KUHNKE

Kuhnke Electronics
Instruction Manual

NOBES674 - Programming Software
for KUAX 674 and KUAX 673

E 384 GB   13 March 1995 / 62.399

Table of contents

Sales & Service

1. NOBES674 - a programming tool

NOBES674 is the user interface for the electronic cam control
units KUAX 673/674

Use NOBES674 to:

- program
- optimize
- test
- document

your cam programs.

Programming, i.e. the writing of the actual programs, is done
either as an instruction list to which you can add comments for
each cam; or via a graphical cam editor which displays the in-
dividual cams graphically so that you can set rising and falling
edges.
As the case requires, programming may also comprise the set-
ting of dynamic parameters such as deadtime compensation,
time cams or encoder speed reduction.

Furthermore, you can execute all online functions of the PG
674 hand-held terminal when in the online operating mode.
This feature much facilitates putting the cam programs into op-
eration and optimizing them.

Understanding the operation is much supported by the online
help system. To call help just click on the "HELP" button pro-
vided in many of the dialog boxes or - simpler still - press the
F1 key.

1.1. Required configuration

NOBES674 only works in connection with the graphical user
interface WINDOWS. This user-friendly operating system is
known to many PC users.

1.2. System requirements

- MS-DOS operating system, version 3.1 or higher
- MS-WINDOWS version 3.1 or higher
- Personal computer with an 80386 processor or better (80486 recommended)
- hard disk with a minimum of 1 MB free storage capacity
- disk drive 3.5"
- serial interface (V.24) for connecting the cam control unit
- PC mouse (recommended option)

1.3. Installation

NOBES674 comes to you on a 3.5" diskette.

The installation procedure is as follows:
- Insert NOBES674 installation disk into your disk drive (we assume that this is drive A).
- Change to your WINDOWS directory by entering e.g.:
  CD\WINDOWS <ENTER>
- To start installation enter: WIN A:SETUP <ENTER>
- Enter the information that SETUP prompts you for.
- Remove the disk from the disk drive after installation has been completed.

During installation, SETUP creates a batch file in your PC's root directory (normally C:\). The purpose of this batch file is to start NOBES674 from your MS-DOS environment. The name of the file is NOBES674.BAT and it contains the following commands:
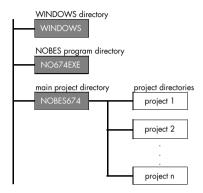
```
verify on
c:
cd\no674exe
win nobes1 %1
c:
cd\
```

☞ Before this batch file can work properly you must make sure to enter the WINDOWS program directory to the PATH line in your AUTOEXEC.BAT.

1.4. Hard disk organization

The overview below shows you how NOBES674 is organized on your hard disk:

WINDOWS directory

WINDOWS

NOBES program directory

NO674EXE

main project directory   project directories

NOBES674   project 1

project 2

.
.
.

project n

1.5. Starting NOBES674

From the MS-DOS environment:

Command: NOBES674 <ENTER>

This calls and works throught the commands of the batch file NOBES674.BAT. The batch commands include starting WIN-DOWS first and then NOBES.

With NOBES you have the possibility to open an existing project upon starting the program. The call command must then be modified thus:

Command: NOBES674 <project name> <ENTER>

From the WINDOWS desktop:

Either: Choose the "Run" command from the Program Manager's "File" menu. Enter "NOBES674" into the text box "Comannd line" and click on "OK".
Or: Double click on the NOBES674 program icon in the "ProfiSoft" program group on the Program Manager's desktop.

1.6. Online help system

NOBES674 has a context-sensitive online help system. To call help simply click on the "HELP" button from anywhere inside the program or press on the "F1" function key. You can also print any help topic displayed on the screen.

To develop a better understanding of the functions of cam control units (e.g. initialization, deadtime compensation, time cam, encoder speed reduction) please refer to the instruction manual delivered with the KUAX 674 cam control unit (E 375 GB).

1.7. Online connection

The programming device, i.e. the PC, is connected to the cam control unit via a V.24 interface (COM1 or COM2, depending on installation).

