

Wattson Classic Electronics will send you a *Return Material Authorization*, or *RMA* number, along with instructions for packing and returning the product for repair. Once the product is received it will be evaluated by our technicians, and you will be notified of the repair options and costs. You will also receive instructions for paying for the option you select.

RoHS Compliance Statement

Wattson Classic Electronics certifies that it has conducted with due diligence, and to the best of its ability, the verifications required by directive 2002/95/EC of the European Parliament regarding the reduction of hazardous substances in electrical and electronic equipment (RoHS), and that this product is in compliance with that directive to the best of our knowledge.

Wattson Classic Electronics maintains a technical file of the RoHS compliance certification statements for the materials and components used in this product, as provided by the manufacturers and/or suppliers of those products. An electronic copy of the technical file can be obtained by sending an email request to:

rohs@wattson-fx.com

EC Declaration of Conformity

Manufacturer: Wattson Classic Electronics
3252 Round Hill Drive
Hayward, CA 94542, USA

Product: Fuzz guitar effects pedal
Model: GFX-0100

The undersigned hereby declares, on behalf of Wattson Classic Electronics, that the above-referenced product, to which this declaration relates, is in conformity with the provisions of:

Council directive(s): 2004/108/EC - Electromagnetic compatibility
Standard(s): EN55013, EN55020

The Technical Construction File required by this directive is maintained at Wattson Classic Electronics, 3252 Round Hill Drive, Hayward, California, USA. Public market authorities in an EU country may request an electronic copy of the technical file by submitting the request via email to:

compliance@wattson-fx.com

James S. Sproul



Proprietor, Wattson Classic Electronics



Wattson Classic Electronics

Fuzz

Owner's Manual



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Thank You!

We'd like to thank you for purchasing the **Fuzz**, from *Watson Classic Electronics*.

We've designed the **Fuzz** to provide the exact same *tone* and visual appeal as the classic effects from *Shin-ei* and *Univox*. We've also made some improvements over those classic designs, including a rugged 16 gauge steel chassis, an external DC power jack, an LED which lights when the effect is engaged, and a convenient battery drawer that allows you to swap batteries without opening the case.

Please read through this brief manual to ensure that you get the most from your **Fuzz** pedal.

Installing a battery

Your **Fuzz** can be operated from either an external 9VDC power supply, or a conventional 9V battery. For battery operation we recommend you use only alkaline batteries.

To remove the battery drawer - place your fingernail or a small coin in the slot at the bottom of the drawer, and lift upward until the drawer "clicks".

If there is already a battery in the drawer then the drawer should pop out slightly on it's own. Otherwise, pull lightly on the drawer with your fingernail until it begins to slide out of the case. Grasp the drawer and remove it completely from the case.



The battery is held in the drawer by pressure from a spring. You can remove the battery from the drawer by lifting outward at the end with the connector snaps.

Insert a fresh battery in the drawer. Be sure to observe the proper polarity or the battery will not fit in the drawer correctly.

Insert the drawer into the case, battery side facing up and connector snaps toward the case. Push the drawer into the case until it "clicks".

If the cost of repair is determined to be greater than the cost of a replacement product, *Watson Classic Electronics* will advise the consumer of this fact before performing any repair. The consumer will then have the option of purchasing a new replacement product, rather than having the significantly modified product repaired. If the consumer chooses this option, then both the new product and the *significantly modified product* will be returned to the consumer.

Obtaining Service

For the most up-to-date information on getting your *Watson Classic Electronics* product serviced please visit our web site at www.watson-fx.com, and click on the "Support" link.

Products Under Warranty

To obtain service for a product which is covered by the warranty send an email message to support@watson-fx.com. Provide the following information in your email message:

- Your name. This should match the name on the warranty registration card.
- Your full address.
- The name of the product you want serviced.
- The serial number of the product.
- A brief description of the malfunction.

Watson Classic Electronics will send you a pre-paid shipping carton with instructions for packing and returning your product. Once we receive the product we will contact you with an estimate for the repair time. Once the product is repaired, it will be returned to you at our expense.

Products Not Under Warranty

To obtain service for a product which is not covered by the warranty send an email message to support@watson-fx.com. Provide the following information in your email message:

- Your name.
- Your full address.
- The name of the product you want serviced.
- The serial number of the product.
- A brief description of the malfunction.

