing a bank for new patterns.

INSTRUMENT SELECT

This is how you select which sound the current grid is programming.
Hold down the [INSTRUMENT SELECT] button and press one of the main keys [1]–[16] to select the sound that you want to record.

NOTE - To select the Open Hi Hat press both [13] and [14] (similar to how we program the FLAM.)

SHIFT

The SHIFT key actis as a modifier key so that some of the keys may perform secondary functions.
[SHIFT] + [TRACK PLAY] = TRACK WRITE MODE
[SHIFT] + [PATTERN PLAY] = PATTERN WRITE MODE
[SHIFT] + [COMP] = EDIT MODE
[SHIFT] + [TEMPO] = PATTERN WRITE MODE STEP
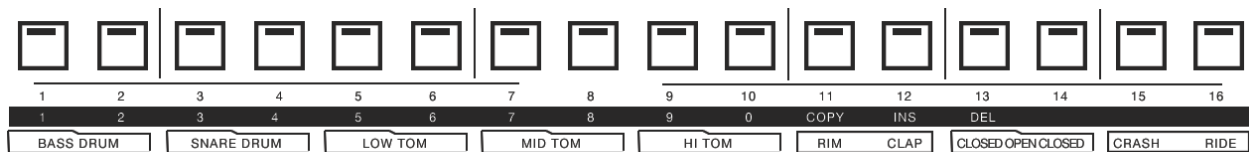[SHIFT] + [BACK] = PATTERN WRITE MODE TAP
[SHIFT] + [FWD] = BANK I
[SHIFT] + [AVAILABLE MEASURE] = BANK II
[SHIFT] + [CYCLE/GUIDE] = LAST MEASURE
[SHIFT] + [INSTRUMENT SELECT] + [ENTER] = SOLO/MUTE
[CLEAR] + [SHIFT] + [INSTRUMENT SELECT] = CLEAR ALL MUTE/SOLO

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8	9	0	COPY	INS	DEL			
BASS DRUM		SNARE DRUM		LOW TOM		MID TOM		HI TOM		RIM	CLAP	CLOSED OPEN CLOSED		CRASH	RIDE

MAIN KEYS

The main keys are the keys which present the instruments to select between, illustrate the shuffle/flam timing, and display the grid for step sequencing on the TR-09.

MODE

There are two main modes for the TR-09

PLAY
You can playback, chain, mute, solo, and adjust your patterns and track and edit your sounds in PLAY MODE

WRITE
You can clear and write patterns and tracks in WRITE MODE

Switching between banks is also a function of MODE
[TRACK PLAY] + [1-4] selects between the available tracks
[SHIFT] + [TRACK PLAY] + [1-4] sets the TR-09 into WRITE MODE and selects between the available tracks
[PATTERN PLAY] + [1-3] select between the three banks of pattern memory available
[SHIFT] + [PATTERN PLAY] + [1-3] sets the TR-09 into WRITE MODE and selects between the three banks of pattern memory available

USB INTERFACE

In the past many synthesizers came equipped with various interfaces. Connection methods like CV and Gate, Din Sync, S Trig, DCB, Tape I/O allowed synthesizers to connect to clocks, tape machines, sequencers and drum tracks. Thanks to the universal serial bus with which most personal computers are equipped today we have a number of interesting ways to handle these once complicated and tedious operations.

The USB connection port can be used to:

• Pass midi as well as audio data to and from a computer based DAW
• Mount the Drum Machine to the desktop of a computer and backup and/or restore and share your patterns.
• Mount the Drum Machine to the desktop for software updates.

DATA BACKUP & RESTORE

One of the coolest things about the boutique line of modules is their ability to mount onto the desktop of any USB enabled computer and you can drag and drop your patches in order to save them. This is much handier than the old fashioned midi librarian software, or the ancient and rarely reliable tape backup interface (although that actually is a thrill and you might want to try it sometime.)

MEAS/TEMPO

Display after pressing ② and before pressing Enter .

Pilot Tone

File Number "1" found

MEAS/TEMPO

Approx. 0.6 of a second

Modulated Tone

Waiting for the next Pilot Tone

Pilot Tone

File Number "2" found

Here, File Number is not shown in the Display.

Modulated Tone

MEAS/TEMPO

Data reading completed

Approx. 0.6 of a second

MEAS/TEMPO

Normal Track Play mode.
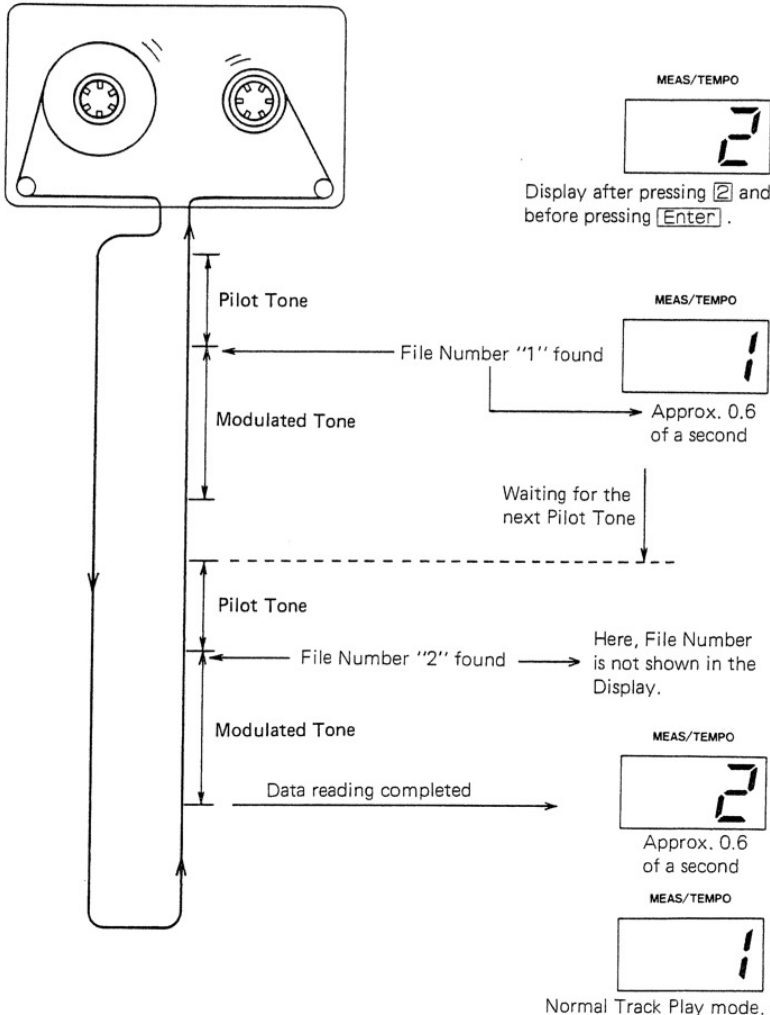
To mount the TR-09 to your desktop follow this procedure:

1. Use a micro USB cable with a standard USB connector on the end.
2. Connect the micro end to the TR-09 and restart the synth holding down the [START] button.
3. All the lights come on, and this means the TR-09 is awaiting connection to the computer.
4. Connect the USB cable to the computer and a drive icon named TR-09 will appear on the desktop. It takes a second, but it does its thing.

