User Manual

DECT USB Port
HW 8617

Version 1.00

DATA (((UNWIRED

HÖFT & WESSEL

HW8617_UM_100.doc

Table of contents

1. Introduction

Thank you for choosing Data Unwired products of Hoeft & Wessel.

The HW 8617 USB Port is a powerful solution for wireless data communication when replacing cables by a radio connection in order to address different peripheral devices via common interfaces.

Data Unwired DECT products operate according the ETSI DECT standard which offers a reserved radio spectrum free from interference. It is a standard harmonised throughout the European Union, therefore operation of Data Unwired DECT systems is unrestricted and licence-free in all countries of the EU. Many more countries worldwide support the DECT standard, however local regulations must be considered and national approvals may be required.

Data Unwired products are easy to install and do not require specific drivers. So they can be used with most computers and operating systems.

This manual describes how to install and use the HW 8617 USB Port.

In case of problems during the installation or during the operation of the HW 8617 that cannot be solved with the information given in this manual, please contact the service department of your local dealer or contact the Hoeft & Wessel-service line directly at

Service-Line@hoeft-wessel.de.

For further information about Data Unwired products please visit our Website:

www.data-unwired.com

1.1 References

The HW 8617 integrates a HW 86012 Embedded DECT Module. Please refer to the *HW 86012 Firmware Manual* for details on software configuration and to *HW 86012 Integration Manua*l for more information on the hardware features.

For an overview and detailed information on the family of Data Unwired DECT devices and their application, please refer to *Data Unwired System Manual*.

1.2   Important User Information

The HW 8617 does not require maintenance work or special attendance, except for the instructions mentioned below.

CAUTION!

Do not operate device within the range of strong electromagnetic fields.

Notice the temperature range for operation given in chapter 2.2. Do especially avoid overheating.

Protect device against humidity and dust.

Do clean device only with a soft cloth and mild cleaning agent. Do not apply water or wet cleaner.

Do not insert any objects into openings of the device unless specifically mentioned otherwise in this document. This may damage the device.

Do not open the HW 8617

The HW 8617 does not contain parts which could be maintained, exchanged or repaired by the customer or non-authorised maintenance personnel.

Opening the device might damage the electric components. A correct function of the device is no longer guaranteed!

NOTE:

This equipment makes use of radio spectrum and emits radio frequency energy.

Operation inside the EU

The device complies with EU regulations and can be used in the countries of the EU.

Operation outside the EU

If the device shall be operated outside the EU, make sure that local regulations are followed and related approvals are obtained.

NOTE:

Make sure not to apply break conditions on the virtual serial interface. Break conditions are not signalled over the air interface but may lead to unintended mode switching and malfunction.

