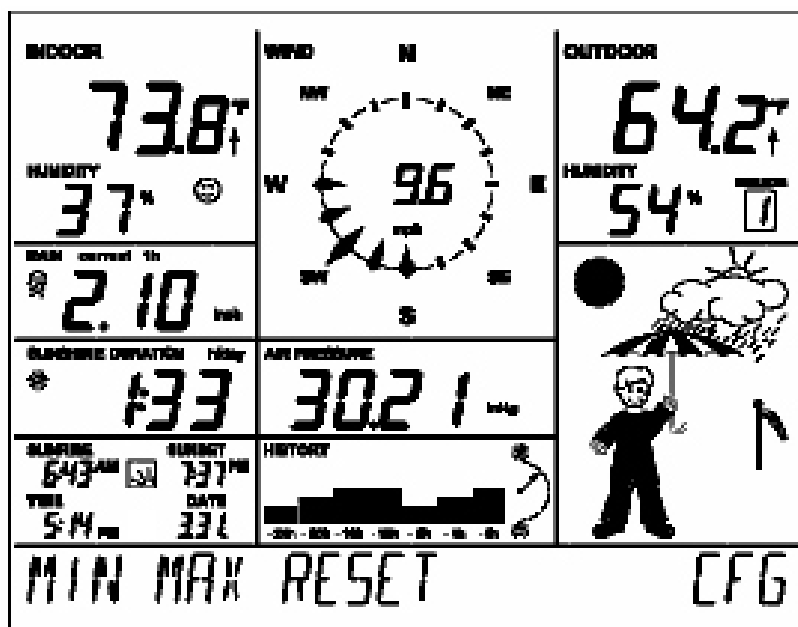


TouchScreen Wireless Weather Station

WS 2-550

Operating Instructions



Contents

1.	General aspects and functioning, Quick Overview	4
2.	Preparatory work	8
2.1.	Preparing the weather station	8
	Connecting to the mains	8
	Inserting batteries	9
	Installing/Mounting.....	9
	Start-up	13
2.2.	Combi-sensor TX 550	13
3.	Operations	16
3.1.	Log in/delete external sensors	16
3.2.	Operations	17
3.3.	Configuration.....	20
3.3.1.	"SENSOR" menu, Login/ Delete sensors	20
3.3.2.	"TIME/DATE" menu, Set the time and date.....	20
3.3.3.	"UNITS" menu, Set the display units.....	21
3.3.4.	"POSITION" menu, Set position	21
3.3.5.	"TIMEZONE" menu, Set time zone	22
3.3.6.	"LIGHTING" menu, time setting for the background lighting and regulating the brightness of the lightening	23
3.3.7.	"SYSTEM" menu, System settings	24
	"BEEP", Activate/ deactivate beep.....	24
	"DST", Activate/ deactivate the daylight saving time switching.....	25
	"INTERVALL", Set the recording interval for the datalogger	25
	"ALTITUDE", Adjust the location height above sea level.....	25
	"RAIN CAL", Enter the comparison value for the rain sensor	26
	"SUN CAL", Configure brightness threshold value for duration of sunshine.....	26
3.3.8.	"CLEANING" menu, Cleaning mode.....	27
3.3.9.	"LIVE MODE" menu, call up the current weather data flow	28
3.4.	Other Functions and Displays.....	29
	Display moon phases	29
	Oscar Outlook	29
	Weather forecast.....	29
	Wind symbol display.....	29
	Immediate Rain Display	30
	Comfort Indicator	30
	History	30
	Data memory	30
	Data transfer to the combi-sensor "WAIT FOR TRANSMISSION".....	30
	Temperature trend display.....	30
	Sensor Status Display	31
	Warning against turbulent weather	31
	Frost warning	31

4.	Changing the batteries	31
5.	Troubleshooting	32
6.	Range	33
7.	Instructions for Maintenance and Care	34
7.1.	Cleaning the rain quantity sensor	35
7.2.	Setting the rain sensor.....	36
8.	Technical specifications	37
9.	Optional PC connection for third party software	38
10.	Appendix	39
11.	Proper use, exclusion of warranty, Safety Instructions	40
12.	Wireless Technology BidCoS	41
	Appendix A: Menu Overview WS 2-550	42
	Appendix B: Table of latitude/longitude of French counties.....	43
	Appendix C: Table of time zone difference from UTC.....	44

1. English Edition 3/2007

Documentation © 2007 La Crosse Technology

All rights reserved. No parts of this manual may be reproduced or processed in any form using electronic, mechanical or chemical processes in part or in full without the prior explicit written permission of the publisher.

It is quite possible that this manual has printing errors or defects.

The details provided in this manual are checked regularly and corrections are done in the next edition. We do not assume any liability for technical or printing errors.

All registered trade marks and copyrights are acknowledged. Printed in Hong Kong.

We reserve the right to make changes due to technical advancements without prior notice.

74889 Y2007 V1.0

1. General aspects and Function

The TouchScreen Wireless Weather Station WS 2-550 is a high-quality, highly comfortable universal weather measurement system that can record, process and display data from a maximum of 8 (currently not available) additional wireless temperature and humidity sensors as well as a combi-sensor up to a distance of 400 ft. (outdoor range).

The combination sensor TX 550 belonging to the weather station is meant for outdoor use and captures the following:

Temperature, humidity, direction of wind, wind velocity, set in of rain, rain quantity and duration of sunshine.

The weather sensors for inside temperature, indoor humidity and air pressure are already located inside the weather station; hence no external sensor is required for these measurements.

The operating concept is the most excellent feature of the weather station. It does not have any traditional operating elements; it is operated only with the help of a highly sensitive TouchScreen and simple menu structures. Even the weather sensors can easily log into the system.

Weather data from the combi-sensor can be queried in real time; in "live mode" touching the respective display field triggers a data query (bi-directional wireless technology). Hence, the latest data is always available. Further, the combi-sensor can also be prompted in "live mode" to send its measurement data for 20 seconds at 2 seconds intervals. You can track in real time the wind direction and the wind velocity for 20 seconds. The display can be illuminated permanently or with time controls; thus the display is legible under almost all light conditions. The glass foot and the transparent design frame of the device are also illuminated.

As the weather station has a large internal memory it is best suited for observation over long periods - a total of 3000 records can be stored in the internal memory.

Please read this Operating Instructions manual carefully and in full to avoid functional disturbances and wrong operations. Please store this manual for future reference.

Please follow the assembling and calibration instructions for the measurement recorders.

Overview of the display and operating options of WS 2-550 :

Display the inside temperature and humidity

- Switch to displaying the dewpoint
- Save the minimum and maximum temperature with time/date of occurrence
- Save the minimum and maximum humidity with time/date of occurrence
- Comfort zone indicator
- Graphical trend display of the last 24 h (only for temperature)

Display's outdoor temperature/humidity from Combi Sensor.

- Can be switched: Display the dewpoint or wind-chill temperature
- Save the minimum and maximum temperature with time/date of occurrence
- Save the minimum and maximum humidity with time/date of occurrence
- Graphical trend display of the last 24 h (only for temperature)
- Frost warning (in "Oscar Outlook" display)

Display the wind velocity with wind direction and fluctuation range

- Units for selection: : km/h, m/s, mph
- Save the maximum wind intensity with time/date
- Display wind direction with fluctuation range as wind rose and in numeric format
- Wind-sack symbol for prominent signaling of various wind intensities

Display the rainfall quantity in mm, inch or l/m² for:

- Total quantity since the last reset / last hour / current hour / last 24 h / current 24 h (storage for hour: always at xx:30 hours; storage for day: always at 7:30 a. m.)
- Save the maximum quantity per hour and per day
- Additional display when it starts raining (Immediate rain display)

Display the air pressure progress/ air pressure trend display:

- Graphical display of the progress in the last 24 h
- Display the air pressure trend in 5 stages: heavily increasing, increasing, uniform, decreasing, heavily decreasing

Display symbols of the weather forecast: rainy, cloudy, bright, sunny

Weather display "Oscar Outlook"

Similar to the almost forgotten weather "house" where a person came out of the door with an umbrella if the weather was bad and wore light clothes if it was good, WS 2-550 has "Oscar Outlook".

The behavior of this character is based on various weather factors; hence it is immediately possible to know the type of clothing one would need outdoors.

Not only the current measured values for outside temperature, humidity, wind and rain are evaluated for this display.

The weather forecast also plays an equally important role. So "Oscar Outlook" has different displays and clothing depending on the weather situation.

You will find a detailed description of the evaluation criteria in chapter 3.4 of this Operating Instructions manual.

Display the sunrise and sunset time

- Calculation can be done in the latitude range of -60° to $+60^{\circ}$ N depending on the location data that is to be entered.

Moon phase display

- Display the current moon phase: New moon, waxing moon, waning moon

Display the total duration of sunshine or of the current day

- Save the minimum and maximum duration per day with time/date of occurrence
- Sun symbol if there is sunshine

Data logging function

- Data logger can collect maximum 3000 records at programmable intervals; these can then be read via an USB interface using. Optional third party software located at www.weather-display.com (Note: manufacturer does not support software)
- If the data logger memory is full, the system displays a timely message prompting you to download the data.

