

Fan Club News 02/2003

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Seite 1: Editorial

Hi Fans,

As you can see, we have changed the layout of our newspaper a little bit. We hope you'll like it! The fischertechnik juggler is now the new Fan Club mascot. But he hasn't been named yet, so you can take part in the naming competition. More about that on page 2.

There you will also find information about our feedback campaign, the creativity offensive (a construction competition) and the new members-recruit-members campaign. We have also compiled a schedule for you with the dates of our warehouse/special sales and trade fairs.

On page 3 we report on the world's largest fischertechnik food vending machine, which caused quite a sensation at the Cologne "EU'Vend" trade fair. The project was implemented by three fischer apprentices. You can also read about what can become of a young fischertechnik constructor on page 3: the computer expert, Dr. Carsten Mehring has developed the "keyless keyboard", so-to-speak.

As usual, the following page contains the mailbox, while on page 5 we report on the fischertechnik Convention, where fantastic models were on show.

Page 6 is entirely devoted to the new "E-Tec" building kit, the "E-Tec module" of which makes it possible to construct fairly sophisticated electronically controlled models.

This time the Fan-Club model is a dragster, based on the new "Power Tractors" construction kit for forestry and agricultural machines.

So, now we would all like to wish you lots of fun with the Fan Club News.

Page 2: Current topics

Competition to find a name for the club mascot

The fischertechnik juggler smiling at you from the first page of the News is the new fischertechnik Fan Club mascot. Unfortunately, he has not been given a name as yet and it is up to you to change that!

Please be creative and write, mail or fax the name you think the new mascot should have (don't forget to put the sender on!). All entries will be judged by a jury. We will present the name in the 01/04 News.

Of course, you can also win something: among all the entries we will be drawing raffling off five "Universal" or "Cars & Trucks" construction kits. Please inform us of your idea for a name and which construction kit you would prefer to receive. The entry of the winning name will receive a "Creative Box1000", the collection of parts for one's own model developments. Entries must be in by 29.02.04. Legal action is excluded.

Creativity Offensive!

Our new "Creative Box 1000" construction kit contains over 600 of the most popular fischertechnik components to serve as a basis for models you have thought up yourselves. And it is precisely these construction of your own, namely the creativity involved in them that we particularly want to encourage with fischertechnik.

That is why we are organising the "Creativity Offensive", a construction competition for you to build the most extraordinary models you possibly can. How does it function? Quite simply:

You build a remarkable model and take photos of it (digital or "proper" ones). You then send them together with a description of the model to us by 29.02.04 (for the address, please see the box on this page). Please don't forget to put your name and address on it. A jury will give awards for 10 most creative models. These models will be presented in the Fan Club News 01/2004 and the constructors will receive a surprise!

Page 3: Technology

The world's largest food vending machine made of fischertechnik

Spotlights, flashes, curious looks: the world's largest food vending machine made of fischertechnik and our apprentices, Carmen Kübler, Andreas Müller and Simon Walz were the focus of a lot of interest at the EUVend. The first European trade fair for manufacturers, operators and suppliers of vending machines closed its gates on 13.09.2003.

During their obligatory tour of the fair the members of press first stopped by the fischertechnik station. In addition to numerous daily newspapers and specialist journals the TV teams of RTL and WDR were interested in the machines. However, it was not just the technology that enthralled the people from the media; it was also the fact that the project had been implemented on the initiative of three apprentices.

The trade visitors were also most interested in fischertechnik in the foyer before the exhibition halls. The managing director of one operator of gaming machines wanted to buy the unique, one-off item immediately and another wanted to book it for an event. An operator of sandwich-dispensing machines in England was so enthusiastic about the fischertechnik conveyor technology that he wants to adopt the principle.

When building the food vending machine the young constructors took their inspiration from the originals – not only in terms of the 200 x 100 x 60 cm dimensions. Insert money, select a product and immediately the machine delivers the desired product with the quiet murmur of the fischertechnik power motor. Apart from peanuts, chips and Smarties, the international public at the trade fair was most enthralled with the new fischertechnik Micro Kits.

The machine is controlled by two "Intelligent Interface" and "Extension" modules each, which had been programmed with our "LLWin" software and – once the program has been downloaded – they function independently of a PC. The apprentices have even integrated a coin checker with a photo-electric barrier: the machine will only dispense chocolate bars etc. if it is fed with 50-cent coins.

Kitty: it all began with fischertechnik...

