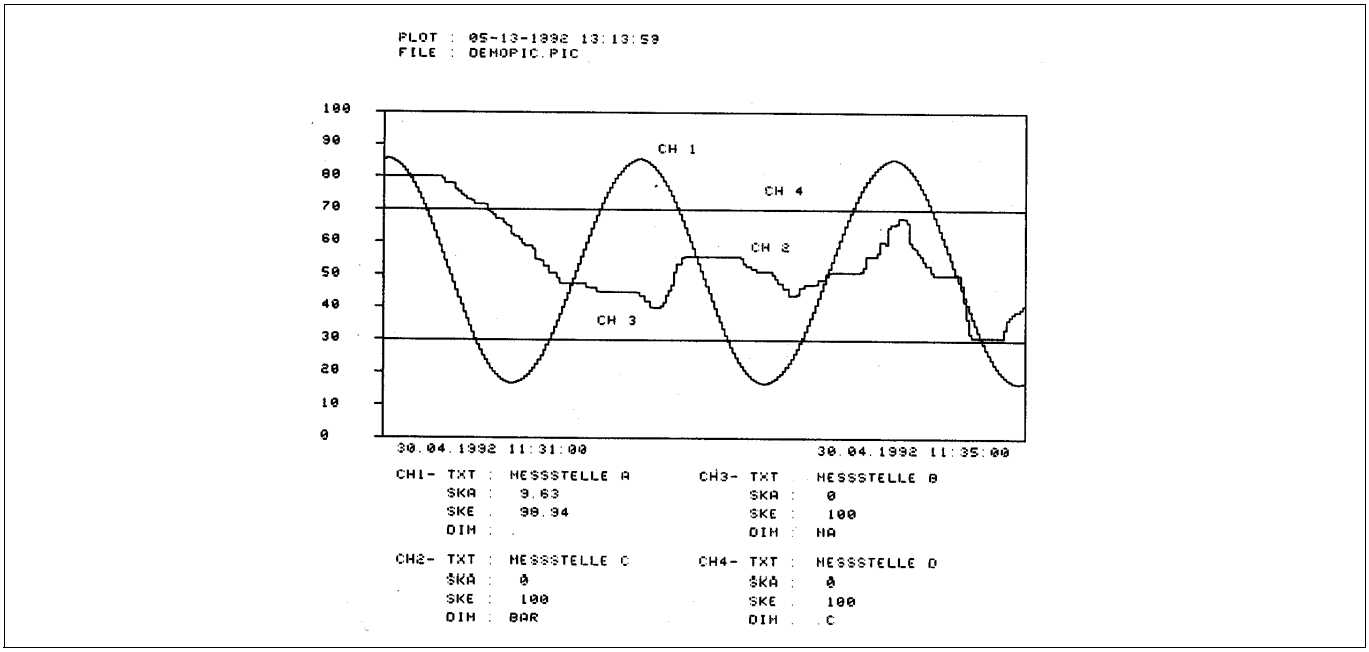
Datavis - PROG3

Curve evaluation



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1 Installation, Program Start and Copy Protection

PC hardware required:
IBM PC-XT, PC-AT, PS/2 and 100 compatibles with 286, 386, and 486-processor
With mouse operation:
Serial Microsoft mouse and compatibles
Minimal hardware compliment:
640 KByte RAM
Monochrome or color VDU (at least EGA)
Hard disk C
Operating system:
MS DOS as from version 3.1

Installation on hard disk:

Note:
The program is not suitable for a network or multitasking.
The program is copy-protected and the utilization authorization cannot be copied.
However the utilization authorization can be transferred from one storage medium to another (from original diskette to the hard diskette and vice versa).

- It is recommended that a separate subdirectory be created for the program on the hard disk.
- Then load all files from the program diskette into the previously defined subdirectory (MS DOS COMmand).
- Install the utilization authorization on the hard disk.

Note:
The program diskette supplied contains 2 utilization authorizations. One remains permanently on the diskette so only one transfer of the utilization authorization to a PC hard disk can be made, the diskette itself however can be used in a disk drive of another PC having completed on the hard disk the copying procedure described above.

- Deactivate the mechanical write protection on the diskette, insert diskette into drive A (B).
- Enter command "EVMOVE A: C:" for source drive A:; enter command "EVMOVE B: C:" for source drive B:.
- Remove diskette and reactivate write protection.
- De-install utilization authorization.

  If one intends transferring the program to another hard disk after installing it as described above, the utilization authorization must be transferred from the hard disk to the original diskette.
- Deactivate the write protection on the diskette and insert diskette into drive.
- Enter command"A:\EVMOVE C: A:" for target drive A:; enter command "B:\EVMOVE C: B:" for target drive B:.
- Reactivate the write protection. Now, having de-installed the utilization authorization on the original diskette, the original diskette can be installed on another hard disk.

Program start:

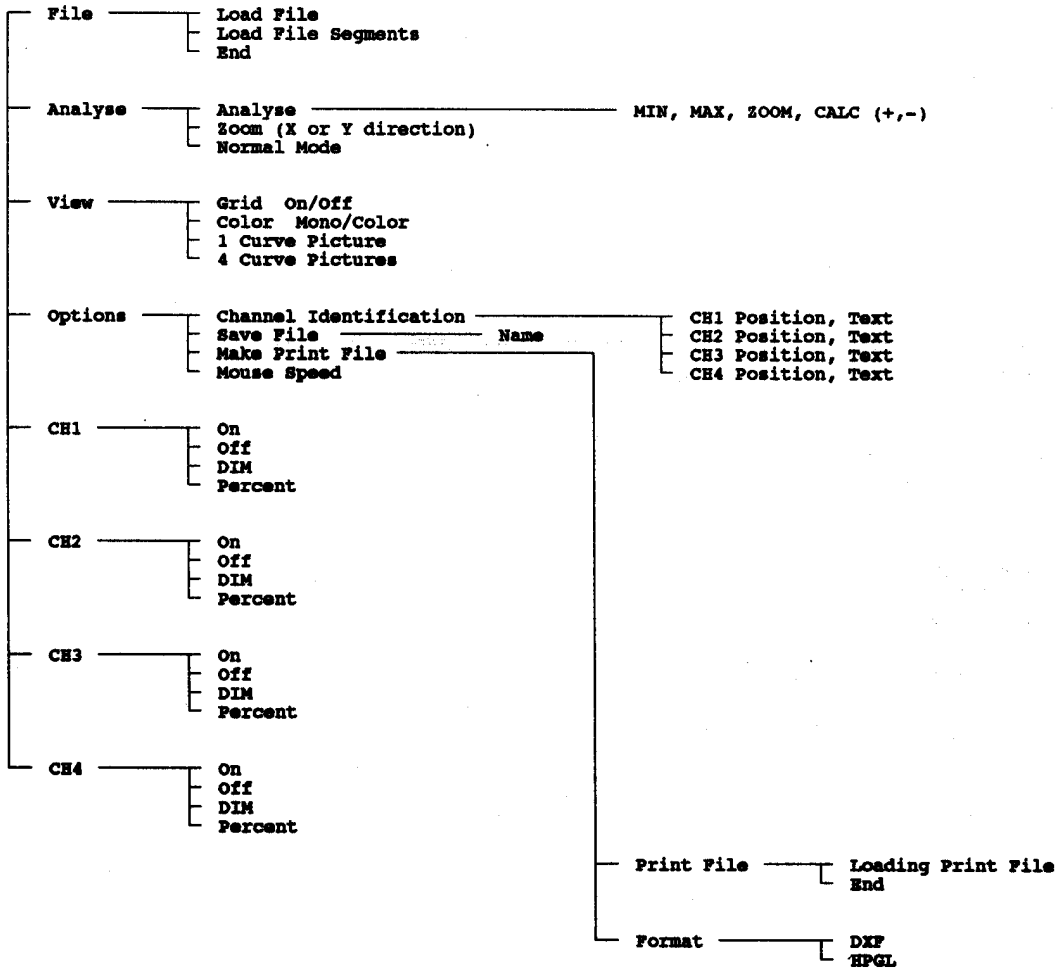
- The program is started with the command PROG3.EXE.

