Users Guide

Smartrigger Electronic Percussion Products

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Introduction

Thank you for purchasing Smartrigger Electronic Cymbals – the biggest advance in electronic drumming since MIDI! Smartrigger cymbals were designed to meet the needs of today's electronic drummer, providing the ultimate electronic cymbal triggering, aesthetics, and playability available anywhere, at any price.

This user's guide provides simple instructions for getting your new Smartrigger Cymbals integrated into your electronic drum setup.

Smartrigger Cymbal Features

Smartrigger Electronic Cymbals feature many improvements over previous electronic cymbals including:

- **Authentic Playability** is accomplished by using real brass alloy metal cymbals. This means that your sticks respond to the playing surface the exact same way as they do when using real acoustic cymbals.

- **Acoustic Dampening** – our special patent pending dampening layer provides several important features:
    - Vibration dampening to reduce the actual sound of the cymbal by more than 90%.
    - Waveform reduction reduces the secondary cymbal vibrations eliminating double triggering.
    - Shock buffering from the trigger housing.

- **Authentic Aesthetics** means that your cymbals look like cymbals not pieces of recycled black rubber tires. The vibration dampening layer on the bottom of the cymbal is clear! This allows the bottom of the cymbal to look just like a real acoustic cymbal when mounted on a stand. You audience will never know you are using electronic cymbals!

- **Natural Swinging Motion** means that your cymbals respond and swing naturally when struck, allowing you to concentrate on your playing while reducing the negative effects on the human body which come from hitting stationary objects that have no "give". The cymbals absorbs the impact, not your body.

- **New Dual Piezo Designs** - Several of the Smartrigger Cymbals provide a new patent pending "ring" piezo sensor centrally located under the bell of the cymbal. Mounting directly under the bell, at the center, allows even edge to edge triggering and authentic bell playing on a single cymbal surface.

- **Easier Choke** – a wider 180 degree choke switch provides easier crash cymbal choking on half of the cymbal's surface.

Setup

Electronic cymbals produce no sound themselves and require the use of external sound modules in order to be used as musical instruments. Smartrigger Electronic Cymbals are compatible with many drum modules on the market including those manufactured by Roland, Yamaha, Alesis, and Ddrum and can also be used to trigger sounds on any MIDI instrument using a "Trigger to MIDI" interface such as the Roland TMC-6.

Quick Setup

1. Insert the "right angle" plug into the trigger housing on the underside of the cymbal.
2. Place the cymbal onto a cymbal stand.
3. Connect the other end of the cable to your drum module.
4. Set the trigger type specified for your cymbal and module.
5. Adjust the trigger settings to suit your needs.

Connecting the Cable

Each Smartrigger cymbal comes complete with a stereo 1/4" male to male 10 foot cable. One end of the cable had a "right angle" make plug and the other has a straight male plug. The "right angle" end should be connected to the trigger housing on the bottom of the Smartrigger Cymbal and the straight end should be connected to the trigger input on your module.

You can tell a "stereo" cable from a "mono" cable by the number of black rings on the plug. A stereo cable will have 2 black rings and a mono cable will have only one. Typically, a dual-zone or dual-piezo cymbal will require a stereo cable. A single zone cymbal can use a stereo or mono cable. We include stereo cables with all Smartrigger Cymbals so you don't have to worry about moving dual-zone cymbal to a different stand only to find out you don 't have the proper cable wired to that stand.

Proper Cymbal Mounting

Smartrigger cymbals are designed to be mounted on any standard cymbal stand or mounting arm.

Cymbal mounts between the two felt washers

Most stock cymbal stands come with a 6mm or 8m threaded mounting rod, a series of washers and a wing-nut. You Smartrigger cymbal should be mounted between the two felt washers that come with almost all cymbals stands. If you need additional cymbal hardware, any drum shop or music store will have these in stock as they are considered replacement accessories and should be replaced when they are worn out.

