

# KENYA SYNOP AUTOMATIC WEATHER STATIONS



April 2007

The Kenya Met Department has 12 branch facilities including Headquarters in Nairobi. The Met Dept awarded Sutron a contract to design, build, and install a Synoptic Met Station at each facility and integrate them into a system. The network consists of 12 Automatic Weather Stations, 100% WMO compliant, with the ability to manually input the WMO observer data (clouds, visibility, ceiling). The stations are connected to a central station using a GPRS/GSM modem. Each AWS has a local display (by desktop PC) with present data to create local SYNOP/METAR reports. The stations are polled by the central site where data is available to the Kenya Meteorological Department.

## Key Features

- 12 Synoptic Automatic Weather Stations (AWS) & 1 Central Base Station with all System Software
- Completely modular system using state-of-the-art Technology
- Easy-to-use & easy-to-maintain
- Stainless Steel NEMA-4X type housing containing Datalogger, Solar Equipment, Voltage Regulator and other electronic peripherals (-40 Deg C to +60°C operating temperature)
- Single cabinet system with single power supply source including solar panel, battery, regulator, and all necessary cabling
- Each RTU collects data from its sensors, records the data and transmits the data via short range Spread Spectrum LOS Radio and GSM Cellular phone to the local PC as well as the Central Data Receiving Unit at headquarters
- Precipitation Sensors
- Combined Air Temperature/Relative Humidity Sensor
- Atmospheric Pressure Sensor
- Wind Speed Sensor/Wind Direction Sensor
- Solar Radiation Sensor
- All the main components of the AWS are manufactured and maintained by Sutron Corporation.
- Spare parts for 10 years & notification if and when a component becomes obsolete
- At prescribed intervals, each remote station sends data to the Central Station. Data recording and transmission will adhere strictly to procedures established by the WMO.
- AWS are configured as WMO Synoptic Stations, thus data collection and processing/reporting is according to WMO methods.
- Station data is displayed locally at each remote site via a PC and every hour at the central location KMD HQs.



<b>OWNER:</b>	Kenya Meteorological Department
<b>PROJECT:</b>	Kenya Synop AWS
<b>EQUIPMENT:</b>	12 RTUs, 11 Local Base Stations, 1 Central Base Station
<b>DATES:</b>	2006 with on-going support
<b>CONTACT:</b>	Dr. Joseph Mukabana Director, Kenya Meteorological Department
<b>VALUE:</b>	\$230,000
<b>SENSORS:</b>	Air Temperature, Relative Humidity, Rainfall, Barometric Pressure, Wind Speed, Wind Direction and Solar Radiation
<b>TELEMETRY:</b>	Maxstream 2.4 GHz radios to communicate with the local PCs. GSM modems to transfer the data to the Central Station over the local cellular network.
<b>PARAMETERS:</b>	Rain (Accumulated Rain) Barometric Pressure (QNH, QFE, Tendency) Solar Radiation (W/m <sup>2</sup> , Hours of Sun) Wind Speed (Gust, Instantaneous, Average) Wind Direction (Instantaneous, 2minute Average, 10 minute Average) Air Temperature (Ambient Temperature, Maximum, Minimum, Temp. of Evap.) Relative Humidity (Humidity, Dew Point)

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