To create a backup of your patterns:

1. Follow the above procedure for mounting the TR-09
2. Copy the backup files from the TR-09 drive into an appropriately named folder on your computer
3. Once you're done, eject the TR-09 drive, disconnect the USB cable.
4. Once noted you may power cycle the TR-09 and you're done.

To bring patterns from your computer into the TR-09:

1. Follow the above procedure for mounting the TR-09
2. Copy the backup files, or the new patches you'd like to check out into the appropriate "BACKUP" folder on the TR-09 drive
3. When copying is completed, press the [ENTER] button.
4. Once the lights stop doing their thing, you may eject the TR-09 drive.
5. Once confirmed you may power cycle the TR-09 and disconnect the USB cable and you're done.

What's so big about that? Any system exclusive file utility can do the same thing, why is this important?

Well, the simplicity and visual aspect of this process is so novel that really anyone with basic computer skills can do it. This makes the process of file/patch sharing very easy. It's surprising that there aren't many amazing TR-09 patterns or other Roland Boutique patches out there for the sharing and contributing to isn't it? It's possible that this process is just so easy, and painless to do that people still believe they need to connect a cassette deck, and record the sysex audio to tapes and then ship them to friends in order to share their files. Or many people are afraid to give away their precious patches? I'm not sure, but I think it's pretty cool, and I plan to come up with a bank of patches or two and offer them up for anyone interested in them. I'd also be very keen to see how others have undertaken the TR-09 in their own situations. Can you tell I think that patch and pattern exchanges are awesome? I do. And while I rarely use patches or patterns from other sound designers, I love to explore what synthesizers are capable of, and sometimes the best way to do that is by seeing how Arthur Baker, or someone I've never heard of does it.

Restore the TR-09 to factory settings:

This is the procedure for resetting your TR-09 back to it's factory state. Remember that if you do this, all your settings and all your sounds will be overwritten with the out of the box, factory fresh programming.

1. While holding down the [2] button, turn on the power.
2. To execute the reset press the ENTER button
3. When all the buttons blink, restart the TR-09 and it'll be just the way it was the day you got it.

III. FUNCTIONS FOR SOUND CREATION
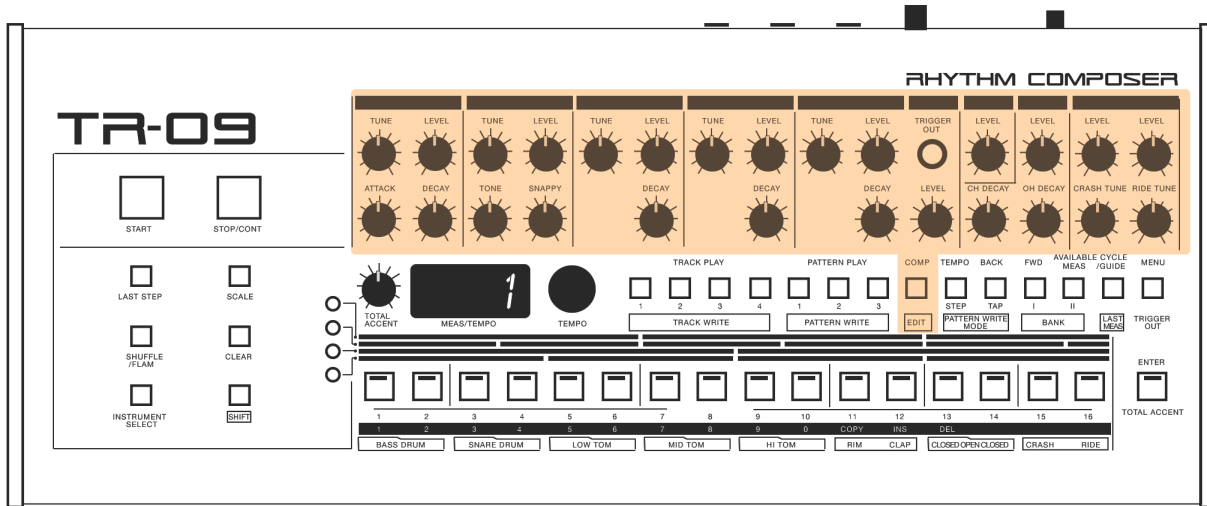
KNOBS

For the most part the knobs on the front panel of the TR-09 are how you access the sound controls. The TR-09 is not completely one knob per function, but it's pretty close. There are some extra tricks, and also some missing knobs for certain sounds, andI'll show you how to access these, but first let's talk about the knobs we do have. Don't be afraid to mess around with knobs. Different settings sound differently in different situations. What sounds amazing in headphones could be mellow and chill in a speaker. What just crushes it in a nightclub could sound distorted and amateurish in a studio. It becomes vital to know what you're after so that apprehensive techs, or people who see things differently than you do don't discourage you. What sounds sick in a club needs adjustment for sure, but what sounds great at home may also require attention. Only you know what you're after, and only by getting your hands on these knobs (small as they are) can you dial it in to exactly what you're after.

BASS DRUM
TUNE - Set the tuning of the kick drum
LEVEL - Set the volume of the kick drum
ATTACK - Set the amount of attack you want for the kick drum
DECAY - Set how long the Kick drum sounds after it's been kicked

SNARE DRUM
TUNE - Set the tuning of the snare drum
LEVEL - Set the volume of the snare drum
TONE - Set the tone of the snare drum
SNAPPY - Set the snap of the snare drum

TOW TOM - MID TOM - HI TOM
TUNE - Adjust the tuning of the toms
LEVEL - Adjust the level of the toms
DECAY - Set the amount of decay for the toms

RIM
LEVEL - Adjust the volume of the rim shot

NOTE - Additional features for sound creation are available
[SHIFT] + [COMP] bring up the EDIT menu

TUNE
Scroll with the TEMPO knob until you see TUNE
Select MAIN KEY [11]
Now rotate the tempo knob. The value reflected in the display is the tune parameter of the Rim Shot sound

DECAY
[SHIFT] + [COMP] bring up the EDIT menu
Scroll with the TEMPO knob until you see dECy
Select MAIN KEY [11]
Now rotate the tempo knob. The value reflected in the display is the DECAY parameter of the Rim Shot sound

