



### Features:

- Ideal for use with JABRA wireless telephone headset, model GN9350E
- ID'er, programmable CW rate, interval time and tones frequency
- Talkometer, transmit time, receiver squelch time and total lapsed time
- Voltage monitors, 150 volts AC and 20 volts DC calibrators
- Powers up from AC or DC sources
- Dual transceiver control for dual diversity and dual watch operation
- Internal speaker for monitoring ID'er audio
- Gain controls for ID'er, Speaker and Mic audio
- Pulser for amplifier tuning purposes, programmable rate and duration
- Simple terminal connections for all inputs and outputs
- Storage of Settings for up to six different configurations
- Built-in wireless headset interface connector, RJ22

The Station Manager+ is the consolidation of functions and operations, analog and digital, into one box for amateur radio operators. This box eliminates the need for an assortment of separate devices, such as:

a pre amp and custom interface cabling for wireless microphones of the wireless telephone type,

a multi channel audio mixer,

a phone patch for wireless telephone interface,

a programmable semi-automatic CW ID'er, and

a dual transceiver control circuit for dual watch/dual diversity reception.

Many of these functions use the same connections to the transceivers, all of which require individual wire interfacing. Putting them all in one enclosure optimizes wiring requirements.

Also, added was a talk time chronometer for tracking operating time, transmitting time and receive time,

AC line and DC back-up battery voltage monitors,

A programmable tuning pulser is used to aid with amplifier tuning.

Implementing these functions requires digital and analog circuitry. A microcomputer is utilized to generate all the CW ID tones and the chronometer timing as well as the control signals for two transceivers. Analog circuitry for the wireless microphone is employed for a microphone pre-amp, two channel mixer and tone filter. The two channel mixer combines the mic audio and the CW tones which go to the primary transmitter mic connection.

The Station Manager+ has a simple menu system that is used to store and retrieve setup data. A 2 by 16 character back lighted LCD display is used to display selected modes and setup operations. All of the settings can be stored and recalled in 6 memory locations for future use. The Station Manager+ is software upgradable via an RS232 interface to an IDE such as Arduino.

### The Station Manager+ includes:

**A Microphone pre-amp and two channel mixer** is used to mix the ID'er tone and microphone audio before going to the mic input on the master transceiver. This mixer is optimized to improve audio dynamic range and quality when interfacing to a wireless telephone such as a Jabra model GN9350E, which can be plugged directly into the SM+ without the need of a special interface cable.

**A unique CW ID'er** for periodic identification of a radio station's call sign, with programmable chromatic tones. Up to 16 characters can be programmed into an ID string such as "CQ CQ DE W6TEST^", as well as the ability to assign a different tone to each character,

**Talkometer chronometer** allows the operator to track the amount of on-the-air time they accumulate during a period of time, open squelch time from the operator's receiver as well as total lapsed time from the beginning of a radio session. It also includes an auto reset feature for accurate time logging.

**An AC and DC monitor** for local AC line voltage and local DC battery voltage or power supply. The unit is powered by either an AC wall wart at 9 volts or a 10-15 volt DC source with automatic source switching.

**Dual Watch/Diversity** is a switch circuit for controlling two transceivers in tandem for use in dual watch or dual diversity reception. When the user transmits on the primary transceiver, this circuit keys up the secondary transceiver also. This disconnects the secondary receiver antenna, minimizing RF energy coupling from the primary antenna. It also mutes the secondary transceiver.

**Tuning pulser** helps optimize power amplifier tuning, with programmable rate and duration.

### Switches:

There are two slide switches on the SM+. One is the power switch which switches both the AC input power and the DC input power on and off.

The second switch is the MASTER transceiver switch. This switch controls which of two transceivers is the master transmitter when more than one transceiver is used as in dual diversity/dual watch mode.

**Audio and ID'er mixer controls:**

There are three potentiometers on the SM+. One for the ID'er level. The CW tones go to the ID'er level control and on to the audio mixer summing amp.

The MIC level control is between mic audio pre-amp and the audio mixer summing amp, It is used to adjust the mic level.

The SPEAKER level control adjusts the level from the CW filter and passes it to the speaker amplifier. The Speaker level control also controls the ID'er audio level to the wireless earphone. The audio output of the SM+ uses an isolation transformer to minimize common mode noise and hum.

**Button controls:**

Setting up the Station Manager+ for your particular requirements is accomplished through a menu array that is accessed through three buttons, much like a digital wrist watch. The MODE, INC and DEC buttons are used to move through the Display and Setup menus.

**Power source:**

The most basic set up requires the connection of power either from the supplied 9 volt AC wall wart, required for the AC line voltage monitor, or a 9 to 15 volt DC source. Once it is powered on the user can monitor the supply voltage in either the AC or DC voltage monitor modes.

