



Micron Radio Control

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News:

- **Been a while since you built a kit?** Return to the pleasure of flying a model you have constructed yourself with one of the CNC cut models from Radical R/C, Stevens Aero and Park Scale Models. All feature precision laser cut parts with tabbed construction allowing the builder to create a warp resistant, ultra-light, ultra-strong assembly, that is both functional in-flight and beautiful to look at - in a matter of hours not weeks.
- **In stock:** the world's smallest and lightest R/C from Plantraco and MicroInvent. Both have receivers weighing less than 1gm: MicroInvent on 35Mhz and Plantraco on 868MHz. The Plantraco **Carbon Butterfly**, at 3g, is the world's smallest and lightest RTF aeroplane – the coffee table can be your runway!
- **High quality motors and ESC from Scorpion Products.** Scorpion Brushless Motors are manufactured from the finest quality components using state of the art CNC machine tools. They are designed to provide reliable power for your model aircraft at affordable prices
- **The amazing Flyware microREX 220-3-3200** which weighs only 11g yet can produce up to 200g thrust. Also Flyware 220-6 motors – German engineering at its best.
- **Lithium Polymer batteries from [Poly-PRO](#), EnErG, E-TEC, Kokam and Blue Arrow**

Micron is now stocking a much wider range of products. This means that our previous catalogue style, which included as much information as possible about each product, is no longer possible. We hope you find the new short-form catalogue useful – please email or call if you would like more information about any of our products. Full details are always available on the web site.

Featuring:

Micron kit & ready-built receivers	Micron easy-build electronic kits
Plantraco and MicroInvent indoor R/C	MZK, GWS and Blue Arrow receivers
Servos from SuperTec and Blue Arrow	Receiver crystals: single, dual and half-size
EnErG and PolyPro 20C LiPos	Receiver batteries
Brushless ESC from Scorpion, Blue Arrow, E-Pro, Protech, Seeker-RC and TowerPro	
Brushless motors from Scorpion, Blue Arrow, Feigao, Flyware, Komodo and TowerPro	
Brushless motor kits and parts from GoBrushless and Komodo	
CNC aircraft kits from Radical R/C, Stevens Aero and Park Scale Models	

Please call or email if you have any questions about a listed product. Suggestions for new products are always welcome.

Regards
Andy Rutter

RADIO CONTROL

Micron Receivers

Micron receivers are available in kit and ready built form. They are compatible with all known PPM transmitters and servos. All are 10 KHz spacing and available for the 35 MHz model flying band or the 40 MHz model boat and car band. The design is optimised for ease of home construction and to simplify servicing and repairs.

Take your modelling enjoyment to the next level – build your own receiver.

When ordering, please specify whether 35MHz, 36MHz, 40MHz or 41MHz is required. Please email or call if you require a different frequency band.



If you are new to electronic construction, we recommend you start with the ECO receiver which has wide spaced components and is very easy to build. The MINI receiver has a higher component density and is suitable for constructors with experience of a couple of other projects.

DSP Decoder: The ECO, MAX and FET receivers are available with an optional intelligent decoder. This uses digital signal processing (hence **DSP**) to provide graceful degradation in the face of interference. It analyses the control frame to determine whether it has been affected by interference (or noise) and, if a frame is considered bad, each output channel is set to the average of the last 4 frames. The effect is that the servo response slows down in the face of considerable interference rather than jumping all over the place. Eventually, the decoder decides that the signal is completely corrupt or has been lost and it enters 'fail-safe' mode. Further details can be found in the DSP Receiver Setup guide or DSP Decoder Kit assembly manual, which may be downloaded, from the Micron web site.

The DSP signal analysis relies on the transmitter generating a constant frame repetition rate. This is true for all transmitter products released within the last 10-15 years. Please contact Micron if you have an older transmitter or are unsure whether it produces a constant frame rate. A DSP upgrade kit is also available for customers with existing Micron receivers. If you would like to view the assembly guides before purchasing a kit, please either visit the Micron web site where you can download a PDF or send 3 first class stamps to the Micron address with a note explaining which guide you want.

Micron receivers provide either 6 or 7 servo channel outputs. The non-DSP versions are all 7 channel. Ready built DSP receivers are 6 channel and DSP receiver kits may be constructed with either 6 or 7 channels.

'ECO' receiver: the most economic receiver for the 'Sunday Flyer' giving excellent range and robust construction. A well-trusted receiver over the years by thousands of customers. 48x35x29mm with a weight of 30g.