CLAP
LEVEL - Adjust the volume of the hand clap

NOTE - Additional features for sound creation are available
[SHIFT] + [COMP] bring up the EDIT menu

TUNE
Scroll with the TEMPO knob until you see TUNE
Select MAIN KEY [12]
Now rotate the tempo knob. The value reflected in the display is the tune parameter of the Hand Clap sound

DECAY
[SHIFT] + [COMP] bring up the EDIT menu
Scroll with the TEMPO knob until you see dECy
Select MAIN KEY [12]
Now rotate the tempo knob. The value reflected in the display is the DECAY parameter of the Hand Clap sound

HI HAT
LEVEL - Adjust the volume of the hi hats
CH DECAY - Set the closed hi hat decay amount
OH DECAY - Set the open hi hat decay amount

NOTE - Additional features for sound creation are available
[SHIFT] + [COMP] bring up the EDIT menu

TUNE
Scroll with the TEMPO knob until you see TUNE
Select MAIN KEY [13-14]
Now rotate the tempo knob. The value reflected in the display is the tune parameter of the Hi Hat sound

CYMBAL
CRASH LEVEL - Adjust the crash cymbal volume
CRASH TUNE - Adjust the tuning of the crash
RIDE LEVEL - Set the volume of the ride cymbal
RIDE TUNE - adjust the tuning of the ride

NOTE - Additional features for sound creation are available
[SHIFT] + [COMP] bring up the EDIT menu

DECAY
[SHIFT] + [COMP] bring up the EDIT menu
Scroll with the TEMPO knob until you see dECy
Select MAIN KEY [15] or [16]
Now rotate the tempo knob. The value reflected in the display is the DECAY parameter of the Crash [15] or Ride [16]
sound

TOTAL ACCENT
LEVEL - Increase or decrease the impact of the accent track programmed into any given pattern

TRIGGER OUT
The TRIGGER OUT jack outputs a trigger pulse. You can use a mini-plug (mono) cable to connect this jack to an external device and control that device from the TR-09. The trigger output sequences and plays back just like any other instrument on the drum machine. [INSTRUMENT SELECT] + [TRIGGER OUT] and proceed.

I love using this output to sequence one of the trigger inputs of my Erica Synths Pico Drum module, but really anything that receives a trigger input works great. It's also a fantastic was to send out a manually sequenced clock to drive a sequencer or an arpeggiator.

NOTE - This is a mono jack. For best results connect a mono 3.5mm cable to the destination.
         A stereo cable won't work.

Using step write to specify trigger out
* Perform this operation in STEP WRITE mode

1. Hold down the [INSTRUMENT SELECT] button and press the [TRIGGER OUT] (MENU) button.
2. Use the main keys [1]–[16] to specify the steps at which a trigger is output.

Using tap write to specify trigger out
* Perform this operation in tap write mode

1. Hold down the [INSTRUMENT SELECT] button and press the [TRIGGER OUT] (MENU) button as the MAIN BUTTON for inputting the rhythm programming.

COMPRESSION

Compression is the process of lessening the dynamic range between the loudest and quietest parts of an audio signal. This is done by boosting the quieter signals and attenuating the louder signals. The TR-09 features a compression tool which allows us to apply an amount of compression to the BASS DRUM and the SNARE DRUM (respectively.) The amounts are set uniquely to each sound, and effect all patterns and tracks.

To adjust the Compression
Press the [COMP] button
Select either the Bass Drum [1-2] or the Snare Drum [3-4] and use the TEMPO knob to attenuate the amount.
The display shows the setting

COMPRESION EXPERIMENT
I have a love/hate releationship with compressors. I need them, I love them, they're awesome. I hate them, they ruin everything, they're horrible. So the idea is to learn when compression is wanted or perhaps needed to produce the results we want, yes?

Write a pattern with just a kick. Press the [COMP] button and select the kick
Now rotate the amount up really high, and play around with the tune, level, decay, and attack knobs
Do you see how we can get some different and interesting sounds doing this? Interesting right?
Now try it with the snare.

EDIT MENU
The EDIT menu offers a few good tools for sound designing. You access the menu by pressing [SHIFT] + [COMP]
And then use the Tempo knob to srcroll through the available options

GAIN

This is a method of setting up a gain structure for your drum kits.
The value extends from 0 (silence) to 200 (wildly distorted) and can aid in making some viscious little sounds.
I use these in a fairly practical way to set up the basic sound of the TR-09 that I want, and then adjust the GAIN to give me the maximum amount of headroom in a sound system. This is because what I usually think is going to be perfect turns out to be all kick and nothing else. So the gain allows me to gainstage the sounds and get a great mix pretty fast so that the knobs on the front of the drum machine are then enough to give a great performance without saying things like "I can't hear the clap!" in the middle of the set to myself.

TUNE
As described in the **KNOBS** section, here you can address the tuning for the sounds which don't have a tuning knob on the front of the machine.

DECAY
Also described in the **KNOBS** section, here you can set the decay values for the sounds which don't have a decay knob on the front panel

PAN
Here's a cool way of doing a couple of things

1. Using a stereo output cable (stereo 3.5mm to Left and Righ for the mixer) you can set up a pannorama and get your tom fills ripping from left to right, and image your cymbals into the stereo field.
2. You can set up the outs to be hard left for the kick, and hard right for everything else and get some separation for mixing on the mixer.

PAN VALUES - L64 - C0 - R63
NOTE - This functionality Added to the TR-09 (Ver. 1.04)