2 DESCRIPTION

The program permits display of a binary file in curve form. The binary file is compiled by the software Datavis A -PROG2- Read and Convert Program (see also Section 7). This binary file reflects the entire memory contents of Datavis A.

The curves displayed can be analyzed as follows: Zoom in X and Y direction, calculation within the curves (subtraction or addition of measured values at different times), determination of the MIN and MAX values within a curve. Furthermore, printer files can be compiled in DXF or HPGL format. These printer files can be transferred to standard programs, e.g.: DXF to the SKETCH or AUTOCAD programs and HPGL to Wordperfect or Word. The printer files can then be printed out as graphics via these programs.

3 Program Structure



4 Program Operation

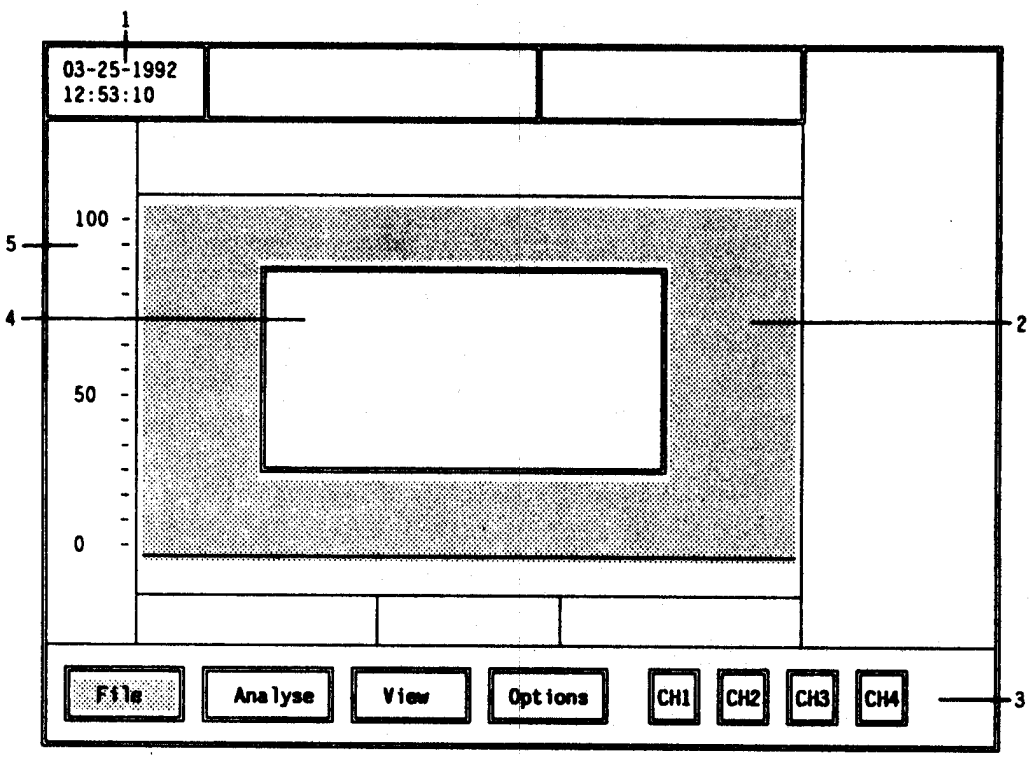


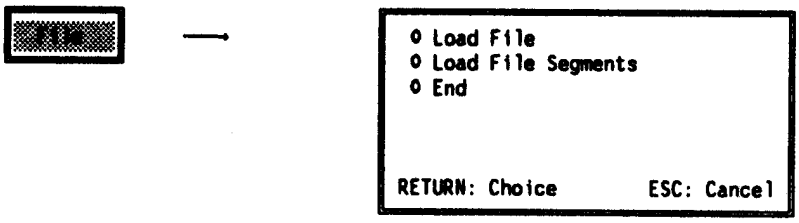
Fig. 1

1 Current date (MM DD Y)/time (hh:mm:ss)
2 Field for curve display
3 Menu bar
4 Window for submenus
5 Scaling field

The menus to be selected in the menu bar are called via the cursor keys of the keyboard or via a mouse. The selection made is confirmed with ENTER key or with the left mouse button.

A binary file must always be loaded first after each new start (menu point FILE).

