

# Sigtronics ST-400 / ST-600 STEREOCOM Operating Instructions

## INTERCOM OPERATION

The intercom portion of the Sigtronics Stereocom ST400 / ST-600 system is voice actuated with "transmit through the aircraft radio capability" using your push-to-talk switches. Three controls are provided on the SPA units:

ON/OFF Switch - Sets the intercom mode of operation.

VOL - Volume Control - Controls the intercom volume. (Does not affect aircraft radio volume. Set radio volume on radio as normal.)

SQ - Squelch Control - Allows the setting of VOX operation of the intercom for variations in background noise levels and differences in headset microphones.

CAUTION - As is standard practice with all aircraft avionics equipment, be sure that the aircraft radio master switch is turned off when you start up the aircraft engine.

1. With aircraft power on, set the MUSIC ON/OFF switch to "OFF" and the PILOT/ALL switch to "ALL". Turn the SPA ON/OFF switch to the "ON" position.
2. Turn the intercom SQuelch control to the maximum clockwise position. For best system performance set the intercom VOLume control as low as possible. On most systems this will be approximately between 1/4 to 1/3 open. Note: the intercom volume control only adjusts the volume of conversation between the headsets inside the aircraft. It does not affect the level at which you hear the aircraft radio(s) or the level of the music. Notice the intercom is now continually activated (hot mic mode) and you should be able to talk between headsets.
3. To adjust the Intercom SQuelch for voice activated operation (VOX), it is helpful to have some background noise present. Turn intercom SQuelch control all the way counter-clockwise. Now, without speaking, rotate the SQuelch control clockwise until you hear the background noise in your headset. Next, rotate it counter-clockwise a small amount and wait (approximately 1 second) until the background noise disappears. Finally, make small adjustments until your voice triggers the unit at comfortable speaking levels. This procedure is necessary because the squelch is a "Fast-on, Slow-off" system.

Once set, the intercom stays silent until someone speaks in their headset microphone (mic). Then it instantly turns on and relays the conversation. After about a second of no conversation, the intercom goes silent again.

Minor readjustment of the SQuelch may be necessary if the background noise level changes significantly (such as from taxi to take-off power conditions).

### Radio Transmit Mode

When the SPA unit is "ON", transmitting from both pilot and co-pilot positions is possible on a one-at-a-time basis. As normal, the pilot selects the appropriate radio he wishes to use. When the pilot presses his PTT switch, his headset mic is automatically routed through the intercom to the radio. Only his mic will be live. The microphones of the co-pilot and any passengers, will be muted when the pilot transmits. Similarly, when the co-pilot transmits, only the co-pilot's mic will go out on the radio. When transmitting, the pilots will hear their own voice via the aircraft radio sidetone return. (If the radio does not provide transmit sidetone, then you will not hear your voice. A minor modification to the SPA unit will enable it to simulate sidetone. (See the "SPA-400 / SPA-600 Sidetone Modification" instructions under the "HELPFUL HINTS AND TECHNICAL INFORMATION" section of the ST-400 / ST600 STEREOCOM INSTALLATION INSTRUCTIONS).

When the SPA is turned "OFF", only the pilot can transmit on the aircraft radio(s). Both pilot and co-pilot will hear the aircraft radio(s). The passengers will also hear the aircraft radio(s) if the PILOT/ALL switch is in the "ALL" mode. With the SPA unit "OFF" you will not hear intercom and cannot talk to the other headsets.

### Solo Flights

Since the intercom is not needed during solo flights, it may be turned "OFF". The pilot will still hear the aircraft radio(s), since this circuit is always active, and may transmit to ATC via his headset and push-to-talk switch. The pilot can also listen to music (interrupted only by aircraft radio traffic) by turning "ON" the MUSIC ON/OFF switch.



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## Back-up

If a problem is ever suspected in the intercom, simply turn it "OFF". You will still receive the aircraft radio and will be able to transmit from the pilot's position. The hand mic may also be used, however, the SPA unit should be turned "OFF" and you should unplug the pilots headset mic plug from the mic jack. (Leave the headphone plug in for radio reception).

## MUSIC SWITCHER OPERATION

1. Turn the Switcher MUSIC ON/OFF switch to "ON". Turn stereo your music source on and adjust to suitable listening level.
2. Select the PILOT or ALL position to suit switching mode desired. See Mode Selection Table. The Pilot and Co-pilot are automatically switched from the music source to the aircraft VHF radio when a radio message is received or transmitted and are switched back when the radio traffic is completed. The music is also automatically switched out while someone is talking on the intercom.

Mode Selection Table			
PILOT / ALL SWITCH	MUSIC SWITCH	PILOT & CO-PILOT	PASSENGERS
ALL	OFF	VHF and ICS	VHF and ICS
ALL	ON	Music interrupted by VHF and ICS	Music interrupted by VHF and ICS
PILOT	OFF	VHF and ICS	Music Only
PILOT	ON	Music interrupted by VHF and ICS	Music Only

VHF — Aircraft VHF Radio.      ICS — Intercom Audio.

## Stereo Headsets

Sigtronics stereo headsets are specifically designed for the aircraft high noise environment and give excellent noise attenuation. They also provide full frequency response stereo for maximum enjoyment. They are compatible with aircraft mic circuits and can be used as general aviation headsets in aircraft that are not equipped with stereo headphone jacks. This is because they include a switch to change from "Stereo" to "Monaural". No adapters required.

**NOTE:** General aviation headset (monaural) phone plugs should not be plugged into Stereocom stereo phone jacks. A monaural plug in a stereo jack shorts out one of the audio channels and therefore renders the aircraft VHF radio and intercom reception inoperative. (You may still hear music, however). General aviation headsets may be used only if one of the following three changes are made:

1. Monaural to stereo adapters are used on the headset headphone plugs. (Only monaural music will be heard.)
2. The general aviation headsets are re-wired for stereo reception.
3. Install the Sigtronics Stereocom system for monaural operation. See Note 10 under the "WIRING INSTRUCTIONS" section of the ST-400 / ST-600 STEREOCOM INSTALLATION INSTRUCTIONS.

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