

SkySweep Technologies

Global Solutions for High Speed
HF/VHF/UHF DATA RADIO



SkySweep Data Radio System Telemetry

System examples

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*„Are you searching for a high speed Telemetry & SCADA DATA RADIO solution...?
...or a special data application?“*

SkySweep Technologies can offer not only a simple data radio which are offered by many vendors without proper customer support. SkySweep can provide even more: unique high data rate and a high coverage data radio system.

Each of the SkySweep DATA RADIO variants offers

- ➔ **Embedded Windows™ computer**
- ➔ **Unique software applications**
- ➔ **High speed modems**
- ➔ **Standard Protocols**
- ➔ **Transceiver**
- ➔ **All of these in one high integrated data radio device. No need for expensive computers nor modems!**



Normally there is one of the four possible basic situations:

1. No existing radio system => choose SkySweep Data Radios.
2. Existing voice radio system => SkySweep will provide add on high speed Data Radios.
3. Existing voice radios which need data solutions => SkySweep will provide the SkyCR-1 controller unit for data.
4. No existing secure voice / no backup-voice / no secure data solutions => choose SkySweep Data Radios for secure data and voice.

What is your basic situation?

„Learn more about the many capabilities of the SkySweep system. Build up your secure HF/VHF/UHF Telemetry and SCADA DATA RADIO network now. The possibilities will inspire you.“



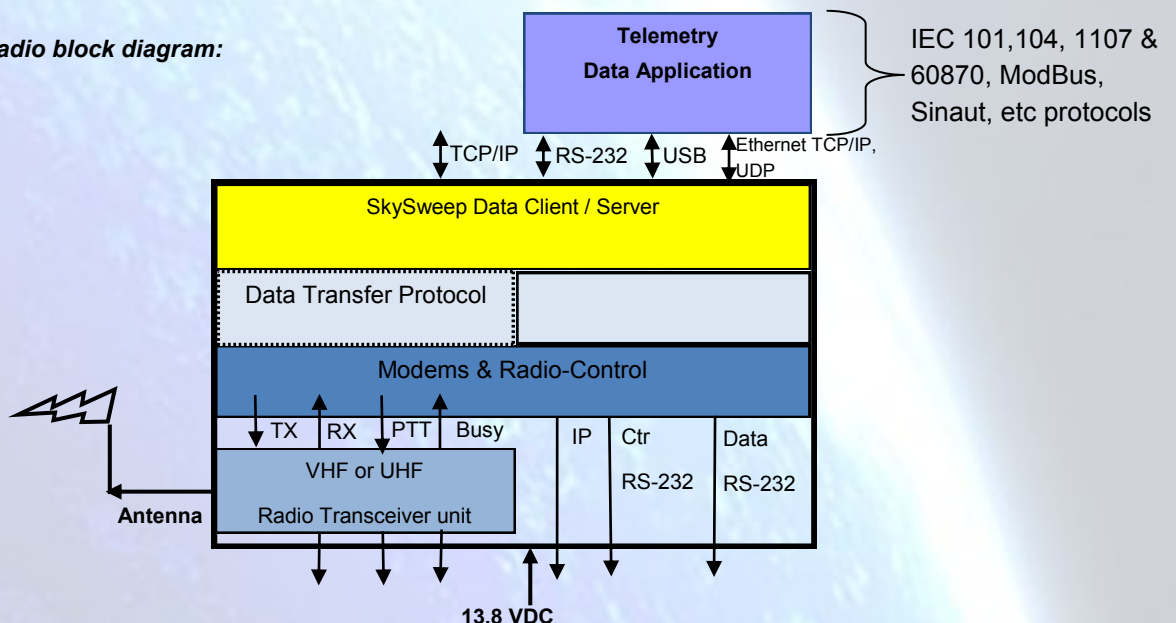
A simplified topview block diagram of a **SkySweep Data Radio** supporting one high speed data channel is shown below. SkySweep Data Radios consist of a Windows™ pc controller unit, system software, modems and a radio transceiver.

The **SkySweep Data Radio** provides several flexible and standardized interfaces.

The SkySweep Data Radio system provides several parallel transparent IP or RS-232 connections.