Miscellaneous

- Very simple set up menu
- An acknowledgement beep can be switched on / off as required
- Depending on the need, the device can be installed on the table or mounted on the wall
- Switching time of the display lighting can be programmed

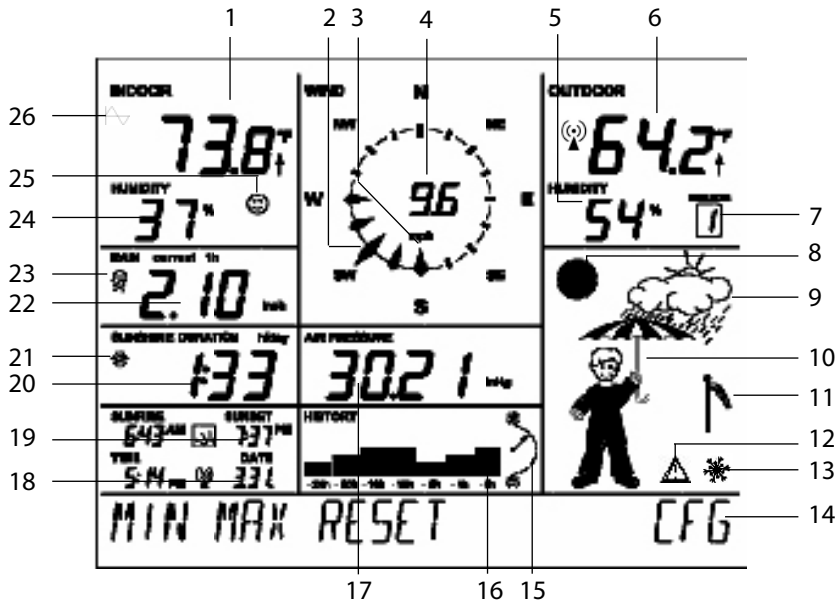
All important weather information appears simultaneously on the display so that it is not necessary to operate the device to capture the data.

Multiple basic units can be operated simultaneously; hence the data of the sensors can be simultaneously displayed at multiple locations.

The external sensor system of WS 2-550 works exclusively on wireless data transfer. You can thus install or mount the sensors at a maximum distance of 400 ft. (depending on the local conditions, see section "Range") from the base station.

2. Preparatory work

Quick overview of the display fields



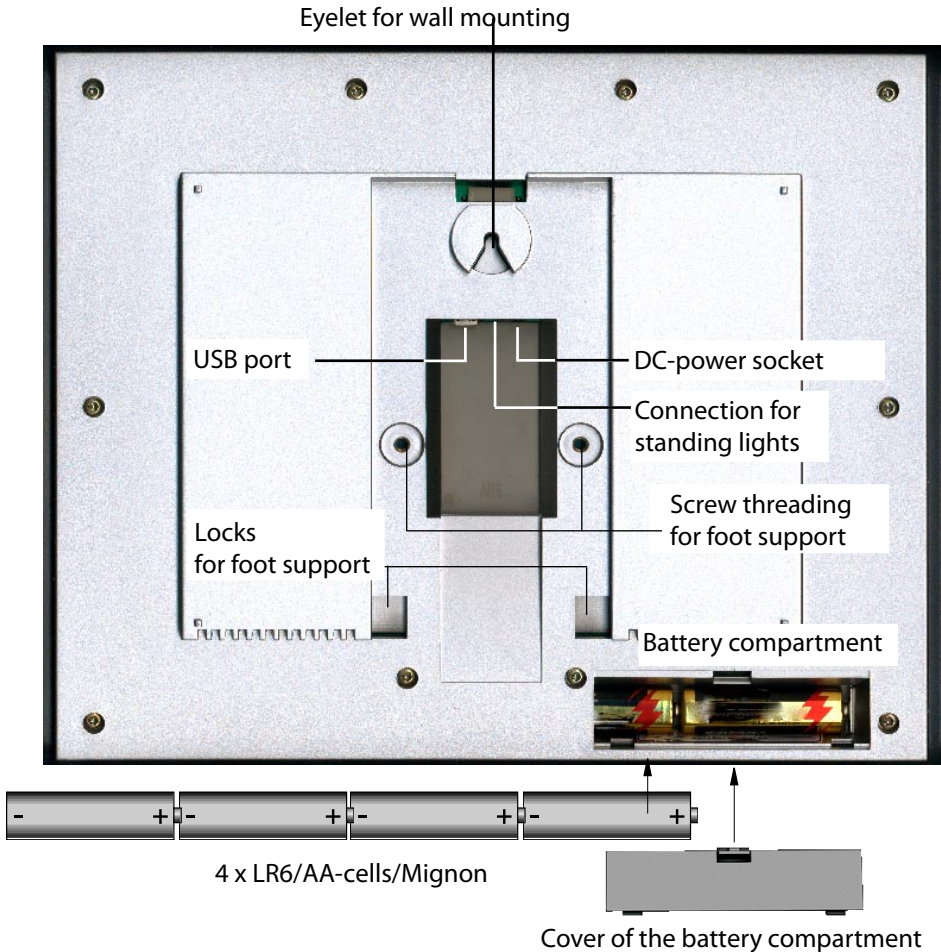
1. Current indoor temperature with temperature trend
2. Displays the current direction of the wind (main wind direction)
3. Display the fluctuation range when wind direction is changing
4. Displays the speed of the wind
5. Current humidity of the selected outdoor sensor
6. Current temperature of the selected outdoor sensor with temperature trend and reception display
7. Displays the currently selected outdoor sensor (no display if you select TX 550 US)
8. Moon phase display
9. Displays the weather forecast (sunny, bright, cloudy, rainy)
10. Animated multiple weather display "Oscar Outlook"
11. Displays speed of wind (mild, medium, strong)
12. Warning against turbulent weather
13. Frost warning
14. Menu bar
15. Trend display for air pressure: strongly increasing, slightly increasing, constant, slightly decreasing, heavily decreasing; for further details please refer concept definitions
16. History display, always with reference to the current value, also see 26.
17. Display the current air pressure
18. Time and Date display
19. Displays the sunrise and sunset time
20. Displays duration of sunshine
21. Sun symbol if the sun is currently shining, otherwise cloud symbol
22. Display the rain quantity
23. Display of set in of rain
24. Current indoor humidity level
25. Comfort zone indicator for displaying comfortable / uncomfortable climate
26. Symbol is displayed for the weather factor whose history is currently being displayed (indoor or outdoor temperature); if this symbol is not displayed, then the air pressure history is displayed

2. Preparatory work

2.1. Preparing the weather station

The weather station is exclusively operated via the plug-in mains adapter that is delivered. Battery operations are possible with 4 AA cells (1.5 V, alkaline type) in an emergency mode. The functions of the weather station are then available only in a restricted manner (e. g. no background lighting, no live mode available).

The following image shows the rear of the station with battery compartment, correct



insertion of the batteries, assembling points for foot support and hanging.

Connecting to the mains

First insert the round DC-plug of the AC adapter into the DC-power socket on the rear

side of the device and then the AC adapter in a mains socket.

Any batteries that have been inserted will get switched off.

Inserting batteries

Remove the cover of the battery compartment and insert four 1.5 V AA-cells, (alkaline type LR6) according to the correct poles into the battery compartment. Close the battery compartment again.

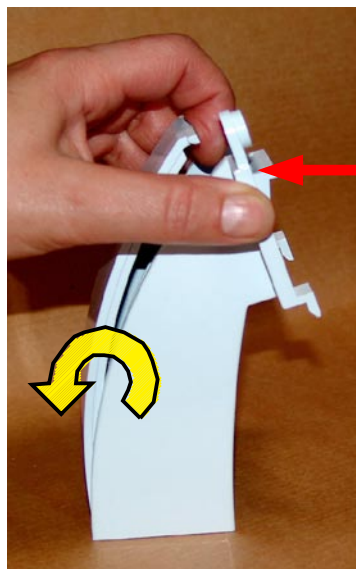
PC-connection

To connect the station to a PC, use the USB cable to connect the mini USB jack to the USB port of WS 2-550. The plug at the other end of the cable is connected to the USB port of a PC (also see chapter 9.)

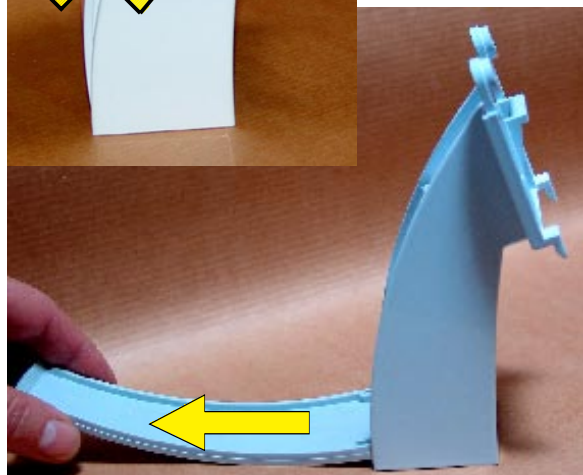
Installing / Mounting

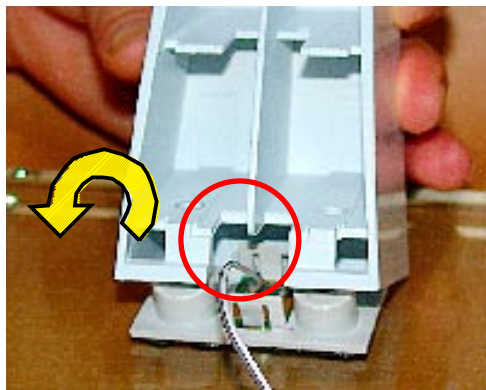
Depending on the requirement, the weather station can be mounted on a vertical surface (such as a wall) using a hanging eye or installed on an horizontal surface using a table-stand.

The table-stands are mounted using the Allen screws and Allen key according to

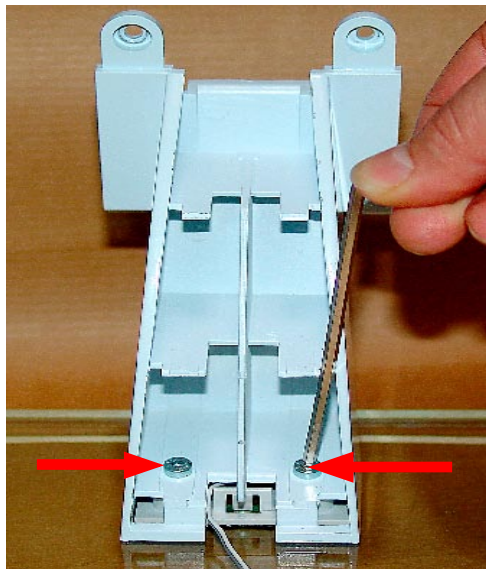


1. Remove the cover of the foot support: first lock it in at the top, then fold it fully downward and then remove it.

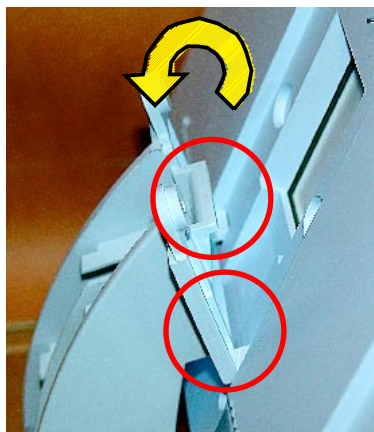
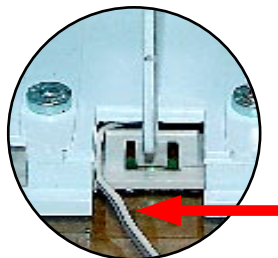




2. Lock in the foot support in the locking nose of the glass foot and place it on the two screw domes.



3. Screw the enclosed Allen key and 2 Allen screws on the glass foot. Please note that the lighting cable of the device foot is guided in from the side as shown in the picture so that it does not get crushed.