4.1 FILE MENU



4.1.1 LOAD FILE

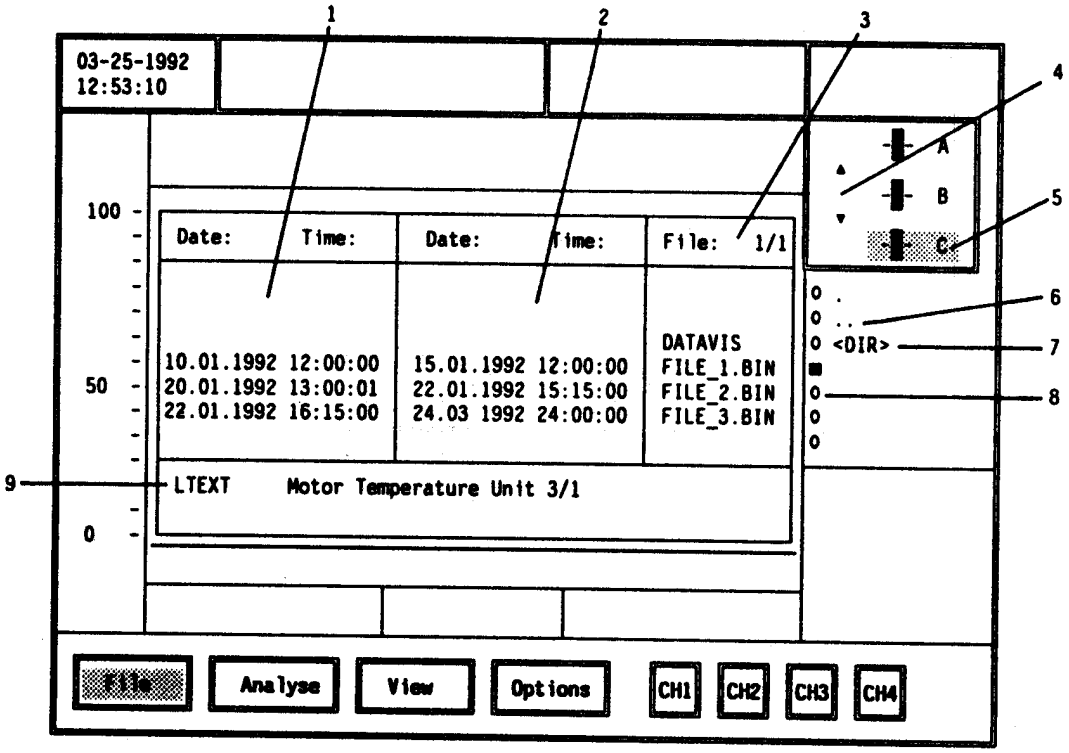


Fig. 2

1 File start time/date
2 File end time/date
3 Page specification of the directory/file list
4 Selection of the disk drive of the file list with PgUp or PgDn
5 Selected drive
6 Higher-level directory
7 Subdirectory
8 File listing
9 Long text (description) of the selected file

LOAD FILE permits the loading of a binary file which is to be displayed as a curve. The disk drive possibly containing a subdirectory from which the program was started is always presented first. The program itself detects other existing drives and presents them for selection. Up to 3 drives (A, B and C) can be recognized. The disk drive can be changed by pressing the appropriate key (A for drive A etc.) or with a mouse click. The present
binary files are recognized and displayed (file listing). Only binary files read with the H&B Read and Convert program -PROG2- and featuring there the extension ".BIN" are listed.
The active disk drive is displayed through highlighting. The number of listing pages is shown in the page specification. One can page forwards with PgUp and backwards with PgDn. For mouse operation, move to the arrow symbols beside the drive specification and acknowledge with a mouse click. The start time and end time of the files shown in the curves are listed. The long text assigned to the binary file during reading is also displayed. Select file with Up/Down cursor key and ENTER or with the mouse and left mouse button.

4.1.2 LOAD FILE SEGMENTS

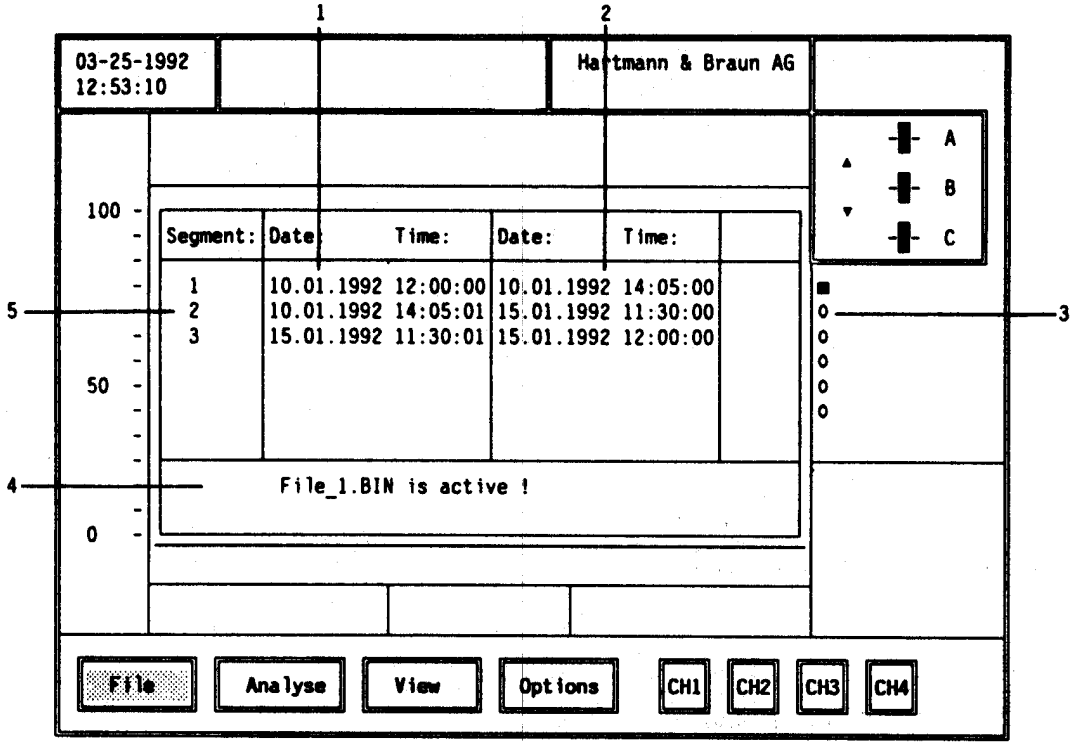


Fig. 3

1 File segment start time/date
2 File segment end time/date
3 File segment selection
4 Display of the selected files to which the segments listed belong
5 Numbers of the segments of the selected file

A binary file reflects the entire memory contents of Datavis A. Here it is possible that one file consists of several segments, such is the case if the following parameters were changed on Datavis A during operation: date/time, mains failure, measuring range, scaling, signal processing, cycle time of the memory or alarm signal functions.

Caution:
Modifications of measuring point designation or dimension do not result in a new segment. After selection of a file via LOAD FILE the segments of the file are listed automatically.
The start and end time of each segment are listed additionally.

- Having analyzed a segment, the next segment can be loaded via the submenu LOAD FILE SEGMENTS etc. The file name to which the segments belong is displayed.

- Select the file with the Up/Down cursor key and ENTER or with the mouse and left mouse button.

