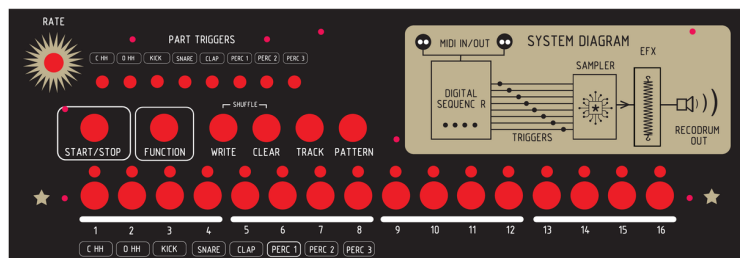
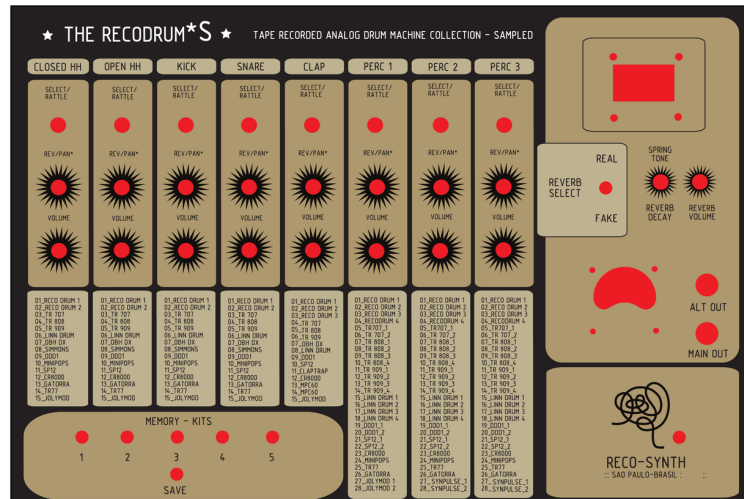


RECO DRUM S

OWNER'S MANUAL



A collection of drum machines, electronic instruments and synthesis gathered into a single instrument.

Made in Brazil by Arthur Joly — Boituva, São Paulo, Brazil

1. Introduction

The Reco Drum started as a project built around circuits and ideas inspired by classic electronic percussion machines, including parts of the TR-808, parts of the TR-909 and other circuits studied from historical schematics.

The Reco Drum S is an evolution of that concept. It keeps the sounds of the classic Reco Drum as its foundation and adds a personal collection of electronic drum machines gathered over the years.

The sounds in the collection were recorded and treated as studio material. An essential part of the Reco Drum S character comes from the use of analog tape and from the mastering process carried out at Reco Master.

The main difference compared to most drum machines is that the Reco Drum S does not deliver dry sounds only: it has a built-in mixer and two reverb systems, a real spring and a digital reverb, so the drums leave the instrument already placed in a space.

2. Overview

The Reco Drum S is not a sampler in the traditional sense, since it does not record samples. It is a digital file player designed to trigger the sounds stored in its memory.

Files are played back at 16 bits, summed in an analog mixer and sent to the effects section.

The reverb can be selected between REAL, spring based, and FAKE, a digital reverb with a Lexicon character. The digital one covers everything from a short ambience, close to a gated reverb, to long and bright decays.

The sequencer offers 15 storable patterns with 16 steps, plus Pattern 1, which is deliberately temporary. You can create Pattern Chains and arrange several consecutive patterns as a kind of Song mode.

Voices can be muted individually in the trigger path. Sample selection can be done on the go during a performance. There are five independent Kit memories.

The Reco Drum S has MIDI IN, MIDI OUT and analog CLOCK OUT. The panel combines wood and metal, and every unit is assembled by hand.

3. Connections

Power: P4 (barrel) input on the rear panel, center positive, 12 V DC, 2 A recommended.

CLOCK OUT: analog clock output for gear with CLOCK IN.

MIDI IN: receives MIDI notes and external MIDI Clock.

MIDI OUT: sends the sequence and MIDI Clock to other MIDI gear.

MAIN OUT: main output of the Reco Drum S.

Second output: in FAKE it provides the digital reverb separately; in REAL it works as a Send output for external effects, or as a second output in a stereo setup.

4. Panel Controls

The audio panel has a VOLUME control for each voice and a SEND control, which sets how much of each voice is sent to the reverbs.

The upper encoders select the sounds. Pressing an encoder gives access to the special functions of that voice.

The reverb controls are on the right. In REAL, the character control is TONE; in FAKE, it is DECAY. The second control sets the final amount of reverb in the mix.

The OLED shows states and operations. The sample list is printed on the panel. The five memories and the SAVE button are available for direct access to the Kits.

5. Voices and Samples

The Reco Drum S has eight voices: Closed Hi-Hat, Open Hi-Hat, Kick, Snare, Clap and three Percussions. The first option in every list is the Reco Drum.

The sounds in the main library are played back at 16 bits, captured from the collection used in the project and treated in the studio, including tape recording and mastering.

