

Note about the wave-shaping circuit:

Wave-shaping occurs between 0dBu and +16dBu. This means that with a very strong signal, for example when using a clean boost pedal before the Holy Fire, it is possible to overdrive the Holy Fire like the front end of a tube amp even with the “O” and “D” controls turned all the way down. It also means that with a very weak signal, for example a low output, single-coil pick-up, it may be necessary to increase the “O” and “D” settings a few ticks before hearing any effect. It is this characteristic of the Holy Fire that makes the pedal respond to your performance dynamics, pick-attack and volume control...

Specifications:

Power:

48VDC tip positive, appx 90mA, appx 4.5 watts

Heat:

It is normal for the pedal to feel very warm, similar to the heat of a 5 watt incandescent nightlight bulb

Input impedance:

> 2 mega ohms

Input levels:

Typically < 0dBu

Input levels over 0dBu will change the on/signal LED from red to yellow and will engage the overdrive wave-shaping circuit.

Maximum input level before input clipping appx +24dBu

Output impedance:

< 750 ohms

Output levels:

Typically around 0dBu

Maximum clean output achievable: appx +12dBu

Maximum overall output achievable: appx +28dBu

“G” Gain control:

Range: $-\infty$ to +12dB

Distortion: < 0.02% (20 Hz to 20 KHz)

Noise Floor: appx -115dBu at unity gain (“G” control about 12 o’clock)

Max signal to noise: appx 128dB

“O” Overdrive control: (“G” at unity)

Range: unity gain to appx +38dB (max output limited to +16dBu by wave-shaping)

Distortion: < 0.02% minimum to appx 36% maximum

Noise Floor: appx -115dBu minimum to appx -90dBu maximum

“D” Distortion control: (“G” at unity)

Range: unity gain to appx +24dB (output limited between +16dBu at appx 2 o’clock to +1dBu at max by wave-shaping)

Distortion: < 0.02% minimum to appx 44% maximum

Noise Floor: appx -115dBu minimum to appx -100dBu maximum

“O” and “D” controls together: (“G” at unity)

Range: unity gain to appx +44dB (output limited between +16dBu with “D” at appx 2 o’clock to +1dBu with “D” at max by wave-shaping)

Distortion: < 0.02% minimum to appx 45% maximum

Noise Floor: appx -115dBu minimum to appx -85dBu maximum

“~” Hi-cut control:

Variable hi-cut filter: -6dB per octave starting fully clockwise at 20 KHz to fully counter-clockwise at 500 Hz

Fixed low-cut filter: -36dB per octave below 10Hz

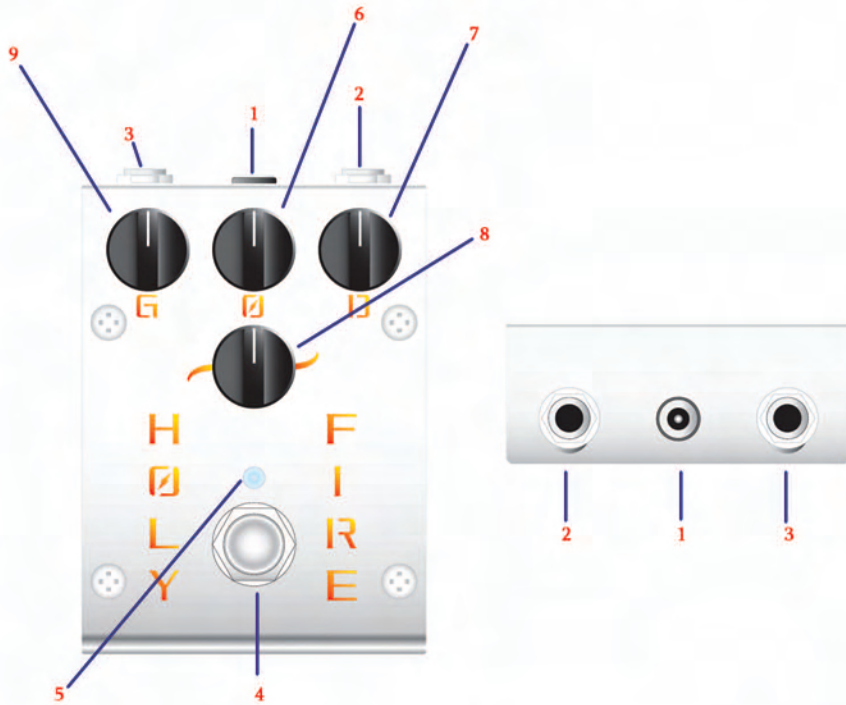


HOLY FIRE™

OVERDRIVE / DISTORTION

USER GUIDE





SIGNAL FLOW DIAGRAM



WARNING / SAFETY

The Holy Fire Overdrive / Distortion Pedal is capable of causing extremely loud signal levels when used in conjunction with audio amplifiers. Use caution / hearing protection when using this product at high levels.

The Holy Fire is very strong with considerably more gain than most pedals, therefore it is possible for the Holy Fire to appear to be noisy at "dime" positions of the control knobs. The Holy Fire is very quiet when compared to other pedals at like-kind levels, so be wary of extreme control settings.

Be careful to not use the Holy Fire at levels which may cause amplifier or speaker failure.

There are no user serviceable parts in the Holy Fire unit. All service and warranty issues should be handled by authorized personnel only.

Do not use the Holy Fire in or near environments where moisture / water is present.

It is normal for the Holy Fire pedal to become warm.

WARRANTY

The Holy Fire has a one year warranty from the time of purchase against defects and manufacturing errors. Creation Audio Labs, Inc. assumes no other liabilities. Please register your unit at our website listed below and keep your sales receipt as this will be necessary for warranty claims.

