



Model RA800P User Guide

Designed and manufactured by

ONBOARD
RESEARCH
CORPORATION

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Quick Start Guide

1. Remove Beatnik from its packaging and remove the rear battery door cover.
2. Install six AA batteries (provided) using the correct orientation indicated inside the battery compartment. Then replace the battery door cover. You can optionally use an AC adapter.
3. Set the Power Switch, located on the rear panel above “Settings,” to **On**.

Using the Default Settings

The default settings set at the factory are: Analyzer=Subdivision; View=Autoswitch; Tempo=60; Note=sixteenth; Skill Level=medium. All are explained in more detail later.

To start your session, simply press the **Start/Pause** button. The built-in metronome sounds sixteenth notes at 60 beats per minute. The four vertical dotted lines on the display represent the four 16th notes in a quarter note.

To test your skills, play the 16th notes with the metronome. When you strike the drum pad, Beatnik displays a real-time view of your stroke timing and calculates a running score of your performance accuracy. When you stop striking the drum pad, Beatnik automatically switches to its History summary view that represents each stroke as a single dot so that you can see the history of every note you played.

To pause your session, press the **Start/Pause** button again.

To reset your score to zero and clear your history, press the **Reset** button.

Changing Default Settings

To change settings for the tempo, note, volume, etc., press the button of the setting you want to change. When the button lights, the selector (round knob) is active for that parameter. Turn the selector until the desired setting appears in the current settings display.

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Special Thanks

Special appreciation and thanks is given to Mark James, Brian Hartig, Mike Drake, Ron Fink, Ed Soph, Christopher Deane, Dan Robbins, J.J. Pepitone, Jim Moen, Henry Okstel and Chris Seiter for their unique contributions in the development of Beatnik Rhythmic Analyzers.

The Beatnik Design Team
Mark Wilson, Niru Nirumandrad, Rusty Membreno, Jim Dulaney, Bob Snyder

Recommended Practice Stands

We recommend the Beatnik Stand (see Optional Accessories, pg.26) for its ease of use and durability. This product can also be attached to any percussion practice pad, bell stand or cymbal stand equipped with a standard 8-millimeter screw.

Warranty

Simply stated, should any product manufactured by OnBoard Research Corporation in 2006 or later no longer perform as originally intended due to wear, workmanship, or even accidental damage, return it to us postage prepaid, include return postage, and we will either replace or repair it at our option -- no questions asked! Beatnik has a Lifetime Warranty inside the U.S.A., and a 2-year warranty outside the U.S.A.

If you require warranty service, send the defective Beatnik with a note containing your name, address, phone number, email address, a short description of the problem and \$10 to cover return postage to the address above.

Table of Contents

Quick Start Guide	ii
Using the Default Settings.....	ii
Changing Default Settings.....	ii
Copyright	iii
Introduction	6
Layout	6
Current Settings Display	8
Data Display	8
Settings Panel	8
Metronome Panel.....	9
Selector.....	9
Power On/Off Switch.....	10
Headphones (or external speaker) Jack	10
AC Jack.....	10
Drum Pad	10
Powering Beatnik	11
Attaching the AC Adapter	11
Inserting Batteries	11
Turning Beatnik On and Off.....	12
Overview of Setting up a Practice Session	12
Setting the Tempo	13
Set Tempo	13
Measured Tempo	13
Selecting a Note	14
Setting the Volume	14
Starting and Pausing a Practice Session	14
Using the Start/Pause button.....	14
Using the Tap Start Control.....	15
The Accuracy Analyzers	15
Groove Analyzer.....	15
Subdivision Analyzer.....	16
View Options in Subdivision Analyzer	16
Skill Levels and Scoring	18
Skill Levels.....	18
Scoring	19
Click/Tap	19
Click Depth Control.....	20
Tap Tempo / Tap Start Control.....	20
Glossary	22
Index	24

Beatnik™ Rhythmic Analyzer Model RA800P User Guide

Product Specifications26
Optional Accessories.....26

Introduction

The Beatnik™ RA800P Rhythmic Analyzer for Percussion from OnBoard Research helps you improve your rhythmic accuracy in ways never before imagined or possible. Whether you're an experienced player who wants some fine-tuning or a promising new talent interested in developing solid rhythmic fundamentals, Beatnik answers the call.

