

Sky Soaring Inc. Glider Avionics Information, Guidelines & Procedures

V2.02

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Overview

This document will detail the procedures and other information concerning the user of club owned glider related electronics.

Report any problems to John DeRosa (john@derosaweb.com)

Manuals

All manuals for all electronic equipment are available in the file cabinet in the Sky Soaring front office.

Version Tracking

Version	Date	Author(s)	Changes
V1.0	September 21, 2004	JHDeRosa	First public release for comment.
V1.1	September 22, 2004	JHDeRosa	Additional details added
V1.2	September 23, 2004	JHDeRosa	Additional pictures added.
V1.3	September 26, 2004	JHDeRosa John Phelan	Additional clarifications Additional pictures added
V1.4	September 27, 2004	JHDeRosa John Phelan	Additional clarifications
V1.5	September 27, 2004	JHDeRosa	Updated the charger picture to add the yellow boot
V2.0	February 23, 2005	JHDeRosa	Minor typos. ICOM A4 for pilot use. ICOM charging procedure changes. Removed glider wiring standard.

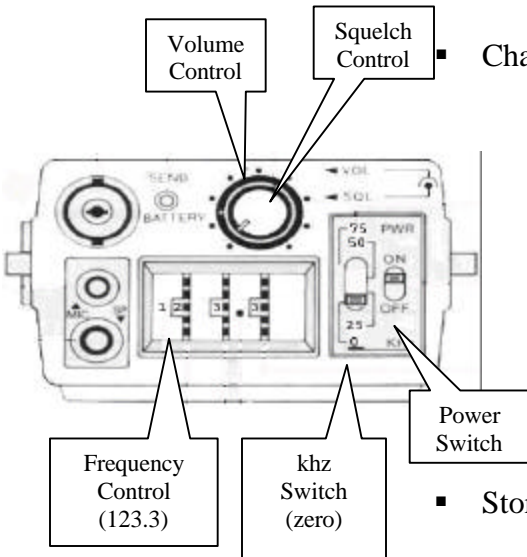
Transceivers (radios)

Handheld Delcom GW2960AIR (shown at left)

These handheld transceivers are to be used by the general membership, typically during flight.



- Handling Precautions
 - Do not handle the transceiver by the antenna.
 - Do not allow the transceiver to get wet.
- Controls
 - Frequency - Verify that the unit is tuned to 123.3 via the thumbwheels on the top of the unit. Make sure that the 0-25-50-75 (khz) vertical slide switch is in the 0 (zero) position. This is easy to move as it is immediately next to the power switch.
 - Volume (outer knob) - Turn the volume control to 100% (fully CW).
 - Squelch (inner knob) - Tune the squelch CW until noise is heard then turn CCW until the noise disappears.
- Proper Use
 - Hold the transceiver 3-5” away from your mouth, firmly press the push to talk (PTT) button and speak in a normal tone of voice into the microphone.



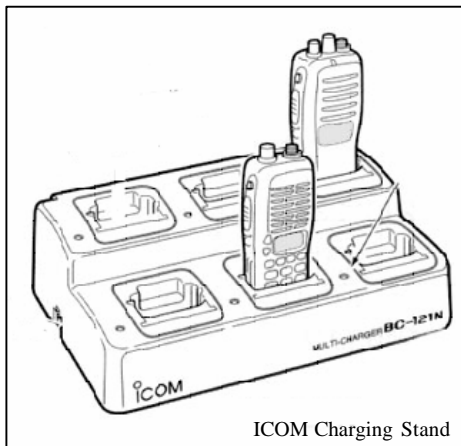
- Charging
 - Turn off the unit via the On-Off slide switch.
 - Sky Soaring uses a simple “brick” type charger supplied by the manufacturer which is controlled by an external timer. These chargers should not be left on continuously or the battery’s life will be severely shortened.
 - Place the transceiver in the charging rack locate in the Radio Room.
 - Insert the blue charging plug into the blue charging jack on the rear of the unit (on the battery) which is marked “Wall Charger”. Both the plug and the jack are marked with blue paint to differentiate them from the similar ICOM chargers.
- Storage
 - Return the radio to the radio room at the end of each day and make sure to plug in the charging cable.

