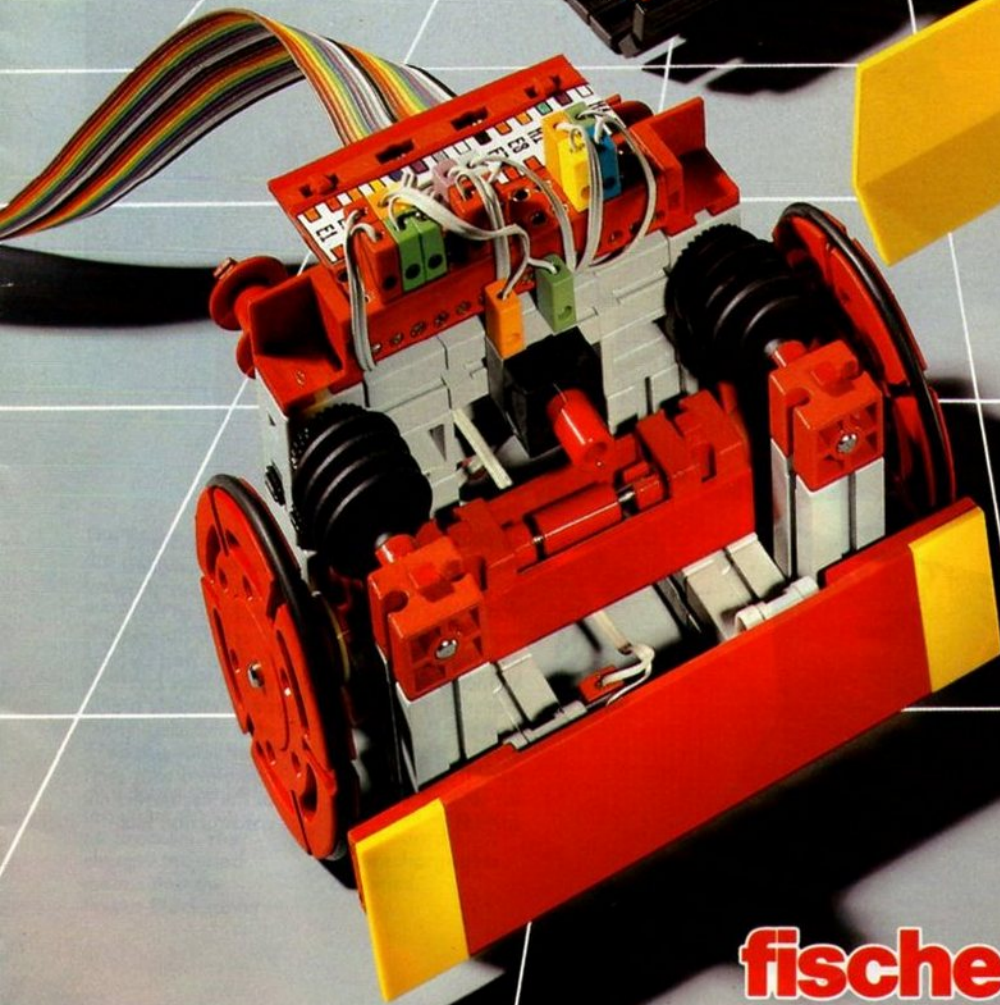


MAN AND MACHINE

fischertechnik® 



fischertechnik® 
COMPUTING

FULL SPEED AHEAD.

Anyone who enjoys motion will find just what they are looking for in the Combimot, the combination construction kit from fischertechnik. All the models that can be made with the Combimot system have one thing in common. They develop a life of their own. The new components, around which the action revolves, are the motor, the transmission and the power block. For everything from a windmill to a mobile crane, fischertechnik provides the power to demonstrate mechanics in action.



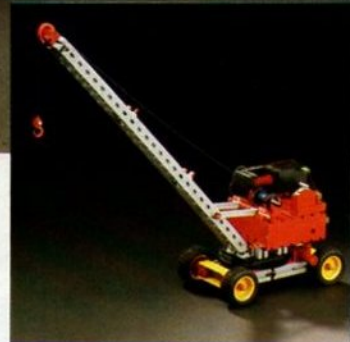
NEU
NEW

30 340 Combimot
The large-size combination construction kit for making motorized vehicles and machines. This kit includes the new motor and the new power block as well as a multiple-gear transmission for several different speeds.

The instructions feature detailed illustrations showing how to construct 10 different models step by step. Ideas for other models are also included. The Combimot can be combined with any of the fischertechnik construction kits.

THE POWER-BLOCK: THE DRIVING FORCE.

With the Power-Block, fischertechnik has brought something new into play. High performance with staying power, thanks to the energy of either four standard disposable or rechargeable batteries. Equipped with the Power-Block, the Combimot models and all other construction kit models are no longer tied to the mains. Light work is made of heavy loads and cars travel further at high speed. So you have the choice. Either to integrate the Power-Block into the model or to supply the power using a cable.



The Power-Block is the driving force behind fischertechnik models. It runs on 4 standard 1.25 V NiCd rechargeable batteries. They provide the energy to turn every challenge into child's play. And when the batteries run down – no problem. The charger included means that the Power-Block never

need be removed from a fischertechnik model once it has been installed. And short-circuit fuses and reverse battery protection make sure the model is reliable and safe. And by the way, if you wish, the Power-Block can also run on standard 1.5 V non-rechargeable batteries.

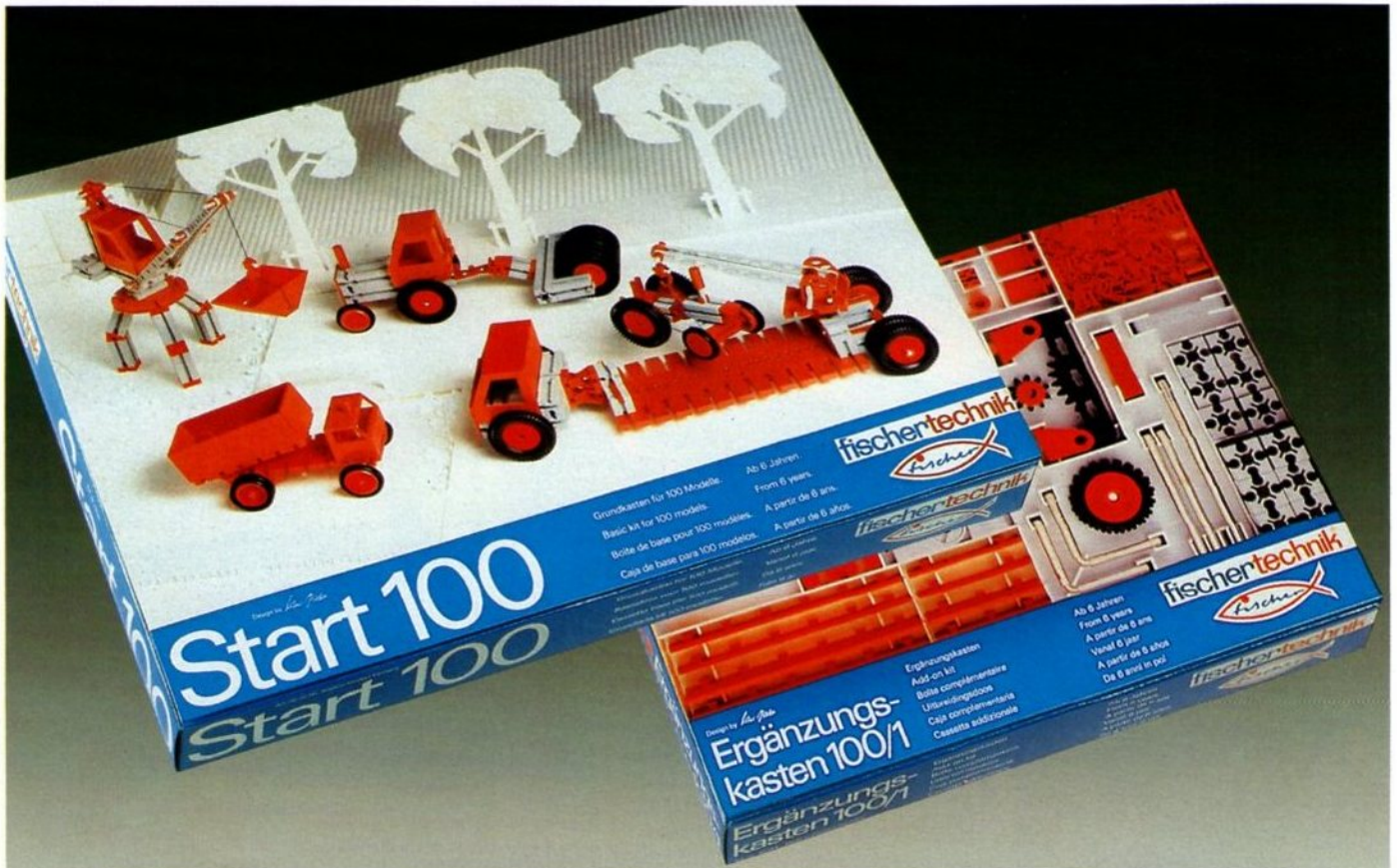
30 293
Service-Set
Power-Block
The Power-Block on its own for all "fischertechnik owners".