IV. FUNCTIONS FOR PERFORMANCE
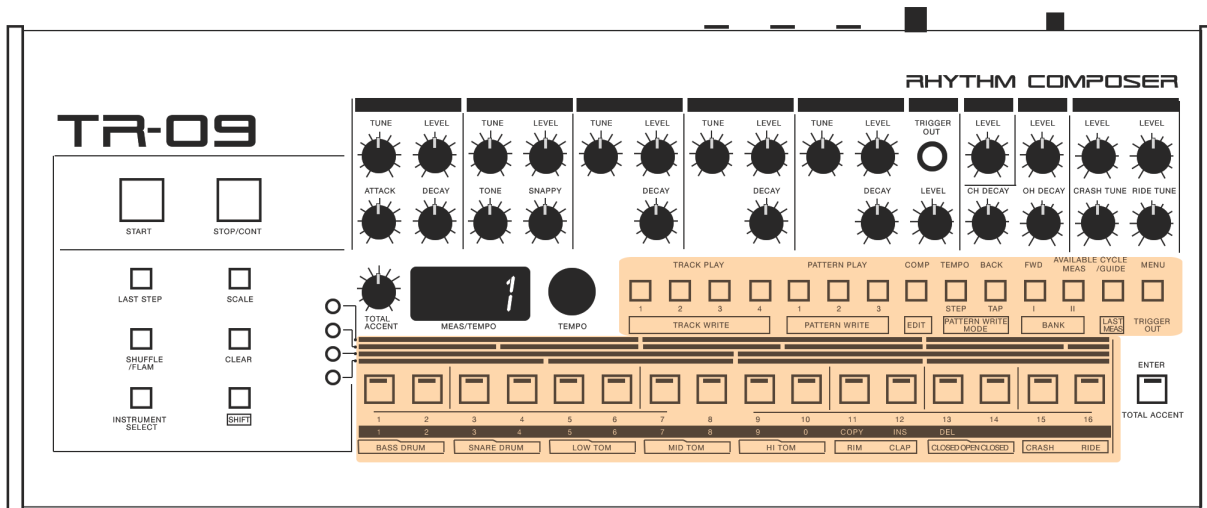
SEQUENCER MODE

The difference between a drum module and a Rhythm Composer is the ability to program patterns, beats if you will, and play them and select between them for accompaniment with your string trio, or basement funk band. The sequencer in the TR-09 is the modern equivalent of what's commonly referred to as the XOX style sequencer. Roland refined and perfected this 16 step process and have implemented it into some of the most legendary machines (like the TR-909, TR-808, TR-707, TR-727, TR-606 and more.) If you've ever programmed a TB-303 then welcome to the world of programming before the XOX style sequencer was perfected. Counting out note on, and rests, and trying to remember what number you were on and never really knowing what you're doing until you're done and play it back. While this made for some magical accidents, it was as much a drag to try to specifically approximate something you had in your mind as it was to re create something fantastic that happened purely by accident. So it's lovely thing to be able to see what we're doing, and have the ability to endlessly loop things until we get where we're going.
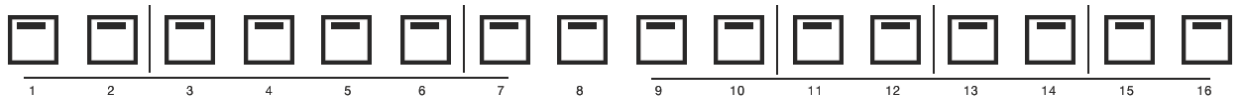
PATTERN

A pattern is one 16 step grid which is programmed and set to loop.
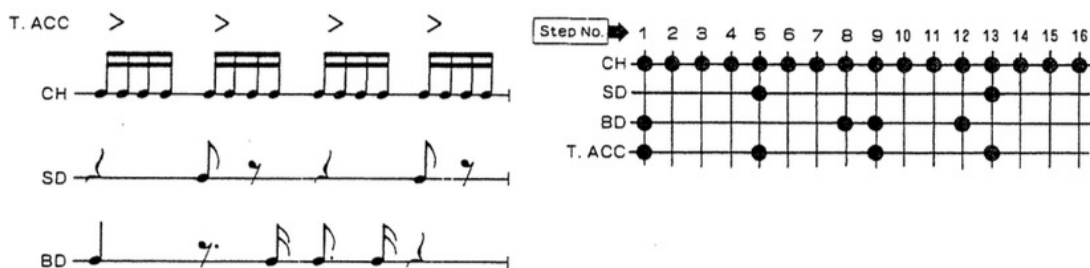
CHAIN

A series of pattens which have been pressed simultaniously, and will now play in succession.

EXAMPLE
Hold down PATTERN 1 and 2 at the same time.
Press PLAY
Watch as they playback. First PATTERN 1 followed by PATTERN 2, and then back to PATTERN 1 and so on until we press stop, or choose something else.

NOTE - To unchain patterns, simply press another (or any other) main key and select another pattern and the chain will be broken. The TR-909 allowed for saving patterns as chains, but I don't believe that the TR-09 accomodates this. Chains must be made manually each time one is needed.

CHAINS are useful when we wish to express something more complex than a simple 1 bar loop. Subtle changes, as well as exciting fills can be added into a chain to be repeated each time the sequencer arrives at that part of the chain. It's fun. Try it.

PATTERN PLAY

To play a pattern press the PATTERN 1, 2 or 3 button and then select one of 16 patterns stored in the bank from the MAIN KEYS.

EXAMPLE - Press PATTERN PLAY BANK 1, now press MAIN KEY 3
Now you are ready to play back Bank 1, Pattern 3.

The memory architecture of the TR-09 is laid out like this:
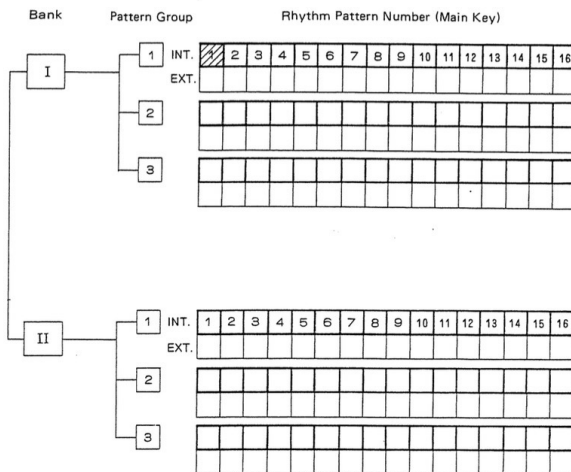
From the diagram you can see that there are 2 banks for memory [I + II]
And there are 3 slots for patterns in each bank [Bank I, Section 1, 2, 3 - Bank II, Section 1,2,3]
And within each Section there are 16 available patterns for programming.
That's a total of 96 possible rhythm compositions.

PATTERN WRITE

Pattern Write Mode is how we prepare the TR-09 to program our own rytthms.

To enter Pattern Write Mode
Hold the [SHIFT] button and press [PATTERN PLAY - BANK]

For example, if we wanted to write a pattern into Bank !, pattern 1 we would need to hold [SHIFT] and then press [PATTERN PLAY BANK 1] and then [MAIN KEY] 1

Check before you start tapping away that the pattern you're about to write into isn't somehting important. Play the pattern and see what's there. If you want to keep it, choose another location, or COPY the pattern to a safe place. Once you're sure you want to overwrite this pattern, then while in PATTERN WRITE MODE hodl the [CLEAR] button, and then press the MAIN KEY button number [1] and that will completely clear out the pattern and we're ready to begin.

There are two basic methods of writing a pattern into the TR-09

STEP WRITE
This is the XOX style sequencing we've already gone over. Here a grid is running past, we select our instruments and tap the MAIN KEYS where we want the instruments to sound. With each pass through the loop we can hear our work, and see if adjustments need to be made.

