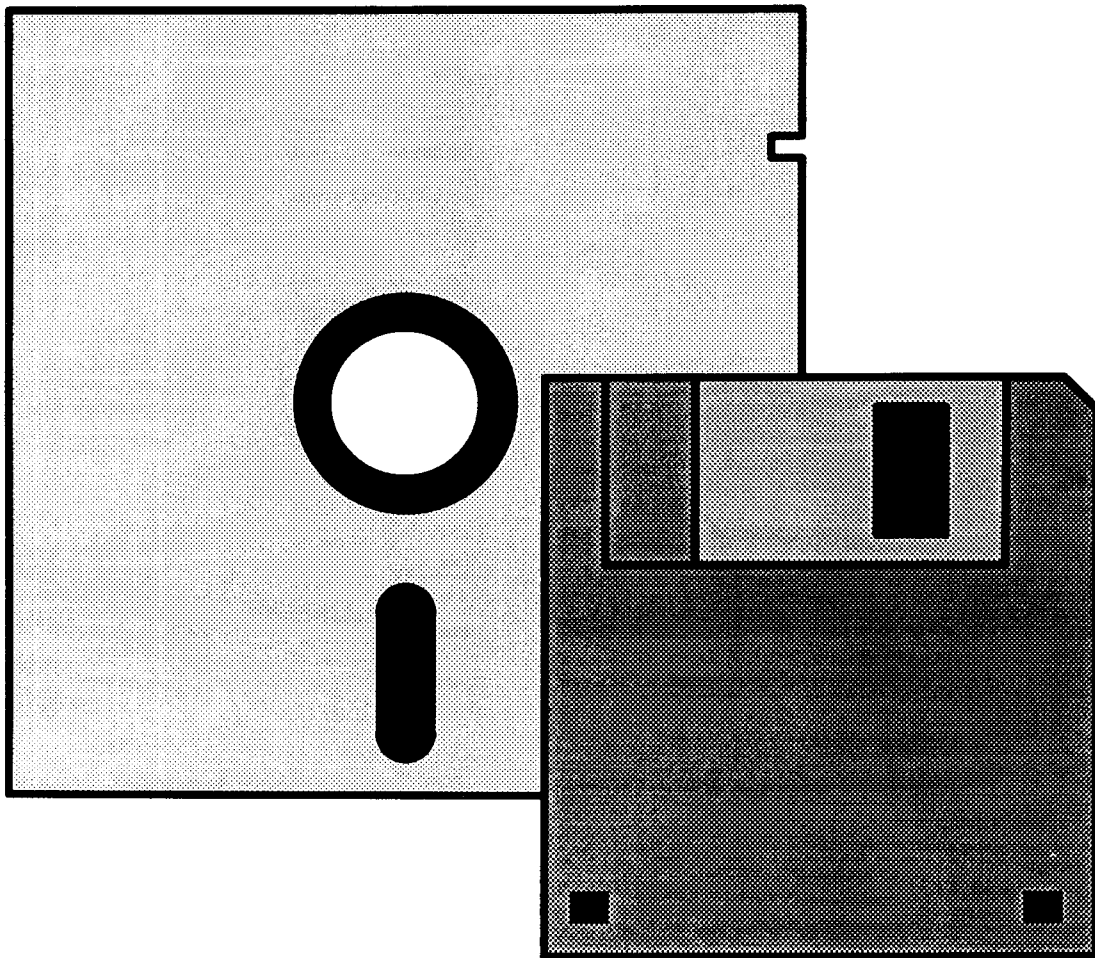

Configuration software

LOGOLINE 340

Microprocessor Pen Recorder



B 95.3523.3

11.95 / V 00309004

Operating Instructions

Introductory note

Please read these Operating Instructions before you start up the instrument. Keep the Operating Instructions in a place always accessible to all users.

Please assist us in incorporating improvements in these instructions where necessary.

Criticisms, suggestions, improvements and additions should be addressed to our department

Technical Documentation GB II

Fax Germany: (0661) 6003-500

abroad: (int. + 49) 661 6003-500

Note:

All settings which can be executed with this software are described in these Operating Instructions. If any problems should arise during installation or during program execution please contact the nearest office or the factory. You are asked not to carry out any manipulations on the software or interface which are not permitted. You could endanger your rights under the warranty!



Please ensure that the diskette cannot be erased unintentionally.
Store the diskette in a place where it is protected against strong magnetic fields, high temperatures, dust or splash water.
Save and archive your setup data regularly.
No TSR (terminate stay resident) programs must be active on your computer while the program is running.

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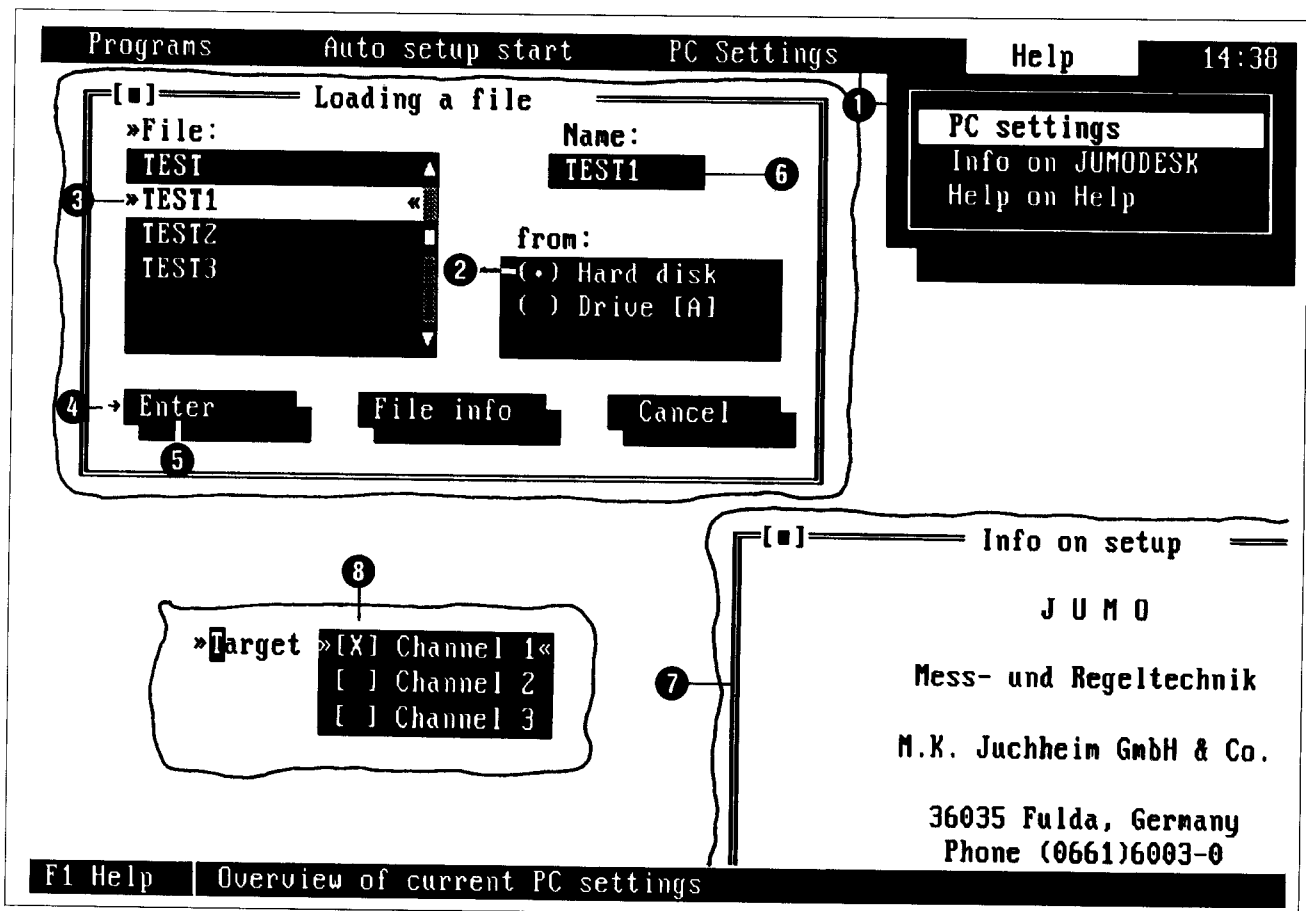
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1 BEFORE STARTING WORK



1.1 Important information and conventions

① Menu line and window

It shows all available functions which can be executed on this screen and which may in turn contain several sub-functions. These are shown in a window underneath each other.