NEU **NEW**



A CONSTRUCTION KIT TO GET THINGS GOING.

If you want to get to know and understand the fascinating world of engineering in a way that combines learning and play, fischertechnik has created just what you need in its construction kits START 100 and START 200. Your start in engineering could not be simpler. The possibilities are



30141 Construction kit START 100
For building 100 different, mobile and partly motorizable fischertechnik models. With fully detailed and easy to understand and illustrated instructions.

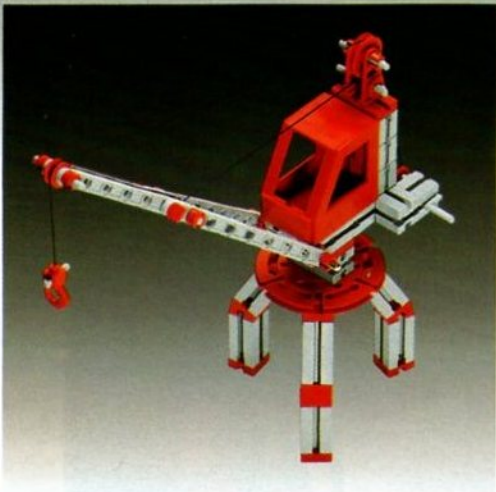
Easy to understand, large-format and coloured instructions accompany every fischertechnik construction kit. The easy to follow, illustrated building steps make fischertechnik truly child's play.



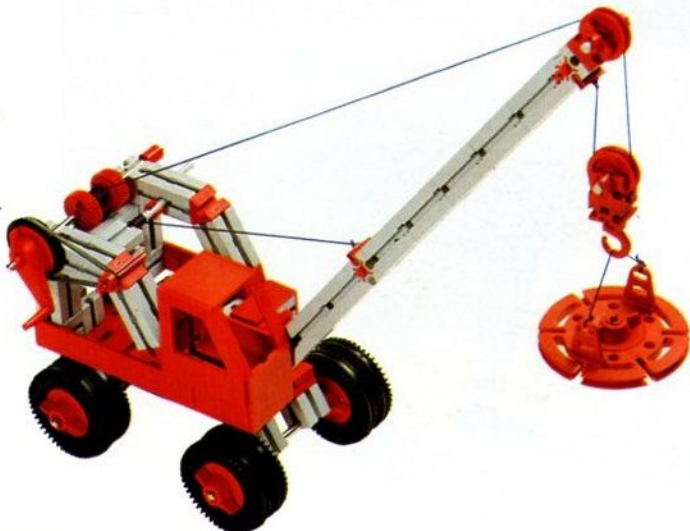
30144 Add-on kit 100/1
Adds many interesting, extra parts to the construction kit START 100 and brings it up to the level of construction kit START 200.

All the fischertechnik models illustrated here were produced from construction kits START 100 and START 200.

virtually unlimited. With the START 100 construction kit, you can make a wide range of different models, including motorized ones. And the larger START 200 offers even more possibilities. Both kits can be expanded using the extension kits 100/1 and 200/1.



30142
Construction kit
START 200
The big fischer-
technik starter kit
for building 200
different, mobile
and partly motoriz-
able fischertechnik
models. With fully
detailed and easy
to understand, illus-
trated instructions.



30145
Add-on kit 200/1
Expands construc-
tion kit START 200
with many new and
exciting components
for more interesting
models.

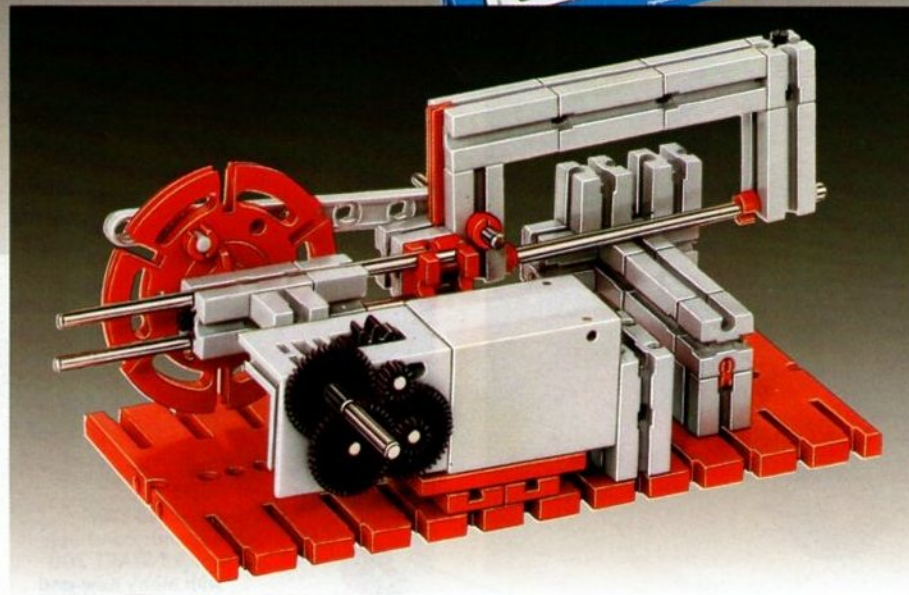


STEP BY STEP INTO THE WORLD OF ENGINEERING.

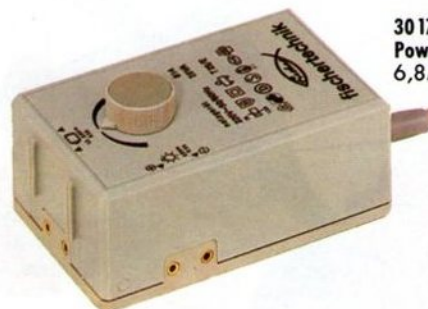
The entry with construction kits START 100 and START 200 was the first step. Technical understanding has developed. And the fascination of things technical has also grown. If you want to go a step further, fischertechnik has created construction kits for just about every area of technology. From motor + gears and electromechanics through electronics to pneumatics. So you can go on inventing,



30140
Construction kit
Motor + Gears
 An ideal addition to the START kits. Motorize your fischertechnik models. Kit includes motor, multiple gears, change-pole controller and holder for 4 x 1.5 V baby batteries (not suitable for rechargeable batteries). For rechargeable batteries, please use Service-Set 30 293 Power-Block (see p. 3)



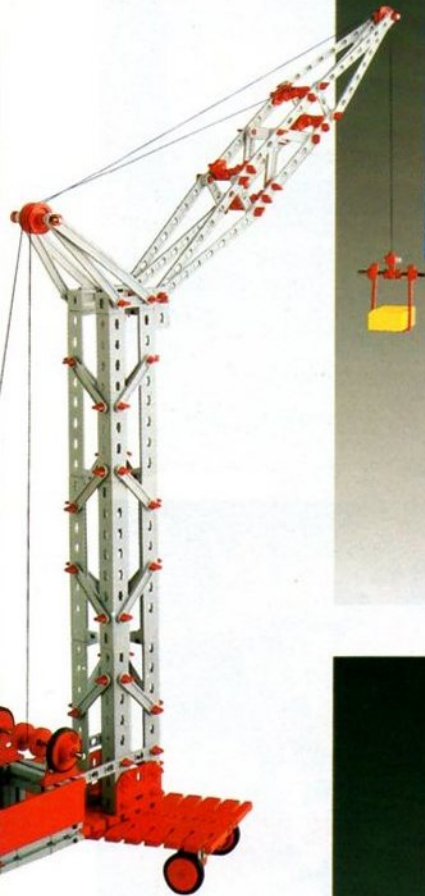
Requirement:
 START 100 or
 START 200.
 Recommended:
 power supply unit.



30173
Power supply unit
 6,8/0,5 A variable

building and modifying. And you continue to learn. How to understand construction procedures and experiment with them.

30 149
Construction kit Statics
Build big cranes, towers and super-structures. The kit contains struts, angled beams and arches.
Requirement:
START 100 or
START 200.



30 226
Construction kit Electromechanics
Add many interesting components for controlling electro-mechanical processes: switches, buttons, electromagnets, reed contacts, bimetals and six socket lamps. With easy to understand, clear instructions.
Requirement:
START 100 or
START 200.
Recommended:
motor + gears and
power supply unit.



