



Features

- Consistent, high-quality data
- Easy integration to existing soundings network
- Increased flexibility through advanced networking options
- Easy and simple operation
- Quick configuration and modification of station parameters, also remotely

Vaisala MW41 System supports the world-class performance of Vaisala RS41 radiosonde family as well as the previous generation RS92-SGP. This makes MW41 an excellent choice for both synoptical and research applications.

Vaisala DigiCORA® Sounding System MW41 processes, analyses, archives, and relays sounding data. The system consists of a computer that runs Vaisala MW41 software and is connected to a sounding processing subsystem via a network adapter. MW41 software includes the user interface running on a web browser and the sounding processing software running as services on a computer.

Easy to Integrate

Upgrading to MW41 from earlier Vaisala sounding systems is smooth and cost-effective. The software is compatible with commonly used Windows operating systems and hardware, making it easy to integrate to most IT bases and helping to minimize maintenance costs. Connectivity with Vaisala Automatic Weather Stations allows using highly accurate surface weather information as reference, which makes operation simpler and less sensitive to human error.

Flexible to Use

As MW41 user interface is separated from other software functionalities, it can be operated from anywhere within your network. This allows, for example, managing sounding operations remotely, away from the sounding station. Additionally, all network users can remotely access sounding data online, using a web browser.

The standard MW41 software package includes all features needed to perform synoptic soundings. For more advanced sounding needs, like ozone sounding capability or extended graphics, optional modules are available. The system can be tailored for specific needs of a sounding station.

Intuitive to Operate

MW41 follows the radiosonde preparation process, minimizing the need for user input and interaction. When the user needs to act, using the system is made easier with clear status indicators and animations, and

a software help is available for additional assistance. As operating the system is highly intuitive, training users is faster. Access to specific functionalities can be defined by utilizing user groups and their related privileges.

Quick to Configure

Configuring MW41 for operation is easy. The user interface supports quick configuration of station parameters, message creation, and parameter sending. The system can also be configured remotely.

MW41 validates sounding data to make sure it is of high quality. The system can create WMO messages and special text reports using the validated data, and the data is also available in XML format.



Technical Data

Compatibility

Radiosonde	<ul style="list-style-type: none">• RS41-SG• RS41-SGP• RS41-SGM• RS41-D• RS92-SGP
Special sensor	Ozone sensors: <ul style="list-style-type: none">• ECC-6A ECC• Z ECC

Minimum System Requirements for Sounding Workstation

Computer	PC delivered by Vaisala includes: <ul style="list-style-type: none">• Pre-installed DigiCORA Sounding Software• System recovery tools, including USB drive with recovery image• Optional Edgeport serial extension Optionally, any PC that fulfills the requirements below can be used.
Operating system	<ul style="list-style-type: none">• Windows 7 Professional SP1 64-bit (English)• Windows 8.1 Pro 64-bit (English)• Windows 10 Pro 64-bit (English)
Web browser	<ul style="list-style-type: none">• Microsoft Internet Explorer 11 or higher (English)• Mozilla Firefox latest version (English)• Google Chrome latest version (English) Adobe Flash Player must be installed on the web browser.
Processor	Intel Pentium Dual Core or equivalent (Quad Core recommended)
Memory	8 GB RAM
Hard disk space	160 GB
Display resolution	1366 × 768 (minimum)
DVD-ROM drive	
USB port for Ground Check Device RI41	
Optional serial ports	Either integrated or via USB/RS-232 converter. 1 for GC25/RS92 1 for possible Automatic Weather Station
Ethernet adapter	
Speakers integrated either into computer or display	
Remote client PC	Using devices that fulfill the same requirements as for Sounding Workstations is recommended. ¹⁾

¹⁾ It is likely that devices with lower hardware specifications, other operating systems, or other browsers can be used as long as the browsers have Adobe Flash Player.

Vaisala Sounding Processing Subsystem

Software-defined radio technology
Code-correlating GPS

Operating Environment

Indoor Equipment

Operating temperature	+10 ... +35 °C (+50 ... +95 °F)
Storage temperature	-40 ... +65 °C (-40 ... +149 °F)
Operating humidity	10 ... 90 %RH
Storage humidity	5 ... 95 %RH

Outdoor Equipment

Operating temperature	-40 ... +55 °C (-40 ... +131 °F)
Storage temperature	-50 ... +71 °C (-58 ... +160 °F)
Operating humidity	0 ... 100 %RH
Storage humidity	0 ... 100 %RH
Operating wind speed	0 ... 65 m/s (0 ... 145 mph)
Operating precipitation	Unlimited

Telemetry

Frequency band	400.15 ... 406 MHz
Tuning step (user-adjustable)	10 kHz
Error detection and correction	Reed-Solomon
Telemetry range (using directional antenna)	Up to 350 km (217.5 mi)

Meteorological Messages

TEMP messages	TEMP FM35-XI, TEMP SHIP FM36-XI, TEMP MOBIL FM38-XI
PILOT messages	PILOT FM32-XI, PILOT SHIP FM33-XI, PILOT MOBIL FM34-XI
BUFR messages	BUFR 3'09'050 and BUFR 3'09'051 (for PILOT and High resolution data) BUFR 3'09'052 and BUFR 3'09'057 (for TEMP and High resolution data) BUFR 3'09'056 (for descending sounding after balloon burst)
Advanced option	CLIMAT TEMP FM 75-X BUFR 3'09'053 (DROP BUFR)
Special sensor option	NILU, WOUDC
Defense messages option	METCM STANAG 4082, METB2/ METB3 STANAG 4061, METFM STANAG 2103, METSR/METSRX, METTA STANAG 4140, METEO 11

Antennas

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

Ground Check Set

RI41 and RI41-B. See separate datasheets for details.



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