The interface counterpart on the cam control unit is a special 15pin Sub-D connector. See instruction manual E 375 GB for further information.

1.8. Importing programs from KUAX 671

In NOBES674, you may use existing cam programs written for the KUAX 671 family of systems.

To import an old program into NOBES674, simply use the NOBES671 "Program Editor" program menu to save the desired cam program as text. NOBES674 can import this program as text, automatically converting the output specifiers in the process.

2. Reliability, Security

2.1. Target group

This instruction manual contains all information necessary for the use of the described software according to instructions. It is written for the **personnel of the construction, project planning, service and commissioning departments**. For proper understanding and error-free application of technical descriptions, instructions for use and particularly of notes of danger and warning, **extensive knowledge of automation technology** is compulsory.

NOBES674 is of practical use only in combination with electronic cam control units KUAX 674 or KUAX 673. Please refer to the corresponding instruction manual for information about using these machines.

2.2. Reliability

To achieve the highest possible degree of security in concept design and functioning, all KUHNKE software products undergo extensive quality assuring procedures during their development.

These comprise:
software specification in rough and detailed design
extensive documentation of the development steps
testing of individual software modules
integration test of the software package
application test software « controllers
integration into the KUHNKE Quality Assurance system
transferring the finished software to error free installation disks.

Despite these measures, we cannot warrant a perfect functioning of our software, as there may, for example, be unexpected hardware configurations that might cause unforeseeable malfunctions.

Far more frequent than unforeseeable malfunctions, however, are program errors caused by wrong handling of the software. The online help system therefore contains all necessary information for using the NOBES674 software.

You will find important safety instructions concerning project planning, installation and operation of electronic controllers in the corresponding instruction manuals. The following indications are related to the working with NOBES.

NOBES permanently monitors your entries and:

prompts you with security messages if you make any dangerous entries. You will have to confirm these messages by clicking on OK. This is to avoid erroneous entries only due to negligence that might lead to dangerous situations;

reports invalid user entries during programming.

3. New features of program version 5.00

3.1. Layout of function keys

The keys used for working with windows have been adapted to
WINDOWS standards. There have thus been several changes:
(^ = Ctrl):

F1 context-sensitive help

Ctrl + Fx opens the following windows or gives the focus to
open windows:

Ctrl + F1 NOBES Main Menu
Ctrl + F2 Cam Text Editor
Ctrl + F3 Graphical Cam Editor
Ctrl + F4 Online operations

Alt + Tab switches between open windows.

3.2. Printing under WINDOWS

NOBES now makes use of the printer drivers installed under
WINDOWS. You can thus print out the documentation of your
projects to any printer installed under WINDOWS (for time
problems see 1.7).

Setting the selected printer to Universal/only text to only to
FILE, you can also print your documentation to a file.
You may then use your most favoured word processor to im-
port, edit and layout this file.

3.3. SETUP instead of INSTALL

NOBES674 is now installed using a SETUP program. The
NOBES program files on the installation disks are packed.
They are copied to hard disk and exploded to their proper size
during installation.

3.4. Online operations

Use the various online operations to directly influence indi-
vidual cams of the currently open cam program.
All of the online functions can be executed while the machine
is running.

The following functions are available:

- find cam
- set new cam
- delete cam
- modify cam
- optimize cam

4. User information

4.1. NOBES and MS-DOS

Microsoft WINDOWS and MS-DOS cooperate as two inte-
grated operating systems. They were developed together and
put through extensive testing on a large variety of computers
and hardware configurations. We have not tested running
NOBES under another operating system than MS-DOS. We can
therefore not guarantee that doing so would not lead to unex-
pected results or a reduced performance.
To avoid any negative effects due to incompatibilities with
other software, we recommend using NOBES with MS-DOS
exclusively, preferably with version 5.0 or newer.