② Selection point

Symbol in round brackets for selecting **one** option from any number.

③ Selection line

Auxiliary element with which the information shown can be scrolled with the mouse in order to select an entry.

④ Switch fields

Termination of a dialogue or call-up of another dialogue, e.g. OK, editing, others, abort.

⑤ Short command

A function can be executed directly by pressing the letter highlighted in the function name in conjunction with the Alt key.

⑥ Input dialogue window

Input or alteration of settings or set-up data.

⑦ Information window

Draws the user's attention to particularly important points.

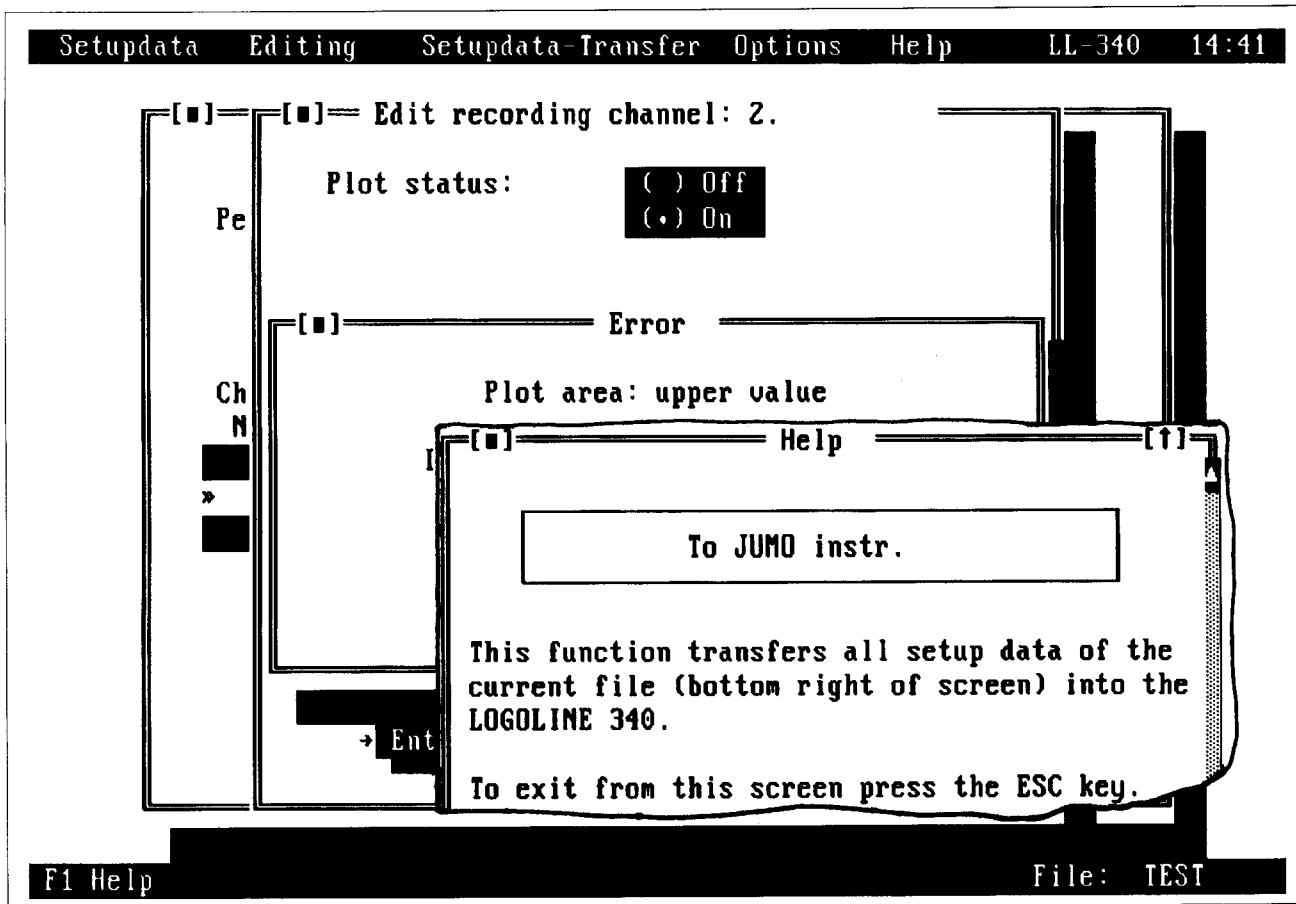
⑧ Selection symbols

Various symbols in square brackets for setting several options out of any number: [1], [0], [x], [].



The set data in the window are entered by clicking with the mouse on a switch field or by a short command.

1 BEFORE STARTING WORK



Typographical conventions

These Operating Instructions employ certain conventions which illustrate particular operating sequences for the user. These symbols are valid for the entire Instructions and have the following meaning:

Presentation	Explanation
*	action instruction
»Setup data«	quotation from screen
»editing → signal input«	shows the operating sequence, the way by which a function can be reached
↵	keys are shown as symbol or as text in a frame
ESC	

Logic program sequence

Functions backed grey (on colour screens) or at low contrast (on monochrome screens) can not be executed.

They appear when the operator is not keeping to the logic program sequence.

Example:

data can not be edited when no file has been set up or loaded.

Function keys

The keys F1 to F10 are sometime assigned different functions.

Help function

Help can be called up for each screen using the key F1.

During operation a dialogue with the user is produced through the status line which appears at the bottom screen edge with brief information. The help window is enlarged or reduced using the key F5.

Error messages

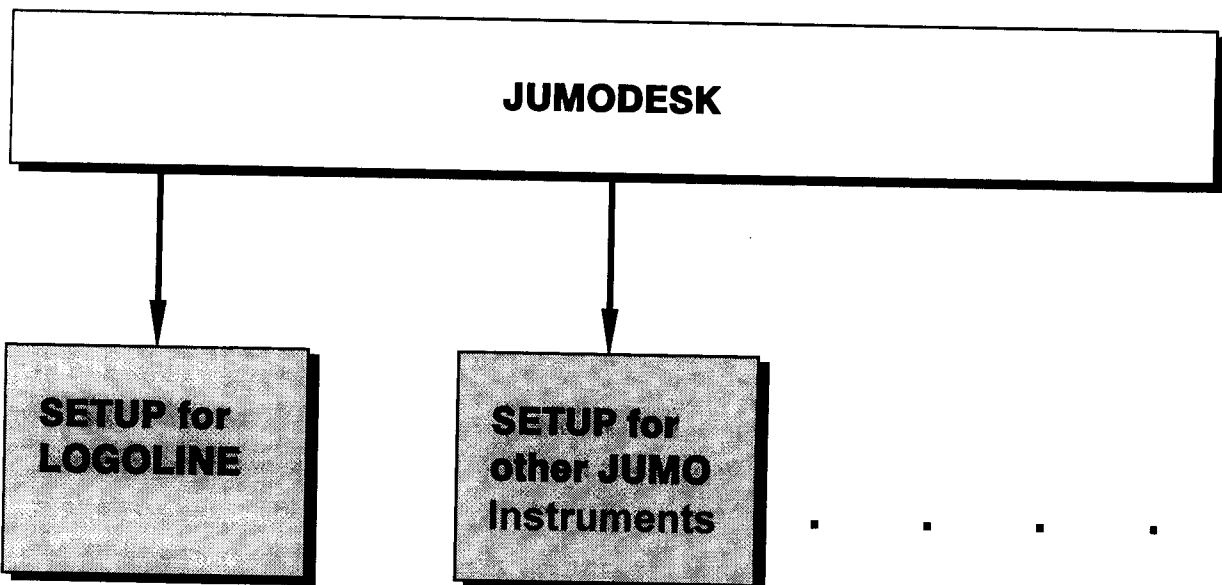
Illegal inputs result in error messages (error windows) during saving; they indicate the cause of the error. They have to be acknowledged (acknowledgment window) in order to cancel the error message.

Default values

Default values are provided for each screen setting. These default values are standard settings which can be altered.

1 BEFORE STARTING WORK

JUMO Configuration Software



1.2 The SAA Standard

The word SAA means Systems Application Architecture and represents an agreement on the uniform arrangement of a user interface, laying down a consistent presentation for different software products.

Through the regular use of software which is at least generally similar to the SAA Standard the user saves time since the learning process is continuously shortened.