Handheld ICOM A4 (shown at left)

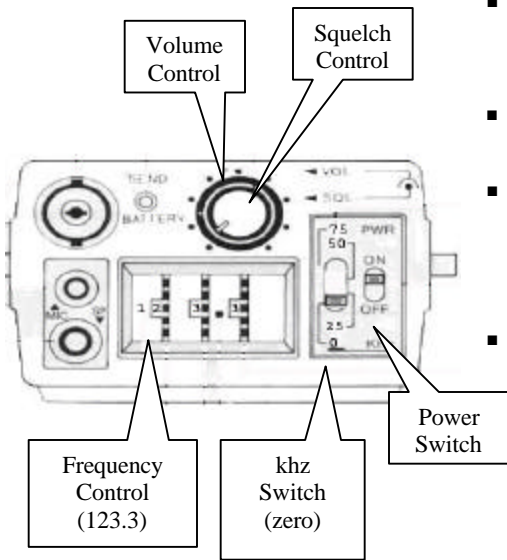
GSO Use Only – One ICOM A4 radio is marked for the Ground Safety Officers use only. Any other ICOM A4 radios may be used by all pilots.



- Handling Precautions
 - Do not handle the transceiver by the antenna.
 - Do not allow the transceiver to get wet.
- Controls
 - Frequency - Verify that the unit is tuned to 123.30 by looking at the LCD display. The unit should be “locked” so that the frequency does not change. A lock (key) symbol should appear in the LCD display.
 - Volume - Turn the volume control to 100% (fully CW).
 - Squelch – This control is “locked” so that the squelch lever does not change. A lock (key) symbol should appear in the LCD display.
- Proper Use
 - Hold the transceiver 3-5” away from your mouth, firmly press the push to talk (PTT) button and speak in a normal tone of voice into the microphone.
- Charging
 - Turn off the unit by turning the volume control knob fully CCW.
 - Sky Soaring uses an smart charging stand (shown below).
 - Radios may remain in the charger continuously without harm.
 - Place the radio any available charger opening.
 - A Red light will illuminate to indicate that the radio is being charged. The light will change to green when the radio is fully charged.
- Storage
 - Return to the radio room at the end of each day and place it in the charging stand.

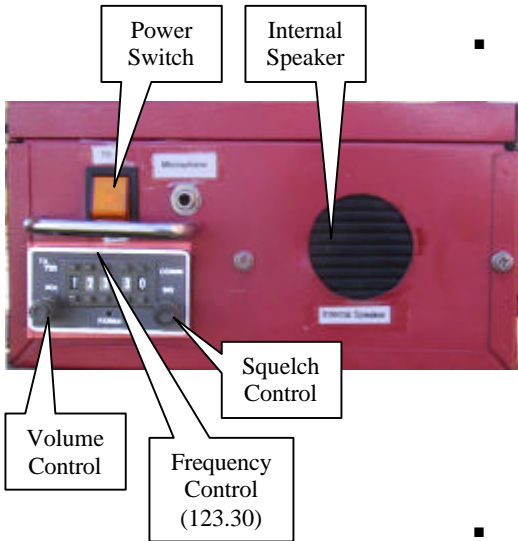


Permanently Mounted Glider Radio – Delcom GW2960AIR



- Handling Precautions
 - Take care not to bump the transceiver or connects when entering or leaving the cockpit.
- Controls
 - See “Handheld Delcom GW2960AIR” above.
- Proper Use
 - These units require the use of a handheld speaker/microphone. Hold the microphone 3-5” away from your mouth, firmly press the push to talk (PTT) button and speak in a normal tone of voice.
- Charging
 - Not applicable
- Storage
 - Radios should remain in the gliders at all times.

“Red Box” Terra Field Radio



▪ Handling Precautions

- Do not allow the transceiver to get wet.

Cabling

- Power – Connect the power cord to the outlet located at the southeast corner of the hangar (outside).
- Antenna – See picture at left. Connect the BNC antenna cable/plug to the BNC jack located in the gray box mounted at the southeast corner of the hangar (outside). This connects to the hangar roof mounted hi-gain omni-directional antenna.
- Speaker – See picture at left. Connect the ¼” phone cable/plug to the ¼” jack located in the gray box mounted at the southeast corner of the hangar (outside). This connects to the hangar wall external speaker.

▪ Controls

- Frequency - Verify that the unit is tuned to 123.30 via the pushbuttons on the front of the unit.
- Volume - Turn the volume control CW to 80%.
- Squelch - Tune the squelch CW until noise is heard then turn CCW until the noise disappears.

▪ Proper Use

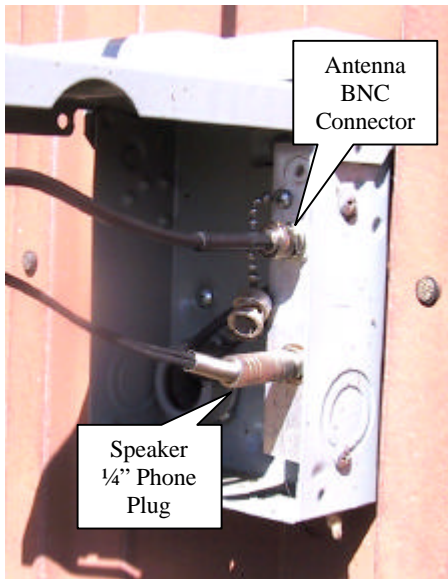
- This radio is intended for reception only and should not be used with an external microphone.