4.1.2.1 CURVE DISPLAY

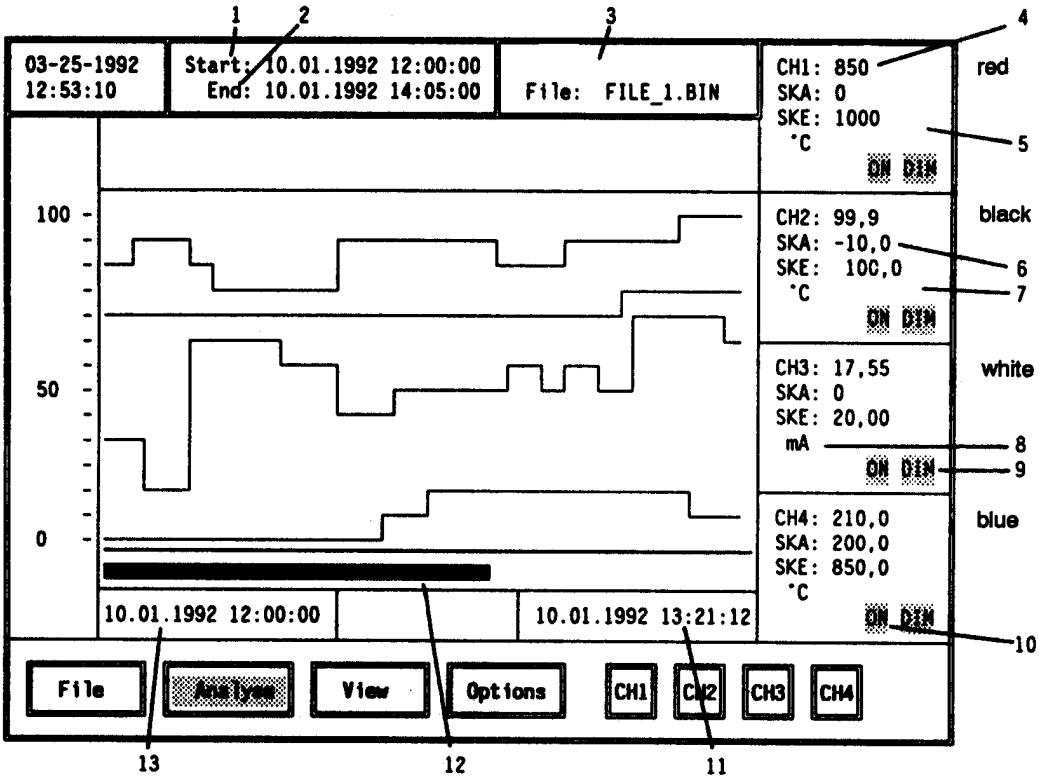


Fig. 4

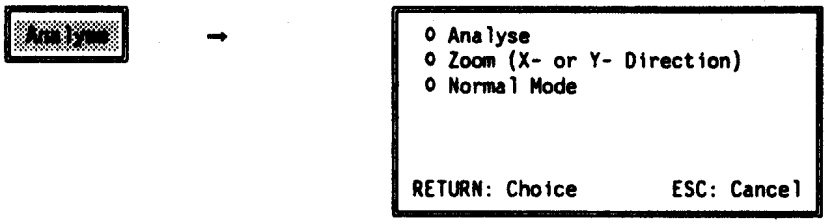
1 File (segment) start time
2 File (segment) end time
3 File name
4 Measured value
5 Field for channel 1
6 Lower scale value
7 Upper scale value
8 Dimension specification
9 Code indicating whether values are displayed in the original dimension or in %
10 Code indicating whether channel is displayed
11 End time of the depicted curve display
12 Length of the depicted file (segment) time interval in relationship with the entire file
13 Start time of the depicted curve display

The curves of a file (segment) are displayed in four colors (EGA graphics) on the screen. Channels which have not been saved in Datavis A are not displayed here either and the associated channel field remains blank. The curves are displayed with as high a resolution as possible. This can result in only the lower range being displayed rather than the entire file contents. The range of the entire file (segment) is designated by a yellow bar beneath the curve display. The start and end time of the displayed curves as well as those of the entire file are shown.
Data pertaining to a channel are shown in the respective channel field.

4.1.3 END

■ Quit the curve evaluation program and return to the DOS level.

4.2 ANALYSIS MENU



4.2.1 ANALYSIS

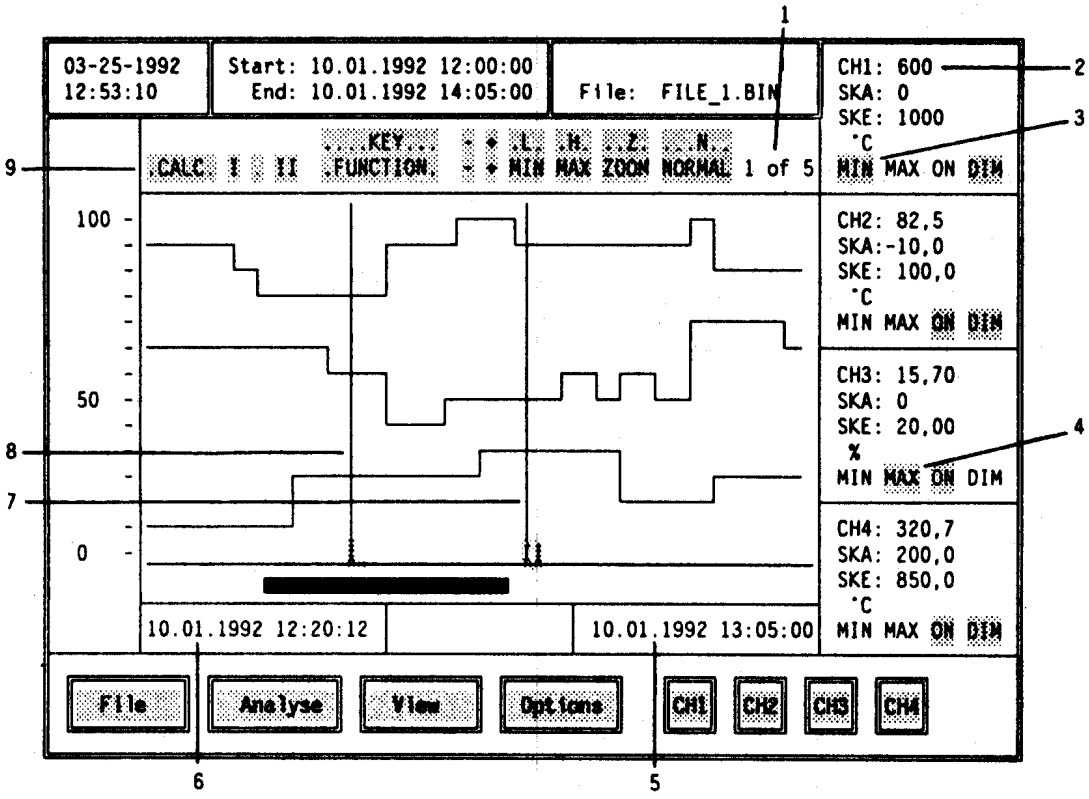


Fig. 5

1 ZOOM factor
2 Channel measured value
3 Code for Channel MIN value display
4 Code for Channel MAX value display
5 Time with reference line II
6 Time with reference line I
7 Reference line II
8 Reference line I
9 Analysis operations

The analysis menu permits evaluation of the displayed curves.