JUMO uses this Standard as a basis for the setup programs of its instruments with diverse applications.

The external appearance does however remain the same and the operating sequences are always repeated.

Fixed mouse functions and standardised keyboard operation simplify the operation, as does the status line which directly provides additional information, and help texts which do this indirectly.

1.3 Menu arrangement

The JUMO configuration software consists of two parts, the user interface JUMODESK and the setup program.

Functions of the user interface:

- make screen settings
- select interfaces
- select printer
- select language
- comfortable call-up of the setup program and automatic recognition of the JUMO instrument (auto-setup start)
- make computer system settings
- instrument selection/setup start

Functions of the setup software:

- read data set from the LOGOLINE
- make data set
- edit (alter) data set
- transfer data set to the LOGOLINE
- store and read data set
- output data set to printer

A data set contains all the configuration data of the LOGOLINE.

1 BEFORE STARTING WORK

1.4 Hardware and software requirements

Hardware requirements

IBM-PC AT or compatible computer with the following specification:

- 640 K RAM
of which 480 K free (determine through chkdsk)
- 3½" or 5¼" disk drive
- hard disk drive
3 M free
- 1 serial interface RS 232 for data interchange between PC and LOGOLINE
- 1 serial interface RS 232 for connecting a mouse.
This interface is not required when using a bus mouse.

The program can also be operated without mouse.

Software requirements

Can be run from MS-DOS¹ Version 3.3 with the following mouse driver versions:

Microsoft from Version 6.24

Logitech from Version 4.10

Genius from Version 9.02

1.5 Installation on the PC

- * Insert diskette into drive
- * Input a: Install ↵ or b: install ↵
- * Select language with the arrow keys
- * Enter with ↵
- * Leave directory name C:\JUMOSSET or input a different name, press ↵
- * Overview of the installation data
enter with ↵
(program is being installed)²
- * Question »Display README.DOC?«
Confirm with ↵
- * The text can be scrolled with or
- * Press to exit from the installation program
- * Input jumodesk ↵ (JUMODESK starts)

1.6 Start/terminate program

Starting program

- * Input jumodesk ↵

Terminating program

- * Terminate SETUP with
»Setup data → quit«
- * Terminate JUMODESK with
»programs → quit« (DOS level)

1. MS-DOS is a registered Trademark of the Microsoft Corporation.

2. LHA213.EXE Version 2.13 and all associated files are part of the compression software LHA2.13
Copyright (c) Haruyasu Yoshizaki, 1986-91.

1 BEFORE STARTING WORK

1.7 Operation with and without mouse

Operation with mouse

If a mouse is being used to control the program, a mouse driver has to be **present and loaded**. If this is not the case the configuration program does not react to the mouse movements.

Possible errors:

- no mouse driver
- mouse connected to the wrong interface
(this interface can be set at the user interface, see Item 2.3.1)
- mouse hardware can not run with the mouse driver

Only the left mouse key is active. A window can be shifted by placing the cursor on the top window edge, holding down the left mouse key, and moving the mouse. Clicking on the switch fields executes the command as for a short command.

In the help windows and in the menu »File → Info Text« the size of the window can be enlarged =[↑]= and reduced =[↓]=.

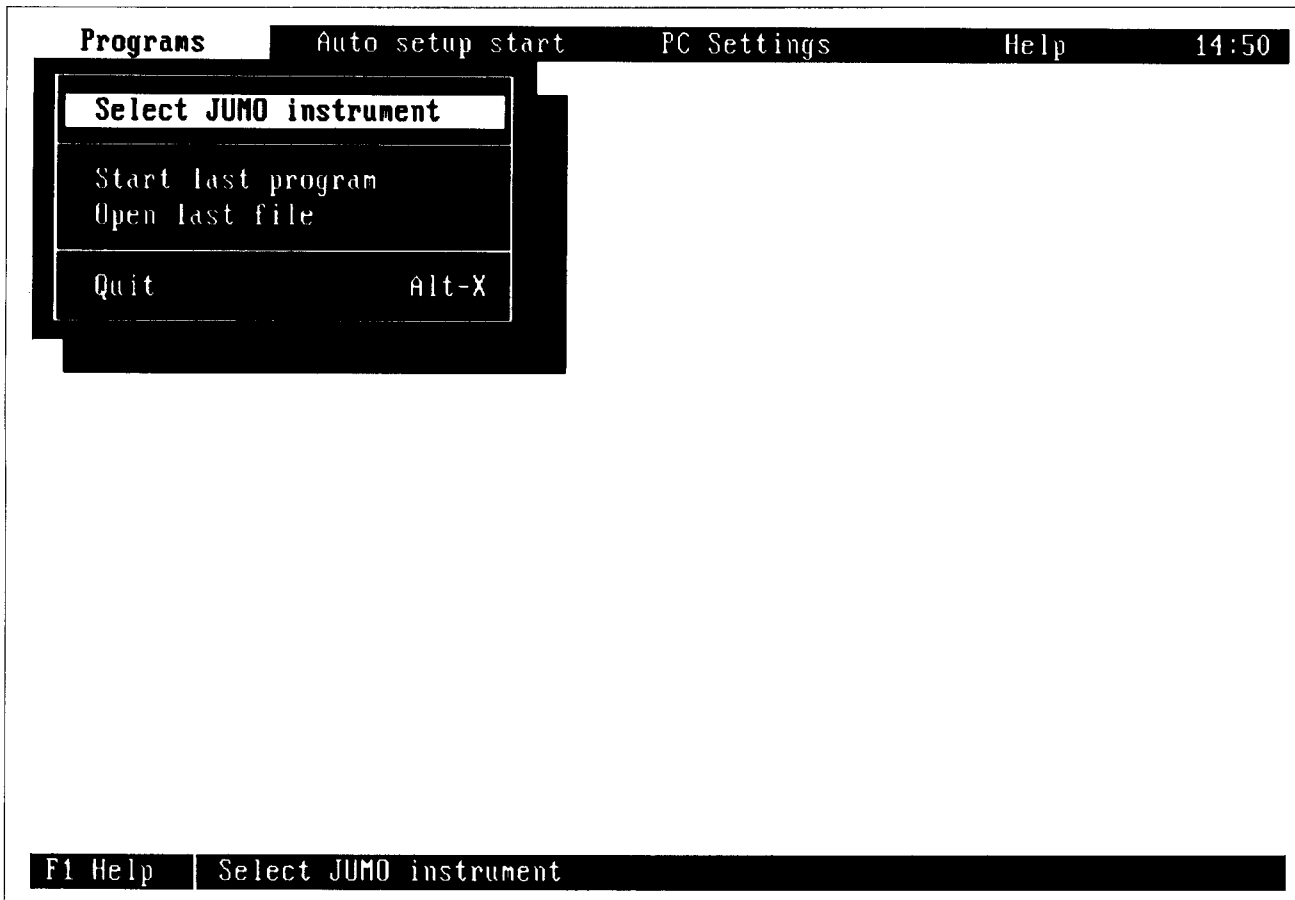
The window is closed with =[■]=.

Operation without mouse

If no mouse is connected or if none is available the program can also be controlled from the keyboard.

Key	Meaning	Function
↵	return	executes the function of the selected switch field
→ ←	cursor keys	moves the cursor in the arrow direction
→ ←	tab key	runs cyclically through input windows
ESC	escape key	closes a window, enters no data/executes no command

2 USER INTERFACE



2.1 Programs

JUMODESK is a user interface which permits making screen settings, selecting printer, monitor, language and interfaces, recognising JUMO instruments and starting the appropriate setup program.

This user interface is the same for all JUMO instruments. It is required for adapting the program to a PC or laptop and to select a setup program.

Once a setting has been made it is retained when the program is restarted.

2.1.1 Select JUMO instrument

This function selects the JUMO instrument to be configured.

2.1.2 Start last program

This function automatically starts the setup program which had been used last. It avoids having to select a JUMO instrument and select a software version.

2.1.3 Open last file

This function automatically starts the setup program which had been edited last and opens the file edited last.

The right bottom corner of the screen shows the file name with a dark background (blue on colour monitors).

This function avoids having to select a JUMO instrument, select a software version and load a file.

The file can be edited immediately.

2.1.4 Quit

th this function you leave JUMODESK and return to the DOS level.

2 USER INTERFACE



2.2 Auto setup start

2.2.1 Recognise JUMO instrum. and start Setup

This function recognises the JUMO instrument connected to the serial interface and also the software version, and automatically starts the corresponding setup program.