Power interlock

Any product which has been modified, altered, or repaired by the consumer is excluded. Products in this category are classified as *significantly modified*, and the consumer will be responsible for the full costs of repair. Modifications which are described in the owner's manual, such as battery replacement or adjustment of internal controls, will *not* result in the product being excluded, and such products will still be fully covered by the warranty.

Any product which has significant missing parts or components is excluded. Products in this category are classified as *significantly modified*, and the consumer will be responsible for the full costs of repair. Significant missing parts include such items as connectors, controls, circuit boards, electronic components, etc. Insignificant missing parts, such as nuts or screws, will *not* result in the product being excluded, and such products will still be fully covered by the warranty.

Out-Of-Warranty Original Products

Any product which is excluded from the warranty, and is classified as an *out-of-warranty original product*, may still be serviced by *Wattson Classic Electronics*. The consumer will be responsible for shipping charges to return the product to *Wattson Classic Electronics*, but *Wattson Classic Electronics* will cover the shipping charges to return the repaired or replaced product to the consumer.

The consumer is responsible for the parts and labor charges for repairing an *out-of-warranty original product*, up to a maximum of 50% of the original purchase price. *Wattson Classic Electronics* will assume all repair charges beyond 50% of the original purchase price.

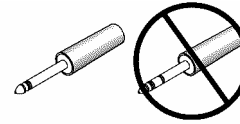
Repair services for *out-of-warranty original products* under the terms described here are available for the life of the product, and for anyone who owns it, whether or not they are the original purchaser.

Significantly Modified Products

Any product which is excluded from the warranty, and is classified as a *significantly modified product*, may still be serviced by *Wattson Classic Electronics*. The consumer will be responsible for all shipping charges, both to return the product to *Wattson Classic Electronics*, as well as to return the product from *Wattson Classic Electronics* to the consumer. The consumer will also be responsible for all costs related to the repair of the product, including parts and labor.

Your **Fuzz** pedal features a two stage power interlock which is designed to preserve the battery, and also to permit the use of an external power adapter.

In the first stage, the battery ground circuit is interrupted unless there is a plug in the "Input" jack on the back of the pedal. If there is no plug in the "Input" jack, then you will not be able to power up the pedal using a battery.



The only type of plug which will work with this circuit is a conventional 1/4 inch mono, or "tip-sleeve" (TS) plug, which is standard on most instrument cords. The interlock circuit will **NOT** work with a stereo, or "tip-ring-sleeve" (TRS) plug.

In the second stage, the +9VDC circuit from the battery is interrupted whenever there is a plug in the "9VDC" external power supply jack on the back of the pedal. This allows you to operate the pedal on an external adapter without also drawing current from the battery. You cannot operate the pedal from the battery if there is a plug in the "9VDC" external power supply jack.

When operating from a battery the **Fuzz** will draw a small amount of current anytime the interlock circuits are closed, even if the pedal is in "bypass" mode and the effect is not switched on. It will draw even more current when the effect is on and the LED is lit up. The fuzz circuit is *not* powered down when the effect is switched off in order to avoid any power up delays when you switch on the effect.

To make this a little more clear...

If you have installed a battery, and have inserted an instrument cord plug into the "Input" jack, and have **NOT** inserted an external power supply plug into the "9VDC" jack, then the pedal will draw some current from the battery. If you want to preserve your battery power then you should open the interlock connection when the pedal is not in use, either by disconnecting the plug from the "Input" jack, or by inserting a plug into the "9VDC" external power supply jack. Either method will disconnect the battery from the fuzz circuit, and help to conserve battery power.

Using an external power supply

You can operate your **Fuzz** on an external power supply that meets the following specifications:

- 9 volts DC, at least 50 milliamps (mA)
- 5mm x 2.1mm connector, tip "negative"

For best performance, we strongly recommend you use a well regulated and filtered power supply. Any ripple or noise in the power will be amplified by the **Fuzz**, and come through your amplifier. Cheap power supplies from your local electronics hobby store may not be regulated nor well filtered.

Observe the following precautions, or you may permanently damage your **Fuzz** pedal:

- Do **NOT** use a power supply which is rated at more than 9 volts DC.
- Do **NOT** use a power supply which provides AC rather than DC current.
- Do **NOT** use a power supply with the tip connected to "positive".

