RACEAIR™ REMOTE PAGER SYSTEM

Introduction:

Computech's RaceAir Remote Competition Weather Station with the Data Pager System consists of; the RaceAir Remote Sensor Assembly, the Computer Interface, the Data Pager, the Data Pager Transmit Antenna, the interconnect wiring, Computech's Weather Pro software, Computech's RaceBase Pro software, and a user supplied IBM compatible personal computer (PC) using Windows 95 or newer operating system. The Computer Interface also contains the radio frequency transmitter for the Data Pager. The computer must have a 9 pin serial port available to connect to the RaceAir Remote Computer Interface. The system will automatically sample the current weather conditions and record that information plus weather related calculated values to the PC on the Weather Pro software. The RaceBase Pro software will then transmit user-selected data to the Data Pager throughout the track area. Changing weather conditions, tuning data, and dial-in information are continuously available on the PC as well as the Data Pager.

Features & Abilities:

- All the measured and calculated weather information is available on the Data Pager
- Dial in and throttle stop information can be sent to the Data Pager
- Tune up information can be sent to the Data Pager
- Multiple car capability
- Discrete messages can be sent from the computer

QUICK START GUIDE

Mount the RaceAir Remote Sensor Assembly.

Mount the Data Pager Transmit Antenna.

Connect the Remote Sensor Assembly and the Transmit Antenna to the Computer Interface.

Connect the Computer Interface to the PC serial port.

Connect the AC power supply to the Computer Interface.

Install the Weather Pro software.

Install the RaceBase Pro software.

Start Weather Pro.

Push Computer Interface red power switch.

Click the *COM* tool bar button to select the serial port.

Click the *LOG* tool bar button.

Click *SAVE* to automatically name the data file.

Click *Pager* then *Configure Pager* to turn on paging and set the Cap Code from the back of the Data Pager.

Start RaceBase Pro.

Click the tool bar *Weather* button, then *Live Weather*.

Click the *ET/TS* and/or *Tune-Up* buttons.

INSTRUCTIONS

RaceAir Remote Sensor Assembly Installation:

The heat and moisture resistant Remote Sensor Assembly should be mounted in a location to duplicate track conditions as closely as possible. The assembly can be mounted on a vertical surface, stand, or pole. Avoid mounting the Sensor Assembly near large dark surfaces that radiate heat or in an area where vehicle or generator exhaust gases will influence it. A 'V' type mounting bracket is included in the kit. A mating 'V' is attached to the Remote Sensor Assembly. This mounting system is intended for quick attachment of the Sensor Assembly to the mounting surface or pole. The RaceAir Remote Sensor Assembly should be removed and safely stored for transport and during heavy rains. The kit includes an extension cable to connect the Remote Sensor wiring harness to the RaceAir Remote Computer Interface.

RaceAir Remote Computer Interface Installation:

The Computer Interface is a junction and switch unit with a serial port adapter and an AC power supply. Install the serial port adapter on the computer COM port. Connect the RJ-11 cable to the serial port adapter. Using the extension cable (4 wire cable with rectangular connectors), connect the RaceAir Remote Sensor Assembly to the Computer Interface. Insert the AC power supply plug into the round port on the back of the Computer Interface unit. Plug the power supply into a 110V source.

Weather Pro Software Installation:

The Weather Pro software is supplied on a CD-ROM. Start Windows and insert the CD into the disk drive. The install process should start automatically. Follow the on screen instructions. If the program does not autorun, click the **Start** button on the Windows desktop screen. Click **Run**. And on the command line type **D:setup** and then click **OK**. Follow the instructions on the screen to complete the software installation.

The software will automatically place a Weather Pro short-cut icon on the Windows desktop screen. To start the software simply double click on the Weather Pro icon. The system requires the PC to be running the Weather Pro software continuously to log sensed weather conditions and calculated values. However, the PC may be used for other functions with the WeatherPro program minimized or in the background.

Software Help:
The Weather Pro program includes an on-line help library that may be accessed from the **Help** toolbar button, or by pressing the **F1** key. There is a sample file that you may open to see exactly how the system works. The best way to learn to use the software is by actually using it and reviewing the on-line help.