It avoids having to select a JUMO instrument and a software version.

2 USER INTERFACE



2.3 PC Settings

2.3.1 Set interfaces

This function permits setting the interface for transferring the setup data and for connecting a mouse. The setting for the mouse has no effect on the function of the mouse; it only helps to prevent having the same interface for setup data and mouse. The program can however also be operated without a mouse, e.g. if there is only one serial interface. In this case the interface for the setup data is set to the interface available, while the mouse is set to the other interface. It is immaterial whether that interface exists or not.

2.3.2 Select printer

This function is used to set the printer type which you want to use to print your setup data. It must be connected to LPT1.

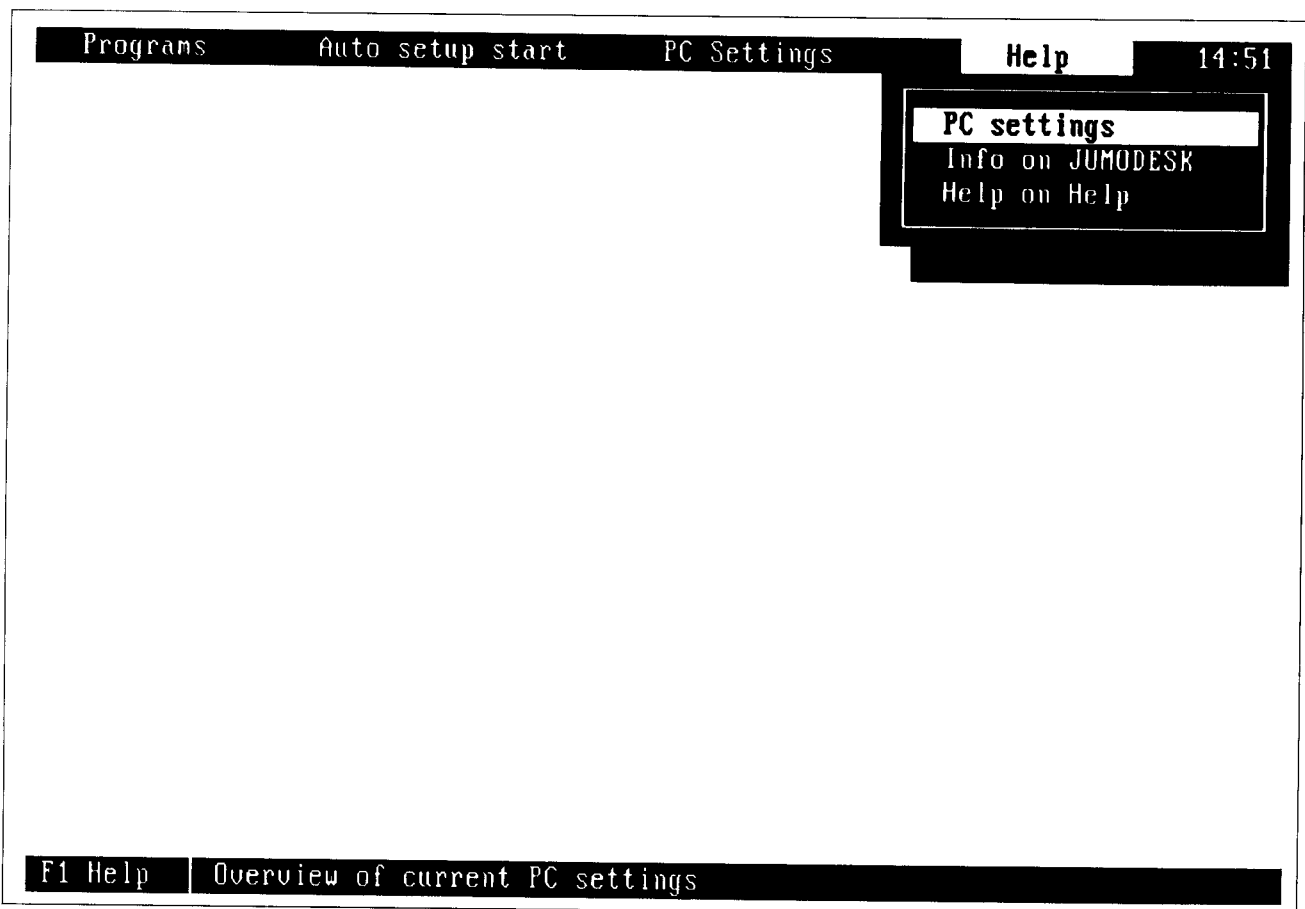
2.3.3 Select language

This function selects the language required and is activated after operating the ENTER key.

2.3.4 Select monitor

This function is used to set the monitor type connected to the computer. If a monochrome monitor is being used when a colour monitor has been set, the display quality may be unsatisfactory.

2 USER INTERFACE



2.4 Help

2.4.1 PC settings

This overview shows all settings for printer, interfaces, language and monitor.

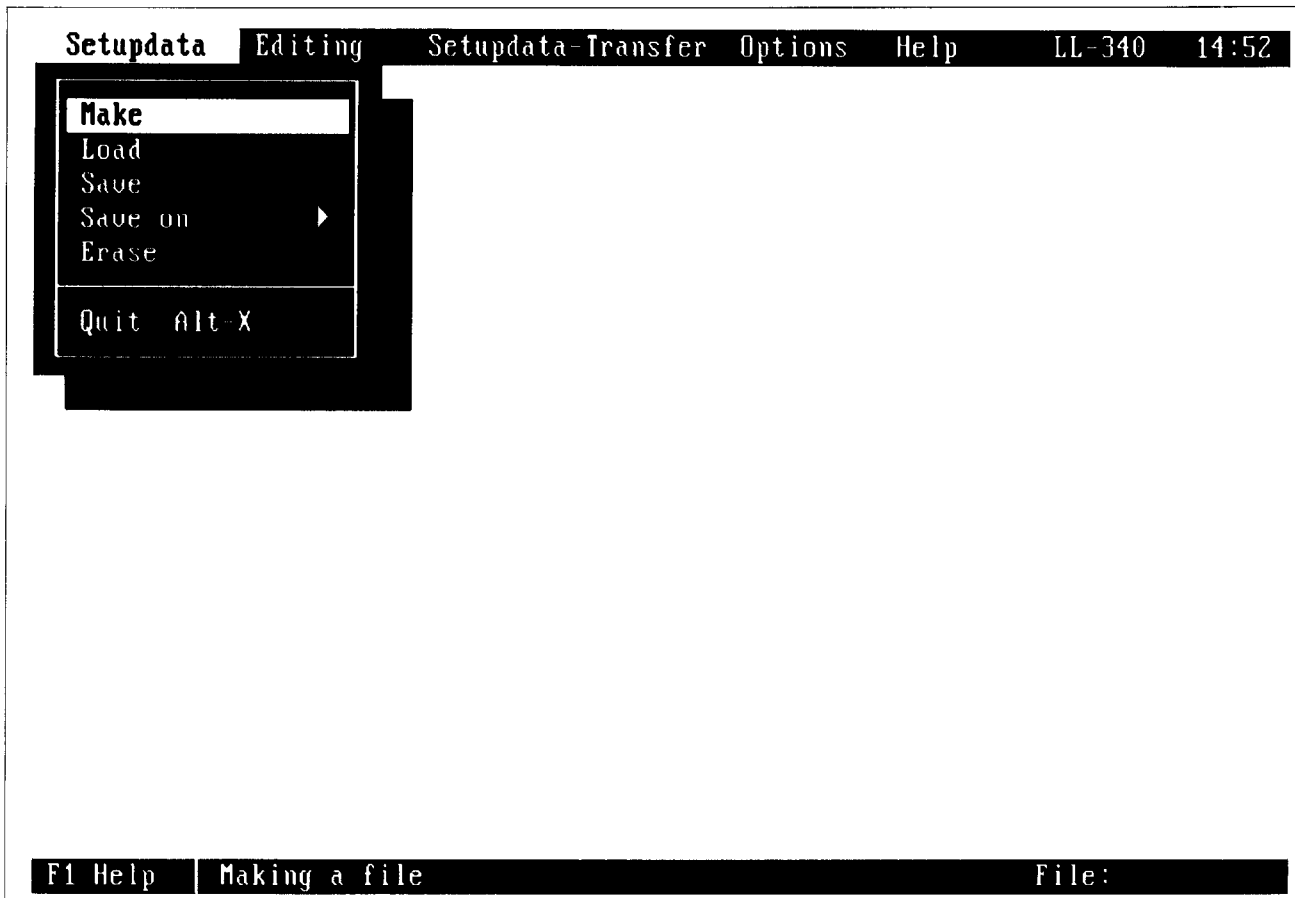
2.4.2 Info on JUMODESK

This functions shows the Company address and the software version of JUMODESK and closes automatically after about 10 sec.

