SRG

STRING RESONANCE GENERATOR

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# E30 - User Manual

## E Series

# 1 SET UP

## 1.1 Overview

**The SRG E Series** are a line of handheld, internally powered string resonators, based on nano scale SMDI architecture
Available in monophonic and polyphonic models.

**The SRG E30 package includes** :

- **E30 Handheld Integrated Monophonic Universal Resonator**
- **9V Alkaline-Manganese Primary Cell Battery**

**Optional Accessories :**

- **HC1 Holster Clip**
- **RX-9 Rechargeable 9 volt Battery**

The **E30** is a universal resonator designed to perform equally well on both bass and guitar, featuring 3 modes of operation, and 3 effect trigger switches for **LPF**, **HPF**, and **MUTE**; as well as highly inductive, low resonant frequency sensor and driver coils - directly wound on neodymium core magnets.

The Expanded **E30X** includes a 2 way Power Switch for switching between the standard 500 mW M20 Resonator Engine and the 1 Watt M21 Resonator Engine.

The **E30** also features protruding **FANG** rails for accurate string tracking and an ultra bright - deep blue LED power indicator.

## SET UP >

After unpacking the box, check that the power switch is in the **OFF** position (downwards), remove the battery cover and slide the included 9 Volt Battery into the battery compartment until firmly connected, then replace the cover.

The battery cover is precision crafted to a tight slip-fit tollerance and held in place by mechanical tension; It is therefore important to fully close the battery cover, and take care not to misplace or step on the cover when removed.

Always be sure to check that the power switch is **OFF** before connecting the battery, and that the **+** polarity is correctly orientated – **as illustrated on page 6**.

Switch the power switch (fully upwards) to the **ON** position.

The blue LED power indicator will light up instantly when the power switch is on. If the LED does not light, or flickers – either the battery is not firmly connected, or the battery may be weak or dead.

The **E30** is fully operational the moment the blue LED is on.

# 1.2 Battery Compartment

**The E Series features an ultra-fast *slide-in* battery compartment for an internal 9 volt primary cell.**

Eliminating the frustration of fumbling in the dark with clumsy floppy wire 9 volt battery connectors, the E Series slide mount battery port allows rapid battery changes in as little as 5 seconds.

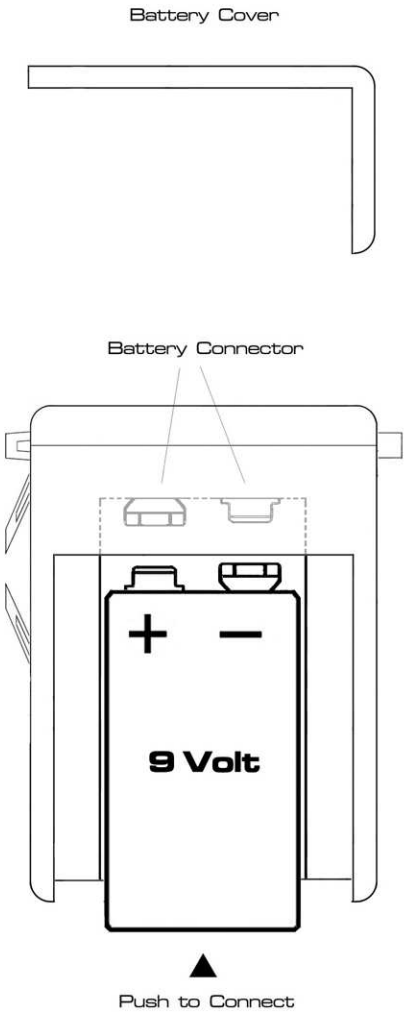
The **E30** includes a 9 volt Alkaline-Manganese primary cell, which is safely disposable. Under No Circumstances is the battery to be recharged or dismantled. The storage life of the battery is 5 years.

