

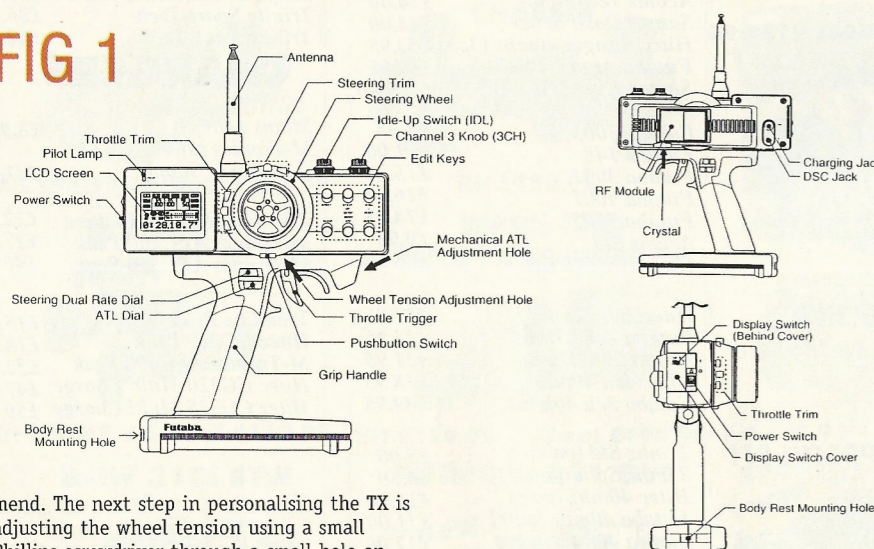
It's a fair question to ask - What is the point of computerizing three function gear? The answer lies with the present 'state of the art' RC cars. Progress over the last few years has produced cars with sophisticated steering, braking, suspension and drive systems which has lifted the sport where drivers are virtually 'in the cockpit' of a high precision racing machine. It follows then that to take full advantage of these precision machines the control link - i.e., the RC system - must be capable of exploiting the car to its limits. Most dedicated competition drivers have more than one model and know that each has its own characteristics which require setting up within the RC link. Each race circuit will have its own character which can change according to weather conditions 'on the day'.

With standard gear the TX/servos, engine/ESC response, for want of a better term, is 'set up' manually for each car and track. With the 3PJ gear you programme into the TX memories up to eight models, by name, the model settings. If required you can programme one car into the eight memories with eight different "Set-ups" determined from the last 'outings' or mix as you require. All this is done electronically but before we discuss how lets look how to personalise the TX and identify its functions which I covered last time but it doesn't hurt to repeat.

## Personalise

Fig.1. details the TX for right hand use however the 3PJ can be adapted for left handed drivers in four simple steps detailed in the manual. The user is cautioned to use care and not use excessive force to get the case apart and not to over tighten the nine screws involved. What isn't mentioned is the removal of the RF module before starting. This I recom-

FIG 1



mend. The next step in personalising the TX is adjusting the wheel tension using a small Phillips screwdriver through a small hole on the underneath of the wheel mounting. The range is about five turns in each direction but be careful in turning the screw too far counter clockwise as it will fall out. The other mechanical adjustment available is shortening the 'Brake Stroke' of the throttle trigger. This again is a Phillips screw located within the trigger guard and turning it clockwise it becomes a trigger stop. This screw was missing in the TX submitted for review so check its there if and when you purchase - its easily seen.

# megatech muscle power

## IN PART TWO HUGH BRIGHT CONCLUDES HIS REVIEW OF FUTABA'S 3PJ COMPUTER GEAR.

### Adjust the contrast

Before any programming can be done its essential to adjust the 'Screen Contrast'. Performing this operation reveals the multifunction use of the six buttons to the right of

the wheel - see Fig.1. By this I mean that these buttons combine in various ways to access the numerous set up and driving options available within the system so 'calling up' for contrast is an introduction to understanding how to access the computer. With the power on press the Direct button twice. Press the Up & Down (Blue) together. Now press the Down button four times. The screen will now display CONTRAST. Pressing the minus (Blue) button will lighten the screen with the plus (Blue) button darkening it. The reference to (Blue) above illustrates the dual and triple use of the buttons which at first may seem confusing but once mastered did not prove to be difficult. I'm sure the younger computer literate generation will have no difficulty in mastering the gear!! Having set the TX up to ones personal preference lets now look at the programming.

### Getting on with the programme

First, of course, switch on. This can be either via the "POWER ON" switch located on the rear end or via the "DISPLAY SW" under a hinged cover alongside. The difference is with either RF radiation - "POWER ON" or no radia-



centage and can switch it ON or OFF by a knob on the top of the TX see (Fig.1). With the TX switched on and adequate TX voltage we can now start to programme.

## Programming and Jargon Buster

There are three programming modes in the form of three continuous 'loops'.