2.4.3 Help on Help

This function is a help text which shows how to call up the help functions, how to quit, and which help functions are available.

3 CONFIGURATION SOFTWARE



3.1 Setup data

3.1.1 Make

This function makes a new file with setup data; its name and the setup data have to be input by the user. All data are given default values initially. They can be altered as required. Invalid inputs produce an error message.

3.1.2 Load

This function loads an existing setup file. In addition the file info header is displayed which contains important file information such as name of programmer, date etc.

The file info header is followed immediately by the file info text. Clicking on the field »File Info« switches the display to the entire screen and the text can be viewed (scroll, arrow keys).

The input of this information is described in Section 3.2.8.



Setup data can only be edited if the function »Make« or »Load« has been executed beforehand. If this is not the case, further functions can not be executed.

3.1.3 Save

This function saves the current status of the selected setup data to the hard disk.

3.1.4 Save on

This function permits saving setup data on other storage media (drive A and B). A different file name can be input when saving the file (copying function).

3.1.5 Erase

This function can erase a file after the file to be erased has been selected by the user. A security question prevents unintentional erasing.

3.1.6 Quit

This function terminates SETUP and returns to the JUMODESK user interface.

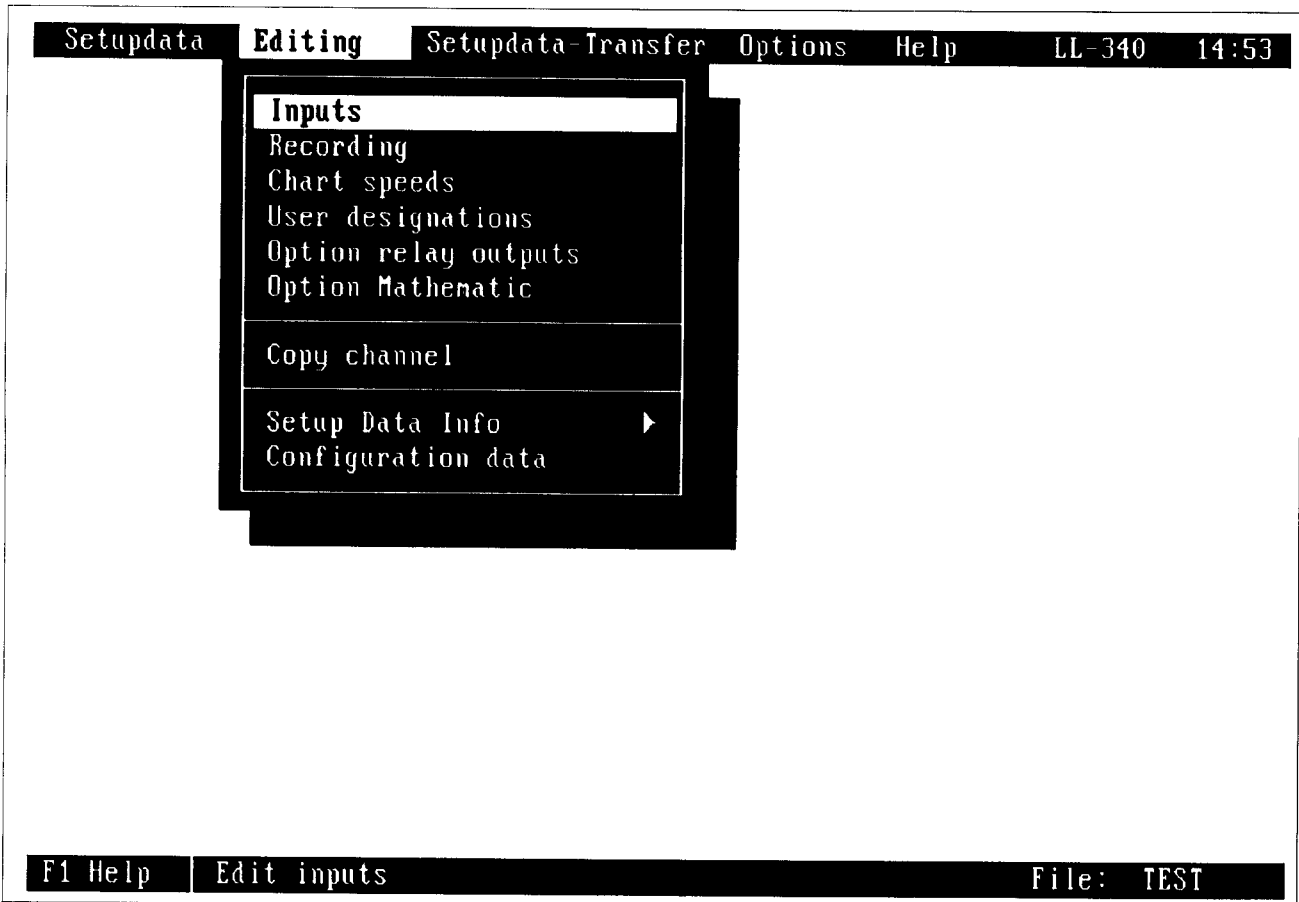


The program must be properly terminated using this function!



Never simply switch off the computer!

3 CONFIGURATION SOFTWARE



3.2 Editing

3.2.1 Inputs

This function can be used to select the signal input (range, customized recalibration, filter constant) for each channel.

3.2.2 Recording

This function can be used for switching the pin offset on or off generally, also for selecting plot status, plot area, offset and limits separately for each channel.

3.2.3 Chart speeds

This function is used to input the chart speeds for normal operation, external operation and limit operation.

3.2.4 User designations

This function can be used to input two designation texts. Input, viewing, and editing is possible only through the setup program.

3.2.5 Option relay outputs

This function can be used to select or input status, reference channel, limit comparator type, limit value and action on overrange/underrange for each relay.



This window has no function on instruments not equipped with relays.

3 CONFIGURATION SOFTWARE



3.2.6 Option Mathematic

The maths option permits linking the input channels through a mathematical formula. A formula can be input for each of the pen systems; all three input channels can be used in all three formulae.

The formulae can be freely specified according to the usual mathematical rules. Any number of bracket levels are permitted. Only the length of a formula is limited to 70 characters.



The formulae can only be input in the setup program. Viewing and altering the formulae, too, is possible only in the setup program.



This window has no function on instruments without maths option.

3 CONFIGURATION SOFTWARE



If the maths function is **inactive**, the formula line and the value range can not be input.



If the maths function is **active** the formulae which have been input are transferred to the LOGOLINE. If the instrument does not incorporate the maths option the display shows an appropriate window and the formulae are not transferred.

The formulae highlighted by the cursor bar can be edited in a further window.

To simplify the input of the formulae you are entering here the **scaling range** of your input signals. This avoids the conversion of input signals into percent.

Example:

The LOGOLINE is connected to a transmitter which measures a temperature of 10 — 30 °C using a resistance thermometer and converts it into a 4 — 20 mA current signal. The scaling range has to be input as follows:

- start of scale (value at 4 mA input signal): 10
- end of scale (value at 20 mA input signal): 30

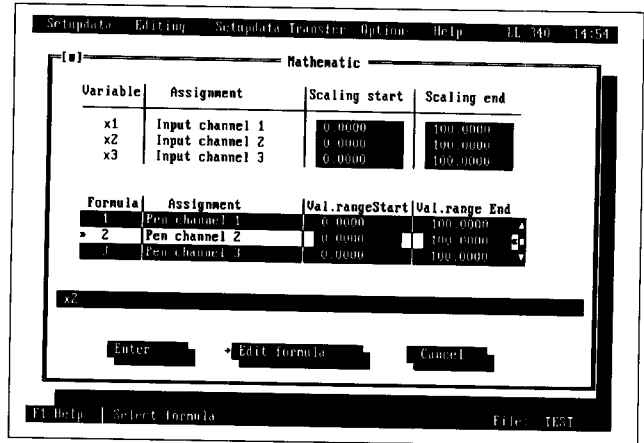
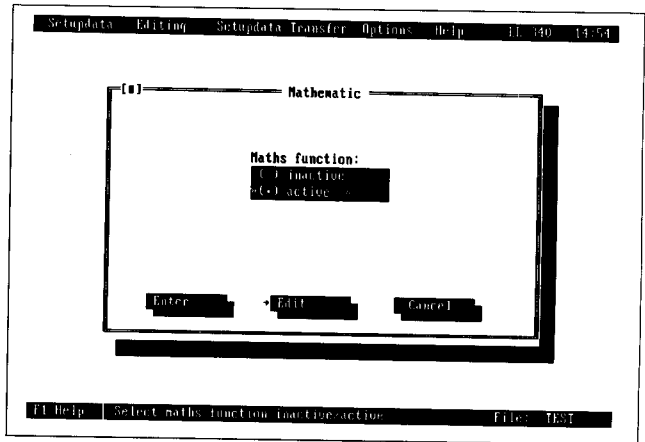
Now input the **value range** for the result of your formula.