Beatnik is more than a fancy metronome. With its two interactive, practical and intuitive built-in analyzers, Beatnik provides instant visual and audio feedback on your timing and rhythmic accuracy. This lets you immediately analyze your technical precision and assess your strengths and weaknesses to help you speed up your progress toward rhythmic perfection.

After you set the desired rhythm, simply start the rhythm playback and strike the touch-sensitive practice pad. Beatnik's large display shows a visual representation of each stroke in real time and records every stroke for a history view, which lets you see exactly where your strokes occurred in relation to the actual beat with accuracy to the nearest 512th note!

Never before has there been anything like Beatnik. If you have ever wished you knew how your rhythmic and timing skills stack up, Beatnik has all the answers.

Layout

- Current Settings Display
- Real-time and History Data Display
- Settings Panel
- Metronome Panel
- Selector
- Speaker
- Drum Pad
- Power On/Off Switch
- Phones / Speaker Jack
- AC Jack

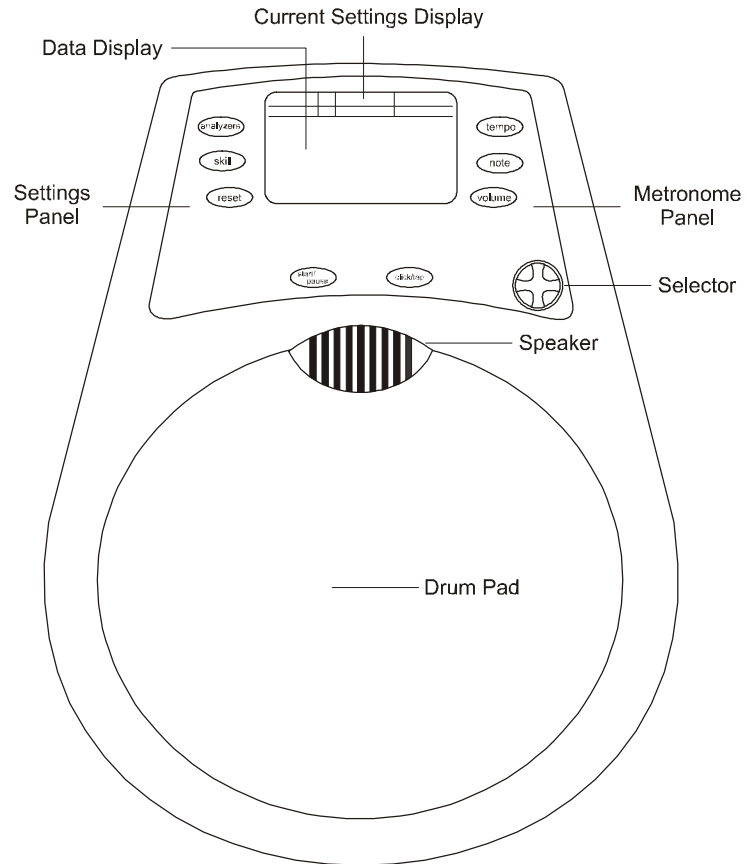


Figure 1. Top View

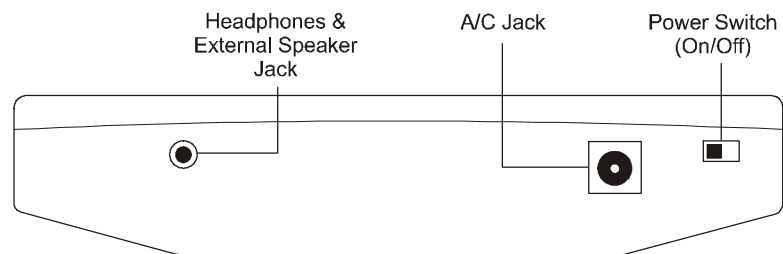


Figure 2. Rear View

Current Settings Display

The current settings display shows a combination of current settings, including the selected accuracy analyzer, view, skill level, volume and tempo settings, and measured tempo and performance score that adjust as you play.