In this mode you can add BACKBEAT triplets, adjust the SHUFFLE, and add a FLAM. Select between the instruments and build up a rhythm that delights you.

TAP WRITE
Tap write is basicaly real time recording mode. What you play is recorded as you play it and translated into the grid of the TR-09 without our having to think about it - We just play it out. Sometimes this is a great way to go if we hear something in our heads and can't work it out. Sometimes the best way to visualize polyrhythms is to just bang them out.

To enter TAP WRITE MODE
First enter PATTERN WRITE MODE as described above
Next hold the [SHIFT] button and press the [TAP/BACK] button
Turn on the METRONOME by pressing the [CYCLE/GUIDE] button if you need the metronome
Now begin by playing the instruments you wish to program into the beat by touching the MAIN KEY pads which correspond to the instruments.

EDIT TAP WRITE PREFORMANCES
Hold the [SHIFT] key and then press the [TEMPO/STEP] button and you'll be back in STEP WRITE MODE without having to stop recording.
Hold [INSTRUMENT SELECT] and then the correspoding MAIN KEY button for the instrument you wish to edit.
You will see your tapped out rhythm displayed as an XOX syyle grid and you can make the required adjustments.

CYCLE GUIDE
There is a metronome included with the TR-09 and it's called the CYCLE GUIDE.
Turn this on in TAP WRITE mode so you can tell what the tempo is and you don't get lost.
HOLD the [SHIFT] button and press the [CYCLE GUIDE] button to turn this on.

NOTE - The sound of the metronome is the RIM SHOT sound and it can be adjusted with all the same settings as the regular RIM SHOT sound, so it you need to turn it up or down you can.

MUTE/ UNMUTE/ SOLO
 MUTE/SOLO Settings Here's how to make mute/solo settings for each sound.
1. Hold down the [SHIFT] button and press the [INSTRUMENT SELECT] (don't release them yet).
2. While continuing to hold down the [SHIFT] button and [INSTRUMENT SELECT] button,
    press the [ENTER] button to select either "NutE" (MUTE) or "SoLo" (SOLO).
3. While continuing to hold down the [SHIFT] button and [INSTRUMENT SELECT] button, press a main key [1]–[16]
    to select the sound that you want to mute/solo. The main key of the sound for which you specified mute/solo blinks.
4. By pressing the [CLEAR] button while continuing to hold down the [SHIFT] button and [INSTRUMENT SELECT]
    button, you can clear mute/solo for all sounds.

NOTE - This functionality Added to the TR-09 (Ver. 1.04)

COPY/PASTE
You can easily copy patterns and paste them into other pattern locations. Its a little bit backward, but it works. You just
have to remember to select the destination BANK, GROUP, and MAIN KEY location first.

Here's the procedure for copying and pasting a pattern
1. Select the paste-destination pattern:
Hold down the [SHIFT] button and press the following buttons in the order given
BANK (I, II)
PATTERN GROUP (1-3)
MAIN KEY (1-16)

2. Select the copy-source pattern.
Hold down the [SHIFT] button and press the following buttons in the order given
[**COPY**] (11)
Screen will display 'COPY'
BANK (I, II)
PATTERN GROUP (1-3)
MAIN KEY (1-16) → [ENTER]

TRACK MODE

You can arrange patterns to create a track for an entire song. Great for creating hands free backing tracks and drum programs for a performance or a recording.

TRACK PLAY

Selecting a track
1. Hold down the [SHIFT] button and press the BANK [I] or [II] button to select the bank. 2. Use the TRACK PLAY [1]–[4] buttons to select a track.
The display shows the measure number "1." If there is no data in the track, the display shows "0."

Playing a track
1. Press the [START] button to play a track. 2. To stop, press the [STOP/CONT] button.
5 When you press the [STOP/CONT] button once again, playback resumes from the location at which you stopped.
5 During playback, you can hold down the [SHIFT] button and press the [START] button to pause playback; playback restarts when you release the button. This is a convenient way to match the timing when you're synchronizing manually.

Track Lock
You can lock patterns in track play mode. This seems a little bit strange, but can actually be a really useful method of setting up a more complex chain of patterns, and then locking the main section, or perhaps a crazy part for the middle 8 of a track, and then when released the rest of the track will resume playback. There are a lot of possibilities for this feature, but it isn't actually documented as far as I can tell from the manual.

To lock a track
Hold the [SHIFT] button and then press the [TRACK - 1-4]
Button will flash to indicate it is locked

To unlock a track
Touch the [TRACK 1-4] button
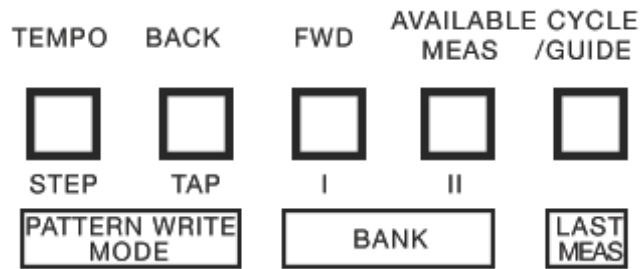Button will stop flashing to indicate it is unlocked

Starting from mid-way (recalling a measure number)
1. Hold down the [SHIFT] button and press the following buttons in the order given. Use the main keys to specify the measure number (0–9) 0 [ENTER]
Example: to specify measure 20
[2] 0 [0] 0 [ENTER]
2. Press the [STOP/CONT] button to continue playback.

TRACK MODE FUNCTIONS

[TEMPO] - Indicates the tempo. While holding down the button, you can turn the [TEMPO] dial to change
the tempo. To make an adjustment below the decimal point, hold down the [SHIFT] button
and turn the [TEMPO] knob.

NOTE - In TRACK PLAY the [TEMPO] knob acts like a scrub wheel which allows you to quickly jump around in the
part of your track. To get it to work like a "tempo knob" in order to adjust the tempo, hold [SHIFT] and scroll the knob.

[BACK] - Moves one measure back.
[FWD] - Moves one measure forward.
[AVAILABLE MEAS] - (Only in track write mode) Displays the number of measures that can be entered.
[CYCLE GUIDE] - (Only in track play mode) Loop-plays the track.
[SHIFT] + [CYCLE/GUIDE] LAST MEAS - Displays the last measure number.

TRACK WRITE

1. Hold down [SHIFT] and press the TRACK PLAY [1]–[4] buttons to select a track.
That TRACK PLAY [1]–[4] button blinks. The display shows the measure number.

Deleting a track
1.   Hold down [SHIFT] and press the following buttons in the order given.
[1] → [ENTER] → [DEL] (13) → [LAST MEAS] (CYCLE/GUIDE) → [ENTER]

Executing track write
1.   Press [START]
2.   Use the PATTERN PLAY [1]–[3] buttons and the main keys [1]–[16] to select the pattern that you want to enter at
the first measure.