DATA ((UNWIRED

2. Product Description
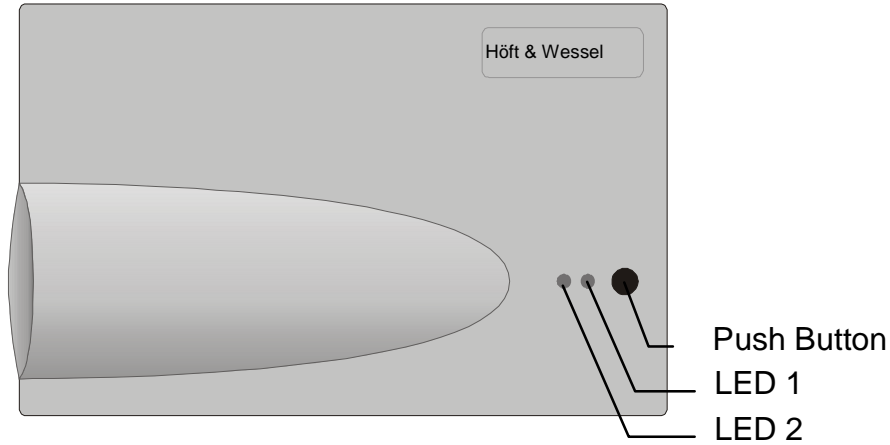
2.1 Operational Elements

Figure 1: HW 8617 Top View

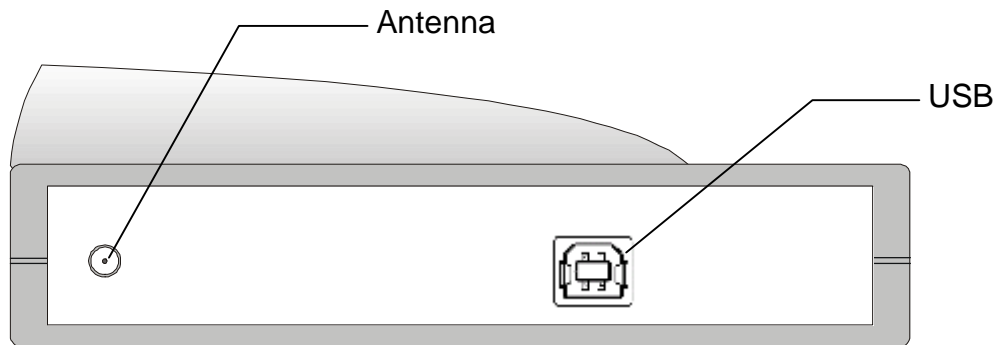| Push Button	Pressing this button activates the on-air subscription procedure
LED1 LED2	The two LEDs indicate the operational state of the device

Figure 2: HW 8617 Back View

USB	Connect the HW 8617 to your computer with the USB data cable. The device is powered through the computer's USB host interface.
Antenna	If the internal antenna shall not be used, connect an antenna to the antenna connector.

2.2 Technical Specification

Dimensions	approx. 145 x 88 x 46 mm
Weight	approx. 155 g
Temperature Range	0..55 °C operating
Power Supply	USB high-power bus-powered (4.75..5.25 V)
Current Consumption	500 mA max.
Interface	USB 1.1 device USB type B receptacle
Frequency Range	1.880..1.900 GHz
RF Output Power	max 24 dBm (250 mW)
Receiver Sensivity	-93 dBm typ.
Modulation	0.5 GFSK (Gaussian Frequency Shift Keying)
Air Data Rate	1.152 Mbps
Data Capacity	max. 230 kbps, protected
Media Access	MC/TDMA/TDD 10 channels, 24 timeslots, 10 ms frame
Antenna System	integrated antenna 0 dBi, omnidirectional, linear polarisation external antenna connector: SMA type
Range	typ. up to 60 m indoor, typ. up to 300 m outdoor, max. 1800 m under ideal conditions[1]
Standards	EN 300175
Conformity	EN 301406 EN 301489-1/-6 EN 60950-1
Operational Elements	1 push button, 2 LEDs
Casing	plastic housing, suitable for wall mount or desktop installation
Accessories (optional)	USB Cable 1.5m (Cable 106, Order No. E29812) Swivel Antenna 2 dBi 0-45-90° (Order No. E18374)

---

[1] For long range systems the synchronisation window size must be increased. For details see *HW86012 Firmware Manual*, commands SPSYWD/GPSYWD.

DATA (((UNWIRED

2.3　Compatible Data Unwired System Components

The HW 8617 USB Port can act as a portable (PT) or fixed part (FT) of a Data Unwired DECT system. Different devices are available that offer dedicated connectivity:

Device	Functionality
HW 8612 DECT Serial Twin Port	DECT FT/PT with V.24/RS-232 interface
HW 8615 DECT Serial Port	DECT FT/PT with V.24/RS-232 interface
HW 8614 DECT Ethernet Port	DECT FT/PT for LAN access
HW 86012 DECT Module	DECT FT/PT Embedded DECT Module

