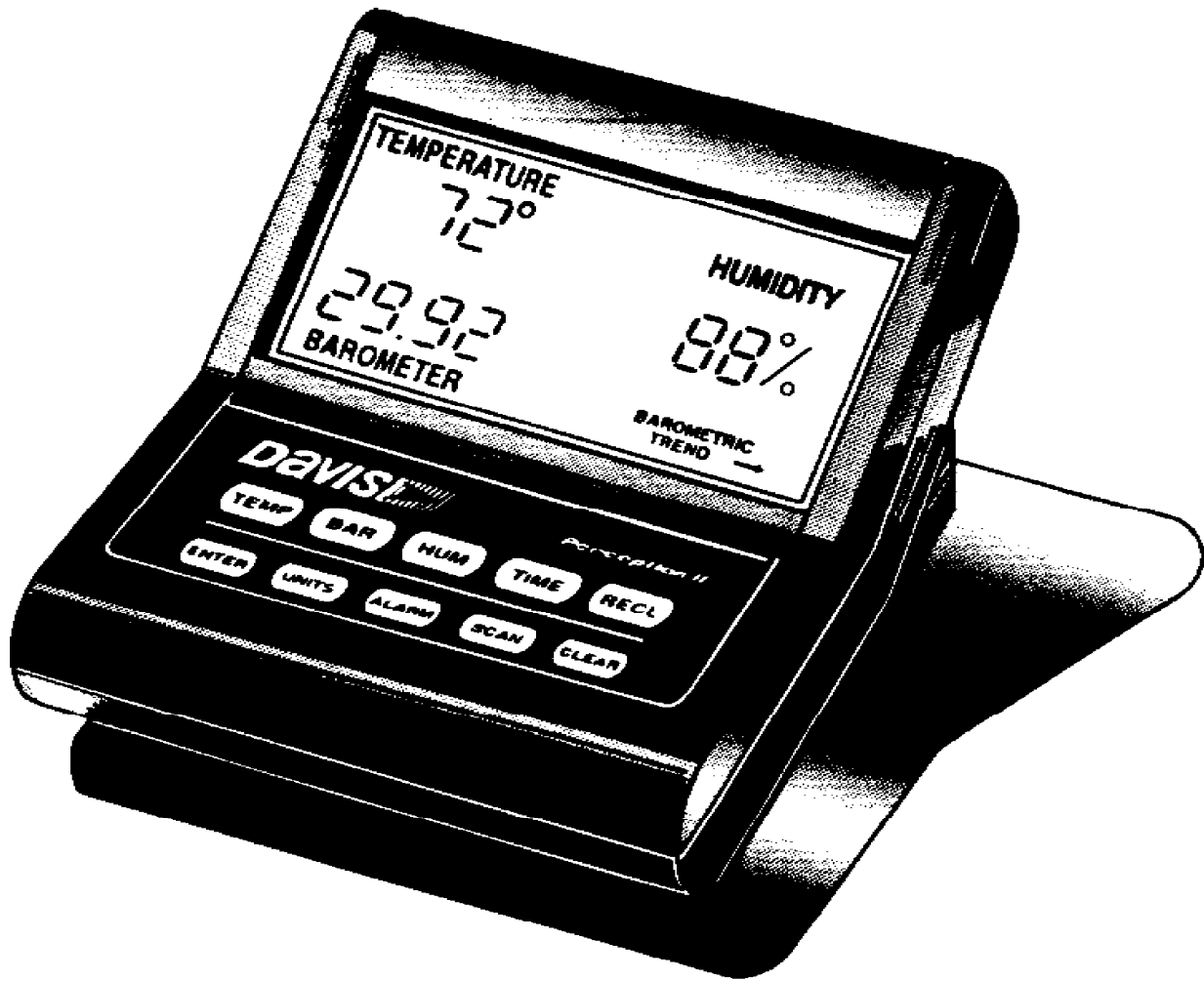# DAVIS

Perception II ™

Owner's Manual

1. INTRODUCTION

> **Please take the time to read this instruction manual carefully.**

This instruction manual is organized to take you step-by-step through the procedures required to install and use your PERCEPTION II. By following these steps—and setting up the system correctly from the start—you will soon be able to enjoy all of the features of the PERCEPTION II with a minimum of time and effort.

System Components

Your PERCEPTION II consists of the following components. Please check to be sure you have all of the components listed before proceeding.

- *Computer Unit* with LCD display and keypad
- *Mounting base*—attached to bottom of Computer Unit
- *AC–Power adapter*
- *Two #8 pan head sheet metal screws*

Optional Tools and Materials Needed for Installation

In addition to the parts listed above, you may need the following tools and materials. Please be sure you have everything you need before proceeding with your installation.

- *9-volt alkaline battery* to be used as backup power supply (p. 4)
- *Electric drill with #36 (2.5–mm) drill bit* to drill pilot holes if displaying Computer Unit on a wall (p. 5)
- *Small Phillips-head screwdriver* if displaying Computer Unit on a wall (p. 5)

Optional Accessories

The following accessories, designed for use with the PERCEPTION II, are available from your dealer or may be ordered directly from Davis.

WEATHERLINK—Connects your IBM or compatible computer to the PERCEPTION II through a standard serial port. Allows you to store, display, and graph the weather data collected by the PERCEPTION II.

CAR/BOAT/RV LIGHTER CORD—Uses the cigarette lighter in your car, RV, truck, or boat to power the PERCEPTION II. Replaces the standard AC–power adapter.