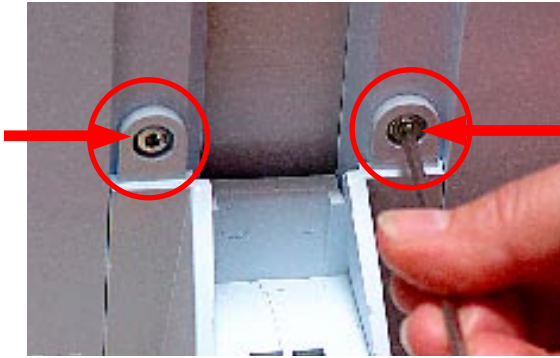


4. Place the weather station at the locking nose of the foot support and tilt it on the foot support till the screw dome neatly grips into the corresponding intakes of the weather station.

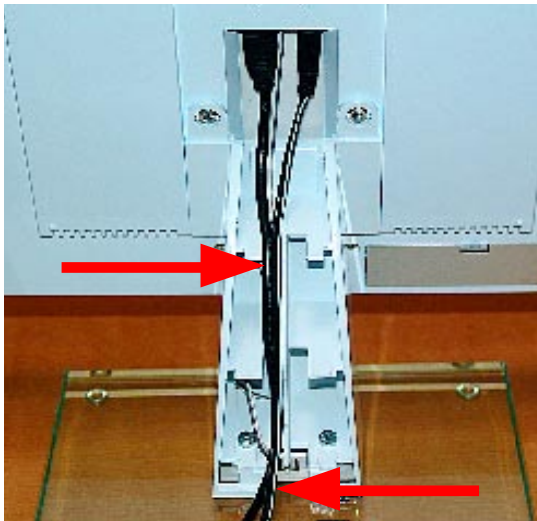
Note!

Do not let go of the weather station till both the Allen screws have been fixed in (see next step)!

Please do not press the display when you hold the weather station. Hold the weather station only at the frame!



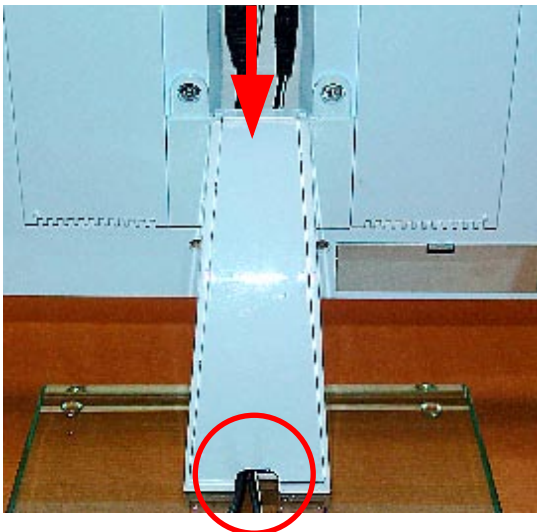
5. Screw the foot support on to the weather station using the enclosed Allen key and 2 Allen screws.



6. The cables are thus connected, inserted into the foot support and guided. Please note that the cable lies exactly in the center as shown so that it will not prevent the lid from subsequently locking in.

Note!

The cable for lighting the support foot and the USB cable can only be inserted in one direction! Do not insert it using force! Stow away excessive cable in a chamber of the support.

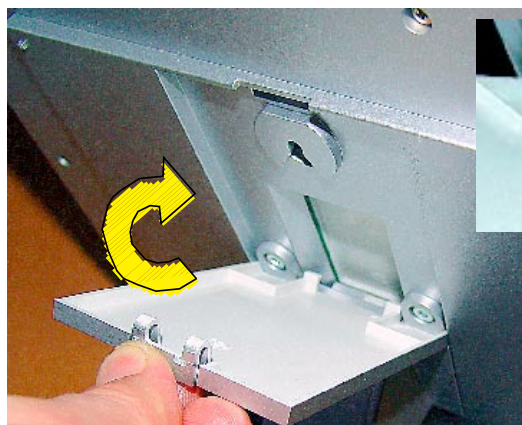


7. Now place the cover for the foot support:
Insert it flat into the support intake (also see 1.), fold it upward and lock it in.

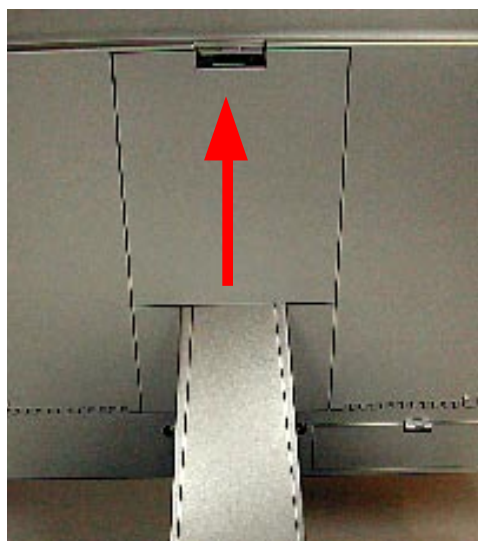
Note!

The cover should fold up easily without any resistance; otherwise, it means the cover has not been placed properly or the cable is not laid correctly in the guide!

You can see the correct guiding of the cable.



8. At the end, the cover is inserted in the corresponding locks of the cable shaft (see detailed picture above), tilted upward and locked in at the top (see lower picture).



the following description:

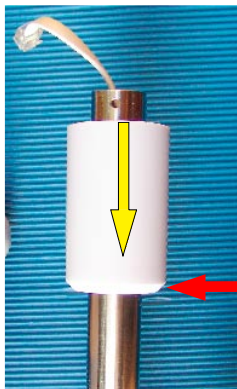
Start-up (base station)

- After connecting the plug-in AC adapter, the system will run a short test of all display segments in the display (all segments will be displayed).
- You will then hear a short beep and the version number of the weather station will be displayed.
- Finally, the inside temperature and the humidity as well as the air pressure will be displayed. The corresponding sensors are directly built in the base station.
- Now the external sensors need to be started up.

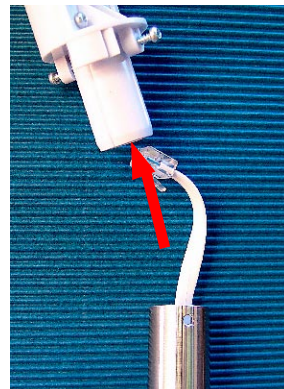
2.2. Combi-sensor TX 550

The combi-sensor is delivered as single parts and needs to be assembled before start-up (for further information please refer to the TX 550 operating instructions).

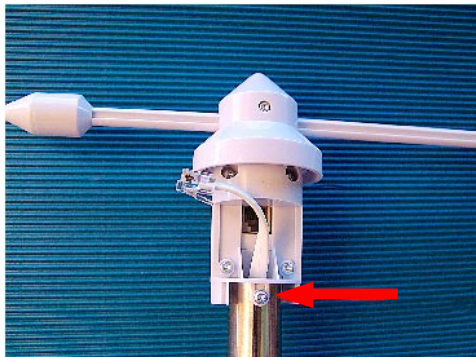
- Remove the wind meter and base of the wind meter (small white cylinder), the combi-sensor and the mounting pipes from the packaging.
- Mount the weather cock according to the following description:



1. Mount the base of the wind meter on the free end of the pipe of the combi-sensor holder as shown in the diagram



2. Put cable through the foot of the windcock



3. Insert the foot into the pipe and rotate it in such a way that it can be locked in the respective holes in the pipe using the two screws



4. Insert the plug into the socket of the wind meter



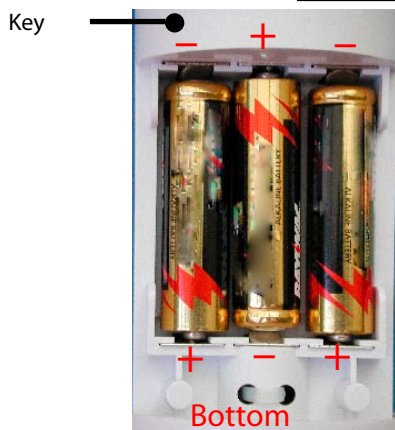
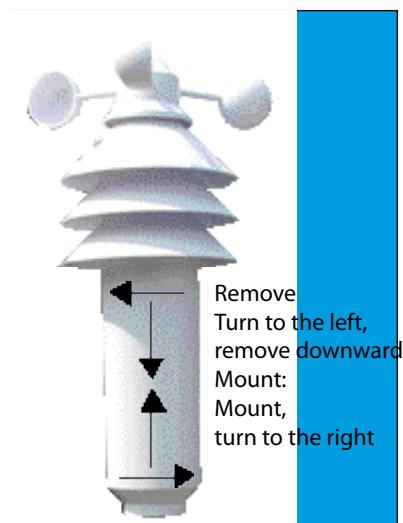
5. Push up the base and then lock it by turning it to the right

- Put together the pipes of the insertion mast. The sensor-holder is mounted on the pipe-end that is marked with a sticker.
- Install the fully mounted sensor within the possible transmitter radius (max. 400 ft. free field; take into account the dampening due to building walls, etc.) so that it stands in open space - the rain can thus fall directly into the rain sensor and the wind measurement is not hampered by adjacent buildings or trees - 50 ft. clearance.