Gibraltar cymbal arms are very good for acoustic and Smartrigger electronic cymbals as they come standard with a nice 'T' shaped black plastic cymbal sleeve. Alternatively, you can always use Aquarian Cymbal Springs or other mounting systems with a standard 1/2" bore.

Wing-Nut

top felt washer

(cymbal mounts here)

bottom felt washer

cymbal sleeve

Note that you CAN NOT use a cymbal sleeve with the Ride cymbal as it already has a built-in sleeve. Make sure to use felt washers on the top and bottom of the ride.

Mounting the Hi Hat Cymbals

The Smartrigger hi hat cymbals offer the best of both worlds and are designed to be mounted on a fixed hi hat arm or standard hi hat stand. Your choice of mounting will depend on what type of hi hat controller you are using and how much hardware you want to lug around. The Smartrigger hi hat is **only** the trigger. **The controller is responsible for the changing of sound between open and closed.**

Using a Fixed Hi Hat Arm

If you are using a typical hi hat controller pedal such as the Roland FD-7 or FD-8, you'll want to mount your Smartrigger hi hats on a fixed hi hat arm. These are manufactured by most drum hardware companies and are available from your favorite drum shop. This is the most popular mounting method if you are using a Roland drum modules.

Fixed Hi Hat Arm w/ Roland FD-7 Pedal   **Standard Hi Hat stand w/ Visu-Lite RHC-100**

Using a Standard Hi Hat Stand

Advanced users can mount your Smartrigger hi hats onto a standard hi hat stand only if you are using the appropriate controller (like the VisuLite RHC-100, Pintech Full Range HH10CV Hi Hat Controller, or Hart Epedal II). These controllers attach to your stand's pedal and provide the electronics to create the variable positions between the open and closed hi hat sounds. These controllers are available from specialty electronic drum shops like Drumbalaya http://www.drumbalaya.com.

Note that these controllers do not provide the foot pressure feature that the Roland VH-12 Hi Hat system provides when using a Roland TD-20 module.

Hi Hat Clutch Mounting

Regardless of which type of hi hat stand you choose, you will mount the top hi hat cymbal onto your hi hat clutch. Almost all hi hat arms and stands come with a clutch. You can use any clutch you like including a "drop clutch". All you have to do is replace each standard felt washers with two Smartrigger rubber washers.

Clutch with Standard Felt Washers   **Clutch w/ Smartrigger Rubber washers installed**

The dual washers on the top and bottom of the top hi hat cymbal allow for a more natural give and swing than if we used two solid rubber washers.

Installing the Hi Hat Cable

The included stereo cable with two straight ends should be used for the hi hat connection to your drum module. Follow these steps to install the hi hat cable:

1. Place the hi hat bottom cymbal on your hi hat stand or hi hat arm.
2. Install your hi hat top cymbal and clutch with 4 included rubber washers as shown above.
3. Connect one end of the included 5 foot cable to the hi hat input on your module.
4. Pass the cable through one of the holes in the bottom hi hat cymbal.
5. Plug the other end into to the trigger housing of the top cymbal. The offset jack on the trigger housing should leave enough clearance for the cable to pass by the hi hat's mounting rod.
6. Carefully place the top hi hat with installed clutch onto your hi hat stand.

Triggering the Dual-Zone Crash and Hi Hat Cymbals

The Smartrigger crash and hi hat cymbals use what is commonly called a "Head/Rim" or "Piezo/Rim-switch" type of triggering system. This means that the first "zone" or sound can be triggered by activating the piezo trigger (which is mounted inside the small black housing underneath the cymbal) and the second "zone" or sound can be triggered by activating the piezo trigger and the rim-switch at the same time. The "rim-switch" is the 180 degree gold colored band under the cymbal. This is also the "choke" switch that causes a ringing cymbal sound to be "choked" off or stopped, by striking the cymbal then grabbing the choke switch.

- To trigger the Head sound, strike the cymbal's surface with the tip of the stick.
- To trigger the Rim sound, strike the cymbal's edge with a glancing blow

- To choke the crash cymbal sound, strike the cymbal then grab the edge of the cymbal.