1 48VDC POWER CONNECTOR JACK. The power supply for the Holy Fire is connected to this jack. The Holy Fire Overdrive / Distortion pedal can be used ONLY WITH THE 48VDC POWER SUPPLY THAT COMES STANDARD WITH THE UNIT. Use of any other power supply will void the warranty and will not operate the Holy Fire. Due to the unique design of the Holy Fire it is necessary to be operated on a power supply designated specifically for this pedal. Also, the Holy Fire pedal power supply cannot be "daisy chained" to other pedals...it must be used only in a one-to-one manner. The power supply can be used in world-wide applications with the appropriate input power cable to the actual power supply unit. Replacement or spare power supplies can be obtained by contacting www.creationaudiolabs.com. Additionally, the design of the Holy Fire power supply connection is purposely different than standard pedal power supply connectors to prevent accidental connection to incorrect supplies. The Holy Fire cannot be operated by battery.

The power supply input is: 100-240V 0.5A max, 50-60Hz.
Output: 48v DC Tip Positive

2 INPUT JACK. Always connect the cable to the instrument first, then make the connection to the Holy Fire pedal in this jack. Avoid connecting a cable to the INPUT JACK that is not connected to something else on the other end as this will act like an antenna that can pick up noise. Max input to this jack is +24dBu 2M ohms which allows the use of the Holy Fire in all EFFECTS LOOPS.

3 OUTPUT JACK. Always make sure that the amplifier is turned down before connecting or disconnecting the output.

4 ON / OFF FOOT SWITCH. If the pedal is not active or off, all knobs and functions are inactive. In the off state the Holy Fire is true by-pass and thus rendering the controls out of the circuit.

5 ON / SIGNAL LED. This LED will be RED when the Holy Fire is on. As the signal level varies through the overdrive circuit the LED will flicker between RED and YELLOW. This corresponds with the internal LED's as viewed through the laser cut Holy Fire logo lettering. When the Holy Fire is in the off state the ON / SIGNAL LED will be off.

6 OVERDRIVE CONTROL with corresponding "O" identifier. The level of overdrive is set by this knob. At the off or fully counter-clockwise position no overdrive is introduced to the signal path. As the control is rotated to the right (clock-wise) overdrive wave shaping is applied to the signal. This wave shaping function was inspired by 1940's analog computer technology, and has never before been used in the creation of overdrive / distortion sounds for electric instruments. So, of course, this is a new way of using "old" technology. The Holy Fire pedal actually overdrives and distorts the signal exactly like a tube being pushed past its limits. In doing so, the signal is EVENLY distorted or "shaped" and thus retains the entire original bandwidth or "tone" of that signal. The Holy Fire pedal has extremely flat bandwidth from the very lows of about 20hz to the full high end of 20Khz. This allows for a "transparent" and musical signal path. With the Holy Fire there is no loss of low end frequencies or mid / high peaking as is often the case with the use of pedals. Because of the wide bandwidth of the Holy Fire, it is an excellent pedal option for dropped tunings and bass guitar use.

7 DISTORTION CONTROL with corresponding "D" identifier. The amount of distortion applied to the signal is controlled via this knob. At the fully counter clock-wise position the distortion circuit is off. As the control is rotated to the right, increasing amounts of hard square-edged distortion are introduced to the signal. After about the 2 o'clock position a slight dip of volume will be noticed as this is where the waveform really begins to be square and somewhat compressed. This is a normal function of wave clipping on the Holy Fire. The DISTORTION section is after the OVERDRIVE CONTROL in the signal path and therefore is directly influenced by the OVERDRIVE CONTROL. Levels of apparent distortion will be less evident if the OVERDRIVE CONTROL settings are lower, and higher if the OVERDRIVE levels are higher. Distortion sounds are often more harsh than overdriven tones and can be identified as "buzzy" in nature.

8 HIGH CUT CONTROL. This knob provides a way to reduce the amount of high frequency response of the signal path. At the fully clock-wise setting of this knob the frequency response is wide open all the way to 20Khz. As the HIGH CUT CONTROL is turned counter clock-wise the higher frequencies are reduced by 3db starting at 20Khz and dialing back down to 500hz in the fully counter clock-wise position. This is an effective way to cut down on the "buzzy" component of the signal as well reduce the noise level of the overdrive / distortion circuits. The HIGH CUT CONTROL works independently of the other knobs and will function whenever the Holy Fire is in the active mode.

Remember with this control: fully clock-wise (up) = full frequency bandwidth. As the knob is "turned back" the high frequencies are "cut" down.

9 GAIN CONTROL with corresponding "G" identifier. This knob allows for OFF to +12db of gain to be added to the signal path. In the fully counter-clockwise position the signal is at 0 or in the "off" position. Fully clockwise is +12db. The GAIN function of the Holy Fire is the last portion of the signal path in the pedal. As such, the OVERDRIVE (6), DISTORTION (7), and HIGH CUT (8) functions / controls precede the GAIN function and the volume of the settings / sounds created by these controls are then adjusted by the gain knob. (See signal flow diagram). Extremely overdriven or distortion sounds can be adjusted down to "apartment" levels or up to over the top, "blow up your amp" settings. (Read and heed the safety warning!). The GAIN control can be used alone as a very pristine clean boost that is often a very good starting point to get preamp tube overdrive. Adjustment of the GAIN KNOB will allow for a vast palette of tonal possibilities and volume levels. It should be noted here that the Holy Fire does NOT use gain as a function to create overdrive and distortion sounds in the customary manner. Again, the GAIN CONTROL is the last circuit going out of the pedal. It can be used to push a tube amp into overdrive (actually, this is a really killer way to "bust up the front end of a tube amp"), but this control should be generally be considered as an overall "volume" control.