A sunny location is possible because the temperature sensor is located in a shaded and ventilated part of the housing.

- Bury the pressed end of the mast deep into the soil so that it stands securely (approx. 15 inch depending on the condition of the soil). If the combi-sensor tilts and falls, it can cause injury to persons and damage to vehicles and other objects. Please note that the manufacturer is not responsible for injury or damage.
- Once the sensor is mounted, begin start up, and point the peak of the wind meter

- towards the North to align the sensor. Lock, if required, the wind meter in this position on the casing with the help of an adhesive tape.
- Open the sensor housing by rotating it towards the left and pulling down the casing (see picture below).
 - Use a pointed object to press the key above the battery compartment and insert three AA Alkaline batteries according to the polarity marking in the battery compartment. Release the switch and then remove any adhesive tape that you may used to secure the wind meter.
 - Bring the respective receiving station in the receiving mode according to the instructions of the corresponding Operating Instructions (also see chapter 3.1).
 - Use a pointed object again to press the switch on the sensor. The receiving station should now register the data from the sensor.
 - Close the casing again by pushing it upward and turning it to the right till it locks in.



Insert batteries, position of the key



The fully mounted TX 550 US

3. Operations

The wireless sensor data is not shown on the display immediately after installing the wireless sensors and starting up the base device. As each sensor has an internal individual serial number, which is automatically logged into the base station during start up.

The advantage here is that data is individually recorded only for those sensors that are logged in and not for other sensors, say of neighboring systems, and also not after a restart.

Please note!

If no input field is touched on entering data in the menu row for approx. 5 seconds, then the device automatically goes back to the main menu (after including/saving any settings that have been done). Hence wait for the main menu to be displayed after you have entered data. You can thus quit each menu after making the settings.

Only touch the respective input fields slightly - do not press them! Do not press or hit using any object!

The values can be set faster if you touch a setting field for a longer time; the values are then forwarded faster and you do not have to keep touching the setup fields.

3.1. Log in/delete external sensors

A total of 9 external sensors of the types TX 550 (1x), ASH 550, ASH 550-I and S 550 IA- can be logged in. (Note: The ASH 550, ASH 550-I and S 550 IA are not currently available for purchase.)

The memory slots 1..8 are reserved for ASH 550- (I) and S 550 IA.

The memory slot 9 has been reserved for the combi-sensor TX 550 . For unique sensor assignment in case of multiple sensors of types ASH 550-(I), or S 500 IA we recommend that you first remove the batteries from all the sensors.

Logging in

- Touch the "CFG" field in the menu row.
- You will see:

NEXT	CLEANING	ENTER
------	----------	-------

- Touch the "NEXT" field, the display is:

NEXT	SENSOR	ENTER
------	--------	-------

- Touch the "ENTER" field, the display is:

SENSOR	NO 1	ADD	DEL
--------	------	-----	-----

- Repeatedly touch the "SENSOR" field and select the memory slot where you want to store the particular sensor. Please note that TX 550 can only be stored in slot 9.
- Then select "ADD"; the display is (for e.g. for sensor 9: TX 550):

SENSOR	NO 9 - - SYNC	ADD	DEL
--------	---------------	-----	-----

- The particular sensor is now taught to the system. Insert the batteries in the respective sensor and press its key to teach. Please also read chapter 2.2 for starting up TX 550 and the operating instructions of the other sensor types.
The TX 550 data is then displayed automatically (after max. 6 minutes) in the corresponding fields of the display - that of the remaining sensors after selecting the memory slot ("sensor" field) in the "OUTDOOR" display field.

Marking the populated memory slots

Memory slots that have already been populated are marked as "USED" behind the memory slot number.
However, this does not indicate whether the respective sensor is actually active. You can identify it only from the missing or outdated data when you select the sensor and from the active reception indicator in the "OUTDOOR" field.

Deleting a sensor assignment

The serial number of a sensor can be deleted from the sensor memory, if required.

- First proceed according to the instructions given under "Logging in"; select the desired sensor and then select the "DEL" option instead of the "ADD" option.
- The "USED" lettering of the sensor number is deleted and the memory slot is thus released again for logging in a sensor.

3.2. Operations

As all important data is displayed simultaneously in the display, operations are basically

Tip for initial sensor set-up

To ensure proper set-up, please have the sensors and the receiving station 3 to 5 feet apart. Note: The distance should not be less than 3 feet (1 m) apart.

restricted to selecting other sensors or some other weather data by slightly touching the corresponding display field.

The display is divided into display field and menu row. In the normal mode (device is in the main menu):

MIN MAX	RESET	CFG
---------	-------	-----

are accessible by touching the respective fields of the display for the following functions:

INDOOR:	Switching between temperature and dewpoint display ("DEWPOINT")
OUTDOOR:	Switching between temperature and dewpoint display ("DEWPOINT") and windchill display
HUMIDITY:	No function
SENSOR:	Switching between the external sensors: 1...8: Additional sensors not available for purchase. No display: TX 550-US
RAIN:	Switching between total rain quantity since the last reset ("total"), current hour ("current 1h"), last hour ("1h"), current day ("current 24h") and last day ("24h"). (Storage for hour: always at xx:30 hours; storage for day: always at 7:30 a. m.)
SUNSHINE DURATION:	Switch between the sunshine duration of the current day ("h/day") and total sunshine duration since the last reset ("h")
TIME/DATE:	No Function
WIND:	Switch the numeric display between wind velocity in km/h, m/s, mph and wind direction in degrees
AIR PRESSURE:	Switch the air pressure display between the pressure measured on site ("absolute") and the pressure scaled down to sea level ("relative")
HISTORY:	Switch the trend display of the last 24 hours between air pressure, inside temperature and outside temperature (of the displayed sensors), also see point 26 on page 7
Weather icon:	No function

Main Menu Functions

- MIN:** Call up the minimum values
After touching the "MIN" area, the minimum values of the respective data are displayed. When you touch the corresponding field (temperature, air pressure, etc.), the corresponding time-stamp (date, time) of the occurrence of the extreme value are displayed.
You will go to the main menu and normal data display if your press "MIN" again.
- MAX:** Call up the maximum values
After touching the "MAX" area, the maximum values of the respective data are displayed. When you touch the corresponding field (temperature, air pressure, etc.), the corresponding time-stamp (date, time) of the occurrence of the extreme value are displayed.
You will go to the main menu and normal data display if your press "MAX" again.
- RESET:** Reset certain values
This menu has three sub-menus for resetting the cumulated sunshine duration ("SUN"), rain quantity ("RAIN") or MIN-MAX-memory ("MIN-MAX");
Activate "RESET". The first RESET menu is displayed:

RESET RAIN	OK
------------	----

Repeatedly activate the "RESET" area and select the desired option and then confirm by touching "OK". The corresponding data is now deleted and the system automatically returns to the main menu and normal data display.

However, if you do not want to delete data, then wait till the device returns to the main menu. No data will be deleted.

- CFG:** Calling up the Configuration Menu

3.3. Configuration

The weather station is delivered in such a state that its basic functions (except moon phase, sunrise, sunset, date, time, min./max. display) are ready to use without doing any settings. However, another configuration would be needed to use the additional functions and the time-related functions.

- Touch "CFG" field to open the configuration menu.
- Repeatedly touch "NEXT" to go to the respective next main menu point of the configuration menu. You will find in the appendix a quick reference guide to access the different menus.

3.3.1. "SENSOR" menu, Login/ Delete sensors

see 3.1.

3.3.2. "TIME/DATE" menu, Set the time and date

- Select "TIME/DATE" menu:

NEXT	TIME/DATE	ENTER
------	-----------	-------

- Touch the "ENTER" field, the display is:

TIME	24H
------	-----

- Touch the "24H" area to select between time display in 12 and 24 hour format.
- Touch the "TIME" field, the display is:

YEAR	+ 2006 -
------	----------

- Touch the "+" or "-" areas to set the year.
- Touch the "YEAR" field, the display is:

MONTH	+ 07 -
-------	--------

- Touch the "+" or "-" areas to set the month.
- Touch the "MONTH" field, the display is:

DAY	+ 01 -
-----	--------

- Touch the "+" or "-" fields till today's date (system date) is set.
- Touch the "DAY" field, the display is:

WEEKDAY	+ MON -
---------	---------

- Touch the "+" or "-" areas to set the day of the week.
- Touch the "WEEKDAY" field, the display is:

HOUR	+ 01 -
------	--------

- Touch the "+" or "-" areas to set the hour.
- Touch the "HOUR" field, the display is:

MINUTE	+ 01 -
--------	--------

- Touch the "+" or "-" areas to set the minute.
- Wait for a few seconds, then the time and date along with sunrise and sunset times for the factory setting (39.8/-77.0 degrees, Washington D.C.) and the current moon phase will appear on the display.

3.3.3. "UNITS" menu, Set the display units

- Select the "UNITS" menu:

NEXT	UNITS	ENTER
------	-------	-------

- Touch the "ENTER" field, the display is:

TEMPERATURE	DEG C
-------------	-------

- Touch the "DEG" field to switch the display between degrees Celsius (C) or Fahrenheit (F).
- Touch the "TEMPERATURE" field, the display is:

PRESSURE	HPA
----------	-----

- Touch the "HPA" field to switch the air pressure display between hPa (HPA), mmHg (MMHG) and inHg (INHG).
- Touch the "PRESSURE" field, the display is:

RAIN	MM
------	----

- Touch the "MM" field to switch between rain quantity display in mm (MM), inch (INCH) or l/m² (L/M2).
- Wait for a few seconds; the data will then be displayed in the units that have been set earlier.

3.3.4. "POSITION" menu, Set position

The position details of the weather station location are needed to calculate the sunrise and sunset times. You can enter the latitude in a range between -60.0° and $+60.0^{\circ}$ and the longitude between -180.0° and $+180.0^{\circ}$.