**Do not install a typical rechargeable NiMH battery, as typical rechargeable 9V batteries actually supply only 8.4 volt rather than 9 volt.**

**The E30 requires a full 9 volt at 55 mA for stable operation.**

**If a rechargeable battery solution is needed, then use the optional RX-9 Rechargeable 9 volt Battery, which supplies a full 9.6 volts and 200 mA/h of charge.**

**WARNING - Damage resulting from the use of rechargeable batteries, oversized batteries or incorrect installation can invalidate the warranty !**




# E30

## INTEGRATED STRING RESONATOR

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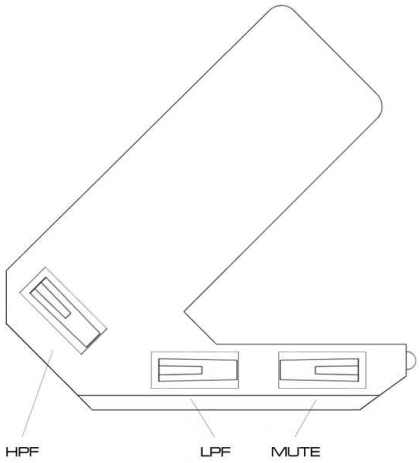
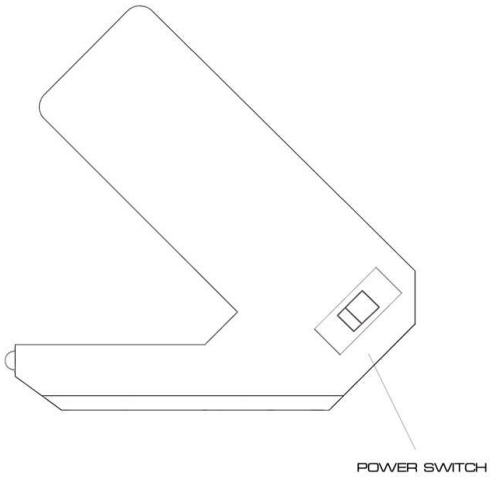
Right Side View




Left Side View

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## INTEGRATED STRING RESONATOR

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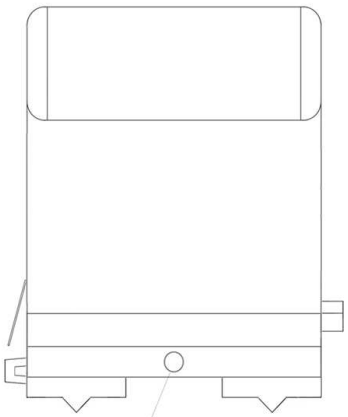
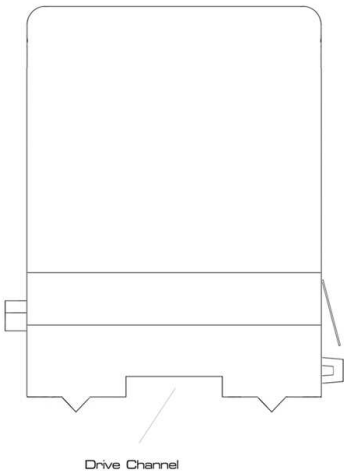
Front View




Back View

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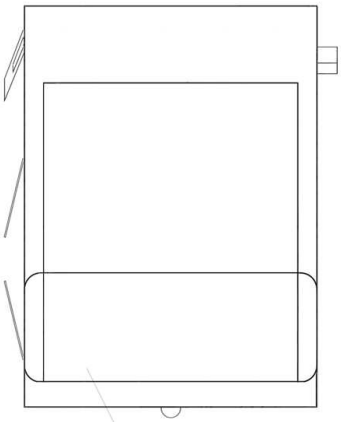
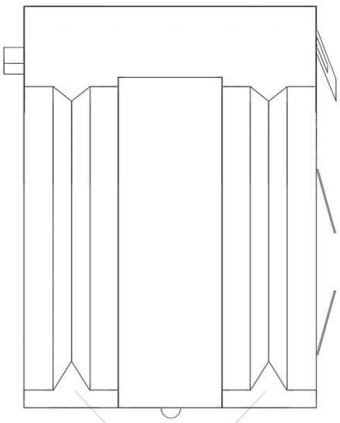
Top View



Battery Cover

Bottom View



Tracking Rails

# E30

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# 1.3 Functions

The E30 includes 3 onboard trigger effects :

- **HPF** (high pass filter)
- **LPF** (low pass filter)
- **MUTE**

The E30X includes a 2 way Power Switch for Normal and Hyperdrive

The upper right side trigger activates **HPF** Mode,
attenuating low frequencies and enhancing harmonics.