The system server or command center can have IP/RS-232 connections to several devices through one base station at same time. It is very easy to install: Just connect the cables and start to operate.

SkySweep Data Radio block diagram:



„What are your requirements? Let's define your Data Radio system now.“

„In today's world a secure and independent reliable Data Radio network is valuable.“

The SkySweep Data Radio system is state-of-the-art OFDM modem based solution for high speed (up to 100 kbit/s) HF/VHF/UHF radio data communications.

Its main applications are: IP or RS-232 based data connection services, GPS based tracking, E-Mail, video, instant messaging (chat), and encrypted secure voice for HF/VHF/UHF (*). The contents of a product delivery may range from a software only delivery to complete customer specific turn-key system deliveries. (*Video, instant messaging (chat), secure voice: available in 2012)

The SkySweep Data Radio system adapts as well to a small few local stationary or mobile stations network as to systems of hundreds of stations.

The SkySweep Data Radio system can also be used with existing voice communications networks such as analog HF/ VHF/ UHF or digital (TETRA, P25, DMR, dPMR, TETRAPOL, etc) networks.

Why to choose a SkySweep Data Radio system?

One reason of many: Take data load away from voice systems.

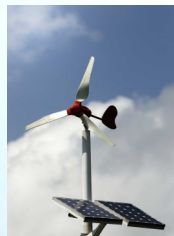
Most PMR radio systems are optimised for voice but typically don't have much extra capacity reserved for data. This means that, when the amount of data in the net increases, the quality of voice service decreases. Typically current voice systems don't offer any solutions for advanced state-of-the-art highspeed data or mobile data transmission.

The SkySweep Data Radio system and SkySweep application interfaces are based on international standards.

Additionally the SkySweep system is compatible with NATO communication systems and provides encrypted and secure transmissions. The SkySweep Data Radio HF-system is STANAG 5066 compliant. Customer's own applications and existing system interfaces can connect to these well known standards without any problems. This flexibility offers very cost efficient possibilities.

Just two examples of the system key benefits :

- **Cost efficient system.** The system is based on the IP network architecture and high coverage base stations. The SkySweep Data Radio can be used to run its own and customer specific applications => no extra computer is needed for applications.



- **Low power consumption.** The mobile and Base Station transmitters are switched on only, when there is something to send. The system can be powered independently by solar energy or a very small fuel cell. Long battery based operating times are ideal for emergency systems, etc. There are no control channels needing continuous transmit power.

The SkySweep Data Radio system provides high speed and very cost efficient data communication on VHF/UHF frequency bands. It is also possible to extend the coverage with SkySweep HF Data Radios.

The SkySweep Data Radio has different variants for:

- **VHF or UHF** for medium coverage with high data rate
- **or HF** for high coverage over long distances with a medium data rate
- **Frequency channel bandwidth**
- **System features**

The SkySweep Data Radio system can combine the benefits of VHF/UHF Data Radio systems to the benefits of HF Data Radio systems.

SkyDR-1 V/U D/RM

System examples: SkyDR-1V/U SD (DIN-RAIL) Data Radio for indoor installations and outdoor (RM)