Fig.2. DIRECT MODE LOOP, Fig.3. SELECT MODE

LOOP and Fig.4. SETUP MODE LOOP. DIRECT MODE accessed by the DIRECT button allows you to program the steering and throttle servos throw either side of neutral whilst operating the steerwheel or throttle trigger (ATV). The sensitivity of both the steerwheel and the throttle trigger around the neutral point as a percentage can also be programmed in. (Steering and throttle EXP.) The DIRECT mode will also program the third function servo ATV. Before going any further lets bust the jargon!! ATV and ATL are abbreviations now common to many top of the range radios. ATV stands for Adjustable Travel Volume or end point adjustment which explains it neatly as in use the maximum travel of a servo can be set, in either direction, in relation to the full movement of the steerwheel or throttle. ATL, Adjustable Throttle Limiter, limits any trim programmed into the trigger to operate 'below' the neutral thus ensuring that throttle servo at full power is not affected. EXP is a more sophisticated type of Dual Rate. (which reduces the servo travel to a set point making the control less sensitive) EXP (EXPand?) changes the sensitivity of the steering and throttle servos around the

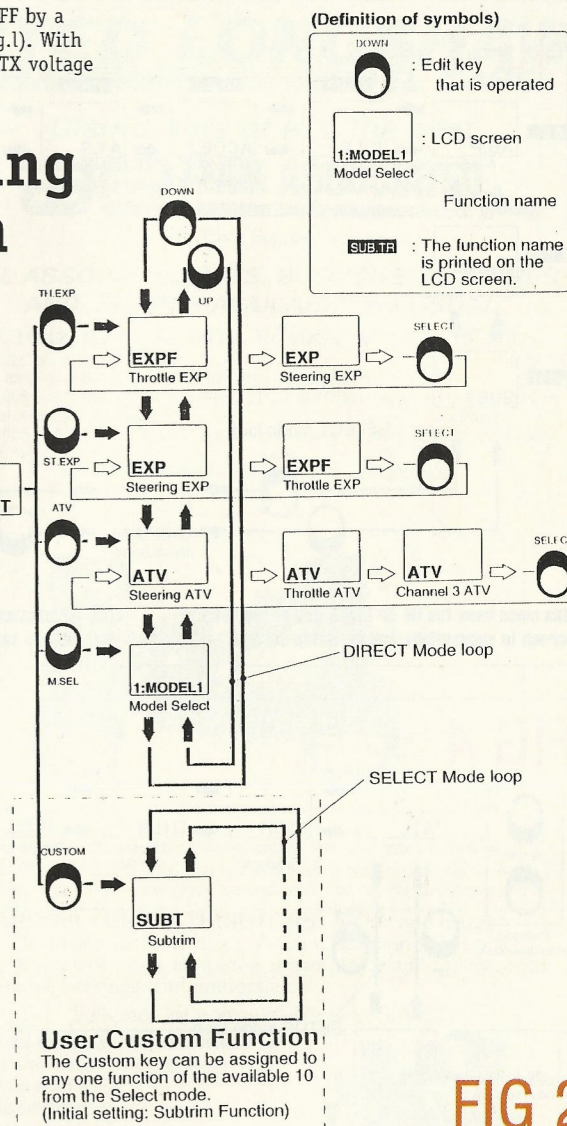


FIG 2

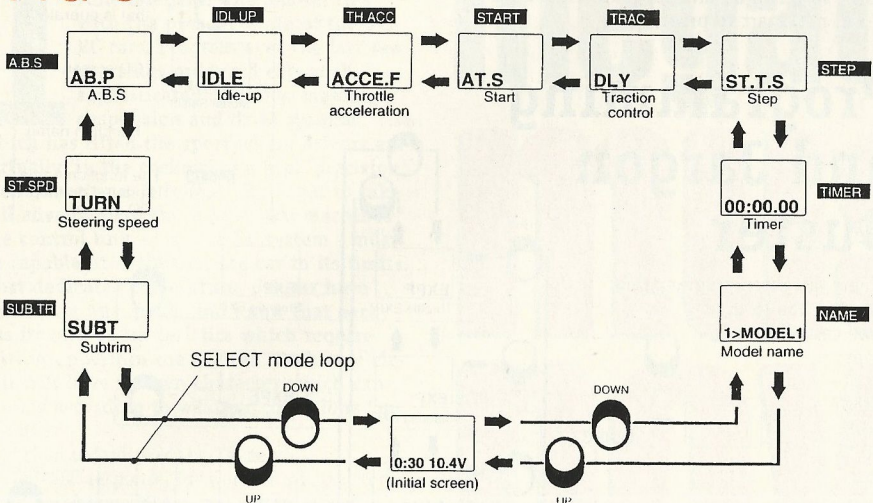
neutral position without effecting the maximum servo's travel. All the other 'jargon' abbreviations can be decoded from the Figs 2,3 & 4.

## I'm in but I can't get out!!

When faced with a new piece of gear a reviewer can only rely upon the supplied manual to clear a path through a complicated procedure. Previous computer gear I've handled had only one loop to 'scroll' round so entry and exit was fast and simple. Earlier on I described how to set the contrast of the screen using the multifunction buttons. CONTRAST is within the SETUP MODE Fig.4. which needs UP & Down buttons pressed simultaneously when the screen displays the INITIAL SCREEN. (Timer & TX volts displayed) Four DOWN button presses displays CONTRAST. Having set the contrast how do you get out of this mode back to the INITIAL SCREEN? You repeat the entry operation - UP



**FIG 3**



This mode uses the UP or DOWN key at the initial screen to sequentially call the setup screen. The 10 functions printed on the LCD screen can be sequentially called.

