

Sigtronics UltraSound User Operation Instructions

INSTALLER: Please give a copy of this operation instructions to the users of the UltraSound System!



Single Radio Units – Models US-45S, US-67S and US-12S

The following describes how to use the UltraSound System as well as adjust the UltraSound controls. It also explains exactly how the UltraSound unit operates. This will allow you to easily set all unit functions to your specific needs. If you are not familiar with the UltraSound operation, perform the next few steps while the vehicle is not in motion.

Headsets and Intercom

Put on the headset(s) and position the boom mike close to the mouth, as is the practice with a hand-held mike. For best voice clarity, the headset microphone must be positioned to one side of the mouth and 1/4 inch from the lips. Turn the volume control on the headset ear cup to maximum. Turn down for individual hearing needs if necessary only after intercom and radio volumes have been set correctly (see below). Intercom operation and adjustment can be performed by the following procedure:

1. 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 the 10 o'clock position. **Note:** the intercom volume control only adjusts the volume of conversation between the headsets inside the vehicle. It does not affect the level at which you hear the dispatch radio. (see *Radio Operation below*) You should now hear yourself and others on the intercom.
2. To adjust the Intercom SQUELCH for voice activated operation (VOX), it is helpful to have some background noise (truck engine or ...). 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 in small amounts 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. When you speak, your voice will be heard in the headsets but the sound will cut off about a second after you stop speaking. Minor readjustment of the squelch may be necessary if the background noise level changes significantly (engine idling to cruise power with siren on).

Radio Operation

With the UltraSound System, your radio is heard through the headsets as well. Adjust the volume level of the dispatch radio in the headsets with the volume control on the radio as normal. Note that the radio volume does not effect the intercom volume and visa versa.

Transmitting (talking to dispatch) from the selected headset positions is possible on a one-at-a-time basis. For a typical UltraSound installation the Driver, Officer, or Crew #4–(US-67S units only) positions can transmit at any time simply by pressing their PTT switch. The other positions cannot transmit on the radio. When one position transmits, several things take place automatically:

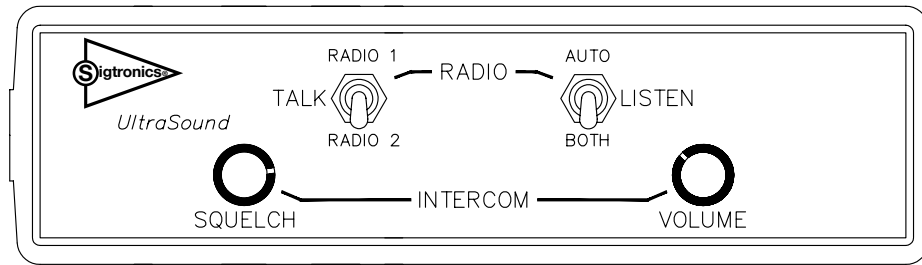
- All headset microphones, except for the transmitting position, are muted.
- The radio is put into transmit mode.
- The headset microphone audio (your voice) is sent to the radio.
- Sidetone is generated and sent to your headphones.*

* Sidetone is a portion of the transmitted voice signal sent back into your headset so that you can hear what you are saying while transmitting. The intercom VOLUME control adjusts the volume level of the sidetone that you hear in your headset. The other headsets will also hear the transmission sidetone. Of course, when the PTT switch is released, (stop transmitting) all functions return to normal, instantly and automatically.



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Dual Radio Units – Models US-45D, US-67D and US-12D

The following describes how to use the UltraSound System as well as adjust the UltraSound controls. It also explains exactly how the UltraSound unit operates. This will allow you to easily set all unit functions to your specific needs. If you are not familiar with the UltraSound operation, perform the next few steps while the vehicle is not in motion.

Headsets and Intercom

Put on the headset(s) and position the boom mike close to the mouth, as is the practice with a hand-held mike. For best voice clarity, the headset microphone must be positioned to one side of the mouth and 1/4 inch from the lips. Turn the volume control on the headset ear cup to maximum. Turn down for individual hearing needs if necessary only after intercom and radio volumes have been set correctly (see below). Intercom operation and adjustment can be performed by the following procedure:

1. 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 the 10 o'clock position. **Note:** the intercom volume control only adjusts the volume of conversation between the headsets inside the vehicle. It does not affect the level at which you hear the dispatch radios. (see *Radio Operation below*) You should now hear yourself and others on the intercom.
2. To adjust the Intercom SQUELCH for voice activated operation (VOX), it is helpful to have some background noise (truck engine or ...). 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 in small amounts 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. When you speak, your voice will be heard in the headsets but the sound will cut off about a second after you stop speaking. Minor readjustment of the squelch may be necessary if the background noise level changes significantly (engine idling to cruise power with siren on).

Radio Operation

With the UltraSound System, your radios are heard through the headsets as well. Adjust the volume level of the dispatch radios in the headsets with the volume control on the radio as normal. Note that the radio volume does not effect the intercom volume and visa versa.

Transmitting (talking to dispatch) from the selected headset positions is possible on a one-at-a-time basis. For a typical UltraSound installation the Driver, Officer, or Crew #4—(US-67D units only) positions can transmit at any time simply by pressing their PTT switch. The other positions cannot transmit on the radios. When one position transmits, several things take place automatically:

- All headset microphones, except for the transmitting position, are muted.
- The selected radio is put into transmit mode.
- The headset microphone audio (your voice) is sent to the selected radio.
- Sidetone is generated and sent to your headphones.*

* Sidetone is a portion of the transmitted voice signal sent back into your headset so that you can hear what you are saying while transmitting. The intercom VOLUME control adjusts the volume level of the sidetone that you hear in your headset. The other headsets will also hear the transmission sidetone. Of course, when the PTT switch is released, (stop transmitting) all functions return to normal, instantly and automatically

Radio Selection

The operation of the dual radio UltraSound units are identical to that of the single radio units except for the addition of radio selection. Radio selection of both Radio 1 and Radio 2 are provided by two switches:

1. **RADIO 1/RADIO 2 (TALK)** determines the radio you wish to transmit or talk on.
2. **AUTO/BOTH (LISTEN)** selects which radio(s) you receive or hear in your headset.
 - a) **"AUTO"** position allows you to hear the radio that the RADIO 1/RADIO 2 switch is set to.
 - b) **"BOTH"** position permits you to hear both the radios at the same time.

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