

Sigtronics ST-440 / ST-640 STEREOCOM Operating Instructions

INTERCOM OPERATION

The intercom portion of the Sigtronics Stereocom ST440 / ST-640 system is voice actuated (VOX) with "transmit through the aircraft radio capability" using your push-to-talk switches. Three controls are provided on the SAS units:

OFF/ALL/ISO 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 Button - Automatically sets the VOX operation of the intercom for variations in background noise levels and differences in headset microphones.

Intercom operation and adjustment can be performed by the following procedure:

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 both the PILOT and PASS. MUSIC ON/OFF switches to "OFF".
2. Set the SAS OFF/ALL/ISO switch to the "ALL" position - the preferred mode for setting the squelch. The SAS squelch level can also be set with the SAS in the "ISO" mode, but the pilot headset audio will not be utilized for squelch level setting. 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 control for voice activated operation (VOX), press and hold the "SQ" button down. Now announce to the other persons in the aircraft not to talk because you need a moment to set the intercom. When all are silent release the "SQ" button. The intercom will immediately go quiet. In approximately one second

the intercom will briefly pop on. This tells you the squelch has finished automatically setting. If someone did speak while the intercom was setting, it will have to be set again. This is because the intercom would have tried to set to a level just above the persons voice level instead of just above the aircraft background noise level.

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.

In most aircraft, the squelch level wont need to be set again until the next flight. In some high noise aircraft it is better to set the squelch during climb or cruise.

Hot Mic Mode

When the SAS intercom turns on, it automatically comes up in "hot mic" mode (non voice activated mode). During a flight, if you want to deactivate the voice activated mode and return to hot mic mode, simply turn the OFF/ALL/ISO switch to "OFF" and wait 3 seconds and then turn it back to "ALL" or "ISO". To facilitate automatic setting of the squelch level, whenever the "SQ" button is held down, the intercom also goes into hot mic mode.

Radio Transmit Mode

When the SAS is in the "ALL" mode, 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 in the "ALL" mode, when the co-pilot transmits, only the co-pilots 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 SAS unit will enable it to simulate sidetone. (See "SAS-440 / SAS-640 Sidetone Modification" section under the "HELPFUL HINTS AND TECHNICAL INFORMATION" in the ST-440 / ST-640 STEREOCOM INSTALLATION INSTRUCTIONS). When the



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SAS is set to the "ISO" mode, only the pilot can transmit and receive on the aircraft radio(s). The pilot will not hear intercom and cannot talk to the other headsets. The co-pilot and passengers still have intercom, but do not hear the radios.

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 PILOT MUSIC ON/OFF switch.

Fail-Safe

If power to the SAS unit fails, the pilot can still transmit and receive on the a/c radio(s) (assuming the radio(s) are still functioning). Additionally, if a problem is ever suspected in the intercom, simply turn it to "OFF". In this mode you will also be able to transmit and receive on the aircraft radio(s) from the pilot's position. The hand mic may also be used, however, the SAS unit should be turned to "OFF" and you should unplug your headset mic plug from the mic jack. (Leave headphone plug in for radio reception).

MUSIC SWITCHER OPERATION

Switcher Panel Controls:

PILOT MUSIC ON/OFF Switch - Turns Pilots music switcher on or off.

PASSenger MUSIC ON/OFF Switch - Turns Co-pilot and Passengers music switcher on or off.

To operate, turn "ON" the appropriate MUSIC ON/OFF switch(s). Connect your music source to the music input jack, if applicable. Turn your stereo music source on and adjust to suitable listening level.

The Pilot is automatically switched from the music source to the aircraft VHF radio when a radio message is received or transmitted and is switched back when the radio traffic is completed. His music is also automatically switched out while someone is talking on the intercom (in "ALL" mode only).

The Co-pilot and passengers music is interrupted by the intercom. If the SAS is in the "ALL" mode the Co-pilot and Passenger music is also interrupted by the aircraft radio(s). In order to eliminate VHF interrupt, it is necessary to turn the VHF radio volume down or off.

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 9 under the "WIRING INSTRUCTIONS" section of the ST-400 / ST-600 STEREOCOM INSTALLATION INSTRUCTIONS.

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