

## ACOUSTIC DRUM TRIGGER

KICK TRIGGER **RT-10K**

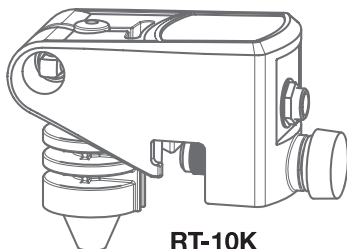
SNARE TRIGGER **RT-10S**

TOM TRIGGER **RT-10T**

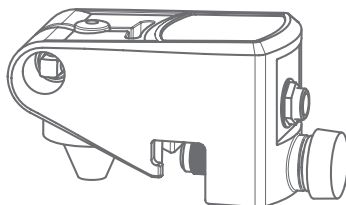
# Owner's Manual

Thank you, and congratulations on your choice of the Roland RT-10 series.

Before using this unit, carefully read the sections entitled: "USING THE UNIT SAFELY" and "IMPORTANT NOTES" (p. 2; p. 3). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, Owner's manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.



RT-10K



RT-10S/RT-10T

### VERY IMPORTANT!!!

- **Mounting The Drum Trigger Correctly** (p. 6)
- **Setting Trigger Parameters in a Percussion Sound Module** (p. 14)

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# USING THE UNIT SAFELY

## INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About  WARNING and  CAUTION Notices


 <b>WARNING</b>	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
 <b>CAUTION</b>	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols


	The  symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
	The  symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
	The  symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

### ALWAYS OBSERVE THE FOLLOWING


#### **WARNING**

- Before using this unit, make sure to read the instructions below, and the Owner's Manual. 



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- Do not open or perform any internal modifications on the unit. 


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- Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page. 


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- Never use or store the unit in places that are:
  - Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are 
  - Damp (e.g., baths, washrooms, on wet floors); or are 
  - Humid; or are
  - Exposed to rain; or are
  - Dusty; or are
  - Subject to high levels of vibration.


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- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit. 


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- Do not drop it! 


#### **CAUTION**

- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children. 

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- Never climb on top of, nor place heavy objects on the unit. 

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- Should you remove the hoop guard and the sensor bolt/nut, keep them in a safe place out of children's reach, so there is no chance of them being swallowed accidentally. 

# IMPORTANT NOTES

In addition to the items listed under “USING THE UNIT SAFELY” on page 2, please read and observe the following:


## Placement

- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Excessive heat can deform or discolor the unit.

## Maintenance

- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

## Additional Precautions

- Use a reasonable amount of care when using the unit’s buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable’s internal elements.
- To avoid disturbing your neighbors, try to keep the unit’s volume at reasonable levels (especially when it is late at night).
- Security Slot   
<http://www.kensington.com/>

# Before You Start

## Contents of the Package

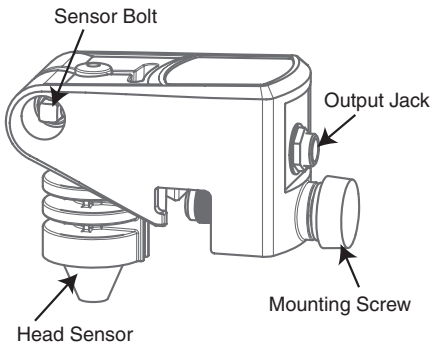
- Drum trigger
- Connection cable
- Owner's Manual (this manual)
- Two hoop guards (RT-10K only)

## Features

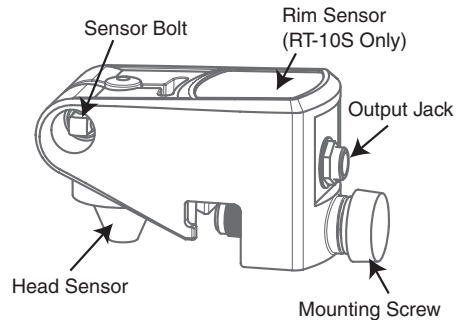
- Works perfectly with Roland V-Drums Modules
- High-Accuracy Sensor for Perfect Triggering
- Dual Trigger for Head & Rim (only RT-10S Snare Trigger)
- Mounts Easily and Quickly on Hoop
- Adjustable-Sensor System for Hoop Height
- Compatible with Various Size of Acoustic Drums