Analysis facilities:

- **Scaling**

  The channel-specific scalings at the left margin of the curve display can be called.
  Key "1": Scaling of channel 1
  Key "2": Scaling of channel 2
  Key "3: Scaling of channel 3
  Key "4": Scaling of channel 4
  Key "5": Scaling in percent

- **Measured value analysis**

  - By actuating the right/left cursor key or moving the mouse a reference line is superimposed on the curve display.
  - Using the keys mentioned or the mouse this line can be moved across the curve display.
    In the channel fields the measured value which is marked by means of the reference line is displayed for each channel. The associated time appears on the lower left.

- **MIN/MAX values**

  - By actuating the key "L" the minimum value of a channel is indicated by the cursor line. Repeated actuation of "L" switches the channels forward. The currently examined channel is indicated by means of a yellow highlighted field bearing the designation MIN in the respective channel field. The associated measured value is also displayed in the channel field.
  - The maximum value is found by means of the key "H". The functioning method is the same as for the minimum actual value.
    The maximum value is indicated in the channel field by means of a yellow highlighted field bearing the designation MAX.

- **ZOOM**

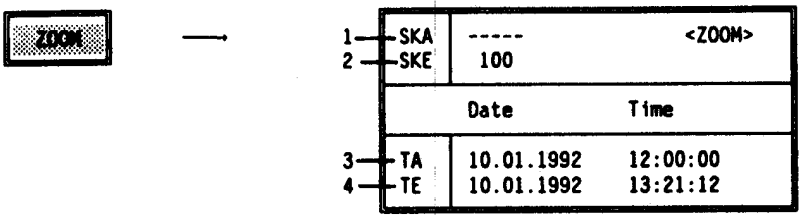
  Here any arbitrary time segment from the depicted curve display can be expanded on the entire diagram surface.
  - To this effect, the first reference line (I) must be positioned to the lower ZOOM value and acknowledged with ENTER. With mouse operation, acknowledge is effected by actuating the left mouse button.
  - Then, a second reference line (II) is superimposed by pressing the cursor key or moving the mouse; this line must be positioned to the upper ZOOM value.
  - Acknowledge with the ENTER key or mouse button.
    The times at which the reference lines are positioned are shown beneath the curve display.
  - If the ZOOM range has been determined, perform zooming using the key "Z".
    The ZOOM factor (to begin with 1 of 5) is shown on the right, above the curve display. This procedure can be continued up to step 5, i.e. determine the range reference line I and II and switch on zoom with key "Z". The currently displayed time range of the curve display is indicated by means of the yellow bar on the lower margin of the curve display.
  - ZOOMING can be canceled in steps by actuating the key "N".
    In the zoomed displays, all other analysis functions are available without restriction.
  - Cursor lines can be canceled with the ESC key or left mouse button.

- **CALC**

  Here calculations can be made within the channels.
  - To begin with, position reference line I.
    With ENTER call reference line II and position.
  - Having acknowledged reference line II with ENTER or with the left mouse button the calculation function can be called via key "-" for subtraction or key "+" for addition. The values at which the reference lines are positioned are subtracted or added.
    The calculation result appears in the respective channel field.

  - Quit the analysis functions with ESC.
  - Quit the analysis menus with ESC.

4.2.2 ZOOM



1 Scaling start in %
2 Scaling end in %
3 Start time/date of the current curve display
4 End time/date of the current curve display

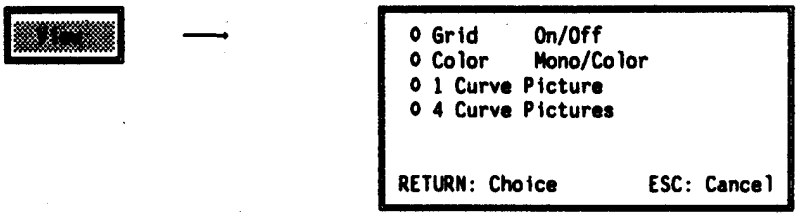
Zooming is possible here in both the X and Y direction. Either the lower scale value SKA or the upper scale value SKE can be changed.

- Entries are made in percentage values with max. one digit after the decimal point (must be entered as a point).
- New values must be acknowledged with ENTER.
- Values which are not to be modified must also be switched through with ENTER.
- New diagram start times (SKA) and end times (SKE) are modified in the same manner. Ensure that the time range lies within the file.
  The dimension-related scalings of the individual channels are also converted after zooming.

4.2.3 Normal mode

All the ZOOM parameters previously set are canceled with this facility.

4.3 VIEW MENU



4.3.1 GRID

A grid featuring vertical and horizontal lines is superimposed on the curve display, thus facilitating evaluation.

4.3.2 COLOR

Select whether work is to be performed on a color or black/white monitor.

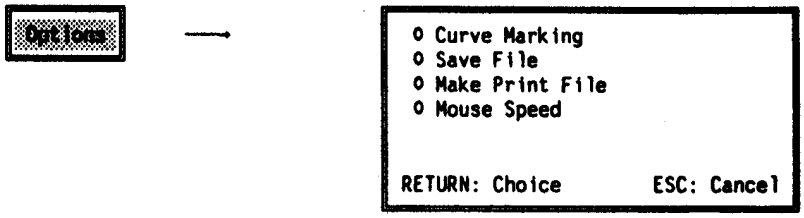
4.3.3 1 CURVE PICTURE

Depiction of 4 max. curves, one above the other.

4.3.4 4 CURVE PICTURES

Depiction of individual curves in 4 separate diagrams with a reduced Y axis.

4.4 OPTIONS MENU



4.4.1 CURVE MARKING (CHANNEL DESIGNATION)

To begin with the position of the identification text is queried.

- A start marker (+) is superimposed on the curve display; this marker can be displaced with the keyboard cursor keys.
  Note: Mouse operation is not possible here.
- Acknowledge position with ENTER.
- Then enter the text (max. 20 characters), using only uppercase letters. Acknowledge text entry with ENTER. Channels 1 to 4 are processed successively (quit with ESC).
- Calling this menu point again results in deletion of all the identification texts previously entered.

