

Sigtronics Auto Squelch Intercom System

Installation and Operating Instructions Models SAS-440 and SAS-640

INTRODUCTION

ATTENTION INSTALLER: To assure a trouble free installation, please read the entire instructions through once before beginning.

WORLDS FIRST AND ONLY VOICE ACTIVATED INTERCOMS WITH AUTOMATIC SQUELCH!

Once again Sigtronics is first. First with VOX, now first with Auto Squelch. One touch and the VOX squelch level is perfectly set to your headsets and the aircraft background noise level.

All of our products are "systems designed" to provide reliable, fail-safe products at the lowest possible cost. And we stand behind our products to guarantee your satisfaction!

The Sigtronics Models SAS-440 and SAS-640 Auto Squelch intercom systems are specifically designed for permanent, panel mounted installation in aircraft. The SAS units allow both pilot and co-pilot to operate the aircraft radios and have the convenience of voice activated intra-cabin communication. Optional passenger connections are provided that allow up to four additional intercom positions, depending on model.

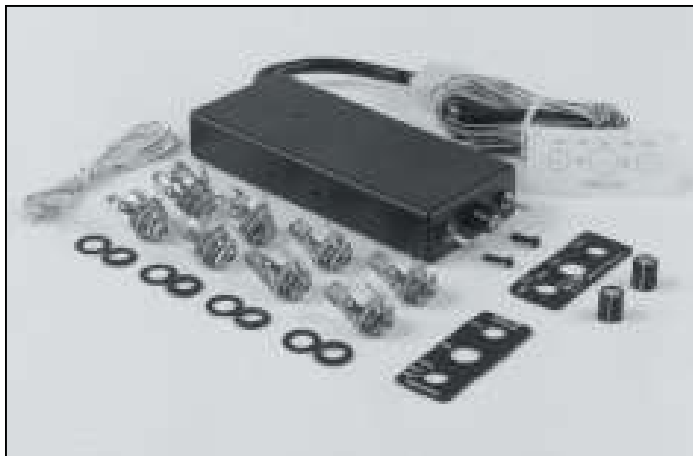
SIGTRONICS AUTO SQUELCH (SAS) INTERCOM SYSTEM FEATURES:

VOICE ACTIVATED feature allows "hands free" intercommunication between pilot(s) and passengers. Start speaking and the intercom instantly turns on to relay your message clearly to the other headsets; stop talking and it turns off to reduce background noise. There's no need to raise your voice or turn your head to communicate.

UP TO FOUR POSITION INTERCOM is provided with the model SAS-440. Model SAS-640 handles up to six positions.

AUTOMATIC SQUELCH - Another Sigtronics first. Just press and release the squelch button and the intercom perfectly sets the squelch level. In approximately one second the unit monitors the current aircraft noise level via all the headsets and adjusts the squelch for perfect voice activated operation. No more manual adjusting.

TRANSMIT CAPABILITY allows both pilot and co-pilot to transmit to air traffic control via their push-to-talk switches and headset boom mics. The intercom function is automatically disabled during transmitting, so that only the voice of the person transmitting can be heard.



PILOT ISOLATE MODE - The pilot can set the intercom so that he can transmit and receive on the aircraft radio(s) independently from the rest of the intercom. The co-pilot and passengers can still intercom among themselves and not be heard by the pilot. Conversely, they won't hear the aircraft radios or the pilot. This can be an advantage in areas of busy radio traffic.

RADIO MONITORING capability allows radio output to be heard by the pilot, whether the SAS unit is in "ALL", "ISO", or "OFF" mode.

COMPATIBILITY - All Sigtronics Auto Squelch intercoms operate with all standard aircraft radios and headsets.

FAIL-SAFE feature provides the pilot with the ability to transmit on the aircraft radios even if the unit is "OFF".

EASY UPGRADE - In most cases just enlarge one mounting hole and re-route one wire in an existing SPA-400 or SPA-600 installation and get the latest technology in aircraft intercoms.

WEIGHT: 6.4 ounces (SAS-440 intercom unit with panel and knobs). Jacks and wiring harness weigh 5.5 ounces.

SIZE: Panel 1" x 2.5". Chassis - 1" high x 2.5" wide x 6" deep. Can be mounted either horizontally or vertically in the aircraft panel.

INPUT POWER: 11 VDC through 32 VDC. Maximum current drain 0.06 Amp (SAS-440).

DISTORTION: Less than 1% total harmonic distortion.

ENVIRONMENTAL: Meets requirements of TSO-C50b.

WARRANTY: The SAS units are constructed of high quality components and carry a five year parts and labor warranty.

MADE IN THE USA



Specialists in "SOUND" Management

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OPERATING INSTRUCTIONS

The Sigtronics Transcom SAS-440 / SAS-640 is a voice actuated intercom for aircraft 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 intercom turn-on threshold for voice activated intercom (VOX) mode.

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.

INTERCOM OPERATION

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

1. With aircraft power on, 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.
2. Turn the SAS unit volume control to the 9 o'clock position. 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" on page 4)

When the 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.

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).



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