

User manual

HW 8612/F2
FHSS Serial Twin Port

Version 1.00

DATA  **UNWIRED**



HÖFT & WESSEL

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1 Introduction

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

The HW 8612/F2 is a powerful solution for cordless data communication when replacing V.24 cables by a radio connection in order to address different peripheral devices via common interface without hardware handshake.

Data Unwired FHSS (Frequency Hopping Spread Spectrum) systems operate in the 2.4 GHz ISM band and comply with FCC, IC and EC regulations.

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 8612/F2.

In case of problems during the installation or during the operation of the HW 8612/F2 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 Important user information

The HW 8612/F2 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 8612/F2

The HW 8612/F2 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!

1.2 Important information for users in the USA



NOTE:

This equipment contains a radio module with FCC-ID PGM860221.

It has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The maximum output power of the Base Station transmitter is 72 mW. The internal antennas used for this mobile transmitter must provide a separation distance of at least 20 cm from all persons and must not be co-located and operated in conjunction with any other antenna or transmitter.

1.3 Important information for users in Canada

**NOTE:**

This equipment contains a radio module with Industry Canada ID 4153A-860221.

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

2 Product description

2.1 Operational elements

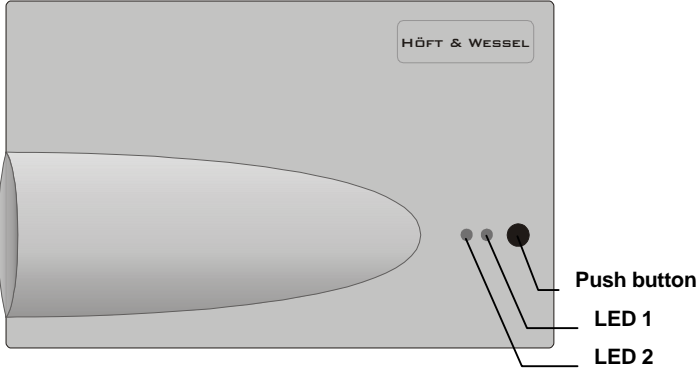


Figure 1: HW 8612/F2 top view

Push Button	No function
LED1	The two LEDs indicate the operational state of the device
LED2	

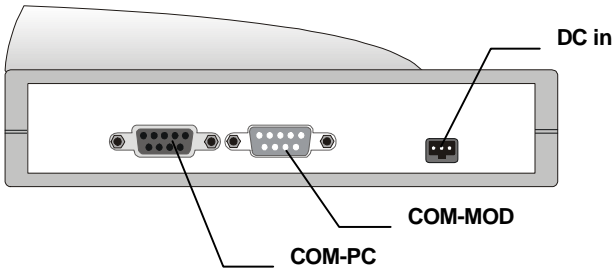


Figure 2: HW 8612/F2 back view

COM-PC	Connect the HW 8612/F2 to your computer via a serial data cable
COM-MOD	Connect the HW 8612/F2 to your modem or other peripheral device via a serial data cable
DC in	Connect the HW 8612/F2 to power supply

2.2 Technical specification

Dimensions:	approx. 145 x 88 x 46 mm
Weight:	approx. 180 g
Temperature range:	0 .. +55 °C operating
Power supply:	6.0 .. 10.0 V, 500 mA
Interfaces:	RS-232, 230.4 kBd (max) 2 serial interfaces (9-pin Sub-D connectors, V.24)
Frequency:	2.400 .. 2.483 GHz
Output power:	max. 100 mW
Standards:	EN 300 328 EN 301 489-1, -7, -17 EN 60950-1 FCC CFR 47 part 15 IC RSS-210
Modulation:	Gaussian FSK
Mode:	FHSS, 45 channels
Duty cycle:	max. 41.67 %
Data capacity:	230.4 kBd max., protected
Antenna system:	integrated monopole antenna
Range:	up to 60 m inhouse, up to 300 m outdoor
Operational elements:	1 push button 2 LEDs
Casing:	plastic housing, suitable for wall mount or desktop installation