A Typical Installation
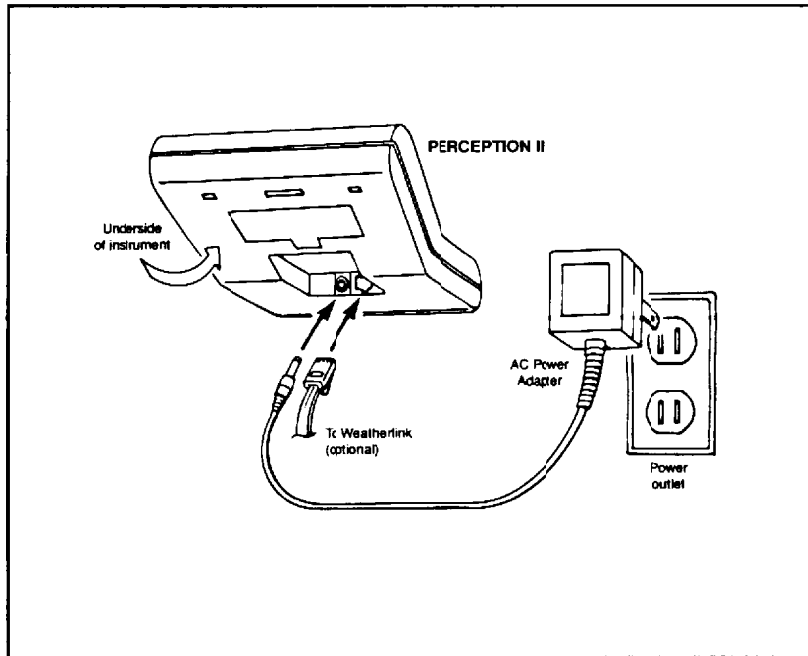
The diagram above shows a typical PERCEPTION II installation. The following pages will give you specific instructions for installing your PERCEPTION II.

2. INSTALLING THE PERCEPTION II

The PERCEPTION II is a precision instrument, designed to give extremely accurate readings. As with any precision instrument, care must be used during installation. By following the steps outlined in this chapter precisely—and assembling the PERCEPTION II correctly from the start—you will soon be able to enjoy all of its features with a minimum of time and effort.

Powering the Perception II

The PERCEPTION II is powered by 9– to 12–volt DC (direct current). In North America, the power adapter included with your unit converts 120–volt, 60–Hz AC (alternating current) to 9–volt DC, allowing you to run the unit on ordinary household current. You may also run the PERCEPTION II on the 12–volt DC power supplied by a car, boat, or RV battery by using the optional Car/Boat/RV Lighter Cord.

If you are outside North America, in a location where the power supply is not equivalent to the North American standard (120–volt, 60–Hz), check to see if your local dealer has supplied a power adapter that is appropriate for your power supply before you connect the power adapter to the Computer Unit. If not, you must use a power converter/transformer or the appropriate power adapter (9–volt, 2.5–mm female plug).

In any case, we recommend that you also install a 9–volt alkaline battery as a backup power supply. In the event of a power outage, the battery will power the PERCEPTION II. Not only will this prevent the loss of data stored by the Computer Unit, but will also allow you to continue observing weather conditions during the power outage.

New alkaline batteries will power the PERCEPTION II for 24–48 hours. For maximum security, keep the battery backup fresh. You should replace batteries any time the unit has operated on battery power for more than 18 hours. To prevent loss of data when replacing batteries, make sure the unit is receiving power from the adapter before changing batteries.

Note that we do not recommend the use of Ni-Cad batteries. Ni-Cad batteries carry less power than alkaline batteries and they will not be recharged by the PERCEPTION II. In the event of a power outage, Ni-Cad batteries will be able to power the PERCEPTION II for a shorter period of time than alkaline batteries will.

To Connect the Power Adapter to the Computer Unit

1. Remove the mounting base from the Computer Unit by pushing down on the large tab behind the display until it will easily slide out from the notch. Then lift the mounting base so the two smaller tabs behind the keyboard slide free. Place the mounting base aside until you mount the Computer Unit.

2. Slide the power adapter plug into the jack marked *POWER* underneath the Computer Unit.

3. Plug the other end of the power adapter into an appropriate power outlet.

4. The Computer Unit should run through a brief self-test procedure. All of the display segments appear, and the Computer Unit beeps twice.

5. When the self-test is finished, the temperature, the barometric pressure, the barometric trend arrow and the time (reading 12:00 a.m.) appear on the display.

To Install the Battery Backup Power Supply

1. Remove the battery cover underneath the Computer Unit by pressing back on the raised tab until the cover comes free.

2. Snap the battery connector onto the battery.

3. Lower the battery into the compartment.

4. Replace the battery cover by placing it over the compartment and pressing down until the tab snaps into place.
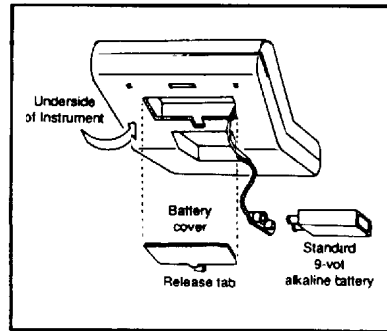
Install Battery Backup

☞   When the unit is operating on battery power the digits on the right side of the display blink on and off. The unit operates normally in all other respects.
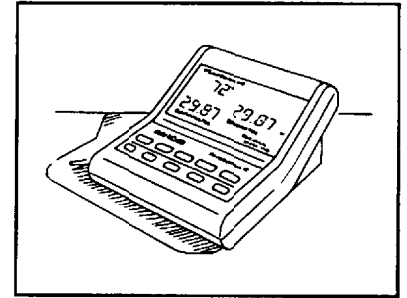
Displaying the Computer Unit

The Computer Unit should be placed indoors, in a location where the keyboard is readily accessible and the display is easy to read. For more accurate readings, follow these suggestions:

- Avoid placing the Computer Unit in direct sunlight. The black casing heats up in direct sunlight. This can cause erroneous readings and/or damage to the unit.

