

# OPERATING INSTRUCTIONS FOR ECHO TWIN MODEL ET-1

The ECHO TWIN is most unique among portable musical instrument amplifiers. It consists of *two complete amplifiers* and two 12-inch speakers in a single cabinet. Used as a single-channel amp (inputs 1 or 2) its electrical output is 30 Watts.

Equipped with reverberation and tremolo, this model is capable of a variety of compelling effects once the control possibilities are understood. It is safe to say that you will never be caught without an amp, should tube breakdown or other mechanical difficulty occur. Since there are two separate power supplies, either 15 Watt amp will serve as a "spare" or emergency unit by simply removing the fuse in the affected circuit. (Each 2-amp fuse is located at either end of the panel.)

Before experimenting with the various effects, familiarize yourself with the following points:

**POWER SUPPLY . . .** Line voltage must be from 105 to 125 volts, 60 Cycle A.C. Do not connect this amplifier to any source other than this.

**SWITCH . . .** Toggle switch, located on the left side of control panel, next to pilot light. Switch to "on" position. Pilot light will glow. Allow about one minute warm-up time.

**INPUTS, 1 and 2 . . .** You may use more than one instrument at the same time. The volume is then divided by the instruments applied. Raise the volume control to compensate.

**VOLUME . . .** First, turn the volume control on the amplifier to "0". Turn the volume control on your instrument (not amplifier) all the way on. Raise the volume control on the amplifier to the desired level. The control on the pickup should be kept at or near maximum. Equally important, the control on the amp should never be turned higher than the point determined above. Naturally, this setting should not exceed the overload point of the speaker, or serious damage may result. Never judge volume by the number of the setting. Judge it by ear. It may be loud enough at 3, 4, 5, 6, or 7. If the volume is right at 3, don't turn it to 6 just because someone else says he sets his at 6. You don't know what other elements are involved and affecting his set-up. Maybe his volume control has a slower graduation. As said before, use your ear. If you hear a slapping sound in the speaker you are asking for trouble. If you need more volume than is obtainable without speaker slap, add another speaker. Extension speakers complete with cabinet and cord are available.

The right-hand volume control is used for echo, and the ECHO DIMENSION control allows you to select the desired degree of echo by adjusting from left to right.

**TONE CONTROL . . .** Turn to the left for depth; to the right for highs. For accordion it is generally turned well to left; however, this is a matter of taste and preference.

**TREMOLO . . .** Since each unit is equipped with tremolo, you may therefore have tremolo on either the main signal, the echo signal or both. The speed and intensity controls may be adjusted in and out of unison to provide a variety of interesting auditory effects. (A double foot-switch is provided for remote use of echo and tremolo.)

**STEREO . . .** If your instrument is equipped with a stereo pickup (for example, an accordion using the Ampeg 5-mic set up with 4 mics for the treble side and one in the bass chamber), you may use the two amps separately, as follows: Push toggle switch to "echo" position. Using a "Y" type split cable, plug into input 1 and 2 for one channel. Use the "auxiliary" input for the other. When used in this manner you will not have echo on either channel for you are now using the "echo" amplifier for a stereo amp. (Leaving the switch in the "echo" position simply uncouples the two amps from monaural operation and allows the "aux input" to be used for the second channel.) The common phone plug with a bakelite cover is not suitable, incidentally. Your pickup leads must be shielded all the way, therefore, a phone plug equipped with a metal jacket must be used.

When the "aux" input is not used, the echo may be operated and, as mentioned before, is controlled by the volume control next to the "aux" input. Altering the tone control of the echo channel affects the frequency response of the echo signal.

**CAUTION:** Avoid moving or jarring the amp while turned on with reverb in use. Any sudden motion will produce a thunderous crashing sound. This, while not necessarily harmful, can be very annoying; it is characteristic of the delay mechanism and is no cause for alarm. Before moving the unit simply turn off the reverb at the foot switch or set dimension control at "0".

**HUM:** A humming sound may be caused by disturbances in the A.C. line voltage. To correct this, reverse the polarity of the line plug. That is, pull the A.C. plug, and turn it around so that the pins are in the alternate position, and reinsert.

Another common cause of hum is inadequate shielding or a poor ground connection on the microphone, pickup or cable. If the hum becomes louder when you plug your connection cable into the input of the amplifier, you may be sure that the hum is coming from the cable or pickup.

**CARE AND MAINTENANCE . . .** The exterior of the amp is covered with a tough durable vinyl fabric. It may be cleaned with soap and water. Chrome surfaces may be polished with glass wax. Frequent brushing with a soft bristle brush will keep grill cloth clean and avoid a brown ring (speaker outline) when amp is used in a dusty location.

**GRILL CLOTH . . .** If the grill cloth becomes loose, it may be tightened simply by applying heat from a heat lamp or hot plate. Caution! Apply just enough heat to shrink the fabric, not to melt it.

**IMPORTANT:** The most common trouble in instrument amplification is in the external connections. Nine times out of ten, loss of power (or gain), tone quality or unevenness, can be traced directly to poor connections. It is usually in the cord connections or broken shielding. Any good radio man should be able to make a complete continuity check between the mic and the amp, and thus isolate any trouble. Be sure to make these checks before you blame the amplifier. It is wise to have two cords. Feel free to write or call us. We will not let you down.