Example:

Input 1 of the LOGOLINE is connected to a transmitter which measures a temperature of 10 — 30 °C using a resistance thermometer and converts it into a 4 — 20 mA current signal. Input 2 is connected to an additional transmitter which measures a temperature of 20 — 40 °C. The scaling ranges have therefore been input as follows:

- start of scale input 1: 10
- end of scale input 1: 30
- start of scale input 2: 20
- end of scale input 2: 40

The pen of channel 1 (blue pen) is to record the temperature difference between the two channels while channel 2 (red pen) records the temperature of input 1. System conditions restrict the temperature difference to values between -5 and +5 °C.



3 CONFIGURATION SOFTWARE

To realise these settings the following inputs have to be made:

start of value range channel 1: -5
 end of value range channel 1: 5
 start of value range channel 2: 10
 end of value range channel 2: 30

formula 1: $x1 - x2$
 formula 2: $x1$



The value range which is input has to agree with the figuring of the scale on the recorder (in this example scale 1 must go linearly from -5 to +5 °C, scale 2 from 10 to 30 °C).

If this is not the case, please contact your local sales office responsible for you to arrange for a suitable scale to be produced.

Designation of the variables: $x1, x2, x3$

Assignment of the variables: $x1$: input channel 1
 $x2$: input channel 2
 $x3$: input channel 3

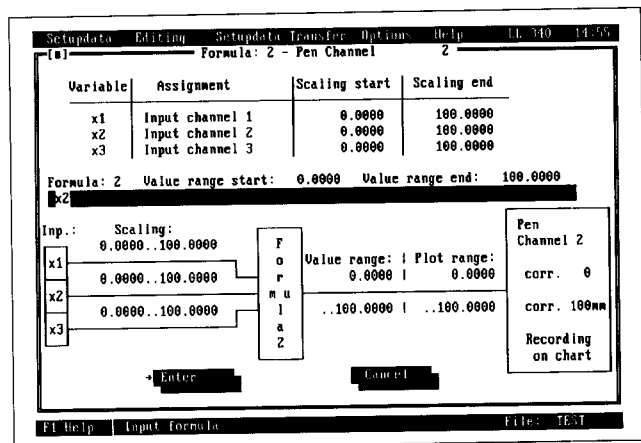
Mathematical operators:

- + addition or positive sign
- subtraction or negative sign
- * multiplication
- / division
- (open bracket
-) close bracket
- ^ exponent

Mathematical functions:

- sqr square function
- sqrt square root function
- log log function to base 10
- ln log function to base e
- sin sine function
- cos cosine function
- tan tangent function
- min minimum function (returns the smallest value of the arguments transferred)
- max maximum function (returns the largest value of the arguments transferred)

Permitted range of all numbers: $\pm 1E\pm 38$



3 CONFIGURATION SOFTWARE

Both upper and lower case characters are permitted for the variables and mathematical functions. Blank spaces may be inserted into the formula line. No blank spaces are permitted within numerical constants, function and variable designations.

Examples: correct incorrect
 x1 + 14 x 1 + 11
 13.1 - X2 13 . 1 - X2
 SIN (x3) S IN (x3)

Syntax for the mathematical functions:
function (argument)

Examples: SIN (3*X2)
 SQR (5+x1)

In the case of trigonometrical functions (sin, cos, tan) the argument must be entered in degrees.



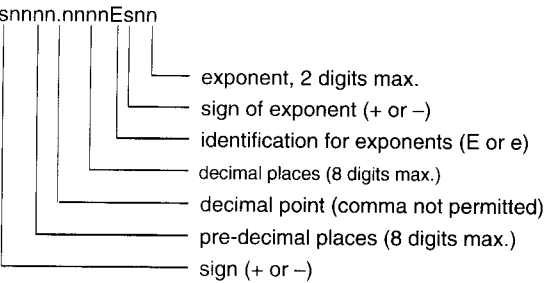
The amount of the argument must be smaller than 3754878 degrees!

In the case of the min and max functions the argument consists of variables and mathematical expressions, separated by a comma.

Examples: MAX(x1, x2, x3)
 MAX(x1, (x2+x3))
 MIN(x1, 0.1)
 MIN(3.4, 7) (returns the value 3.4)

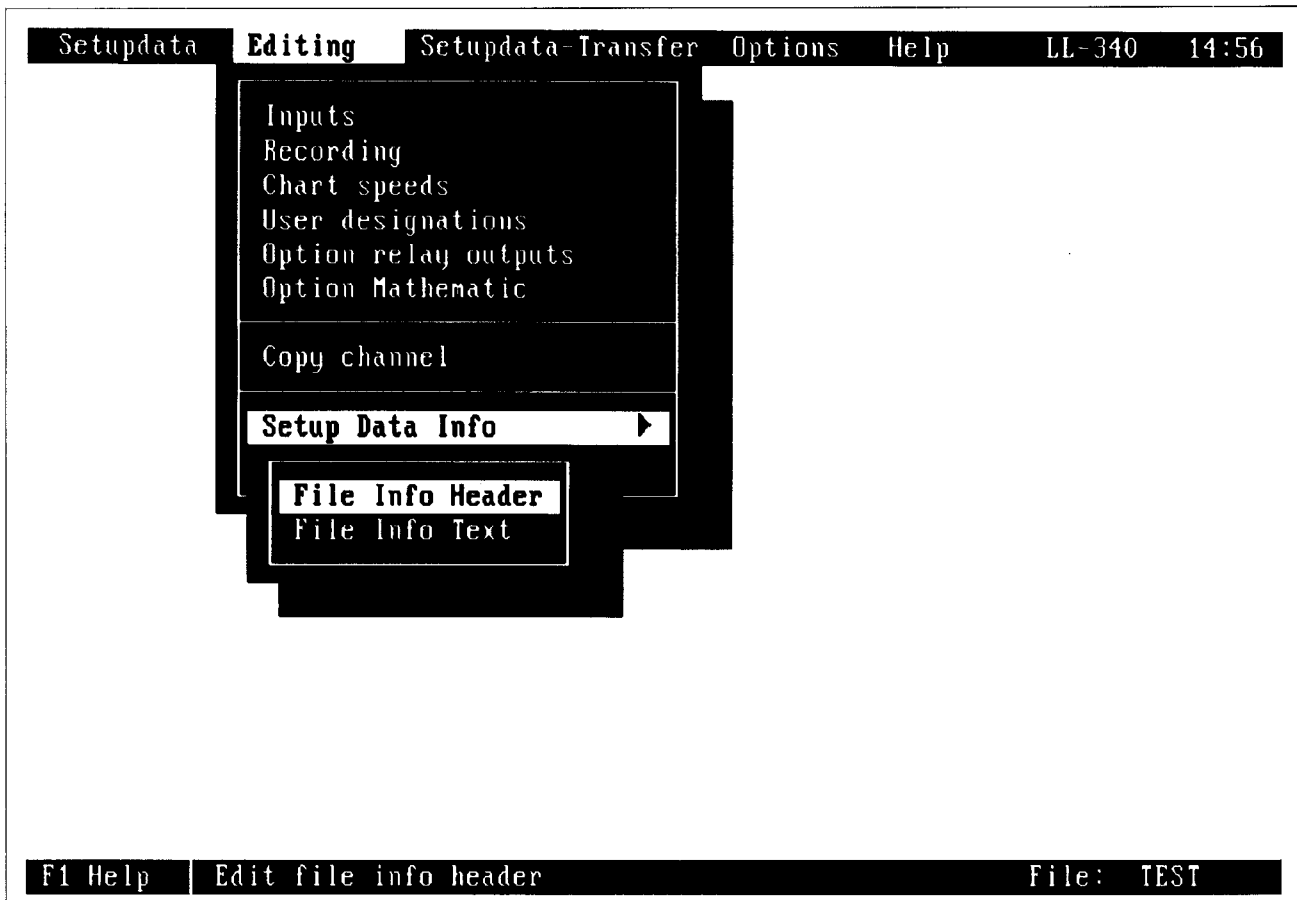
In the power exponential (a^b) the base must be positive since calculation is performed internally through logarithms.

