

OVERVIEW

Maximum has designed a system that captures all its exterior sensor options and transmits the weather conditions through your home or business wi-fi network. You can use this signal to display on our beautiful weather instruments and or interface with the Weather Underground website to monitor your installation remotely. If you would like to monitor your station on Weather Underground visit their website <u>www.wunderground.com</u> and join. Follow the screen prompts to obtain a station id and password that will be required during the Captive Portal setup.

PROPER INSTALLATION IS IMPORTANT. IF YOU NEED ASSISTANCE, CONSULT A CONTRACTOR, ELECTRICIAN OR TELEVISION ANTENNA INSTALLER (CHECK WITH LOCAL BUILDING SUPPLY, OR HARDWARE STORE FOR REFERRALS). TO PROMOTE CONFIDENCE, PERFORM A TRIAL WIRING (BENCH TEST) BEFORE INSTALLATION.



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MISTAIR WI-FI BENCH TEST (CONTINUED)





The BRASS DIAL should indicate the current Humidity at the location of the HUMIDITY SENSOR. If not then check the wiring for correct connections.

See page 4 for wiring setup when installing other instruments to be included with your station setup (optional).

IT IS IMPORTANT TO FIND FINAL LOCATIONS FOR THE TWO WI-FI INTERFACE MODULES THAT ARE LOCATED NEAR 110 VOLT OUTLETS AND HAVE A GOOD SIGNAL STRENGTH WITH YOUR WI-FI NETWORK. SIGNAL STRENGTH CAN BE TESTED WITH A SMART PHONE OR OTHER MOBILE DEVICE.

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Unplug both 12 volt power supplies and remove the wiring and cables and proceed with a permanent installation.

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WI-FI INSTALLATION



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MISTAR WI-FI OPTIONAL INSTALLATION WITH MERLIN + MYSTIC



MISTAIR WITH MERLIN AND MYSTIC CONNECTIONS

Connect the **RED** and **GREEN** wires from the INTERFACE to the power terminals on the back of the MISTAIR. The polarity does not matter. Connect other instruments from the power terminals on the back of the MISTAIR.

Connect the WHITE wire from the INSTRUMENT INTERFACE to TERMINAL #1 (IN) of the MISTAIR.

Connect the **BLACK** wire from the INSTRUMENT INTERFACE to TERMINAL #2 (COM) of the MISTAIR.

A. Connect the WHITE wire from MISTAIR #3 (OUT) to MERLIN TERMINAL #1 (IN).

1

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- B. Connect the **BLACK** wire from MISTAIR TERMINAL #2 (COM) to MERLIN TERMINAL #2 (COM).
- A. Connect the WHITE wire from MERLIN TERMINAL #3 (OUT) to MISTAIR TERMINAL #1 (IN).
- B. Connect the **BLACK** wire from MERLIN TERMINAL #2 (COM) to MYSTIC TERMINAL #2 (COM).

The order of the instruments does not matter i.e. the WI-FI could just as well be wired into the RAINWATCH and the MISTAIR and MERLIN could be from the WIFI INTERFACE.

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MISTAIR WI-FI OPERATION

The Mistair has various options to set. The Heat Index can be set to display in Fahrenheit or Celsius.

Press the small push button switch on the back of the indicator to start the settings mode and follow these steps:

- 1. When the setting mode starts the display will show "F" or "C".
- 2. Press the push button again to switch between Fahenheit and Celsius.
- 3. When you have the code showing for the units of measurement you want press the toggle switch at the botton of the case to the right (auto position).

2 Next you can adjust the brightness of the LED display in 16 steps to better match other instruments you own. When this setting mode is entered the current brightness value is shown preceded by a "b". Press the push button switch mounted on the back of the instrument to increase the brightness level. If the current brightness is at "b16" (minimum). The actual display brightness also changes at the same time as the value. When you are finished adjusting the brightness press the toggle switch to the right (auto). Mistair will now show the current pressure reading with the left most digit flashing. This is setting mode where you can adjust the barometer reading for your altitude.



The Mistair has 8 functions. Using the toggle switch you may advance the display and see recorded readings. LED lights will illuminate the current setting.

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88886

Present Humidity High Humidity since last reset Low Humidity since last reset Present Dew Point High Dew Point since last reset Low Humidity since last reset Present Heat Index High Heat Index since last reset

Move the toggle switch at the bottom of the case to the right (auto) and allow it to return. This manually moves the Mistair through the individual functions. The illuminated function LED's indicate which function and setting is being displayed.