## Parts Descriptions

### RT-10K



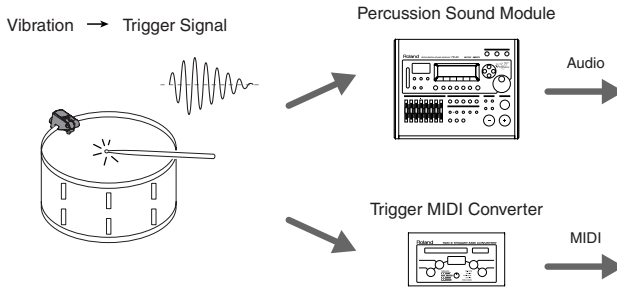
### RT-10S / RT-10T



- \* Do not place excessive pressure on the sensor and do not leave it mounted for extended periods (for example when not in use) or with pressure exerted from an angle. Following these instructions will guarantee efficient triggering and prevent damage.

## Drum Triggers-Definition

A drum trigger uses a built-in sensor to sense the timing and velocity (force) of how the drum is played. Then these trigger signals are transmitted to the sound module.

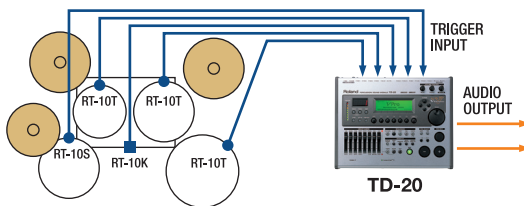


The RT-10K Kick Trigger and RT-10T tom trigger support head triggering. The RT-10S Snare Trigger supports separate head/rim dual triggering.

## Setting Up

1. Mount the drum trigger (p. 6).
2. Then connect it to percussion sound module (p. 8).
3. Set the trigger type and various parameters in the percussion sound module (p. 14).
4. If needed, fine-tune the trigger parameters while checking the response of the trigger (p. 14).

## Connection Example

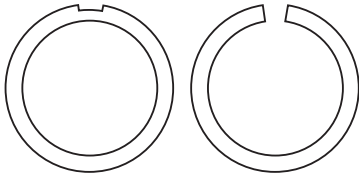


# Mounting The Drum Trigger

## Important Things To Know

- Set up your drums, making sure that any trigger-mounted drum is NOT in contact with another drum or stand. Vibrations transmitted from such direct contact can cause unwanted triggering.
- Make sure the snare drum is secure in its stand.
- Muffling (muting) of the drums can help reduce excess vibrations of the drum trigger, which will improve triggering accuracy.

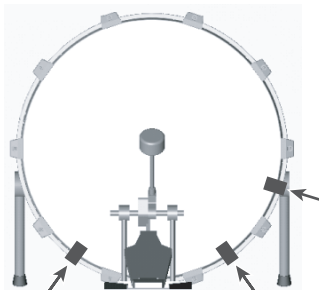
We recommend using a conventional bass drum mute or blanket pressing against the head. For the snare drum, use a ring muffler with the area where the sensor touches the head cut out as shown in the diagram below.

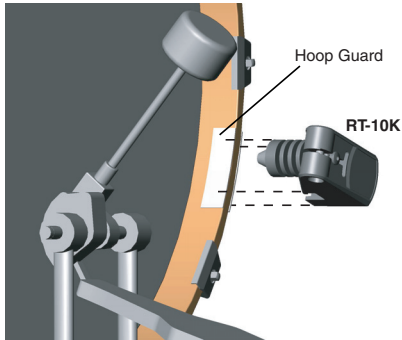


- Correct setting of the percussion sound module's trigger parameters will ensure the best dynamic response.
- Vibrations from other drums being played or drum resonance can cause sounds to be triggered accidentally. Spacing the drums a bit farther apart, placing them on separate stands, muffling, and/or changing the tuning can improve trigger response. If after doing any of those suggested procedures you still have problems, re-adjust the trigger parameters (p. 14).
- Loud sounds from monitor speakers can also cause unwanted triggering. Change the angle of the speakers or move them further away from the drum kit. If unwanted triggering continues, re-adjust the trigger parameters (p. 14).