You can determine your position in different ways:

- The Appendix B contains a table with the coordinates for many US counties. You can select a place in your vicinity and then enter its coordinates
 - If you have a GPS navigation system in the car or a mobile device you can take over the position details and you will thus have the exact location.
 - You can also find out the exact coordinates from the Internet.
- Select the "POSITION" menu:

NEXT	POSITION	ENTER
------	----------	-------

- Touch the "ENTER" field, the display is:

LATITUDE	+ 38.9 -
----------	----------

- Touch the "+" or "-" areas to set the latitude.
- Touch the "LATITUDE" field, the display is:

LONGITUDE	+ -77.0 -
-----------	-----------

- Touch the "+" or "-" areas to set the longitude.
- Wait a few seconds; you will then see the corrected day for sunrise and sunset in the display.

Please note that the sunrise and sunset details will really be correct at the sea or for a location on the plains. Mountains, high forests can really cut short the actual day. The details can deviate slightly even for the ideal location because an approximation formula is used for the calculations.

3.3.5. "TIMEZONE" menu, Set time zone

The time zone details are required for calculating the sunrise and sunset times. Enter the current difference to UTC (Coordinated Universal Time).

The Appendix C contains a table with the time zone difference from UTC for the US.

- Select the "TIMEZONE" menu:

NEXT	TIMEZONE	ENTER
------	----------	-------

- Touch the "ENTER" field, the display is:

TIMEZONE	+ - 05 -
----------	----------

- Touch the "+" or "-" areas to set the longitude.
- Wait a few seconds; you will then see the corrected day for sunrise and sunset in the display.

3.3.6. "LIGHTING" menu, time setting for the background lighting and regulating the brightness of the lightening

In this menu you can set the switching time for the background lighting that automatically switches on when you touch the screen and switches off after a set period. This can range from "OFF" (lighting never switches on), to periods between 5 seconds and 10 minutes till permanent lighting (ON). Further, you can also set the times when the lighting should permanently be on.

You can also activate/deactivate an automatic adjustment to the surrounding brightness so that the display is optimally legible under all surrounding conditions.

The background lighting can only be used if you are connected to the AC adapter!

- Select the "LIGHTING" menu:

NEXT	LIGHTING	ENTER
------	----------	-------

- Touch the "ENTER" field, the display is:

LIGHTING	+ 10 SEC -
----------	------------

- Touch the "+" or "-" areas to set the switch-on time.
- Touch the "LIGHTING" field, the display is:

BRIGHT CTRL	ON
-------------	----

- Touch the "ON" field to switch between "Automatic Brightness Control" being active (ON) or deactive (OFF).
- Touch the "BRIGHT CTRL" field, the display is:

BEGIN	+04.00 PM-
-------	------------

- Touch the "+" or "-" fields to set the switching-on time of the lighting (permanent lighting).
- Touch the "BEGIN" field, the display is:

END	+11.45 PM-
-----	------------

- Touch the "+" or "-" fields to set the switching-off time of the lighting (permanent lighting).
- Wait for a few seconds, the device switches back to the normal mode and the data that has just been set gets activated.

3.3.7. "SYSTEM" menu, System settings

In this menu you can do the settings for automatic daylight saving time switching (DST, also see Appendix), for activating the beep (BEEP), for data recording interval of the data logger (INTERVALL), for location altitude (ALTITUDE) and for comparing the rain sensor (RAIN CAL) and for comparing the brightness threshold for the sunshine duration (SUN CAL).

Activate/deactivate Beep

- Select the "SYSTEM" menu:

NEXT	SYSTEM	ENTER
------	--------	-------

- Touch the "ENTER" field, the display is:

BEEP	ON
------	----

- Touch the "ON" field to switch between "Beep" being activated (ON) or deactivated (OFF).

Activate/ deactivate the daylight saving time switching

- Select the "SYSTEM" menu and then the "DST" option (via BEEP); the display is:

DST	ON
-----	----

- Touch the "ON" field to switch between "daylight saving time switching" being activated (ON) or deactivated (OFF).

Set the data recording interval for the data logger

The data recording interval for the data logger defines the intervals at which the integrated data logger records are to be recorded. If you select a shorter interval, then the recording time is also short and the record will be a detailed one. If the intervals are longer, then the possible recording time is also longer and the resolution of the weather data is lesser. This data can be useful if you are using third party software. (Software not supported by manufacturer.)

- Select the "SYSTEM" menu and then the "INTERVALL" option (via BEEP, and DST); the display is:

INTERVALL	+ 05 -
-----------	--------

- Touch the "+" or "-" fields to set the interval time (OFF (data logger is off), 5 minutes to 60 minutes). You will find in the following section a few examples for the relationship between interval time and recording time

Interval time	Max. Recording time
5 minutes	10.4 days (250 hours)
10 minutes	20.8 days (500 hours)
30 minutes	62.5 days (1500 hours)
60 minutes	125 days (3000 hours)

"ALTITUDE", Adjust the location height above sea level

The standard altitude is used for calculating the relative air pressure at sea level with reference to the absolute air pressure at the location. This relative value is important as a reference for correctly interpreting the weather reports that refer to the relative air pressure.

- Select the "SYSTEM" menu and then the "ALTITUDE" option (via BEEP, DST and INTERVALL), the display is:

ALTITUDE	ENTER
----------	-------

You can determine your height above sea level in different ways:

- You can find the height in a topographic map or ask your local land registry office.
- If you have a GPS navigation system in the car or a mobile device you can take over the position details and you will thus have the exact location.
- You can also find out the height above sea level from the Internet.

- Touch the "ENTER" field, the display is:

ALTITUDE	+ 0000 -
----------	----------

- Touch the "+" or "-" fields to set the geographical altitude of this location above sea level (height above sea level)
- Wait for a few seconds; the corrected data for the relative air pressure will then appear on the display.
Alternatively, the value can also be entered via the optional PC program.

"RAIN CAL", Enter the comparison value for the rain sensor

The rain quantity measurement system has a high level of accuracy when it leaves the factory; so normally, no adjustments are required.

The comparison value must firstly be determined in the normal mode according to the steps described in "Calibrating the rainfall measurement recorder".

- Select the "SYSTEM" menu and then the "RAIN CAL" option (via BEEP, DST, INTERVALL, ALTITUDE); the display is:

RAIN CAL	ENTER
----------	-------

- Touch the "ENTER" field, the display is:

RAIN CAL	+ 295 -
----------	---------

- Touch the "+" or "-" fields to set the value that has been calculated earlier.
- Wait for a few seconds; the device will then go back to the normal mode.
Alternatively, the value can also be entered via the PC program.

"SUN CAL", Configure brightness threshold value for duration of sunshine

The weather station WS 2-550 finds out the sunshine duration along with the combi-sensor TX 550 US. The threshold value is set at the base station and transferred to the combi-sensor. The latter performs the data evaluation:

Received brightness is higher than the threshold value	Sun is shining
Received brightness is lesser than the threshold value	Sun does not shine

The brightness limit can be used to customize the sensor to the local conditions. The

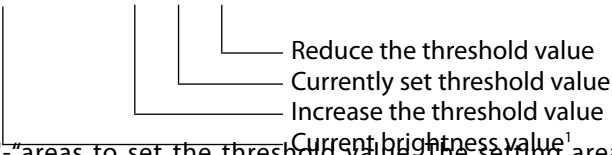
threshold value should be defined at the start and end of sunshine so that the current brightness value can be referred to the threshold.

- Select the "SYSTEM" menu and then the "SUN CAL" option (via BEEP, DST, INTERVALL, ALTITUDE, RAIN CAL), the display is:

SUN CAL	ENTER
---------	-------

- Touch the "ENTER" field, the display is:

SUN CAL	131	+ 085 -
---------	-----	---------



- Touch the "+" or "-" areas to set the threshold value. The setting area ranges from 0 to 255.
- Wait a few seconds; the device switches back to the normal mode.

¹ You cannot directly convert to the brightness intensity unit Lux.

3.3.8. "CLEANING", menu, Cleaning mode

As the display gets dirty due to touching, it needs to be cleaned now and then using a dry soft cloth (the best option is to use a spectacles cleaning cloth; however, do not use any cleaning liquids as they can damage the display). To prevent the station from getting displaced while cleaning, there is a cleaning mode where all the touch fields are locked for approx. 20 seconds.

- Select the "CLEANING" menu:

NEXT	CLEANING	ENTER
------	----------	-------

- Touch the "ENTER" field, the display is:

CLEANING	START
----------	-------

- Touch the "START" field, the display is:

CLEANING	WAIT
----------	------

- The display can now be cleaned. Normal display resumes after 20 seconds.

3.3.9. "LIVE MODE" menu, call up the current weather data flow

In this mode, another key of the combi-sensor can be prompted to send its measurement data for 20 seconds at 2 seconds interval. Thus, at the press of a key one has the latest weather data and can thus follow the wind direction and the trend of wind velocity for say 20 seconds.

As the combi-sensor frequently goes into the receive mode when the "LIVE MODE" is activated, its power consumption increases and this has an effect on the life of the battery. Hence you can use the "LIVE MODE" to set a period for which the "LIVE MODE" should be activated.

In this period, the main menu bar will show the additional "REQ" key that was used to query the above-mentioned live data.

- Select the "LIVE MODE" menu:

NEXT	LIVE MODE	ENTER
------	-----------	-------

- Touch the "ENTER" field, the display is:

BEGIN	+04.00 PM-
-------	------------

- Touch the "+" or "-" fields to set the switching-on time of the "LIVE MODE".
- Touch the "BEGIN" field, the display is:

END	+11.45 PM-
-----	------------

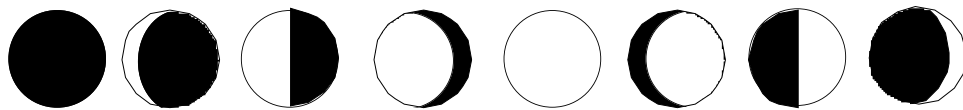
- Touch the "+" or "-" fields to set the switching-off time of the "LIVE MODE".
- Wait for a few seconds, the device switches back to the normal mode and the data that has just been set gets activated.
- In the menu bar, data transfer to the combi-sensor is indicated with the message: "WAIT FOR TRANSMISSION". The weather station cannot be operated till this display is on.
- The REQ key for calling data appears in the menu when the "LIVE MODE" is activated:

MIN MAX	RESET	REQ	CFG
---------	-------	-----	-----

3.4. Other Functions and Displays

Display moon phases

The moon phases are displayed using the following symbols:



Full moon

Waxing

New moon

Waning

Moon phase may vary from your calendar by 1-2 days. Also keep in mind that the moon display will be blank during a new moon and dark during a full moon.