There is also a USER area for advanced users. It does not represent the normal operating mode of the Reco Drum S.

6. Sequencing and Trigger

The sequencer is digital, but the voices are fired by analog triggers. This makes it possible to interrupt the trigger path before it reaches the voice.

The part switches work as an on/off for the trigger. While the sequence is running you can solo an individual part or mute it without stopping the sequence.

The sequencer has 16 steps and can work with shorter lengths. To set the start and end of the loop, use FUNCTION + first/last step.

Pattern 1 is deliberately temporary and is never stored. Patterns 2 to 16 are the memory slots of the sequencer.

Main sequencer functions

1	Tap recording + quantizer	WRITE + button 1-8
2	Pattern Selector	PATTERN + button 1-16
3	Track Selector	TRACK + button 1-8
4	Clear Track	CLEAR + TRACK + button 1-8
5	Clear Pattern	CLEAR + PATTERN + button 1-16
6	Looping	FUNCTION + button 1-16
7	Clear Loop	FUNCTION + CLEAR
8	Play parts without saving	TAP + FN + button 1-8
9	Randomize Track	FUNCTION + TRACK + button 1-8
10	Copy Patterns	FUNCTION + PATTERN + button 1-16
11	Reset sequence without stopping	FN + START/STOP
12	Shuffle	WRITE + CLEAR + button 1-5

Pattern Chain: press PATTERN and select Pattern numbers from 2 to 16 in sequence. Numbers can be repeated. The machine will play the patterns in the chosen order, allowing you to build a long

sequence, like a Song mode.

7. Ratchet and Humanize

Every voice has an encoder that also works as a button.

Ratchet subdivides a single hit into repetitions, including divisions in two, three or four notes.

Humanize introduces a random micro-delay in the trigger of the part, producing a looser, more human feel.

8. Open and Closed Hi-Hat

The closed and open Hi-Hats work together. Priority always goes to the closed Hi-Hat. When an open Hi-Hat is ringing and the next closed Hi-Hat trigger arrives, the closed one chokes the open one.

To keep the long decay of the open Hi-Hat, leave the following step without a closed Hi-Hat or mute the closed Hi-Hat voice.

9. Mixer and Pot Pickup

The potentiometers in the bottom row control the volume of each voice. The Send row controls how much of each voice is sent to the reverbs.

ATTENTION — POT PICKUP / PICK AND PLACE

When a memory is loaded, the stored value may not match the physical position of the knob. To avoid abrupt jumps, the control uses Pick and Place.

If a knob seems dead after loading a memory, this is normal. Slowly sweep the potentiometer from one end to the other. When it meets the stored value, the physical control takes over the parameter.

10. Spring Reverb — REAL

The spring reverb is one of the main features of the Reco Drum S. Each voice can be sent individually to the spring through the Send control.

The Tone control lets you choose between a darker or a brighter response, while Reverb Volume sets the final amount of the effect.

The spring is susceptible to electromagnetic and radio frequency interference. In environments with many antennas or interference sources, noise may appear. In those cases, FAKE mode offers a far more immune alternative.

The rear of the spring tank is open to allow physical manipulation. You can gently touch the spring to create percussive effects.

11. Digital Reverb — FAKE

FAKE is a digital reverb with a Lexicon character. Reverb Volume sets the amount of effect in the mix.

The character control works as DECAY: fully counter-clockwise the reverb is extremely short; turning clockwise the decay increases, reaching a long and bright ambience.

12. Memories — Save & Load

The Reco Drum S has five Kit memories. Each memory stores the sound selection, the volume balance between voices and the reverb sends.

To load: press button 1, 2, 3, 4 or 5.

To save: hold SAVE and press one of the memories 1-5.

Kit memories are independent from the sequencer Patterns. You can change the Kit while keeping the sequence, and change the sequence while keeping the Kit.

13. User Samples — Advanced Users Only

The Reco Drum S was not designed as a sampler for routine loading of external files. There is, however, an advanced possibility for users who want to expand the instrument.

With the unit powered off, the user can open the rear panel, remove the memory card and access the USER SAMPLES folder. Mono 16-bit files can be placed inside it, numbered from 01 to 20. They appear on the display as USER 1 through USER 20.

Do not modify the original folders, do not format the card and do not delete the directory structure. Work only in the area intended for User Samples.

Unforeseen changes may compromise the operation of the instrument and its warranty. If the original files are lost or corrupted, a new card prepared with the original library may be required.

AT YOUR OWN RISK

14. MIDI / Clock / Sync

MIDI IN receives MIDI Clock and notes to trigger the voices individually. The Reco Drum S receives notes on MIDI Channel 10.

An empty Pattern 1 is especially useful when a computer or external sequencer uses a Piano Roll to play the voices of the Reco Drum S, avoiding a mix with a permanently stored sequence.

MIDI OUT sends the sequence and MIDI Clock to other MIDI gear.

CLOCK OUT sends analog clock pulses to gear equipped with CLOCK IN.

15. Special Output Setups

MAIN OUT carries the Reco Drum S mix with the effect according to the current setup.

