

FELDHELL MACHINE FOR DOS PC AND CW TRANSMITTER

(2000)



Feld Hell program for DOS PC and CW transmitter.

The difference

This FELDHELL machine is intended for keying a CW transmitter. So it is different from the usual approach, connecting the soundcard to the microphone input of the SSB transmitter. The interface is connected to the LPT1 printer port and a transistor is keying your CW transmitter. The audio output of the receiver is connected to a simple A/D converter, constructed with simple ordinary electronic parts.

The DOS program is tested on an old PS2 (286) PC and its speed was sufficient.

The advantages of this FELDHELL machine is that it can key your homemade CW QRP transmitter and that it is possible to transmit and receive at the same time. You can receive and decode your own transmitted signal. And for the rest you do not need a modern PC. If you have an old one somewhere, that will do the job.

Working principle

The internal timer interrupt of the PC is used to transmit and receive with the correct symbol rate. This timer is also used for the D/A conversion.

IC1A amplifies the audio input signal. IC1B + IC2A are a double phase rectifier. IC2B is a low pass filter for the detected signals. This signal is amplified by IC3A. The BC547 and IC3B are a simple A/D converter. The time to charge the 10nF capacitor to toggle comparator IC3B is measured by the PC's internal timer.

NOTE: The pins with the text Px refer to the pin numbers of the Centronics plug.

Running the program

Connect the HELL interface to LPT1 via a Centronics printer cable.

For accurate results, your PC should run in DOS mode, not in Windows. Start the program by typing HELL01.EXE. Read the Explanation of the program to find out how everything works.

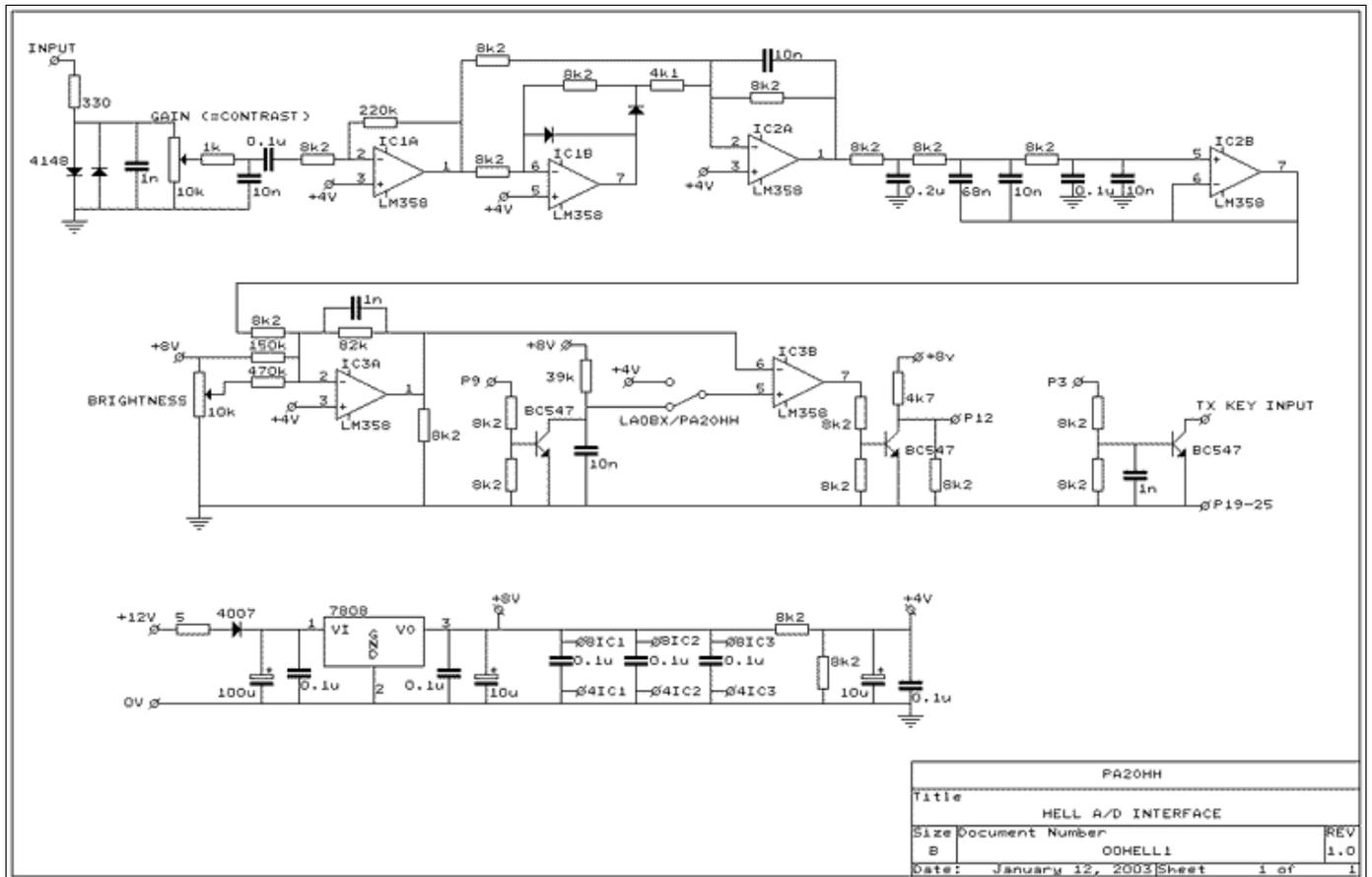
You can run the program without any hardware. To see how the reception of signals works, activate the replay mode and replay the HELL001.HRX file that you can download as a ZIP file.

