

Technical Information

Operating Instructions

**Time Synchronization
for DOS/Windows**

Impressum

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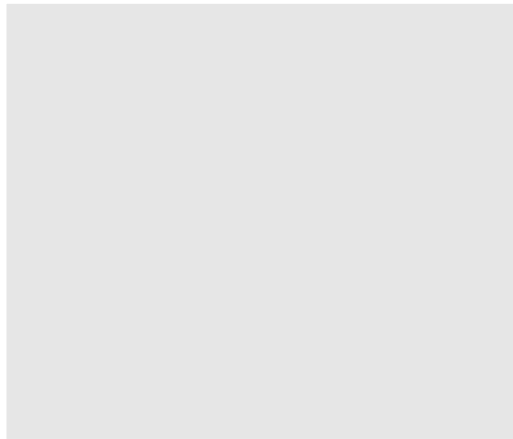
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Driver Diskette for DOS/Windows



Files on the Driver Diskette

Root directory:

DATEIEN.TXT	this list of files in German language
LIESMICH.TXT	last changes/modifications in German language
FILES.TXT	this list of files in English
README.TXT	last changes/modifications in English
@6AAC.ADF	Adapter Description File (required for PS31 only)
PCPSINFO.EXE	shows continuously the board's status
PCPSTIME.EXE	adjust computer time when being called, not resident
PCPSCLOC.EXE	Analog clock displayed with HGC/EGA/VGA graphic
PCPSDRV.COM	resident driver, keeps computer time synchronized with board time
DRV.EXE	temporarily disables the resident driver
DISP.EXE	enables or disables the permanent date/time window
POSXY.EXE	positions the permanent date/time window on the screen
COLOR.EXE	sets the screen attribute of the permanent date/time window

Support for other Operating Systems

Drivers for the operating systems listed below are optionally available:

IBM OS/2 v2.1 and above

Novell NetWare v3.11 and above

Microsoft Windows NT v3.51 and above

Copying the distributed Software to the Hard Disk

When the computer has come up after power on the utility programs should be copied from the shipped diskette to a subdirectory on the hard disk. Assume the current drive is C: and the new subdirectory is to be created on the current drive, create that subdirectory (e.g. called MEINBERG) using the command

MD \MEINBERG

from the DOS command line. Make the new subdirectory the current one using the command

```
CD \MEINBERG
```

If the utility diskette is inserted in drive A: use the following command to copy the files and subdirectories from the diskette to the hard disk:

```
XCOPY A:.*.* /S
```

Using PCPSINFO.EXE

After the board has been installed in the computer the program **PCPSINFO.EXE** should be run in order to see if the board has been properly installed. This program can display its messages in English or in German language and the date and time in formats used in the USA, the UK, or Germany. The default language and formats used are derived from the DOS country code at startup. If automatic language detection does not yield the desired result, you can force a language and date/time format using a command line parameter or by pressing a function key when the program is running. The command syntax is shown below:

PCPSINFO [P:xxx] [C:xx] [MONO] [?]

Usage of the command line parameters is described below:

- P:xxx** The board is installed using addresss xxx (hex). This parameter can be omitted if the address matches the default address (300 hex).
- C:xx** Country code override. The default country code to be used is derived from the COUNTRY=... entry in the CONFIG.SYS file.
xx may be set to 49 (Germany, 24h clock, dd.mm.yy), 44 (U.K, 12h clock, dd/mm/yy) or 1 (USA, 12h clock, mm-dd-yy).
- MONO** Force monochrome display even if color display installed. May increase the readability on LC displays often used with laptops.
- ?** Displays a message how to setup port address and how to use the program. Output can be redirected to printer (append ">LPT1" to the command line) or file (append ">filename").

This program provides menus which let the user change the radio clock's on-board date and time, time zone settings, and configuration parameters of the board's serial port. If the resident driver is loaded, the program also shows the driver's time synchronization status.

The resident driver for DOS/Windows

The resident driver PCPSDRV.COM runs with DOS version 3.3 or greater and Windows 3.x. It uses only a small amount of memory and keeps the system time close to the radio clock's on-board time. Additionally, the driver is able to display the board's time continuously in a window on the text screen. This feature can be enabled and controlled by some of the utility programs (see next chapter). If the driver finds upper memory, it automatically loads high.

In order to avoid conflicts accessing the board the driver should not be installed or be temporarily disabled using the utility DRV.EXE if user-written software accesses the board.

If the driver has to be installed every boot time, it should be called from the AUTOEXEC.BAT which should reside in the root directory of the boot drive. Assuming the driver file can be found in the directory MEINBERG on drive C:, a command line like that shown below should be added to the AUTOEXEC.BAT using any text editor:

```
C:\MEINBERG\PCPSDRV [port addr] [U:xxxx] [I] [R]
```

The parameter **port addr** must be given if the board's port base address differs from 300 hex.

The optional parameter **U:xxxx** can be used to set the time span to be used for the periodical update of the system time. Valid numbers for xxxx are 1 to 3600 (seconds). If this parameter is omitted the time span defaults to 1800 seconds (= 30 minutes).

The parameter **I** must be given in the command line if the driver shall modify the computer's time just after being installed. In the default case the computer's system time will only be modified when the clock has synchronized after power-up.

The last parameter **R** tells the resident driver to set the real time clock in AT compatible computers directly. This is only required if the DOS/BIOS interrupts which modify the computer's time are redirected by other applications as on Novell Netware 2.xx file servers. In the default case this parameter should not be used in order to minimize the execution time of the resident driver.

Controlling the Resident Driver

If the resident driver **PCPSDRV.COM** has been installed, some of the utility programs can be used to control the way it works. The programs described below show a few help lines when they are called without command line parameters.

DRV.EXE temporarily disables the resident driver's access to the board.
Command: DRV ON or DRV OFF
Default: enabled

DISP.EXE enables or disables the date/time window on the screen.
Command: DISP ON or DISP OFF
Default: disabled

COLOR.EXE sets up the screen attribute of the date/time window
Command: COLOR fg bg
with fg and bg the color numbers of the foreground/background
Default: white characters on black

POSXY.EXE sets up the screen position of the date/time window.
Command: POSXY column row
Default: upper right corner of the screen

Using these utilities, you can enable or disable the date/time window only when special applications are run.