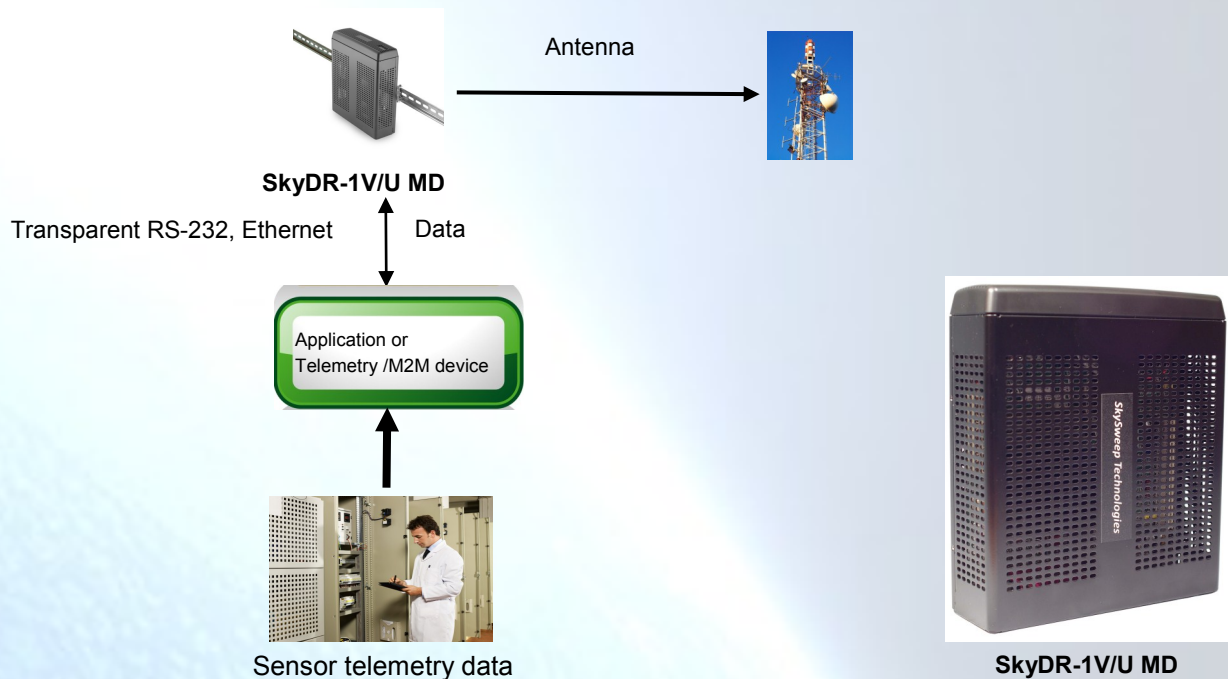
The SkySweep Data Radio variants provide standard RS-232 and Ethernet (TCP/IP, UDP) interfaces allowing to smoothly connect different applications and devices. It provides transparent data radio systems for IEC 1107 & 60870, ModBus, Sinaut, etc protocols.

The **SkyDR-1V/U MD** (DIN-RAIL) Data Radio is a cost optimised small sized unit for indoor stationary telemetry use.

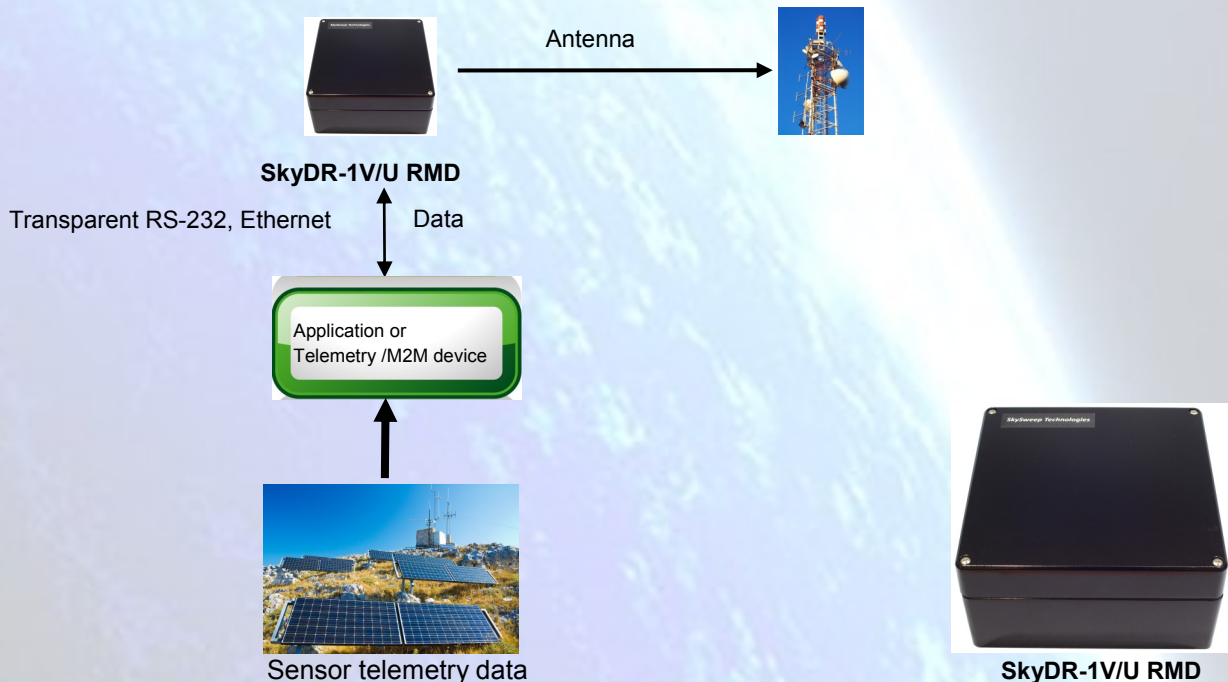
The **SkyDR-1V/U RMD** Data Radio is a rugged Data Radio for outdoor, mobile or stationary telemetry use.