COM Port Selection:
The serial port (com connection) must be free of other background programs that use the same port. For example: Devices like Personal Digital Assistants or digital cameras usually have software that is running in the background that must be closed. Make sure the Weather Pro software communications port selection matches the port the RaceAir Computer Interface is on. Click on the toolbar button labeled **COM** to open the communications port selection box. Simply click on the port in use and click **OK**.

System Operation:

Start the Weather Pro software. Push the red button on the Computer Interface to power the system. Single click on the **LOG** tool bar button to start the logging process. Once communication has been established with the RaceAir Remote Sensor Assembly the system will automatically open a data file name box. Click **Save** to record this session. The On-line help can be accessed at any time by pressing the **F1** key. Verify that the RaceAir Remote system is functioning before proceeding to the Data Pager installation.

Weather Pro Software Configuration:

On the top menu bar, click **Pager** then **Configure Pager**. Click on the **Check here if you have a pager transmitter with your Weather Pro system** square to put a check in the box. And on the bottom of the **Configure Pager** window, enter the Pager Cap Code 7 digit number that appears on the **CC:** label on the back of the Data Pager. Click **OK**.

*NOTE: There is a Data Pager radio frequency interference troubleshooting mode included in the Weather Pro software. On the top menu bar, click **Pager** then **Monitor Pager Frequency**. The **Monitor Pager Frequency** window message will indicate if another pager is using the same frequency*

Frequently Asked Questions:

Can I plot other values on the graphs?

The Calculation Graph variables may be changed by using the Graph Data Panel. WeatherPro remembers which values were being displayed on the graph each time you run the program.

Where is the most recent sample data shown?

The most recent sample data is displayed on the top row of the Data Grid and on the Graph Data Panel at the lower portion of your screen.

Can I save new sample data in an existing file?

Yes. If the name of an existing file is chosen when the File Save Prompt is displayed, the Append/OverwriteDialog is displayed providing the choice to append to the file or overwrite it. Note that if a lot of time has elapsed, a large gap will exist in the sample data that may make the graph confusing.

How can I change the Graph Ranges/Settings?

WeatherPro allows you to customize the graph ranges and settings by selecting Ranges from the Graph Menu. This displays the Graph Ranges Dialog. Ranges for all six graph bands may be adjusted as well as the time interval shown.

How do I see data for a particular point on the graph?

Hover your mouse cursor over either graph. The cursor changes to a hand. Click the left mouse button and a blue vertical line will be displayed on both graphs. The data recorded for this time slice is displayed in the Data Grid.

What is proportional scaling?

Proportional scaling is a powerful WeatherPro feature the constantly adjusts the graph ranges to display data collected in the most efficient manner. It sets the range for each band based on the +-2% of the high/low recorded for the data set. For more information see: Proportional Scaling Explained.

Data Pager Transmit Antenna Installation:

The 7-inch Data Pager Transmit Antenna is intended to be mounted vertically on top of the BNC bulkhead adapter. The antenna mounting position should be away from any vertical metal surfaces that could block portions of the antenna radiation pattern and therefore limit Data Pager reception. The bulkhead adapter may be mounted directly through a horizontal surface, like a trailer roof, using the enclosed sealing gasket. The bulkhead adapter may also be mounted on a vertical surface using the enclosed stainless steel L bracket. The antenna must be mounted at least 6 feet away from the RaceAir Remote Sensor Assembly. The Data Pager antenna system attaches to the rear of the RaceAir Remote Computer Interface unit via the coaxial antenna extension cable.

RaceBase Pro Software Installation:

The RaceBase Pro software is supplied on a CD-ROM. Start Windows and insert the CD into the disk drive. The install process should start automatically. Follow the on screen instructions. If the program does not autorun, click the **Start** button on the Windows desktop screen. Click **Run**. And on the command line type **D:setup** and then click **OK**. Follow the instructions on the screen to complete the software installation. Restart the PC to allow Windows to properly register the new program. The software will automatically place a RaceBase Pro short-cut icon on the Windows desktop screen. To start the software simply double click on the RaceBase Pro icon.

