

CURRENT LIMITER ON/OFF

1. TURN ON HF_x, PRESS AND RELEASE THE SET-UP BUTTON, THE CURRENT LIMITER ON/OFF OPTION IS ENTERED, THIS IS INDICATED BY THE MOTOR 'BEEPING' AS FOLLOWS: 'BEEP' . . . 'BEEP' . . . 'BEEP' . . . 'BEEP' . . . 'BEEP' . . . 'BEEP' . . . 'BEEP' . . . ETC.
2. PRESSING AND RELEASING THE SET-UP BUTTON WILL TOGGLE THE LED ON AND OFF, THIS INDICATES :
 - A) LED ON - CURRENT LIMITER ON AND SET TO THE VALUE ON THE CURRENT ADJUSTER.
 - B) LED OFF - CURRENT LIMITER OFF, NO CURRENT LIMITING.

IF THE SET-UP BUTTON IS NOT PRESSED FOR 10 SECONDS, HF_x WILL EXIT SET-UP MODE.

ANTI-LOCK BRAKES

WHEN ANTI-LOCK BRAKES ARE TURNED ON THE HF_x WILL RELEASE THE BRAKES AUTOMATICALLY WHEN THE MOTOR SPEED REDUCES TO A LOW LEVEL MAKING BRAKING MORE CONTROLLABLE ON SLIPPERY TRACK CONDITIONS.

ANTI-LOCK BRAKES ON/OFF

1. TURN ON HF_x, PRESS AND RELEASE THE SET-UP BUTTON, THE CURRENT LIMITER ON/OFF OPTION IS ENTERED AS DESCRIBED ABOVE.
2. PRESS AND HOLD SET-UP BUTTON UNTIL MOTOR 'BEEPS' ONCE THIS INDICATES THAT THE HF_x HAS ADVANCED TO THE ANTI-LOCK BRAKES ON/OFF OPTION.
3. RELEASE THE SET-UP BUTTON, THE MOTOR WILL NOW BE BEEPING AS FOLLOWS: 'BEEP' 'BEEP' . . . 'BEEP' 'BEEP' . . . 'BEEP' 'BEEP' . . . 'BEEP' 'BEEP' . . . 'BEEP' 'BEEP' . . . ETC.
4. PRESSING AND RELEASING THE SET-UP BUTTON WILL TOGGLE THE LED ON AND OFF, THIS INDICATES :
 - A) LED ON - ANTI-LOCK BRAKES ON. B) LED OFF - ANTI-LOCK BRAKES OFF.

IF THE SET-UP BUTTON IS NOT PRESSED FOR 10 SECONDS, HF_x WILL EXIT SET-UP MODE.

TURBO START

TO SET THE TURBO START HOLD FULL BRAKES ON FOR 4 SECONDS, THE MOTOR WILL 'BEEP' TO INDICATE TURBO START HAS BEEN ACTIVATED. THE CURRENT LIMITER AND THROTTLE RESPONSE TIME WILL BE OPTIMISED FOR MAXIMUM ACCELERATION FROM THE START LINE. NORMAL SETTINGS WILL RESUME AFTER FULL THROTTLE HAS BEEN USED.

HF_x P9000 - 96 SPECIFICATIONS

Size (mm)	43 x 38 x 20	Internal FET servo choke . .	Yes
Weight with wires . .	Approx. 50g	Schottky Diode (Internal) . .	30A
Voltage Input.	4 - 7 cells	Rx Supply Output Voltage. .	6.0V
ON-Resistance	0.00125Ω	Rx Supply Output Current. .	1.0A
PWM Frequency	Optimised	Rx Supply Protection.	Yes
†Rated Current	360A	Rx Supply Priority	Yes
†Braking Current. . . .	120A	FET Overload Protection. . .	Thermal
Brake Resistance. . . .	0.00375Ω	Rx Plug Fitted	Futaba
Current Limiter	30A - 90A	Programmable Set-up	Yes
Limiter Override	Yes		
Turbo Start	Selectable		
Anti-lock Braking. . . .	Selectable		

†Transistor Rating at 25°C Junction Temperature.

MODEL RACING TECHNOLOGY

HF_x P9000 - 96

ELECTRONIC SPEED CONTROL

INSTRUCTIONS

MODEL RACING TECHNOLOGY

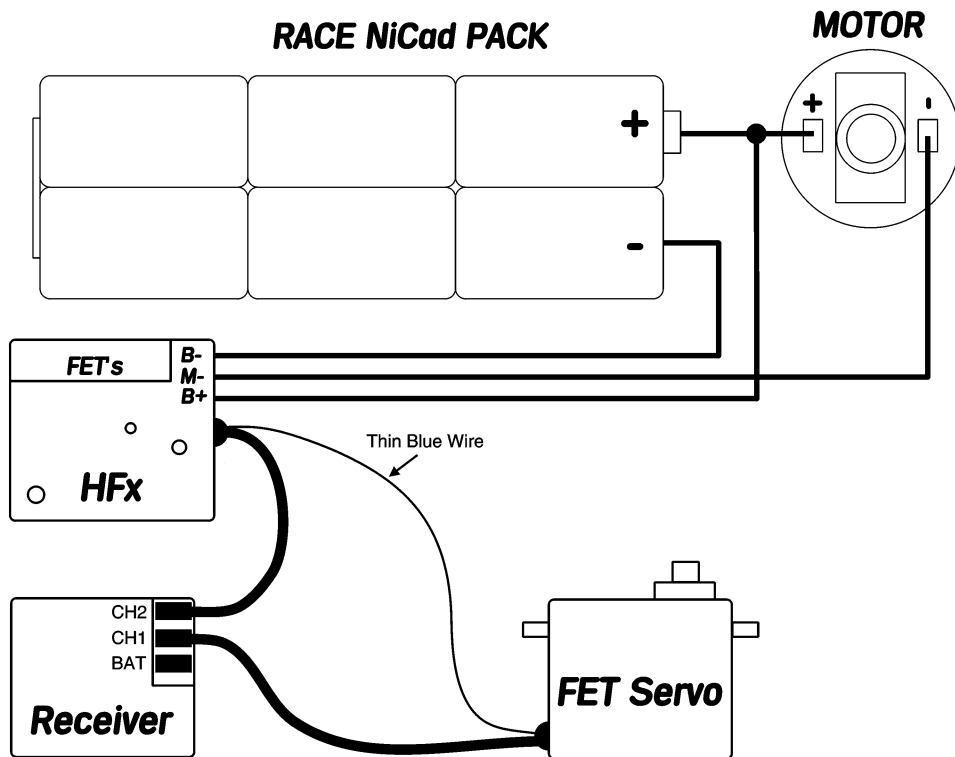
258 DOVER ROAD, FOLKESTONE, KENT, CT19 6NS, ENGLAND.
TELEPHONE/FAX (UK) 01303 259196