The **SkyDR-1V/U MD or RMD** provides the **SkySweep Data Client** applications. The platform also supports the customers specific Windows™ based applications. The **SkySweep Data Radios** are delivered configured and with installed software.

Indoor: SkyDR-1V/U MD (DIN-RAIL) Data Radio interface based on RS-232 and Ethernet



Outdoor: SkyDR-1V/U RMD (rugged) Data Radio interface based on RS-232 and Ethernet



VHF/UHF telemetry system

VHF/UHF DATA System Example

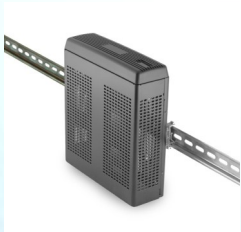
The **SkySweep Data Radio system** provides high speed and very cost efficient encrypted secure data communication on VHF/UHF bands. A state-of-the-art **SkyOFDM modem** (up to 100 kbit/s) and many applications are provided. There are typically two main VHF/UHF system topologies based on the **SkySweep Data Radio system**:

1. **Base Station based systems.** These systems are typically based on a dispatcher and servers communicating with local stationary or mobile units through VHF/UHF base stations.
2. **Point-to-multipoint systems.** These systems are typically based on direct communication between local stationary or mobile stations.

The system can comprise SkySweep Mobile Stations, Base Stations and Servers.

An SkySweep Base Station can consist also of SkyMRX units.

The MRX (MultiChannelReceiver) receives signals which are transmitted from SkySweep VHF/UHF Mobile Stations. MRX Base Stations are capable to combine and handle huge data load uplinks from the system participants.



SkyDR-1V/U MD (DIN-RAIL)



SkyDR-1V/U RMD (rugged)



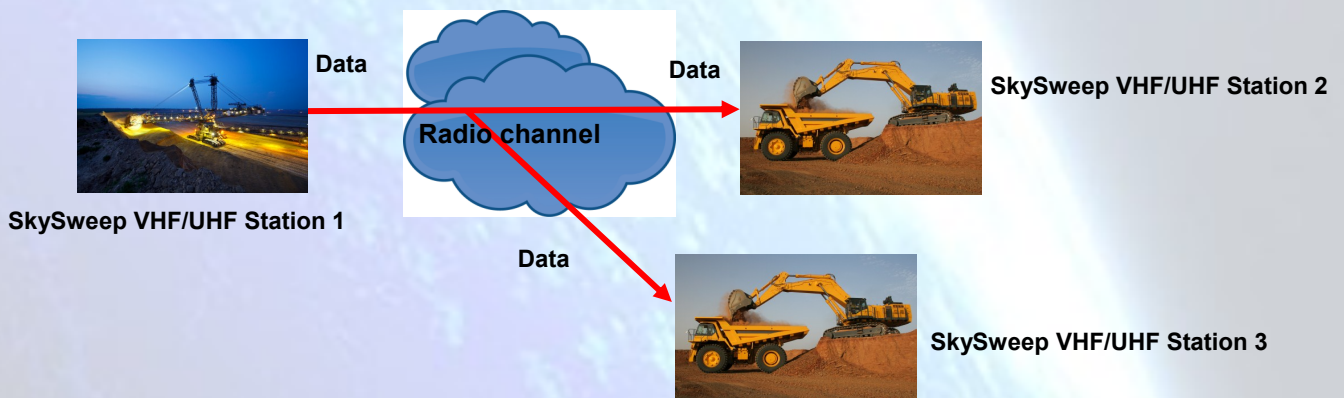
SkyDR-1V/U BS (Base Station)