Syntax of the numerical constants:



Examples: +57.38E-10
 -.58E+3
 76E12
 .532

3 CONFIGURATION SOFTWARE



3.2.8 Setup Data Info

This menu item is divided into two functions.

»File Info Header« is a structured summary of important project data and serves for archiving setup files.

In the item »Setupdata - load« the Data Info Header in the lower part of the screen assists in selecting the required file.

»File Info Text« is a freely edited text field of 50 lines, each with up to 60 characters, for additional information on system, configuration or programmer. This field, too, is shown in the menu »Setupdata - load« underneath the File Information.



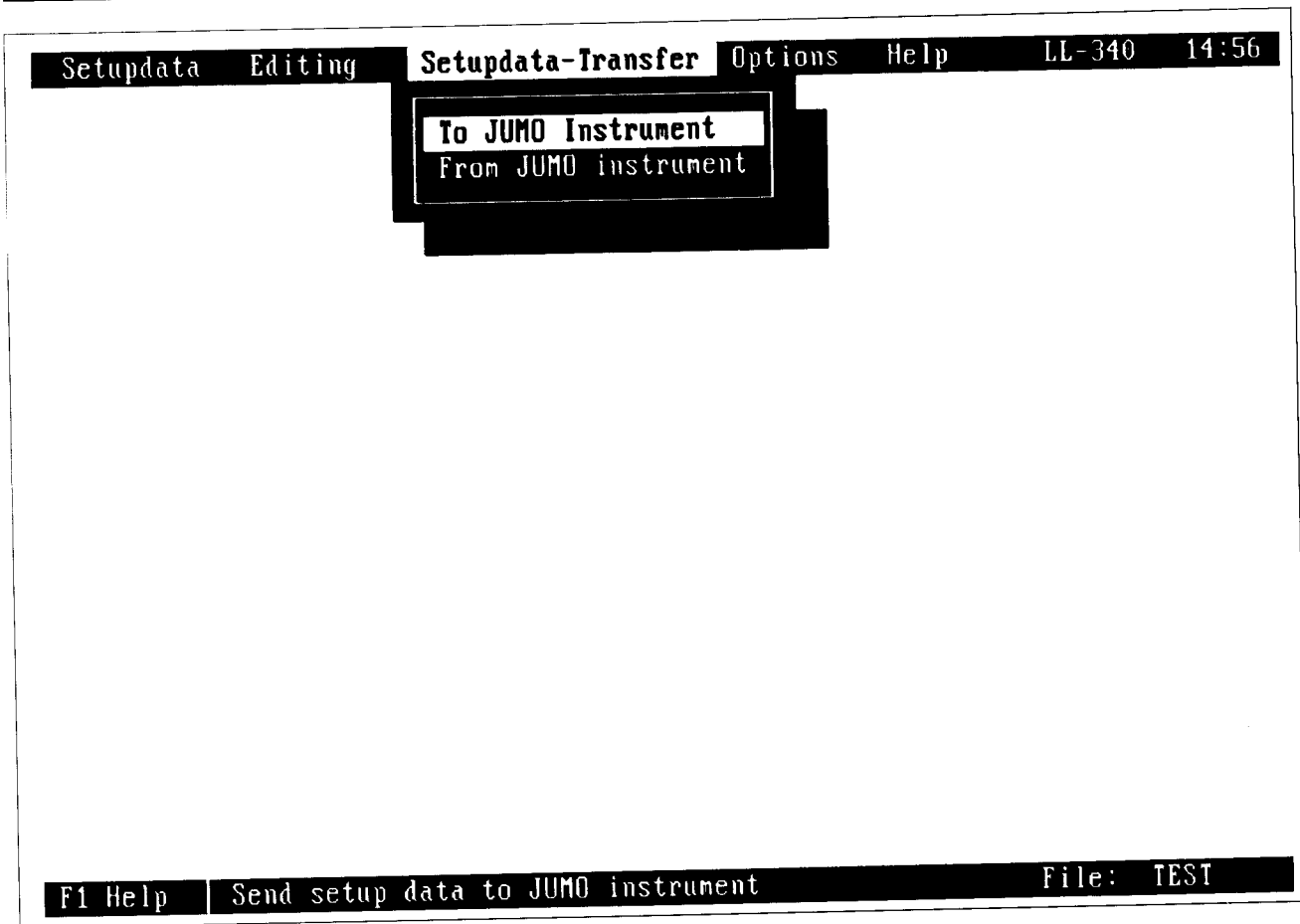
The configuration data can only be read out if the function "From JUMO instrument" has been selected under "Setupdata-Transfer" (see next page).

3.2.9 Configuration data

This function shows:

- instrument name,
- instrument software version,
- VdN number,
- serial No.,
- change configuration level,
(date, clock time)
- change parameter level
(date, clock time)

3 CONFIGURATION SOFTWARE



3.3 Setupdata-Transfer

3.3.1 To JUMO Instrument

This function transfers all setup data of the current file (right bottom corner of screen) to the LOGOLINE.

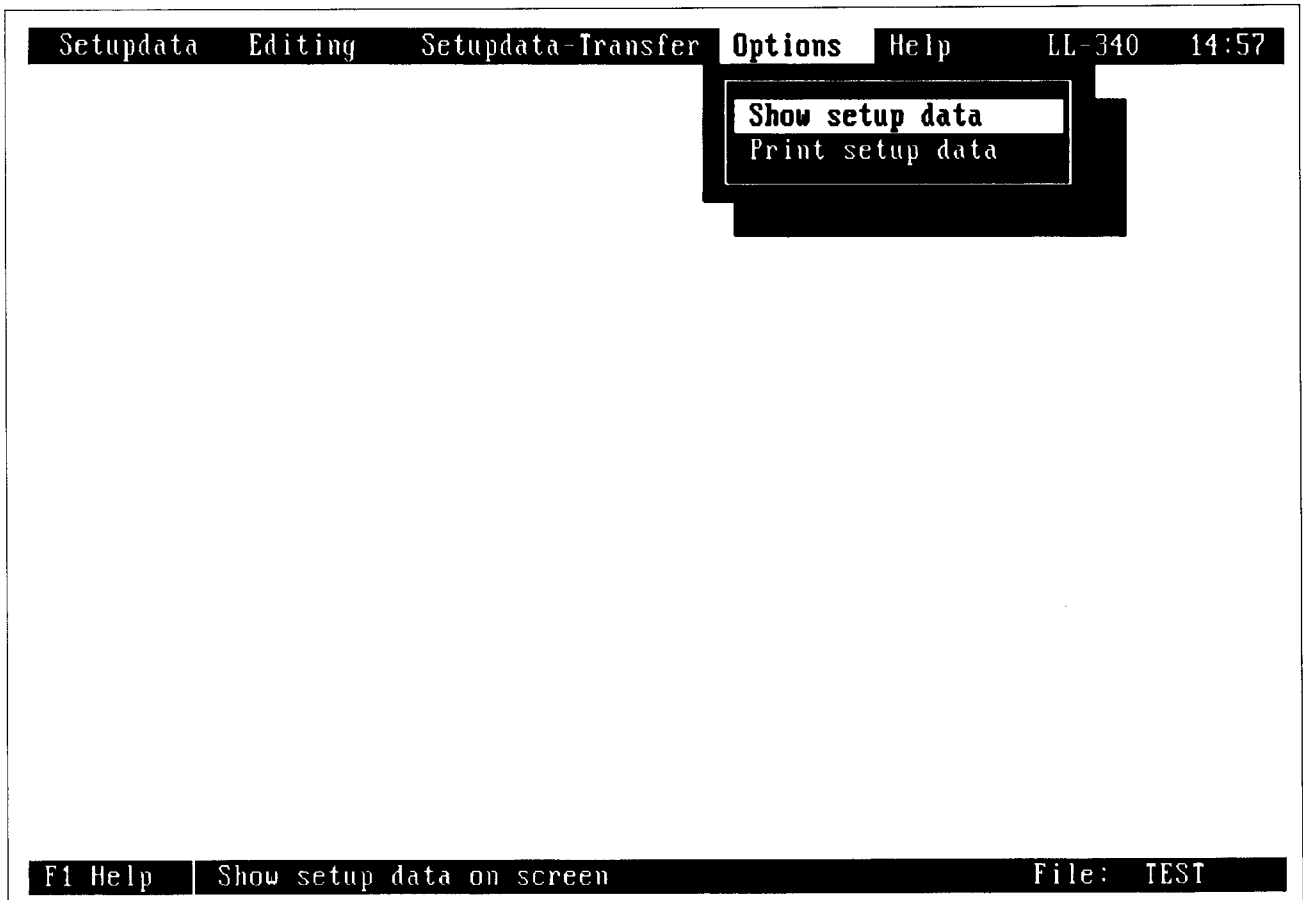
The old configuration in the LOGOLINE is overwritten.