The middle right side trigger activates L**PF** Mode,
attenuating high frequencies by 26 dB, with the effect of a bass boost,
which produces a cello effect on bass instruments.

The forward right side trigger activates the **MUTE** function.

Rapid triggering or alternated triggering produces some very interesting special effects available only to the SRG.

# 2 OPERATION

## 2.1 Instrument Compatibility

The **SRG** functions on any stringed instrument with ferromagnetic strings, including plain steel strings and steel core strings.

The **E30** is equally compatible with light gauge string instruments such as guitar, and heavy gauge bass string instruments.

The tracking rails on the **E30** are optimised for bass instruments, accomodating bass string spacings of 16 - 22 mm on the outer rails, as well as light gauge string instruments with string spacings of 8 – 12 mm on the inner rails.

The unique "Fang" rail design allows more stable and accurate string mounting and tracking.

A minimum instrument pickup to string clearance of 2 mm is recommended.

The **SRG** is also capable of driving Acoustic Steel String Instruments without electromagnetic transducers , although the tonal effects are less audible and transducer proximity effects are unavailable.

Bowed String Instruments such as Cello or Contrabass require a **V4** resonator (Cello) or **V6** resonator (Contrabass), and solid steel core strings, - helical core strings do not contain enough ferro-magnetic mass to be inductively driven.

## 2.2 Handling

The **SRG E Series** is designed to be handheld between the thumb and index finger with the middle and ring fingers free to operate the triggers, and the LED facing towards the nut of the instrument.

## 2.3 String Mounting & Tracking

Place the guide rails on the 2 support strings, with the support strings on either the inside or outside of the "Fangs" depending on the string spacing of the instrument.

The **SRG** should rest absolutely level on the guide strings, and never tilted to one side.

It's important to get a feel for the optimal positioning of the **SRG**, through persistent practice. Proper use of a cello bow is not learned in a day, and neither is the proper use of an **SRG** – both take practice!

## 2.4 String Driving

String driving (resonance) will initiate immediately after holding the **SRG** steady and level on the support strings.

Any deviation from top dead centre above and parallel to the driven string will result in various effects, the most obvious being fade in / fade out, and reverse envelope effect.

All positional effects are a result of deviation from parallel top dead centre above the driven string.

The best path to finding desirable effects is through constant experimentation.

# 2.5 Input Transducer Effects

Various Legato and Staccato effects are possible through the proximity and forward / backward angular relationship between the driver and the magnetic core of the input transducer (pickup) on the instrument.

Most useful effects depend on this distance and angular relationship

Provoking the input transducer in every conceivable manner will result in the discovery of more than a few useful effects.

Note* The use of a headphone amp during the lower end of the learning curve is highly recommended.

Extraordinary efforts have been made in molesting the guitar to badly imitate the sounds of other instruments.

The best advice this manual can offer, is to use "other instruments" rather than trying to imitate them, and discover "New" sounds with the **SRG**.

## 2.6 Onboard Effects

The E30 has 3 Operating Modes :

- **Normal Mode**
- **LPF Mode**
- **HPF Mode**

Normal Mode is the default state with all switches open (untriggered).

The upper right side trigger activates **HPF** Mode,
attenuating low frequencies and enhancing harmonics.

The middle right side trigger activates **LPF** Mode,
attenuating high frequencies, with the effect of a bass boost,
which produces a cello effect on bass instruments.

The forward right side trigger activates the **MUTE** function
which engages the internal bypass circuit.

Rapid triggering or alternated triggering produces some very interesting special effects available only to the SRG.

## 2.7 Maintenance

If possible - always store the SRG in a dry, dust-free environment at room temperature (15 - 20° C).

Always remember to switch the E30 OFF when not in use.

