MODEL IIsx

Voice Activated Portable Intercom

INSTALLATION/OPERATION MANUAL

This unit includes the following:
- IIsx Voice Activated Intercom (part number: 101-0220-00)
- Cigarette Lighter Adapter (part number: 103-0614-00)
- Co-Pilot Transmit Cable (part number: 103-0630-00)

Cigarette Lighter Adapter   Co-Pilot Transmit Cable

For the fun of flying.

Questions?...Call TOLL-FREE 1-800-432-4342

Additional Accessories

You may purchase separately the following accessories:

• SR-4 Expansion Module (part number: 103-0602-20)
• PTT Gold (part number: 103-0604-00)
• FC-06 Mic Y Adapter (part number: 103-0603-00)
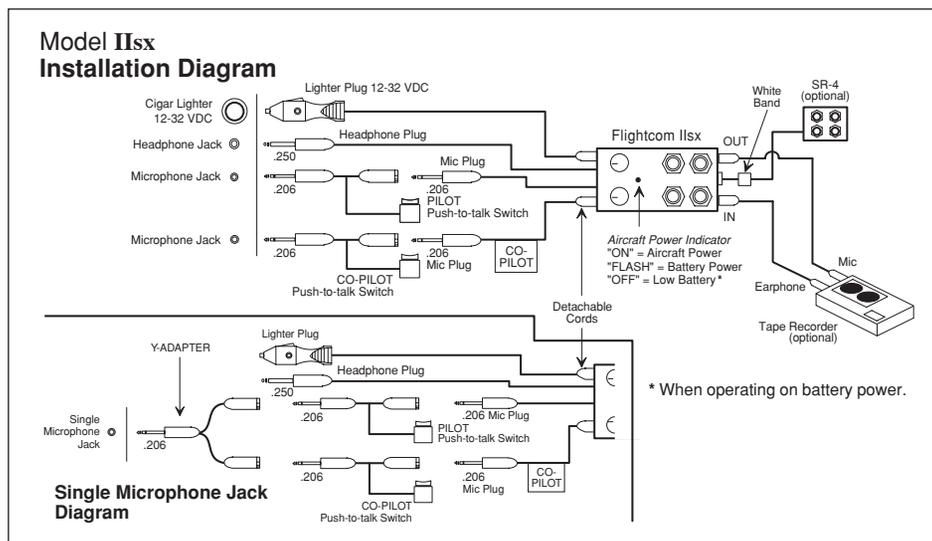
SR-4 Expansion Module   PTT Gold   FC-06 Mic Y Adapter

Set-up and Installation

Mounting the Intercom
Place the intercom in a convenient, easily accessible location out of the way of aircraft controls and passenger movement. The best location may be on the floor between the seats or under the panel by the trim wheel. You can fasten the intercom with Velcro tape or mount it permanently by securing the battery cover/mounting plate to the panel or floor.

NOTE: be sure to secure intercom cables out of the way of the seat rails.

Model **IIsx**
Installation Diagram

Cigar Lighter 12-32 VDC
Lighter Plug 12-32 VDC
Headphone Jack
Headphone Plug
.250
Microphone Jack
Mic Plug
.206
.206 PILOT Push-to-talk Switch
Microphone Jack
.206
.206 Mic Plug
CO-PILOT
CO-PILOT Push-to-talk Switch
White Band
SR-4 (optional)
Flightcom IIsx
OUT
IN
Aircraft Power Indicator
"ON" = Aircraft Power
"FLASH" = Battery Power
"OFF" = Low Battery *
Detachable Cords
Mic
Earphone
Tape Recorder (optional)

Y-ADAPTER
Lighter Plug
Headphone Plug
.250
Single Microphone Jack
.206
.206 Mic Plug
PILOT Push-to-talk Switch
.206
.206 Mic Plug
CO-PILOT
CO-PILOT Push-to-talk Switch
Single Microphone Jack Diagram
* When operating on battery power.

Problem: As the pilot, you are having difficulty transmitting on the radio.

Reason: your headset microphone plug may not be connected to the pilot side of the intercom and/or the co-pilot intercom microphone plug may be connected to your PTT switch.
Remedy: correctly reconnect plugs (see Installation Diagram).