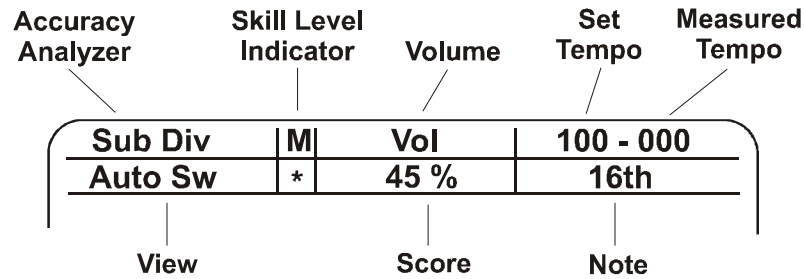


Figure 3. Current Settings Display

Data Display

The data display is 48 x 128 pixels. Each time you strike the drum pad, Beatnik records the timing of the stroke and represents it as one or more pixels in the data display. You can change the view to show your timing and rhythmic accuracy in a variety of ways to help you better understand your performance strengths and weaknesses.

Settings Panel

The Settings panel includes the following controls:

- **Accuracy Analyzers** – Lets you select from two accuracy analyzers: Groove, Subdivision. See “Accuracy Analyzers.”
- **Skill** – Lets you select the skill level for the practice session: Low, Medium, High, or Expert. See “Skill Levels and Scoring.”
- **Reset** – Lets you erase all practice session scores and stroke history from memory.
- **Start/Pause** – Lets you start or pause the current practice session.

Metronome Panel

The Metronome panel includes the following controls:

- **Tempo** – Lets you change the metronome’s tempo (quarter note beat).
- **Note** – Lets you set the note (for example, 8th or 16th) you intend to play.
- **Volume** – The Volume control lets you adjust the volume of the metronome click.
- **Click/Tap** – The Click control adjusts the “depth” or frequency of the subdivided metronome clicks. The Tap Set control lets you set the metronome tempo simply by striking the drum pad. The Tap Start control lets you tap a count off and automatically start a practice session on the fly at the detected tempo. See “Click/Tap.”

Selector

The selector lets you select settings for the currently active function. When you press a button, the button illuminates, indicating that the selector controls that function.

Note: All buttons work this way except the Reset, Start/Pause and Click/Tap buttons.

To scroll between options or values, turn the selector clockwise or counterclockwise. The changes to options or values appear in the current settings.

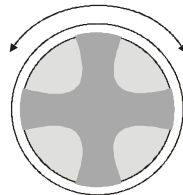


Figure 4. Selector

The selector is speed-sensitive, which means you can advance more quickly the faster you turn the control. For example, if you wanted to change the tempo from 60 to 240, quickly turn the selector clockwise

to cover a wider range in less time. For smaller ranges, turn the selector more slowly.

Power On/Off Switch

Beatnik provides a simple two-position on/off switch. The left position is Off and the right position is On.

Headphones (or external speaker) Jack

The headphones jack lets you listen to Beatnik clicks in headphones when you connect standard headphones equipped with a 3.5mm plug. The output speaker is disconnected when a headphone plug is inserted in the Beatnik's headphone jack. External speakers such as computer speakers can also be used if equipped with a 3.5mm plug.

AC Jack

The AC jack lets you power Beatnik from a standard AC outlet using the optional Beatnik AC adapter, or other adapter that confirms to the required specification.

Drum Pad

The drum pad resembles a standard drum practice pad. This special pad is made of a patented resilient polymer that stands up to the most rigorous practice demands.

Powering Beatnik

You can power Beatnik using six AA batteries or an optional AC adapter. The AC Adapter output specifications are as follows: 9V, DC300mA with the Tip plug connector in the Positive position. We recommend the Beatnik AC adapter optional accessory. (see pg.26)

Attaching the AC Adapter

To save battery power, you can power Beatnik using the optional Beatnik adapter.

To attach the AC adapter:

1. Plug the adapter's barrel plug into the AC jack on the back of Beatnik.
2. Plug the other end of the adapter into a standard AC outlet.

Inserting Batteries

If AC power is not available, you can power Beatnik using six AA batteries.

To insert batteries:

1. Remove the battery compartment cover by pressing the two flexible tabs and lifting off the cover.
2. Insert six AA batteries so that their positive (+) and negative (-) ends are correctly positioned, as shown below.