FAKE: the second output provides the digital reverb separately. You can record the main signal and the digital reverb on separate channels.

REAL: the second output works as a Send for an external effect. A mono-to-stereo effect can take this signal and create a stereo ambience.

REAL can also turn the Reco Drum S into a stereo source. Send MAIN OUT to a channel panned left and the second output to another channel panned right. The balance between the two signals lets you place each part in the stereo field.

16. Care and Recommendations

Use 12 V DC, center positive, 2 A recommended. Never use a higher voltage or reversed polarity.

Do not expose the instrument to water or rain. If liquid gets inside, switch it off immediately and do not turn it back on before a technical inspection.

Avoid direct sunlight, very hot vehicles and strong heat sources.

Avoid drops and strong impacts, especially because of the spring tank.

Do not pull, stretch or apply excessive force to the spring.

For cleaning, use a soft dry or slightly damp cloth. Do not apply alcohol, solvents or thinner directly to the panel or the wood.

Remove the card only with the instrument completely powered off.

Before connecting or disconnecting audio at high levels, turn down the volume on your mixer or interface.

17. Troubleshooting

Knobs seem dead: remember POT PICKUP / PICK AND PLACE. Slowly sweep the knob from one end to the other after loading a memory. This is not a fault.

Encoder skips samples: turn it slowly. The Reco Drum S needs a moment to load and update the file. Turning too fast can make some numbers appear to be skipped.

MIDI does not work: check that the transmitter is sending notes on MIDI Channel 10 and that the MIDI output of your DAW/sequencer is connected to MIDI IN.

Sequencer did not record: changes to storable Patterns are written when you press STOP. Pattern 1 is never saved.

Sequencer behaving strangely: check whether a Loop shorter than 16 steps is active. To clear the loop, use FUNCTION + CLEAR.

Reset: with the Reco Drum S switched off, hold WRITE + CLEAR + TRACK + PATTERN and power the instrument on. All sequencer lights will turn on and the sequencer will be reset.

18. Machines Used — The Drum Machine Collection

RECO DRUM — The Reco Drum itself is the starting point of the collection and the first reference in every sample list.

ROLAND TR-707 — Digital drum machine from 1985, based on PCM playback, with the characteristic texture of 1980s low-resolution digital.

ROLAND TR-808 — Classic Roland analog synthesis machine, fundamental to hip-hop, electro, house and techno.

ROLAND TR-909 — Hybrid machine from 1983, combining analog synthesis and digital playback on some cymbals and hi-hats, a reference for house and techno.

OBERHEIM DMX — Digital drum machine based on samples stored in EPROM, released in 1981 and strongly associated with hip-hop.

OBERHEIM DX — Digital machine that followed the DMX, also sample based and with a strong low-resolution character.

SIMMONS — Family of electronic drums that defined the 1980s with its hexagonal pads and electronic tom and percussion sounds.

KORG DDD-1 — Digital drum machine from 1986, based on 12-bit samples, with dynamic-sensitive pads and expansion.

KORG MINI POPS — Japanese family of rhythm boxes, earlier than modern programmable drum machines, with very distinctive analog rhythms and sounds.

E-MU SP-12 — 12-bit sampling machine from 1985, fundamental in the history of sampling and hip-hop production.

ROLAND CR-8000 — Programmable rhythm machine from 1981, a bridge between the old rhythm boxes and programmable drum machines.

FIRSTMAN SYN PULS / SD-1 — Japanese drum synthesizer with a round foam pad and five sections: VCO-1, VCO-2/LFO, VCF, VCA and SWEEP. SWEEP produces pitch and timbre variations related to how hard the pad is hit.

ROLAND TR-77 / RHYTHM 77 — Rhythm box from the early days of Roland, belonging to the generation of rhythm accompaniment instruments that preceded modern drum machines.

LINNDRUM — Digital drum machine from 1982 based on acoustic drum samples and strongly associated with the pop sound of the 1980s.

GATORRA — Brazilian electronic instrument created by Tony da Gatorra, with an extremely peculiar construction and approach.

JOLYMOD — Modular synthesis system by Arthur Joly, used to create original percussive sounds that are also part of the Reco Drum S library.

19. Technical Specifications

Power: 12 V DC, center positive, 2 A recommended.

Audio: 16 bits.

Voices: 8.

Sequencer: 16 steps; 15 storable Patterns (2-16) + temporary Pattern 1; Pattern Chain; Ratchet; Humanize.

Memories: 5 Kits.

Connections: MIDI IN, MIDI OUT, CLOCK OUT, MAIN OUT and a multifunction second output.

Construction: metal chassis with Cedrinho wood sides finished in bitumen.

Manufacturing: Brazil — Arthur Joly, Boituva, São Paulo.

Production: small batches, assembled and soldered by hand, unit by unit.

20. Support and Service

Any questions, usage guidance or repair needs can be sent to:

arthurjoly@gmail.com

Arthur Joly will be available to guide the user and evaluate any need for service or repair.

RECO DRUM S

Handmade in Brazil