4.4.2 SAVE FILE

The curve display shown on the monitor is saved as a display file. A file name (max. 8 characters) must be specified for this purpose. The file extension is determined as .PIC. The file is stored in the directory from which the binary file had been loaded.

4.4.3 MAKE PRINT FILE/PLOT

This menu point leads automatically to a subprogram for compilation of printer files or for direct printout of a curve display on a PostScript-capable laser printer.

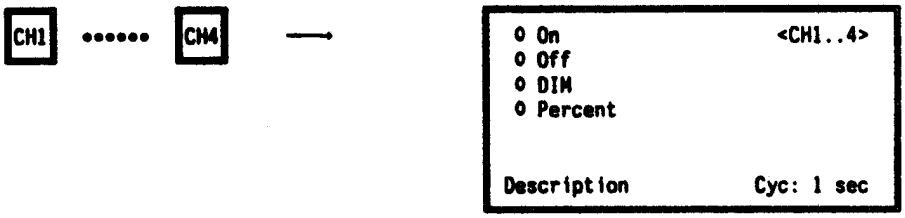
- Before a printer file or a curve printout can be compiled, the curve display must first be saved with the menu point SAVE FILE.

See Section 5 for the further program sequence.

4.4.4 MOUSE SPEED

The mouse speed can be set here.

4.5 MENU CH1..CH4



4.5.1 CHANNEL ON

The curve of the selected channel is displayed.
It is displayed by means of a white highlighted field bearing the designation ON.

4.5.2 CHANNEL OFF

The curve of the selected channel is blanked out.
The information in the channel field on the right hand side of the display is preserved.

4.5.3 CHANNEL DIM

The measured values are displayed in the original dimension (as recorded by Datavis A).
The dimension is displayed by means of a white highlighted field bearing the designation DIM.

4.5.4 CHANNEL PERCENT

The measured values are displayed in percent (0% = SKA and 100% = SKE in the non-zoomed state).

5 MAKE PRINT FILE

The display files created and saved under 4.2.2 can be converted here into printer files in the formats .DXF or .HPG (HPGL format).

- The following display appears after selecting the menus "OPTIONS / MAKE PRINT FILE". Since a subprogram is called here internally the screen is blanked out briefly.

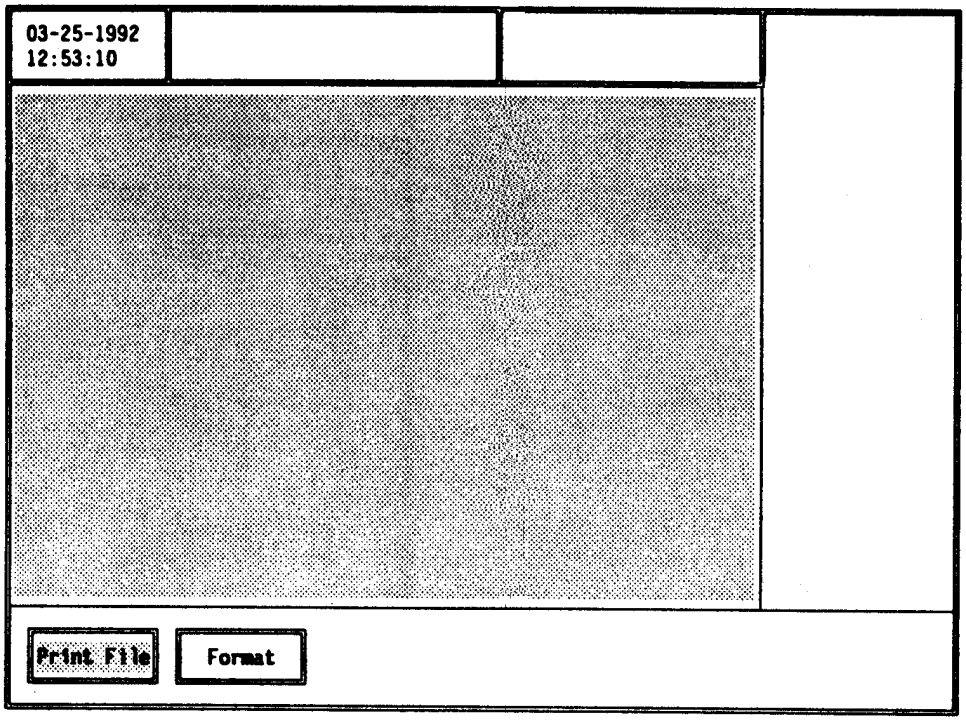
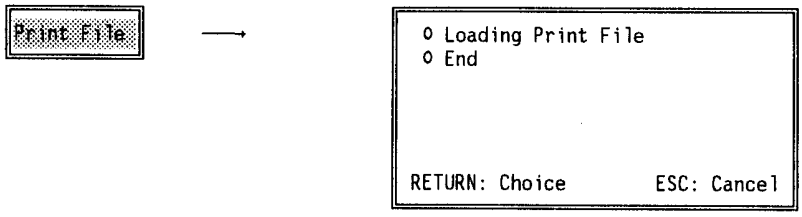


