

## Using your WN2 to Monitor External Voltage Supplies and Batteries

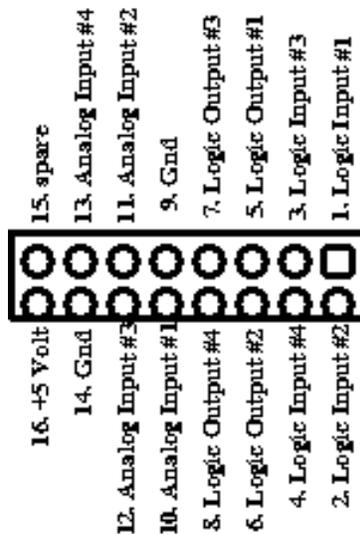
Rev.1

### BRIEF:

Your WN-2 rear panel connector can be used to monitor remote power supplies and batteries. This is especially useful for repeater and remote operation. The inputs on this connector can directly monitor a supply from 0-20 Volts DC with no external parts, and with a single series resistor can measure any external DC voltage up to 60 VDC.

### INSTRUCTIONS:

Your WN2 has an external ribbon connector (16 pin on 0.10" centers standard) on the rear panel with the pinout shown as below:



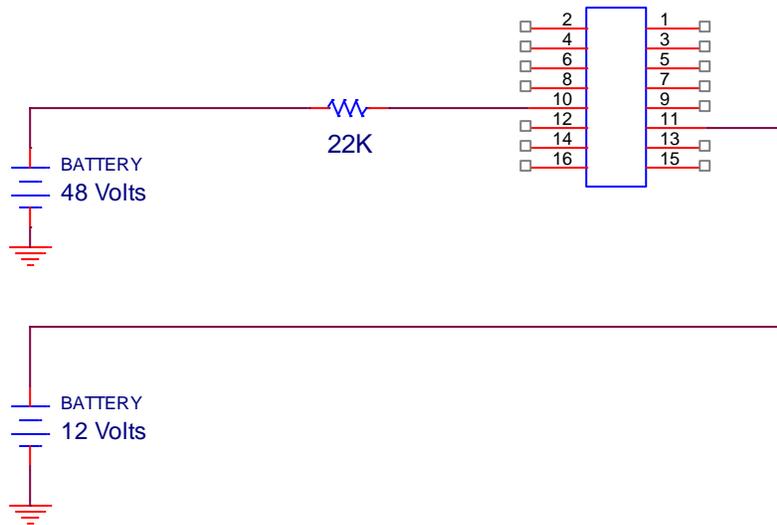
**This view is looking at the connector from the rear panel. Note that pin 1 is at the upper-right.**

### 1. Setting up the Hardware:

The analog inputs at pins 10, 11, 12 and 13 are the four analog inputs to monitor on the "AUX 1" screen view of the software. These inputs have an internal voltage divider and are scaled for 0-20 volts DC as their default range.

You may extend the range by adding an additional resistor in series with your external voltage supply. For instance, to monitor a +48V battery, add a 22K resistor in series with the battery, see the circuit below.

16 Pin Ribbon Connector



The figure above shows Input #1 as a 0-60 VDC monitor and input #2 as a 0-20 VDC monitor. You can use the WN-2 case ground as the ground return for your batteries.

## 2. Setting up the Aux #1 screen View

Go to the WN-2 Software Configuration Menu :

**Main Form**

Select Sensor Type: LP-1  HF1/UHF1  8KW

Meter #1 Title: Meter #1 User Meter #1 Range: 200

Meter #2 Title: Meter #2 User Meter #2 Range: 300

Meter #3 Title: Meter #3 User Meter #3 Range: 400

Meter #4 Title: Meter #4 User Meter #4 Range: 500

Your Call Sign: Callsign

Bargraph Range (Watts): 800

Sample Rate:  Double Update Rate

User Control One Title: Ctl #1 Pulsed Yes

User Control Two Title: Ctl #2 Pulsed Yes

User Control Three Title: Ctl #3

User Control Four Title: Ctl #4

**Aux #1 Form**

Meter #1 Title: Aux #1 Vertical Scale: 60 Vertical Label: volts Scale Factor: 3

Meter #2 Title: Aux #2 Vertical Scale: 20 Vertical Label: volts Scale Factor: 1

Meter #3 Title: Aux #3 Vertical Scale: 20 Vertical Label: volts Scale Factor: 1

Meter #4 Title: Aux #4 Vertical Scale: 20 Vertical Label: volts Scale Factor: 1

**Tones/Messages Button Labels**

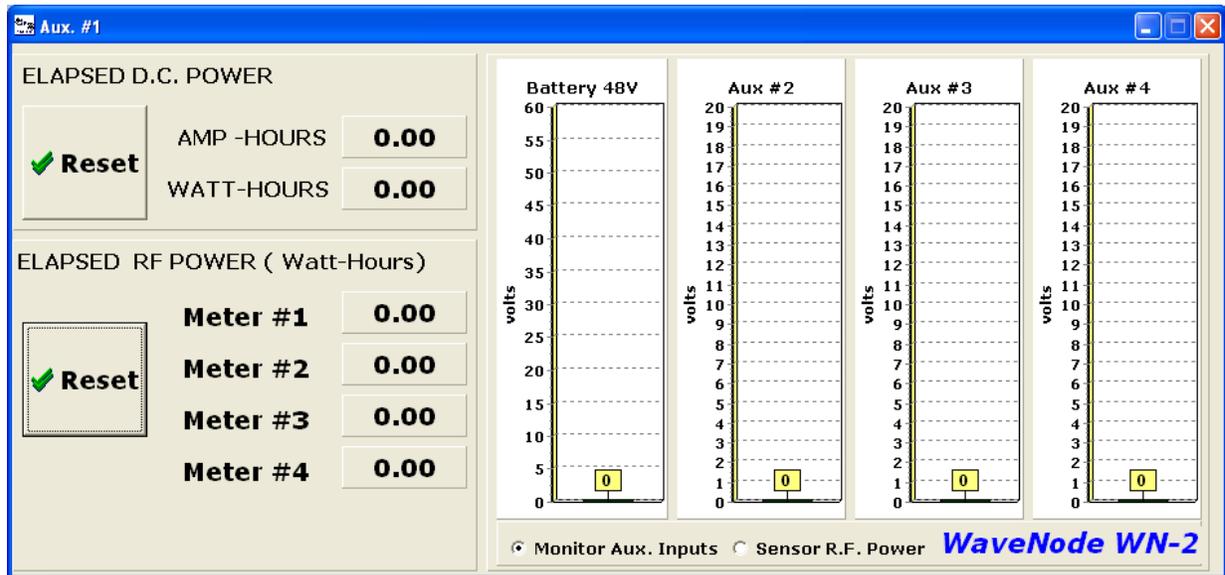
Message #1 Text: Message #1 Message #4 Text: Message #4

Message #2 Text: Message #2 Message #5 Text: Message #5

Message #3 Text: Message #3 Message #6 Text: Message #6

Save Close WaveNode WN-2

The Section labeled “Aux #1 Form” provides a way to label the meters and set the vertical scaling. Above, Meter #1 has been changed to have a Vertical scale of 0-60 volts, and the scale factor has been set to 3X since  $60/20 = 3$ . Remember that a 1X scale factor is 0-20 Volts.



The above figure now shows the appearance of the Aux #2 screen to monitor the 48V battery on Meter #1. Notice that the “Monitor Aux. Inputs” button is selected below the meters.