- Avoid placing the Computer Unit near radiant heaters, heating/air conditioning ducts, humidifiers, or de-humidifiers.

- If you are mounting the Computer Unit on a wall, choose an inner or interior wall. Avoid walls which heat up or cool down depending on the weather.

By changing the orientation of the mounting base, you can display the Computer Unit on a tabletop, set it on a shelf, or mount it on a wall.

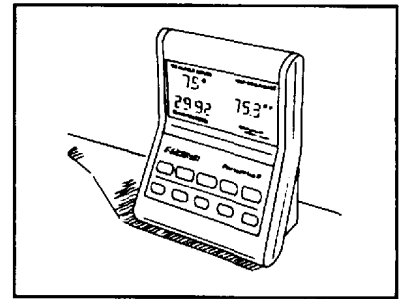## *To Display the Computer Unit on a Tabletop*

1. Slide the two small tabs on the mounting base into the small notches underneath the keyboard.

2. Push down on the large tab at the opposite end of the mounting base until the tab slides into the large notch behind the display and locks into place.

Tabletop Orientation

## *To Display the Computer Unit on a Shelf*

1. Slide the two small tabs on the mounting base into the small notches behind the display.

2. Push down on the large tab at the opposite end of the mounting base until the tab slides into the large notch underneath the keyboard and locks into place.

Shelf Orientation

To Display the Computer Unit on a Wall

1. Hold the mounting base flat against the wall and use a pencil to mark the location of the two keyholes.

2. Use an electric drill with a #36 or 2.5–mm drill bit to make pilot holes in these locations.

3. Using a screwdriver, drive the two pan head screws into the wall. Leave at least ⅛ inch (3 mm) between the wall and the heads of the screw.

Mounting on a Wall

4. Depending on how high you mount the Computer Unit on the wall, you can use either tabletop or shelf orientation. Attach the mounting base in the orientation you prefer.

5. Slide the key holes on the back of the mounting base over the two screw heads. Gently slide the Computer Unit downward until it no longer moves.
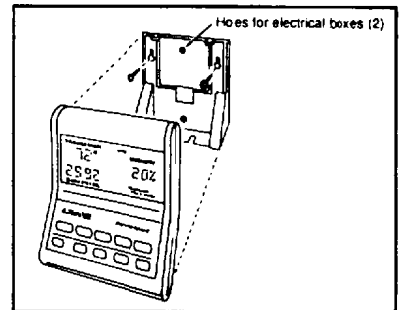
3. USING THE FUNCTIONS

Using the Enter Key

The *ENTER* key is used to enter or change data. You should become familiar with the use of this key, since it serves many purposes in operating the PERCEPTION II.

To Change Data Using the Enter Key

1. Press *ENTER* and hold it down. The first digit on the left will flash and then begin to cycle through all the possible entries for the function you are changing.

2. When the display reaches the entry you want, release the *ENTER* key.

3. Press *ENTER* again and hold it down. The second digit from the left will flash and then begin to cycle through all the possible entries for the function you are changing.

4. When the display reaches the entry you want, release the *ENTER* key.

5. Repeat this process for the remaining digits. It makes no difference which digit you change first. If you enter a digit incorrectly, accidentally skip past a digit, or only want to change certain digits, simply press and release *ENTER* until the desired digit is flashing.

6. Press any key or wait four seconds without pressing *ENTER* to save the entry.

☞ Note that, to protect against accidental changing of the barometric pressure once it has been set, the *ENTER* key must be held down for at least eight seconds before the first digit on the left begins to change for barometric pressure.

Example of Using the Enter Key—Setting the Time

1. Press *TIME* until the time setting appears on the display.

2. Press *UNITS* to change from the 12–hour format to the 24–hour format, as desired. The 12–hour format is indicated by the symbol *AM* or *PM*. The 24–hour format is indicated by the symbol *24HR*.
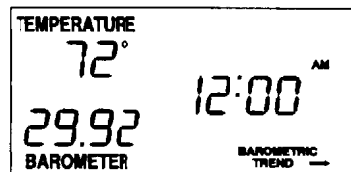
Time Display

3. Change the hour by pressing and holding down *ENTER*. If you are using the 12–hour format, the digits representing the hour (the first two digits on the left) cycle from 12 AM to 11 PM as you hold down *ENTER*. If you are

using the 24–hour format, the digits representing the hour cycle from 0 to 23 as you hold down *ENTER*.

4. Release *ENTER* when the current hour appears.

5. Press *ENTER* again and hold it down to change the tens position in minutes (the third digit from the left). The digits cycle from 0 to 5 as you hold down *ENTER*.

6. Release *ENTER* when the correct number appears.

7. Press *ENTER* again and hold it down to change the ones position in minutes (the fourth digit from the left). The digits cycle from 0 to 9 as you hold down *ENTER*.

8. Release *ENTER* when the correct number appears.

9. Press *TIME*. The number you just entered should appear in the display as the current time.

Time and Date

The PERCEPTION II can display time in either a 12–hour or a 24–hour format. In the 12–hour format, either an *AM* or a *PM* is displayed with the time. In the 24–hour format, the symbol *24HR* is displayed with the time. In either case the hour is on the left, separated from the minutes by a colon.
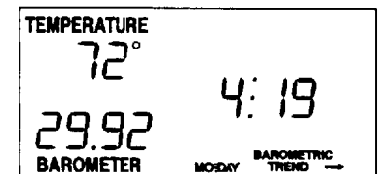
The date is displayed with the month on the left, separated from the day by three vertical dots. The symbol *MO:DAY* appears.

