

# Installation Instructions

for

## TAS-20

### Automatic Amplified Speaker Switch

#### Precautions

Operate the unit only on 120 Vac, 60 Hz.

Should any liquid fall into the cabinet, unplug the unit and dry thoroughly before operating again. Failure to dry the unit thoroughly may result in electrical shock.

Unplug the TAS-20 if it is not to be used for an extended period of time (such as six months).

Before making any connections, be sure the input devices are not powered. Failure to do so may result in damage to speakers or the input devices.

#### A Word About TAS-20 Operation

The TAS-20 is an automatic A-B switch that allows one amplified device and two line level devices share the same pair of speakers. The amplifier connected to the A input is considered the default and the device on the C input is considered the priority. When there is no signal present on the B or C inputs, the TAS-20 will allow the signal from the A input to pass through to the speakers. When a signal is sensed on the B or C inputs, the TAS-20 will disconnect the A input from the speakers, power-up its internal amplifier and then switch the B or C input signal to the speakers. When the signal on the B or C input is no longer present, the TAS-20 will switch off its amplifier and connect the A input back to the speakers.

#### Installation Notes

The power cord should be the last item connected.

The TAS-20-2A is designed for maximum switching of 120 watts per speaker on the A input. Exceeding this limit may permanently damage the unit.

The TAS-20-3A is designed for maximum switching of 450 watts per speaker on the A input. Exceeding this limit may permanently damage the unit.

The TAS-20 has a delay and sensitivity adjustment that can be set for your particular installation. Please read *Adjusting the TAS-20* section for more information.

The priority of the inputs must be remembered when setting up the TAS-20. The B input overrides A, and the C input overrides B. The C input overrides the A input as well.

If the C input is not being used, you may be required to add a dummy load on the C input connectors. This can be made by placing a 1.5k ohm resistor between the signal pin and ground on an RCA plug an insert into the Left C Input. This will prevent false switching to the C input.

The headphone input is always operating. The mute control must be shorted to mute the main amplifier.

If the HIGH LEVEL input on the B input is used, it is important to switch the INPUT LEVEL switch to the HIGH position. This will attenuate the signal to a pre-amp level signal.

## Connecting Speakers to the TAS-20

Connect each speaker to the corresponding terminal labeled SPEAKERS on the TAS-20 (i.e. right speakers to the [R] speaker terminals and the left speakers to the [L] speaker terminals).

- 1) Strip approximately 5/8" of outer covering from the speaker cord (maximum cord size is 14 AWG).
- 2) Twist the wire ends tightly for easy insertion.
- 3) Depress the terminal button downward and fully insert the twisted wires into the slots. Release the button to tighten the connection.
- 4) After these procedures are completed, pull on the speaker cord lightly to see if the connection is secure.

## Speaker Phasing

Correct + - connection of paired speakers insures proper in-phase operation. If the speaker system is out-of-phase, the bass tones seem to be missing and the position of the instruments become obscure.

## Input Connections

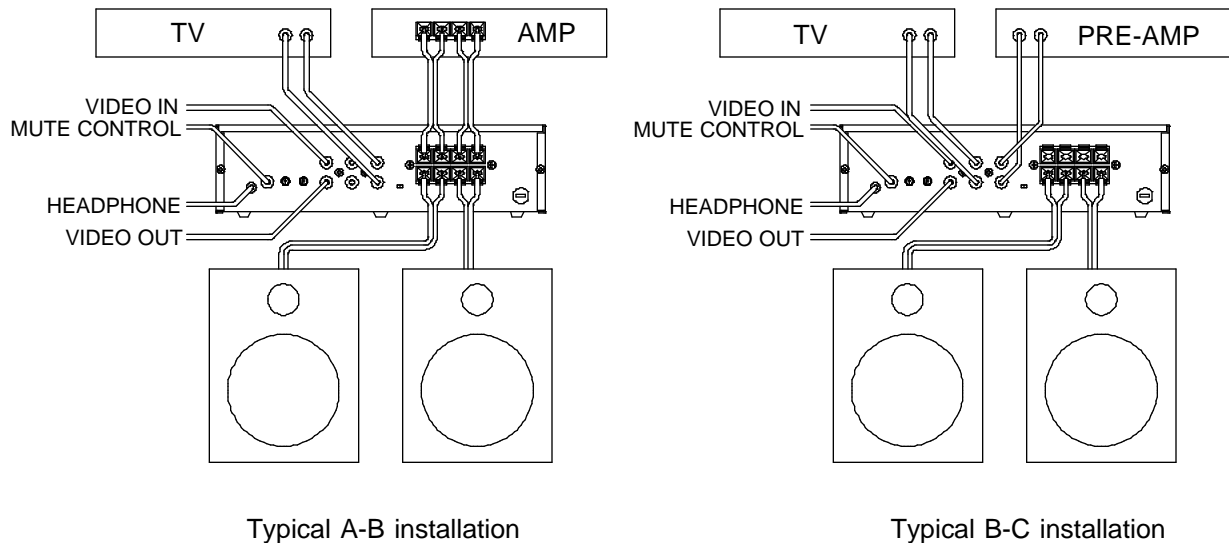
The A-input of the TAS-20 requires a signal from an external amplifier. This signal is passed directly to the speakers.