He once programmed a robot made of fischertechnik on a computer; in the meantime almost the entire computer world knows him: Dr. Carsten Mehring is the man who invented "Kitty", the keyboard to be carried on one's fingers. The computer expert who grew up in Nagold was recently awarded second prize in the Artur-Fischer-Inventors' Awards. "The reactions to my invention are phenomenal" Mehring comments; he teaches and researches at the University of California. The American news channel CNN has reported on Kitty, specialist journals all over the world have presented "typing without a keyboard". Kitty (Keyboard-Independent Touch-Typing) is a data glove with electric contact pads on

the tips of the fingers and thumbs.

Mehring's invention is based on the ten finger typewriting system. He says: "I'm very familiar with it; when I was a boy, my mother registered me for a typing course at the VHS (adult education centre)". When typing with Kitty the forefinger, middle finger and ring finger play the same role as with the ten finger system. For example, the right forefinger is for the letters U, J and M. If a U is required, the tip of the forefinger presses lightly on the top one of three contacts on the inside of the thumb. The three contacts correspond to the three rows of characters on the keyboard. If, however, the forefinger touches the middle contact on the thumb, it will type a J. The characters are transmitted to the computer by means of a radio transmitter (a kind of wrist watch).

Page 5: fischertechnik Convention

Impressions: fischertechnik Convention, Mörshausen

Once again, the very well visited, second "fischertechnik Convention", which took place on 20.09.03 in Mörshausen near Kassel, was a source of inspiration for visitors and exhibitors alike. Some of the things that were admired there are to be seen in the pictures.

Unfortunately, owing to lack of space, we had to make a selection – you can find further information and lots of pictures on our homepage www.ftconvention.de. Our sincere thanks go to the exhibitors and, of course to the team behind the organisers, Heiko Engelke and Lothar Vogt. It was a super event!

"fischertechnik Fertighaus GmbH": the computer-controlled polystyrene cutter made by Manfred Busch (fischertechnik-Freunde Mörs) produces six high precision components, with which it is possible to assemble a little house with great accuracy! Very popular in kindergartens...

When the clock strikes... the pendulum clock by Ralf Nellessen is a mechanical wonder. Deviates only about 5 seconds over 24 hours!

Probably a fischertechnik world record: Big Wheels with a diameter of over two metres(!) by Holger Howey (left) and Stephan Wenkers (rights) – each comprising several thousand parts!

Fairground with a Free-Fall Tower and Swing Boat by Markus Liebenstein. He also brought along a crane controlled by a joystick connected to a PC. The tower has a complex pneumatic braking mechanism.

This quintuple-axle robot with swivelling pneumatic grab, which stacks peanut cans was developed by Heiko Engelke. The model is operated via a game pad.

"Harzer Fahrkunst" ("The Art of Driving in the Harz") by fischertechnik archivist Franz Santjohanser is a fascinating model.

Structural principle of a 2-cylinder V-engine – with all components: camshaft, crankshaft, valves ... built by Claus-Werner Ludwig, just like these models.

Clemens Jansen from the fischertechnik Club Nederland was also there and presented his "Super Space Twister" accompanied by wild fairground music.

Electronics professional Frank Linde constructed this quintuple-axle robot as part of an autonomous robot system.

Very popular with the kids: Markus Mack's flight simulator. The plane is controlled via a game pad with software, which Markus programmed himself: "Free Speed Joy" (www.marmac.de.vu). The simulator realistically imitates takeoff and landing as well as ascent and descent.

Harald Steinhaus' combine harvester is full of "original" technology

Siegfried Kloster's robot bustled around the hall.

Page 6: News

Profi E-Tec / E-Tec module

The new *E-TEC module*

In the "Profi E-TEC" construction kit there is an "inconspicuous" little red box (60*30*30mm) for controlling the models. The new **E-TEC Module** is packed full of state-of-the-art microelectronics and serves as the control unit for fischertechnik models.

Owing to the fact there was no such module in the fischertechnik range to date, we will present it here in detail.

To begin with, to an amateur the module resembles the receiver components in the IR Control Set (infra-red remote control). In order to avoid any confusion, the colour of the housing is red.

The module possesses three inputs and two outputs. These are located on the top (see picture). In addition, there is switch block with four "mini" sliding switches (these switches are known as "DIP switches") These four switches can be used to set various "codes" for selecting the stored programs. Nine programs are always stored in the E-TEC. When switched on, the "computer" in the E-TEC scans the switch positions and then knows which program should be implemented. A control light (light diode) indicates that the component is functioning correctly. Don't worry, the module, the necessary programs and the relevant switching positions are described in detail in the leaflet accompanying the Profi E-TEC construction kit.

