

**The NESK-1**  
A new way to play Nintendo.

# Introduction

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The NESK-1 will turn your original Nintendo Entertainment System into an 8-bit synthesizer that you can make music with! It requires a four controller adaptor such as the NES Satellite or NES Four Score. A TV or monitor is optional since all settings can be adjusted with key press combinations. Its features include: Square Wave, Triangle Wave, Noise Channel, Decay, Arpeggio, 8 Scales, 8 Drum samples, 2 Tone Banks, 2 Noise Banks, 2 Sweeps, and 2 Chords.

## Getting Started

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This section is a quick guide the NESK-1. The following is a list of the three main modes:

### 1) Play Mode

When first turned on, the NESK-1 is in Play Mode. In Play Mode you can make music using the wonderful sounds and tones of the NES. Here is a breakdown of the 4 Controllers:

- Controller 1: 8 Note Scale (Default: C Major) or 8 Drum Samples
- Controller 2: Adjust Octave and Duty settings
- Controller 3: Noise Channel
- Controller 4: Tone Bank. Select from 8 voices. Square, Triangle, Both Square & Triangle, 2 Sweeps, and 2 Chords

### 2) Menu Mode

To switch from Play Mode to Menu Mode press the UP, A and B buttons on Controller 1 at the same time. Menu Mode is where all settings can be adjusted.

- UP / DOWN to select Option
- LEFT / RIGHT to edit Option
- Press SELECT to switch between Menus
- Press START to exit Menu Mode and return to Play Mode
- The only controller that is active in Menu Mode is Controller 1.

### 3) Shortcut Mode

To switch from Play Mode to Shortcut Mode press the DOWN, A and B buttons on Controller 1 at the same time. In Shortcut Mode, all settings can be adjusted without the use of a T.V. or Monitor. When in Shortcut Mode:

- The volume is muted.
- Settings can be adjusted with Key Press Combinations.
- Press START to exit Shortcut Mode and return to Play Mode

## Play Mode

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In Play Mode there are two tone banks. Synth and Drum.

### Synth Mode

This tone bank uses the Square, Triangle, and Noise channels of the NES. All 4 controllers are used:

- Controller 1: Notes
- Controller 2: Octave & Duty
- Controller 3: Noise Channel
- Controller 4: Voices

