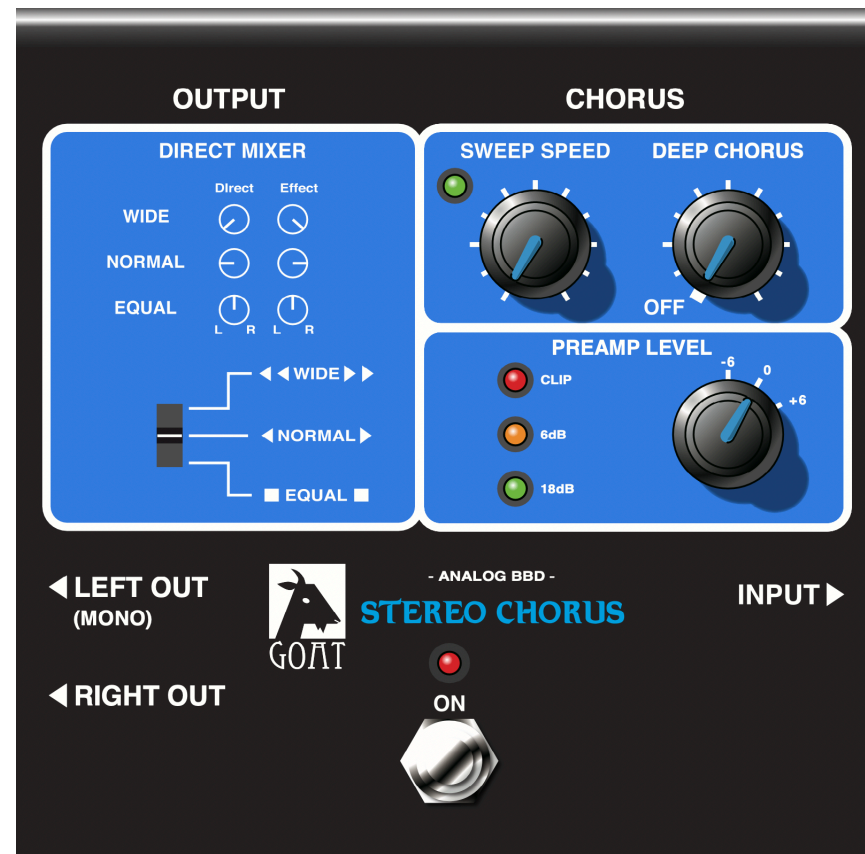


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MANUAL



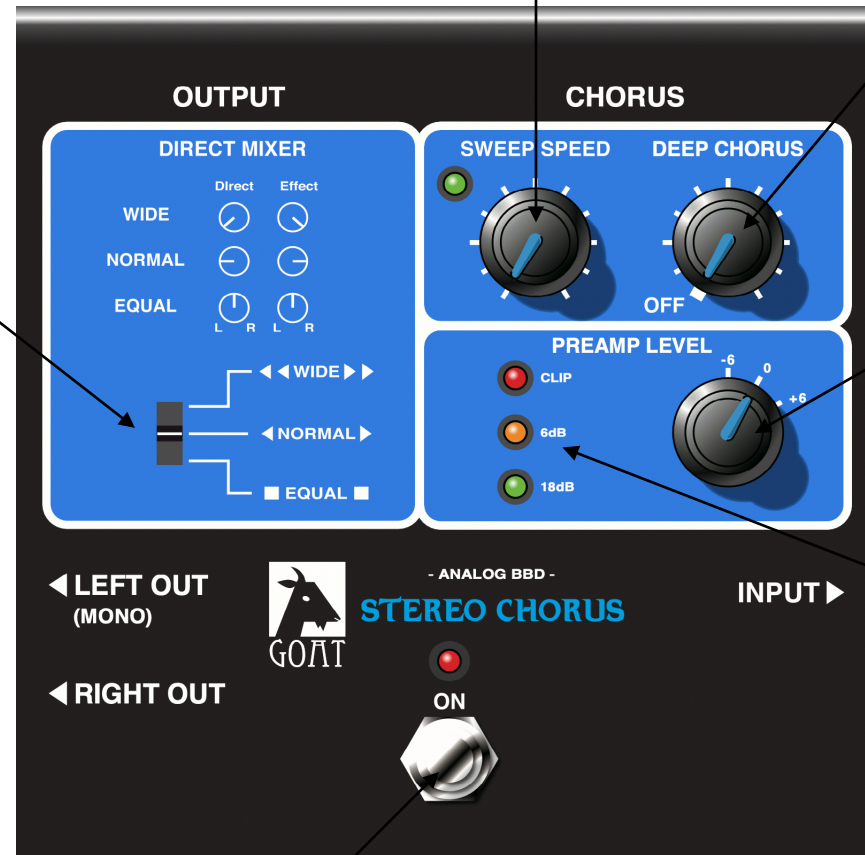
STEREO CHORUS

# Controller Description

⑤⑤DIRECT MIXER:  
Determines how the chorus setting is mixed in stereo or mono. By switching these switches, the depth of the chorus effect can be adjusted in three levels.

③SWEEP SPEED: LED flashes to indicate the set speed. The controller controls the character and depth of the chorus effect.

④DEEP CHORUS: Infinitely variable normal delay for normal chorus and long delay for a distinct dupla effect.



①PREAMP LEVEL: Used to set the best operating level of the internal circuitry to minimize distortion and noise. Changing this setting does not change the output signal level.

② HEADROOM LED: Used to check the internal signal level. Adjust the PREAMP LEVEL so that the red color of the LED lights up only momentarily when the guitar is played hard.

Reference: Humbucking PU "0".  
: Single PU "+6" or "0"

⑥ON/OFF LED: Lights up when the effect is on and turns off when the effect is bypassed (effect off).

## Operation

If you want to use the STEREO CHORUS right away, follow the instructions in this chapter. However, we strongly recommend that you read the rest of the manual immediately to fully understand and use the capabilities of this sophisticated signal processor.

1. make sure that the power to the amplifier or other device to which you are connecting is turned off before connecting the STEREO CHORUS.

Note: Use the recommended AC adapter.

Use alkaline batteries, the operating time is approximately 2 hours.

Connect the OUT jacks of the STEREO CHORUS to two channels of a stereo amplifier or mixer, or to two guitar amplifiers with their respective cables. If you need a mono output, connect only the LEFT OUT (MONO) output jack to the sound system with a single cable. 3.

Set the PREAMP LEVEL to zero and set the DEEP CHORUS knob to the OFF position. If using mono, set the DIRECT MIXER mixer to the NORMAL or EQUAL position. 4.

Connect a guitar or keyboard output to the INPUT jack. If you are using a GENERATOR, connect its output to the STEREO CHORUS INPUT (MONO). 5.