You can operate your **Fuzz** on an external power supply while you have a battery installed. No power will be drawn from the battery when there is a plug in the external power supply jack.

A note about "daisy-chained" power supplies

A "daisy-chained" power supply can be an enormously useful addition to your pedal board, but they can also cause problems with analog pedals like the **Fuzz**.

If you have some pedals connected to the input on your amp, and other pedals connected to the effects loop on your amp, then you should *not* operate these pedals from the same power supply. The effects loop is often not on the same ground level as the input, and using the same power supply for input and effects loop pedals can cause a ground loop, which will result in hum and noise in your analog pedals. You should use one power supply for your input pedals, and a different power supply for your effects loop pedals.

Because the **Fuzz** is a fully analog pedal, it is highly susceptible to any noise on the power supply line. Some digital effects may generate high frequency noise on the power supply line, and the **Fuzz** may pick up this noise and amplify it. If you encounter this problem then you should operate the **Fuzz** on a separate power supply from the digital effects pedals which are causing the problem.

Specifications

Maximum Input Level:	+8dBu
Operating Voltage:	9VDC, +/- 10%
Operating Current:	
<i>Bypass Mode:</i>	2.1mA
<i>Active Mode:</i>	9.2mA

Warranty

Summary

All *Wattson Classic Electronics* products are warranted to be free from any defect in manufacturing for a period of one year from the date of purchase. If the product fails under normal use for any reason during that period then it will be repaired or replaced, at our discretion, absolutely free of charge. We will even pay the costs for shipping the product back to us, and then returning the repaired or replaced product back to you.

This warranty is not transferable, and is valid only for the original purchaser of the product. The original purchaser is defined as the person who completes and returns the warranty registration card.