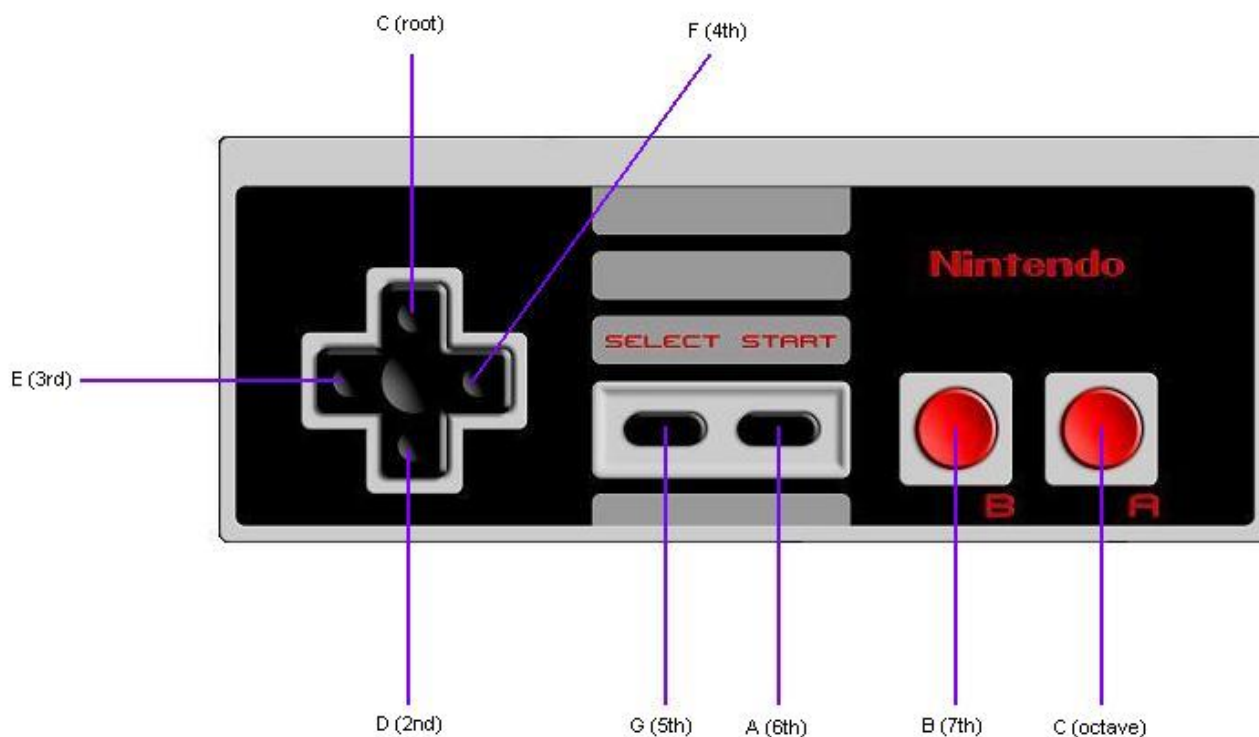
### Drum Mode

This tone bank uses the Sample Channel of the NES. Each button on Controller 1 will trigger a different drum sample. Sample frequency can be adjusted, which affects the pitch and speed of the samples. Only 3 Controllers as used in this tone bank.

- Controller 1: Drum Samples
- Controller 2: Sample Frequency
- Controller 3: Noise Channel (same as in Synth Mode)

The Next few pages will cover the controllers in Synth and Drum Modes in more detail.

## Controller 1 - Notes (Synth)



The image above displays C Major which is the default scale. The Root Note as well as the Scale can be adjusted in Menu and Shortcut modes.

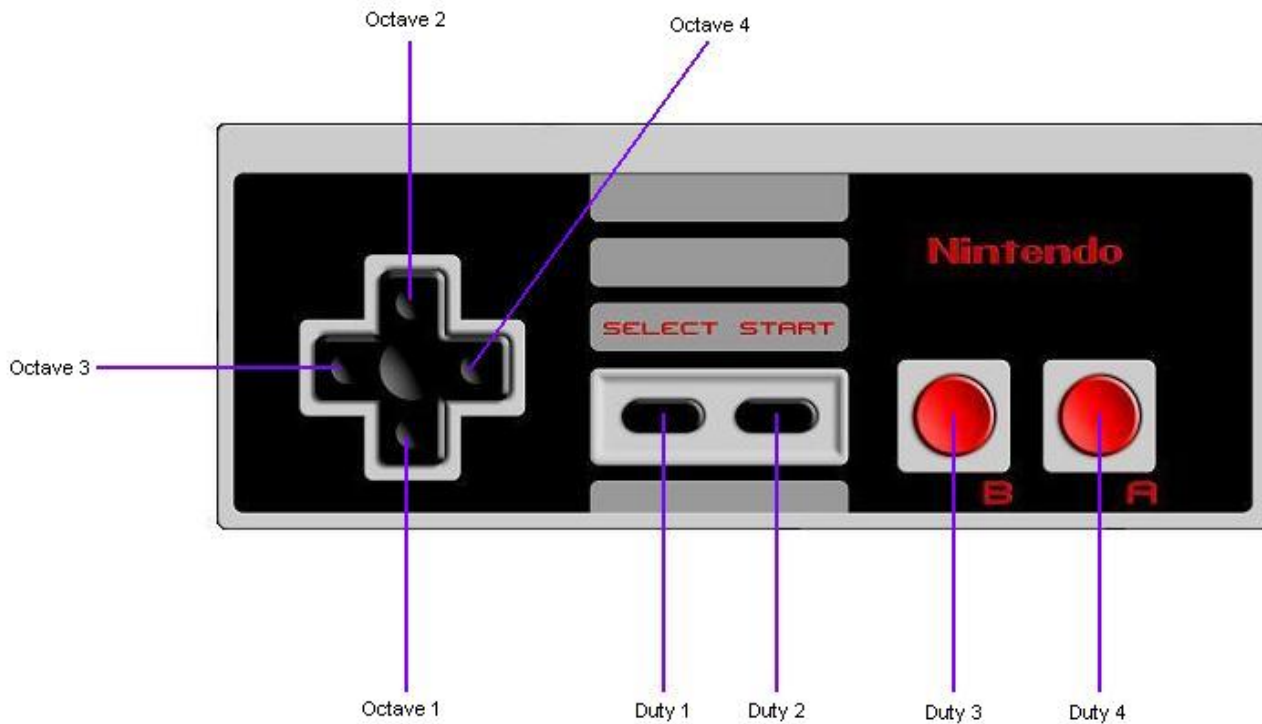
**Scale:** If you were to adjust the scale to C Minor for example, then the LEFT button would play the note E flat instead of the note E because E is flat in the C minor scale.

