

FAN CLUB NEWS 01/1998

Title

New in 1998

Here they are, the new fischertechnik products for 1998: JUNIOR STARTER, HARBOUR CRANES, INDUSTRIAL ROBOTS and an IR CONTROL SET. Read all about the new products on pages 4 and 5 and in the 98/99 catalogue.

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Editorial

Dear FAN-CLUB member,

First we would like to apologize for the delay in sending out FAN-CLUB-News. Staff changes, the recall campaign, preparing the 1998 new products, changing over to new FAN-CLUB cards... we at fischertechnik were inundated with work. Now that things have settled down a bit, and everything is on an even keel again, we are now going turn all our effort to telling you about the new ideas in and around the FAN-CLUB - for instance, the new appearance of the FAN-CLUB and the new fischertechnik products for this year.

As you know, and can also see on pages 6 and 7 in the "Letterbox", FAN-CLUB News greatly depends on the things you send in such as photos, suggestions for models, construction tips, drawings, and so on. We send a small present as a thank-you for every contribution we publish.

Kay-Uwe Muller, who always used to write the words of welcome here and also looked after FAN-Post and the club telephone, has moved to a new job in the fischer group of companies.

I would now like to introduce myself. My name is Eric-Peter Muller (no, I am not related to Kay). I am 20 years old, and took over the FAN-CLUB work from Kay in November 1997. But now, I will not keep you waiting any longer, and would like to wish you lots of fun "studying" FAN-CLUB News.

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With sunshine in the tank
Sojourner - the MARS vehicle and a model

The last sign of life from the Mars vehicle Sojourner was a radio signal on 28th September 1998. An auxiliary transmitter also sent a signal on 6th October 1997. Now the scientists are wondering whether the little Sojourner Rover is still wandering around on the surface of Mars or, like the "mother" vehicle, has fallen victim to the Martian winter. Since it landed on 4th July, Pathfinder had sent 2.6 billion "bits" of information back to Earth, with more than 16,000 pictures of the ground station and 550 of the Rover. It also carried out more than 15 chemical analyses of the rocks on Mars, and numerous items of weather information such as wind speed and atmospheric temperature and pressure. Thus this mission to Mars has enormously increased our knowledge of "the red planet".

Anyone who would like to find out more about the Sojourner project will find interesting facts, photos, videos, and initial results from the analysis of the Sojourner data in the Internet at the address www.cyberbox.de/science

Werner Lehnert has built an "earth-bound" model of the Sojourner Rover. Anyone who goes into the room where Werner Lehnert does this work thinks they are in a children's playroom and hobbies workshop. Toys stand around made of every imaginable material. Lehnert is a mechanical engineer, author, and all-round handyman, and everything he does centres on "Playing with the sun". Solar components made his firm, LEMO-SOLAR, are to be found in every box of PROFI SOLAR parts.

The solar and drive technology in the Sojourner model (photo), which weighs 7.5 kg, was developed by Lehnert. The power supply can come either from batteries or gold-condensers charged from the solar cells. The solar module has a nominal voltage of 6 volts, and can produce a maximum output of 2.2 amps. [Photo of model].

Maximilian Lange, a 10-year-old Club member, has also built a model of the Mars Rover based on "Sojourner". This model is controlled through an interface. In his letter, Maximilian has described the equipment on his Mars Rover as including a grab-arm for picking up rock samples, a pneumatically operated mobile spectrometer for analysing the rocks, a heat-sensor for measuring temperatures, a mobile camera, and a lamp with a lens representing a halogen spotlight. He has also described the software program which moves the vehicle forwards and backwards.

Young People's Research - with fischertechnik

Respected experts have confirmed our view often enough that fischertechnik is more than just a toy, and that it can awaken and promote an understanding of technical matters in the youngsters that "play" with it.

It is therefore a great pleasure for us to keep reporting on fischertechnik fans such as Janis Veits from Nauheim (in Hessen) and the way he achieves remarkable results with this kit of parts from the Black Forest. Janis is 15 years old and goes to the Pralat-Diehl Gymnasium [comparable to a grammar school] in Gross-Gerau. In his leisure time he observes wildlife and indulges in his electronic hobbies, preferably using fischertechnik components.