Triggering the Dual-Zone Ride

The Smartrigger ride cymbals use a dual-piezo design where the main piezo is mounted under the bow of the cymbal in the trigger housing and a second piezo is mounted directly under the bell of the cymbal. The main piezo is triggered when you play o the bow of the cymbal while the second piezo is triggered when you play the bell of the cymbal.

Smartrigger's patent-pending design allows you to play the ride cymbal just as you would play an acoustic cymbal. Light bell strokes are now possible by playing the bell of the cymbal with the tip of your stick. You no longer have to "whack" the bell of the cymbal to reproduce a bell sound from your drum module.

Because the ride cymbal uses a dual-piezo design, you will have to use a dual-piezo input on your drum module or split the two piezo triggers into two single inputs using the included Y adapter. Settings and specifics for each module are provided below.

Triggering the Triple-Zone Ride

The new Smartrigger three zone ride cymbal is the most amazingly realistic electronic cymbal ever made! It features the same bell and bow triggers as the dual zone ride, but has an additional edge sensor mounted on the underside of the front 180 degrees of the cymbal. This sensor works similarly to our crash sensor in that it allows the 16" ride to be choked and provides an additional zone for an edge ride sound. This edge ride sound is what makes it so playable. You can get a crash-ride effect our of your ride cymbal when you strike the edge, just like on a real ride!

bow triggering

bell triggering

edge triggering

Setting Your Trigger Inputs

The following information is only a starting point for setting your module to use Smartrigger Cymbals. There are many factors that will affect the triggering and sensitivity of your module's inputs including:

- Playing style
- Type of drum sticks
- Cymbal mounting (stands vs. racks)
- Types of drums used and their sizes
- Module features
- How hard you play

Start with the recommended trigger input settings and then adjust your module's trigger input parameters to best match your needs.

Roland Drum Module Settings

Roland produces some of the most popular drum modules on the market and offers several different models. We have included the default settings for some of the most recent Roland modules here. If you have a Roland module which is not listed here, experiment with the trigger input settings and let us know what works best for you and we'll included it in the next version of the manual.

Settings for the Roland TD-20 and Roland TD-12

	Type	Sens	Thold	Curve	Rim Gain	Scan	ReTrg Can.	Mask	Xtalk	Mount
Splash	CY6	8-10	2	Linear	1.0	2.0	6	10	40	Cym
Crash	CY14C	8-10	2	Linear	0.8	1.6	6	10	40	Cym
China	CY14C	8-10	2	Linear	0.8	1.6	6	10	40	Cym
Ride Bow	CY6	8-10	2	Linear	1.0	2.0	6	10	30	Cym
Ride Bell	CY8	12-14	0	Linear	1.1	2.0	6	10	30	Cym
Hi Hat	CY-12H	8-10	2	Linear	1.0	2.0	6	10	40	Cym

Notes for using the Smartrigger CY-16RC3 Triple Zone Crash/Ride Cymbal:
- Turn OFF 3 Way triggering
- Connect one stereo cable from the bow trigger jack to the RIDE input on your module.
- Connect the other stereo cable from the bell trigger jack to the EDGE input on your module.
- IMPORTANT!!! Make sure you have the two inputs set to trigger the appropriate sounds for each kit
  - Ride Input HEAD = Ride Bow Sound
  - Ride Input RIM = Ride Edge Sound
  - Edge Input HEAD = Ride Bell Sound
  - Edge Input RIM = Ride Edge Sound (Same as Ride RIM input)

Notes for using the Smartrigger CY-16R2 Dual Zone Ride Cymbal:

- Turn OFF 3 Way triggering on the Ride input and use the included Y cable on the module end of the ride's stereo cable.