**Root Note:** If you were to adjust the root note to A then the UP button would play the note A (root note of the scale), DOWN button would play the note B (2nd note of the scale), LEFT button would play the note C (3rd note of the scale), RIGHT button would play the note D (4th note of the scale), and so on.

### Controller 1 Combos

- In Play Mode, press the UP, A and B buttons on Controller 1 to enter Menu Mode
- In Play Mode, press the SELECT, A and B buttons on Controller 1 to enter Synth Menu Mode
- in Play Mode, press the DOWN, A and B buttons on Controller 1 to enter Shortcut Mode

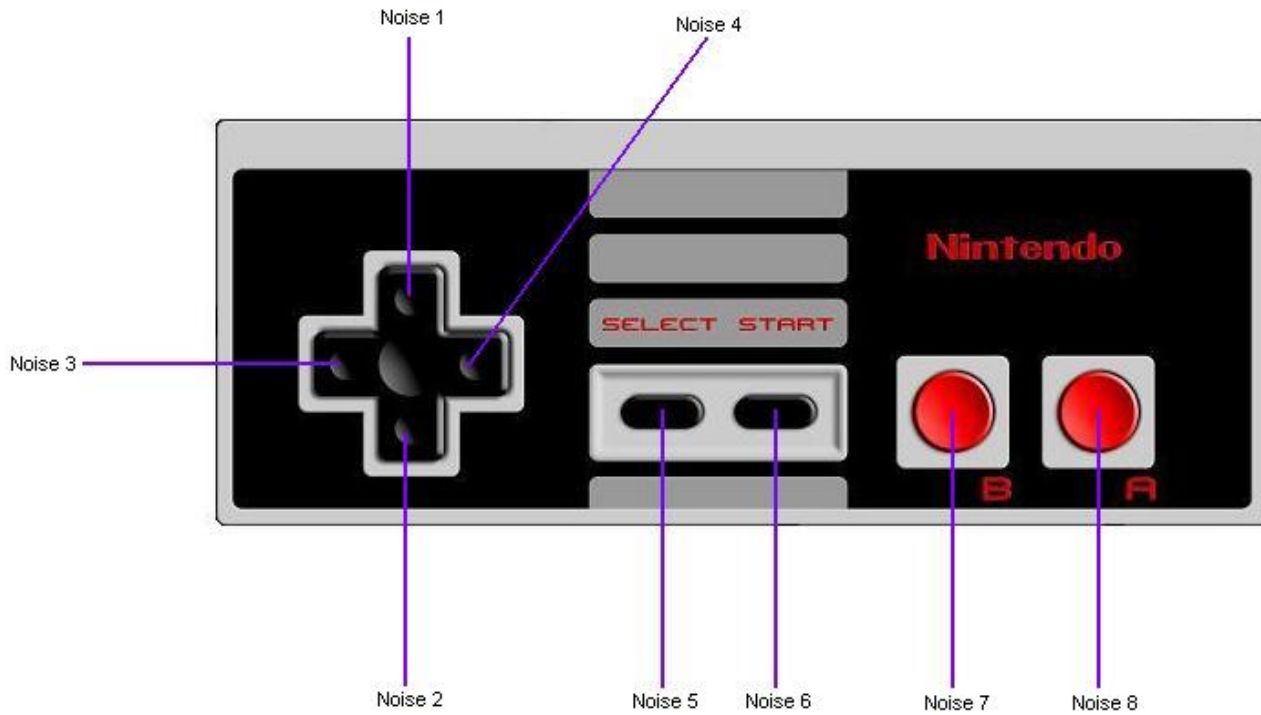
## Controller 2 - Octave & Duty (Synth)



**Octave:** The directional buttons adjust the Octave setting with Octave 1 being the lowest and Octave 4 being the highest.

**Duty:** The remainder of the buttons adjust the Duty setting to one of the 4 options. The Duty affects the tone of the Square Channels.