Problem: You encounter a distorted sidetone while transmitting.

Reason: the noise is due to improper shielding of the aircraft antenna cable.
Remedy: have a qualified radio shop check all antenna lead connections.

Problem: The co-pilot's transmission is not clear.

Reason: the CO-PILOT XMIT jack on the intercom may be corroded.
Remedy: rotate the plug several times in the jack to clean off any built-up corrosion.

Problem: The unit isn't loud enough or you lose parts of your sentences while speaking.

Reason: the microphone may not be close enough to you.
Remedy: place the microphone as close to your lips as possible.

Reason: the squelch may be adjusted too high.
Remedy: while no one is talking, slowly rotate the squelch control knob clockwise until the background noise just disappears. Do not turn the knob any further than is necessary. You may find that one brand of aviation headset puts out a higher signal than another. If this is the case, you may be able to equalize the sensitivity of your headset by adjusting the microphone preamps (refer to your headset's operation manual for further instructions).

Problem: You are unable to squelch out all background noise.

Reason: if you are using a David Clark H10-30 headset, the microphone preamp may need to be adjusted.
Remedy: turn down all the way the microphone preamp by rotating completely counterclockwise the small nylon screw at the front of the microphone. Single earsets or other tubular microphone type headsets may not have the noise cancelling ability necessary for proper squelch operation. A full earmuff with a high-quality noise cancelling electret or an amplified microphone is prefer able, although all aviation headsets will work to some degree.

Problem: The background noise level while speaking is too high.

Reason: the microphone may have limited noise cancelling ability. Only one poor microphone will make the entire system noisy.
Remedy: switch to a premium headset with a very small electret element, such as the Flightcom 5DX, or turn down the volume control until the noise is at an acceptable level and speak louder with the microphone touching your lips. This will increase the signal-to-noise ratio by increasing the strength of your voice and decreasing the apparent strength of the noise.

Problem: A high pitch whine is always present.

Reason: the noise may be coming from the turn-and-bank indicator or other electric gyro.
Remedy: try connecting your power lead to a different circuit breaker.

Reason: the noise may be coming from your radio or headsets.
Remedy: test your radio and headsets in another aircraft, if possible.

NOTE: if your intercom still does not work properly, do not return it without contacting us first. Call or write us with a detailed description of the problem, and we should be able to explain how to correct it.

Procedure for Warranty Claim

Call for RMA before sending unit in. Retain a copy of the purchaser's original dated bill of sale as proof of purchase to present with the unit when you return it for repair. Please enclose a note describing the problem, the type of aircraft and headsets used with the intercom, and the number of hours the intercom has been in use. Pack equipment well to avoid damage in shipment. Defective units must be shipped to us with freight prepaid.

Flightcom Corporation 7340 S.W. Durham Road, Portland, Oregon 97224 • 503-684-8229

Connecting the Pilot and Co-Pilot to the Aircraft When There is Only One Aircraft Microphone Jack

Use a Y-adapter when the aircraft has only one microphone jack and both pilot and co-pilot need transmit capability (see Installation Diagram).

To connect the pilot to the aircraft with a Y-adapter when the pilot is using a portable PTT switch:

1. Insert the .250 inch intercom headphone plug into the aircraft headphone jack.
2. Insert the .206 inch intercom microphone plug into the pilot portable PTT switch.
3. Insert the PTT plug into one of the Y-adapter microphone jacks.

To connect the co-pilot to the aircraft with a Y-adapter when the co-pilot is using a portable PTT switch:

1. Insert the microphone plug of the co-pilot transmit cable into the co-pilot portable PTT switch.
2. Insert the PTT microphone plug into the other Y-adapter microphone jack.
3. Insert the Y-adapter microphone plug into the aircraft microphone jack.

NOTE: if you are connecting the pilot and co-pilot to the aircraft with a Y-adapter and not using a push-to-talk switch between the intercom and the Y-adapter, audio from both the pilot and co-pilot can transmit.