One of his developments is a device that reduces mechanical oscillations by generating counter-oscillations. In manufacturing industry, for instance, this process could reduce the oscillations generated by heavy machinery. Janis won the southern Hessen regional qualifying round in the "Young People's Research" competition, and thus qualified to take part in the State competition in Darmstadt in March this year, where he achieved a magnificent second place in the Technology section.

We would like to take this opportunity to congratulate Janis very warmly, and to wish him every success in the future - and, of course, lots of fun with fischertechnik. Have you made any trials or carried out experiments using fischertechnik? If so, we would be very glad to hear from you.

[Pages 4 and 5]

Danger when slewing!

fischertechnik expands its range of products to include dockside cranes

Enormous dockside cranes are a fascinating sight, not only for young technical enthusiasts. The new DOCKSIDE CRANES building kit from fischertechnik makes it fun to build, develop and invent these machines.

The four models in the building kit are reproduced in every detail: jibs with single link, double links or parallel links are still in use today. If you want to try out the various technical functions of the models, you'll also find out why there are so many different designs for different applications.

The kit contains over 500 parts. You don't need any additional parts to those in the building kits. They are suitable for boys and girls of 8 years and older. To build the first crane model of your own, you need a detailed colour assembly manual which explains each building step in understandable language. All the models come with up to three motors. You can even operate your own inventions by remote control using the new infrared control kit.

Robots stirring the pot

The new INDUSTRY ROBOTS from fischertechnik have three axes for more fantasy

How are robots programmed? What does the control software look like? And how do you set the whole thing in motion? What sounds so technical is translated into a fascinating game with INDUSTRY ROBOTS, the new building kit from fischertechnik. It's not only intended for technical enthusiasts of 12 years and above. These new robot models expand fischertechnik's computing series this year for use in schools and industry, too.

The new building kit contains about 500 parts. The detailed assembly manual explains how to build a starter model, a welding robot and two three-axis robots which are moved by up to four motors. The 3-dimensional workspace of these types frequently used in industry permit work operations such as stacking workpieces or picking and placing them. If you want to, you can also give the robot a spoon to stir the soup in the pot. When combined with other fischertechnik building kits, you can build even more complex models. The only limit which hinders the search for new applications is your fantasy.

"fischertechnik, when applied as a pedagogical aid, promotes a child's creativity while playing," says Laurenz Wohlfarth, our sales manager. When viewed in this light, our INDUSTRY ROBOTS high-tech building kits are highly educational toys, even for schools and training institutes.

Professionals will be pleased about the many programming features. Every starter will be able to get to grips with the new technology: there is a step-by-step introduction to the world of robot programming. Sample programs written in LLWIN, the programming language devised by fischertechnik, are included on the program disk and will help the enthusiast to use the models the first time. LLWIN is a graphical real-time programming system based on state-of-the-art robot programming in industry. The software itself and the interface between the computer and the model are not included in the building kit. If you own the MOBILE ROBOTS building kit, you will already have these components. Otherwise, you can purchase the interface and the software separately.

fischertechnik by remote-control

New infrared control kit for controlling models

The new infrared control kit from fischertechnik can operate up to three motors separately. This the ideal supplement to motorized fischertechnik models.

The distance between the transmitter and the receiver can be more than 10 metres in closed rooms. The control kit comprises a transmitter and a receiver, which is contained in a small fischertechnik housing and is included in almost every model.

The remote control has two buttons for each motor, one for clockwise and one for anticlockwise rotation. The transmitter can also drive a second receiver. So you can control a total of 6 motors. The easy-to-understand manual describes the various applications of the IR control kit. With a few additional parts, you can build a control system with automatic reset.

A special function of the microprocessor-controlled receiver permits the control of two motors synchronously. For instance, to move a bulldozer, you only need to press one button to run the two motors in forward gear at the same time. To change direction, one motor retains its direction of rotation while the other changes its direction.

The power supply is not supplied. Any battery compartment or power supply unit by fischertechnik will fit.

Start and go for it!

New building kit for pre-school children

STARTER, the new JUNIOR building kit from fischertechnik provides an easy introduction to the fischertechnik world for children of pre-school age. It is suitable for boys and girls of 5 years and older.

The variety of parts has been reduced on purpose. This promotes creativity and fantasy in a child's first playful contact with the fischertechnik world. It also helps them achieve success in construction quickly. There are four different models to build with the JUNIOR STARTER: two dumper trucks, a tow truck and a mobile crane.