## Controller 3 - Noise Channel (Synth & Drums)



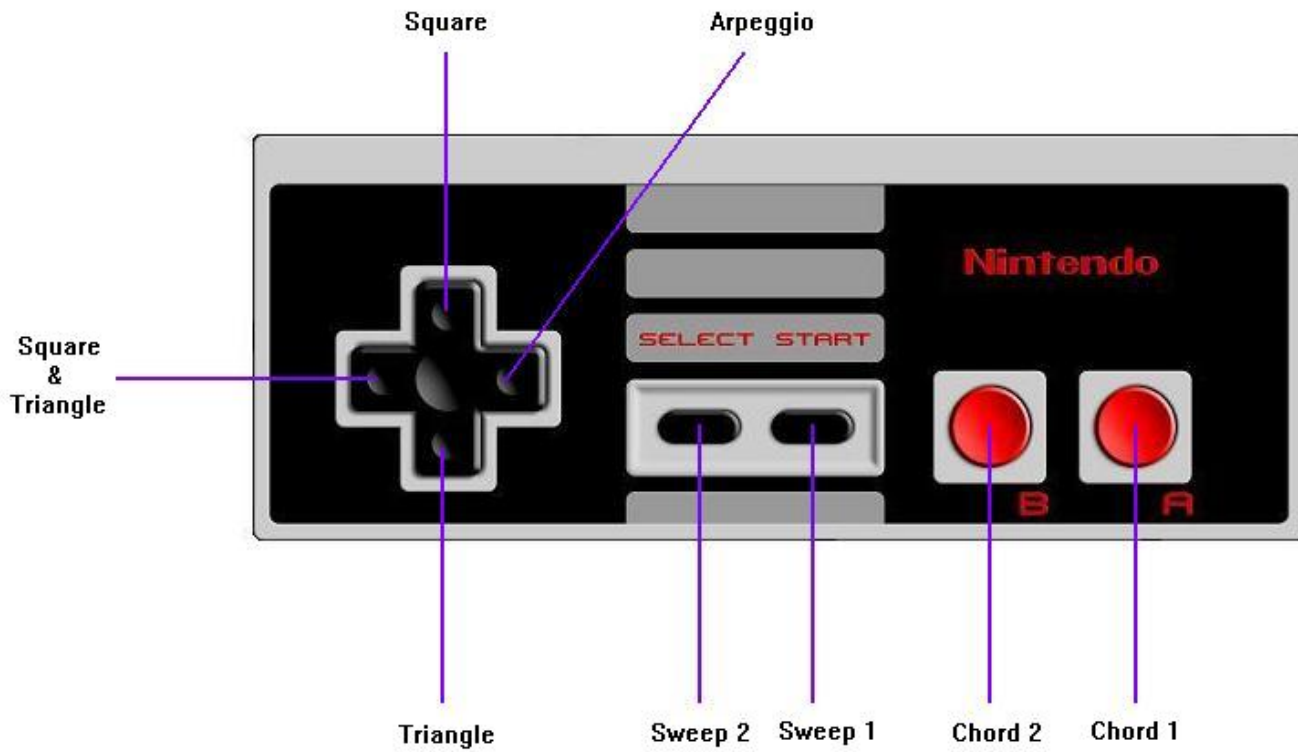
### Noise Channel

- There are two noise banks, Noise Bank A and Noise Bank B
- Each Noise Bank consists of 8 different noises
- Controller 3 is the only controller that is the same in both Synth and Drum Modes

### Controller 3 Combos

- In Play Mode, press the SELECT and A buttons on Controller 3 to choose Noise Bank A
- In Play Mode, press the SELECT and B buttons on Controller 3 to choose Noise Bank B