Oscar Outlook

Oscar Outlook is an animated figure that simultaneously displays multiple weather factors:

Outside temperature (only combi-sensor)

- The clothing status is based on how high the temperature is on the combi-sensor.

Rain

- If the weather forecast has announced rain, then the figure holds a closed umbrella.
- The figure carries an opened umbrella when it starts raining.

Wind velocity

- If the wind velocity is higher than 12.4 mph (20 km/h, medium wind) Oscar Outlook's hair starts fluttering. At the same time, if the temperature is below 57.2 °F (14 °C), then even the scarf he is wearing starts fluttering.

Weather forecast

- The weather forecast symbols indicate the following forecasts:

- | | |
|--------------------|--------|
| · Clouds with rain | Rainy |
| · Clouds | Cloudy |
| · Clouds with sun | Bright |
| · Sun | Sunny |

Wind symbol display (wind sock)

- The wind sock symbol in the forecast display field shows at a glance whether the wind is currently mild, medium or strong:

- | | | |
|-----------------------------|-------------|-------------------|
| · Wind sock is hanging down | mild wind | (<6.2 mph) |
| · Wind sock is raised half | medium wind | (6.2 to 12.4 mph) |
| · Wind sock is horizontal | strong wind | (>12.4 mph) |

Immediate Rain Display

- The onset of rain is notified to the base station during the next wireless data transmission and is indicated through a cloud in the "RAIN" field and through the opened umbrella of "Oscar Outlook".

Comfort Indicator

- The Comfort Indicator (LKJ) reflects the climate in the room (ratio of temperature to humidity). The Appendix contains a value table for the display areas.

History

- The bar diagram shows the history of air pressure, outside or inside temperature for the last 24 hours. The individual columns are not an absolute value but only the difference to the currently measured value (0h column). This reference point is always located in the center (4 bars) so that the trend is visible at a single glance (see also page 18).

Data memory

- If the data memory is almost full, the menu bar displays the message:

MEMORY ALMOST FULL

OK

- Touch and confirm this input field and download the collected data using the PC.

Data transfer to the combi-sensor "WAIT FOR TRANSMISSION"

- When the "WAIT FOR TRANSMISSION" message is displayed in the menu bar, the weather station transfers data to the combi-sensor, i.e. it activates the live mode or the configuration data of the sunshine duration. This transaction can take a few minutes; the weather station cannot be operated during this period.

Temperature trend display

- On the right, next to the temperature display, a trend arrow is displayed next to the display fields "Indoor" and "Outdoor" if the temperature in the last transmission interval has increased (upward arrow) or decreased (downward arrow).

Sensor Status Display

- In the outdoor sensor display field ("Outdoor") there is a small reception indicator to indicate the sensor status:

- | | |
|------------------------------------|---|
| · Reception indicator is displayed | Sensor data is being received constantly |
| · Reception indicator is blinking | Sensor data is not being received since the last 40 min. |
| · Reception indicator is missing | Sensor does not exist, permanently out of order or defect |

Warning against turbulent weather


- When a low pressure area is suddenly formed, there is a warning symbol in the display field of the weather forecast. This is an indicator of an upcoming storm or thunderstorm.

Frost warning

- A snow-flake symbol is displayed in the weather forecast field if the temperature measured at the combi-sensor falls below 39.2 °F (4 °C).

4. Changing the batteries

Base station


When the battery empty symbol appears in the INDOOR display area () , then all batteries are to be replaced according to the instructions in section 2.1 with those of the same type.

Always change all the 4 batteries and use only high-quality alkaline batteries. Leave the AC adapter connected when you are changing the batteries so as to avoid data loss.

Please note!

The data memory is deleted if you do not connect the AC adapter while replacing the batteries.

Wireless sensors

The batteries in these sensors have a lifetime of max. 2 years (alkaline batteries). They are to be replaced when a 'battery empty' symbol () is displayed when you select the corresponding sensor in the "OUTDOOR" display area.

Batteries are replaced in TX 550 according to the instructions in section 2.2.; the instructions for the other sensors are to be found in the respective operating instruction manuals.

Please follow the battery disposal regulations!

Do not dispose of disposable and rechargeable batteries as part of household garbage!

5. Troubleshooting

Possible disruptions that can hamper proper display of the transmitted measured values are:

No reception - the distance between the transmitter and receiver is too much or too less (<3 ft., 1 m).

Reduce or increase the distance between the transmitter / receiver.

No reception - there are highly resistant materials (thick walls, steel concrete, ...) located between the transmitter and the receiver

Relocate the transmitter or receiver. Also see chapter 6 ("Range").

No reception - transmitter batteries are empty.

Replace batteries.

No reception - transmitter is covered by the disturbance source

(Wireless device, wireless headphone/ loudspeaker)

Remove the source of the fault and look for another position for the transmitter and receiver. Such disturbances are only for a short period (wireless traffic) or can be rectified in a very simple manner. Any wireless headphones, wireless baby phones or similar devices are operated at a frequency of 916.5 MHz in your house or in the vicinity only for a short duration. Most of these devices are enabled for exchanging signals at an interruption-free frequency. Such a measure can effectively fade out all interruptions.

No reception – Log in of sensor was not successful.

Execute log in procedure again. Refer page 13 of the manual and follow the instructions of the receiver station.

Inaccurate rain

Be sure rain gauge is assembled correctly, with drain holes aligned.

Check that sensor assembly is not tipped, but straight into ground.

Check rain gauge for debris that may be blocking the funnel, rocker (pointer) or drain hole.

Check that the rocker (pointer) is set properly.

Is the rain measurement unit correct? Ex: mm, inch or l/m².

Check the calibration of the rain sensor according 6.2.

Inaccurate wind

Check that sensor assembly is not tipped, but straight into ground.

Are surrounding areas clear of trees, buildings and other obstructions?

Check that the cups spin freely.

Is the wind measurement unit correct? Ex: mph, m/s or km/h.

No sunshine duration

Check that sensor assembly is not tipped, but straight into ground.

Check for debris in vented cap.

If possible: Adjust sunshine calibration. Follow the instructions of the receiver station.

No Min/Max display

Has time and date been set?

Sunrise/set time wrong

Has time and date been set?

Has latitude and longitude been set?

Has time zone been set?

Wireless sensor is disrupting the functioning of other devices in the 868 MHz band.

The transmission of the wireless outdoor sensor can be briefly interrupt (every 2-3 minutes for approx. 100 ms) the functioning of other devices on the same channel.

Other instructions for start-up or troubleshooting

Turn the receiving weather station slightly; if there is no reception, mount it away from electrical motors, electrical machines, televisions, computer monitors and large metal surfaces.

To simplify start-up, you can also bring the sensors first close to the base station (min. 3 ft. distance). You can then properly control the data transmission from the sensor.

6. Range

The free-field range for visual contact between transmitter and receiver is 400 ft. (120 m) under optimal conditions. Walls and even steel concrete structures may be penetrated; however, the range is then reduced accordingly. Reduced range can be caused by the following:

- High frequency disturbances of all types
- All types of structures or vegetation
- The distance between the sensor and the receiver to the conducting areas or objects (and even to the human body or the earth) has an effect on the transmission properties and in turn the range.
- Broadband disruptions in city areas can reach levels that reduce the signal-noise distance in the entire frequency range and in turn reduce the range.
- Devices with adjoining working frequencies can also have an effect on the receiver.
- PCs with poor shielding can interfere with the receiver and reduce the range.

7. Instructions for Maintenance and Care

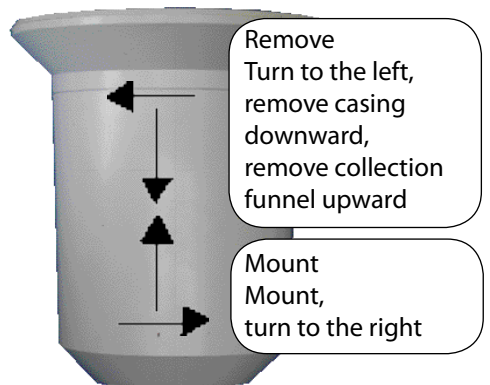
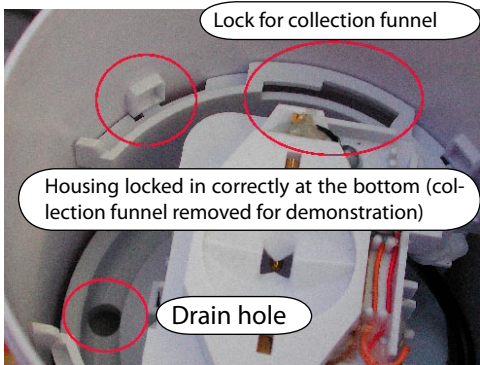
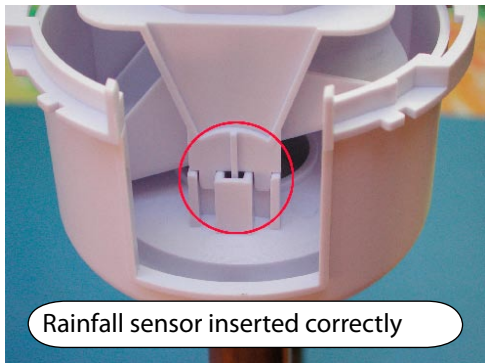
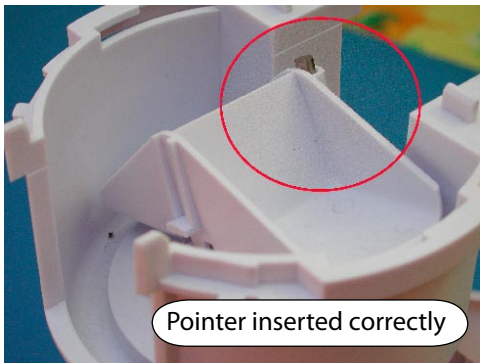
- Protect the base station against dust and moisture. Never clean it with chemical detergents; just use a soft dry piece of linen. Do not put any pressure on the display.
- The outdoor sensor is to be cleaned from time to time to remove the dirt and dust that has settled on it. Check easy accessibility of the wind sensors and ensure that the sensors are fitting tight on the holder.

