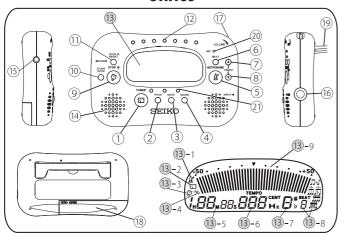# SEIKO METRONOME & TUNER with STOPWATCH
STH100

INSTRUCTION MANUAL

FOR SAFE OPERATION

⚠ CAUTION

- Do not disassemble, attempt to repair or tamper with the Metronome/Tuner as it may cause a short circuit.
- Do not operate the buttons with wet hands as it could result in a short circuit or electric shock.
- Do not expose the batteries to fire. They may explode, generate an intense heat or catch fire.
- Install the batteries, checking that the (+) and (−) terminals are properly connected. Otherwise, a malfunction may result.
- Do not use or keep Metronome/Tuner in the following places:
  - Places where Metronome/Tuner is exposed to extremely high temperatures such as direct sunlight, near or on a heating unit.
  - Humid places such as bathroom, sink or wet floor.
  - Dusty places.
  - Places where Metronome/Tuner is subjected to strong vibrations.
- If Metronome/Tuner is left unused for a long time, remove the batteries. Otherwise, battery leakage may occur, causing a malfunction.
- Do not apply undue force to Metronome/Tuner or drop or hit it against hard surfaces as it may result in a malfunction and injuries.
- Do not use thinner or alcohol to clean Metronome/Tuner as it may result in damage.

NAMES OF PARTS

① Tuner button
② Pitch button
③ Note button
④ Sound button
⑤ Metronome button
⑥ Beat button
⑦ Tempo-up button
⑧ Tempo-down button
⑨ Stopwatch button
⑩ Start/stop button
⑪ Reset button
⑫ Metronome indicator lamps
⑬ LCD display
⑭ Speaker
⑮ Earphone jack (monaural)
⑯ Input jack
⑰ Volume control
⑱ Battery cover
⑲ Tilt stand/bracket for attachment to music stand
⑳ Built-in microphone
㉑ Tuning guide lamps

⑬-1 Metronome mode mark
⑬-2 Tuner mode mark
⑬-3 Stopwatch mode mark
⑬-4 Sound tuning mark
⑬-5 Stopwatch indication
⑬-6 Cent/reference pitch/tempo indication
⑬-7 Note indication
⑬-8 Octave/beat/rhythm indication
⑬-9 Tuning meter

HOW TO USE TUNER MODE

Tuning with Tuning Meter

1) Press Tuner Button to turn on Tuner Mode. Tuner Mode Mark will appear.
2) Press Pitch Button to set the desired reference pitch.
   * The digits move quickly if the button is kept pressed.
3) Bring the instrument close to Built-In Microphone, and play it to give a single note.
   * When using a contact microphone sold separately such as STM20 for tuning, insert the plug of the microphone into Input Jack. While the plug is connected into Input Jack, Built-In Microphone is disabled.
4) Tune the instrument until the pointer of Tuning Meter and Cent Indication indicate "0".
   * When discrepancy between the input note and the note indicated by Note Indication is within the range of ±3 cents, Tuning Guide Lamp in the middle will light up in green.

Tuning to a Reference Note

1) Press Sound Button to give out a reference note. The Sound Tuning Mark will appear.
   * The volume of the sound can be adjusted by turning Volume Control.
   * Another press of Sound Button will stop the sound.
2) Press Note Button to choose the note you wish to tune to, and press Pitch Button to set the desired reference pitch.
3) Tune the instrument until it is in tune with the reference note given out by Tuner.
   * While the reference note is given out, no note can be input from Built-In Microphone or Input Jack, thus making it impossible to tune the instrument using Tuning Meter.

HOW TO USE METRONOME MODE

1) Press Metronome Button to turn on Metronome Mode. The Metronome Mode Mark will appear. Metronome Indicator Lamps light up alternately both ways to the tempo you have set, and the tempo sound is given out from Speaker.
   * The volume of the sound can be adjusted by turning Volume Control.
2) Press Tempo-Up or Down Button to set the desired tempo.
   * The digits move quickly if the button is kept pressed.
3) Press Beat Button to set the desired beat and rhythm.
   * The digits move quickly if the button is kept pressed.

HOW TO USE STOPWATCH MODE

1) Press Stopwatch Button to turn on Stopwatch Mode. The Stopwatch Mode Mark will appear.
2) Press Start/Stop Button to start the stopwatch measurement.
3) Start and stop of the stopwatch can be made repeatedly by pressing Start/Stop Button.
   * When the stopwatch is stopped, the accumulated elapsed time is displayed.
   * The stopwatch measures up to 1 hour, 59 minutes and 59 seconds in second increments.
4) To reset the digits to "0", press Reset Button after stopping the measurement.