## Controller 4 - Voices (Synth)



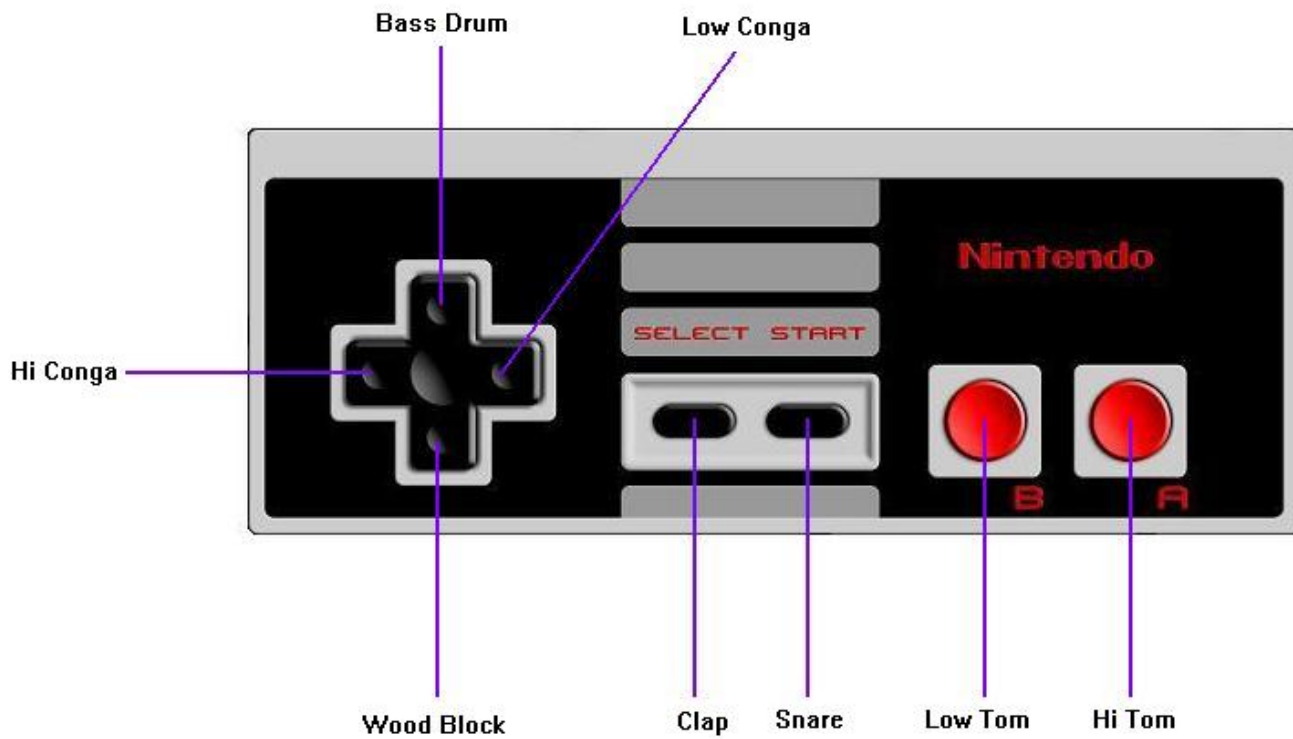
### Voices:

- Each button corresponds to a given voice.
- Arpeggio, Sweep and Chord settings can be adjusted in Menu and Shortcut Modes.
- Triangle channel is 1 octave below the Square Channel.

### Controller 4 Combos

- In Play Mode, press the SELECT and A buttons on Controller 4 to choose Synth Mode
- In Play Mode, press the SELECT and B buttons on Controller 4 to choose Drum Mode

## Controller 1 - Drum Samples (Drums)

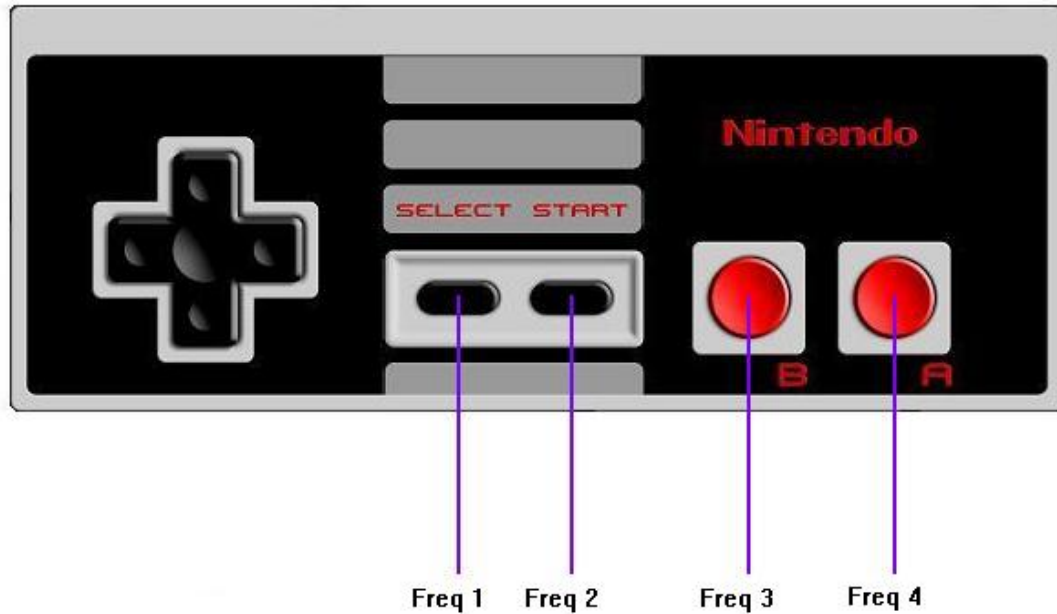


### Drums

- Each button corresponds to a given Drum Sample



## Controller 2 - Sample Frequency (Drums)



### Sample Frequency

- SELECT, START, A and B buttons correspond to a given frequency
- Frequency 1 is the lowest and Frequency 4 is the highest
- Adjusting the frequency affects the tuning and speed of the Drum samples
- Lower Frequency = Lower Pitch and Slower Speed