When powered from a DC source back-up such as a battery, the SM+ will power the wireless mic/telephone from its internal supply. This way if you should lose AC power you will not lose you wireless microphone power.

**Specifications:**

**Power Supply:** 9-15 VAC or 9-15 volts DC, 150 ma.; with Wireless Jabra unit current is approx. 350 ma. +/- 50 ma  
7.5 volt source: Current rating, 300 ma maximum

**Case:** Soft touch elastomer (TPU) edge grips created by multi-shot molding ABS/TPU, Size: L 6.102", W 3.779", H 2.165", color; black and cobalt grey

**AC Monitor:** Range, 100 to 150 VAC, accuracy, +/- .5%. Calibratable

**DC Monitors:** Range, 0 to 15 VDC, accuracy, +/- .5%. Calibratable

**CW ID'er:** Speed, 5-30 WPM; Interval 1-60 minutes

**Tuning Pulsar:** Rate, 10-50 Hz, Duration 1-20 secs

**CPU Oscillator Clock Frequency:** 16 mhz, adjust to less than +/- 30 hz for best time keeping.

**Wireless Telephone Interface:** RJ22 telephone handset connector

**Terminal Connections:** There are 28 terminal connections, 11 ground and 17 signal and power.

**Audio Levels:** Input 200 mv p-p max. Exceeding this level will drive the mic pre-amp into distortion.

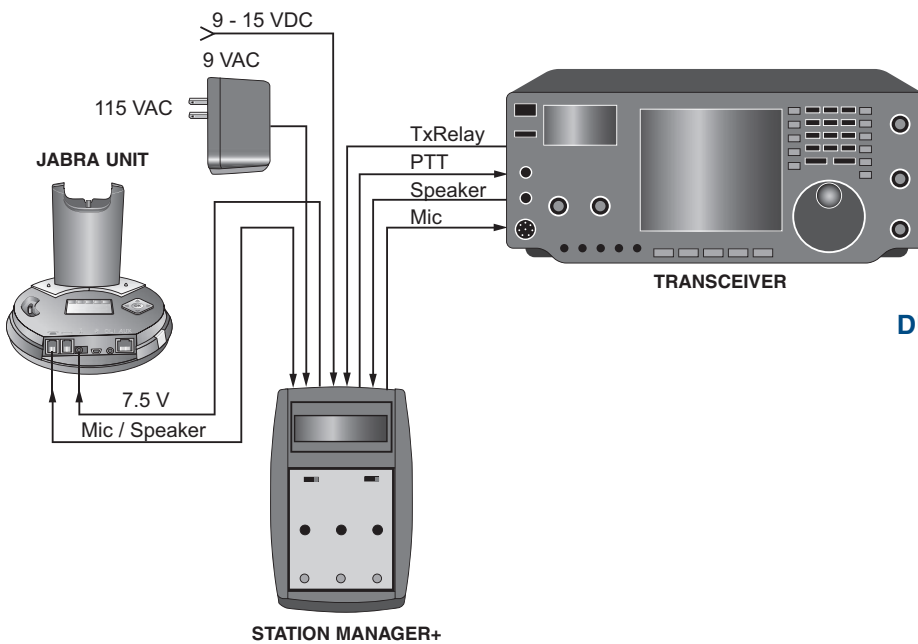
Input impedance aux MICI = 10K , RJ22 input = 1K ohm  
With MIC control set at max., input at 100 mv p-p;

Output = 1500 mv +/- 100 mv into 600 ohm impedance.

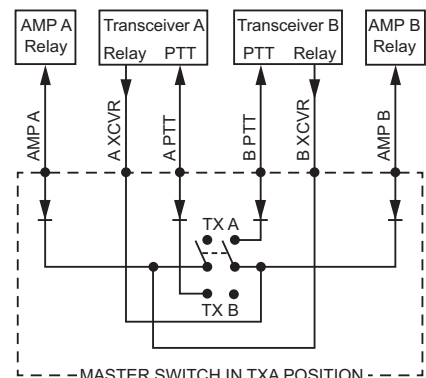
An input level higher than 100 mv p-p with the MIC gain at maximum will drive the mixer into distortion.

*For complete specifications see Station Manager+ manual.*

**TYPICAL WIRING INTERFACE FOR JABRA WIRELESS MICROPHONE/TELEPHONE**



**DUAL TRANSCEIVER WIRING DIAGRAM**



**KARAS TECHNICAL SERVICES**

P.O. Box 695, Aptos, CA 95001

Telephone: (831) 685-0816 Fax: (831) 685-0817 web site: www.karastech.com