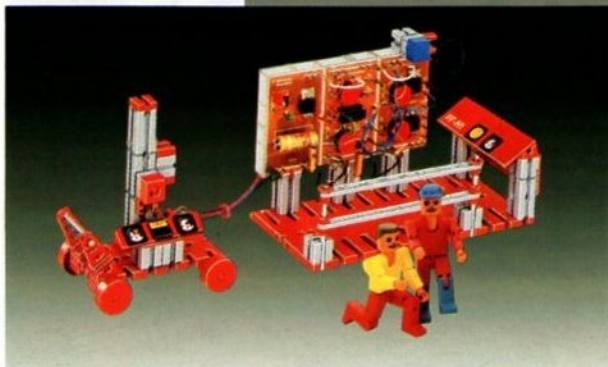
30 253

**Construction kit
Electronics**

Learn electronic control and regulation with fischertechnik. For building alarm systems, timing switches, timing generators, sirens, etc. Contain an IC voltage supply, threshold switch, power stage, loud-speaker, photo-resistor, capacitors, diodes and resistors.

Requirement: START 100 or START 200.

Recommended: motor + gears, electromechanics and power supply unit.



30 858

Construction kit

Pneumatics + fischertechnik pneu-

matics + is a professional application of pneumatic control in the fischertechnik system. The kit contains many interesting components, including cylinders, valves and the fischertechnik compressor – a unit which can be used to supply compressed air to a number of models. Other larger models require the fischertechnik minicompressor (30 864). The only requirement:

START 100 or START 200 and a power supply.



NEW

Now with compressor kit

EXPAND ANY CONSTRUCTION KIT.

The possibilities of fischertechnik construction kits seem unlimited. You can still go a step further. Build models that are even more realistic. Add and expand. With the fischertechnik service and accessory kits. You can illuminate all the models you have built! Or you can add a powerful cable winch for vehicles and crane constructions. And much more.



30186
Add-on kit Mini-Motor + Gears
With mini-motor and many gears for special drivers for cable winches, ring gears, hoisting gear, roller control etc.

30282
Service-Set Red building blocks

30381
Large construction panel 1000-0
Base plate 390 mm x 270 mm.

30283
Service-Set Base plates and cab

30864
Mini-Compressor
220-V compressor for all pneumatic models and running times of any duration.

30285
Service-Set Wheels and suspension



30280
Service-Set Grey building blocks
An add-on assortment of different fischertechnik basic modules.

30185
Service-Set Motor
Motor with gearing and connecting cable.

30289
Service-Set Winch and stepped drive
For building your own powerful cable winch for vehicles and crane constructions. Can be motorized.

30187
Service-Set Mini-Motor
Mini-motor with gears and connecting cable. For special motor applications.

30288
Service-Set Lamps and cabling
Illuminates all self-built fischertechnik models.

30293
Power-Block
Rechargeable battery holder for 4 NiCd rechargeable batteries with Short-circuit fuses, and reverse battery protection and integral charger.



30291
Service-Set Hydraulic cylinder
Two hydraulic cylinders for using genuine hydraulic functions in fischertechnik models.

30284
Service-Set Chain elements
An add-on assortment for building caterpillar tracks and conveyor belts.

30287
Service-Set Flatt support, bow and struts
Expands the possibilities of construction with the statics kit.

30290
Service-Set Slewing ring
The basis for rotating cranes and towers. Can be motorized with mini-motor + gears and service-set mini-motor.

30286
Service-Set Battery container
A battery holder for 4 x 1.5 V batteries with cables and change-pole controller (not suitable for rechargeable batteries).

CLASSICS FROM FISCHERTECHNIK.

Model kits with which you can create original hydraulic cranes through compressors to a race car, and in true detail. And they are more than mere models to look at. Because they work just like the originals. The same parts can be moved just like their big brothers on the road. You can alter them as often as you wish, reconstruct them and combine them with other fischertechnik components.



30 481
Building kit Multi purpose vehicle
 A fischertechnik model from which you can build the most imaginative trucks by conversion or expansion in combination with other fischertechnik kits, such as the

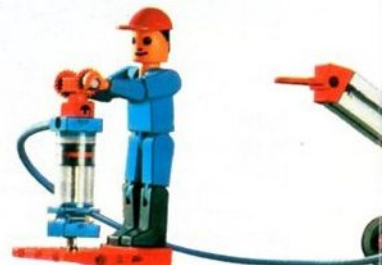
hydraulic crane or START/statics. From a heavy-duty crane through to a container truck. Drive for cable winch with the minimotor service set.



30 441
Building kit Hydraulic crane
 An easily built model with many interesting functions and real fischertechnik hydraulics.

Can be motorized with mini-motor + gears or mini-motor service set. Use with the fischertechnik multi-purpose vehicle.

30 458
Model construction kit Compressor trailer
 An additional air supply for use in conjunction with the fischertechnik pneumatic + construction kits. Also ideally suited to the universal vehicle. Complete with construction worker and road blocks. Electrical power is supplied by the fischertechnik power supply.



30 463
Building kit
Rough rider

An attractive play model with super suspension and wide rubber tires. Slight hand pressure will steer it across the most difficult terrain.



30 480
Building kit
Construction crane

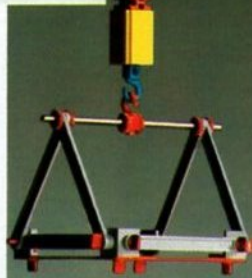
The giant among fischertechnik models. With a height of 80 cm this model is a real star on any building site. Several functions can be motorized with motor + gears and motor service set.



30 467
Building kit
Tipper truck

A powerful tipper for big building sites. Steerable and with suspension. Pushing the hydraulic cylinder raises the platform. Can be motorized

with motor + gears or remote-control set. Raising and lowering of the tipper with mini-motor + gears.



REMOTE CONTROLLED FISCHERTECHNIK

When two big names get together, the result is usually something quite special. And now the fischertechnik models you build can be combined with Robbe remote controls. Thus the world of fischertechnik takes on an fascinating new dimension: remotely controlled movement.

With the remote-control set fischertechnik models have three forward and reverse gears and they can also be steered.

With the fischertechnik motor controller you take a decisive step forward. Together with a Robbe remote control you can control your fischertechnik models without any wires and at a range up to 1 Kilometer.



30 375

Remote-control set

This serves for motorizing fischertechnik models, especially the fischertechnik general-purpose vehicle (30 481). You will find everything you need in one kit: wheel drive, servo, differential and stable steering with control panel.



Servo

With this unit you can steer your vehicle. With a second servo (31 495 or 30 275) you can do even more: go through the three-gear transmission of the wheel drive.



Wheel drive

Just like in a real vehicle, the motor comes with a perfected three-gear transmission. There is space in the wheel drive for four batteries. With an integrated charging socket.