Included Ride Y Cable splits stereo cable into 2 mono inputs

- Plug the black TIP plug into the RIDE input and the orange RING plug into the EDGE input. This places the bow ride sound on the Ride input and the bell ride sound on the Edge input. Make sure you have a ride bow sound assigned to the HEAD of the Ride input and a bell sound assigned to the HEAD of the Edge input.
- Alternatively, you can use one of the AUX inputs for the ride without the Y cable. The AUX inputs are dual-piezo inputs like the toms and snare and allow for dual piezo stereo triggers like the Smartrigger CY-16R. This frees up inputs 10 and 11 (Ride and Edge) for two additional cymbals. Make sure to select PD-120 for the input type on the AUX input as this will allow the bell and bow sounds to be triggered, then select a ride bow instrument and assign it to the HEAD of the AUX input and a ride bell instrument and assign it to the RIM of the AUX input. Make sure you have a ride bow sound assigned to the HEAD and a bell sound assigned to the RIM of the AUX input.

Settings for the Roland TD-10

	Type	Sens	Thold	Curve	Scan	ReTrg Can.	Mask	Xtalk
Splash	PD7	3	2	Linear	0.3	3	12	30
Crash	PD7	3	2	Linear	0.3	3	12	30
China	PD7	3	2	Linear	0.3	3	12	30
Ride Bow	PD7	5	2	Linear	0.3	3	12	40
Ride Bell	PD7	2	1	Linear	0.3	3	12	30
Hi Hat	PD-7	3	2	Linear	0.3	3	12	30

Notes for using the Smartrigger CY-16RC3 Triple Zone Crash/Ride Cymbal:
- Connect one stereo cable from the bow trigger jack to the RIDE input on your module.
- Connect the other stereo cable from the bell trigger jack to the AUX 1 input on your module.
- IMPORTANT!!! Make sure you have two inputs set to trigger the appropriate sounds for each kit
  - Ride Input HEAD = Ride Bow Sound
  - Ride Input RIM = Ride Edge Sound

- o Aux Input HEAD = Ride Bell Sound
- o Aux Input RIM = Ride Edge Sound (Same as #10 RIM)

Notes for using the Smartrigger CY-16R Dual Zone Ride Cymbal:

- ▪ Use the included Y cable on the module end of the ride's stereo cable. Plug the black TIP plug into the RIDE input and the orange RING plug into the AUX 1 input.

Settings for the Roland TD-8

	Type	Sens	Thold	Curve	Scan	ReTrg Can.	Mask	Xtalk
Splash	CY1	10	4	Linear	2.5	8	8	40
Crash	CY1	10	5	Linear	2.5	8	8	40
China	CY1	10	4	Linear	2.5	8	8	40
Ride Bow	CY1	10	4	Linear	2.5	8	8	60
Ride Bell	CY1	12	2	Linear	2.5	8	8	50
Hi Hat	CY1	10	2	Linear	2.5	8	8	40

Notes for using the Smartrigger CY-16RC3 Triple Zone Crash/Ride Cymbal:
- ▪ Connect one stereo cable from the bow trigger jack to the RIDE input on your module.
- ▪ Connect the other stereo cable from the bell trigger jack to the another input on your module.
- ▪ IMPORTANT!!! Make sure you have the two inputs set to trigger the appropriate sounds for each kit
    - o Ride Input HEAD = Ride Bow Sound
    - o Ride Input RIM = Ride Edge Sound
    - o Other Input HEAD = Ride Bell Sound
    - o Other Input RIM = Ride Edge Sound (Same as Ride RIM input)

Notes for using the Smartrigger CY-16R Dual Zone Ride Cymbal:

- ▪ Do not use the included Y cable. Plug the included stereo cable into the AUX 11/12 input. A Ride sound should be assigned to input #11 and a Bell sound should be assigned to input #12.
- ▪ Alternatively, you can use one input for the Ride and use an Xride instrument. This setting will allow louder hits to trigger the bell sound and softer hits to trigger the bell sound.
- ▪ You can also use a Y cable (such as the Hosa YPP-117) to access input #2, splitting the Kick to 1 and assign the bell instrument to input #2.