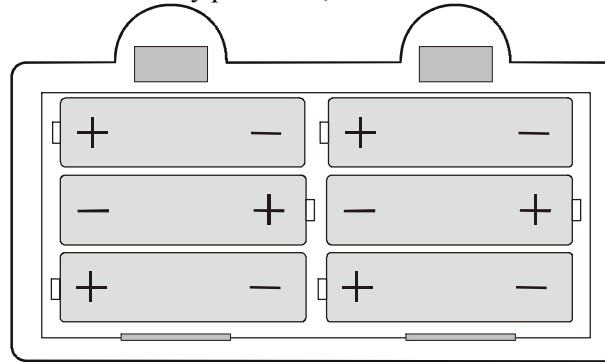


Figure 5. Battery Position

3. Replace the battery compartment cover by inserting the cover's two fixed tabs in the tab slots. When changing batteries, it is strongly recommended to change all six batteries at once with new fresh batteries of the same brand. Please refer to your battery manufacturer's instructions for using batteries and disposing of old batteries.

Turning Beatnik On and Off

To turn on Beatnik: Set the Power Switch on the rear panel to **On**. The liquid crystal display shows an introductory startup screen for two seconds, then sets up according to saved references.

To turn off Beatnik: Set the Power Switch to **Off**.

Overview of Setting up a Practice Session

Setting up a typical practice can be as simple as 3 steps:

1. Turn on Beatnik using the **Power Switch**.
2. Press the **Start** button to begin a practice session.
3. Practice.

Additional steps or settings changes can include:

4. Setting the desired accuracy analyzer and desired view, using the **Analyzers** button.
5. Setting the desired skill level, using the **Skill** button.
6. Setting the desired tempo, using the **Tempo** button.
7. Setting the desired note subdivision, using the **Note** button.
8. Setting the desired volume using the **Volume** button.
9. Pausing the practice session using the **Pause** button to review your results.

Setting the Tempo

Set Tempo

The *set tempo* is the metronome marking that you set for the quarter note beat. For example, if the current settings display shows a set tempo of “120,” Beatnik is set to play 120 quarter note beats per minute.

To set the tempo using the selector:

1. Press the Tempo button. The button illuminates, indicating the selector is controlling the tempo.
2. Turn the selector to display the desired tempo.
3. Press the Start button to start a practice session.

To set the tempo using the Tap Tempo function:

1. With Beatnik paused, press the Click/Tap button once.
2. Strike the drum pad at least two times to set a tempo.
3. Press the Start button to start a practice session.

Note: See “Click/Tap” for more information.

To set the tempo using the Tap Start function:

1. With Beatnik paused, press the Click/Tap button twice.
2. Turn the selector until the desired count-off number is displayed.
3. Strike the drum pad to start the count-off, set the tempo, and start a practice session automatically.

Note: See “Click/Tap” for more information.

Measured Tempo

The *measured tempo* is the tempo of your strokes as Beatnik measures them. For example, if the set tempo is “120” and the measured tempo is on or around “130,” your strokes are occurring at a faster tempo than Beatnik, which means you’re playing ahead of the beat (i.e., rushing).

Selecting a Note

Beatnik uses a quarter note as its fundamental beat. The note selection function lets you select a subdivided note for the quarter note. For example, you can select a quarter note, 8th note, 8th note triplet, 16th note, 5 over 1, 16th note triplet, 7 over 1, and 32nd note. When you start a session, Beatnik plays the subdivided note.

To select a note value:

1. Press the **Note** button once. The button illuminates to indicate the selector is controlling the note or beat.
2. Turn the selector until you see the desired note value in the current settings display.

Setting the Volume

The Volume function lets you adjust the volume of a playback session.

To set the volume:

1. Press the **Start/Pause** button to start a practice session.
2. Press the **Volume** button once to activate the selector.
The **Volume** button illuminates to indicate the selector is controlling volume.
3. Turn the selector to the desired volume. The progress bar changes in the current settings display as you turn the selector.

Starting and Pausing a Practice Session

Using the Start/Pause button

The **Start/Pause** button lets you start and pause a practice session.