2.3 Included delivery

The device is shipped with the following components:

- 1 x HW 8612/F2 with fixed part termination for use as base station
- 1 x HW 8612/F2 with portable part termination for use as mobile station

3 Installation

3.1 Data Unwired system architecture

The HW 8612/F2 act as base resp. mobile station of a Data Unwired system and are pre-configured by Hoeft & Wessel. The base station is terminated as fixed part (FT) and mobile station as portable (PT). Ensure your base and mobile station belong together.

3.2 Hardware installation of base station (FT)

- Connect COM-PC port of the HW8612/F2 labeled as "FT" to the COM port of your computer via serial data cable.
- For power supply, connect a class 2 AC adapter to the HW 8612/F2.

3.3 Hardware installation of mobile station (PT)

- Connect COM-MOD port of the HW8612/F2 labeled as "PT" to the COM port of your modem or other peripheral device via serial data cable.
- For power supply, connect a class 2 AC adapter to the HW 8612/F2.



NOTE!

Both HW8612/F2 devices are configured to work without hardware handshake.

3.3.1 Getting the best radio coverage

Like any radio device the coverage range of the HW 8612/F2 is limited by the available transmit power and losses on the radio path.

Data Unwired can bridge distances up to 300m in open space. In real environments the range is influenced by shielding, reflections and interference. In a typical indoor environment like an apartment, 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 base station 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 mobile and the base station.

INSTALLATION

3.4 LED display information

When the HW 8612/F2 is powered-on, one or both of the LEDs will light-up in intervals or continuously. This signals the operational state of the device. The meaning of the different LED displays is further explained below

3.4.1 Base station (FT)

LED1 (red)	LED2 (green)	Meaning
●	●	Power off condition
☀	☀●☀●	Power on, not locked to a base station (slow blink)
☀	☀	DECT connection to base station established While data is transmitted, LED2 flickers.
☀●☀●	●	Device has entered configuration mode.

3.4.2 Mobile station (PT)

LED1 (red)	LED2 (green)	Meaning
●	●	Power off condition
●	☀●☀●	Power on, not locked to a base station (slow blink)
●	☀	DECT connection to base station established While data is transmitted, LED2 flickers.
☀●☀●	●	Device has entered configuration mode.

4 Taking HW 8612/F2 into operation

As a default, the V.24 ports of both HW 8612/F2 are configured to

- 115.200 Bd
- 8 data bits
- no parity
- 1 stop bit
- RTS/CTS handshake off

You have to configure the COM port on your computer for these settings.

On Windows operating systems, applications usually do not directly access the COM port. Take care to set up the baud rate at the right place.

5 Using the HW 8612/F2

After the HW 8612/F2 has been taken into operation, your Data Unwired system is ready to be used.

A cordless data connection is automatically established after connecting both devices to the power supply. The only way to release the data connection is to power off one or both device.

6 Appendix

6.1 Serial port pinout

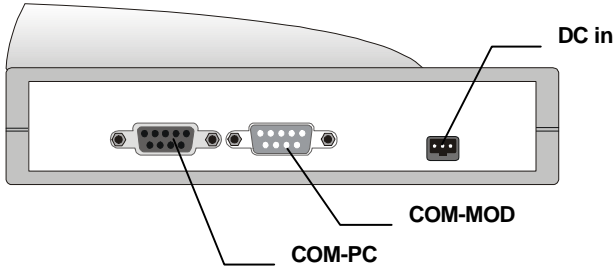
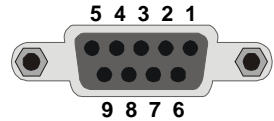


