

Remote Weather Station

Parts List

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List of Components

| Description | Part No. | Distributor | Qty | Functionality |
|--|---------------------------------|-----------------------------|-----|--|
| Atmel 22LV10L PLD | AT22LV10L | Arrow Electronics | 1 | To control the logic of the power saving circuit. |
| Comparator | LM339 | Jameco | 1 | Comparator for wind direction outputs. |
| Compatible 8051 Microcontroller System | ATMEL AT89S53 | BiPom Electronics | 2 | To control the Display Station and Weather Station |
| Driver | UDN2595 | Jameco Digi-key | 3 | To drive the relay, LEDs, and wind signals |
| Flexible Solar Panel | MPT4.8-150 PowerFilm 4.8V 100mA | Sundance Solar | 3 | To provide power to system and charge the batteries during the daylight. |
| LCD Display | CFAH2004A-YYB-JP | Crystalfontz | 1 | To display received data for the user |
| Microelectronic Power IC Relay | PVA1354N-ND | Digi-key | 1 | Relay used to turn power on and off for the Weather Station. |
| MOSFET transistors | CD4007 | Jameco | 1 | Transistors used to control the wind direction output. |
| NiMH 1.2V Rechargeable Battery | NA | NA | 8 | To provide 9.6V of power to the Weather Station |
| Octal Tri-State Buffer | 74LS541 | NA | 1 | To latch wind direction inputs |
| Power Supply | NA | NA | 1 | To provide power to the Display Station |
| Receiver Module | RWS-434 | Reynolds Electronics | 1 | To receive transmitted data |
| Remote Control Decoder IC | HT-648L | Reynolds Electronics | 1 | To decode received data |
| Remote Control Encoder IC | HT-640 | Reynolds Electronics | 1 | To encode data to be transmitted |
| Sensirion Humidity and Temperature Sensor | SHT15 | OnsetComp | 1 | To measure temperature and humidity |
| Timer | 555 Timer | Radio Shack | 1 | Used to generate a clock signal for the PLD |
| Transmitter Module | TWS-434A | Reynolds Electronics | 1 | To transmit data wireless |
| Whip Antenna | TWS-ANT | Reynolds Electronics | 2 | Used to transmit and receive wireless data. |
| Distributor and Vane Wind Direction Sensor | NA | Maximum Weather Instruments | 1 | To measure wind direction |
| Hall Effect Wind Speed Sensor | NA | Maximum Weather Instruments | 1 | To measure wind speed |

Note: The system contains many resistors, capacitors, and other discrete electronic components that are not listed in this table.