## Attaching the Drum Trigger

### RT-10K Kick Trigger





1. Attach the included hoop guards (2) to the inner and outer sides of the kick drum hoop.
  - Attach the hoop guards at one of the positions indicated in the figure. We suggest these positions in order to keep the trigger as far away from the snare drum or tom toms as possible.
  - Make sure the hoop guards do not touch any of the tension bolts.
2. Use a drum key to loosen the RT-10K's sensor bolt.
3. Mount the RT-10K on the hoop guards (Step 1), then firmly tighten the mounting screw to secure the trigger to the hoop.
 

Firmly secure the mounting screw to prevent the drum trigger from falling off.

## RT-10S Snare Trigger/ RT-10T Tom Trigger



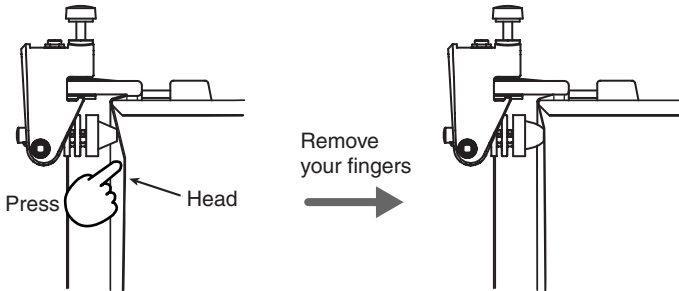
1. Use a drum key to loosen the RT-10S/RT-10T's sensor bolt.
  2. Mount the RT-10S/RT-10T to the drum hoop, then turn the mounting screw to secure it in place. Be sure it does not touch any tension bolts and position it opposite yourself so that it doesn't hinder performance, and so you don't hit it accidentally.
- \* Do not insert fingers inside the trigger case and do not touch the board inside. When moving the drum with the trigger mounted, only hold the drum itself. Never place excess stress on the trigger itself.

## Adjusting the Sensor Position (Sensor Bolt)

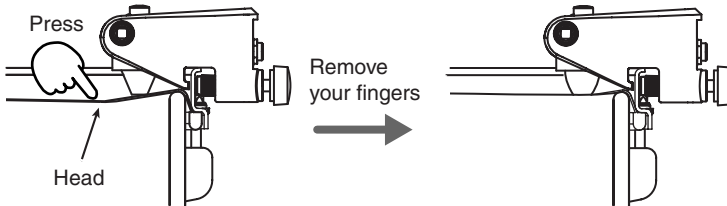
Set the sensor bolt so that the sensor compresses approximately 2–3 mm when pressed against the head.

- \* *The position of the secured sensor and the amount of this compression play an important role in the performance of the trigger.*
- \* *Make sure that the sensor constantly remains in contact with the head, even when playing the drum.*
- \* *This setting is very important. If the sensor is compressed too much against the head, it could cause re-triggering when the head is played. (meaning more than one sound when you hit the head only once)*

### RT-10K



### RT-10S/RT-10T



## Connecting a Percussion Sound Module

Use a stereo cable (included) to connect the drum trigger and the percussion sound module. Make sure the cable does not touch the trigger (other than the connection) or the drum itself.

- \* *When using the RT-10S Snare Trigger, rim shots cannot be played if a monaural cable is used.*
- \* *More details regarding percussion sound modules capable of processing RT-10S Snare Trigger rim shots can be found here. "Percussion Sound Module Parameter Settings" (p. 14).*
- \* *To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.*



# Setting Trigger Parameters in a Percussion Sound Module

## Setting Up Your Percussion Sound Module

**Correct trigger type and parameter settings provide accurate triggering.**

We have included an extensive list of percussion sound modules with their respective parameter settings. Please refer to the charts beginning on page 14.

