COMPUTECH SYSTEMS, INC.

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RACEAIR™ INSTRUCTIONS

Thank you for purchasing the Computech Systems *RaceAir* Competition Weather Analyzer with Automatic Air Sampling and Fan Control. The *RaceAir* automatically samples current weather conditions, locks in a set of good sample readings, and then displays those readings along with a number of calculated weather values. These calculated values can be used to correlate performance information.

LCD DISPLAY

TOP LINE: The top line of the LCD display will always indicate Temperature (in °F), Relative Humidity (in %), and Absolute Barometric Pressure (in inches of Mercury). When this line is flashing, the displayed values are "live" and changing to match the air entering the *RaceAir*. Once the sampling procedure has been completed, this line is on constantly (not flashing). The displayed values are then "locked" and are accurate for the air at the time the sampling was completed.

BOTTOM LINE: The bottom line of the LCD display will provide various messages as well as the calculated weather values including: Air Correction Factor, Density Altitude, Air Density Ratio, Water Vapor Pressure, Dry Barometer, Dew Point Temperature and Wet Bulb Temperature.

CONTROLS

POWER: Press this button to turn the *RaceAir* on or off. Note that the *RaceAir* will automatically turn off after 5 minutes of no use. Once it turns off, any locked readings are lost.

LIGHT: Press this button to turn the LCD display backlight on or off. The brightness of the backlight may be brightness adjusted by holding this button for several seconds. Note that the RaceAir is initially set with the lowest brightness in order to maximize battery life. For the same reason, it also powers up every time with the backlight off.

SAMPLE: Press this button to automatically take an air sample. The internal fan will start and the LCD display will indicate "Sampling.." followed by the current Air Correction Factor. The fan will stay on as long as necessary to establish stable and accurate readings. When this occurs, the LCD display will indicate "Sample Ready!" and the fan will automatically turn off. The top line will constantly show, locked, and accurate readings while the bottom line will show corresponding calculated weather values. Note: You can press the Sample button again at any time during the sampling process in order to force the *RaceAir* to stop automatic sampling and lock-in the current readings.

DISPLAY: Press this button in order to display the calculated weather values. Each time you press the display button the display will rotate to the next calculated value. These values will correspond to the top line readings, whether live or locked. The following is a list of the information displayed:

CORR FACT	HP Correction Factor *	**DRY BARO**	Dry Barometric Pressure (″Hg)
DENS ALTD	Density Altitude (feet) *	**DEW POINT**	Dew Point (°F)
ADR	Air Density Ratio (%) *	**WET BULB**	Wet Bulb Temperature (°F)
VAPOR PRS	Vapor Pressure (″Hg)		

* Values are corrected for moisture present in the air sample.

OPERATION

Turn on the *RaceAir* by pressing the POWER button. When you are ready to automatically sample the air, press the SAMPLE button. The sampling process will typically take between 15 seconds to 3 minutes. Air sampling should be done in a shaded area if possible with free air movement in and out of the fan vent and exhaust ports in the case. With it's quick response time this instrument is well suited for use in the staging lane area just prior to making your run. To obtain an accurate air sample however, move away from the cars in the staging lanes to obtain a clean air sample.

When the automatic air sampling is finished you can repeatedly press the DISPLAY button to scroll through the list of calculated values for the sampled air. When you have finished, press the POWER button to turn the *RaceAir* off.

Don't rely on air samples taken inside your enclosed trailer for accurate readings. Remember you are racing outside on the track - not in your trailer. Take your air samples in the same environment in which you are racing. Don't take readings too near the ground as it may cause inaccurate readings if the asphalt or ground has been baking in the hot sun or has excessive moisture content. Readings should be taken at approximately carburetor inlet height above the same type of surface you are racing on such as asphalt or concrete.

The secret to consistent results is consistent use of the *RaceAir*. Always try to use the *RaceAir* in the same way. When in use, keep the *RaceAir* in an environment similar to that being sampled. For example, don't pull it directly out of a hot trailer and immediately take a sample. The amount of time required for such a sample to stabilize is significantly longer than normal and the result could be less accurate. Also, keep your hands and breath away from the intake vents on the front or the fan exhaust on the side.

OPERATING NOTES

IT'S NORMAL: All three readings will change when first powered up as fresh air is pulled into the case by the fan. Due to this, flashing values on the top line will be somewhat inaccurate when the fan is off. All three readings will change once the fan turns on as the internal sensors adjust to the fresh air sample.

Holding the SAMPLE button down for too long will enter a non-sampling diagnostic mode where the fan stays on indefinitely. Should you inadvertently do this, simply press the power button to turn the unit off.

Holding the DISPLAY button down for too long will enter a display diagnostic mode, from which the *RaceAir* will not automatically power off. Should you inadvertently do this, simply press the power button to turn the unit off.

BATTERIES: *RaceAir* attempts to conserve as much battery power as possible. Before your battery runs out completely, a "Low Battery" warning will be displayed. You can still use *RaceAir* in this situation. Soon, however, a "Very Low Battery" warning will be displayed and sampling will not be allowed. Replace your battery with a standard 9-Volt "transistor radio" type battery. Expected battery life from a fresh high quality 9 volt battery should be well in excess of 100 uses.

DON'T: Normal atmospheric moisture inside *RaceAir* is acceptable, but do not allow water to enter the intake vents on the front. If this happens or if the LCD display looks confused, remove the battery immediately and allow *RaceAir* to dry out!

SPECIFICATIONS

DISPLAY RESOLUTION:	Temperature: .1 degree F;	Humidity: 1%;	Pressure: .01″ of Mercury
INTERNAL RESOLUTION:	Temperature: .01 degree F;	Humidity: .1%;	Pressure: .003″ of Mercury
ACCURACY:	Temperature: +/- 1 degree F;	Humidity: +/- 3%;	Pressure: +/- .05″ of Mercury
REPEATABILITY:	Approximately equal to display resolution.		