The focus is on understanding simple functions: the moving dump body, the rope winch or the slewing jib of the mobile crane are intended to encourage the young engineer to think about everyday technical things and understand them. This is the first step between play and the adult world.

Pages 6 and 7: "Letterbox"

Our warmest thanks once again to all those Club members who have presented their model ideas on these pages. Many of them are so ingenious that even our development engineers are amazed.

We had intended to present the fischertechnik castle to you in the last edition of News, but unfortunately there was not enough space for it. The castle has a draw-bridge, towers, and battlements, and we were so delighted with it that we decided we would definitely show it to you here. Sven Schwarz was eight years old when he built it, and he had been a FAN-CLUB member for three years already.

The Smarties™ machine built by Jarno and Patric Jansen, from Holland, wins applause particularly from the younger Club members because it gobbles up all the Smarties that fall on the floor. The machine works this way: a conveyor belt transports the sweets into a silo. Once the pre-set filling level is reached, a tipper lorry drives in underneath the silo, which then opens pneumatically. The Smarties are transported back to where they started, and everything starts again.

Two interesting bridges, also built by Jarno and Patric Jansen.

Light dawned on Patrick

This suggestion reached us from Patrick Mader of Chemnitz in Saxony for the construction of a candle-lathe. It allows grooves to be cut in any number, width, and depth. The candles can then be painted or dipped, and this enables lovely presents to be produced. The lathe was produced with parts from the PROFI COMPUTING kit, and is equipped with three motors. It can be controlled either by hand or by a computer program. Patrick wrote his program for the C64, to which he has connected his fischertechnik interface. This program has a zero-point setting, can move parts into position, and turns fewer cycles which are first selected from a menu. It would also be conceivable to think out a form for registering them in a table, entering the number of units, and producing the candles as a short series.

Heinz Pieper developed this concrete-mixer with dual controls. He made the special parts from metal, plastic, and cardboard. As these parts were produced by him mechanically, he can also offer them to other Club members. His address is: Heinz Pieper, Halluinstrasse 49,45739 Oer-Erkenschwick, Germany.

Hello, I am eleven years old and a fischertechnik fan. I would like to present the rotary bucket excavator which I built myself. It is 65 cm high and 128 cm long. It shovels the earth not onto a conveyor belt but into lorries, which drive away from underneath. The bucket wheel is driven by an M-motor, and is infinitely variable in height adjustment. The excavator is also mobile. (Sent in by Marko Wunderlich)

Nice and complicated

The wheel-rim processing machine built by Alfred Petera is positioned via Reed contacts to an accuracy of ± 0.5 mm. The machine was programmed with Lucky Logic. The earth drill, likewise built by Alfred Petera, is operated semi-automatically.

Filling until the doctor comes

Stef Dijkstra is 34 years old, and has been a member of the fischertechnik FAN-CLUB for 23 of them. His interest lies in computer-controlled machines. He has already built a number of different versions of this filling line. Because this line was so successful at the exhibitions organized by the Dutch FANCLUB, Stef recently decided to build the model again, this time using parts of the latest generation. The model carries out four individual processes: inserts cassettes, fills them, places the lid on top, and carries the filled cassette away. The pneumatic model is controlled with QBASIC and via two fischertechnik universal interfaces.

fischertechnik - real-life practice

Running speed controlled with LLWin

The fischertechnik LLWIN Software makes it possible to make motors connected to the interface run at different speeds. Previously, variable speeds had only been achievable via gears and gearboxes. In order to control the r.p.m. of the motor via software, the motor has to be turned on and off again at brief intervals. This happens so quickly that it is impossible to see it with the naked eye. The speed at which a motor runs when programmed in this way depends on the cycle time with which the interface works. In our example (see illustration), a motor is controlled in three stages. To this end, two buttons (E7 and E8 in this example) and one motor (M 1) are attached, and the various different combinations of the buttons set the various motor speeds. In the table, "0" means the buttons are not pressed and "1" that they are pressed.