Connecting the Headset(s) to the Intercom

To connect the headset(s) to the intercom:

1. Insert the pilot headset plugs into the intercom **PILOT: Mic** and **Hph.** jacks.
2. If a co-pilot or passenger is using the intercom, insert the co-pilot headset plugs into the intercom **CO-PILOT: Mic** and **Hph.** jacks.

NOTE: if you are using a stereo headset, be sure to set it to "Mono" (refer to your headset operation manual for further instructions).

SR-4 Expansion Module

The IIsx intercom can be expanded to four places to accommodate two passengers with the addition of an SR-4 Expansion Module (purchased separately) by doing the following:

1. Connect the smaller SR-4 cable plug into the intercom **SR-4** jack.
2. Route the cable to the rear seats.
3. Connect the other end of the cable into the SR-4 Expansion Module jack.
4. Connect the passengers' headset plugs into the SR-4 Expansion Module headphone and microphone jacks.

NOTE: common 8-ohm consumer headphones can be used with the aircraft's hand microphone as an economical alternative to buying additional aviation headsets, and will not harm the intercom or affect the volume of other headsets.

NOTE: always turn off the intercom when it is not in use!

Operating Procedures

To operate the intercom:

1. With headsets plugged into the intercom, turn on the aircraft master switch.
2. Turn on the intercom by setting the intercom Volume control knob to the one o'clock position.
3. Set the intercom Squelch control knob to the three o'clock position.
4. Position the headset with the microphone 1/8" from your lips and centered over the corner of your mouth (see illustration).

ZERO to 1/8"
from mouth

NOTE: noise cancelling microphones will not operate correctly if they are more than 1/8" from the mouth.

5. While speaking loudly, adjust the intercom Volume control knob to a comfortable listening level.
6. When no one is talking, turn the Squelch control knob as far clockwise as possible while still blocking background noise (adjust this setting in flight to compensate for different background noise levels).

NOTE: if you set the squelch control too high, your voice will be cut out unless you talk very loudly; if you set the squelch control too low, you may occasionally hear background noise.

Pilot Isolate Switch

Push up the Pilot Isolate switch on the intercom to isolate your (the pilot's) headphones from audio other than the aircraft radio.

- In the event of a power supply interruption or failure of the intercom, push up the Pilot Isolate switch to connect your headset directly to the aircraft radio.
- You may also push up the Pilot Isolate switch when flying solo to allow the intercom and headphone cables to remain in place even while the intercom is not being used.

Push down the Pilot Isolate switch to disengage the pilot isolate function and allow normal intercom operations.

Intercom and Radio Transmission

NOTE: passengers will be able to hear the aircraft radio sidetone, but use of the intercom will not affect normal radio transmission and volume.

To transmit on the radio when you are the pilot or co-pilot, push the PTT switch associated with your headset. Only the person whose PTT switch is pushed will be heard over the radio, so that an instructor can talk to a student pilot while the student is transmitting to ATC without the instructor's voice being transmitted.

Auxiliary Audio Input

To listen to music or other audio programming:

1. Connect one end of a cable with a 3.5 mm connector to the intercom AUX: IN jack.

2. Connect the other end of the cable to the earphone jack of a tape player or other audio device.

3. Adjust the volume of the tape player lower than the volume of the aircraft radio. Radio, intercom, and music signals will be mixed.

Recording Radio and Intercom Conversations

To record radio and/or intercom conversations:

1. Connect one end of a cable with a 3.5 mm connector to the intercom AUX: OUT jack.

2. Connect the other end of the cable to the microphone jack of a tape recorder or other recording device.

Troubleshooting

Problem: The intercom does not work when plugged in.

Reason: the push-to-talk (PTT) switch may have been incorrectly inserted between the headset and the intercom.
Remedy: reconnect the PTT switch between the intercom and the aircraft radio.

Reason: the cigarette lighter power source may not be working.
Remedy: verify that the cigarette lighter power source is working by checking to see if the green LED light on the front panel of the intercom is on when the intercom is turned on and plugged into the cigarette lighter. If the LED light is not on, the Cigarette Lighter Adapter fuse may need to be replaced. Replace the fuse, using only a 1/4-Amp fuse to protect the intercom from reverse polarity damage. If the fuse continually faults, have your aircraft's power supply checked.