With the **E-TEC module** one distinguishes between a "Standard Program" and the "Special Programs". When the standard program is activated a motor connected to the output rotates permanently if the contact actuator on input 1 is activated briefly. It turns in the opposite direction if the contact actuator on input 2 is activated. The motor can be switched off by operating the button on input 3. In addition, for each input one can set the connected contact actuator to react to pushing the contact actuator (closing function) or to it being let go (opening function). The inputs are "flank-triggered", which means that the **E-TEC Module** reacts only if an actuator is activated. This sounds very complicated, but it isn't. The instructions included with the construction kit demonstrate step by step how it is done and, after just a little experimenting, you'll soon become a professional.

It really gets interesting with the four "special programs": "Hand Dryer", "Alarm System", "Multi-storey Car Park Barrier", "Blinker".

With almost all the programs one can select additional functions; this makes the potential of the new **E-TEC Module** quite enormous. For instance, with the "Blinker" program alone, one can select from eight different "blinking" times. These range from fast intermittent blinking to blinks lasting several seconds. This makes it possible for the **E-TEC Module** to control the fun park models and let them function as they do in reality (e.g. 7 seconds to the right, 1 second interval, 7 seconds to the left...)

However, there is even more that the **E-TEC Module** can do. Four other special programs are occupied with the topic of digital technology. These digital technology programs are not used in the Profi-E-TEC construction kit, because the variety of functions by far exceeds the possibilities of the construction kit. Whether or not there will one day be a special "Digital Technology construction kit" depends on the reaction to the "E-Tec".

As of January 2004 we shall be offering additional specifications of the digital technology programs with further information and examples for the **E-TEC Module** for downloading from the Internet. It is also possible to obtain further individual E-Tec modules.

The four digital programs are called: "Monoflop", "D-Flip-Flop", "ODER-Glied", "UND-Glied". The "ODER"- and the "UND - Glied" are also known as "Gatter" (gates); they each have three inputs and provide the logical "Q" and the (negated) "Q" signal (OR / NOR, or AND / NAND functionality). Those who own several **E-TEC** modules can interconnect them, thus enabling them to create digital counters, shifting registers etc.

Even if these technical terms sound like double Dutch to you at first, don't worry! The additional instructions explain a lot about it. Without "digital technology" there would be no computers, no calculators and no DVD players. In each of these devices there are thousands of these "gates" which ensure that the device works as you want it to.

But now let's turn to a more practical matter from school life, which is what kind of things one can do with several E-Tec modules. Just supposing one pupil comes too late in your class of 25 pupils. Now your teacher gives you the task of constructing a "pupil-counting machine". With five E-TEC "D-Flip-

Flop" modules you can build an electronic digital counter, that can count up to 31 and a photo-electric barrier is installed on the door. Then you clamp on a few E-TECs as AND gates, so that at counting status "25" – via a further "D-Flip-Flop" - E-TEC a lamp switches on "all present in class".

If your teacher likes it, he might come up with the idea of converting the pupil counting machine into a "machine for punishing late pupils". Everyone in the school that day is to see who was late in your class. Of course, for you as an E-TEC professional that is absolutely no problem: when the teacher enters class and the lamp "all present in class" has not yet lit up, then he presses a button "switch on punishment". You have built your machine so that a "Monoflop" E-TEC is activated by the photo-electric barrier. After receiving a pulse from the photo-electric barrier on the door, the Monoflop switches on a motor with a rope winch for a few seconds which switches off of its own accord.

There are four different "Monoflop" time settings on the E-TEC (2, 5, 10 and 20 seconds). The rope then causes a bucket filled with flour hanging above the door to tip. And then everyone can see who came late that day...

With the new "Profi E-TEC" construction kit and the **E-TEC module** it contains, fischertechnik moves into a new technological era. Because the module is extremely economical in terms of electricity, it can be operated by means of an accumulator set.

Once the basic training to become an "E-TEC Professional" has been concluded with the construction kit, fischertechnik professionals can easily use the **E-TEC modules** for controlling fischertechnik lamps, motors, electromagnets and buzzers. There is nothing to stop you inventing new technical devices now.

Pages 7/8: Fan Club Model No. 23 "Dragster"

Maybe you have already seen them: dragsters, racing cars as fast as lightning. They are built to compete in ¼-mile races as fast as they possibly can, almost spitting fire. That is a stretch of approximately 403 metres to be covered in a duel in a straight line; at the end parachutes are used to slow them down. The top speed can be well over 400 km/h.

Unfortunately, our model does not quite reach that speed, but using "Power Tractors" components you can still construct a fine-looking dragster. The "Power Motor Set" is used as the power source and it is controlled by the "Mini Motor Set" and the "IR Control Set" serves as the remote control.

It really gets exciting if you then build a dragster together with a friend. With the "Receiver 2" with the "IR Control Set" you can engage in exhilarating acceleration duels. Have fun!