Following the same wiring precautions as for the speakers, connect the stereo amplifier outputs to the terminals labeled A-input on the TAS-20.

The B-input can use either high or low level signals. Set the INPUT LEVEL switch to the HIGH or LOW position determined by the type of input signal. The TAS-20 will not be damaged by the incorrect setting, but the signal quality will be greatly distorted.

The C-input has the highest priority. This signal must be only a pre-amp level signal.

The TAS-20 can be triggered by a video signal present on the VIDEO TRIGGER connections. **THE VIDEO TRIGGER OPERATES ONLY WITH THE B INPUT.** This video signal is looped through the TAS-20. By utilizing the video trigger, the operation of the TAS-20 can be greatly improved, since audio signal sensing can cause drop-outs caused by low or no signal passages.



The headphone amplifier is designed to operate a standard headphone. The volume level of the headphone output is controlled by the main volume control of the TAS-20. This will then follow the input volume level. The mute control allows the TAS-20 speaker outputs to be muted to allow headphone only operation. The muting control looks for a closed circuit when speaker muting is required.

## Adjusting the TAS-20

The DELAY and SENSE adjustments on the TAS-20 allow the unit to be set for maximum performance even in noisy installations. This noise can be caused by many electrical conditions from poor wire to lightning storms.

### Adjusting the Sensitivity

The TAS-20 is very sensitive to a signal on the sensing terminals. A small noise signal can cause the unit to switch erratically between inputs for no apparent reason. The SENSE adjustment allows the TAS-20 to be set so it will not switch on noise but only on a signal from the input device. When the unit arrives it will be set to maximum sensitivity. If the unit switches erratically, adjust the SENSE counter-clockwise to decrease and clockwise to increase sensitivity. Only adjust the unit to the point necessary. If you decrease sensitivity too much, the unit may require a stronger signal from the amplifier to activate.

### Adjusting the Delay

The delay adjustment allows a delay on the return time from when a signal has been removed from a priority and when the TAS-20 returns to the lower priority input. The same delay is effective for C to B, B to A, and C to A return switching. When the TAS-20 arrives, the DELAY will be set for approximately 10 seconds. Turning the DELAY counter-clockwise will decrease the delay, turning clockwise will increase the delay time.

## Trouble Checks

### TAS-20 does not switch to the B input

Check wiring to ensure that the connections to the TAS-20 are correct. See *Input Connections* section for further details.

Check to ensure that a signal is actually present on the output of the B device. The TAS-20 senses a signal only on the left channel. If this signal is not present the TAS-20 will not be able to sense the B device.

Check to ensure the TAS-20 is plugged into a power outlet.

### TAS-20 does not return to the A input.

Check to ensure there is no signal on the B or C inputs.

Turn the sensitivity down to overcome noise on the B and C input signal. See *Adjusting the TAS-20* for further details.

A 60 Hz signal may be present on the B input lines. This is caused by the input lines being run close to power lines. To overcome this, place a 10k ohm resistor on the B input lines. Place one leg of the resistor in the LEFT + input on the HIGH-LEVEL input and place the other leg in the LEFT - input. This resistor will filter out the signal and usually allow the sensitivity to be turned up to maximum.

## The TAS-20 switches erratically

This erratic behavior can be caused by several factors.

- 1) The B or C inputs are noisy.

Noisy inputs can cause the TAS-20 to sense noise as an audio signal. The solution is to turn the sensitivity adjustment down on the TAS-20. This will override the noise level on the inputs. When the sensitivity is turned down, the actual audio signal must be a high level to be sensed.

- 2) The B or C inputs are not sensing a signal continuously.

Audio signals have a tendency to drop out in movies, between tracks of a CD, or even between commercials on TV. When this happens, the TAS-20 will start its return timer. If the signal does not return before the timer completes, the TAS-20 will go to the next lower priority input. The solution is to use the video trigger whenever possible. **THE TAS-20 WILL SENSE A BLUE SCREEN AS A VALID VIDEO TRIGGER SIGNAL.**

If the video trigger is unavailable, turn the TAS-20 main volume level down and turn the sensitivity up. This requires a the input signal to be a higher volume level. This is compensated by the main volume control of the TAS-20.