3. Installation

3.1 Hardware Installation

In order to establish a data connection to your computer, please connect the enclosed USB cable to the USB port of the HW 8617 and to a USB port of your computer.
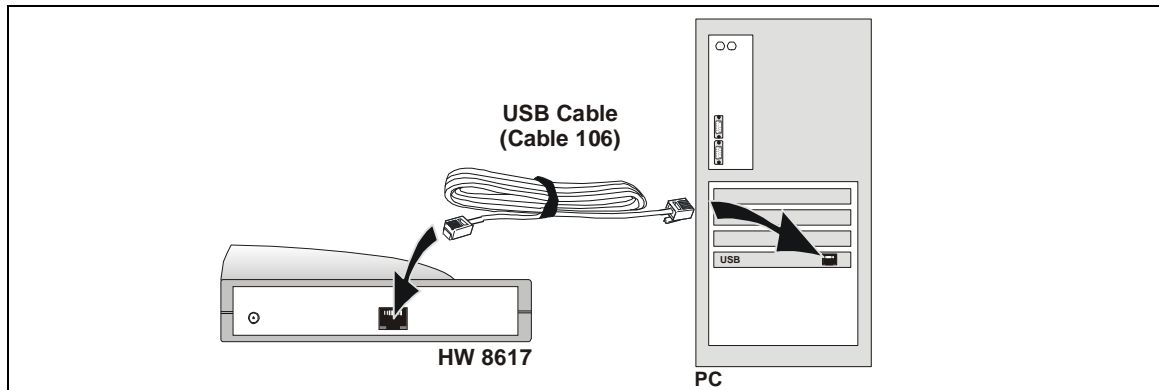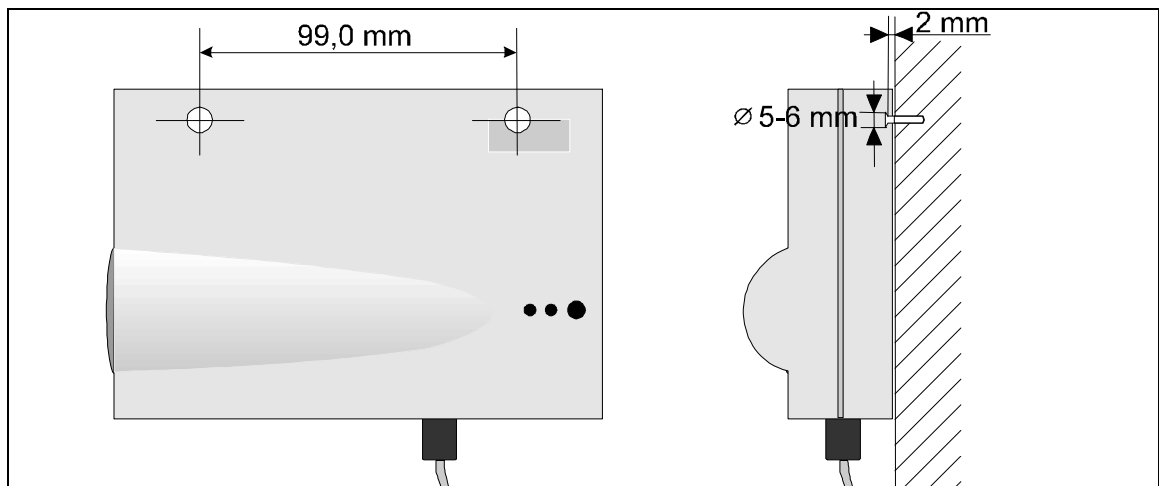

Figure 3: Installation

Figure 4: Wall Installation

3.2 Software Installation and Configuration

For software installation and configuration refer to *Data Unwired System Manual*. For a detailed overview on configuration commands refer to *HW 86012 Firmware Manual*.

3.2.1 USB Mode Configurations

The HW 8617 USB Port can be configured to operate as a USB serial device or a RNDIS device.

