

WICEN (Vic.) Inc. STANDARDS

The Reason for Standards

An organisation such as WICEN combining a diversity of personnel and equipment cannot operate in the manner expected of it unless it is possible for any of our members to operate at any given location in the shortest possible time. This is not possible unless interchangeability of equipment is facilitated. To ensure minimum confusion and ready interchangeability of equipment conformance to the following standards is strongly recommended.

Antenna Connection

UHF Connectors

The standard WICEN antenna connector for field operators is the PL259/SO259 combination. For ease of common usage if your equipment does not support this connector then you should carry adaptors and patch cords to allow interconnection. It would be also advantageous to carry patch cords and adaptors to suit

'N' Type Connectors

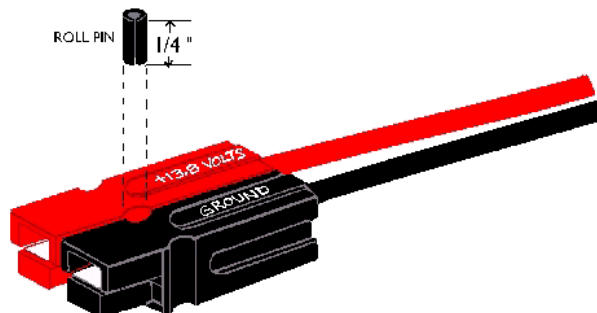
'Type N' connectors, particularly for UHF usage --- a number of the WICEN fixed sites at DISPLAN locations are fitted with these. Only use connectors that have a fixed or locked in centre pin.

DC Power Connectors

Anderson Power Pole

Using this standard, highly reliable connector allows quick and easy installation and substitution of radios, power supplies, batteries, and other equipment.

Either the 15-ampere or 30-ampere sizes may be used, and both sizes mate with each other. The plastic parts are the same for both sizes. The barrel area (which holds the wire) of the 15 ampere



silver-plated contact is smaller than that of the 30-ampere contact, but the contact area is the same. The connectors dovetail together into a compact unit.

Housings should be mated according to the diagram above, viewing from the contact side (opposite the wire side), tongue down, hood up, RED on the LEFT, BLACK on the RIGHT. Use a 3/32-inch-diameter roll pin, 1/4 inch long, to keep the housings from sliding apart.

Highly conductive silver-plated copper contacts allow minimal contact resistance at high currents. Self-wiping action on make and break keeps conducting surfaces clean. Contact dents keep connectors mated in high-vibration applications and provide quick-break, snap action upon disconnect.

Non-corrosive stainless-steel leaf springs maintain constant contact pressure—ideal for frequent connections/disconnections and intermittent overloading. Durable, high impact-resistant,

polycarbonate housing with UL94V-2 flammability ratings comes in many colours for circuit traceability and coding.

Identical connector halves are genderless—making assembly quick and easy and reducing the number of parts stocked. Moulded-in dovetails allow for a customised harness in a variety of configurations. When the connectors are disconnected, no metal parts are exposed.

The 15-ampere contacts are designed for 16-20 AWG wire and the 30-ampere contacts are designed for 12-16 AWG wire. The contacts can be soldered or crimped to wires. An expensive crimping tool is available from Anderson. After a contact has been attached to a wire, it should be installed into the housing so that the housing spring mates with the underside of the contact.

To remove a contact from the housing, use Anderson insertion/extraction tool #111038G2. You may also substitute a very small blade (jeweller's screwdriver or X-acto knife) to depress the spring, allowing the contact to be removed.

Here are the Anderson part numbers:

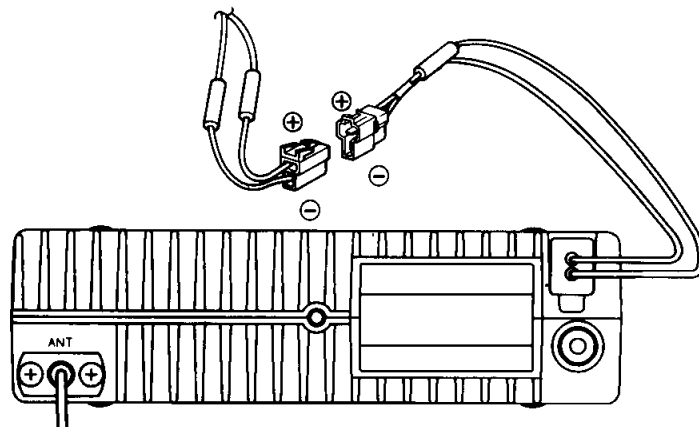
15 A	Complete Connector	Housing Only	Contact Only
Black	#1395G1	#1327G6	#1332
Red	#1395	#1327	#1332
30 A	Complete Connector	Housing Only	Contact Only
Black	#1330G4	#1327G6	#1331
Red	#1330	#1327	#1331

The connectors can be panel mounted with clamp receptacles, consisting of two aluminium plates (Anderson part #1462G1), notched to hold the plastic housings when they are dovetailed together. The plastic housings come in other colours also. Red and black are suggested for standard dc connectors (red as positive and black as negative).

Anderson Power Products Web Site: <http://www.andersonpower.com/>

Nylon "T" Type Spade

A number of ham radios now are fitted with a small nylon "T" connector. This connector is wired with the female housing on the radio.



3 Pin Cannon



This connector is used on the portable voice & data repeaters. The other end of these DC power cables

use either an Anderson Connector or standard battery clips.

Extra Low Voltage Power Connector (no longer used)

The upper (horizontal) bar of the ``T" is the Positive connection and the vertical stem of the ``T" is the negative or chassis.



Positive
Negative

Sources of current are equipped with female connectors and power consuming devices with male connectors. An exception can arise with battery chargers; here it is recommended that a female connector be placed on the charger and if the battery pack is also fitted with a female connector (desirably), then a male--male patch cord be used.

Headphone Connector

The WICEN standard headphone connector is the 6mm (¼ inch) monaural jack. Patch cords to 2.5 and 3.5 mm jacks should be carried since these connectors are becoming more prevalent, especially with lightweight headsets.

Link Interface Connector

WICEN has a standard interface connector suitable for cross connecting radios. This is used for functions such as back to back links HF transceiver to UHF repeater etc. The connector or chosen was the 25 pin D type. The male connector is fitted to the radio equipment and a female to female patch cable is used.

Channel bit 1	1	14	Earth
Channel bit 2	2	15	Earth
Channel bit 3	3	16	+12v DC
Channel bit 4	4	17	+12v DC
Channel bit 5	5	18	Mains Fail
	6	19	
	7	20	VCO Lock TX
	8	21	VCO Lock RX
	9	22	
10v DC	10	23] 600 ohm bal audio to transmitter
	11	24] Signal received from radio
PTT to radio	12	25] 600 ohm bal audio from receiver
	13]]

To create a link cable twist the last 6 wires ie pin 23 connects to pin 13

If using a repeater controller then it will provide the “twist” (cables are pin to pin)

LEVELS

All audio levels are -10dBm balanced into 600 ohm load.

Logic levels are active lows (open collector).