7.1. Cleaning the rain quantity sensor

- Depending on the location, leaves, dirt, sand and branches blown by the wind

get collected in the collection funnel of the rain quantity sensor. Larger parts can block the passage. Sand can also accumulate on the pointer; large deposits of it can hamper the measurement result.

- Hence the rain quantity sensor is to be cleaned from time to time - at least once a year. The pictures shown below are a guideline for installing / dismantling.
- For cleaning the sensor, just remove the sensor housing by slightly turning it to the left.
- Further, the collection funnel can also be removed by turning it to the left.
- The rainfall sensor is now moved upward, folded towards the cable side and you can now remove the pointer.
- Clean the collection funnel, contacts, counter and the drain-hole in the housing and remove all residues.
- Place the counter back in its holder. The magnet of the counter should be on the side that faces the cable.
- Insert the rain sensor in its holder. It will also automatically hold the pointer. The rain sensor cable and the magnet of the pointer must be located on the same



side.

- Now place the collection funnel from the top on to the sensor-holder and lock it in by turning it to the right.
- Now reinstall the casing and lock it by turning it to the right in the sensor-holder till it locks in. Ensure that the drain-holes of the casing and the sensor-holder match (drain-hole of the casing points outwards).

7.2. Setting the rain sensor

The rain quantity measurement system has a high level of accuracy when it leaves the factory; so normally, no adjustments are required.

Adjustments would be necessary only if the accuracy requirements are very high.

Before you start calibrating the rain water measurement recorder, you need to reset to zero the rainfall quantity value that has already been totaled up (see chapter 3.2. "RESET"), total rain quantity display stands at zero). Further, the rainfall quantity for adjustments must be displayed in "inch".

Proceed as follows for exact calibration:

1. Slowly pour 3.38 fl. oz. (100 ml) water over a period of 10 minutes in the rain sensor collection funnel.

Note!

Quick pouring will give wrong measurement results! Pour the water so slowly into the funnel that there is a even passage of water and there is no water in the funnel at any point of time.

2. The displayed total quantity should now be 0.26 inch (6.5 l/m²).
3. If a different value is shown, then the calibration value that is mentioned is to be recalculated as follows:

$$\text{New calibration value} = \frac{0.26 \times \text{Current calibration value}}{\text{Actual value (Display reading after filling in the water)}}$$

The new calibration value must now be entered in the configuration menu (see 3.3.7., System menu/RAIN CAL).

The factory setting is 295/pointer stroke.

8. Technical Specifications

Measurement interval for outdoor sensors	2-3 min
Measurement interval for indoor sensor (Temperature, humidity)	3 min
Interval for measuring air pressure	15 min
Transmission frequency	868 MHz
Outdoor range:.....	max. 120 m
Indoor temperature range:.....	32 °F to 140 °F (0 °C to 60 °C)
Resolution:.....	0.1 °C
Accuracy:.....	±1.8 °C (59 °F to 104 °F)
Outdoor temperature range (TX 550):.....	-20 °F to 175.8 °F (-29 °C to 79.9 °C)
Resolution:.....	0.1 °C
Accuracy:.....	±1.4 °F (50 °F to 104 °F)
Measurement range rel. humidity (inside/outside)	1% rH - 99 % rH
Resolution:.....	1 % rH
Accuracy:.....	± 5 % rH (30-70 % rH)
Rain quantity display:	0 to 39.3 inch (0 to 999 mm)
Evaluation interval:	last hour: at xx:30 hrs
.....	day: at 7:30 a. m.
Resolution:.....	up to 10 inch: 0.01 inch
.....	above 10 inch: 0.1 inch
Wind velocity:	0 to 124 mph (0 to 200 mph)
Resolution:.....	up to 100 mph: 0.1mph
.....	above 100 mph: 1 mph
Wind direction:.....	0° to 355°
Resolution:.....	5°
variation range:.....	±0°;±22.5°; ±45°; ±67.5°
Voltage supply:	
Base station (Main power supply):.....	7.5 V DC via plug-in mains adapter
Base station (back-up power supply):.....	4 x Battery AA cells
TX 550 :.....	3 x Battery AA cells
Dimensions Base station without foot (W x H x D):	10.2 x 8.5 x 1.3 inch
.....	(260 x 215 x 32 mm)

Instructions for disposal
Do not dispose of the device as part of household garbage!

9. PC connection - Third Party Software Installation

You may visit www.weather-display.com to download third party software. Please note that the manufacturer does not support the software.

The enclosed USB cable with type A connector and mini type B connector is required for connecting to the USB port.

- Connect the weather station via the USB cable to the USB port of the computer.

10. Appendix

Dewpoint - Temperature point that is independent of the interaction between a specific air pressure level, a specific temperature and a certain level of humidity. The humidity in the air starts to condense at this point, the so-called dew; the humidity condenses and precipitates as liquid (mist, vapor). If the dewpoint for water vapor is below 32 °F (0 °C), then there is condensation in the form of snow or hoar frost.

Weather forecast - Forecast about weather symbols calculated from the increasing or decreasing speed of air pressure (trend).

These changes in the air pressure speed is the most decisive dimension for the forthcoming weather; the absolute value has a lesser role to play. One can generally say that the increasing air pressure would mean better weather and falling air pressure would then be a sign of bad weather.

Windchill-Equivalent-Temperature - A fictional temperature that is felt by human beings under certain conditions instead of the measured temperature and which can be taken into account during low temperatures (for e.g. under 44 °F) to find out how one would feel at certain temperatures, wind velocities and corresponding clothing. These conditions are a temperature below 91.4 °F (33 °C) and a wind velocity above 5.8 mph (2.6 m/s). Windchill is defined as the cooling effect of the naked skin at assumed constant 91.4 °F (33 °C) skin surface temperature.

The higher the wind velocity and the lower the actual temperature, the stronger is then the windchill effect.

The "felt" temperature is an approximation that can be compared to the so-called feeling about the temperature and is taken into account along with the effect of the emission effects of the sun, light reflection of the clouds, the light wave length, etc.

Wind strength table (Beaufort)

Beaufort	Wind velocity km/h	Wind velocity mph	Description
0	0 - 0.7 km/h	0 - 0.4 mph	calm
1	0.7 - 5.4 km/h	0.5 - 3.6 mph	light air
2	5.5 - 11.9 km/h	3.7 - 7.4 mph	light breeze
3	12.0 - 19.4 km/h	7.5 - 12.1 mph	gentle breeze
4	19.5 - 28.5 km/h	12.2 - 17.7 mph	moderate breeze
5	28.6 - 38.7 km/h	17.8 - 24.0 mph	resh breeze
6	38.8 - 49.8 km/h	24.1 - 30.9 mph	strong breeze
7	49.9 - 61.7 km/h	31.0 - 38.3 mph	near gale
8	61.8 - 74.6 km/h	38.4 - 46.4 mph	gale
9	74.7 - 88.9 km/h	46.5 - 55.2 mph	strong gale
10	89.0 - 102.4 km/h	55.3 - 63.6 mph	storm
11	102.5 - 117.4 km/h	63.7 - 72.9 mph	violent storm
12	> 117.4 km/h	> 72.9 mph	hurricane

Comfort indicator

The symbol of the comfort indicator (the three different "smiles" J K L) reflect the room climate whereby the weather station works according to the following table:

Temperatureair humidity										
	20%	30%	35%	40%	45%	50%	55%	60%	65%	70%
<64.4 °F	L	L	L	L	L	L	L	L	L	L
64.4 - 67.8 °F	L	L	L	K	K	K	K	K	K	L
67.9 - 71.4 °F	L	L	L	K	J	J	J	J	K	L
71.5 - 75.0 °F	L	L	K	J	J	J	J	K	L	L
75.1 - 78.6 °F	L	K	J	J	J	J	K	L	L	L
78.7 - 82.2 °F	L	K	K	K	K	K	K	L	L	L
over 82.2 °F	L	L	L	L	L	L	L	L	L	L

One can thus see that depending on the relationship of the temperature to humidity, there are certain marked ranges that can be defined as comfortable or uncomfortable climate. One would thus feel that at a temperature of 77 °F (25 °C) and a humidity of less than 30% is very dry (for e.g. air from the heaters) and one above 60% as sultry.

Daylight saving time switching

The integrated clock implements an automatic daylight saving time switching according to the regulations of the "Energy Policy Act of 2005".

11. Proper use, Exclusion of warranty, Safety instructions

- This weather station is meant for personal use as an indicator of the forthcoming weather. The forecasts or predictions made by this device are more for orientation and are not to be construed as absolute forecasts.
- The manufacturer of the weather station does not assume any liability for incorrectly measured values and consequences that can result from it.
- This weather station is not meant for medical purposes or for informing the public.
- The components of this weather station are not a toy; they contain many fragile, glass and small parts. Please install all the components out of the reach of children.