SIMULTANEOUS USE OF MODES IN COMBINATION

- The Tuner, Metronome and Stopwatch Modes can be used simultaneously in a desired combination.
- When Tuner and Metronome Modes are used simultaneously, LCD Display shows Tuning Meter and other indications for Tuner Mode on a priority basis (Fig. 1). By pressing Tempo-Up, Tempo-Down or Beat Button, the display for Metronome setting appears temporarily, and tuning of instruments cannot be made while Metronome setting is underway.

[Fig. 1]

OTHER FUNCTIONS

- The Auto Power-Off Function: Each mode is automatically turned off if no button operation or note input is made for a certain period of time as shown in the table below.

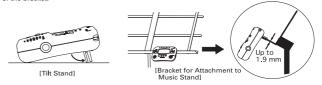| Tuner Mode	After the last button operation or note input was made	Tuner Mode is turned off in 30 minutes
Metronome Mode	After the last button operation was made	Metronome Mode is turned off in 30 minutes
Stopwatch Mode	After accumulated elapsed time reached 1:59:59	All modes are turned off in one second
	After the stopwatch measurement is stopped	Stopwatch Mode is turned off in 30 minutes

Auto-Power-Off Function can be deactivated temporarily by following the procedure below:
After turning off all modes, press Reset, Beat and Tuner Buttons at the same time. Flashng "OFF" is dislayed for 1.5 seconds (Fig. 2).
* Once Metronome/Tuner is turned off, the Auto-Power-Off Function is resumed when it is turned on again.

[Fig. 2]

- Memory Backup Function: The settings you have made are stored in memory. If the batteries are removed for battery replacement or other purposes, the stored settings will be erased.
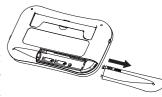- Tilt Stand/Bracket for Attachment to Music Stand: It can be used as a stand to prop up Metronome/Tuner and a bracket for attaching it to a music stand. To use it, raise it until it clicks fixed. To attach Metronome/Tuner to a music stand, insert the edge of the music stand into the slit of the bracket.

[Tilt Stand]   [Bracket for Attachment to Music Stand]   Up to 1.9 mm

BATTERY CHANGE

When batteries near their end, LCD display becomes dim, and the brightness of LED lamps reduces. In that case, replace batteries with new ones immediately.

1) Turn off all modes.
2) Slide battery hatch on the rear in the direction of the arrow to remove it.
3) Remove the old batteries, and insert new R03/LR03 (AAA) dry batteries, checking that their terminals are properly aligned.
4) Press each mode button to check that Metronome/Tuner operates properly.
   * Replace the two batteries at the same time. Do not mix old and new batteries or batteries of different makes and types together.
   * When disposing of old batteries, observe regulations of the authorities concerned.
   * Batteries included with your Metronome/Tuner are monitor batteries, and their battery life may be shorter than the specified period.

CAUTIONS ON USING METRONOME/TUNER

- Use of earphones may adversely affect your hearing. When using earphones with Metoronome/Tuner, do not turn the volume up too high, or use it for too long.
- While Tuner Mode is turned on, it may pick up noise from the surrounding environment or the hum noise generated by electric appliances, and shows indications as if a note is played. This is not a malfunction.
- Please note that musical instruments that generate harmonic overtones or short sustaining tones may not be tuned accurately even though the note input to Tuner is within the tunable range.

SPECIFICATIONS

TUNER

TUNING RANGE	:	A0 ~ C8
REFERENCE NOTE	:	C4 ~ B4 (12 notes)
TUNING ACCURACY	:	±1 cent (when Tuner Mode is used alone)
REFERENCE NOTE ACCURACY	:	±1 cent
PITCH SHIFT	:	A4 = 410 Hz ~ 450 Hz (at 1 Hz steps)

METRONOME

TEMPO RANGE	:	30 bpm ~ 250 bpm
BEAT AND RHYTHM	:	0 ~7, ♩, ♪, ♫, ♬, ♩♩♩, ♫♫
TEMPO ACCURACY	:	±0.1%

STOPWATCH

MEASUREMENT INCREMENT	:	1 second
MAXIMUM MEASUREMENT TIME	:	1 hour, 59 minutes and 59 seconds

OTHER SPECIFICATIONS

ADDITIONAL FUNCTIONS	:	Memory backup, auto power-off
TERMINAL	:	Input jack (φ6 mm, monaural), earphone jack (φ3.5 mm, monaural)
POWER SUPPLY	:	R03/LR03 (AAA) dry battery, 2 pieces (3 V)
OVERALL DIMENSIONS	:	121.7 (W) x 74.5 (H) x 27.1 (D) mm (including protrusions)
WEIGHT	:	145 g (including batteries)
ACCESSORIES	:	Instruction manual and monitor batteries (AAA-size manganese batteries, 2 pieces)

* The design and specifications are subject to change without prior notice for product improvement.