## Trigger Parameters and How They Function

Unlike standard electronic drum pads, mesh or rubber, acoustic drums need special attention. Please read the following to have a better understanding of how various parameters can help you get the desired results.

### Sensitivity

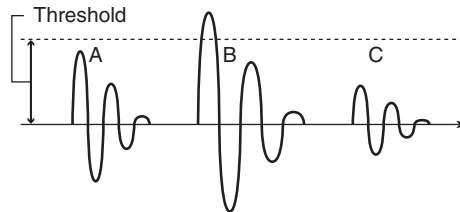
The name of this parameter is self-explanatory, and should be adjusted to your playing style. To adjust this, play at your lowest dynamic and also at your strongest dynamic to make sure you get the result you want from your sound module. Higher sensitivity allows the drum to produce a loud volume even when played softly. Lower sensitivity will keep the drum producing a low volume even when played forcefully.

### Threshold and Retrigger Cancel

Retriggering happens when you hit the drum once, but more than one sound comes from your sound module. Because an acoustic drum vibrates in a different way than an electronic drum pad, attention is needed here if you find this happening. This can also happen from vibrations from nearby drums, or even monitor speakers.

### Threshold

Threshold level determines the point at which the signal from the drum trigger actually triggers a sound. You can look at the chart below to understand this.



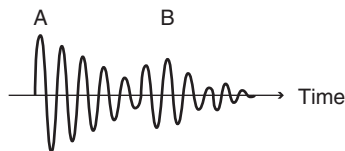
The curves indicate your playing dynamics. In this case, no sound is produced at the "A" or "C" points, but only the "B" point.

If you set the value higher, then soft hits on the drum will NOT trigger a sound. Obviously if the value is too low, then retriggering will occur easily. In this case, you must set the value according to your softest playing dynamics, not forgetting about possible vibrations from other drums in your kit.

In a live situation, when playing with a band and/or using monitor speakers, this parameter may need adjusting according to the acoustic environment you are in.

### Retrigger Cancel

Important when you are using drum triggers. Such triggers can produce altered waveforms, which may also cause inadvertent sounding not only at "A" but also at "B" point in the following chart.



Retrigger Cancel detects disruptions in these waveforms and makes it more difficult for retriggering to occur.

While repeatedly striking the drum, raise the Retrigger Cancel value until retriggering no longer occurs. Set this to the lowest value possible while still ensuring there is no retriggering. Although setting this to a high value prevents

retriggering, it then becomes easy for sounds to be omitted when the drums played fast (roll etc.).

\* *Muting the drum can work to suppress disruptions in the trigger waveform.*

## Crosstalk Cancel/ XTalk Cancel

Crosstalk is a problem in which the vibrations and sounds from a drum when it is struck ends up triggering other drums. Crosstalk Cancel is a setting that prevents crosstalk that occurs among drum triggers connected to the same percussion sound module.

When a sound being triggered by the snare drum, for example, is heard when you play another drum, kick or tom-tom, then you should raise this value for the snare drum triggered sound. If this problem occurs, Crosstalk Cancel value should be adjusted first.

In this case, for example, if you hit the tom and the snare drum triggers the sound assigned to it, you can do the following:

1. Set the tom and snare to the same Crosstalk Cancel Group. (Only TD-20 and TD-12)
2. Set the Mount Type for the tom and snare to "PAD." (Only TD-20 and TD-12)
3. Then adjust the Crosstalk Cancel value for the snare, by hitting the tom until the snare trigger no longer triggers the sound.

\* *If the triggers are being affected by sounds from other drums without drum triggers or from speakers, adjust the "Threshold" (p. 9) value.*

\* *Only with attaching the drum trigger to the drum, you can use the "Crosstalk Cancel" in the percussion sound module to prevent you from having crosstalk.*

## Matching the Drum Trigger to the Sound Module

Trigger types are groupings of various trigger parameters adjusted to match specific pads and triggers.