SkyRX-1V/U MRX

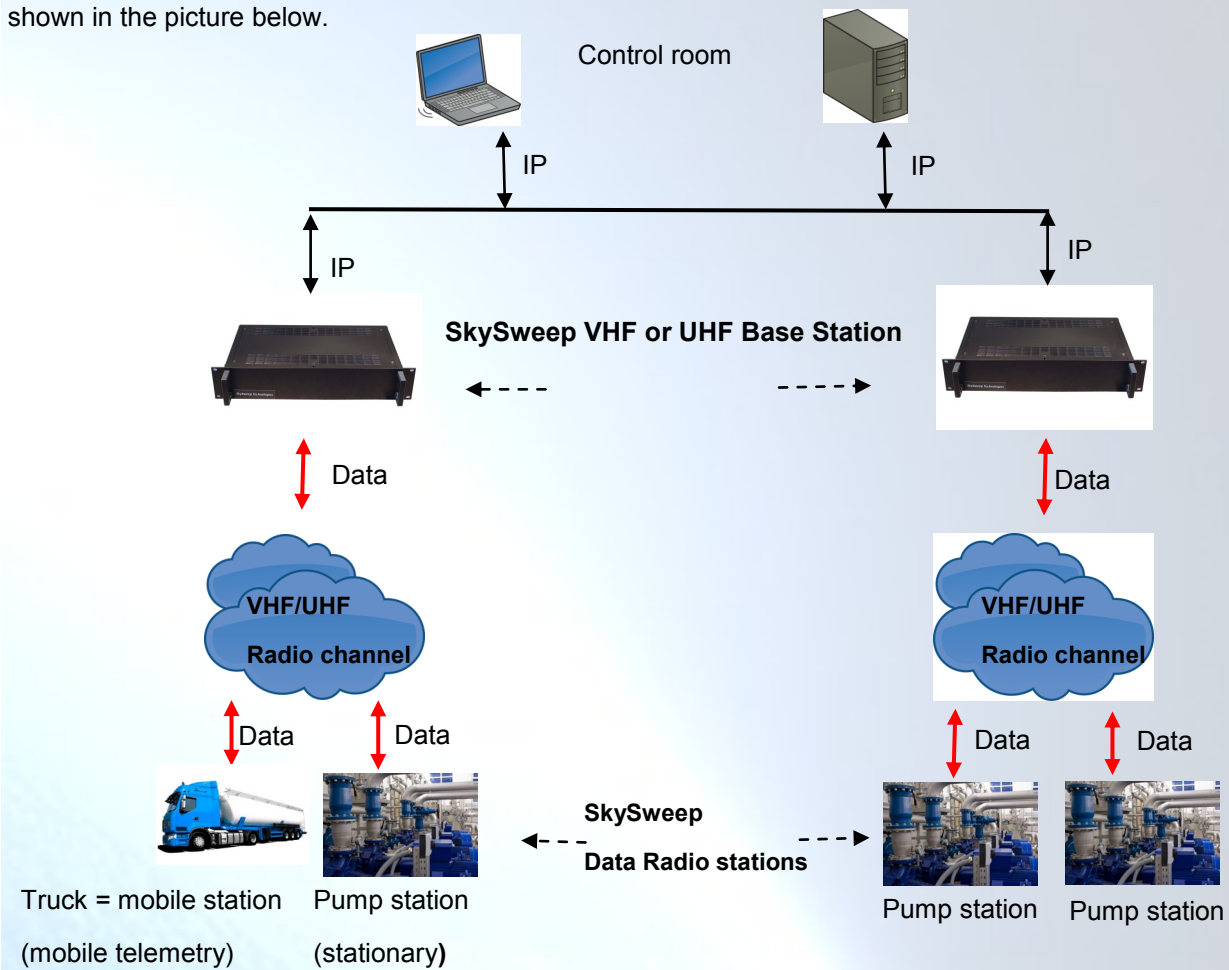
Point-to-multipoint VHF/UHF systems

In this setup SkySweep VHF/UHF Mobile Station units are communicating with other SkySweep Stations (telemetry) without base stations. The system example is shown in the picture below.

