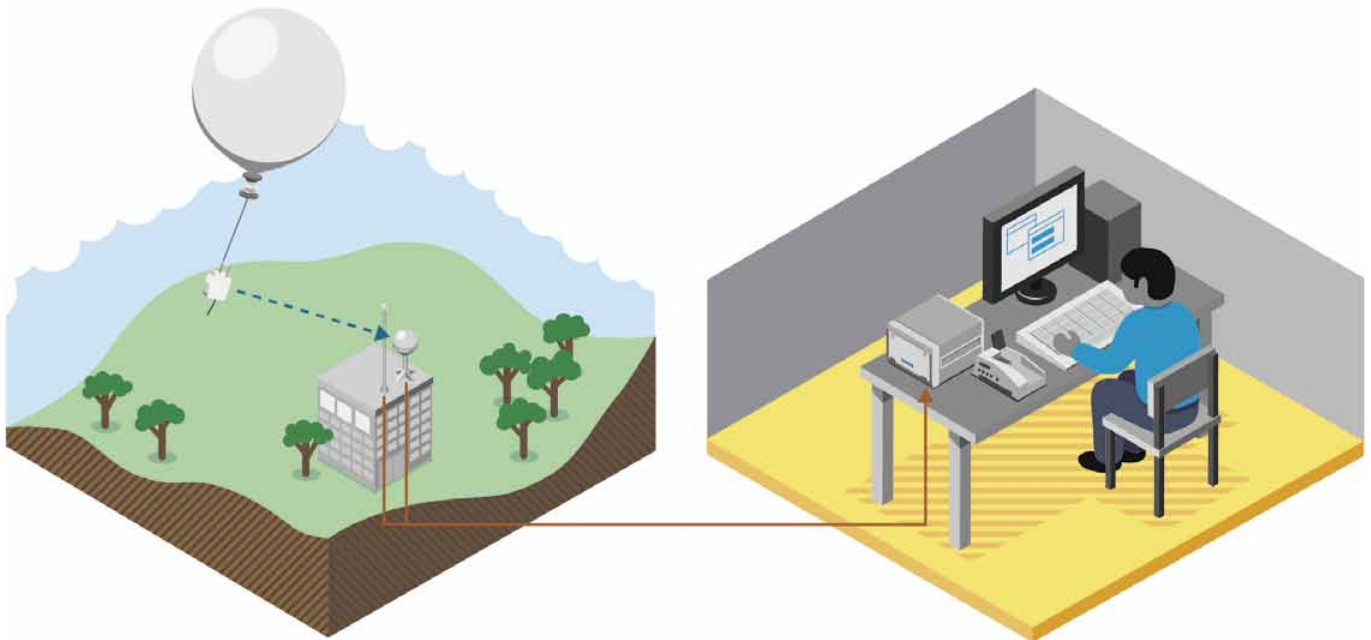


Vaisala DigiCORA® Sounding System MW31 for Meteorology and Climatology



The radiosonde transmits measured data which is received by the antenna and conveyed to the sounding receiver. A GPS antenna provides the system with positional data that is used for applying differential corrections to the wind data and also for determining the position of a moving sounding station.

Benefits

- All WMO upper-air meteorological messages including BUFR
- Automated data processing, message coding and message transmission
- Easy system configuration
- Flexibility for multiple applications
- Graphical data presentation and tools (Metgraph option)
- Support for ozone measurements

The Vaisala DigiCORA® Sounding System MW31 is a sounding ground station for meteorology and climatology. It provides synoptic upper-air messages for numerical weather prediction models and further for weather forecasting. In addition, the system produces upper-air data for meteorological and climatological research.

Meteorological parameters are measured by a radiosonde attached to a free flying balloon. Pressure, temperature and humidity are

measured by the sensors integrated in the radiosonde. Wind speed and direction is determined by means of GPS navigation satellites. The MW31 receives the measurements from the radiosonde, performs data cleansing and then produces the output data sets in the form of messages, graphics or data listings.

The system consists of a sounding processor unit, receiving antenna, radiosonde ground check unit and a computer.

Technical Data

Sounding Workstation

Intel® Core™ Duo	min speed 2.6 GHz
System memory	minimum 2 GB
Hard drive	minimum 80 GB
DVD	+/-rw
Desktop display	19" wide screen LCD
Laptop display	14-0" wide screen LCD
Operating system Windows® 7, pre-installed	
DigiCORA Sounding Software, pre-installed:	
Standard software	
METGRAPH software (optional)	
System recovery tools	

Vaisala Sounding Processing Subsystem SPS311

Software defined radio technology
Supports all Vaisala radiosondes
Code correlating GPS

Antennas

Directional UHF antenna (automatic direction control)
Omnidirectional UHF antenna
Portable antenna for UHF and GPS
GPS antenna

Ground Check Set

Compatible with all Vaisala RS92 radiosondes
See separate brochure for details

Telemetry

Frequency range	400 ... 406 MHz
Tuning step (user adjustable)	10 kHz
Error detection and correction:	
Reed-Solomon (using digital radiosondes)	
Telemetry range (using directional antenna and RS92-SGP radiosonde)	up to 350 km

Meteorological Messages

Available in standard software:

TEMP FM35-XI, TEMP SHIP FM36-XI, TEMP MOBIL FM38-XI
PILOT FM32-XI, PILOT SHIP FM33-XI, PILOT MOBIL FM34-XI
CLIMAT TEMP FM75-XII
BUFR 3'09'052 (for TEMP data and for high resolution data)
BUFR 3'09'050 and BUFR 3'09'051 (for PILOT data)
BUFR 3'09'054 (for CLIMAT TEMP data)
NILU ozone message (Nasa Ames 2160)

Environmental Requirements

INDOOR EQUIPMENT:

Operating temperature	+10 ... 35 °C
Operating humidity	10 ... 90 %
Storage temperature	-40 ... +65 °C
Storage humidity	5 ... 95 %RH

OUTDOOR EQUIPMENT:

Operating temperature	-40 ... +55 °C
Operating humidity	0 ... 100 %
Operating wind speed	0 ... 65 m/s
Operating precipitation	Unlimited
Storage temperature	-50 ... +100 °C
Storage humidity	0 ... 100 %RH

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