NOTE - You can only select patterns that are in the same bank as the track.

3.   Press the [ENTER] button.
The pattern is entered, and you advance to the second measure.
4.   Repeat steps 2–3 for the second and following measures.
5.   To exit the track write, press [STOP / CONT]

Making Corrections
1.   Hold down the [SHIFT] button and press the TRACK PLAY [1]–[4] buttons to select a track.
2.   Press the [START] button.

NOTE - You can also make corrections while playback is stopped.
In this case, the operation of step 2 is not necessary.

3. Use one of the following methods to move to the measure that you want to correct.
5 Use the [ENTER] button to advance the measure.

5 Use the [FWD] / [BACK] buttons to move to a measure.
5 Recall the measure number using step 1 of "Starting from mid-way (recalling a measure number)."
4. Use the main keys [1]–[16] to re-select the rhythm pattern.
5. Press the [ENTER] button.
6. Press the [STOP/CONT] button.
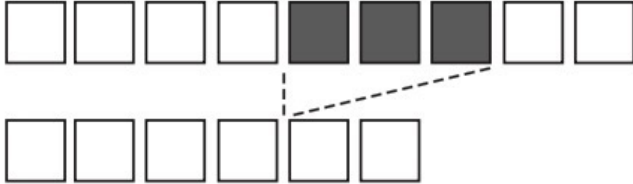
DELETE
1. Use one of the following methods to move to the measure at which you want to start deleting.
5 Use the [ENTER] button to advance the measure.
5 Use the [FWD] / [BACK] buttons to move to a measure.
5 Recall the measure number using step 1 of "Starting from mid-way (recalling a measure number)."
2. Hold down the [SHIFT] button and press the following buttons in the order given. [DEL] (13) → use the main keys to specify the last measure to delete (0–9) → [ENTER]
5 Example: deleting to measure 25 [DEL] (13) → [2] → [5] → [ENTER]
5 Example: deleting only the first measure [DEL] (13) → [ENTER]
5 Example: deleting to the last measure
[DEL] (13) → [LAST MEAS] (CYCLE/GUIDE) → [ENTER]
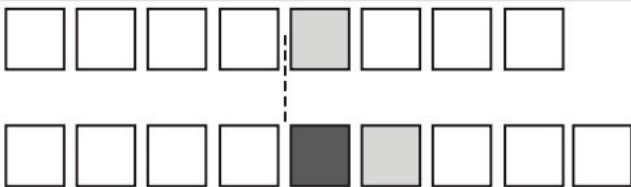
INSERT
1. Move to the measure that you want to insert. Example: If you select measure 5, the pattern is inserted between measure 4 and measure 5.
2. Use the procedure described in "Selecting a pattern" to select the pattern that you want to insert.

    NOTE - You can also select multiple patterns by simultaneously pressing two of the main keys.

3. Hold down the [SHIFT] button and press the following buttons in the order given. [INS] (12) → [ENTER]

27
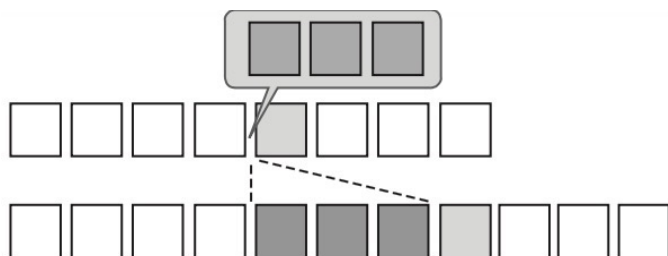
COPY

1. Move to the paste-destination measure. Example: If you select measure 5, the data is pasted between measure 4 and measure 5.

2. Select the copy-source pattern.
Hold down the [SHIFT] button and press the
following buttons in the order given.
[COPY] (11) → use the main keys to specify the starting measure number → [ENTER] → use the main keys to specify the ending measure number → [ENTER]

NOTE - If the display indicates "000," you specified a measure that can't be copied.

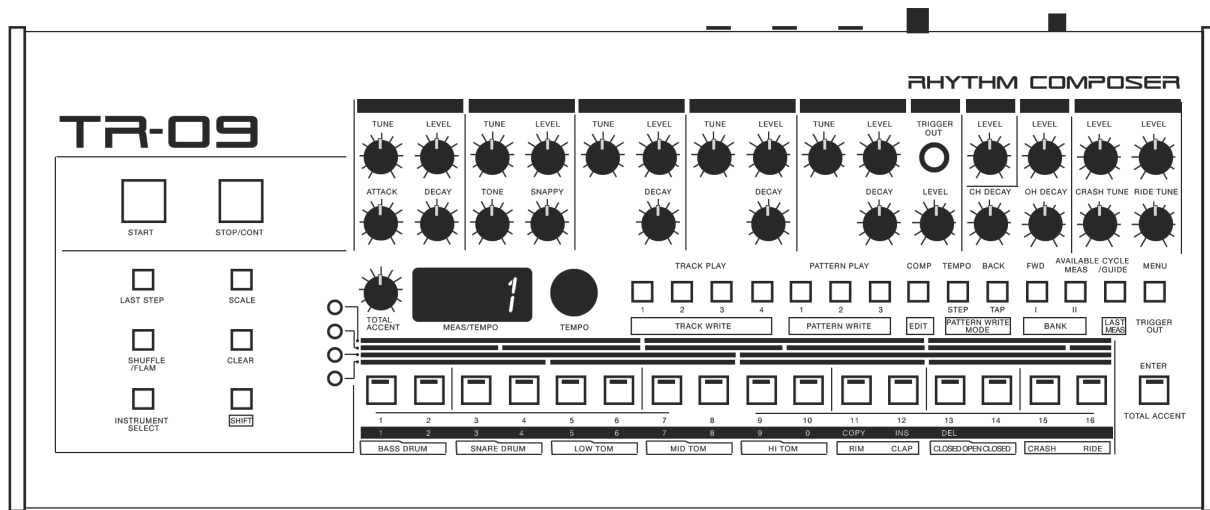**TEMPO MEMORY**

Specify the tempo
1. Hold down the [TEMPO] button and press the [ENTER] button. The displayed tempo is specified for the selected track.

NOTE - This operation in only works in track play mode.

Recall the tempo
1. Hold down the [TEMPO] button and press one of the TRACK PLAY [1]–[4] buttons to select the track.

V. SYSTEM SETTINGS

To access system settings
1. Press the [MENU] button to make it light.
2. Use the [TEMPO] dial to select the parameter, and then press the [ENTER] button.
3. Use the [TEMPO] dial to set the value.
To exit the system settings, press the [MENU] button to make it go dark.