Clean the SRG using a soft cotton cloth or t-shirt soaked in warm water, tight places may be cleaned using a cotton bud.

To remove minor scratches – the SRG may be polished using 1000 grit wet & dry sandpaper and rubbed with vegetable oil.

Never attempt to clean any part of the SRG with alcohol, acetone, ammonia, or any household cleaner!

# TECHNICAL SPECIFICATIONS

## SRG MODEL E30

| | |
|---|---|
| Supply Voltage | 9 V |
| Power Output | 500 mW |
| Driver Resonant Frequency | 2300 Hz |
| Sensor Resonant Frequency | 2300 Hz |
| Core Magnets | Neodymium |
| Quiescent Current Drain | 8 mA |
| Operating Current Drain | 55 mA |
| Voltage Gain | 46 dB |
| LPF Attenuation | 26 dB |
| THD | 0.2% |
| Storage Temperature | 15° - 25° C |
| Operating Temperature | 0° - 35° C |
| Width | 44 mm |
| Length | 60 mm |
| Height | 60 mm |
| Mass (without battery) | 68 g |

## SRG MODEL E30X

| | |
|---|---|
| Supply Voltage | 9 V |
| Power Output | 500 mW / 1 Watt ( Switchable ) |

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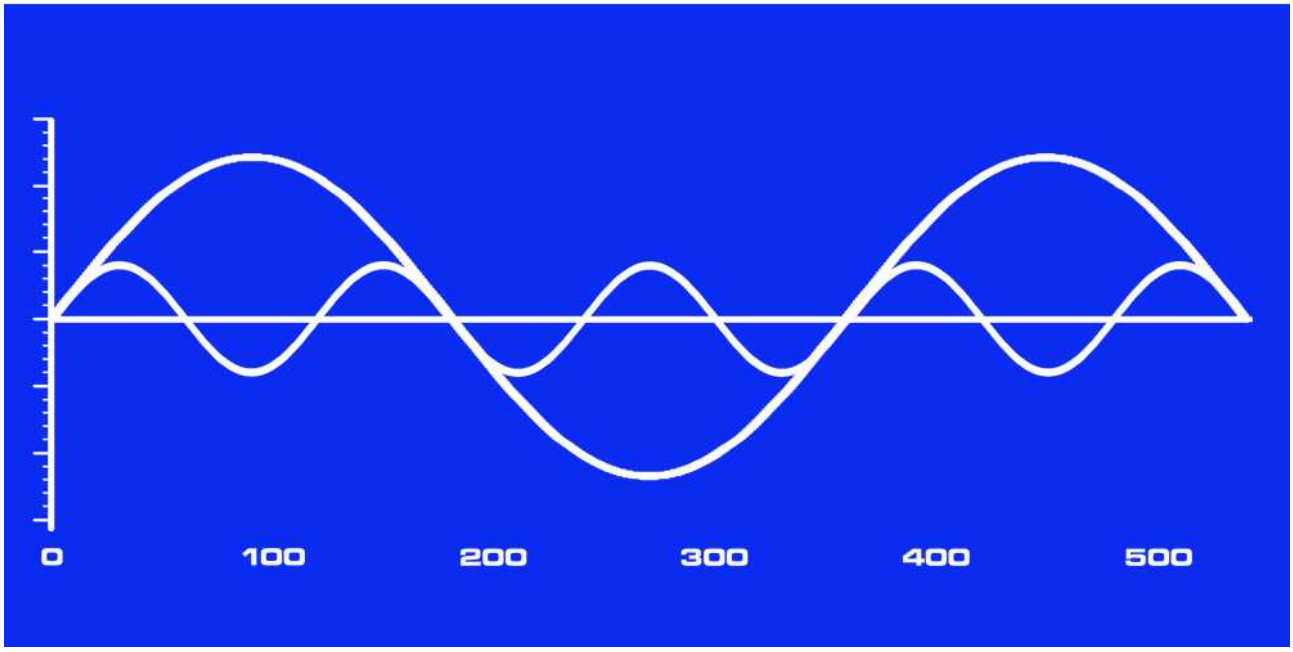
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