The STEREO CHORUS has an amplification level of 1, which means that the input signal level is the same as the output level, so set the sound system volume to the same level as when the STEREO CHORUS is not in use. 6.

6. turn on the STEREO CHORUS before turning on the amplifiers in order to avoid noise from the speakers when the power is turned on.

You are now ready to use the STEREO CHORUS in normal chorus mode. Adjust the PREAMP LEVEL so that the red LED turns on for a moment when you play the guitar hard.

Reference: Humbucking PU "0".

Single PU "+6" or "0"

### **Preamp/Level (PREAMP/LEVEL)**

The PREAMP LEVEL controller is used to adjust the level of the incoming audio signal to the internal gain of the STEREO CHORUS. Setting it to the best position will minimize both distortion and noise. The output level does not change at any position.

The HEADROOM LED indicates the level of the signal passing through the internal circuitry. The red LED indicates that the level is approaching the distortion point and should not be lit too often. If the red LED lights frequently, turn down the PREAMP LEVEL controller one step. The yellow LED indicates the best signal level with the least noise. If the yellow LED does not light up at all, turn up the PREAMP LEVEL controller one step.

For normal line-level signals, 0 is generally the best position. If you are connecting a guitar directly, set it to the +6 position. If you are connecting a generator, set the PREAMP LEVEL controller to -6. In either case, watch the LEDs and toggle the switches to find the best operating point.

Note: If distortion is felt even at the -6 position, turn down the level (output) of the effect system used in the previous stage.

### **CHORUS**

The center delay time can be infinitely varied from 20 ms (normal) to 40 ms (long) with the DEEP CHORUS. The sweep oscillator varies this delay in two ways, from 20 to 24 milliseconds or from 40 to 44 milliseconds. The normal chorus delay time is just long enough to create a true stereo image, but the longer chorus delay creates a stronger effect, giving the impression that the two sources are independent.