Roland percussion sound modules feature pre-programmed trigger settings for this purpose. Adjusting the trigger parameters based on these settings will provide the best performance from the RT-10 series.

## Stable Triggering Dynamics and Speed Accuracy

A drum trigger's response is affected by many variables. These include the type of drum, the head and tuning, how it is muffled (or muted) and your playing style. Correct trigger parameter settings will guarantee good dynamic response and speed accuracy.

## Special Triggering Examples

Triggering from acoustic drums is not only used in a "normal" full, dynamic sense, but sometimes triggers are used to trigger loops in samplers, or sounds or special effects where natural dynamics are not needed.

- When triggering a loop or special effects, it is best to set the "threshold level" to a high value.  
This way, low velocity hits on the drum will not trigger that sound.
- When triggering a sound that you always want to be at the same level, no matter how hard you play, set the "Trigger Curve" to "LOUD"

# Troubleshooting

Normally, you should not have any problems if you have read this manual carefully, followed the instructions and have carefully taken into consideration the multiple variables regarding using drum triggers; type of drum, head, muffling, playing style, acoustic environment etc.

## No Sound is Triggered

- Check all connections, and make sure the trigger sensor is touching the head as explained on page 8.
- Check the sound module's trigger indicator to confirm that the percussion sound module is receiving the trigger signals.

## Multiple Sounds Played When Drum Is Struck Only Once (Retrigger)

### Improve the Drum Setup

- Move the position of the drum trigger that is reacting to the sound/vibration from another drum.
- It may be necessary to mute or muffle the head in a way that you would not normally do when only playing acoustically, or actually change the type of head to the muted head such as the PinStripe<sup>®</sup> from REMO Inc.
  - \* *PinStripe<sup>®</sup> is a Registered Trademark of Remo Inc., U.S.A.*
- For Snare Drum triggering, it's a good idea to keep the tension of the snares fairly tight.

### Adjust trigger parameters

- Adjust the "Retrigger Cancel" value (p. 9).

## Playing One Drum Causes a Sound Assigned to the Trigger of Another Drum to Sound

### Improve the Drum Setup

- Make sure the drums in question are not in physical contact.
- Move the position of the drum trigger that is reacting to the sound/vibration from another drum.
- It may be necessary to mute or muffle the head in a way that you would not normally do when only playing acoustically, or actually change the type of head to the muted head such as the PinStripe<sup>®</sup> from REMO Inc.
  - \* *PinStripe<sup>®</sup> is a Registered Trademark of Remo Inc., U.S.A.*
- For Snare Drum triggering, it's a good idea to keep the tension of the snares fairly tight.
- Make sure your drums are securely mounted, especially the snare drum.

### Adjust trigger parameters

- If problems occur between drums equipped with drum triggers, adjust the percussion sound module's "Crosstalk Cancel/XTalk Cancel" value (p. 10).
  - \* *Only with attaching the drum trigger to the drum, you can use the "Crosstalk Cancel" in the percussion sound module to prevent you from having crosstalk.*
- If the triggers are being affected by sounds from other drums without drum triggers or from speakers, adjust the "Threshold" (p. 9) value.

## Sounds Are Triggered Without Playing the Drums

- Is the volume too loud of nearby monitor speakers?
- If in a band situation, is the bass amp too close or too loud?

## No Sound When Playing Softly

- Adjust the “Threshold” value. (p. 9)

## No Sound From the Rim when Playing a Rim Shot or Just the Rim

Separate triggering from the rim is only possible when using the RT-10S snare trigger.

- Make sure the cable is Stereo.
- Verify that the trigger input you are using is rim-shot capable. (p. 14)
- Verify your trigger parameter settings in the module you are using. (p. 14)

## Same Sound from the Rim and Head

- This is normal if you are not using the RT-10S snare trigger.