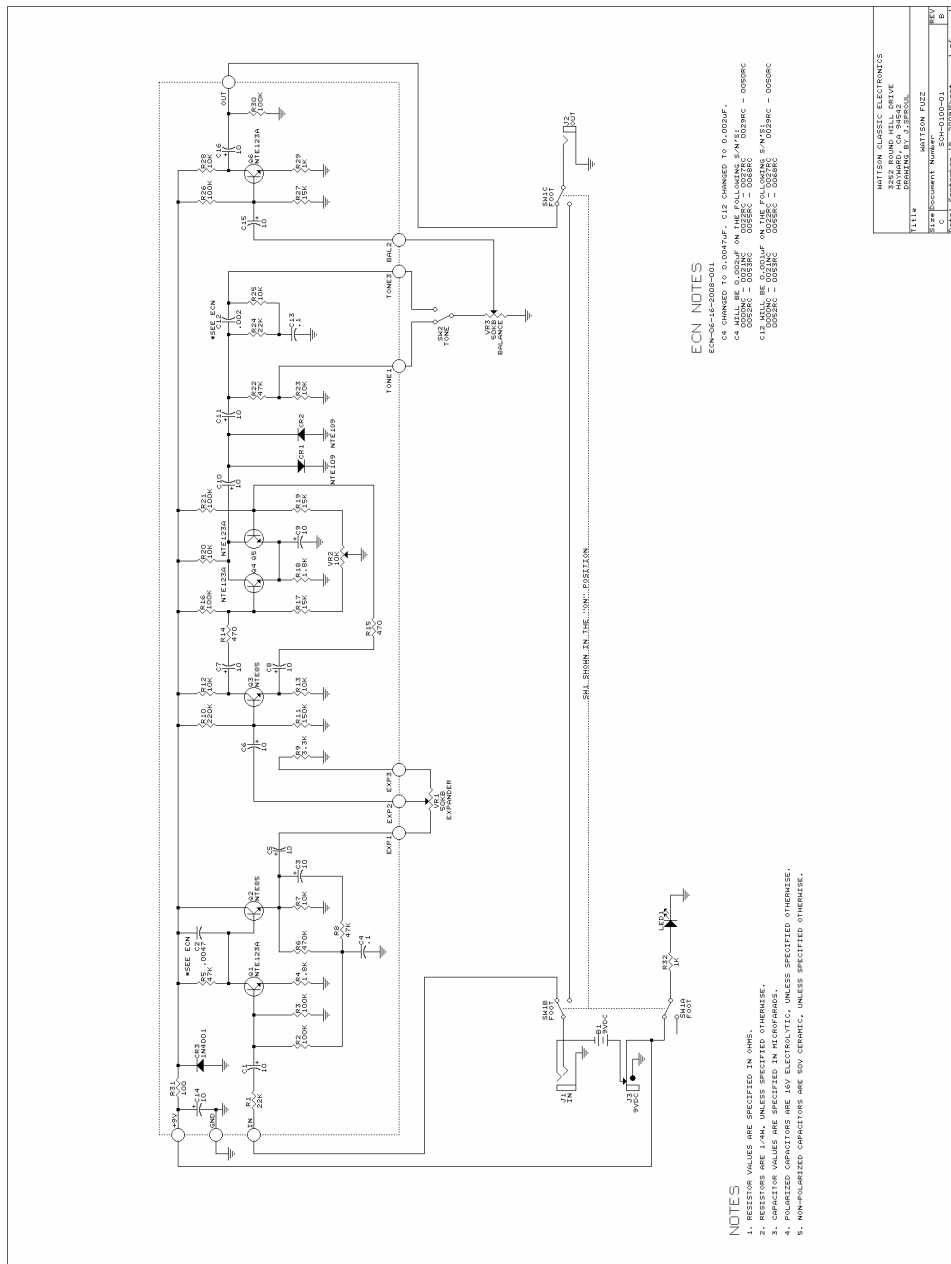
Exclusions

Any product which is *excluded* under the terms below will not be covered by the warranty. The determination as to whether a product is or is not excluded is entirely up to the discretion of *Wattson Classic Electronics*.

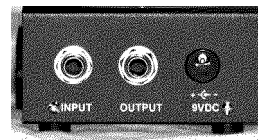
Any product which was purchased by the consumer more than one year prior to requesting service is excluded. Such products are classified as *out-of-warranty original products*, unless other exclusions also apply.

Any product which is no longer owned by the original purchaser, as defined in the warranty, is excluded. Such products are classified as *out-of-warranty original products*, unless other exclusions also apply.

Any product which has been damaged through misuse, abuse, neglect, or act of nature is excluded. It may still be possible to have the product repaired as an *out-of-warranty original product*, depending on the amount of damage done. If the damage is determined to be severe, then the product will be considered *significantly modified*, and the consumer will be responsible for the full costs of repair.



Connecting the Fuzz to your rig



The **Fuzz** has two 1/4 inch jacks on the back, labeled "Input" and "Output". The "Input" jack should be connected to the signal chain that ends at your guitar, while the "Output" jack should be connected to the signal chain that ends at your amp. If you have no

other effects pedals in your chain, then plug your guitar into the "Input" jack, and your amp into the "Output" jack.

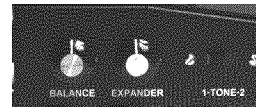
The **Fuzz** was designed to operate with the signal levels coming from a guitar. It may not perform well when connected to the effects loop on your amplifier.

There is much debate about the proper order to connect effects pedals, but the conventional wisdom is generally:

- Gain type pedals first. This includes boosters, distortion, fuzz (like the **Fuzz**), overdrive, etc. To keep noise to a minimum, you should connect the lowest noise pedals first, followed by the noisier pedals.
- Time based pedals last. This include chorus, echo, delay, reverb, etc.

The above recommendations are not engraved in stone. Feel free to experiment with your pedal arrangement to get the tone you want.

Using the controls



The **Fuzz** has four user-accessible controls (and a fifth "hidden" control we'll talk about in a moment...). These are:

- **Footswitch** - This control is used to turn the fuzz effect on or off. The LED will be lit when the fuzz effect is turned on.
- **BALANCE** - This knob controls the output level of the pedal when the effect is turned on. You can adjust this knob to balance the "effect on" volume level with the "effect off" volume level.
- **EXPANDER** - This knob controls the level of the signal going into the octave/fuzz circuit. Turn this control up for more fuzz, and down for less fuzz.
- **TONE** - This switch has two settings. In position 1 the tone will be darker with more growl. In position 2 the tone will be brighter with more bite.