The SWEEP SPEED controller controls a low-frequency oscillator (LFO) for varying the time delay. The frequency of this sweep oscillator can be set from 1 Hz to 0.25 Hz (from one cycle per second to one cycle every four seconds), and the speed is indicated by a blinking SWEEP SPEED LED. The slower the speed, the smaller the phasing effect, but the faster the speed, the stronger the vibrato-like rhythmic effect and the larger the pitch change. The nature of the chorus effect is also greatly affected by the output switch setting. (Please refer to the DIRECT MIXER description.)

\*Maximizing DEEP CHORUS increases the speed to 50%.



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## Function Description

### Output (DIRECT MIXER)

Use the MIXER switch to preset the ratio of direct to effect mix.

How do I get a process signal only?

Set the MIXER switch to WIDE (STEREO) and use only the RIGHT OUT. If you want to use this signal, you will need an external mixer or other equipment.

Note: The MIXER circuit is designed so that the apparent volume is the same at all switch positions; in the WIDE (STEREO) position, the input and output signal levels are the same (gain 1), but when set to mono, the output may have peaks that are higher than the input signal. If the signal clips while in the mono position and the red "CLIP" HEAD ROOM LED lights up, set the PREAMP LEVEL controller lower or reduce the input signal level if necessary.

Note that even when the effect is off, the audio signal will still pass through the low-noise buffer circuit and must be energized or there will be no sound.

The apparent volume does not change when switching from chorus to bypass. The 3 dB apparent volume increase that normally occurs when the chorus signal is replaced with a direct signal in the mix is automatically compensated for.

### Explanation of Stereo Operation

◀◀WIDE▶▶

LEFT OUT Direct signal (100%)

RIGHT OUT Effects signal (100%)

◀NORMAL▶

LEFT OUT Direct signal plus -10db effect signal

RIGHT OUT Direct signal with -10db to effect signal

■EQUAL■

LEFT OUT 50% mix of direct and effect signals

RIGHT OUT 50% mix of direct and effect signals

How to apply

For the best chorus effect on clean (undistorted) guitar or piano parts, use the SWEEP SPEED setting at the 12 o'clock position (1/2Hz). For distorted guitar sounds, increase the sweep speed to deepen the effect even more. You can also use DEEP CHORUS to extend the spatial presence.

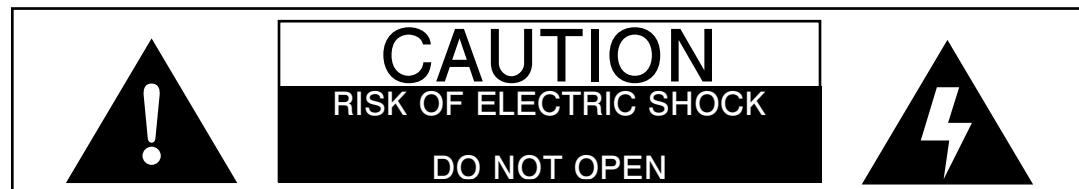
### Principle of Operation

The purpose of a chorus is to make a single instrument sound like two or more instruments with well-defined pitch and timing. Just as a string section can be made to sound richer and more beautiful than a single violin with its finely tuned pitch and timing, a guitar or keyboard can be made to sound more lifelike by applying a chorus.

The chorus works by splitting the instrument's sound into two different signals. The SWEEP oscillator affects the amount of time delay, which determines the depth of the chorus. The shorter the delay, the higher the pitch of the signal; the longer the delay, the lower the pitch. And the faster the SWEEP oscillator behaves, the faster the delay lengthens or shortens, and the greater the pitch shift.

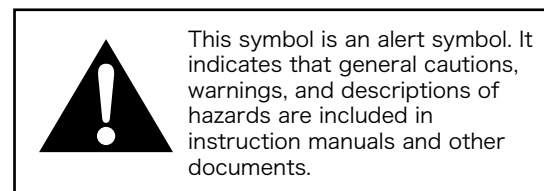
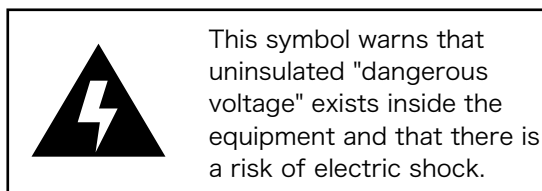


# Safety Precautions



CAUTION: To prevent electric shock, do not remove the panel or cover.  
Do not attempt to repair or replace the product by yourself as it is very dangerous.