3.3.2 From JUMO instrument

Note:

This function reads all setup data from a LOGOLINE connected to the PC into the current file on the PC (right bottom corner of the screen). Data in this file are overwritten.

3 CONFIGURATION SOFTWARE



3.4 Options

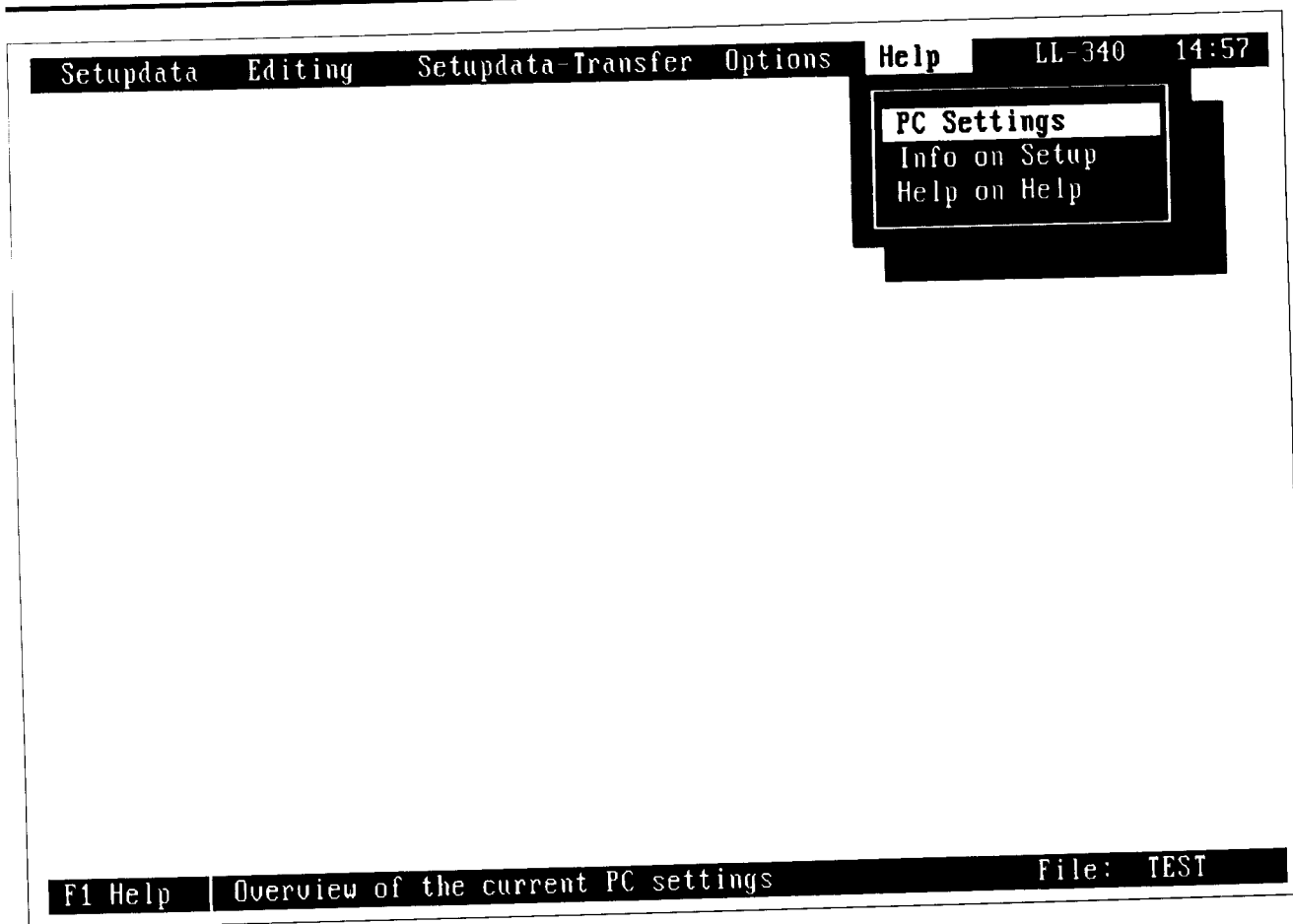
3.4.1 Show setup data

This function shows a summary of all setup data settings. The summary can be scrolled using the arrow up/down keys.

3.4.2 Print setup data

This function outputs all set setup data to a printer.

3 CONFIGURATION SOFTWARE



3.5 Help

3.5.1 PC settings

This overview gives a short summary of the settings for printer, interfaces, language and monitor.

These can be set in JUMODESK.

3.5.2 Info on Setup

This function shows the Company address and the software version of SETUP and closes automatically after about 10 sec.

3.5.3 Help on Help

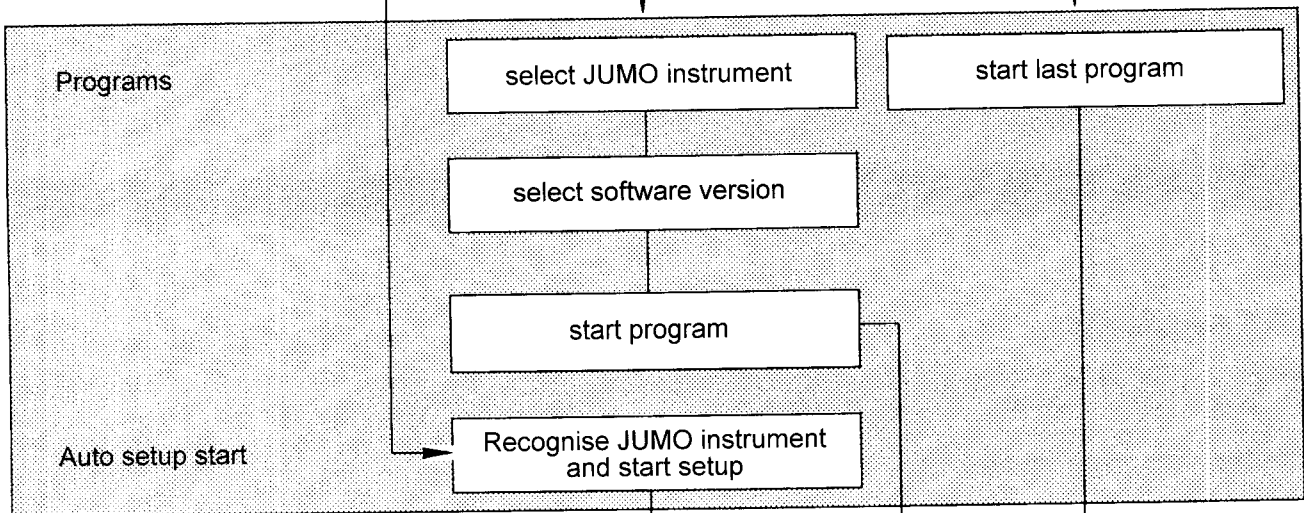
This function is a help text which shows how to call up the help function, how to quit, and which help functions are available.

4 MISCELLANEOUS

4.1 Programming example

- * Connect together the PC and LOGOLINE 340 interfaces
- * Call up JUMODESK, start setup
- * Execute first the command »Setupdata-Transfer → From JUMO instrument« and save the file under the name "Baseset" (base setting). This saves the current configuration of the instrument before altering the data in the instrument.
- * Configure the instrument as shown in the flow diagram.

USER INTERFACE



CONFIGURATION SOFTWARE

