

TRINITY SQNCR

Trinity is hackable digital synthesizer compatible to Arduino IDE and Mozzi Library for Arduino. To hack your instruments connect FTDi USB connector breakout to the "hack-port".

NOTE: the words written in big letters and underscore such as SHIFT_BUTTON refer to their names in the source code.

POWER UP

There are \$\$\$ options of powering

\$) Battery: plug the 9V battery to the battery clip and put the slide switch to BATT position

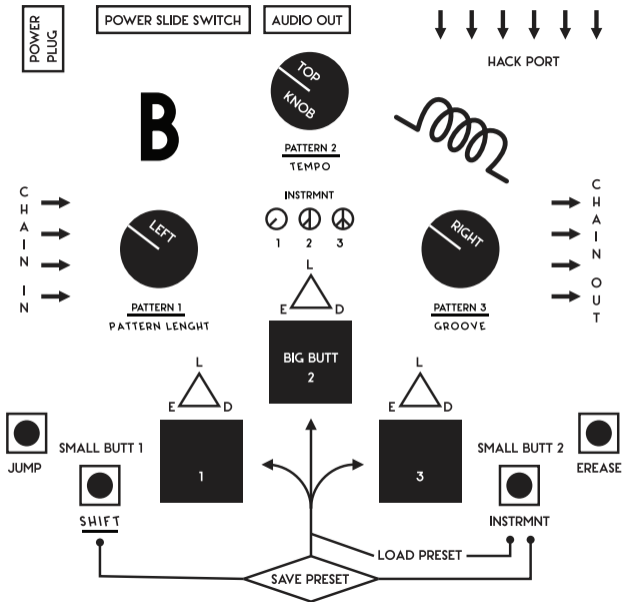
\$\$) Adapter: plug in the power adapter 9V DC positive polarity (+ in the centre of the connector) and put the slide switch to PLUG position

\$\$\$) Via another instrument: side pins are used to share power, audio and communication among several instruments with the same pinout (Bastl Instruments, NovaDrone). Connect two or more devices, power one of the instruments form an adaptor and put the slide switch to PLUG position.

Note: to avoid charging 9V batteries inside the instrument the instruments are not able to share the power from built-in battery connector to the chain connectors. To pass this limitation you can your 9V battery to the power jack connector adaptor cable and connect via the power plug.

However the chips can take a bit of energy from the communication line so as far as there is no MIDI data on the data line some non-powered instruments might appear turned ON but are not fully functional.

For more information about your instrument and about hacking it visit www.bastl-instruments.com



INTRODUCTION

SONCR is used to trigger automatically sounds on other TRINITY synthesizers in recorded loops. However all TRINITY synths communicate via MIDI protocol and via breakout for MIDI connector you can use SONCR to control also other MIDI devices. SONCR is sending MIDI note data on 3 different channels (1,2,3) to control 3 different instruments.

COMBOS

Some functions of SONCR are called by making combos of more buttons. Usually you have to hold down one or two buttons (button+button) and press another button afterwards (->). In the manual they will be referred as for example: "call the INSTRMNT TYPE function". The combos are:

INSTRMNT->ERASE = PLAY/STOP

ERASE->INSTRMNT = RECORD

JUMP->ERASE = TAP

JUMP+SHIFT->INSTRMNT = INSTRMNT TYPE

JUMP+SHIFT->ERASE = CLEAR



PREPARATION

Pressing the INSTRMNT button will change which instrument is currently controlled by its BIG_BUTTONS being indicated by 3 LEDs in the middle of the instrument. To setup your chain properly set MIDI input channels on your instruments (see their manual) for channels 1,2 and 3 to be controlled as instruments 1,2 and 3. Now select which type is each instrument by calling the INSTRUMENT TYPE function. Select type 1 for polyphonic instrument (e.g. DRUM), 2 for polyphonic instrument with legato (e.g. POLY) and 3 for monophonic synth using combination of buttons to call different sounds (e.g. MONO). If the instruments are already connected in chain and all are powered up and set up properly, the interaction with the BIG_BUTTONS on SONCR should be identical with the interaction of those buttons on selected instrument.

RECORDING

To record loop call PLAY/STOP function to start the sequencer (indicated by blinking one of 3 INSTRMNT leds) and then call the RECORD function to start

recording (indicated by lightning up all 3 INSTRMNT leds and blinking of the recorded instrument). To hear metronome turn clockwise the volume knob of SONCR. Now the SONCR is recording input from the BIG_BUTTONS also including the SHIFT_BUTTON for instrument types that use the shift function. Keep pressing the BIG_BUTTONS to record a pattern. The sequencer keeps adding notes to the memory according to the button interaction. Initially the pattern is 32 steps long at 1 step / 16th note which makes it 8 beats long. Change different instrument and record also their patterns.

Note: SONCR is also recording from MIDI input on the instrument channels and interprets them the same way as the TRINITY synths did.

ERASING

ERASE function will delete notes from a pattern. Hold down the ERASE_BUTTON and hold down the BIG_BUTTONS (or in combination with SHIFT) according to which notes you want to erase. To erase all notes in the pattern call CLEAR function.

PATTERN SELECTION

Each instrument has 4 patterns which are selected by the knobs. Change the positions of the knobs to change patterns.

ADJUSTING SEQUENCER SETTINGS

On SONCR you can adjust more settings by holding down the SHIFT button and by moving the knobs. TOP_KNOB adjusts tempo, LEFT_KNOB adjusts pattern length which shortens the played sequence and RIGHT_KNOB adjusts amount of groove - off-grid timing. The tempo can be also adjusted by calling the TAP function.

JUMP

By holding down the JUMP button and pressing one of the BIG_BUTTONS the sequencer keeps repeating 1st, 2nd or 3rd beat of the sequence and by doing the same while holding the SHIFT button it repeats beats 5,6 and 7.

SYNC

SONCR sends the MIDI clock data to enable other MIDI devices to sync to its tempo, but can also work as a slave device. By MIDI input breakout connector you can sync it to another sequencer just by sending any synchronization MIDI data from the main sequencer.