To Display the Current Time and Date

1. To display the time, press *TIME*. The time and the symbol *AM* (or *PM* or *24HR*) appear on the display.

2. To display the date, press *TIME* again. The date and the symbol *MO:DAY* appear on the display.
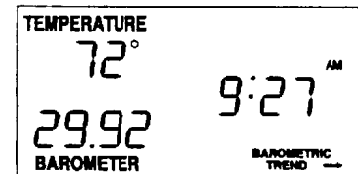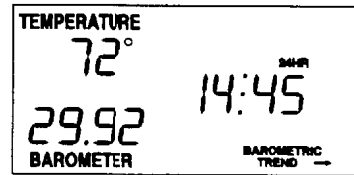

Time: 9:27 a.m.   Date: April 19

Time and Date

To Change the Time Format

1. Press *TIME* once or twice to select the time.

2. Press *UNITS*. The computer switches from the 12–hour to the 24–hour format (or vice versa) and the symbol changes from *AM* or *PM* to *24HR* (or vice versa). To return to the original format, press *UNITS* again.

24-hour Time Display

To Change the Time

1. Press *TIME* once or twice to select the time.

2. Press *UNITS* to select the 12- or 24–hour format, as desired.

3. Use *ENTER* to set the correct time.

4. Press any key to exit.

To Change the Date

1. Press *TIME* once or twice to select the date.

2. Use *ENTER* to set the correct date.

3. Press any key to exit.

To Use the Time Alarm

For instructions on how to use the time alarm, refer to the section on *Alarms*, page 15.

Temperature

Temperature is always shown in the upper left hand corner of the display and can be selected to show in the right side of the display. The procedure for showing temperature on the right side of the display is covered below. The temperature reading on the right side of the display may be displayed in increments of either 1° or 0.1°. The temperature reading on the left side of the display rounds to the nearest 1°. Both temperature readings may be displayed in either °F or °C, and will always be in the same unit of measure.
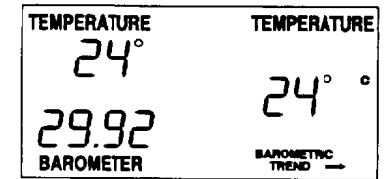
The PERCEPTION II also records high and low temperatures. Highs and lows are stored in memory along with the time and date they occurred.

To Display Current Temperatures

Press *TEMP*. The temperature reading and the word *TEMPERATURE* appear on the right side of the display.
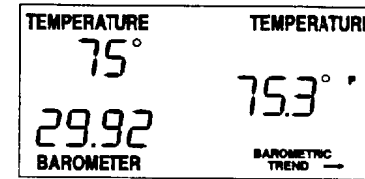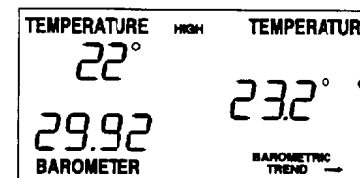
Temperature: 75.3° F

Temperature: 24°C
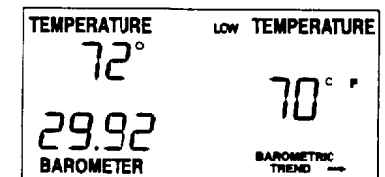
Temperature Displays

To Change the Unit of Measure

1. Press *TEMP*.

2. Press *UNITS* until the desired unit of measure and resolution (1°F, 0.1°F, 1°C, 0.1°C) appear on the right side of the display.

To Display High and Low Temperatures

1. Press *TEMP*.

2. Press *UNITS* to select °F or °C as desired.

3. Press *RECL*. The high temperature appears.

4. After a few seconds, the display will show the time the high was recorded, and then the date it was recorded.

5. Press *RECL* again. The low temperature appears.

6. After a few seconds, the display will show the time the low was recorded, and then the date it was recorded.

7. Press any key to exit.

High Temperature: 23.2° C

Low Temperature: 70° F

High and Low Temperature Displays

To Clear High and Low Temperatures

1. Press *TEMP*.

2. Press *RECL* once or twice to select the high or low temperature, as desired.

3. Press *CLEAR* and hold it down. The display will flash several times, and then the old reading will be replaced by the current temperature. As the temperature rises and falls, the high and/or low will be updated.

4. Press any key to exit.

☞ High and low temperatures are independent of each other. Clearing the high temperature does not clear the low temperature, and vice versa. You must clear each individually.

High and Low Temperature Alarms

For instructions on how to use the high and low temperature alarms, refer to the section on *Alarms,* page 15.

Barometric Pressure

The PERCEPTION II uses a solid state transducer to measure atmospheric pressure at your location. Since atmospheric pressure varies with altitude, the computer adjusts this measurement to give the equivalent sea level pressure, referred to as "barometric pressure." The PERCEPTION II can display barometric pressure in inches of mercury (*IN*), millimeters of mercury (*MM*), or millibars (*MB*).

Atmospheric pressure (and therefore barometric pressure) also varies with local weather conditions. Falling pressure is associated with deteriorating weather, while rising pressure is associated with improving weather. Standard or normal barometric pressure is 29.92 inches or 760.0 mm of mercury (Hg) or 1013.2 millibars.

Because atmospheric pressure varies with both altitude and local weather conditions, you must enter the current barometric pressure for your location when you turn on your PERCEPTION II. Once the barometric pressure is set, the PERCEPTION II will calculate and display the correct barometric pressure until the unit is moved to a different altitude.

Barometric Pressure is always shown in the lower left hand corner of the display and can be selected to show in the right side of the display. The procedure for showing barometric pressure on the right side of the display is covered below. Both barometric pressure readings will be in the same unit of measure.