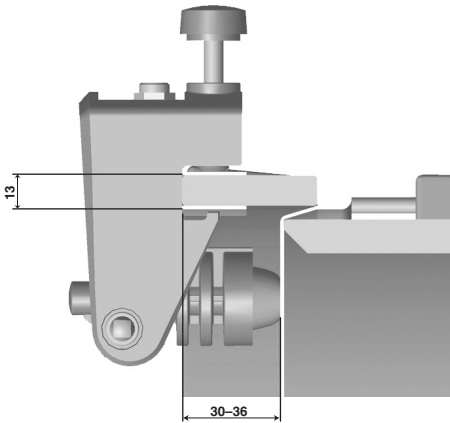
## Dynamic Response Seems Strange

- Adjust the “Sensitivity” value. (p. 9)

# Specifications

## RT-10K (Kick Trigger)

- Trigger: 1 (Head)  
Connector: Trigger Output Jack (1/4 inch Phone Type)  
Dimensions: approx. 40 (W) x 110 (D) x 70 (H) mm  
approx. 1-5/8 (W) x 4-3/8 (D) x 2-13/16 (H) inches  
Weight: 90 g  
4 oz  
Accessories: Connection Cable, Hoop Guard, Owner's Manual  
Guide for Installation:  
Rim Height: 30 to 36 mm  
1-3/16 to 1-7/16 inch  
Rim Thickness (Max.): 13 mm  
9/16 inch

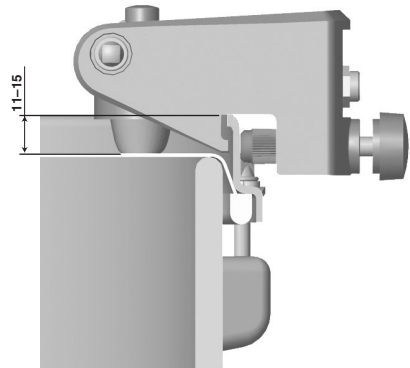


## RT-10S (Snare Trigger)

- Triggers: 2 (Head, Rim)  
Connector: Trigger Output Jack (Stereo 1/4 inch Phone Type)  
Dimensions: approx. 40 (W) x 110 (D) x 50 (H) mm  
approx. 1-5/8 (W) x 4-3/8 (D) x 2 (H) inches  
Weight: 80 g  
3 oz  
Accessories: Connection Cable, Owner's Manual  
Guide for Installation:  
Rim Height: 11 to 15 mm  
7/16 to 5/8 inch

## RT-10T (Tom Trigger)

- Triggers: 1 (Head)  
Connector: Trigger Output Jack (1/4 inch Phone Type)  
Dimensions: approx. 40 (W) x 110 (D) x 50 (H) mm  
approx. 1-5/8 (W) x 4-3/8 (D) x 2 (H) inches  
Weight: 80 g  
3 oz  
Accessories: Connection Cable, Owner's Manual  
Guide for Installation:  
Rim Height: 11 to 15 mm  
7/16 to 5/8 inch



\* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

# Percussion Sound Module Parameter Settings

Following you will find specific parameter settings for the indicated percussion sound modules. These are VERY important. If needed, please refer to the Owner's Manual of your module.

\* *The trigger parameters should be adjusted as necessary to match the actual state of your configuration, and the environment in which it is being used.*

## TD-20/TD-12 (Percussion Sound Module)

### RT-10S Snare Trigger Dual Trigger Compatible Inputs

TD-20: 2 (SNARE), 3-6 (TOM1-4), 12-15 (AUX1-4)

TD-12: 2 (SNARE), 3-5 (TOM1-3), 11-12 (AUX1-2)

Parameter		RT-10K Kick Trigger	RT-10S Snare Trigger	RT-10T Tom Trigger
Trig Type		RT7K	RT5S	RT3T
TRIGGER BASIC	Sensitivity	8	10	10
	Threshold	16	11	16
	Curve	LINEAR	LINEAR	LINEAR
TRIGGER XTALK CANCEL	Xtalk Cancel	30	30	30
	Mount Type	PAD	PAD	PAD
	Xtalk Group	1	1	1
TRIGGER ADVANCED	Scan Time (ms)	3.5	2.0	2.0
	Retrig Cancel	13	11	13
	Mask Time (ms)	12	10	10
	Rim Gain	-----	1.0	-----
	RimShot Adjust	-----	3.0	-----
	XStick Thrshld	-----	90	-----