Moving the toggle switch to the right (auto) and holding it for at least three seconds will put Mistair into it's Auto sequencing mode. You will see each function light stay on that that particular information displayed for approximately four seconds and then move to the next function automatically. If Mistair is Auto Sequencing and you wish to turn that function off - move the toggle switch to the right (auto) and release it. You can now manually step through the functions as previously mentioned.

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6 Any individual function's memory can be independently reset. Move the toggle switch to the right (auto) until that particular function is displayed. Then move the toggle switch to the left (reset) and hold it for six seconds. The display will quickly blank, indicating that the memory for that function has been reset.

A "FULL" reset may also be done to clear all memories simultaneously or if an adjustment to the barometer is needed. Toggle through Mistair settings until the "Present" function is displayed. Then move the toggle switch to the left (reset) and hold it for six seconds. The display will self-test.

NOTE: After any "FULL" reset, Humidity and/or Dew Point data will be displayed and stored after ten seconds.

When the toggle switch is in the center position Mistair will display information that is indicated by the function light. All the other functions data are being recorded and stored.



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MISTAIR INFORMATION ON HUMIDITY

DEW POINT

Dew point is the temperature at which a parcel of air reaches its saturation point and can no longer hold water in the vapor state. When the dew point falls below freezing it is called the frost point.

This is the point at which water vapor no longer creates dew, but instead creates frost.

Dew point formula:

This formula will give you a good approximation of Dew Point Dew point =Air temp - $\frac{(100 - R.H.)}{5}$

Dew points above 70°F are very uncomfortable

Dew points between 60°F and 70°F are sticky

Dew points between 50°F and 60°F are comfortable

Dew points below 50°F feel dry

		AIR TEMPERATURE (°F)												
		20	30	40	50	60	70	80	90	100	110	120		
		DEW POINT (°F)												
Z	90%	18	28	37	47	57	67	77	87	97	107	117		
	85%	17	26	36	45	55	65	75	84	95	104	113		
	80%	16	25	34	44	54	63	73	82	93	102	110		
ē	75%	15	24	33	42	52	62	71	80	91	100	108		
N	70%	13	22	31	40	50	60	68	78	88	96	105		
E	65%	12	20	30	38	47	57	66	76	85	93	103		
ž	60%	11	19	29	36	45	55	64	73	83	92	101		
A	55%	9	17	25	34	43	53	61	70	80	89	98		
Ē	50%	6	15	23	31	40	50	59	67	77	86	94		
Ľ.	45%	4	13	21	29	37	47	56	64	73	82	91		
	40%	1	11	18	26	35	43	52	61	69	78	87		
	35%	-2	8	16	23	31	40	48	57	65	74	83		
	30%	-6	4	13	20	28	36	44	52	61	69	77		

Dew Point Chart:

HEAT INDEX

The Heat Index combines air temperature and relative humidity for an apparent temperature feeling on the human body. Heat Index Chart:

If the heat index is 80°F-90°F fatigue is possible with prolonged exposure and activity.

If the heat index is 89°F-105°F sunstroke, heat cramps, and heat exhaustion are possible.

If the heat index is 105°F-130°F sunstroke, heat cramps, and heat exhaustion are likely.

If the heat index is over 130° F heat stroke, and sunstroke are very likely with continued activity.

		AIR TEMPERATURE (°F)												
		80	82	84	86	88	90	92	94	96	98	100	102	
		HEAT INDEX-TEMPERATURE FEELS LIKE (°F)												
RELATIVE HUMIDITY	40%	80	81	83	85	88	91	94	97	101	105	109	114	
	45%	80	82	84	87	89	93	96	100	104	109	114	119	
	50%	81	83	85	88	91	95	99	103	108	113	118	124	
	55%	81	84	86	89	93	97	101	106	112	117	124	130	
	60%	82	84	88	91	95	100	105	110	116	123	129	137	
	65%	82	85	89	93	98	103	108	114	121	128	136		
	70%	83	86	90	95	100	105	112	119	126	134			
	75%	84	88	92	97	103	109	116	124	132				
	80%	84	89	94	100	106	113	121	129					
	85%	85	90	96	102	110	117	126	135					
	90%	86	91	98	105	113	122	131						
	95%	86	93	100	108	117	127							
	100%	87	95	103	112	121	132							

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