12. Wireless technology BidCoS™



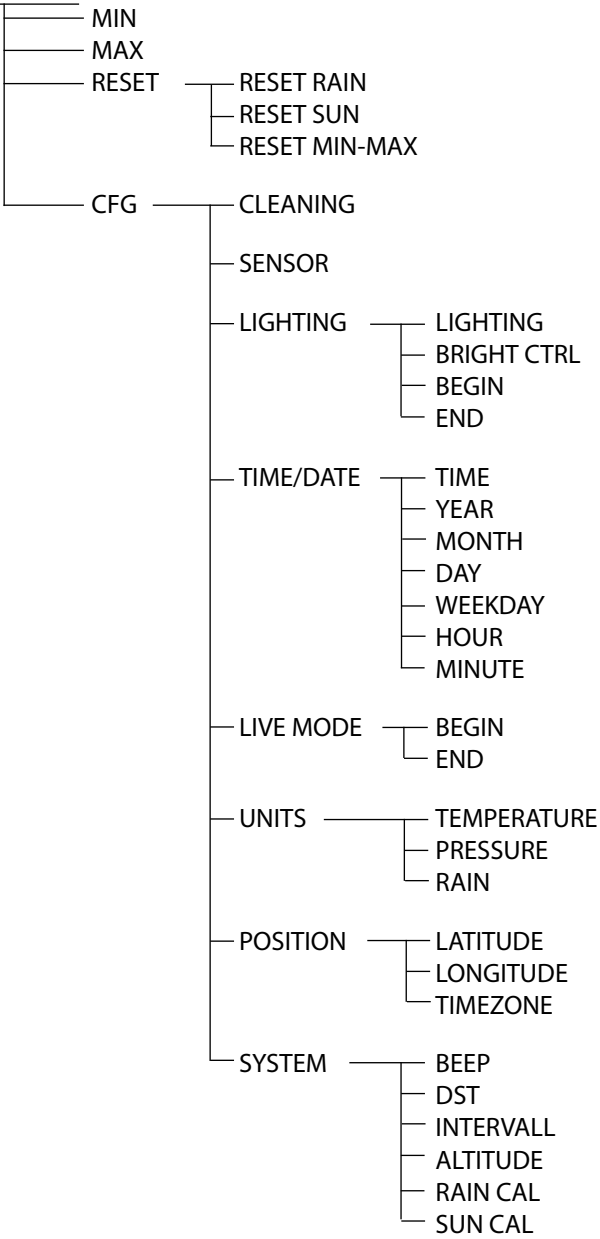
BidCoS (Bidirectional Communication Standard) is a new wireless standard that has been specially developed for wireless control of sensors and actors for house automation. It allows you to build an entire house controlling system with compatible components: switch/dim lights and other electrical appliances, air-conditioners (heating, cooling, airing, weather measuring technology, energy management, access control, protection against burglary, safety devices, etc.).

Speedy bi-directional communication (wireless signals that are sent are confirmed by the receiver) increases the functional safety and thus form the basis for a multitude of options for remote control / remote monitoring.

Bi-directional data transfer of WS 550 US to TX 550 and all additional sensors works according to BidCoS Standard.

Appendix A: Menu Overview WS 550 US

Main menu



Appendix B: Table of latitude/longitude of French counties.

State	County	Latitude	Longitude	84	AVIGNON	43°56	4°48
FRANCE				85	LA-ROCHE-SUR-YON	46°38	358°30
Dép	Villes	Latitude	Longitude	86	POITIERS	46°35	0°20
01	BOURG	46°12	5°13	87	LIMOGES	45°50	1°15
02	LAON	49°34	3°37	88	EPINAL	48°10	6°28
03	MOULINS	46°34	3°20	89	AUXERRE	47°48	3°35
04	DIGNE	44°05	6°14	90	BELFORT	47°38	6°52
05	GAP	44°33	6°05	91	EVRY	48°38	2°34
06	NICE	43°42	7°16	92	NANTERRE	48°53	2°13
07	PRIVAS	44°44	4°36	93	BOBIGNY	48°55	2°27
08	MEZIERES	49°46	4°44	94	CRETEIL	48°47	2°28
09	FOIX	42°57	1°35	95	PONTOISE	49°03	2°05
10	TROYES	48°18	4°05				
11	CARCASSONNE	43°13	2°21				
12	RODEZ	44°21	2°34				
13	MARSEILLE	43°18	5°22				
14	CAEN	49°11	359°38				
15	AURILLAC	44°56	2°26				
16	ANGOULEME	45°40	0°10				
17	LA ROCHELLE	46°10	358°50				
18	BOURGES	47°05	2°23				
19	TULLE	45°16	1°46				
20	AJACCIO	41°55	8°43				
21	DIJON	47°20	5°02				
22	ST-BRIEUX	48°31	357°15				
23	GUERET	46°10	1°52				
24	PERIGUEUX	45°12	0°44				
25	BESANCON	47°14	6°12				
26	VALENCE	44°56	4°54				
27	EVREUX	49°03	1°11				
28	CHARTRES	48°27	1°30				
29	QUIMPER	48°00	355°54				
30	NIMES	43°50	4°21				
31	TOULOUSE	43°37	1°27				
32	AUCH	43°30	0°36				
33	BORDEAUX	44°50	359°26				
34	MONTPELLIER	43°36	3°53				
35	RENNES	48°06	358°20				
36	CHATEAUROUX	46°49	1°41				
37	TOURS	47°23	0°42				
38	GRENOBLE	45°11	5°43				
39	LONS-LE-SAUNIER	46°41	5°33				
40	MONT-DE-MARSAN	43°54	359°30				
41	BLOIS	47°36	1°20				
42	ST-ETIENNE	45°26	4°23				
43	LE PUY	45°03	3°53				
44	NANTES	47°14	358°25				
45	ORLEANS	47°54	1°54				
46	CAHORS	44°28	0°26				
47	AGEN	44°12	0°38				
48	MENDE	44°32	3°30				
49	ANGERS	47°29	359°28				
50	ST-LO	49°07	358°55				
51	CHALONS-S-MARNE	48°58	4°22				
52	CHAUMONT	48°07	5°08				
53	LAVAL	48°04	359°15				
54	NANCY	48°42	6°12				
55	BAR-LE-DUC	48°46	5°10				
56	VANNES	47°40	357°16				
57	METZ	49°07	6°11				
58	NEVERS	47°00	3°09				
59	LILLE	50°39	3°05				
60	BEAUVAIS	49°26	2°05				
61	ALENCON	48°25	0°05				
62	ARRAS	50°17	2°46				
63	CLERMONT-FERRAND	45°47	3°05				
64	PAU	43°18	359°38				
65	TARBES	43°14	0°05				
66	PERPIGNAN	42°42	2°54				
67	STRASBOURG	48°35	7°45				
68	COLMAR	48°05	7°21				
69	LYON	45°46	4°50				
70	VESOUL	47°38	6°09				
71	MACON	46°18	4°50				
72	LE MANS	48°00	0°12				
73	CHAMBERY	45°34	5°55				
74	ANNECY	45°54	6°07				
75	PARIS	48°52	2°20				
76	ROUEN	49°26	1°05				
77	MELUN	48°32	2°40				
78	VERSAILLES	48°48	2°08				
79	NIORT	46°19	359°33				
80	AMIENS	49°54	2°18				
81	ALBI	43°56	2°08				
82	MONTAUBAN	44°01	1°20				
83	TOULON	43°07	5°55				

WARRANTY INFORMATION

La Crosse Technology, Ltd provides a 1-year limited warranty on this product against manufacturing defects in materials and workmanship.

This limited warranty begins on the original date of purchase, is valid only on products purchased and used in North America and only to the original purchaser of this product. To receive warranty service, the purchaser must contact La Crosse Technology, Ltd for problem determination and service procedures. Warranty service can only be performed by a La Crosse Technology, Ltd authorized service center. The original dated bill of sale must be presented upon request as proof of purchase to La Crosse Technology, Ltd or La Crosse Technology, Ltd's authorized service center.

La Crosse Technology, Ltd will repair or replace this product, at our option and at no charge as stipulated herein, with new or reconditioned parts or products if found to be defective during the limited warranty period specified above. All replaced parts and products become the property of La Crosse Technology, Ltd and must be returned to La Crosse Technology, Ltd.

Replacement parts and products assume the remaining original warranty, or ninety (90) days, whichever is longer. La Crosse Technology, Ltd will pay all expenses for labor and materials for all repairs covered by this warranty. If necessary repairs are not covered by this warranty, or if a product is examined which is not in need of repair, you will be charged for the repairs or examination.

The owner must pay any shipping charges incurred in getting your La Crosse Technology, Ltd product to a La Crosse Technology, Ltd authorized service center.

Your La Crosse Technology, Ltd warranty covers all defects in material and workmanship with the following specified exceptions: (1) damage caused by accident, unreasonable use or neglect (including the lack of reasonable and necessary maintenance); (2) damage occurring during shipment (claims must be presented to the carrier); (3) damage to, or deterioration of, any accessory or decorative surface; (4) damage resulting from failure to follow instructions contained in your owner's manual; (5) damage resulting from the performance of repairs or alterations by someone other than an authorized La Crosse Technology, Ltd authorized service center; (6) units used for other than home use (7) applications and uses that this product was not intended or (8) the products inability to receive a signal due to any source of interference.

This warranty covers only actual defects within the product itself, and does not cover the cost of installation or removal from a fixed installation, normal set-up or adjustments, claims based on misrepresentation by the seller or performance variations resulting from installation-related circumstances.

LA CROSSE TECHNOLOGY, LTD WILL NOT ASSUME LIABILITY FOR INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR OTHER SIMILAR DAMAGES ASSOCIATED WITH THE OPERATION OR MALFUNCTION OF THIS PRODUCT. THIS PRODUCT IS NOT TO BE USED FOR MEDICAL PURPOSES OR FOR PUBLIC INFORMATION. THIS PRODUCT IS NOT A TOY. KEEP OUT OF CHILDREN'S REACH.

This warranty gives you specific legal rights. You may also have other rights specific to your State. Some States do not allow the exclusion of consequential or incidental damages therefore the above exclusion of limitation may not apply to you.

For warranty work, technical support, or information contact:

La Crosse Technology
6 A Rue du commerce
67118 GEISPOLSHEIM - FRANCE

e-mail:

contact@lacrossetechnology.fr
(warranty work)

contact@lacrossetechnology.fr
(information on other products)

web:

www.lacrossetechnology.fr

All rights reserved. This handbook must not be reproduced in any form, even in excerpts, or duplicated or processed using electronic, mechanical or chemical procedures without written permission of the publisher.

This handbook may contain mistakes and printing errors. The information in this handbook is regularly checked and corrections made in the next issue. We accept no liability for technical mistakes or printing errors, or their consequences.

All trademarks and patents are acknowledged.

