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Product Specification

Model No.	00611 / 00615
Model Name	Wireless Weather Station
Version	1.0
Effective Date	1/2/2007

Wireless Weather Station
Model No.: 00611 / 00615

Product Specification

Version 1.0

2007-1-2

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Contents

1. Foreword

The summarization is written for relative persons' approval and record.

2. General Requirement

2.1 RoHS Compliance

All materiel shall meet RoHS compliance.

2.2 FCC & IC Compliance and Certification

3. Product Specification

3.1 Humidity

3.1.1 Receiver (indoor readings)

    3.1.1.1 Operating Temperature Range = 32F to 120F (0C to 50C)

    3.1.1.2 Operating humidity range = 20% RH to 95%

    3.1.1.3 Resolution = 1 % RH

3.1.2 Transmitter (receiver outdoor readings)

    3.1.2.1 Operating Temperature Range = 32F to 122F (0C to 50C)

    3.1.2.2 Operating Humidity Range = 20% RH to 95% RH

    3.1.2.3 Resolution = 1 % RH

3.2 Temperature

3.2.1 Receiver

    3.2.1.1 Operating temperature range = 32 F to 122 F (0C to 50C)

    3.2.1.2 Resolution = 1 degree F

3.2.2 Transmitter

    3.2.2.1 Operating Temperature Range = -40 F to 158 F (-40C to 70C)

    3.2.2.2 Resolution = 1 degree F

3.3 Transmitter / Receiver:

3.3.1 Radio Frequency = 433MHz (Up to   FCC 15.231 e)

3.3.2 Transmission time = approximately 100ms

3.3.3 Transmission intervals = approximately 16s

3.4 Operating Voltage Range

3.4.1 Receiver: 3.6V-4.5V (3*AA)

3.4.2 Transmitter: 2.4V-3.0V (2*AA)

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	Design Summary	Version	4.0
		Effective Date	12/6/2006

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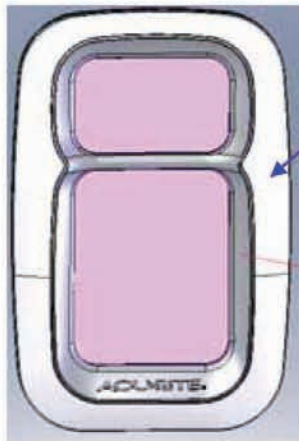Family of Companies

3.5 Appearance

3.5.1 Surface Finish:

3.5.1.1 All the bezels should be: PMS 877 Silver - Satin Finish Texture MT 11010

3.5.1.2 Rear housing: PMS Cool Gray 8C - Texture MT 11010

3.5.1.3 Front housing: 00611 Gloss White

00615 Pale Yellow

3.5.2 Drawing View

LCD Drawing
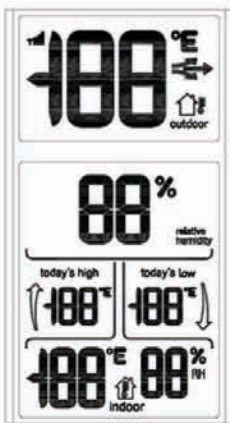
Receiver:

00611: Gloss White

00615: Pale Yellow

Transmitter: FCC ID RNERF100XTX

4. Feature List

4.1 Receiver

    4.1.1 Indoor Humidity / Temperature

    4.1.2 Outdoor Temperature and Humidity Display

    4.1.3 Outdoor today's high / low Temperature Display

    4.1.4 Today's high / low temperature display icon

    4.1.5 Outdoor Temperature Trend Line Display

    4.1.6 C/F Slide Switch

    4.1.7 ID A, B, C Slide Switch

    4.1.8 The Display Icon of Reception Signal Strength -115 dB

4.2 Transmitter

    4.2.1 Outdoor Temperature / Humidity

    4.2.2 C/F button - Inside Search Button (This function is used for manufactory)

    4.2.3 ID A, B, C Slide Switch

5. Communication Protocol

5.1 Data Format

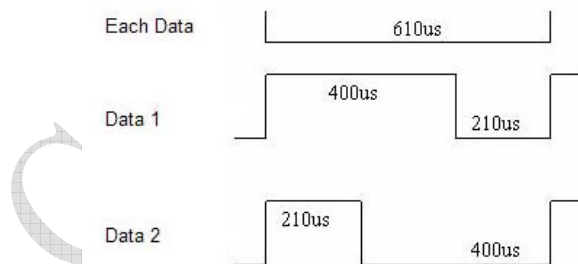   5.1.1 Format

        There are two data types – Data 1, Data 2. The duration time for each data is 610us

        Data 1: The duration time of High Level is 400us,

            The duration time of Low Level is 210us.
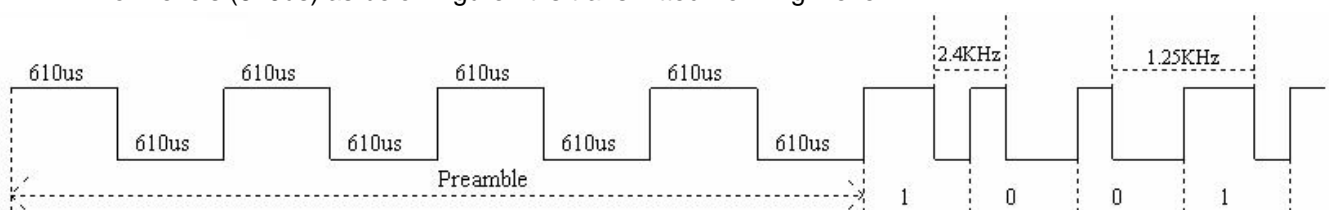
        Data 2: The duration time of High Level is 210us,

            The duration time of Low Level is 400us.