CH   - Specifies the MIDI transmit/receive channel - 1–16, OFF

SYNC   - AUTO - If MIDI clock is being input to the MIDI IN connector or the USB port, the TR-09's tempo will
                   automatically synchronize to MIDI clock (default).
        - INT   - The TR-09 operates at the tempo specified on the unit itself. Choose the "INTERNAL" setting if you
                   don't want to synchronize to an external device.

A.OFF - OFF   - The power does not turn off automatically.
       - 30   - The power turns off automatically after 30 minutes (default).
                 NOTE - Auto Off does not occur while USB-connected

dENO   - OFF
        - 1 min
        - 3 min
        - 10 min - Specifies the time until the LED DEMO is shown (default: 3)

PrG.N - P-F   - Specifies the operation of main keys [1]–[16] during step write. Each time you press, the setting
                cycles in the order of Off → Weak → Strong (default).
       - F-P   - Each time you press, the setting cycles in the order of Off → Strong → Weak

USB1 I   I Use a USB 2.0 cable (A-microB) to connect this port to your computer.
USB2 I __ USB Parallel Out   I It can be used to transfer USB MIDI and USB audio data. You must install the USB
USB3 I   I driver when connecting the TR-09 to your computer.
USB4 I   I

In addition to the USB audio port MIX, the TR-09 provides four USB audio ports for parallel output.
Sounds for which you press the main keys ([1]–[16]) to make them blink when making this setting are output via
parallel output. Sounds that are assigned to parallel output are not output from the USB audio port MIX.

OUT - Parallel Out - The output of the OUTPUT jack (stereo mini) is split between left and right channels, and the specified sounds are output via parallel output.
Sounds for which you press the main keys ([1]–[16]) to make them blink while making this setting are output from the right channel, and sounds whose key is lit are output in parallel from the left channel

        NOTE - If you want to output in stereo, make all buttons light (default)

SCAL - OFF   - The scale switches each time you press the [SCALE] button (default)
    - ON   - Hold down the [SCALE] button and use the [TEMPO] dial to select the scale

FIRMWARE UPDATE

Update Procedure:
1.   Connect to computer
2.   Hold down [ENTER] and switch on the power.
3.   Open the "TR-09" drive folder in your computer.
4.   Copy BQ2_UPD.BIN in the "boutique2_sys_104" folder into the "TR-09" drive by dragging and dropping it.

    NOTE - Don't copy the whole folder, only copy the .BIN file. Also the name of the file might be different because it could be a new update since writing this user's guide. But you get the idea, right?

5.   After copying the file is completed, eject the TR-09 drive from the computer.
6.   Press the [ENTER] button to start updating the file.
7.   When the [ENTER] button lights up, the update is finished.
8.   Turn the TR-09 power off.
9.   * At the initial startup after the update, all indicators might remain unlighted for about 10 seconds. Continue waiting until the unit starts normally.
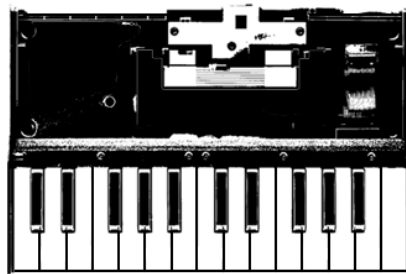
MAIN SPECIFICATIONS

Power Supply	Rechargeable Ni-MH battery (AA, HR6) x 4, Alkaline battery (AA, LR6) x 4
	USB bus power 500 mA (USB bus power)
Weight	308 (W) x 130 (D) x 51 (H) mm 12-1/8 (W) x 5-1/8 (D) x 2-1/16 (H) inches
Accessories	Owner's Manual, Leaflet "USING THE UNIT SAFELY," Alkaline battery (AA, LR6) x 4

OPTIONS
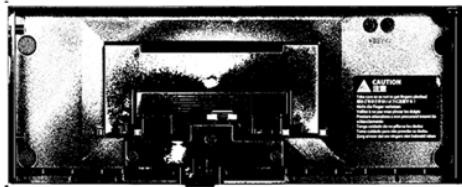
ROLAND DK-01
BOUTIQUE MODULE DOCK

ROLAND K-25M
BOUTIQUE MODULE KEYBOARD

MICRO USB POWER SUPPLY
WALL ADAPTER UNIT FOR STAND
ALONE OPERATION

VI. MIDI

A WORD ABOUT MIDI

MIDI is an acronym that stands for Musical Instrument Digital Interface. It is a technical standard that describes a communications protocol, digital interface and electrical connectors and allows a wide variety of electronic musical instruments, computers and other related music and audio devices to connect and communicate with one another.

A single MIDI link can carry up to sixteen channels of information, each of which can be routed to a separate device. MIDI carries event messages that specify notation, pitch and velocity (loudness or softness), control signals for parameters such as volume, vibrato, audio panning from left to right, cues in theatre, and clock signals that set and synchronize tempo between multiple devices. These messages are sent via a MIDI cable to other devices where they control sound generation and other features. A simple example of a MIDI setup is the use of a MIDI controller such as an electronic musical keyboard to trigger sounds created by a sound module, which is in turn plugged into a keyboard amplifier and speaker. This MIDI data can also be recorded into a hardware or software device called a sequencer, which can be used to edit the data and to play it back at a later time.

Advantages of MIDI include file compactness (an entire song can be coded in a few hundred lines of code, i.e. in a few kilobytes), ease of modification and manipulation and a wide choice of electronic instruments and synthesizer or digitally-sampled sounds. Prior to the development of MIDI, electronic musical instruments from different manufacturers were generally not compatible with each other, and they could not communicate with each other. With MIDI, any MIDI-compatible keyboard (or other controller device) can be connected to any other MIDI-compatible music sequencer, sound module, drum machine, synthesizer, or computer, even if they are made by different manufacturers.

MIDI technology was standardized in 1983 by a panel of music industry representatives, and is maintained by the MIDI Manufacturers Association (MMA). All official MIDI standards are jointly developed and published by the MMA in Los Angeles, California, US, and for Japan, the MIDI Committee of the Association of Musical Electronics Industry (AMEI) in Tokyo. In 2016, the MMA established The MIDI Association (TMA) to support a global community of people who work, play, or create with MIDI, establishing the www.MIDI.org website as the central repository of information about anything related to MIDI technology, from early MIDI technology to future developments.

ROLAND BOUTIQUE MIDI

Starting with firmware 1.10 the boutique line of modules from Roland are capable of sending CC data. This means that all the slider and knob movements performed on the front panel of the TR-09 are cable of transmitting via MIDI for recording into a DAW or MIDI sequencer.