Reason: the aircraft's cigarette lighter jack may be too corroded or contaminated with ash deposits to make a good electrical contact for low current devices like the intercom.
Remedy: replace the corroded or contaminated aircraft cigarette lighter jack.

NOTE: high current devices like spotlights or cigarette lighter elements, when inserted, create an arc that burns away oxidation, allowing these devices to work in an otherwise faulty jack. If this is the case, use a different method to obtain power or use the intercom's internal battery.

NOTE: many aircraft do not have an operable cigarette lighter due to an Airworthiness Directive (AD) requiring disconnection. If this is the case, use a different method to obtain power or use the intercom's internal battery.

NOTE: if you decide to hardwire the intercom to the aircraft power source, be sure to use a 1/4-Amp fuse in the power line to protect the intercom from reverse polarity damage.

Reason: the plugs may not be completely connected to the intercom.
Remedy: reconnect the plugs securely.

Reason: the volume may not be turned up.
Remedy: turn up the volume.

Reason: the headphone plugs may be corroded.
Remedy: clean the headphone plugs with steel wool.

Reason: the battery may be worn down.
Remedy: replace the battery.

Problem: A high pitch whine is present only when the engine is running, and varies with RPM.

Reason: the noise is coming from the alternator or generator on the power bus of the aircraft.
Remedy: try connecting the ground lead to another point in the aircraft. If the noise is especially loud, it may be due to a weak battery or an alternator with defective diode(s). In extreme situations, a commercial alternator noise filter connected in series with the intercom power lead should help.

Connecting the Intercom to a Power Source

To connect the intercom to the aircraft's power source:

1. Insert the smaller end of the Cigarette Lighter Adapter cord (included with the IIsx intercom) into the intercom **POWER 12-32 VDC** jack (see Installation Diagram).

2. Insert the larger end of the Cigarette Lighter Adapter cord into the aircraft cigarette lighter.

NOTE: disconnect the Cigarette Lighter Adapter cord from the aircraft cigarette lighter when it is not in use.

To connect the intercom to a 9-volt battery when aircraft power is not available:

1. Slide the battery backplate in the direction of the white arrow and remove it.

2. Attach the battery to the connector wires, and carefully insert it into the retention cavity without pinching the wires, so that the battery is held firmly in the cavity.

3. Replace the backplate and snap it into its locked position.

Power Indicator Light

• When the intercom is on and operating on aircraft power, the green LED power indicator light will come on and remain on while aircraft power continues.

• When the intercom is on and operating on battery power, the green LED power indicator light will blink at approximately one-second intervals. If the green LED power indicator light fails to operate, the battery charge is low.

Connecting the Intercom to the Aircraft Headphone and Microphone Jacks

To connect the intercom directly to the aircraft headphone and microphone jacks when there is a built-in push-to-talk (PTT) switch in the aircraft or when you are using a hand-held microphone connected to the aircraft:

1. Insert the .250 inch intercom headphone plug into the aircraft headphone jack.

2. Insert the .206 inch intercom microphone plug into the aircraft microphone jack.

To connect the intercom to the aircraft headphone and microphone jacks using a portable PTT switch when the aircraft does not have a built-in PTT switch:

1. Insert the .250 inch intercom headphone plug into the aircraft headphone jack.

2. Insert the .206 inch intercom microphone plug into the portable PTT switch (Flightcom PTT GOLD, or equivalent).

3. Insert the portable PTT switch .206 inch microphone plug into the aircraft microphone jack (see Installation Diagram).

To connect the intercom to the aircraft microphone jacks to allow for co-pilot transmit capability:

1. Insert the Co-Pilot Transmit Cable (included with the IIsx intercom) into the intercom **CO-PILOT XMIT** jack (see Installation Diagram).

2. Insert the .206 inch microphone plug of the co-pilot transmit cable into the microphone jack in the aircraft.

   a. If the aircraft does not have a built-in PTT switch for the co-pilot's side of the aircraft, connect the .206 inch microphone plug of the co-pilot transmit cable to a portable PTT switch, and then connect the portable PTT switch plug to the aircraft co-pilot microphone jack (see Installation Diagram).