To start a practice session based on the current settings, press the **Start/Pause** button. When you press this button, Beatnik plays the current rhythm indefinitely or until you press the Start/Pause button again. During playback, Beatnik records any strokes that occur.

To pause a practice session, press the **Start/Pause** button during playback.

Note: If the View is set to Auto Switch and you stop playing while the metronome continues to sound, Beatnik automatically switches to the History view. This lets you immediately view practice results without pausing the session or manually changing views. As soon as you resume playing, Beatnik automatically switches to Realtime view and continues to record your playing history. See “View Options” for more information.

Using the Tap Start Control

You can also use the Tap Start function to start a practice session. See “Click/Tap” below.

The Accuracy Analyzers

Beatnik features two accuracy analyzers, each of which lets you analyze your performance skills in a unique way.

Groove Analyzer

Groove Analyzer is intended to help you improve your ability to create and play in a “groove.” This analyzer tests your ability to play with consistent tempo, regardless whether it is ahead of or behind the beat of the metronome.

Groove features a horizontal tempo range with the set tempo displayed in the center, a moving arrow that shows your measured tempo as the practice session progresses, and buzzers to warn you of drifting tempo.

If your measured tempo remains within the limits of the skill tolerance range, Beatnik remains silent. If your measured tempo slows down below the skill tolerance range, Beatnik sounds a low warning beep. If your measured tempo speeds up and exceeds the skill tolerance range, Beatnik sounds a high warning beep. The four skill button tolerances are +/- 5bpm, +/-10bpm, +/-20bpm and +/-25bpm.

You can avoid the warning beeps by maintaining a consistent tempo.

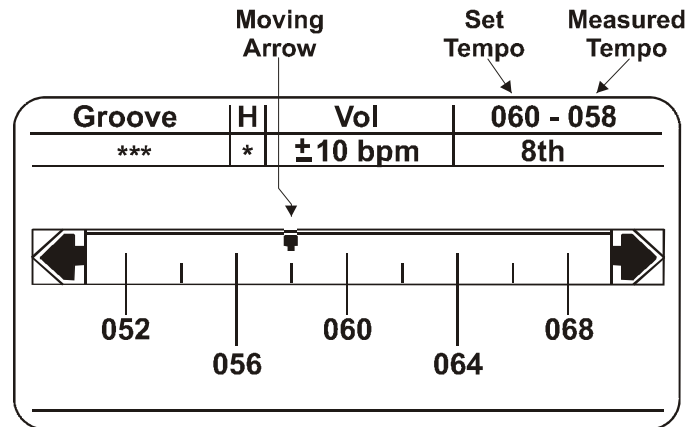


Figure 6. Groove Analyzer

Subdivision Analyzer

Subdivision Analyzer is intended to help you improve the timing of each subdivision within the fundamental quarter note beat. The Subdivision Analyzer shows a separate vertical click marker for each subdivision of the beat. The data display's total width represents one complete quarter note beat, and each of the 128-pixel columns represents one 512th note. The score is based on the timing precision of each note in relation to the metronome, as well as the selected skill level.

View Options in Subdivision Analyzer

Beatnik features three different ways to view the results of your practice session in Subdivision Analyzer. You can use the Analyzer button and the Selector to set up the view you want.

Realtime – This view displays a single, touch-sensitive, vertical stroke indicator each time you strike the drum pad. In Realtime view, Beatnik records the history but displays only the stroke indicator for the most recent stroke, allowing you to concentrate on each stroke as you make it.

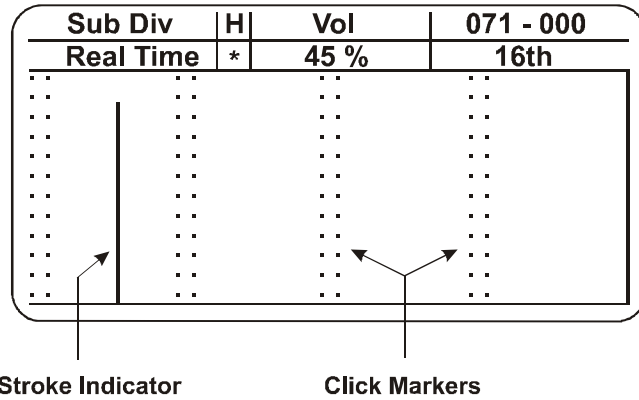


Figure 7. Subdivision Analyzer with a Realtime View

Each time you strike the drum pad, the stroke indicator appears before, after, or directly on the click marker, showing where your stroke occurred in relation to the metronome click.