E7	E8	Motor
0	0	off
0	1	slow
1	0	faster
1	1	normal (full) speed

The sample programme can be down-loaded from the Internet directly onto the recipient's hard disk. The address is: www.knobloch-gmbh.de/fischer/kay/fitech07.htm

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Fairs and exhibitions news

fischertechnik was once again a magnetic attraction for children, buyers, and dealers at a number of trade fairs and exhibitions in recent months. Whether in Nuremberg, Hanover, or Dortmund: when cranes move by remote control, or robot arms swivel as if they were being moved by an invisible hand, the lights of the technology-geeks light up at once.

Visitors from the Far East to the Nuremberg Toy Fair: the 32 most successful fischertechnik sales people from Taiwan were presented with a 1 a-day holiday in Germany by their importer which included visits to the fischer works and to Ravensburger. They were most enthusiastic over the new models on the fischertechnik exhibition stand.

The INTERMODELLBAU fair took place in Dortmund at the beginning of April. More than 100,000 visitors came to see this, the biggest model-building and model-sport fair. Interested people were able to come to the fischertechnik stand and see working models made from the pneumatic and sensor kits, and many made full use of the opportunity of buying fischertechnik at special exhibition prices.

fischertechnik will be featured at a number of forthcoming events as well. Here is the latest list of dates:

Santa Claus meets the Easter Bunny

fischertechnik at the 49th International Toy Fair in Nuremberg

When Father Christmas stands next to the Easter Bunny, cuddly animals ask to be cuddled, and model railways run their circuits, the Nuremberg Toy Fair opens its doors. Once again there will be plenty of new ideas from fischertechnik.

"That was the greatest Toy Fair there has ever been", said the Nuremberg organizers proudly on 11th February. 2,835 exhibitors had made it a record-breaking event. 55,650 trade visitors from 127 countries spent seven days obtaining information about new trends in the toy business. For many fair visitors it has become a tradition to visit the fischertechnik stand: "It is sometimes almost unbelievable to see the respect fischertechnik has gained from trade visitors even 30 years after it stormed victoriously into the toy world," said Laurenz Wohlfarth, the fischertechnik sales manager. "High quality" and "educationally sensible" are the words which specialists in this field use in connection with fischertechnik. Many journalists also take the opportunity to show new ideas from the firm of fischer.

fischertechnik University

The only limits are those of the imagination

All Club members are being sent a new Club card with this issue of FAN-CLUB News. The redesign of the card symbolizes the start of a new development: the FAN-CLUB is developing into the fischertechnik University.

Anyone who looks a little closer at the new fischertechnik kits will see that great importance has been placed in model development in presenting technical functions and relationships. The focus is on one main question: How do things work? This question will be occupying fischertechnik and its fans even more in future than it did in the past. This is because the new kits are designed in such a way that the enjoyment to be derived from creative design is only limited by the boundaries of the imagination itself. Building things and playing with fischertechnik can thus, almost as a by-product, become learning for life as well.

The matters with which the Club will be dealing will therefore have more to do with scientific topics. We will be concerning ourselves more than we used to with questions and problems arising from nature and technology, and will be trying to demonstrate and explain various different functions and ways of working by using fischertechnik. We will thus be combining playing with experimenting, because play is the first step into the "grown-up world".

Assembly Manual: Fan Club Model: "Mobile Walker"

The Mobile Walker can be built from the parts in the "I'm Walking" and "Mobile Robots" kits, plus a few additional parts (see parts list). It is driven by two motors; motor 1 drives the three right legs, motor 2 the three left ones. As with the models in the "I'm Walking" kit, the positions of the cranks that drive the legs must be exactly in line with one another, so that the Walker really can walk. The three cranks on each Page are connected by cogs, and are set correctly if the model is built correctly.

The left-hand and right-hand Pages are synchronized by Buttons E1 and E2. When the model is walking forwards, both these motors take one step each. If the button is pressed, the motor stops and waits until the other motor has stopped as well (see also LLW in manual, resetting motor positions). The next step only happens after that.

If the model is required to turn, the motors simply run in opposite directions. Turning movements are best carried out on a smooth floor; on carpets, the motors have to work very hard to prevent the model from coming to a halt.

The very simple printed sample program enables the Walker first to take 5 forward steps, then 2 to the right, and then walk forwards again. You can also program it, of course, to walk backwards first and then to the left. With additional sensors it can for instance recognize obstacles, like the Mobile Robots. Think out further ideas for yourselves! - and we will publish the best ones in the next News. Have fun!