- Start Function to prevent wheel spin at starts.
- Steering Speed adjusts the servo to suit individual driving style and track conditions.
- Advanced Timer facilities.
- Digital Trims.
- Dial Function Selection which allows assignment of various functions to the grip dials, trims and knobs.

All the above and more can be found on Figs. 2,3 & 4. which also shows how to access the loops. Once you are 'in' to a function screen the + & - buttons control the function to your requirements. As the above shows the 3PJ is a very comprehensive system offering high tech options to competition drivers but it must be appreciated that to gain the maximum the servos etc. must be of comparable quality and precision. So to be of maximum use having a sophisticated steering control if the linkages are in any way suspect. Its got to be quality all the way.

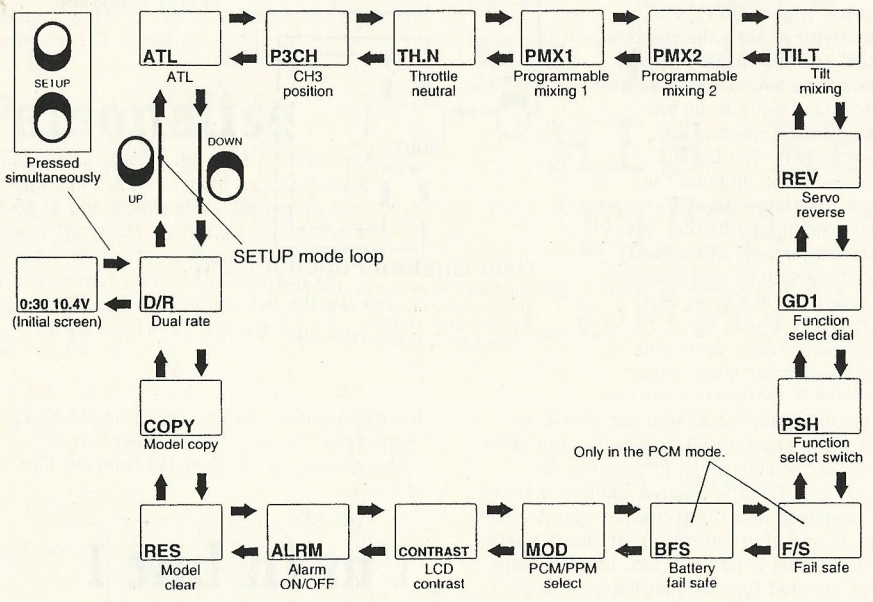
## Conclusions

On the bench I could not fault the gear. It has a very tight response with the servos returning to a precise mid position from either end. My 'standard' interference test of a heavy current very 'dirty' DC motor had no effect held close to the collapsed TX aerial - the gear supplied used the PCM 1024 RX - in my experience a severe test. The TX is well balanced and with the Body Rest option fitted very comfortable to use. Warts? If there are any with operation of the system these will only surface 'on the track' however the manual does need attention from the importers. The manual is American and includes many references which do not apply to the UK and can cause confusion. As I said above the operation in and out of the Modes needs a clearer explanation not helped on one diagram where the Initial Screen is called Arbitrary Screen. One irritating point all through was calling the six buttons keys. Its a beautiful set of gear but whether it justifies spending just under four hundred pounds for the system can only be a personal decision. Its your choice.

Happy racing -  
May Your RC Force Never Leave You.

The Futaba MEGATECH 3PJ COMPUTER GEAR is available from your local model shop and is imported by RIPMAX plc, Ripmax Corner, Green Street, Enfield. EN3 7SJ. tele: 0181 804 8272 or Fax 0181 804 1217. **RRCI**

**FIG 4**



Pressing the UP and DOWN keys simultaneously at the initial screen puts the system in the SETUP mode. The setup screens can be sequentially called using the UP or DOWN key.

& DOWN pressed twice. The INITIAL SCREEN is the base access point for two modes SETUP & SELECT with DIRECT mode having its own button. However SELECT also has an alternative route via the CUSTOM button. As can be seen the use of the six buttons and the modes is to say the least complicated and to discuss completely the whole range of features which can be programmed would take more space than is reasonable for a review.

## Back to the manual

Which brings me back to the supplied manual. I could not find any reference in an oth-

erwise very comprehensive and clear manual to procedures to return the SETUP & SELECT modes back to a neutral point. There is a RESET BUTTON (+ & - pressed simultaneously) but this is used only for amending previous function settings and TIMER RESET. As I said above space limits a full discussion on the gears capability so I'm listing the main features:-

- Eight Model Memory
- Three Selection Modes
- Second Dual Rate allows DR to be temporarily overridden with one touch.
- A.B.S. Function.
- Traction Control.