History – This view depicts each stroke as a single pixel within the data display. Over the course of the entire practice session, the pixels accumulate from the bottom up to provide, at a glance, a clear picture of your timing tendencies. For example, a History view that shows the majority of the strokes (pixels) near a click marker means that you were very accurate. On the other hand, if the history view shows several pixels that are before and after the click marker, as well as some on the click marker, your timing needs work.

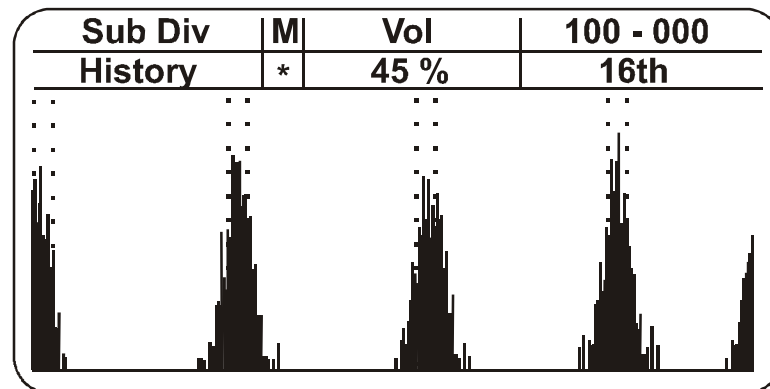


Figure 8. Subdivision Analyzer with a History View

Auto Switch – This view automatically switches between Realtime view and History view, depending on whether you are striking the drum pad. In Auto Switch view, Beatnik automatically displays History view after it detects no drum pad activity for one complete beat. Beatnik automatically switches to Realtime view when you resume striking the drum pad. This provides added convenience by showing practice results as soon as possible without having to manually change views.

Skill Levels and Scoring

Skill Levels

Beatnik lets you adjust the skill level to allow a wider margin of tolerance for timing accuracy. You can select from the following levels:

- Low
- Medium
- High
- Expert

Beatnik calculates the margin of tolerance in 512th notes. For example, the Expert level allows a margin of a single 512th note to determine a “perfect” stroke. That is, to obtain a perfect score of 100% at the Expert level, your stroke must be within one 512th note of the actual beat.

The margins of tolerance for the different skill levels are as follows:

Low – within seven 512th notes

Medium – within five 512th notes

High – within three 512th notes

Expert – within one 512th note

The skill level can significantly affect the score. The Low skill level is the most forgiving and typically results in the highest scores.

Conversely, the Expert level allows a very narrow margin for error, which can result in much lower scores. You can change the skill level when Beatnik is paused and instantly see the change in score. The current settings display indicates the skill level as shown below.

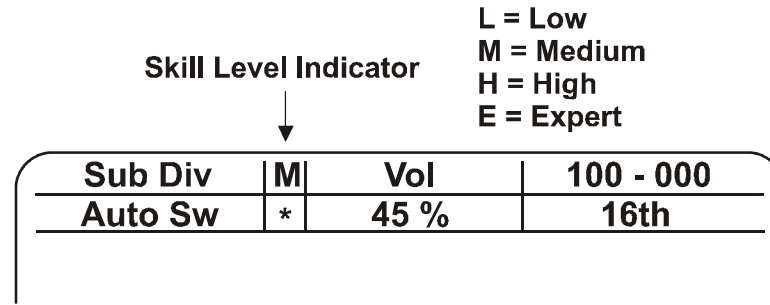


Figure 9. Skill Level Indicator

To set the skill level using the selector:

4. Press the **Skill** button. The button illuminates, indicating the selector is controlling the skill level.
5. Turn the selector to display the desired skill level.

Scoring

The score reflects the accuracy of all notes in the rhythmic pattern based on the selected skill level. The score area on the current settings display represents the score as a percentage, with a lower percentage indicating less accuracy and a higher percentage indicating more accuracy. During the practice session, the score changes dynamically to indicate the cumulative score for all notes that have been played thus far.