Fine tuning your tone (advanced users only)

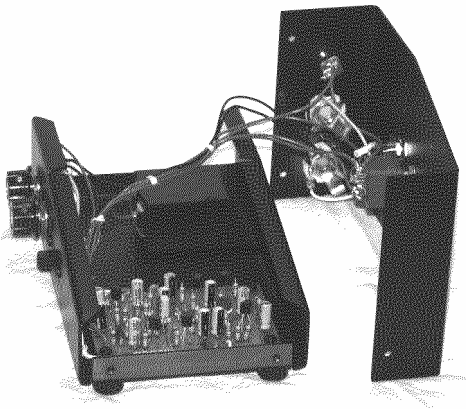
All of the vintage *Super-Fuzz* pedals featured a special two-transistor circuit that would add an "octave up" tone to the normal fuzz effect. For this reason, these pedals are often referred to as "octave fuzz" effects. Your **Fuzz** pedal features this same circuit.

In the original *Shin-ei* and early *Univox* pedals, both transistors in the octave circuit were balanced. *Univox* later added a trimmer resistor, which allowed the octave circuit to be intentionally unbalanced, making a variety of tone variations possible. Unfortunately, the extra resistance from the trimmer changed the bias of the octave circuit, and also changed its *tone*. For this reason, it's common to find some of these later pedals with the trimmer removed, and jumper wires installed.

We've added the balance trimmer to the **Fuzz**, so you can get the same *tone* as the later *Univox* pedals. However, we've also reduced the size of some other resistors in the circuit in order to compensate for the trimmer, so you can also get the same *tone* as the earlier *Shin-ei* and *Univox* pedals.

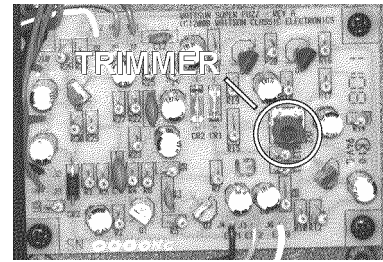
Your **Fuzz** comes from the factory with the balance trimmer set to the middle position. This recreates the sound of the original *Shin-ei Super-Fuzz*, as well as the earlier *Univox* pedals. You can adjust the value of the trimmer to fine tune the tone of your **Fuzz** to suit your personal tastes.

Remove the four screws which attach the top of the case to the bottom. There are two screws in the front of the case, and two screws in the back, as indicated in the photo. Carefully lift the top of the case from the bottom, being careful of the wires which are connected between the two halves.



Place the top chassis section on either side of the lower chassis section. It's probably more convenient to place it on the right side, as this will leave room for you to access the knobs.

Now, connect your guitar and amplifier cords. If you're using an external power adapter, then connect that, as well.



The trimmer is located as indicated in the photo to the left. The small plastic knob can be adjusted with a small philips or flat screw driver.

Note that the trimmer knob has either a small arrow or flat side. The trimmer is "centered" when this part of the knob is facing directly toward the front.

Now, turn on your amp and switch on the **Fuzz**, and you can adjust the trimmer to achieve the tone you like the best.

The **Fuzz** is an analog circuit. The intermediate stages of this circuit are high gain, and extremely sensitive to electrical noise. When combined with the germanium "fuzz" diodes, it can even make a pretty sensitive radio receiver! Placing your hands near the exposed circuit board can greatly increase the level of noise picked up by the circuit. Fluorescent lights, transformers, or other high current electrical devices in the immediate vicinity of the SuperFuzz can also increase this noise. The metal enclosure normally acts as a shield to help prevent this sort of noise.

When working with the trimmer you should make very small adjustments, and then move your hands away from the circuit board before auditioning the changes with your guitar.

You'll find the greatest amount of *tone* variation can be found within 10 or 15 degrees of rotation from the center. Turning the trimmer much beyond this will not make much additional difference in the tone.

Check your *tone* changes by gradually reducing the volume pot on your guitar. If the pedal begins to produce a high pitched squeal, then you've turned the trimmer too far. Turn it back towards the center in small increments until you no longer hear the squeal.

To restore your **Fuzz** back to its factory settings just turn the trimmer to the dead center position.

When you're finished, turn off your **Fuzz** and remove the cords from it, and carefully place the upper chassis back onto the lower chassis, and replace the four screws.