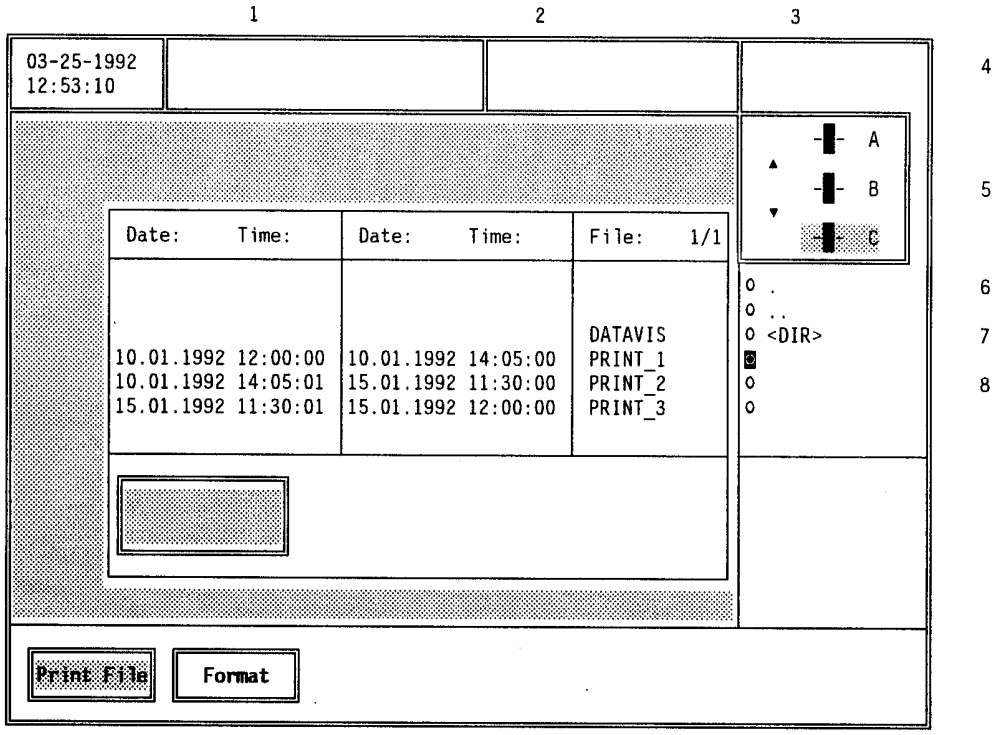
Fig. 6

5.1 MENU PRINT FILE (BILDDATEI LADEN)



5.1.1 LOADING PRINT FILE (DRUCKERDATEI LADEN)

Bild 7

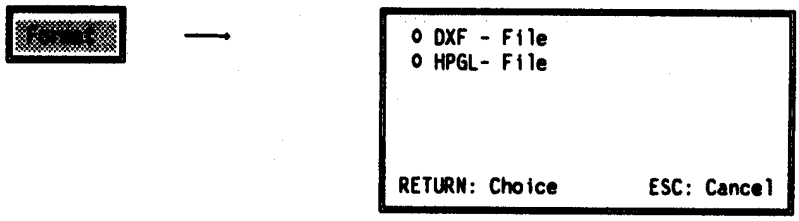


1 Print File-Anfangsdatum/-zeit
2 Print File-Endedatum/-zeit
3 Fileliste mit Seitenangabe
4 Auswahl der Fileliste mit PgUp bzw. PgDn
5 gewähltes Laufwerk
6 übergeordnetes Verzeichnis
7 Unterverzeichnis
8 Print File-Listing
9 Diagramm des gewählten Print Files (Icon)

5.1.2 END

Beendigung des Unterprogramms zur Druckerdateierzeugung und Rücksprung ins Kurvenauswerteprogramm. Dabei wird der Monitor kurzzeitig dunkelgesteuert.

5.2 FORMAT MENU



The name of the display file previously loaded appears on the upper left of the monitor.

5.2.1 DXF FILE

A printer file is compiled in the DXF format.

5.2.2 HPGL FILE

A printer file is compiled in the HPGL format.