    5.1.2 Preamble Format

        The preamble is 1 byte. There are 8 bits in the preamble. It is made up of 4 high levels (610us) and 4 low levels (610us) as below figure. It is transmitted from high level.

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5.1.3 Data Rate Analysis

5.1.3.1 Data Rate is 1.64Kbps

5.1.3.2 There are 8 bytes every transmission. The total is 64bits. The duration time for each transmission is 610us * 64 +x= 100ms.

5.1.3.3 If repeatedly transmit multi-group data, then the transmission duration time is 610us * 8 * 7=34.16 ms for each additional data. The preamble does not repeatedly be transmitted in each data.
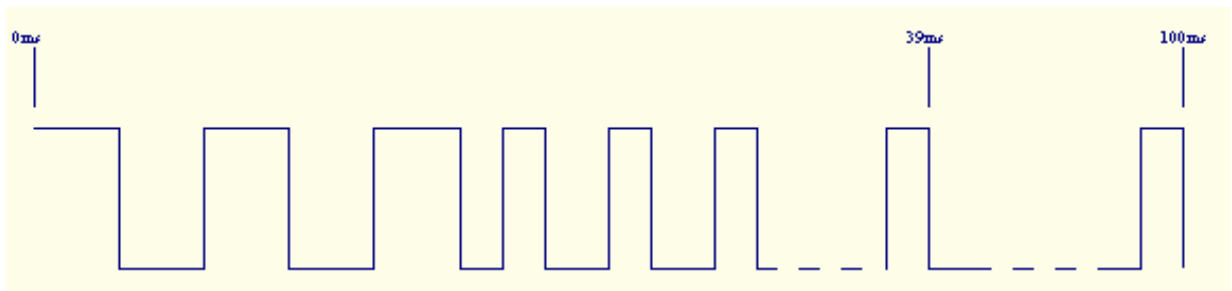
One cycle   transmit times 100ms

5.2 Data Package Format

bit	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
data	1	0	1	0	1	0	1	0	x	X	x	x	x	x	x	x	x	x	x	x	x	x	x	x
def.	Preamble								ID1								ID2							
total	8 bits								8 bits								8 bits							

bit	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
data	x	x	x	x	x	x	x	x	x	X	x	x	x	x	x	x	x	x	x	x	x	x	x	x
def.	Message type & Length								Data0								Data1							
total	8 bits								8 bits								8 bits							

bit	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
data	x	x	x	x	x	x	x	x	x	X	x	x	x	x	x	x
def.	Data2								Check sum							
total	8 bits								8 bits							

5.2.1 The transmission interval is

T = X + Y

X is above 15 positive integer, the time unit is second. It lies on Message type.

Y is one of following figures 0, 125, 250, 375, 500, 625, 750, 850. The time unit is ms.

5.3 Data Package Definition

Def.	Message type								Data0	Data1	Data2	Interval X
Bit	7	6	5	4	3	2	1	0				Unit: s
TEMP/HUMI	0	0	0	0	0	1	0	0	Humidity	UT2 Temperature		RF433: 16
	0	0	0	0	0	1	0	1	Humidity	UT3 Temperature		

Design Summary

0	0	0	0	0	1	1	0	reserve	reserve	reserve	
0	0	0	0	0	1	1	1	reserve	reserve	reserve	

6.

7. Product Operation

7.1 Receiver

    7.1.1 Key Function

    7.1.1.1 There is one slide switch to select C/F unit.

    7.1.1.2 There is one slide switch to select ID A, B, C.

    7.1.2 When Power on or reset the LCD will full display for 3 seconds, the unit start to work.

    7.1.3 The unit will detect the temperature and humidity every 30s.

    7.1.4 Indoor Humidity Calculation and Display

    7.1.5 Indoor Temperature Display

    7.1.6 The outdoor temperature and humidity will be displayed when the signal is picked up, and the High/Low

        temperature is displayed at the same time.

    7.1.7 Display of high and low outdoor temperatures is to be a rolling 24-48 hour value as follows:

    7.1.8 Trend lines (increasing decreasing steady)

    7.1.9 RF433 Reception

        When power on the receiver, the unit will turn on the RF module to looking for the RF signal, the

        RF433 reception bars cycles (i.e. one bar, two bars, three bars…….one bar, two bars … etc.) This

        continues until the unit receives a valid signal or for maximum 6 minutes if no signal is captured.

7.2 Transmitter (FCC ID: RNERF100XTX)

    7.2.1 Key Function

        7.2.1.1 A C/F button (search button) is added inside the transmitter.

        7.2.1.2 A slide switch with A, B, C position is to select A, B, C channel. The factory default setting is A.

    7.2.4 The unit will detect the temperature and humidity every 16s.

    7.2.5 Outdoor Humidity Calculation and display in the receiver

    7.2.6 Outdoor Temperature Display in the receiver

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Caution: The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

Notes: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15of the FCC Rules and RSS-210 of IC rules.

Operation is subject to the following two conditions:

(1)   This device may not cause harmful interference, and

(2)   This device must accept any interference received, including interference that may cause undesired operation