

ARPITECHT

RHYTHMIC ARPEGGIO GENERATOR AND QUANTIZER

RESET: This button, whose function is also accessible through the RESET input, returns the sequence to the first step of the arpeggio.

ROOT ENABLE: This switch disables the root note of the scale. The jack is normaled high, and the root switch will invert the CV when down.

DIRECTION: Change the direction of the arpeggiation here. The middle position of the switch is UP and DOWN. When the CV jack is used, the switch is disabled, and direction is directly controlled by the voltage on the jack. High for UP, low for DOWN.

TRANSPOSE: In the middle position, this knob is at 0, clockwise transposes up to +12 semitones, and counter-clockwise transposes -12 semitones. 1V/OCT, -1V to +1V.

SCALE: Selects between 16 different scales, beginning with major and ending (all the way clockwise) with chromatic.

INPUT: Quantize CV signals by plugging in here. This also serves as the arpeggio start note. Changing the voltage here alters the note at which the arpeggio begins, and resets step to zero. 0-5 Volts.

STEP: A pulse here will advance the arpeggio to the next step.



RANGE: The two RANGE buttons select the overall octave spread of the arpeggiation or quantized CV, while the accompanying LEDs display the current position (blue) and range (red).

NOTES: The Arpitech features 64 note masks that allow you to select which notes in the scale will be incorporated into the arpeggiation.

SLIDE TIME: Controls the rate of the analog slide circuit when triggered by either the internal SLIDE RHYTHM or the SLIDE input.

SLIDE RHYTHM: Like RHYTHM, this knob allows you to apply one of 32 automatic slide rhythms to your sequence. Instant acid.

RHYTHM: The RHYTHM knob selects between 32 built in gate sequences. Together with SLIDE RHYTHM, a world of rhythmic variation is right at your fingertips.

NEW OUT: The NEW output delivers a trigger every time the note changes.

GATE OUT: Output that combines the RHYTHM PATTERN, pulse width of the STEP input, and held SLIDE gates.

RUN: This input allows the step input to advance. It is normaled high.

RANDOM: When high, the next step will be randomized within the scale, mask, and range.

1V/OCT OUT: -1 to 6V compensated/buffered output.

SLIDE OUT: Gate for when a slide is active from SLIDE RHYTHM or SLIDE input.

INTRODUCTION

The Arpitech started as a quantizer that used only CV to determine scales and notes. Immediately, it was super playable and fun to explore. But tying up a lane just for sequencing/quantizing seemed like a waste of good space.

I added a clock input so the Arpitech could step through its own notes. This let us do nice changes with that same single-lane sequencer, running slower. The concept for the base module was 95% done on the first prototype. Refinement took eight more revisions.

Coding and revisions took the better part of a year as I wrote and re-wrote parts of the firmware to be faster and as I subtly improved the interface. A couple full re-starts took place as well.

Then, once it was nearly done, I heard, "What if it could do chords?" from the design room... Fortunately there was a single ADC input left, and the Triad came to be after a few prototypes and lots of coding.

Once the first bit of code was running on the Arpitech, it was instant fun. Now that it's finished, it's instant techno, or avant garde jazz, or chip-tune trill chords.

Thank you for purchasing an Arpitech, I hope you enjoy it as much as we do.

W. Mathewson

SPECS

Depth: 30mm (with cables)
Power: +70mA, -35mA (+84mA, -48mA with Triad)

All CV Inputs: 100k ohm impedance
CV Outputs: (including Triad): Buffered 100 ohm impedance
Automatic load compensation
Gate Inputs: 50k ohm Impedance
Gate Outputs: 10V, 470 ohm impedance

CV inputs sum with knobs. Full sweep is 5V
Input Range: 0-5V (Transpose: +-1V)
Gate/Logic Inputs: 2V threshold Schmitt Trigger
Output Range: -1 to 5V, 14 bit
Triad Note Output Range: 0-4V, 12 bit
Inversion CV Input Thresholds: 1.25V and 2.5V