4.2. NOBES and SMARTDrive

SMARTDrive or other CACHE programs improve the proces-
sor performance by storing certain data in a cache memory
where they can be accessed faster than on conventional storage.
There is one thing you have to be aware of when working with
a cache controller, though: as the cache memory is a part of the
RAM all data stored there must be saved to disk before you
exit a program or switch the computer off.
Should you ever pull the mains plug of your computer, press
CTRL+ALT+DEL simultaneously or use any similar method of
abruptly exiting your NOBES work session then a proper sav-
ing of the open files is no longer guaranteed. This may lead to
a loss of data or to a destruction of the open project.
Although NOBES will try with a high degree of probability of
success to reconstruct the files of a project that was exposed to
such treatment a certain unavoidable risk will remain.

To avoid any of these complications we recommend always us-
ing the latest SMARTDrive version in connection with the op-
tion "read only" (refer to your MS-DOS or WINDOWS
manual).

4.3. NOBES and EMM386.EXE, CONFIG.SYS ...

During application of NOBES under WINDOWS, the perform-
ance of your PC largely depends on the main memory avail-
able. MS-DOS, as from version 6.0, includes the program
MEMMAKER.EXE whose function it is to optimize the use of
your RAM.

To avoid reduced performance characteristics, please refer to
the notes contained in your MS-DOS and WINDOWS manuals.

Entries that should be contained in your config.sys:
device=himem.sys
device=emm386.exe ram noems
dos=high,umb
devicehigh=... for additional device drivers
files=60
buffers=20, if you have installed SMARTDrive
buffers=40, if you have not installed SMARTDrive

Entries that should be contained in your autoexec.bat:
loadhigh doskey

4.4. Printing from NOBES and ATM (Adobe Type Manager)

ATM makes additional fonts (softfonts) available for printing
and screen display.
If ATM is ON the program automatically calculates the font
sizes during printout. In connection with NOBES this feature
leads to distorted font sizes. The result: the font size is perma-
nently reduced when printing several pages.

To avoid this undesirable effect we recommend switching
ATM off while printing from NOBES.

4.5. Printing from NOBES and PostScript

When printing to a PostScript printer you will receive effects
similar to those produced by an active AIM. If your printer
cannot be set to emulate other printer command languages than
PostScript, proceed as follows:
1. Print your documentation into a file using the option Univer-
   sal/text only to FILE.
2. Import this file into your most favoured word processor and
   edit it there if necessary.
3. Print the documentation from the word processor.

4.6. Printing from NOBES and WINDOWS' Print Manager

If the WINDOWS Print Manager is active (Control Panel,
Printers), it collects the data to be printed in a temporary
swapfile prior to starting the actual printing. Printing is then
done entirely from this temporary file making system resources
available to continue with your work (background printing).
On slow computers, this swapping process may take a consider-
able amount of time.
Switching the Print Manager off starts the printout immediately
after the command. The print program will be called up repeat-
edly, however.

4.7. NOBES and CLOCK.EXE (WINDOWS Clock)

CLOCK.EXE, the program for the WINDOWS Clock utility,
may cause compatibility problems with some applications. This
is particularly true if you have set it run "Always on Top" and/
or if you have added it to your Program Manager's StartUp
group (or by entering run=clock.exe into the [windows] section
of your WIN.INI).
If any problems occur (general violation of protection),
CLOCK.EXE usually removes itself after exactly 60s.
To avoid any such problems we recommend not using
CLOCK.EXE when working with NOBES.

4.8. Backing up your NOBES projects

If you have checkmarked the "automatic back-up" option when
creating a project then NOBES will automatically create a
back-up file of this project (*.bak) when you open it. The back-
up is identical to the original.

If, however, the program is terminated improperly during an
editing session, then the project still has the same status as be-
fore editing (the modifications are not included in the back-up).
Here we recommend using the option "get back-up" next time
you open the project after restarting WINODWS / NOBES. The
project will then be overwritten by the back-up version.

Index

Index

T

target group   2-1

U

user information   4-1

V

V.24 interface   1-4

W

warning message   2-2
WINDOWS   1-1, 4-1
WINDOWS Clock   4-3