fischertechnik
NEWSLETTER

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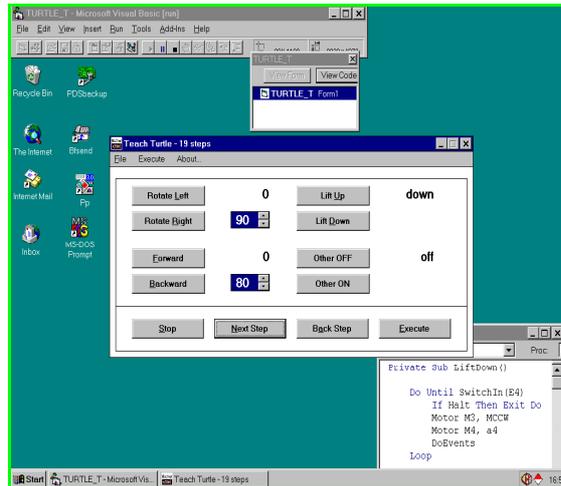
In this issue

Spring Clean

Yes! It's out with the old and in with the new range of kits. The old computing kit (30554), the Training Robot (30572) and the Experimental Kit (95381) have been discontinued (although a few of the 95381 still remain in stock). To replace them we have the new low-cost Mobile Turtle Kit (30632) and the Mobile Robots Kit (30400) with an active interface that's battery operated and independent of the computer system for complete mobile freedom.

The new lower-cost Profi "sensoric" kit (30491) is also available. It contains a fischertechnik flip-flop unit that provides the electronic 'brain' for working models of a hand drier, a coin dispenser and other devices. The kit contains 350 parts and comes with instructions for 7 models.

At the bottom of the range is the new 'Universal' kit (30308) capable of building 24 models. It provides a fun way for children to build and understand the operation of everyday gadgets. Models include: garage door, sewing machine, gear box and kitchen scales. All models may be motorized using the Mini Motor-Set (30342).

New Software

A new Windows program (shown above) provides the capability of programming the mobile turtle (30632) in a sequence of 999 steps. The turtle moves forwards, backwards or rotates left and right at the click of the mouse. Its sequence of movements, including the fork lift moving up and down, may be stored on the computer's disk for later retrieval and playback. This same program also allows interesting patterns to be drawn with the addition of a pen to the front of the turtle. The lift operation actually drives the pen up and down!

The new turtle kit will also include programs that allows the turtle to find the brightest source of light in the room and track towards it. The turtle will also be capable of following a track drawn on the floor using a special read head. Other programs will allow it to negotiate a maze or an object placed in it's path.

All of these programs are provided ready-to-run. However, should you wish to experiment with the programs the source code (in Visual Basic for Windows) is provided. This software and the light sensor may be purchased separately for use with the Profi computing kit.

Pc-logo v2

Version 2 of Harvard Associates' PC-LOGO for Windows is now available. This major upgrade provides all the features of the original version plus many exciting enhancements. Not only is it easier for beginners, with bigger icons and a demo program called 'easy logo', but it is also more powerful for experienced users!

The robotic commands for the fischertechnik interface unit are fully integrated into the language and allow your models to be controlled from PC-LOGO. A number of example programs are available from Procon Technology including the Robot Arm and the Mobile Turtle models from the Profi Computing Kit (30330). The Mobile Turtle program, not only allows you to control the functions of the Turtle but you can also plot its' path on the computers' screen.

PC-LOGO version 2 is available from Procon Technology as well as upgrades from version 1 and site licenses. Generous discounts are available for site license agreements to schools for all of our software.

Dutch Treat

The fischertechnik fan club of the Netherlands celebrated its 5th anniversary. According to the fischertechnik newsletter, it had an exhibition displaying many self-built models which 1,000 visitors attended. The club has a web page on the internet (in English) at:

www.fischertechnikclub.nl

Hints & Tips

A number of people have asked if they can use our Windows source code with Visual Basic version 5? At the moment the driver (DLL file) is only for 16 bit operation under Windows 3.1 or Windows 95 whereas VB v5 requires a 32 bit driver for Windows 95 and Windows NT. My suggestion is to use VB professional version 4 (it is still available) and use the 16 bit software. We intend to develop a 32 bit driver as the need arises.

I have mentioned in past issues how voice control of your fischertechnik models is possible using such programs as VoiceAssist, it would seem that this program is no longer available. Another program that could be used is from IBM called 'SimplySpeaking GOLD' for Windows 95.

Hint 1. Each motor output on the fischertechnik interface is capable of controlling two low current devices such as; lamps or relays. Page 19 of the interface manual shows the connection of eight lamps to the four (M1-M4) motor outputs. The following program examples in QBASIC or VB for Windows illustrates how the lamps connected to M1 are controlled.

To turn both lamps off:

MOTOR M1, MOFF

To turn one lamp on:

MOTOR M1, MCCW

To turn the other lamp on:

MOTOR M1, MCW

To turn both lamps on:

MOTOR M1, MON

The alternative way to control the lamps is to use the 'OUTPUTWORD' procedure. The following program operates the eight lamps as a light chaser:

```
DO
    OUTPUTWORD &H49
    DELAY 2
    OUTPUTWORD &H92
    DELAY 2
    OUTPUTWORD &H24
    DELAY 2
LOOP UNTIL HALT
```

The 'DELAY' procedure was defined in the last newsletter.

Hint 2. I have often been asked how the Profi Robot may be adapted to distinguish between the different coloured blocks (blue and yellow). You will need a light sensor (32698) and a lens bulb attached to the robot's gripper, it is set up in such a way that light is reflected off the block back to the light sensor. The lamp is connected to M4 and the light sensor to EX. The following program example will sort blocks according to the block's colour!

```
HANDOPEN 25
ARMUP 25
ARMLEFT 150
ARMRIGHT 75

DO
    ARMDOWN 20
    HANDCLOSE 20
    MOTOR M4, MCW
    ARMUP 25
    IF ANALOGIN(EX)>160
    THEN
        MOTOR M4,MOFF
        ARMRIGHT 50
        HANDOPEN 25
        ARMLEFT 50
    ELSE
        MOTOR M4,MOFF
        ARMLEFT 50
        HANDOPEN 25
        ARMRIGHT 50
    END IF
LOOP UNTIL HALT
```

Hint 3. PC-LOGO contains a bug with it's 'WAIT.SWITCH' command. If you have difficulty getting PC-LOGO to respond after interrupting a 'WAIT.SWITCH' command then continue clicking the 'stop all running procedures' button until it does. It is recommended that alternative code be used in place of this command!

Fan-Club

Should you wish to become a fan-club member and receive the German newsletter (with English translation) and a free model construction sheet twice a year, simply send your details to:

fischertechnik fan-club
P.O Box 1152
72176 Waldachtal
Germany.

More?

Why not write to me, Peter King, and tell me what you'd like to see in this newsletter. If you'd like a full colour catalogue please send 4 x 45c stamps to cover costs.

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