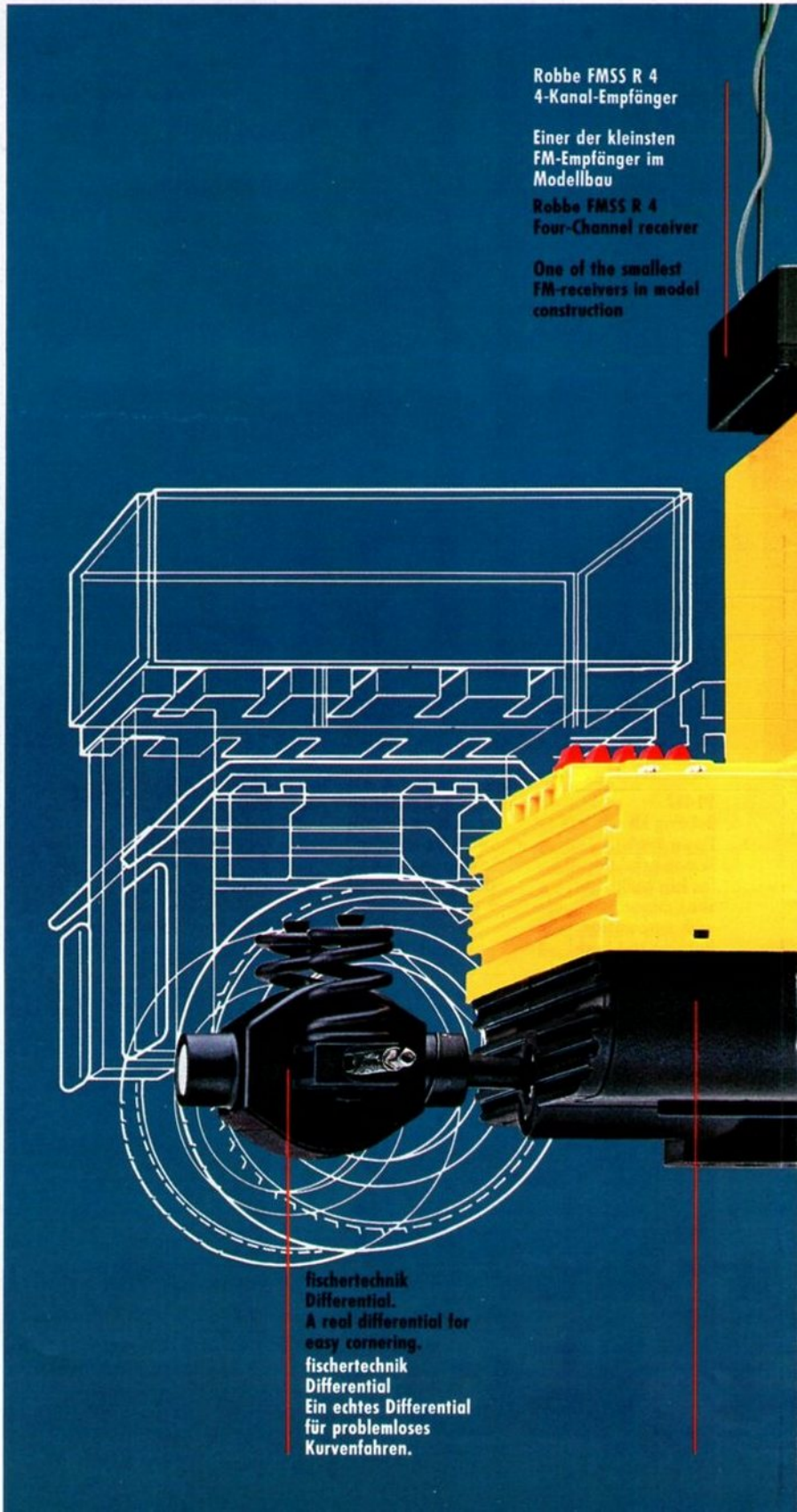
Differential

With a real differential fischertechnik models behave just like their big brothers when cornering.

Control panel

This manual control enables travel functions to be transmitted to a self-built fischertechnik model by a remote-control cable. In a second stage of expansion the cable remote control can be replaced with a combination of the fischertechnik motor

controller and a Robbe remote control.



Robbe FMSS R 4
4-Kanal-Empfänger

Einer der kleinsten
FM-Empfänger im
Modellbau

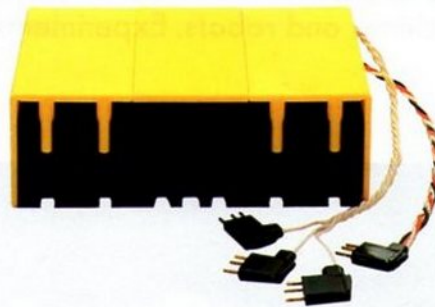
Robbe FMSS R 4
Four-Channel receiver

One of the smallest
FM-receivers in model
construction

fischertechnik
Differential.
A real differential for
easy cornering.
fischertechnik
Differential
Ein echtes Differential
für problemloses
Kurvenfahren.



30 277
Motor controller set
 The fischertechnik motor controller set makes fischertechnik compatible with Robbe remote controls.



The four-channel motor controller has two analog channels (speed/direction controller) and two digital channels (relays). The functions are designed as follows:
 - channel 1/2 = analog channels for motors and servos
 - channel 3/4 = digital channels for on/off, lamps, electromagnets and motors

With the fischertechnik motor controller fischertechnik can be combined with all Robbe remote controls. We recommend:

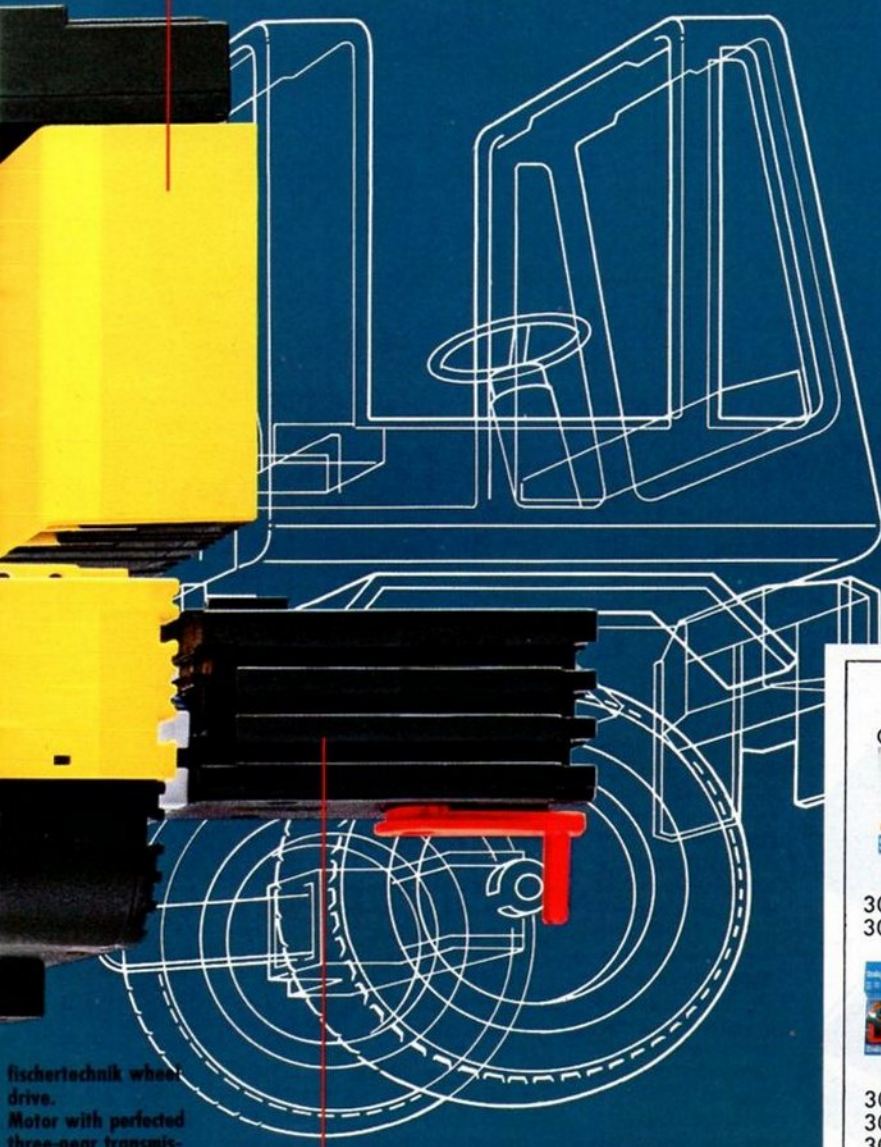


Robbe Compact 40 MHz two-channel radio remote control range up to 1 km two remotely controllable functions: eg drive and steer

Robbe Starion 40 MHz four-channel radio remote control range up to 1 km four remotely controllable functions: drive, steer and two more

fischertechnik Motor-Controller 4-Kanal-Fahrtregler, kompatibel zu Robbe Fernsteueranlagen.

fischertechnik Motor-Steuerer 4-Kanal-Geschwindigkeit/Richtungsteuerer, kompatibel zu Robbe Fernsteueranlagen.



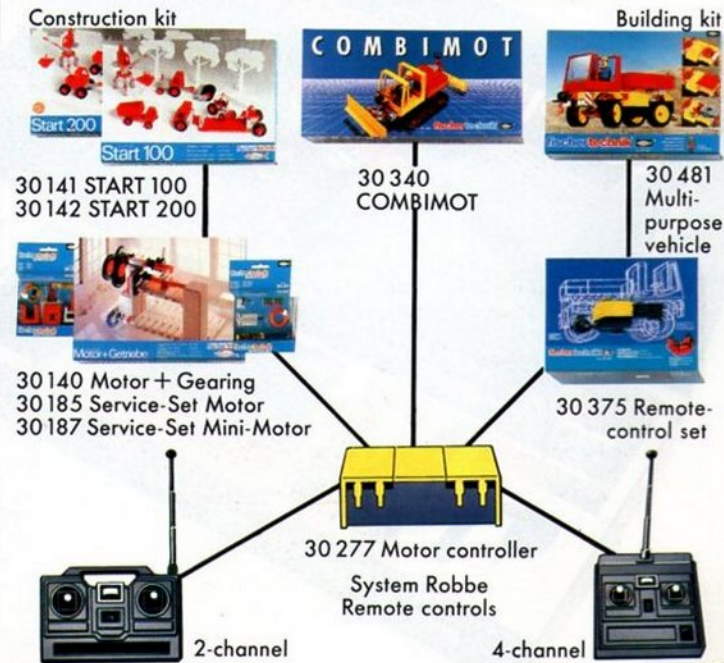
fischertechnik wheel drive. Motor with perfected three-gear transmission. With integrated charging socket.

fischertechnik Radantrieb Motor mit perfektem 3-Gang-Getriebe. Mit integrierter Ladebuchse.

fischertechnik Servo Lenkeinheit für das Fahrzeug. Ein zusätzliches Servo erlaubt die Schaltung des 3-Gang-Getriebes.