## Menu Mode

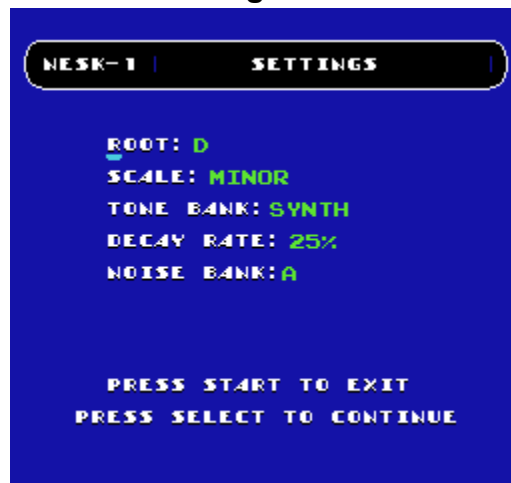
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In this section we will cover the two menu screens and discuss the options and settings that can be adjusted.

### Navigation

- in Play Mode press the UP, A and B buttons on Controller 1 to enter Menu Mode
- Controller 1 is the only active controller in Menu Mode.
- UP / DOWN to select Option
- LEFT / RIGHT to edit Option
- in Menu Mode, press SELECT to switch between the Settings and Synth Menus.
- in Menu Mode, press START to return to Play Mode.

### Settings Menu



**Root Note:** C, C#, D, D#, E, F, F#, G, G#, A, A#, B

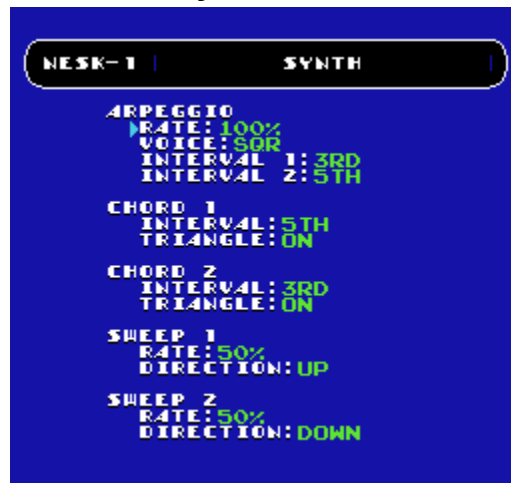
**Scale:** 8 scales including Major, Minor, Phrygian, Harmonic, Dorian, Lydian, Locrian, and Mixolydian

**Tone Bank:** 2 Tone Banks including Synth and Drums

**Decay Rate:** 5 Rates including Off, 25%, 50%, 75%, Infinity. Decay affects the Square channel only

**Noise Bank:** 2 Noise Banks to select from

## Synth Menu



### Arpeggio

Looping 3 note arpeggio. Root Note of chord, then Interval 1, then Interval 2, then back to Root and repeat.

- Rate: 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100%.
- Voice: Square, Triangle, Both (Square + Triangle)
- Intervals: Root, 2nd, 3rd, 4th, 5th, 6th, 7th, Octave

### Chords

2 Chord settings with adjustable Intervals and option to turn the Triangle channel on or off.

- Interval: Unison, 2nd, 3rd, 4th, 5th, 6th, 7th, and Octave
- Triangle: On / Off. Doubles Root note 1 octave lower

### Sweeps

2 Sweep settings with adjustable rate and direction.

- Rate: 25%, 50%, 75%, 100%
- Direction: Up / Down

## Shortcut Mode

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This section will cover Shortcut Mode, which allows you to use the NESK-1 without the use of a T.V. or monitor. When in Shortcut Mode, Key Press Combos on different controllers will adjust the settings. Please refer to the Shortcuts Document for all the Combos.

### Navigation

- in Play Mode press the DOWN, A and B buttons on Controller 1 to enter Shortcut Mode
- All Settings can be adjusted in Shortcut Mode with Key Press Combos (Refer to Shortcuts Document)
- in Shortcut Mode, press START on Controller 1 to return to Play Mode.