The PERCEPTION II can also store a barometric pressure reading for purposes of comparison. The stored barometric pressure allows you to determine exactly how much the barometric pressure has risen or fallen over a given period of time. Like the highs and lows for other functions, the stored barometric pressure is accompanied by the time and date it was recorded.

The PERCEPTION II also watches the barometric trend over approximately the past hour. This trend is shown as an arrow in the bottom right hand corner of the display.

To Set the Barometric Pressure

1. Find the current local barometric pressure. Many TV and radio weather reports carry this information. Or you can call your local airport control tower. If none of these options is available to you, it is possible to accurately estimate the local barometric pressure over the course of a few days using a newspaper. This procedure is covered in the next section, *To Estimate the Current Barometric Pressure.*

2. Press *BAR*. A barometric pressure reading and the symbol *IN* (or *MM* or *MB*) appear on the right side of the display. In all likelihood, the barometric pressure reading will be incorrect. Do not be concerned by this.
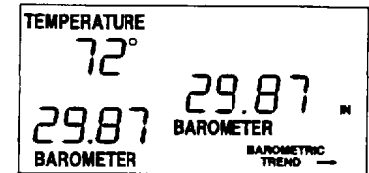
2. Press *UNITS* until the desired unit of measure (*IN*, *MM*, or *MB*) appears.

Barometric Pressure Display

3. Use *ENTER* to set the current barometric pressure. Note that, to protect against accidental changing of the barometric pressure once it has been set, the *ENTER* key must be held down for at least eight seconds before the first digit on the left begins to change.

4. Press *BAR*. The number you just entered appears in the display as the current barometric pressure.

☞ When you enter a barometric pressure in millibars, there is a fifth digit—a 1 at the far left. This is the first number to change when you begin changing barometric pressure. The 1 simply flashes on and off as you hold *ENTER* down. Release *ENTER* when you see the 1 for a barometric pressure of 1000.0 mb or more. Release *ENTER* when the 1 is not showing for a barometric pressure below 1000.0 mb.

To Estimate the Current Barometric Pressure

1. Find a local paper which carries the barometric pressure. Note the time at which that barometric pressure was taken.

2. At that same time the following day, make a note of the barometric pressure displayed by your PERCEPTION II.

3. When you receive your newspaper again, subtract the reading you took in step 2 from the barometric pressure reading now reported in the newspaper. The difference between these two readings must be added to or subtracted from the barometric pressure now reported by the PERCEPTION II.

4. If you want, you can continue to record the barometric pressure and check it on subsequent days, changing the barometric pressure until you are satisfied with its accuracy. Please note that the two measurements should come reasonably close, but will probably never agree perfectly.

Example of Estimating Barometric Pressure

Say your newspaper reports the barometric pressure as of 12:00 noon each day. At 12:00 noon on Tuesday, your PERCEPTION II reads 30.10 inches of Hg. When you receive the Wednesday paper, you note that the barometric pressure at 12:00 noon on Tuesday was actually 29.90 inches of Hg. Since the difference between the two barometric pressure readings is –.20 inches of Hg (29.90 – 30.10 = –.20), you need to decrease your PERCEPTION II's barometric pressure reading by .20 inches of Hg. Suppose your PERCEPTION II now reads 30.20 inches of Hg. You should enter a new barometric pressure reading of 30.00 (30.20 – .20 = 30.00) inches of Hg.
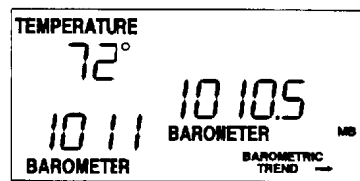
To Display the Current Barometric Pressure

Press *BAR*. The barometric pressure and the word *BAROMETER* appear on the right side of the display.

To Change the Unit of Measure

1. Press *BAR*.

2. Press *UNITS* until the desired unit of measure (*IN*, *MM*, or *MB*) appears in the display.
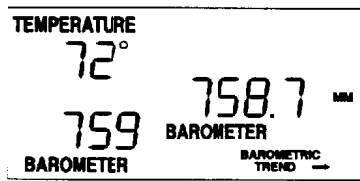
Barometer: 758.7 mm of Hg

Barometer: 1010.5 mb
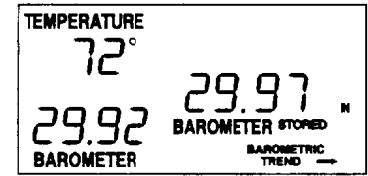
Barometric Pressure in Millimeters and Millibars

To Display the Stored Barometric Pressure

1. Press *BAR* to display barometric pressure.

2. Press *UNITS* to select *IN*, *MM*, or *MB* as desired.

3. Press *RECL*. The stored barometric pressure appears. If you have not stored a barometric pressure, the stored barometric pressure will be 0.

4. After a few seconds the display will show the time it was recorded. and then the date it was recorded.

5. Press any key to exit.

To Store a Barometric Pressure

1. Press *BAR*.

2. Press *RECL* to display the stored barometric pressure.

3. Press *CLEAR*. The display flashes several times and then the current barometric pressure appears in the display. The current barometric pressure is now stored, along with the time and date.

4. Press any function key to exit.

Stored Barometric Pressure

☞ Each time you enter a new stored barometric pressure you clear the previous one. There is no way to clear a stored barometric pressure without entering a new one.

The Barometric Trend Function

The barometric trend arrow, which appears on the bottom right hand corner of the display, gives you an indication of which way barometric pressure is moving. If barometric pressure changed by less than .02 inches of Hg (1 millibar or .75 millimeters of Hg) over approximately the past hour, the arrow will be horizontal—steady barometric pressure. If barometric pressure rose by .02 inches of Hg or more, the arrow will have an upward slope—rising barometric pressure. If barometric pressure fell by .02 inches of Hg or more, the arrow will have a downward slope—falling barometric pressure. The barometric trend arrow is updated approximately every 15 minutes.