Click/Tap

The Click/Tap button works two ways. If the practice session is started and running, the button functions as the Click Depth control. If the

practice session is paused, the button functions as the Tap Tempo or Tap Start control.

Click Depth Control

During a practice session, the Click Depth control adjusts the “depth,” or frequency, of the subdivided metronome clicks. For example, if the subdivision is 32nd notes at a quick tempo, you might want to reduce the clicks to a lower subdivision such as 16th notes, 8th notes, or quarter notes. At faster tempos, this can make it easier to distinguish your strokes from the audible metronome clicks. Each time you press the Click/Tap button, you reduce the click depth by half until only the quarter note beat sounds. Even if you reduce the click depth, Beatnik still records and scores all strokes for the selected note subdivision.

To change the click depth:

1. Press the **Start/Pause** button to start playback.
2. Press the **Click/Tap** button to adjust the click depth.

Tap Tempo / Tap Start Control

The Tap control works as either a Tap Tempo control or a Tap Start control. The Tap Tempo control simply sets the tempo based on strokes on the drum pad, allowing you to manually start a practice session later. The Tap Start control sets the tempo and automatically starts a practice session based on a number of count-off beats that you specify, allowing you to start a practice session “on the fly.”

To use the Tap Tempo function:

1. With Beatnik paused, press the Click/Tab button once.
2. Strike the drum pad twice and view the resulting tempo.

Note: The tempo displayed assumes you are playing quarter notes.

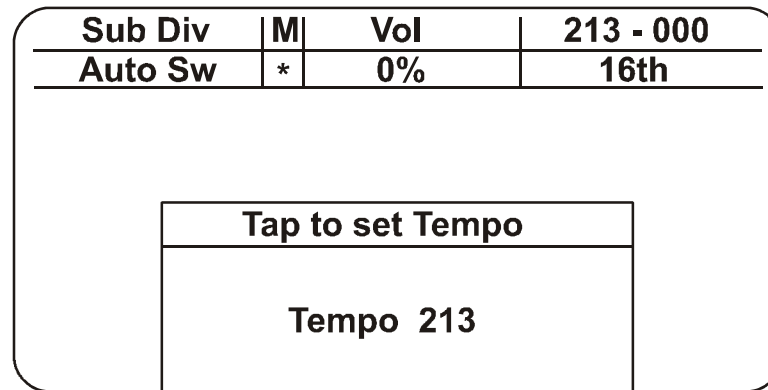


Figure 10. Tap Tempo

To use the Tap Start function:

1. With Beatnik paused, press the Click/Tab button twice.
2. Turn the selector to set the desired number of count-off beats.
3. Strike the set number of count-off beats on the drum pad at the desired tempo. Beatnik assumes your taps are quarter notes. Beatnik starts automatically at the tempo of the count-off beats.
4. To stop a practice session started with Tap Start, press the **Start/Pause** button.

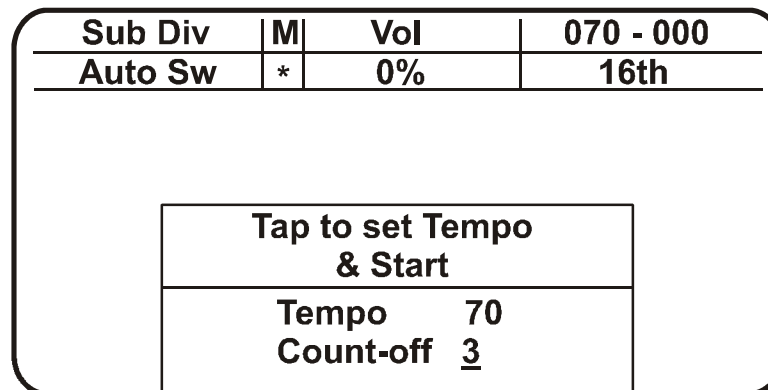


Figure 11. Tap Start

Glossary

Auto Switch — a view option that switches automatically between Real-time view and a History view.

Beat — the fundamental quarter note beat that Beatnik uses as a basis for determining note subdivisions, phrases, and tempo settings.