Please ask your dealer or Rancher Corporation for repair.



**Please be sure to read this before using the product.**

The precautions listed here are intended to ensure safe and proper use of the product and to prevent harm or damage to you or others. They are important for your safety and the safety of others and for the maintenance of the equipment, so please read them carefully and observe them.

**Observe the following instructions**

- Do not disassemble or modify this equipment.
- Never attempt to repair or replace parts that are not specified in the instruction manual. Always consult with your dealer or launcher.
- Always plug the AC adapter into a 100 VAC power outlet.
- If there is dust on the plug of the AC adapter, wipe off the dust.
- Failure to do so may result in electric shock or short circuit.
- Install the product near an outlet so that you can easily reach the AC adapter plug.

**If any of the following occurs, immediately turn off the power and unplug the AC adapter from the power outlet:**

- When the AC adapter is damaged
- When a foreign object enters the product
- When the product malfunctions or breaks down \* When repair is required, contact the dealer.

Never do anything other than what is described in the instruction manual for repair or replacement of parts.  
Do not forcibly bend the AC adapter cord or place it near equipment that generates heat. Do not place heavy objects on the AC adapter cord.  
Doing so may damage the cord, resulting in electric shock or fire.

- Do not use the product at high or uncomfortable volume levels for long periods of time.
- Prolonged use at high volume may cause hearing loss. If you experience hearing loss or tinnitus, consult a physician.
- Do not put foreign objects (flammable items, coins, wires, etc.) in this product.
- Do not use or store the product in places where the temperature is extremely high (e.g., in direct sunlight, near heating equipment, on top of heat-generating equipment, etc.).
- Do not use or store the product in a place where there is a lot of vibration.
- Do not use or store the product in dusty places.
- Do not use or store in bathrooms or showers.
- Do not use or store the product in a humid place such as outdoors in the rain or in a place subject to water dripping.
- Do not spill liquids on the product.
- Do not use this product with wet hands.
- Keep batteries out of the reach of children.
- If a battery is swallowed, consult a physician immediately.

**Caution: Disregard of these precautions may result in personal injury or physical damage.**

- Do not use the product in a place where normal ventilation is not obstructed.
- Keep the product well away from radios, televisions, electronic equipment, etc.
- If the product is used in close proximity to a radio, television, or other device, it may be subject to noise and malfunction. Also, the product may make noises on radios, TVs, etc.
- When cleaning the exterior, wipe it lightly with a soft, dry cloth.
- When plugging in or unplugging the AC adapter from the power outlet, be sure to hold the plug.
- When not using the product for a long time, remove the batteries to prevent them from leaking.
- Unplug the AC adapter from the power outlet when not using it for a long time.
- Do not use an AC adapter other than the specified one.
- Do not wire the product together with the power cords of other electrical equipment.
- Connect to an outlet that matches the rated power consumption of the product.
- Do not expose the battery to excessive heat sources (sunlight, fire, etc.).
- Do not apply excessive force to switches, knobs, etc.
- Do not apply excessive force to switches, knobs, etc. as this may cause malfunction.
- Do not use benzene, thinner, compound, or strong flammable polishers to clean the exterior.
- Do not place the product on an unstable surface.
- Do not place the product on an unstable surface, as it may fall and cause injury or damage to the product.
- Do not ride on or place heavy objects on this product.
- Doing so may cause the product to fall or be damaged, resulting in injury or damage to the product.



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## Specifications

INPUT            Impedance · · · · · 2MΩ min.  
                    Maximum level · · · · · 2.8 Vrms(+9dBv)

CHORUS        Frequency Response · · · · · +1 to -3dB at 8KHz  
                    Sweep Speed (Normal) · · · · · .25 to 1Hz  
                    Sweep Speed (Long) · · · · · .12 to .5Hz  
                    Pitch change(Normal) · · · · · about 1/4 semitone  
                    S/N Ratio · · · · · 90dB or better

### STEREO OUTPUTS

MIXER            3 presets  
                    Impedance · · · · · 100 ohms

Size             W126, D126, H50 (mm)

### CURRENT CONSUMPTION

500mA (max.)

Power supply (sold separately)

AC adapter 9V DC center-minus

\*These specifications are subject to change without notice.