Barometric Trend Arrow

To Use the Barometric Trend Alarm

For instructions on how to use the barometric trend alarm, refer to the section on *Alarms*,
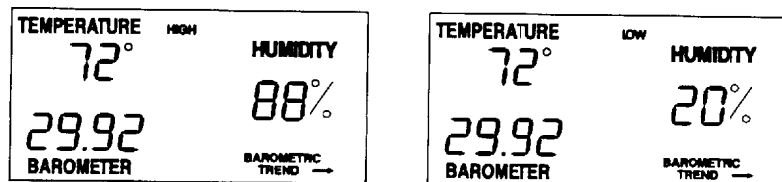
Humidity

Much of the air surrounding us consists of water vapor. The amount of water vapor in the air influences how we perceive temperature. Humid days feel hotter because water vapor slows down the natural cooling processes of the human body.

A measurement of the amount of water vapor in the surrounding air is dependent upon temperature since warmer air is capable of holding much more water than cooler air. Thus, relative humidity (usually simply called humidity) is defined as the amount of water vapor presently in the air, divided by the maximum amount of water vapor that the air could hold, given the current temperature. The result is expressed as a percentage.

The PERCEPTION II measures and displays humidity and also records high and low humidities. Highs and lows are stored in memory along with the time and date they occurred.

To Display Current Humidity

Press **HUM**. The humidity reading and the word *HUMIDITY* appear on the display.

TEMPERATURE **HIGH** 72° **HUMIDITY** 88% 29.92 **BAROMETER** **BAROMETRIC TREND** →	TEMPERATURE **LOW** 72° **HUMIDITY** 20% 29.92 **BAROMETER** **BAROMETRIC TREND** →
High Humidity: 88%	Low Humidity: 20%

Typical Humidity Displays

To Display High and Low Humidities

1. Press **HUM**.

2. Press **RECL**. The high humidity appears.

3. After a few seconds, the display will show the time the high was recorded, and then the date it was recorded.

4. Press **RECL** again. The low humidity appears.

5. After a few seconds, the display will show the time the low was recorded, and then the date it was recorded.

6. Press any key to exit.

To Clear High and Low Humidities

1. Press **HUM**.

2. Press **RECL** once or twice to select the high or low humidity, as desired.

3. Press **CLEAR** and hold it down. The display will flash several times, and then the old reading will be replaced by the current humidity. As the humidity rises and falls, the high and/or low will be updated.

4. Press any key to exit.

☞ High and low humidities are independent of each other. Clearing the high humidity does not clear the low humidity, and vice versa. You must clear each individually.

To Use the High and Low Humidity Alarms

For instructions on how to use the high and low humidity alarms, refer to the section on *Alarms*, page 15.

4. USING THE COMPUTER FUNCTIONS

Alarms

The PERCEPTION II features a set of alarms which can be programmed to sound whenever a reading passes a particular point. The general procedure for displaying and setting alarms is covered below.

	HIGH ALARM	LOW ALARM
TIME	*	*
TEMPERATURE	YES	YES
BAROMETRIC PRESSURE	**	**
HUMIDITY	YES	YES

* The time alarm is a standard time alarm, just like the one on any alarm clock.

** Because the change in barometric pressure is generally considered more important than the barometric pressure itself, there is a special alarm for barometric trend. The procedure for setting this alarm is covered separately below.

Alarm Conditions

On all high alarms, the alarm is triggered when a reading reaches the alarm point and will continue to sound until the reading drops below the alarm point. On all low alarms, the alarm is triggered when a reading reaches the alarm point and will continue to sound until the reading rises above the alarm point.
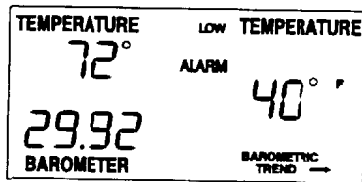
The Alarm Display

When the alarm sounds, the Computer Unit makes a high-pitched beeping sound and immediately displays the function triggering the alarm. The word *ALARM* flashes on and off in the display. The alarm will continue until alarm conditions are no longer met or the alarm is cleared. You can briefly look at other functions by pressing the appropriate key(s), but the display will always return to the alarming function.

If more than one alarm is sounding at once, the PERCEPTION II will scan through all of the triggered alarms, displaying each for approximately four seconds before moving to the next.
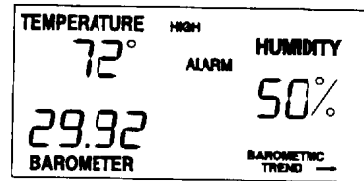
To Display an Alarm Setting

1. Press the appropriate key to display the function you desire on the right side of the display.

2. Press **UNITS** to select the desired unit of measure.

3. Press *ALARM*. If you are displaying temperature or humidity, which have two alarm settings each, the high alarm setting appears first.

4. To display the low alarm setting for temperature or humidity, press *ALARM* again.

TEMPERATURE LOW TEMPERATURE
72° ALARM
40° F
29.92
BAROMETER BAROMETRIC TREND →

TEMPERATURE HIGH
72° ALARM HUMIDITY
50%
29.92
BAROMETER BAROMETRIC TREND →

Low Temperature Alarm: 40° F   High Humidity Alarm: 50%

Typical Alarm Displays

To Set an Alarm

1. Press the appropriate key to display the function you desire on the right side of the display.

2. Press *UNITS* to select the desired unit of measure.

3. Press *ALARM* until the alarm setting you desire appears on the display.

4. Use *ENTER* to set the alarm.

5. Press any key to exit.

Example of Setting an Alarm—Low Temperature Alarm

Suppose you wanted to set the PERCEPTION II alarm to sound when the temperature dropped below 60°F.