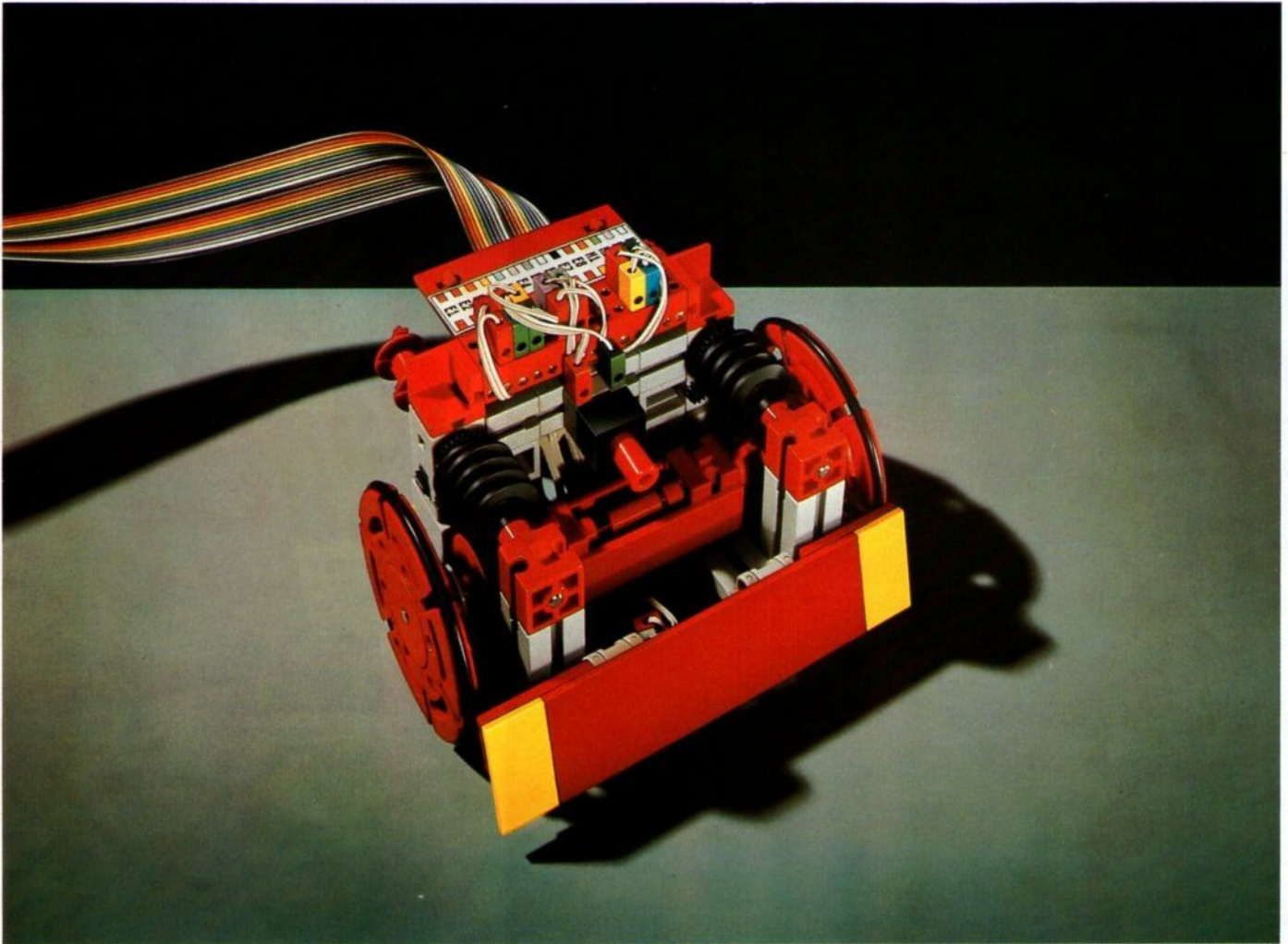
fischertechnik-Servo Steering unit for vehicle. An additional servo enables moving through the three-gear transmission

Functional schematic of remotely controlled fischertechnik



COMPUTER DREAMS COME TRUE.

Experimental computing. The new experimental computing kit from fischertechnik. Measure, control and regulate in the same way as in research and industry. A fascinating introduction to the world of programming machines and robots. Experimenting and simulating with the aid of fischertechnik



30 573

Computing Experimental Technical

components:

- 2 motors
- 2 transmissions
- 3 mini switches
- 1 lamp
- 1 photoresist (light meter)
- 1 thermal resistor (thermometer)
- original fischer-technik interface
- power supply
- coupon for software and adapter
- flat strip connector cable with multi-way plug for interface
- illustrated instructions on construction
- detailed handbook on experiments

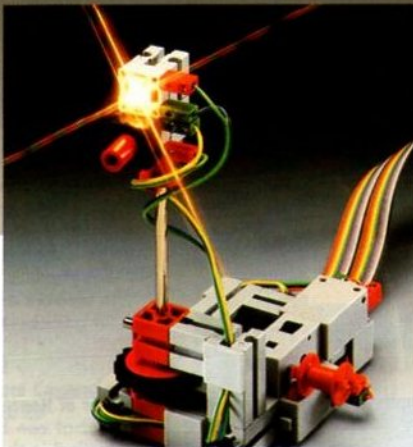
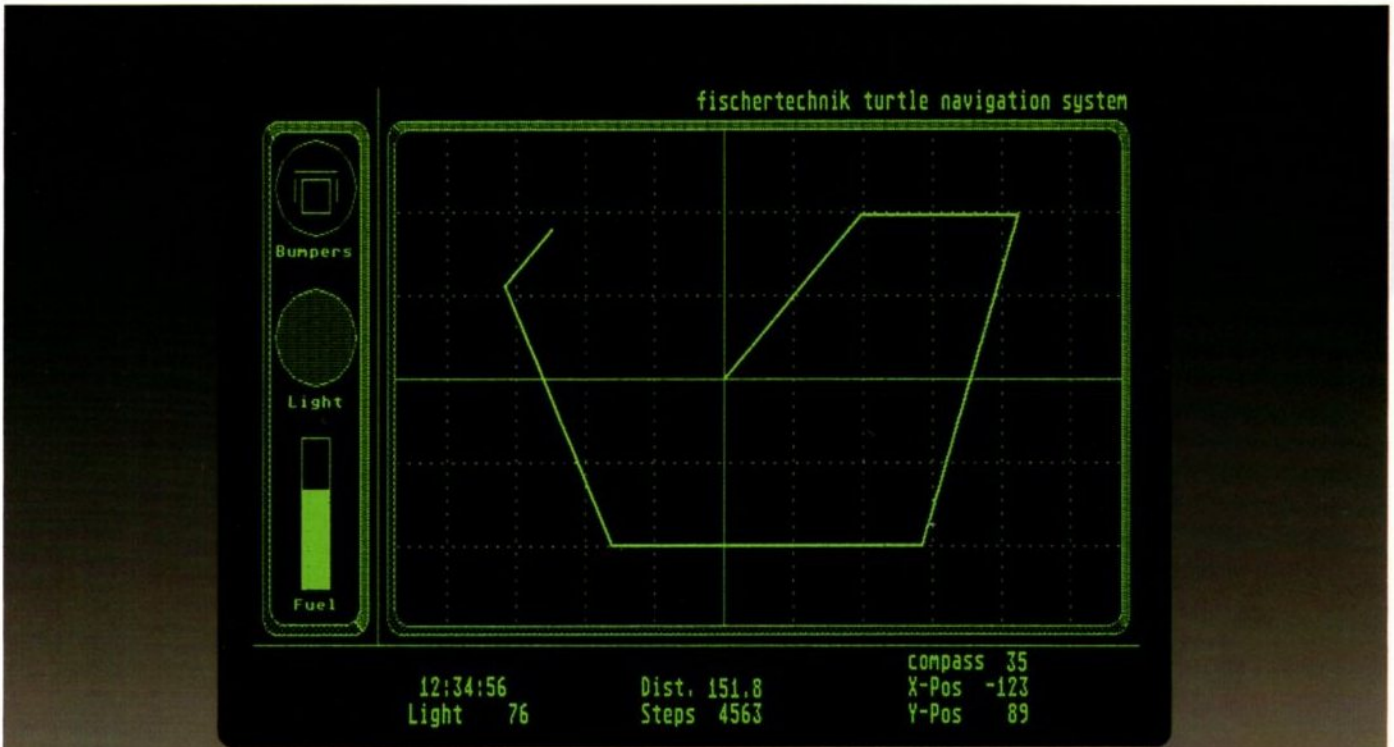
The „turtle“ is a powerful moving model which realises the concept of a mobile robot. He obeys four basic commands.