Download the software

- [HELL01A.ZIP \(39k\)](#) containing HELL01.EXE DOS program.
- [HELL01B.ZIP \(15k\)](#) containing HELL01.C source code.
- [HELL01C.ZIP \(68k\)](#) containing EXAMPLE1.HRX and EXAMPLE2.HRX files for replay demonstration without hardware interface.

Example 1 is recorded while conditions were quite good.

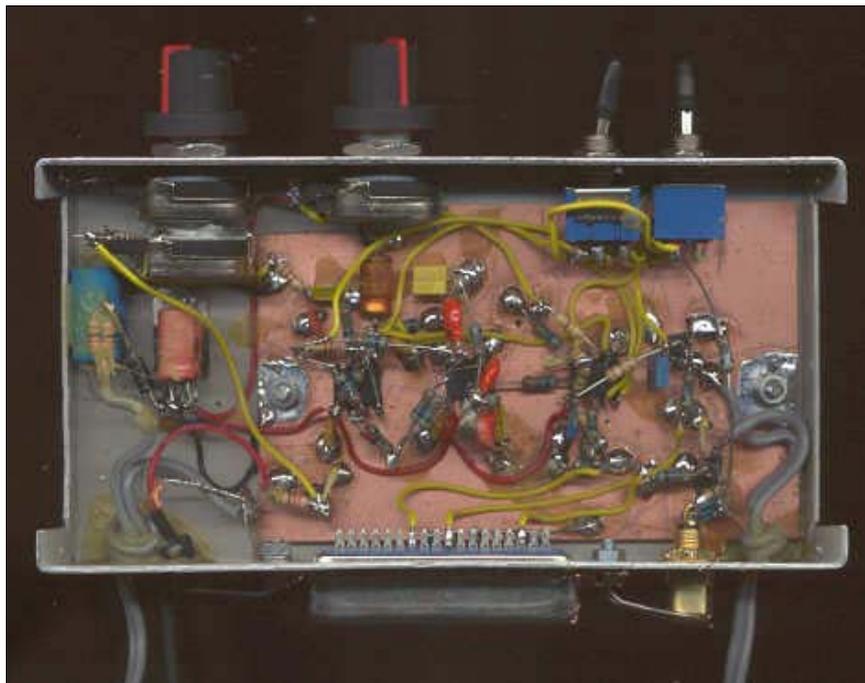
Example 2 is with a lot of fast QSB and gives a good impression about reception of HELL signals under various conditions.



Circuit diagram
big diagram



The interface (there are some extra switches for other experiments)



Inside the box

[BACK TO INDEX PA20HH](#)