Click — the audible metronomic click that indicates the playing tempo, as well as rhythmic subdivisions. Beatnik provides clicks in different tones (high and low) to distinguish between the main beat and subdivisions of the beat.

Click Marker — vertical dotted line(s) in the data display that denotes the location of the metronome's clicks.

Data Display — the bottom portion of the LCD that shows when you strike the drum pad, how hard you strike the pad, and a cumulative representation of all strikes during a practice session in the form of individual pixels.

Groove Analyzer — an accuracy analyzer that tests your ability to play with consistent tempo, regardless whether it is ahead of or behind the beat of the metronome.

History — a view option that depicts each stroke as a single pixel within the data display for each vertical click marker.

Measured Tempo — the tempo of your strokes as they correspond to a measurement in beats per minute.

Realtime — a view option that displays a single, touch-sensitive, vertical stroke indicator each time you strike the drum pad.

Selector — a speed-sensitive control that lets you set values for various Beatnik functions.

Current Settings Display — shows a combination of current settings, including the selected skill level, note, volume and tempo settings, and measured tempo and performance score that adjust as you play.

Set Tempo — the metronome marking for the quarter note beat.

Stroke — a single strike of the drum pad.

Subdivision Analyzer— an accuracy analyzer that shows a separate vertical click marker for each subdivision of the beat, based on the selected note. For example, if the selected note is an 8th note, two vertical click markers appear on the data display.

Subdivision — a rhythmic fraction of the main quarter note beat (for example, 8th notes and 16th notes).

Tap Tempo — sets the tempo based on strokes on the drum pad, allowing you to manually start a practice session later.

Tap Start — sets the tempo and automatically starts a practice session based on a number of count-off beats, allowing you to start a practice session “on the fly.”

Index

A

AC adapter · 10
AC jack · 5, 9
accuracy analyzers · 7, 11, 12, 23
auto switch · 15, 18, 22

B

batteries · 10
beat · 22

C

click depth · 19
click marker · 22
click/tap button · 8, 19
current settings display · 5, 7, 22

D

data display · 5, 7, 13, 22
depth
 click · 8, 19
display
 current settings · 7
drum pad · 5, 7, 9

E

expert skill level · 15

G

groove analyzer · 12, 22

H

headphones · 9
headphones jack · 5
high skill level · 15
history view · 5, 14, 18, 22

I

introduction · 5

L

layout · 5
low skill level · 15

M

measured tempo · 7, 12, 17, 22
medium skill level · 15
metronome panel · 5, 8

N

note, selecting · 18

P

pause · 7, 18
pixel · 7, 13, 14, 22
power switch · 5, 9
powering · 10, 11
practice session
 setting up · 11
 starting · 18

R

real-time view · 13, 15, 22
reset · 7, 8

S

score · 7, 13, 15, 16
scoring · 15, 16
selector · 5, 8, 16, 17, 22
set tempo · 17, 22
settings panel · 5, 7
skill level · 7, 15, 16
speaker · 5
speaker jack · 5
start/pause button · 7, 18, 20

subdivision analyzer · 13, 23

T

tap set · 8
tap start · 8, 17, 18, 19, 20, 23
tap tempo · 17, 19, 23
tempo
 measured · 7, 12, 17, 22
 setting · 8, 17

V

view options · 13
volume button · 7, 8, 21

Product Specifications

Timing Precision:	Accurate to the nearest 512 th note
Metronome Range:	25 – 250 beats per minute
Battery Type:	AA Size, 6 required, included
Power Supply:	9 Volts, 300mA
Headphone Jack:	3.5mm, headphones included
Weight:	2.5 pounds (1.33kg)
Dimensions:	9.75" (76mm) x 13" (330mm) x 2.75" (69mm)
Stand Screw Thread Size:	8mm screw, stand not included

Optional Accessories

1. Beatnik Practice Stand
2. Beatnik AC Adapter
3. Beatnik Carrying Case

Call the OnBoard Research Toll-Free at 1-800-340-8890 for pricing and availability, or go to www.tuners.com for online ordering.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including that which may cause undesired operation.

This Class B digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Uses 6 AA size alkaline batteries or 9V DC adapter. Assembled & Tested in the U.S.A. from imported parts.



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Patents Pending



Notes