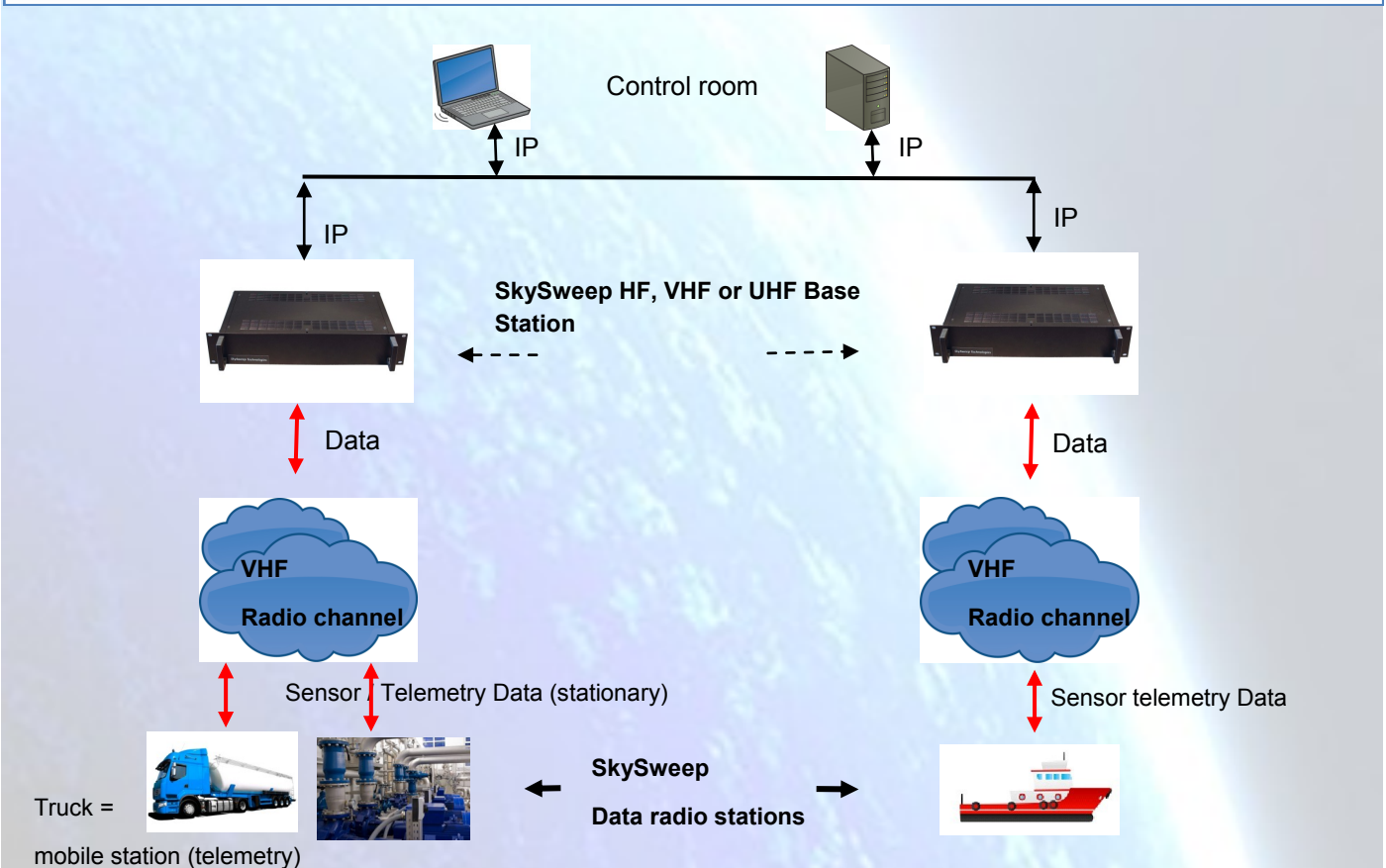


Base Station based VHF/UHF systems

In this setup Windows™ based SkySweep mobile and stationary Data Radio stations are communicating through base stations with servers and desktops. The system supports Base Station handover. The system example is shown in the picture below.



System example:



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please do not hesitate to contact us:**

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