IMPORTANT Please Read!

BEFORE WIRING UP YOUR NEW ELECTRONIC SPEED CONTROLLER (ESC) PLEASE READ THE INSTRUCTIONS CAREFULLY AND LOOK AT THE WIRING DIAGRAM.

It is important that you do not short out or reverse connect any of the wires on your HFx as this could DAMAGE YOUR ESC AND THE EQUIPMENT CONNECTED TO IT.

HFx WIRING DIAGRAM



a) When using a FET servo, connect the thin blue wire from the HFx to the thin blue wire from the servo. The HFx contains a FET servo choke so an external choke is not required.

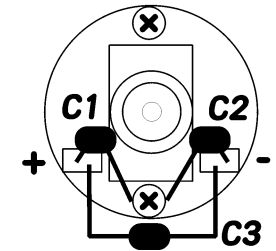
b) When using a non-FET servo the thin blue wire from the HFx is not used and should be insulated.

CONNECTION OF WIRES

- BLACK WIRE - BATTERY NEGATIVE
- RED WIRE - BATTERY POSITIVE
- GREEN WIRE - MOTOR NEGATIVE
- THIN BLUE WIRE - FET SERVO LEAD

CAPACITORS: C1, C2 AND C3 0.1uF

INSTALLING MOTOR CAPACITORS



- THE RED WIRE WHICH CONNECTS THE BATTERY POSITIVE TO THE MOTOR SHOULD BE CONNECTED CLOSE TO THE BATTERY CONNECTOR TO AVOID POSSIBLE RADIO GLITCHES.
- ALWAYS USE A MOTOR WITH CAPACITORS FITTED (SEE DIAGRAM ABOVE).
- ALWAYS KEEP RECEIVER AND AERIAL AWAY FROM ALL POWER WIRES.
- AN EXTRA SCHOTTKY DIODE CAN BE CONNECTED ACROSS THE MOTOR.
- IF USING A SEPARATE RECEIVER BATTERY DISCONNECT RED RX WIRE FROM ESC RX PLUG AND INSULATE.
- INSTALL HFx IN CAR WITH VELCRO OR SERVO TAPE - FIT IN A SAFE DRY POSITION.

NOTE : MOTOR MUST BE CONNECTED TO HFx FOR BEEPS TO BE HEARD.

ADJUSTING THE HFx TO YOUR TRANSMITTER

- 1 TURN ON TRANSMITTER AND SET THE THROTTLE TRIM TO NEUTRAL.
- 2 WITH HFx SWITCHED OFF CONNECT HFx TO BATTERY.
- 3 PRESS AND HOLD THE SET-UP BUTTON AND SWITCH HFx ON.
- 4 THE LED WILL FLASH, THE TRANSMITTER NEUTRAL POSITION HAS BEEN SET, RELEASE THE SET-UP BUTTON.
- 5 MOVE THROTTLE TO POSITION FULL POWER IS REQUIRED - PRESS AND RELEASE THE SET-UP BUTTON, THE LED WILL BE ON CONSTANT.
- 6 MOVE THROTTLE TO POSITION FULL BRAKES ARE REQUIRED - PRESS AND RELEASE SET-UP BUTTON LED WILL TURN OFF.
- 7 THE SET-UP IS NOW COMPLETE.

IF AT STEP 5 THE MOTOR MAKES A LONG 'BEEP' THE TRANSMITTER THROTTLE DIRECTION IS WRONG AND NEEDS TO BE REVERSED. REVERSE THE THROTTLE DIRECTION AND TRY AGAIN. (CHECK YOUR TRANSMITTER INSTRUCTIONS FOR HOW TO REVERSE THE THROTTLE)

HFx LED INDICATION WHEN IN NORMAL USE

THE LED WILL BE ON DIM WHEN THE HFx IS AT NEUTRAL.
THE LED WILL BE ON BRIGHT WHEN THE HFx IS AT FULL FORWARDS.
THE LED WILL FLASH WHEN THE HFx IS AT FULL BRAKES.

CURRENT LIMITER

THE CURRENT LIMITER IS USED TO LIMIT EXCESSIVE CURRENT DRAWN UNDER HARD ACCELERATION. SET THE CURRENT LIMITER AS LOW AS POSSIBLE WITHOUT REDUCING CAR PERFORMANCE.

THE MINIMUM CURRENT LIMITER SETTING IS 30A.
THE MAXIMUM CURRENT LIMITER SETTING IS 90A.

BE CAREFUL NOT TO FORCE THE ADJUSTER.