1. Press *TEMP*.

2. If necessary, press *UNITS* to change to 1°F.

3. Press *ALARM*.

4. Use *ENTER* to set the alarm to 60°F.

5. Press *TEMP* to exit.

The alarm is now set and will sound when the temperature drops below 60°F.

To Set the Barometric Trend Alarm

1. Press *BAR*.

2. Press *UNITS* to select the desired unit of measure.

3. Press *ALARM*.

4. Press *ENTER* and hold it down. The display will cycle through the possible entries: *.02, .04,* and *.06*

TEMPERATURE
72°
ALARM
00.04 IN
29.92 BAROMETER
BAROMETER BAROMETRIC TREND →
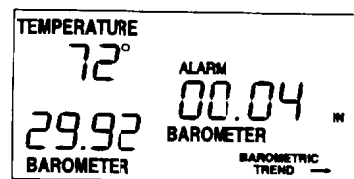
Barometric Trend Alarm

inches (*.5, 1.0* and *1.5* mm or *.7, 1.4* or *2.0* mb). The entry represents a change in barometric pressure over the course of approximately one hour. Therefore, setting the alarm to *.04* inches means that the alarm will sound if the barometric pressure changes (rises *or* falls) by .04 inches (1 mm or 1.4 mb) in any hour long period. This alarm is checked approximately once every 15 minutes.

5. Release *ENTER* when the desired setting is on the display.
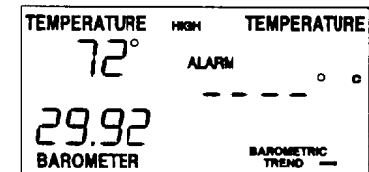
6. Press any key to exit.

☞   The barometric trend alarm does not discriminate between rising and falling barometric pressure—check the barometric trend arrow to determine if barometric pressure rose or fell.

To Silence an Alarm

Press *CLEAR*. The high pitched beeping sound stops, though the alarm is not cleared. The word *ALARM* and the function triggering the alarm remains on the display until alarm conditions are no longer met or the alarm is cleared.

To Clear an Alarm

1. Since the function triggering the alarm is already on the display, simply press *ALARM* once or twice to get the desired alarm setting (high or low) for that function. (If more than one alarm is sounding, wait until the function you want to clear appears before you press *ALARM*.)

TEMPERATURE HIGH TEMPERATURE
72° ALARM
– – – –
29.92
BAROMETER BAROMETRIC TREND —

Clearing an Alarm

2. Press and hold down *CLEAR* until the display shows a series of dashes.

3. Press any key to exit.

☞   Each alarm setting is independent of every other. For instance, clearing the high temperature alarm does not clear the low temperature alarm. You must clear each alarm individually.

Total Clear

The total clear function automatically clears all of the high and low readings as well as the stored barometric pressure at the same time.

The following functions are reset by the total clear function:

- *High and Low Temperatures*
- *Stored Barometric Pressure*
- *High and Low Humidities*

The following functions are *not* reset by total clear:

- *Time*
- *Date*
- *Current Barometric Pressure*
- *Barometric Trend*
- *Alarm Settings*

To Use Total Clear

1. Display any function except highs or lows or alarms on the right side of the display.

2. Press *CLEAR* and hold it down. The unit will beep and the display will flash seven times and then stop. When this happens, the functions listed above have been cleared.

Auto Scan

The PERCEPTION II can be set to perform an automatic scan of the functions. Each reading appears on the display (in the unit of measure you last used) for approximately four seconds before being replaced by the next function in the scan routine. There is a pre-programmed scan routine which reviews functions in the order given below.

- *Current, High, and Low Temperature*
- *Current and Stored Barometric Pressure*
- *Current, High, and Low Humidity*

You may also program a customized scan routine to review only the functions you desire. The computer can store one customized scan routine in addition to the pre-programmed scan.

☞ You can enter time and/or date into the customized scan routine, though they are not included in the pre-programmed scan routine.
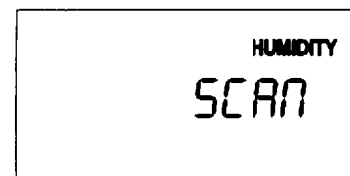
To Start and Stop a Scan Routine

1. Press *SCAN*. The pre-programmed scan routine begins.

2. To begin the customized scan routine (if you have entered one), press *SCAN* again.

3. To stop the scan routine, press any key except *SCAN* or *ENTER*.

To Program a Customized Scan Routine

1. Press *SCAN*.

2. Press *ENTER*. The barometric trend arrow and the temperature and barometric pressure readings on the left side of the display disappear and the word *SCAN* appears on the right side of the display. After a few seconds, the display will begin to alternate between the word *SCAN* and the normal display to let you know you are in scan entry mode.

3. Press the appropriate keys to display the first function you wish to scan (e.g. press *HUM* and *RECL* for High Humidity).

Scan Entry Mode

4. If desired, press *UNITS* to change the unit of measure.

5. Press *ENTER* to store that function in the scan routine.

6. Repeat steps 3, 4, and 5 until you have entered all of the functions you wish to scan.

7. When you have entered all the desired functions, press *SCAN*. The customized scan routine will begin. Note that the functions you enter will be displayed in the same order they appear during the pre-programmed scan routine, not in the order you entered them.

To Clear a Customized Scan Routine

Press *SCAN*, then *ENTER*, then *SCAN* again.