- go x number of steps backwards/ forwards.
- turn right/left by x degrees

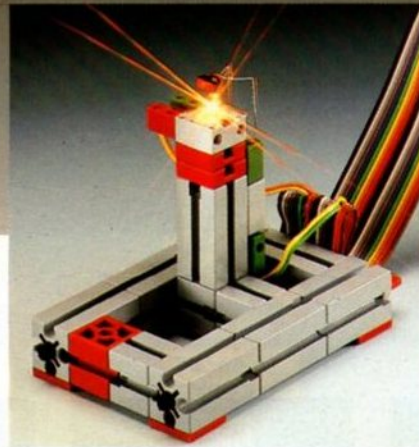
The „turtle“ can also be made to appear on the computer screen (see the picture on the top right-hand side). In addition he also has „sensory organs“ with which he can explore the world – all controlled by the computer.



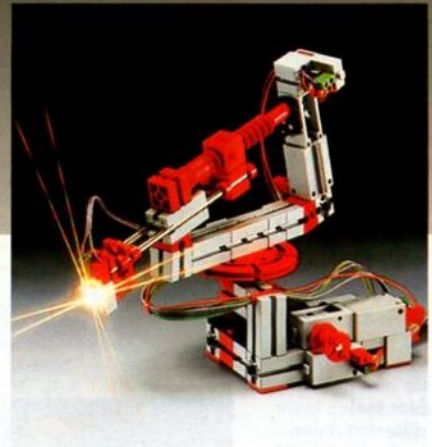
makes it child's play to learn how to handle the technology of today and tomorrow. The software available makes it possible to achieve immediate results. Therefore only minimal knowledge of computers and Basic program language are required.



The computer eye
A photoresist is tucked away behind the protective bumper and converts brightness into a computer input value. Can the computer see? It depends on the evaluation program. Enjoy the surprises that fischertechnik hardware and software have in store.



Thermometer and temperature control device.
A thermal resistor reacts to the ambient temperature by changing its electrical resistance. This allows the creation of an on-screen thermometer. The temperature can also be controlled: by regulating the heating, by cooling and by restricting the supply of heat.



The soldering robot
The soldering robot can swing his arms in 9° stages. The motion of the arm is controlled by a second motor. The third output of the interface is used to operate the soldering iron itself. The model demonstrates programming of robot movements. Through the use of an extension kit, the robot can be directed using sensors.

COMPUTER CONTROLLED FISCHERTECHNIK.

The fischertechnik computing kit adds life to your computer. In it are components for constructing ten different working models. An rotator antenna. A machine tool. A sorting system. Or a dual-axis teach-in robot.



The technical accessories:

- 2 mini-motors
- 2 gears
- 1 electromagnet
- 3 lamps
- 8 pushbuttons
- 2 potentiometers

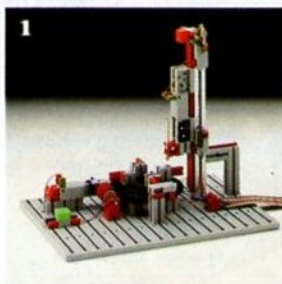
Matching interfaces provide you with the link to the Apple, Commodore, ATARI ST and IBM personal computers. With the programs on the accompanying diskette you can control any model and create new programs of your own. You can convert, expand and modify. Give your computer this building kit and you and your computer will soon be on the way to many new, interesting and creative ideas.

30 554
Computing kit
If you want to get into robotics and automation, it's best to proceed step by step. From

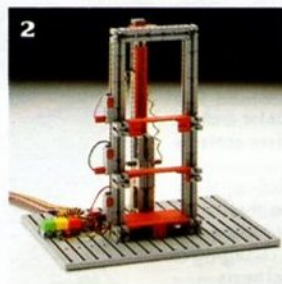
simple traffic lights through to a dual-axis robot, this program will systematically familiarize you with control engineering.



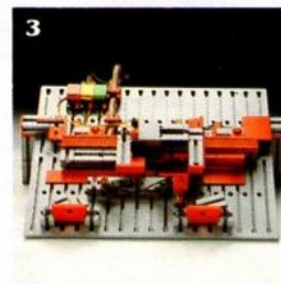
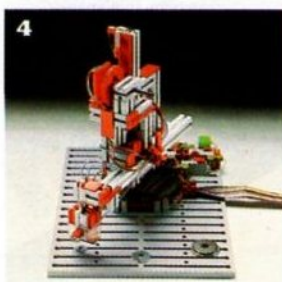
1 Machine tool
Two different movements of a motor have to be synchronized with one another.



2 Materials lift
The program controls the lift as it climbs to the required level.

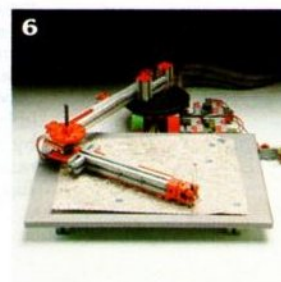


3 Sorting system
The computer is able to make decisions because it knows the results of measurements that have been made.



4 Tower of Hanoi
This robot can be controlled in the rotation of the body and the vertical movement of the effector.

5 Teach-in robot
A dual-axis robot controlled by a general-purpose programming system.



6 Graphics panel
Diagrams and pictures can be transferred into the image memory of the computer.

Six of ten possible models from the fischertechnik computing kit.

READY? RUN!

The interface creates the link between the computer and the fischertechnik model. With the help of fischertechnik interfaces, the connection of automats, sensors and robots is quite straightforward. In fact as simple as printing out data or making entries on the keyboard.



30 579
The power supply for fischertechnik computing models: The ideal power source for all fischertechnik computing kits.

The technical data of fischertechnik interfaces:

- 4 outputs for the connection of motors, lamps, electromagnets
- 8 digital inputs for the connection of probes, switches, relays
- 2 analog inputs for connecting potentiometers, photoresistors

Interfaces with most popular computers. fischertechnik interface and software packages are available for the Apple, Commodore, ATARI ST and IBM personal computers. You can connect four motors, eight probes and two potentiometers for instance. Each interface includes a program diskette for the ten models of the computing kit.

30 562
Interface Commodore C64/VC 20

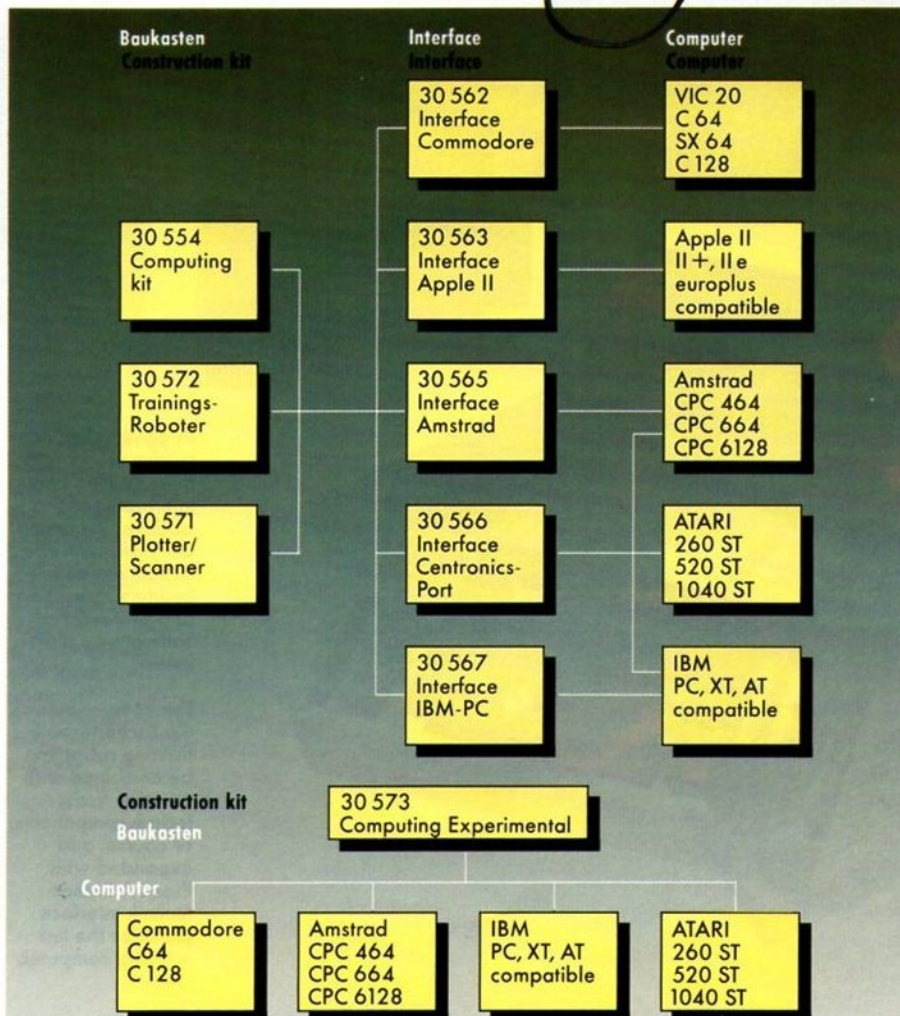
30 563
Interface Apple II

30 565
Interface Amstrad Computer

30 566
Interface Centronics-Port

30 567
Interface IBM-PC

The chart on the left shows which home computers and personal computers can be connected to which fischertechnik interfaces.



fischertechnik interfaces are very easy to use. All fischertechnik models are supplied with example programs. A diagnosis program can be used to check the wiring and functions of the model simply and easily. The driver program supplied with the model can be used as the basis for your own program and model ideas. The fischertechnik interfaces can be combined with construction and electrical components from the fischertechnik electro-mechanical and electronic kits.