NOTE: This software includes a security provision to prevent unlicensed use. The software will display a Registration Window with an eight-character software key. Record this eight character code and call Computech Systems to obtain the unlock code. Don't worry if it is not convenient to call right now, the software can be used for up to 30 days without the unlock code. But don't forget to contact Computech with the software key within the 30-day period. Call Computech at 1-800-870-8383, 9:00 am to 5:00 pm, Monday through Friday or E-mail: computech@ameritel.net Once you have entered the unlock code provided by Computech the registration screen will no longer come up when you start the program.

Software Help:

The RaceBase Pro program includes an on-line help library that may be accessed from the **Help** toolbar button, or by pressing the **F1** key. There is a sample file with the software to show you how the system works. The best way to learn to use the software is by actually using it and reviewing the on-line help.
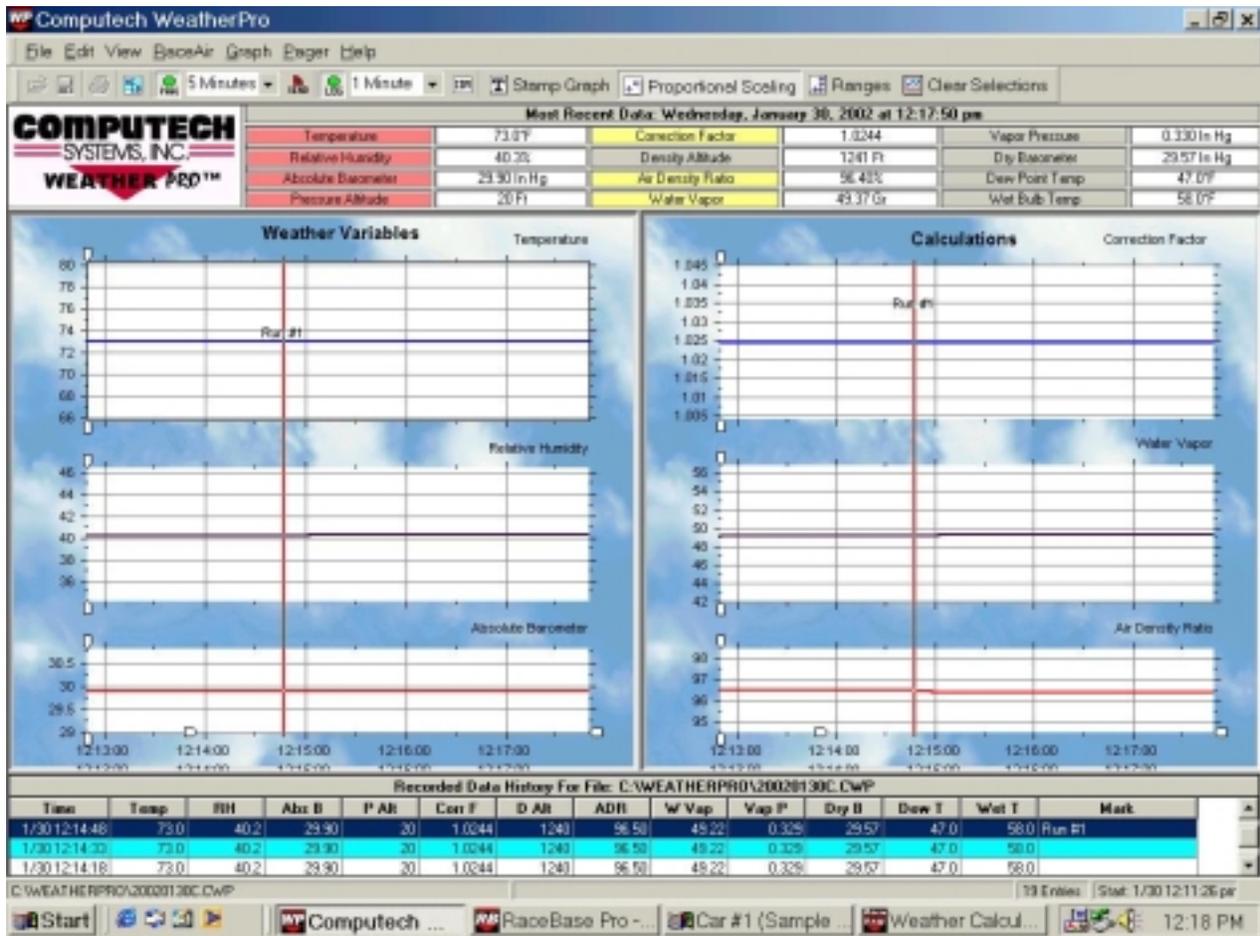
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System Operation:

Start the computer and the Weather Pro program. Push the red button on the Computer Interface to power the system. On the tool bar, set the *LOG* and the *PAGE* interval by clicking on the down arrow to the right of each button. Click on the *LOG* tool bar button to start the logging process. Once communication has been established with the RaceAir Remote Sensor Assembly the system will automatically open a file name box. Click *Save* to record this session. Click on the *PAGE* tool bar button to start the Data Pager transmissions. The On-line help can be accessed at any time by pressing the F1 key.
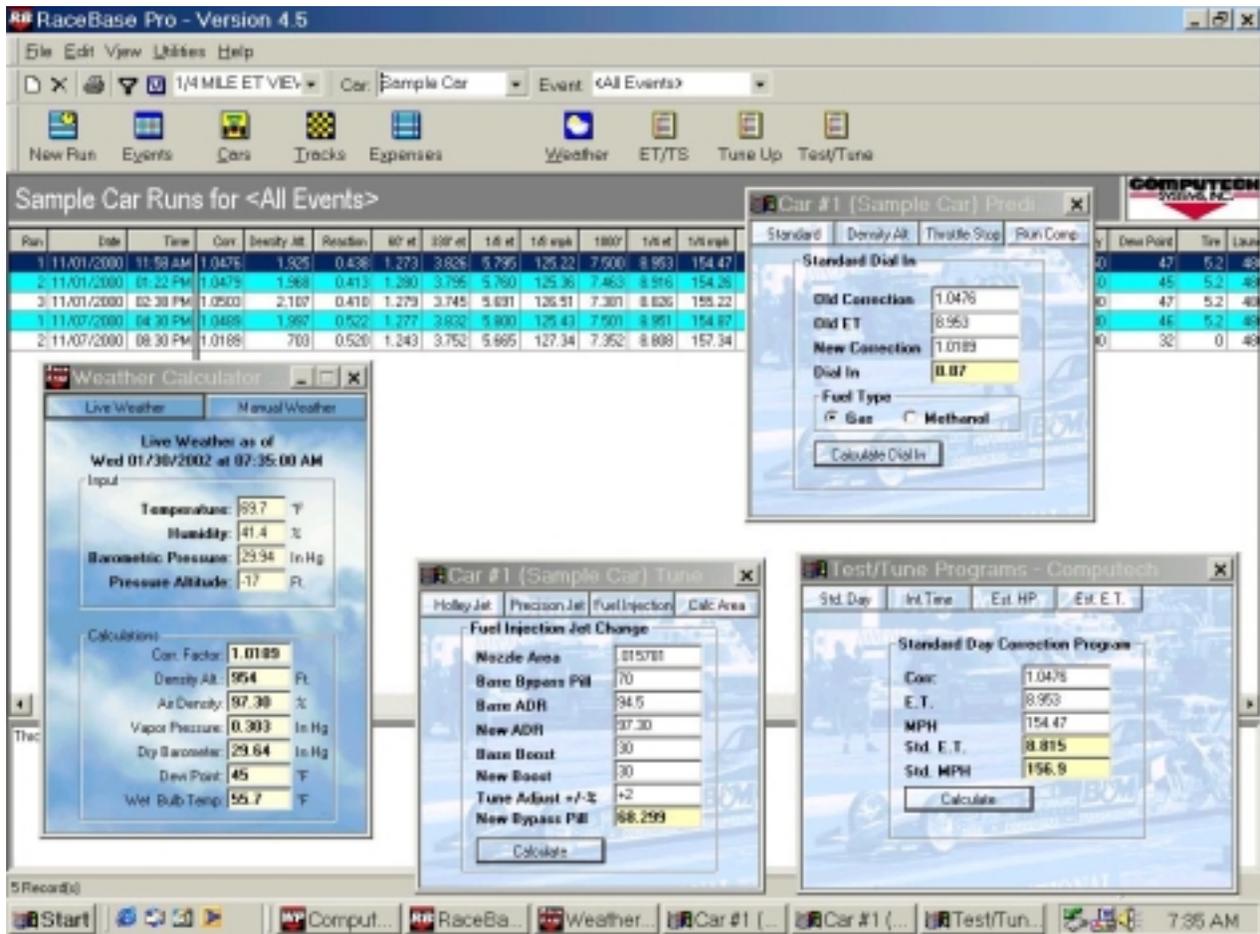
NOTE: The RaceAir Remote Pager System requires the PC to be running the Weather Pro program continuously to log weather values and to communicate with the RaceBase Pro program. The PC may be used for other functions with the Weather Pro program and the RaceBase Pro program minimized or in the background.