Firmware upgradeable via USB

TRIAD



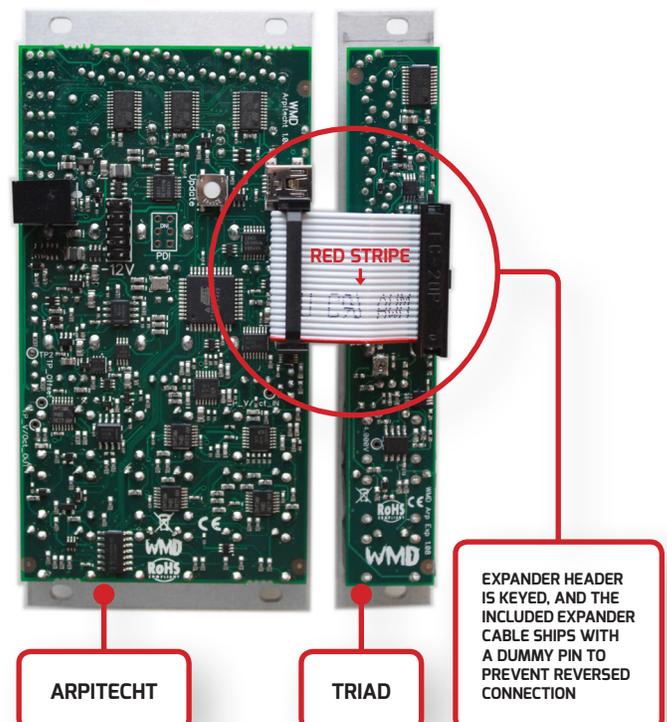
INVERSION: Transposes the lowest note up an octave.
0: No transposition.
1: Transpose note 1.
2: Transpose notes 1 and 2.

TRIAD: CV/Knob for selecting the group of three notes from the scale. Follows Scale and Transpose on the Arpitech.

NOTE 1-3: Buffered CV outputs for each note in the triad. NOTE 1 is the lowest note from the display. NOTE 3 is the highest.

NEW: Trigger output when the TRIAD is changed. No trigger for inversion changes.

EXPANDER



ARPITECHT

TRIAD

EXPANDER HEADER IS KEYED, AND THE INCLUDED EXPANDER CABLE SHIPS WITH A DUMMY PIN TO PREVENT REVERSED CONNECTION

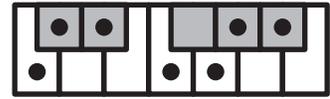
SCALES (ROOT NOTE: C)



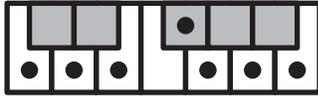
1: IONIAN (MAJOR)



2: DORIAN



3: PHRYGIAN



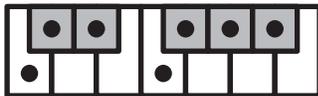
4: LYDIAN



5: MIXOLYDIAN



6: AOELIAN (MINOR)



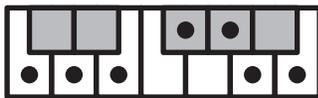
7: LOCRIAN



8: MELODIC MINOR



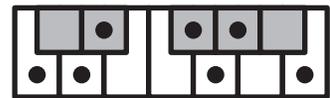
9: DORIAN FLAT 2



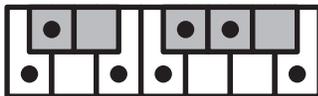
10: LYDIAN AUGMENTED



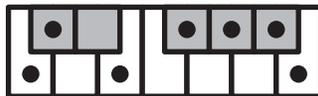
11: PHRYGIAN DOM



12: HUNGARIAN MINOR



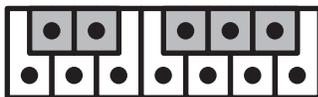
13: PERSIAN



14: ENIGMATIC



15: HEXATONIC +4



16: CHROMATIC

RHYTHM PATTERNS (PRESET ↓ / STEP →)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
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SLIDE PATTERNS (PRESET ↓ / STEP →)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
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