Figure 3: HW 8612/F2 back view

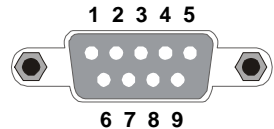
COM-PC

Pin no.	RS232 signal
1	DCD out
2	RXD out
3	TXD in
4	DTR in
5	GND
6	DSR out
7	RTS in
8	CTS out
9	RI out




COM-MOD

Pin no.	RS232 signal
1	DCD in
2	RXD in
3	TXD out
4	DTR out
5	GND
6	DSR in
7	RTS out
8	CTS in
9	RI in



6.2 EC Declaration of Conformity



HÖFT & WESSEL

CE

EU – Konformitätserklärung
EC - Declaration of Conformity

gemäß dem Gesetz über Funkanlagen und Telekommunikationsendeinrichtungen (FTEG)
und der Richtlinie 1999/5/EG (R&TTE)
in accordance with the Radio and Telecommunications Terminal Equipment Act (FTEG)
and Directive 1999/5/EC (R&TTE Directive)

Hersteller / Manufacturer: Höft & Wessel AG

Anschrift / Address: Rotenburger Straße 20, 30659 Hannover

Produkt / Product: FHSS Funkmodem
Wireless FHSS radio modem

Typ / Type: **HW 8612/F2**

Telekommunikations-Endeinrichtung
Telecommunications terminal equipment

Funkeinrichtung
Radio equipment

Höft & Wessel AG erklärt, dass das bezeichnete Produkt bei bestimmungsgemäßer Verwendung den grundlegenden Anforderungen des § 3 und den übrigen einschlägigen Bestimmungen des FTEG (Artikel 3 der R&TTE-Richtlinie) entspricht.
Höft & Wessel AG declares that the product complies with the essential requirements of §3 and the other relevant provisions of the FTEG (Article 3 of the R&TTE Directive) when used for its intended purpose.

Angewendete harmonisierte Normen / Harmonised standards applied:

Luftschnittstelle bei Funkanlagen gemäß § 3 (2) (Artikel 3 (2))
Air interface of the radio systems pursuant to article 3 (2)

EN 300328 : V1.7.1 (2006)

Schutzanforderungen in Bezug auf die elektromagnetische Verträglichkeit § 3 (1) 2 (Artikel 3 (1) b)
Protection requirements concerning electromagnetic compatibility according to article 3 (1) b


EN 301489-1 : 2005, EN 301489-7 : 2005, EN 301489-17 : 2002
EN 300328 : V1.7.1 (2006), EN 55022 : 1998+A1:2000+A2:2003
EN 61000-4-2: 1995+A1:1998+A2:2001, EN 61000-4-3: 2002+A1:2002, EN 61000-4-4: 2004,
EN 61000-4-5: 1995+A1:2001, EN 61000-4-6: 1996+A1:2001, EN 61000-4-11: 1994+A1:2001

Gesundheit und Sicherheit gemäß § 3 (1) 1 (Artikel 3 (1) a)
Health and safety requirements pursuant to article 3 (1) a

EN 60950-1 : 2006

Hannover, den 26.05.08
Place and date

Rechtsverbindliche Unterschrift
Name and signature



Hansjoachim Oehmen
Höft & Wessel AG

6.3 FCC Declaration of Conformity



HÖFT & WESSEL

Declaration of Conformity

This certificate is issued for:

Metric Group Inc.
2540 Route 130 Suite 114
Cranbury New Jersey 08512
+1609 395 8570

Responsible Party (must be located in US)

Product Description: Wireless FHSS Radio Modem
Brand Name: Höft & Wessel
Model Number: HW 8612/F2

The product complies with 47CFR Part 15, Subpart B

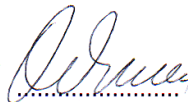
Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Additional Information

This DoC is only valid in combination with test report G0M20712-0327-P-15

June 02, 2008
Date



.....
Hansjoachim Oehmen
CEO Höft & Wessel AG

6.4 **Manufacturer adress**

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