▪ Charging

- Not applicable.

▪ Storage

- Return to the radio room at the end of each day.



Batteries

General

- All batteries have two terminals.
 - Positive
 - Usually marked with a plus (+) symbol
 - **Usually red in color.**
 - Negative
 - Usually marked with a minus (-) symbol
 - Usually black in color.

Transceivers

- All transceiver batteries are self contained nickel-cadmium (Ni-Cd) type and are directly attached to the transceivers. They should be charged using the procedures mentioned above with each transceiver type.
- Ni-Cd batteries may be fully discharged without causing harm to the battery.

Gliders

▪ Type

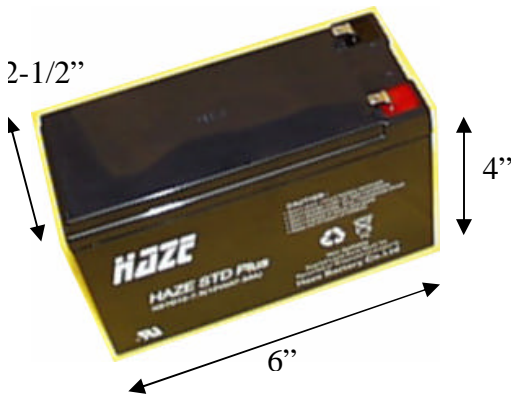
- All glider main batteries are;
 - Voltage: 12vdc
 - Capacity: 6Ah to 9Ah depending on model.
 - Sealed maintenance free, jelled electrolyte lead-acid batteries, commonly referred to as “Gel Cells”. See image at left.
 - Measures approximately 6" x 2-1/2" x 4".
- Use only batteries clearly marked “Sky Soaring” or “SSI”. Other batteries may be wired differently and may damage to electronic equipment.
- Connections – All glider main batteries have identical polarized connectors. See “Glider Main Power Wiring” below for details.

▪ Use

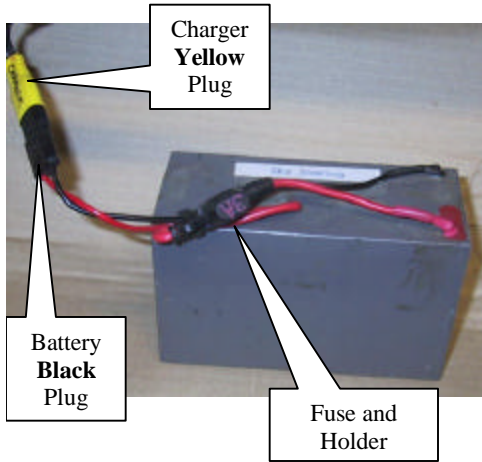
- Verify that the battery is securely fastened to the glider to prevent damage to property or personnel during flight.
- Connect the polarized connector of the battery to the glider’s connector.
- Depleted glider batteries should be exchanged for charged batteries from the radio room.

▪ Charging

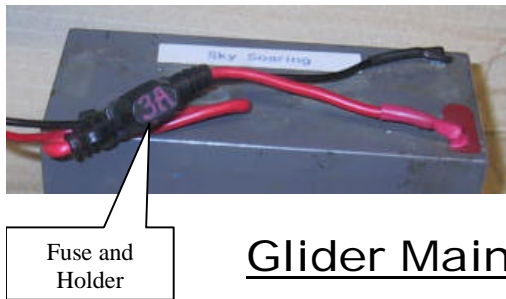
- Sky Soaring uses Deltran Corporation Battery Tender Plus chargers as shown to the left. These computerized battery charges can be left connected to gel cell type batteries indefinitely without harm. See <http://www.batterytender.com> for more information and to order a unit.



Sky Soaring Inc Electronics Procedures



- Sky Soaring Batteries have black polarized two prong plugs. Sky Soaring Deltran Chargers have yellow polarized two prong plugs and is clearly marked “Charger”.
- Connect a depleted battery to any available charger in the charging rack in the radio room.
- **NEVER** connect two batteries or two chargers to one another. **NEVER** connect two yellow charger plugs or two black battery plugs together. This can cause a fire hazard.
- CAUTION - Gel cell batteries should never be completely discharged. This can permanently harm the battery.



Fusing

- Each main battery cabling contains a fuse and holder as shown at the left. These are purple colored, 3A ATM mini-bladed automotive style fuses (purple).
- Spare fuses are available in the radio room storage locker.

Glider Main Power Wiring

The type and style of the internal main power wiring of the battery and the glider is shown at http://skysoaring.com/modules/gallery/SSI_Wiring_Standards.