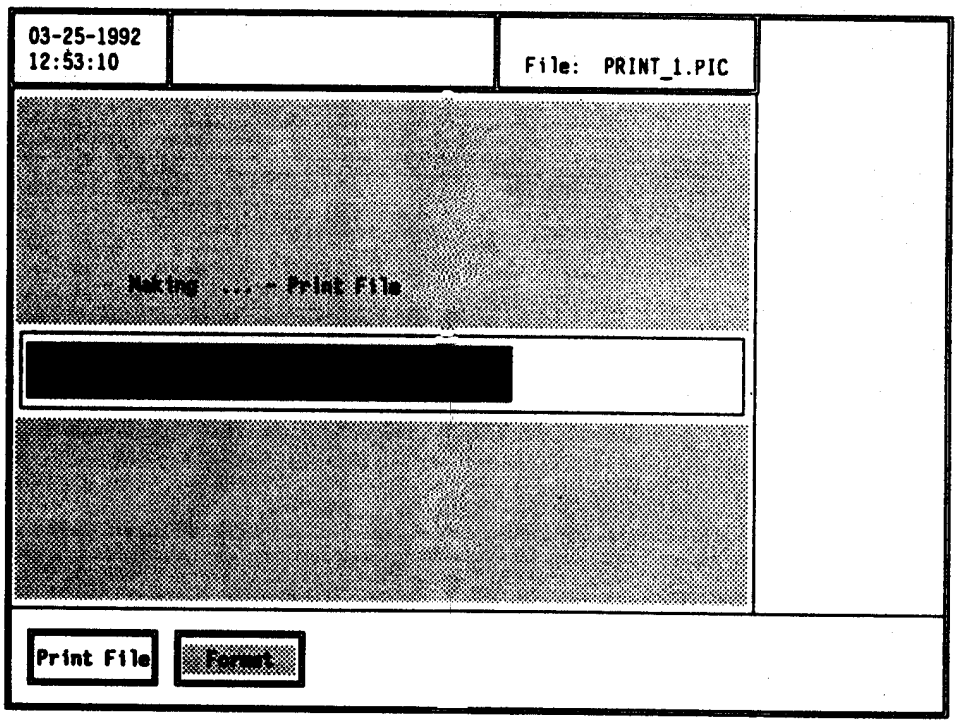


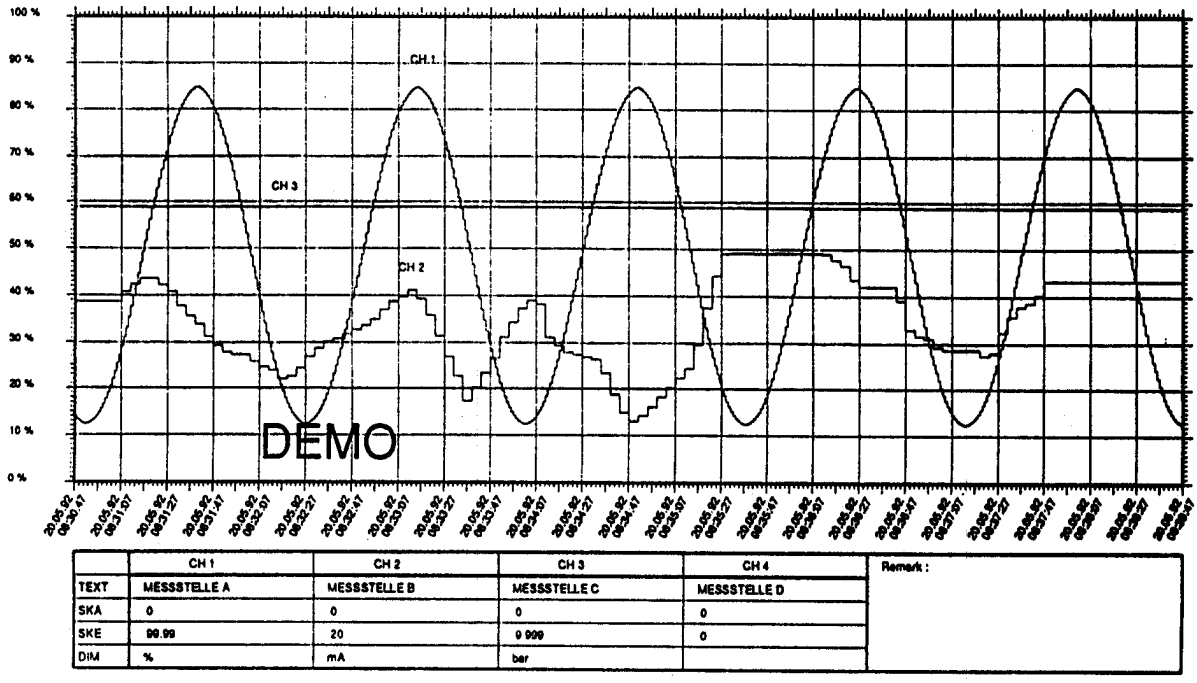
Fig. 8

The printer files created here have the same file names as the corresponding display file. The file name is automatically determined as .DXF or .HPG (for HPGL format) and is saved in the directory from which display file was loaded.

5.2.3 PLOT (PostScript)

A printout of the curve display is made via a PostScript-capable laser printer.
The instruction "wait..." appears on the monitor while processing is taking place on the PC.

PLOT : 06-11-1992
FILE : TEST01.PIC



	CH 1	CH 2	CH 3	CH 4	Remark :
TEXT	MESSSTELLE A	MESSSTELLE B	MESSSTELLE C	MESSSTELLE D	
SKA	0	0	0	0	
SKE	99.99	20	9 999	0	
DIM	%	mA	bar		

Fig. 9 Example of a curve printout with PostScript laser printer

6 PRINTOUT VIA THE STANDARD PROGRAM SKETCH

If the .DXF file created is to be printed out via the standard program **SKETCH, PROG3** makes available on the diskette the plot format as file "A4D.SKD". Make sure that the PROG3 Help file DXF00 is present in the directory in which the DXF file is saved.

Procedure:

- Quit PROG3
- Load file "A4D.SKD" into the directory containing SKETCH
- Start SKETCH with sketch.exe (or with sketch/r if a new printer driver is to be configured)
- Select "file" from the SKETCH menu
- Select submenu "open"
- Load drawing file "A4D" with OK
  A standardized plot window appears
- Reselect the menu "file"
- Select submenu "Read DXF"
- In the menu window select the printer file which has been compiled with PROG3 (if necessary, look for directory) and load with OK
  Printer file is loaded into the plot window
- Reselect the menu "file"
- Select submenu "plot"
  The printout is started via a connected printer
  Plot processing may take a few minutes.
- Quit SKETCH via the menus "file" and "end"

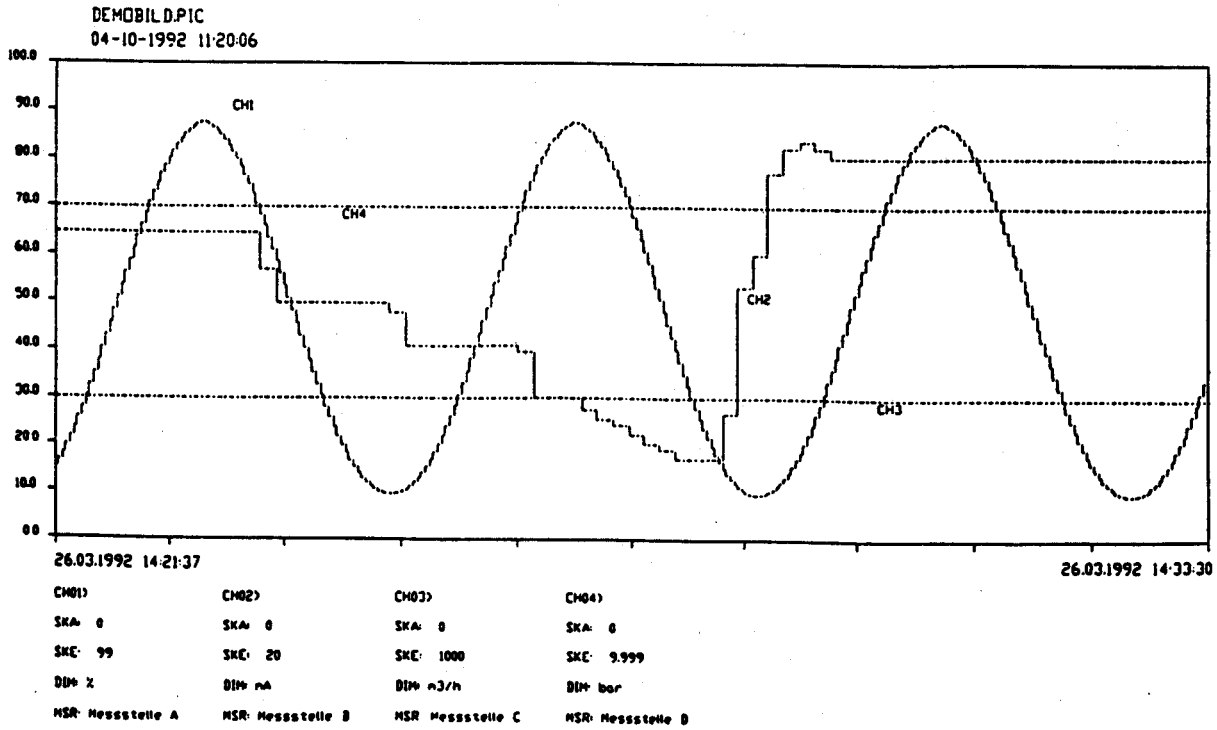


Fig. 10 Example of a printout with SKETCH

7 READING AND CONVERTING WITH PROG2

To evaluate and display curves with PROG3, binary files reflecting the memory contents of a Datavis A must first be created. These files may contain approx. 200 KByte and are hence also suitable for archiving on diskette or hard disk.

The binary files mentioned are created via the program "PROG2 - Read and Convert". PROG2 is supplied with PROG3.

PROG2 is self-explanatory and features context-related Help texts. It is recommended that all Help texts be printed out before using this program. The texts are printed out after starting the program in the options submenu.

A binary file compiled with PROG2 always features the extension **.BIN**, following a freely specified name (max. 8 characters). Such a file may comprise several segments as is the case if the following parameters had been modified in Datavis A **during operation:** date/time, mains failure, measuring range, alarm signalling functions, signal processing, scaling or cycle time of the memory.

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