Mode	Configuration Command	Required installation file	Description
USB Serial	spusb 1	hw8617ser.inf	the computer will detect the HW 8617 as a serial device and will install a virtual COM port which can then be used for communication
USB RNDIS [factory default]	spusb 0	hw8617.inf	the computer will detect the HW 8617 as a network device and will install a virtual network interface device which can be used for communication

3.3 LED Display Information

The operational state of the device is signalled by two LEDs as is explained below:

LED1(red)	LED2 (green)	Meaning
●	●	Power off condition
●	☼☼●●	Power on, not locked to a base station (slow blink)
●	☼	DECT connection established While data is transmitted, LED2 flickers.
☼/●	☼	End-to-end connection established. The exact behaviour off LED1 varies with the device's functionality
☼	●	Device has entered configuration mode.
☼●☼●	●☼●☼	On-air subscription in progress (fast alternating blink)
☼●☼●	●	On-air subscription failure (fast blink)
●	☼●☼●	On-air subscription success (fast blink)

3.4   Getting the best Radio Coverage

Like any radio device the coverage range of the HW 8617 is limited by the available transmit power and losses on the radio path.

Data Unwired DECT systems can bridge distances up to 300 m outside buildings and up to 1800 m under ideal line-of-sight conditons. In real environments the range is influenced by shielding, reflections and interference. In a typical indoor environment a range up to 60m can be expected. In order to achieve these results, take care where you locate your radio devices (i.e. mobile and base stations):

- Operate the radio device in a dry and clean place on moderate temperatures. Keep the device away from heat sources.
- Do not place the radio device close to large metal objects.
- Each object in-between the mobile and the base station will attenuate the radio waves.
- Try to install the radio devices as high above ground as possible, since most obstacles are on the ground.
- Walls will attenuate the radio signal. Light walls have only little impact whereas armed concrete absorbs most of the radio energy.
- Try to achieve a line-of-sight condition between the radio devices.

4. Troubleshooting

4.1 Power Supply

The HW 8617 is well designed to meet all requirements for bus-powered USB devices.

In case both LEDs remain dark, a problem with the power supply is the most likely reason.

- Please unplug the USB cable from the device from and re-connect it.
- If the problem remains, check if any USB hubs are used and if neccessary remove them and connect to a USB host directly. Especially bus-powered hubs may not be designed to deliver the required current to the device.

If the problem persists please contact the Hoeft & Wessel service line for further support.

4.2 Wireless Link cannot be established

A slow blinking red LED indicates that the HW 8617 is not able to find a base or portable station. This may have several reasons.

- Check the power supply of the base station. Please refer to the base station documentation for further details
- Maybe the coverage range of the base station is exceeded. In this case the problem will disappear as you get closer to the base station. Follow the instructions in section 3.4 to improve the coverage range of your system.
- The subscription information of the HW 8617 or its counterpart is invalid. Try to renew the subscription as described in Data Unwired System Manual.
- USB Serial mode: Make sure that the application running on your computer has opened the correct virtual COM port and has set the DTR signal. USB RNDIS: Verify that the application on your computer uses the correct network interface.
- Ensure the remote Data Unwired DECT system is ready to accept a connection.

If you cannot solve the problem with these hints, please consult the Hoeft & Wessel service line.
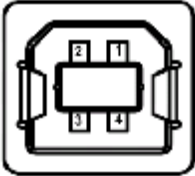
4.3 Erroneous Configuration Mode

A continuously lit red LED indicates that the device is in configuration mode. In this mode it will not set up a connection to the base station.

Refer to the Data Unwired System Manual for detailed configuration guidelines and information about operation modes. An alternate way to quit the configuration mode is to simply execute a power-off/power-on reset.

If such a problem occurs frequently you should consult the Hoeft & Wessel service line.

5. Appendix

5.1 USB Port Pinout

Pin No.	Signal
1	VBUS
2	D-
3	D+
4	GND

5.2 Manufacturer Address

Hoeft & Wessel AG
Rotenburger Str. 20
D-30659 Hannover

Phone: +49 511 / 6102 - 0
Fax: +49 511 / 6102 - 411

www.hoeft-wessel.com
info@hoeft-wessel.de

www.data-unwired.com

Service line: +49 1803 / 23 28 29