To Change the Customized Scan Routine

To change a scan routine, follow the instructions above (*To Program a Customized Scan Routine*) to enter a whole new customized scan routine. You cannot add or delete a function to an existing scan routine; you must re-enter the scan routine in its entirety.

To Change the Unit of Measure Within the Scan Routine

If you change your mind about which unit of measure you want a particular function to be displayed in, you can change the unit of measure without re-entering the whole scan routine.

Change the unit of measure as described in the individual section for the desired function. Any changes made to the unit of measure outside of the scan routine are reflected inside the scan routine.

Display Lamp

The PERCEPTION II contains a lamp so you can read the display in the dark. To turn the lamp on or off, simply press any two keys at once.

5. TEMPERATURE CALIBRATION

The temperature calibration (or CAL) number is used to adjust the temperature reading from the temperature sensor. The standard or default CAL number is automatically entered by the unit when it is first powered up, and whenever power is lost and later restored.

The calibration number should not be changed unless you want the PERCEPTION II to read the same as another thermometer.

$$Calibrated\ Temperature = Temperature + CAL$$

Default CAL = 0 (for ° F), or 0 (for °C).

☞ Be aware that changing the temperature CAL will also affect your humidity reading since relative humidity is based on temperature.

Changing the Temperature Calibration Number

1. Press *TEMP*.

2. Press *UNITS* to choose the unit of measure.

3. Press *TEMP* again. This time, hold the key down. After a few seconds, the display will begin to alternate between the word *CAL* and the temperature reading. After a few more seconds, the current calibration number appears.

4. Use *ENTER* to set CAL. If you want to enter a negative CAL, first enter the number without the negative sign. Then return to the second digit on the left and hold down *ENTER*. The display cycles through the possible entries, one of which is a negative sign.

Resetting the Calibration Number to Default

1. Follow the procedure above to display the temperature CAL number.

2. Press *CLEAR* and hold it down. The display will flash several times and then the temperature CAL will be reset to 0.

3. Press any key to exit.

6. TROUBLESHOOTING GUIDE

While the PERCEPTION II is designed to provide years of trouble–free operation, occasional problems may arise. If you are having a problem with your unit, please check the following guide before sending the unit in for repair. You will be able to solve many of the problems yourself. If, after checking this guide, you are unable to solve the problem, please call the factory at 1–510–732–7814 for further instructions. Please *do not* return your unit for repair without prior authorization.

	PROBLEM	SOLUTION	PG.
D I S P L A Y	Display is flashing	Unit is operating under battery power. Check to be sure the power adapter has not come unplugged from the Computer Unit or outlet.	4
	Display is blank	Unit is not receiving power. Check to be sure the power adapter has not come unplugged from the Computer Unit or outlet.	3
		If power is interrupted, battery may be installed incorrectly. Check and re–install.	4
		Battery may be run down or old. Replace.	4
	Display shows a series of dashes in place of function reading	A reading has exceeded the limits indicated on the specifications table.	25
		For temperature: calibration number may be causing readings to exceed display limits. Check calibration number and adjust if necessary.	20
	Display is sluggish or computer does not work at low temperatures	The Computer Unit, LCD display, and internal components may not work below 32°F (0°C).	N/A
H U M I D I T Y	Humidity seems too high or low	Make sure Computer Unit is not near a humidifier or de-humidifier.	4

	Problem	Solution	Pg.
T E M P E R A T U R E	**Temperature seems too high**	Move Computer Unit out of direct sunlight.	4
		Make sure Computer Unit is not in contact with an exterior wall which heats up in sunlight or when outside temperature rises.	4
		Make sure Computer Unit is not near a heater or other internal heat source (lamps, appliances, etc.).	4
		Check calibration number and adjust if necessary.	20
	Temperature seems too low	Make sure Computer Unit is not in contact with an exterior wall which cools down when outside temperature drops.	4
		Make sure Computer Unit is not near an air conditioner.	4
		Check calibration number and adjust if necessary.	20

7. WARRANTY & REPAIR INFORMATION

One Year Limited Warranty

We warrant our products to be free of defects in material and workmanship for one year from date of original purchase. We make every effort to carefully manufacture our products to the highest standards of quality. Occasionally, however, parts may be missing, defective, or damaged.

If you have a defective part, please call 1-510-732-7814 for authorization before returning the item for repair or replacement. Upon receiving authorization, return the product to us, shipping charges prepaid. Include proof of purchase and a written explanation of the problem. During the warranty period, we will, at our option, either repair or replace the product free of charge.

This warranty does not cover damage due to improper installation or use, lightning, negligence, accident, unauthorized service, or the incidental or consequential damages beyond the Davis products themselves. Implied warranties are limited in duration to the life of this limited warranty. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental and consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights. You may have other rights, which vary from state to state.

Questions? Call Davis Customer Service.

If you have any questions about our products, please call our Customer Service staff at **1-510-732-7814**. We'll be glad to help. Most questions can be answered while you're on the phone. Sorry, we are unable to accept collect calls.

8. SPECIFICATIONS

FUNCTION	SPECIFICATIONS
Time	AM/PM: 12:00 to 11:59; 1 second resolution 24HR: 00:00 to 23:59; 1 second resolution
Temperature	°F: 32 to 140; 0.1°F or 1°F resolution* °C: 0 to 60; 0.1°C or 1°C resolution*
Barometric Pressure (any altitude below 12,000 ft or 3650 m)	IN: 26.00 to 32.00; 0.01 inch resolution MM: 660.0 to 810.0; 0.1 mm resolution MB: 880.0 to 1080.0; 0.1 mb resolution
Humidity	10% to 90%; 1% resolution

* Resolution for this function is selectable by the user.