The MIDI Implementation chart included with the TR-09 demonstrates that the device can receive and transmit MIDI CC Data, however, unlike the other Boutique devices, there are no instructions for turning this option on or off. This leads me to believe that this feature is always on. When connecting devices in a MIDI daisy chain or patchbay configuration using the midi out of the TR-09 this may lead to unhappy problems (like double clocking, unwanted controller messages when the knobs are turned, etc.)

I've written to Roland and generally reached out to people whom I think might be able to assist us in determining if there is a workaround for this, or some otherwise undocumented mehtod of turning on or off the CC transmission and reception of the TR-09. To be updated.

MIDI IMPLEMENTATION CHART

Version 1.0 2016

RHYTHM COMPOSER Model: TR-09	MIDI Implementation Chart		Date: Aug. 30, 2016 Version 1.00

Function...		Transmitted	Recognized	Remarks
Basic **Channel**	Default	10	10	Memorized
	Changed	1-16, OFF	1-16, OFF	
Mode	Default	Mode 3	Mode 3	
	Messages	x	x	
	Altered	**************	**************	
Note **Number**	: True Voice	*1 **************	*2	
Velocity	: Note On	o 9nH v=80	o	
	: Note Off	o 8nH v=00	o	
After	Key's	x	x	
Touch	Channel's	x	x	
Pitch Bend		x	x	
Control **Change**	9	x	o	SHUFFLE
	20	o	o	BD TUNE
	21	o	o	BD ATTACK
	22	o	o	BD COMP
	23	o	o	BD DECAY
	24	o	o	BD LEVEL
	25	o	o	SD TUNE
	26	o	o	SD SNAPPY
	27	o	o	SD COMP
	28	o	o	SD TONE
	29	o	o	SD LEVEL
	46	o	o	LT TUNE
	47	o	o	LT DECAY
	48	o	o	LT LEVEL
	49	o	o	MT TUNE
	50	o	o	MT DECAY
	51	o	o	MT LEVEL
	52	o	o	HT TUNE
	53	o	o	HT DECAY
	54	o	o	HT LEVEL
	55	o	o	RS TUNE
	56	o	o	RS DECAY
	57	o	o	RS LEVEL
	58	o	o	HC TUNE
	59	o	o	HC DECAY
	60	o	o	HC LEVEL
	61	o	o	CH TUNE
	62	o	o	CH DECAY
	63	o	o	CH LEVEL
	71	o	o	TOTAL ACCENT
	80	o	o	OH TUNE
	81	o	o	OH DECAY
	82	o	o	OH LEVEL
	83	o	o	CC TUNE
	84	o	o	CC DECAY
	85	o	o	CC LEVEL
	86	o	o	RC TUNE
	87	o	o	RC DECAY
	88	o	o	RC LEVEL
Program **Change**	: True Number	x **************	x **************	
System **Exclusive**		x	x	
System **Common**	: Song Position	o	o	
	: Song Select	o 0-7	o 0-7	
	: Tune Request	x	x	
System **Real Time**	: Clock	o	o	
	: Start	o	o	
	: Continue	o	o	
	: Stop	o	o	
Aux **Messages**	: All Sound Off	o	o	Transmitted: MIDI OFFLINE
	: Reset All Controllers	o	o	Transmitted: MIDI OFFLINE
	: Local On/Off	x	x	
	: All Notes Off	o	o	Transmitted: MIDI OFFLINE
	: Omni Mode Off	x	o	*3
	: Omni Mode On	x	o	*3
	: Mono Mode On	x	o	*3
	: Mono Mode Off	x	o	*3
	: Active Sensing	o	o	
	: System Reset	x	x	
Notes	*3 Same process as All Note Off.			

Mode 1: OMNI ON, POLY   Mode 2: OMNI ON, MONO   O : Yes
Mode 3: OMNI OFF, POLY   Mode 4: OMNI OFF, MONO   X : No

*1

Inst.	Note Number		Inst.	Note Number
BASS DRUM	36		HAND CLAP	39
SNARE DRUM	38		CLOSED HI-HAT	42
LOW TOM	43		OPEN HI-HAT	46
MID TOM	47		CRASH CYMBAL	49
HIGH TOM	50		RIDE CYMBAL	51
RIM SHOT	37			

*2

Inst.	Note Number		Inst.	Note Number
BASS DRUM	35,36		HAND CLAP	39
SNARE DRUM	38,40		CLOSED HI-HAT	42,44
LOW TOM	41,43		OPEN HI-HAT	46
MID TOM	45,47		CRASH CYMBAL	49
HIGH TOM	48,50		RIDE CYMBAL	51
RIM SHOT	37			

SOUND MEMO

PATTERN MEMO

TR-09

RHYTHM COMPOSER

START | STOP/CONT

LAST STEP | SCALE

SHUFFLE /FLAM | CLEAR

INSTRUMENT SELECT | SHIFT

TUNE LEVEL | TUNE LEVEL | TUNE LEVEL | TUNE LEVEL | TUNE LEVEL | TRIGGER OUT | LEVEL | LEVEL | LEVEL | LEVEL

ATTACK DECAY | TONE SNAPPY | DECAY | DECAY | DECAY | LEVEL | CH DECAY | OH DECAY | CRASH TUNE | RIDE TUNE

TOTAL ACCENT | MEAS/TEMPO | TEMPO

TRACK PLAY | PATTERN PLAY | COMP | TEMPO | BACK | FWD | AVAILABLE MEAS | CYCLE /GUIDE | MENU

1 2 3 4 | 1 2 3 | | STEP TAP | | I II | LAST MEAS | TRIGGER OUT

TRACK WRITE | PATTERN WRITE | EDIT | PATTERN WRITE MODE | BANK

ENTER

TOTAL ACCENT

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 2 3 4 5 6 7 8 9 0 COPY INS DEL

BASS DRUM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 2 3 4 5 6 7 8 9 0 COPY INS DEL

SNARE DRUM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 2 3 4 5 6 7 8 9 0 COPY INS DEL

LOW TOM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 2 3 4 5 6 7 8 9 0 COPY INS DEL

MID TOM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 2 3 4 5 6 7 8 9 0 COPY INS DEL

HI TOM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 2 3 4 5 6 7 8 9 0 COPY INS DEL

RIM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 2 3 4 5 6 7 8 9 0 COPY INS DEL

CLAP

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 2 3 4 5 6 7 8 9 0 COPY INS DEL

CLOSED

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 2 3 4 5 6 7 8 9 0 COPY INS DEL

OPEN

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 2 3 4 5 6 7 8 9 0 COPY INS DEL

CRASH

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 2 3 4 5 6 7 8 9 0 COPY INS DEL

RIDE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 2 3 4 5 6 7 8 9 0 COPY INS DEL

ACCENT

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
1 2 3 4 5 6 7 8 9 0 COPY INS DEL

TRIGGER