Hosa YPP-117 Y Cable

Settings for the Roland TD-6/6V

	Type	Sens	Thold	Curve	Scan	ReTrg Can.	Mask	Xtalk
Splash	CY-6	10	2	Linear	2.5	6	8	40
Crash	CY-6	10	2	Linear	2.5	6	8	40
China	CY-6	10	2	Linear	2.5	6	8	40
Ride Bow	CY-6	8	2	Linear	2.5	6	8	40
Ride Bell	CY-6	12	0	Linear	2.5	6	8	40
Hi Hat	CY-6	10	2	Linear	2.5	6	8	40

Notes for using the Smartrigger CY-16RC3 Triple Zone Crash/Ride Cymbal:
- Connect one stereo cable from the bow trigger jack to the RIDE input on your module.
- Connect the other stereo cable from the bell trigger jack to the AUX input on your module.
- IMPORTANT!!! Make sure you have the two inputs set to trigger the appropriate sounds for each kit
  - Ride Input HEAD = Ride Bow Sound
  - Ride Input RIM = Ride Edge Sound
  - AUX Input HEAD = Ride Bell Sound
  - AUX Input RIM = Ride Edge Sound (Same as Ride RIM input)

Notes for using the Smartrigger CY-16R Dual Zone Ride Cymbal:

- Use the included Y cable on the module end of the ride's stereo cable. Plug the black TIP plug into the Ride input and the orange RING plug into any other available input.

Settings for the Roland TD-3

	Type	Sens	Thold	Curve	Scan	ReTrg Can.	Mask	Xtalk
Splash	CY-6	10	2	Linear	2.5	6	8	40
Crash	CY-6	10	2	Linear	2.5	6	8	40
China	CY-6	10	2	Linear	2.5	6	8	40
Ride Bow	CY-6	8	2	Linear	2.5	6	8	40
Ride Bell	CY-6	12	0	Linear	2.5	6	8	40
Hi Hat	CY-6	10	2	Linear	2.5	6	8	40

Notes for using the Smartrigger CY-16RC3 Triple Zone Crash/Ride Cymbal:
- Connect one stereo cable from the bow trigger jack to the RIDE input on your module.
- Connect the other stereo cable from the bell trigger jack to any other available input on your module.
- IMPORTANT!!! Make sure you have the two inputs set to trigger the appropriate sounds for each kit
  - Ride Input HEAD = Ride Bow Sound
  - Ride Input RIM = Ride Edge Sound
  - Other Input HEAD = Ride Bell Sound
  - Other Input RIM = Ride Edge Sound (Same as Ride RIM input)

Notes for using the Smartrigger CY-16R Dual Zone Ride Cymbal:

- Use the included Y cable on the module end of the ride's stereo cable. Plug the black TIP plug into the Ride input and the orange RING plug into any other available input.

Settings for the Roland TMC-6

	Type	Sens	Thold	Curve	Scan	ReTrg Can.	Mask	Xtalk
Splash	CY	10	4	Lnr	2.5	8	8	40
Crash	CY	10	4	Lnr	2.5	8	8	40
China	CY	10	4	Lnr	2.5	8	8	40
Ride Bow	CY	8	4	Lnr	2.5	8	8	40
Ride Bell	CY	12	0	Lnr	2.5	8	8	40
Hi Hat	CY	10	4	Lnr	2.5	8	8	40

Notes for using the Smartrigger CY-16RC3 Triple Zone Crash/Ride Cymbal:
- Connect one stereo cable from the bow trigger jack to the RIDE input on your module.
- Connect the other stereo cable from the bell trigger jack to any other available input on your module.
- IMPORTANT!!! Make sure you have the two inputs set to trigger the appropriate sounds for each kit
  - Ride Input HEAD = Ride Bow Sound
  - Ride Input RIM = Ride Edge Sound
  - Other Input HEAD = Ride Bell Sound
  - Other Input RIM = Ride Edge Sound (Same as Ride RIM input)

Notes for using the Smartrigger CY-16R Dual Zone Ride Cymbal:

- Use the included Y cable on the module end of the ride's stereo cable. Plug the black TIP plug into the any input (other than #2) and the orange RING plug into any other input (other than #2).
- Alternately, you can use input #2 only which is a stereo input (the only one on the TMC-6) without the Y cable. Use the following settings if you connect the Ride to input #2. **NOTE**: You **MUST** set the pad type to P12 in order to achieve the Bow and Rim sounds, you will have to adjust the Head and Rim settings independently.