Start the RaceBase Pro program. Click the *Weather* tool bar button. Then on *the Weather Calculator – Compute* window, click *Live Weather*. The zeros in all the Calculations boxes will change to other values when the system is functioning. Click on the tool bar *ET/TS* button to bring up the *Prediction* window and/or the *Tune-Up* button to bring up the *Tune-UP* window. Any of these functions may be transmitted to the Data Pager. Click *Help* then *Contents* to get more information on the operation of these functions.

NOTE: All windows in use must stay open in order to send information to the Data Pager.
Another feature of the Data Pager system is piggyback messaging. On the Weather Pro program, click the tool bar *SEND* button. Type the desired message in the *Form 1* window and click *Ok*. The message will be sent to the Data Pager on each transmit cycle until the *SEND* button is pushed again and turns red.

Computech WeatherPro

File Edit View RaceAir Graph Pager Help

5 Minutes | 1 Minute | Stamp Graph | Proportional Scaling | Ranges | Clear Selections

Most Recent Data: Wednesday, January 30, 2002 at 12:17:50 pm

Temperature	73.0°F	Correction Factor	1.0244	Vapor Pressure	0.330 In Hg
Relative Humidity	40.3%	Density Altitude	1241 Ft	Dry Barometer	29.57 In Hg
Absolute Barometer	29.90 In Hg	Air Density Ratio	96.48%	Dew Point Temp	47.0°F
Pressure Altitude	20 Ft	Water Vapor	49.37 Gr	Wet Bulb Temp	58.0°F

Weather Variables — Temperature, Relative Humidity, Absolute Barometer

Calculations — Correction Factor, Water Vapor, Air Density Ratio

Recorded Data History For File: C:\WEATHERPRO\20020130C.CWP

Time	Temp	RH	Abs B	P Alt	Corr F	D Alt	ADR	W Vap	Vap P	Dry B	Dew T	Wet T	Mark
1/30 12:14:48	73.0	40.2	29.90	20	1.0244	1240	96.50	49.22	0.329	29.57	47.0	58.0	Run #1
1/30 12:14:33	73.0	40.2	29.90	20	1.0244	1240	96.50	49.22	0.329	29.57	47.0	58.0	
1/30 12:14:18	73.0	40.2	29.90	20	1.0244	1240	96.50	49.22	0.329	29.57	47.0	58.0	

C:\WEATHERPRO\20020130C.CWP

19 Entries   Start: 1/30 12:11:26 pm

Start | Computech ... | RaceBase Pro - ... | Car #1 (Sample ... | Weather Calcul ... | 12:18 PM

Typical Weather Pro screen.

Typical RaceBase Pro Screen during operation.