PUT YOUR COMPUTER TO WORK.

The fischertechnik training robot. With its three axis of movement can reach any point within its work envelope.

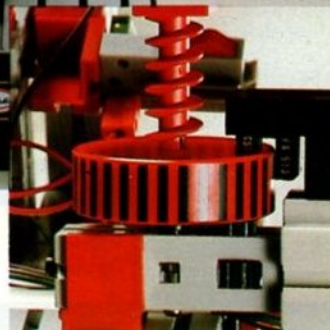
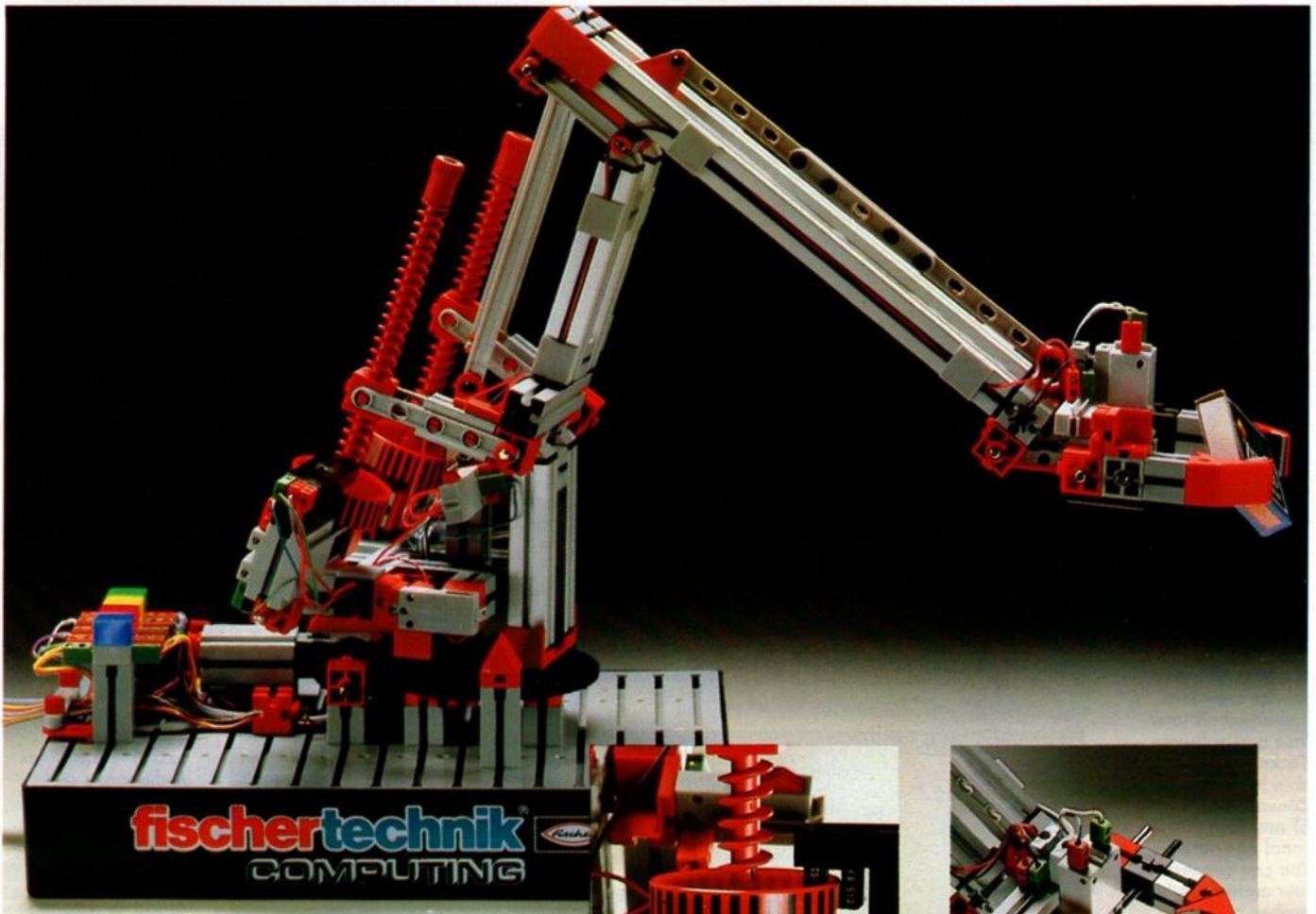


Photo interrupter



Gripper



30 572
Training robot
 The near-professional kit with this three-axis arm will handle any payload up to 100 g.

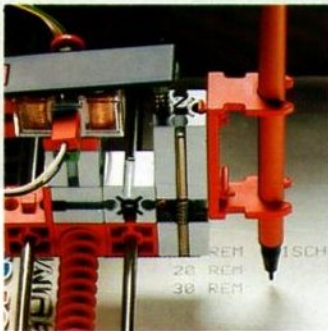
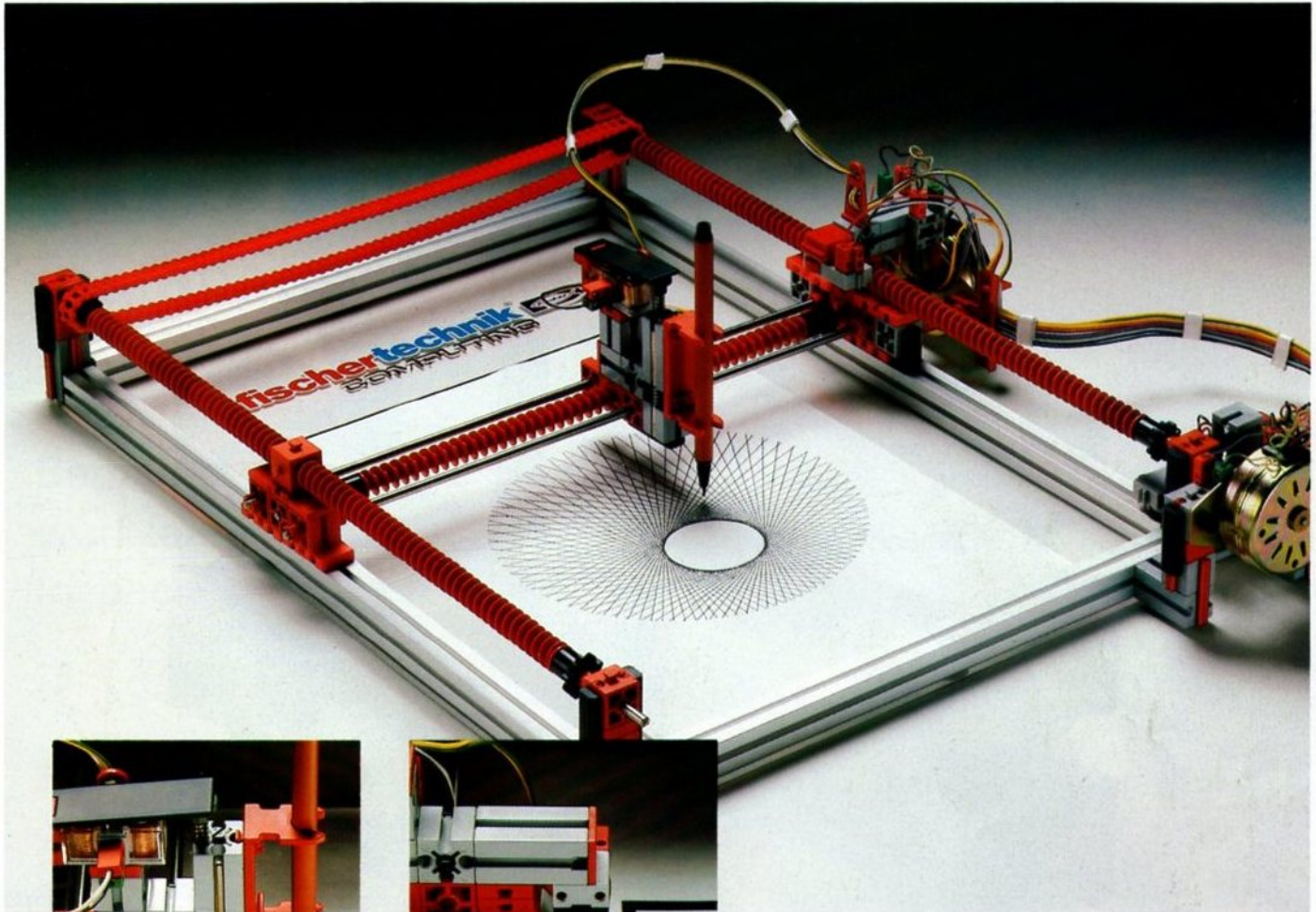
Its positioning system works with three infrared photo interrupter and achieves repeatability of 1 mm. The kit contains detailed building instructions and professional software on a diskette.