	Type	Sens	Thold	Curve	Scan	ReTrg Can.	Mask	Xtalk
Ride (Head)	P12	8	4	Lnr	2.5	8	8	40
Ride (Rim)		12	0	Lnr	2.5	8	8	40

Yamaha Drum Modules

Yamaha also offers a few very popular drum modules in the DTX line of electronic drums such as the DTXtreme IIS and the DTXpress III. Our splash, crash, china, and hi hat are supported when using the PCY-80 trigger input setting. Our ride cymbals will work but are not supported at this time.

Alesis Drum Modules

Alesis offers exceptional value and very popular drum modules including the DMPro, DM5, and DM4. These modules are not officially supported, but may work with Smartrigger Cymbals. Email us if you have one of these modules and want to report your trigger settings.

Ddrum Modules

Ddrum users are quite reluctant to use any other module and prefer the popular Ddrum4 model above all others. Ddrum modules are not officially supported, but may work with Smartrigger Cymbals using mono inputs. Email us if you have one of these modules and want to report your trigger settings.

Note: The Ddrum cymbal inputs are not compatible with the choke-able or dual-zone cymbals. You will only get one zone from all Smartrigger Cymbals.

Care and Feeding of your Smartrigger Cymbals

Smartrigger cymbals are designed to the highest standards and should provide you with a lifetime of reliable service. As with any piece of electronic equipment, you should take care when transporting and cleaning your cymbals.

Transporting Your Cymbals

You should transport your cymbals in protected and padded cases. We recommend using standard cymbal bags like the one pictured here. The use of hard plastic cymbal-safe type of cases isn't recommended because you can't clamp down more than a few Smartrigger cymbals before you run out of room.

Recommended   **Not Recommended**

The trigger housings on the undersides of the cymbals are made from a very strong and lightweight ABS plastic and are very durable, however care should be taken so that you do not stack too much weight on the cymbals. Because of this trigger housing, you will not be able to stack these cymbals as flat and neat as you could stack the same number of acoustic cymbals.

Cleaning your cymbals

Cleaning the Top Surface

The top playing surface of your Smartrigger cymbals is made from a real brass-alloy cymbal, therefore you should use a damp wet cloth or a non-abrasive cymbal cleaner or cymbal polish **on the top surface only**, to remove stick marks or other debris. **DO NOT USE CYMBAL CLEANER ON THE BOTTOM SURFACE.**

Cleaning the Bottom Surface

The bottom surface is covered with the special plastic dampening material and should not be cleaned with cymbal cleaner or cymbal polish. Instead wet damp cloth with water and clean the surface or in extreme cases, use a specialty plastics cleaner like the kind available for cleaning the isinglass on a boat. See http://www.hardlineproducts.com/plexus.html for an example of Plexus™ Plastic Cleaner.

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Version 1.4
1/30/2005

Warranty Information

Smartrigger warrants its products against defects in material and workmanship for a period of one year from the date of the initial consumer purchase. Should any item fail during this period, Smartrigger will repair or replace defective items free of charge. All returns MUST include the original sales receipt/packing slip and are subject to a $15 pre-paid handling fee. Please email us for a return authorization number BEFORE returning any products. This warranty is subject to change without notice and is non-transferable. Normal wear and tear is not covered under this warranty. Shipping charges are non-refundable. Unauthorized repairs or modifications to the Smartrigger products may void the warranty.

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