

# W41USB

## Mobile data decoder/analyzer/recorder

High portability and quick computer changes makes this USB system the first choice for setting up mobile, outdoor monitoring and surveillance environments in combination with a notebook. All functions of the W41PC MK-II are still available. The full support of Windows™ 98/ME/2000 operating systems lets the W41USB easily communicate with other applications. Real DSP technology is combined with today's PC power.



### General Description

The W41USB decoder offers all the necessary functions to analyze, decode and process radio communication transmissions. The complete electronic circuitry is realized in an external box, which is directly connected to a PC via USB. W41USB itself receives the power from an external power supply, which is included in the package. As the W41USB only needs 12 V for op-

eration, it is very well suited for outdoor use.

W41USB can be used interactively or via remote control. This allows the plug-in system to be adapted to the client's needs and applications.

Using an audio or IF signal,



W41USB decodes a variety of text and graphical transmission modes. The detection of signal parameters is assisted by a large number of analysis and measurement functions that operate over a wide range.

W41USB is related to W41PC MK-II, so W41USB covers the same functionality like W41PC MK-II, except only one W41USB system can be connected to one PC. It is also not possible to use one W41USB system with a W41PC MK-II card in the same PC. The W41USB user interface is able to communicate with a W41PC MK-II card over the network.

### Special Functions

To decode and analyze signal transmissions W41USB is equipped with two Digital Signal Processors (DSP) plus an additional application specific processor unit. With their power and efficiency, the

DSP's allow the realization of real-time demodulators. The application specific processor manages the processing, and provides a fast and flexible memory port to the PC via the USB bus. Another part of the W41USB application runs on the PC, making the

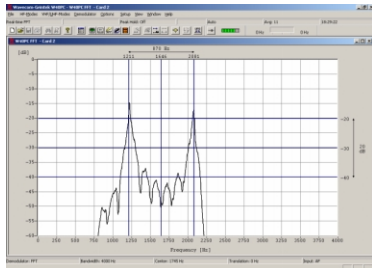
whole computing power of the PC available for the data processing. The W41USB application software can utilize DCOM to communicate with the W41USB or W41PC MK-II hardware over the network. One W41USB system can be connected to a computer or notebook (PC), providing the basis for a high performance signal decoding system. This combined with the network capabilities allows a system to be extended for many possible configurations. Complex systems for massive data handling are only limited by the performance of the used computers and the network.

Operation within a network is completely transparent for the user. Configuration of system components can be completely adapted to particular needs. A W41USB box can be controlled from everywhere and its output can be sent to one or more applications on the network.

The reference in data decoding

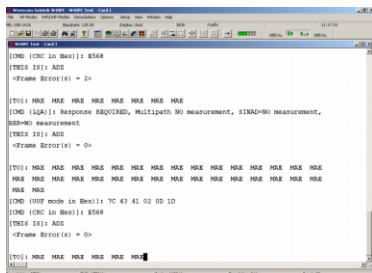


The W41USB application is a full 32-bit Microsoft® Windows™ application providing a familiar user interface. This has the advantage of automatically supporting graphics adaptors, printers and other functions that are supported by the operating system.



To process data output, control the hardware and the mode parameters of the W41USB, a Remote control interface (DCOM) is implemented. It allows the direct integration of the W41USB into customer applications (professional user only).

The easy-to-use man-machine interface with clearly structured pull-down menus allows an operator to become familiar with the W41USB in a short time. A high degree of operator proficiency can quickly be achieved. All of the integrated analysis tools contain different measuring methods and viewing options. It helps you to examine the important signal parameters in detail.



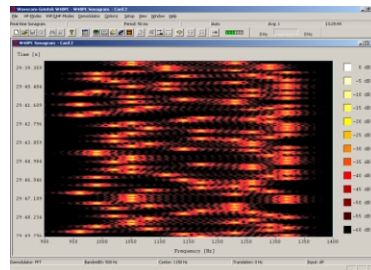
The W41USB reaches a unique precision and operates with highest resolutions. It is easy to make exact measurements using adjustable cursors with associated numerical displays. Dynamic

zoom functions allow magnification of details in any selected window. Scroll buffering makes it possible to move back and forward within signal history.

Real-time FFT functions with a fast display refresh rate are realized with high speed Motorola® DSP's. Additional functions provide powerful tools especially suitable for analyzing unknown signals.

A wide range of default system settings can be configured. Some examples are, input signal level, sampling rate, measuring interval, centre frequency and demodulator. Additionally a variety of international alphabets can be selected.

More than 110 modes are currently implemented. A variety of different alphabets are included in the standard package.



## Applications

Typical fields of application for the W41USB box include:

- mobile monitoring
- manual or automated monitoring of radio communication transmissions in the HF and VHF/UHF/SHF (satellite) bands
- signal intelligence
- signal analysis and classification

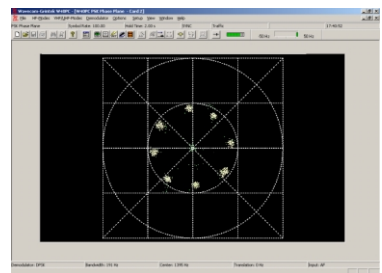
Within official bodies and telecommunication authorities the range of applications is from mobile and stationary monitoring of one transmission with a single system to fully automated broadband monitoring with a network of cooperating systems. The frequency range covers a spectrum

from the audio frequencies up to microwaves.

The fully documented remote control interface (professional user only) makes integration into almost every user environment very easy. This could be the direct decoding of a single, fixed frequency transmission or the overall signal analysis of a complete pager network.

Automatic mode recognition of FSK modes makes completely autonomous operation possible. Decoded data can be routed to be processed by user applications running on the same or another computer in the network. The Alarm-Monitor included with the W41USB, is an example of such an application. It will play a sound or sends a pager message if it detects some preset words in the received text. With such applications the data output of the W41USB can also be used to control receivers (example shoc RadioSpectrumManager), recording equipment or be fed into complex data analysis tools for post processing.

Another tool included with the W41USB is the SAT C Monitor. This tool will save, sort and restore the data received from a SAT C channel.



The full technical details are found in our W41PC MK-II brochure.

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