The components of the fischertechnik training robot can be combined with all other fischertechnik components, of course, and expanded with them. A fischertechnik interface provides the link with the computer.

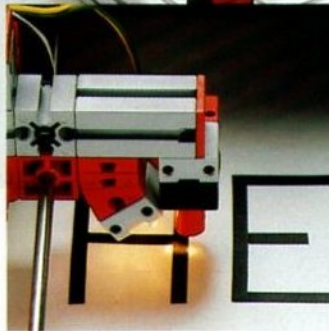
- The technical accessories:
- 3 S motors 6,8 Vdc for moving the robot axes
 - 1 mini-motor 6,8 Vdc for driving the gripper
 - 3 infrared photo interrupter for positioning the three robot axes
 - 4 pushbuttons for defining the home position
 - 4 lamps for optical display of operating status
 - 1 emergency-off button

YOUR COMPUTER REALLY SHOULD BE ABLE TO READ AND WRITE.

The plotter/scanner from fischertechnik will soon show it how. This professional fischertechnik computing kit combines the possibilities of two graphics units in one model. And the results are truly impressive.



Write head

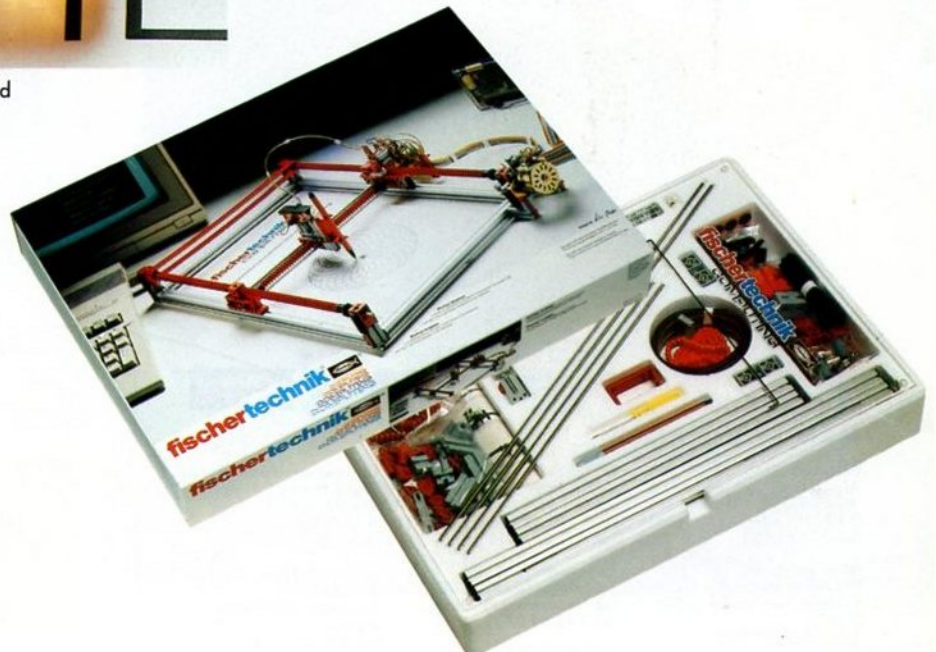


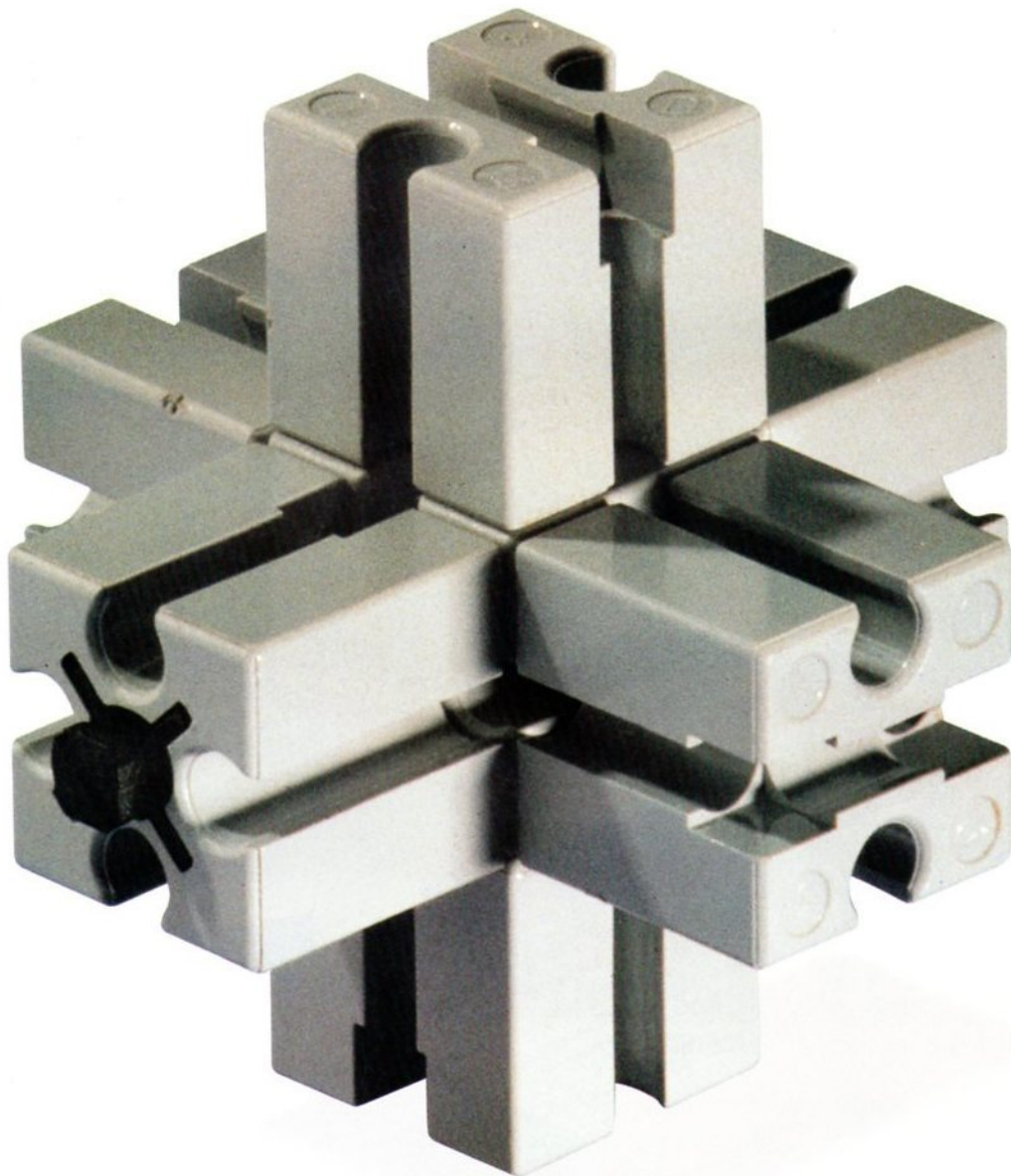
Read head

**30 571
Plotter/Scanner**
The plotter commits graphics to paper. Right up to A 4 format. Two bipolar stepping motors give it positioning accuracy of better than 0.5 mm. The scanner is for digital scanning of graphics copy. With the software you get on the accompanying diskette even false-colour presentation is possible.

The technical accessories:

- 2 bipolar stepping motors with a stepping increment of 7.5°, 6.8 Vdc
- electromagnetic writing head with fiber refill
- reading head with lamp and photocell
- 2 pushbuttons for detecting the home position





fischertechnik  [®]
MAN AND MACHINE

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