## TD-6V (Percussion Sound Module)

### RT-10S Snare Trigger Dual Trigger Compatible Inputs

2 (SNARE)

Parameter		RT-10K Kick Trigger	RT-10S Snare Trigger	RT-10T Tom Trigger
TRIG BASIC	TrigTyp	RT-7K	RT-5S	RT-3T
	Sensitivity	10	10	10
	Threshold	6	6	8
	TrigCurve	LINEAR	LINEAR	LINEAR
	Xtalk Cancel	30	30	30
TRIG ADVNCED	Scan Time	2.0ms	2.0ms	2.0ms
	Retrig Cancel	6	4	5
	Mask Time	24ms	12ms	12ms
	Rim Sens	-----	7	-----

**TD-3 (Percussion Sound Module)****RT-10S Snare Trigger Dual Trigger Compatible Inputs**

SNARE

Parameter		RT-10K Kick Trigger	RT-10S Snare Trigger	RT-10T Tom Trigger
Trig Type	tYP	t7K	t5S	t3t
Sensitivity	SnS	9	10	10
Threshold	thr	10	10	12
Curve	Cur	Lnr	Lnr	Lnr
Scan Time	Scn	2.5	2.5	2.5
Retrig Cancel	rtG	8	4	5
Crosstalk	CrS	50	50	50
Mask Time	MSK	12	12	12
Rim Sens	rMS	----	11	----
Rim Gain	rMG	----	1.0	----

**TMC-6 (Trigger MIDI Converter)****RT-10S Snare Trigger Dual Trigger Compatible Inputs**

2 (SNARE)

Parameter	RT-10K Kick Trigger	RT-10S Snare Trigger	RT-10T Tom Trigger
VELOCITY CURVE	Lnr	Lnr	Lnr
THRESHOLD	8	7	7
SENSITIVITY	10	10	10
TRIG TYPE	KiK	Snr (*)	toM
SCAN TIME	3.0	2.5	2.5
RETRIG CANCEL	10	8	10
MASK TIME	40	12	12
XTALK CANCEL	30	30	30

- (\*) When you connect the RT-10S to the trigger input 2 (SNARE), make the settings as shown below.  
 2 HEAD: "Snr"  
 2 RIM: "riM"

**SPD-20 (Total Percussion Pad)****RT-10S Snare Trigger Dual Trigger Compatible Inputs**

1, 2

Parameter			RT-10K Kick Trigger	RT-10S Snare Trigger	RT-10T Tom Trigger
TRIG SENS			10	10	10
TRIG THRESHOLD			8	7	7
TRIG TYPE			KiK	120	toM
TRIG CURVE			0	0	0
Advanced Trigger Parameter	Scan Time	Scn	10	10	10
	Retrigger Cancel	rEt	7	6	6
	Mask Time	MSK	28	12	12
	Crosstalk Cancel	CrS	40	40	40
	Rim Sensitivity	riM	-----	9	-----

**SPD-S (Sampling Pad)****RT-10S Snare Trigger Dual Trigger Compatible Inputs**

TRIG IN

Parameter	RT-10K Kick Trigger	RT-10S Snare Trigger	RT-10T Tom Trigger
Input Mode	TRGx2	HD&RM	TRGx2
Type	RT-7K	RT-5S	RT-3T
Sensitivity	9	10	10
Threshold	10	10	10
VeloCrv	LINEAR	LINEAR	LINEAR
Scan Time	2.5	2.5	3.0
RetrigCancel	6	6	6
Mask Time	12	12	12
XtalkCancel	30	30	30
Rim Sens	-----	11	-----
Rim Gain	-----	1.0	-----





This product must be disposed of separately  
at your local waste recycling centre.  
Do not dispose of in household waste bin.



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