Kit: Std: **£ 15.95**, DSP: **£ 19.45**
Ready Built: Std: **£ 24.95**, DSP: **£ 27.45**

'MAX' receiver: similar physical specification receiver to the ECO but uses a combination of different signal filters to help reject interference. A good receiver for competition use:

Kit: Std: **£ 18.95**, DSP: **£ 21.45**
Ready Built: Std: **£ 26.95**, DSP: **£ 29.45**

MINI (aka 'Little Bug') receiver: an excellent small receiver not only suited to small outdoor models but has the range and performance for use in large quarter scale models. Almost the same circuit as the MAX, but in a smaller space. Our most popular receiver. 35x29x23mm with a weight of 23g:

Kit: Std: **£ 18.95**, DSP: **£ 21.45**
Ready Built: Std: **£ 26.95**, DSP: **£ 29.45**

'FET7' receiver: A Field Effect Transistor in its antenna circuit and dual conversion gives this receiver an increased rejection of close by interference either from other modellers or commercial/mobile transmitters. Uses a Futaba or GWS 'Dual Conversion' crystal (see RECEIVER CRYSTALS). Case size and weight are the same as the ECO and MAX receivers.

Kit: Std: **£ 24.95**, DSP: **£ 27.45**
Ready Built: Std: **£ 31.95**, DSP: **£ 34.45**

DSP UPGRADE KIT for converting an existing Micron receiver to DSP. The kit comprises all components to build a replacement decoder board with instructions for fitting to your receiver. **£ 6.75**

RECEIVER TUNE UNIT KIT plugs in place of a servo during tuning of Micron standard (non-DSP) receiver kits. Sports a nice big LED that indicates best setting of the tuning coils in the receiver. Complete with case, components and assembly drawing. Please note: the RTU is **not** required for tuning a receiver with DSP decoder as this has a signal LED on the PCB. **£5.95**

Small / Lightweight Receivers

In common with all miniature receivers, the adjacent channel performance of the MZK, GWS and Blue Arrow receivers is not as good as a full-range receiver and we do not recommend using in close proximity to a transmitter on an adjacent channel.

MZK Penta: An incredibly small & light 5 channel receiver for short range use. The MZK Penta receiver uses a microprocessor decoder with Berg code to reject interfering signals. Measures 26x12x8mm and weighs 2.9gm. ...**£21.75**



GWS 4ch 35mhz FM PICO RX (MKII) single conversion receiver. Size - 15x25x8.6mm, Weight - circa 4 gm, Range - 150m. ...**£10.95**



Blue Arrow: Featherweight 35MHz/40MHz receivers for indoor models or park flyers. Measures 25x15x8mm and weighs only 3g, has a 150m ground-air range and uses half-size crystals (e.g. Blue Arrow crystal or GWS 'Naro' range).

BA R3P5 A five channel receiver with Futaba/Hitec/JR style connectors ...**£13.95.**

BA-R3P4 A four channel 35Mhz only receiver with JST connectors...**£14.95.**

BA-R3P5-40 A five channel 40Mhz only receiver with Futaba/Hitec/JR connectors...**£13.95.**



Receiver Crystals

We stock 35MHz band receiver crystals for Micron receivers and 35MHz and 40MHz half size crystals for MZK, GWS and Blue Arrow receivers. Please note that we do not sell transmitter crystals, as these MUST be matched to your transmitter.

SINGLE CONVERSION CRYSTALS selected for use with the ECO, MAX and MINI receivers offering ultra close tolerance of 10 parts per million. Channel numbers 55 to 90 normally stocked... **£4.50.**

DUAL CONVERSION CRYSTALS selected for use with the FET receiver offering ultra close tolerance of 10 parts per million. Channel numbers 55 to 90 normally stocked..... **£5.00.**

HALF-SIZE CRYSTALS for lightweight receivers. 35Mhz channel numbers 60 to 90 and 40MHz frequencies from 40.665 to 40.985 normally stocked..... **£5.00.**

Plantraco 868MHz R/C



Plantraco R/C equipment is the world's smallest and lightest. The 0.9g receiver has 3 channels with on-board speed control and output for 2 actuators. The transmitter has 4 channels (only 3 used by receiver) and has 3 user-selectable frequencies in the 868MHz band. It has programmable exponential, v-tail mixing and a built-in charger for 90mAh LiPo.

The range is at least 300ft with tiny aerials (internal on the TX) – no more dangling aerials on your models or long telescopes on the transmitter. The receiver, actuators and motors are all fitted with tiny connectors so there is no need for soldering – truly 'plug and play'.

All components are available separately and a starter set contains everything to get you going, including a 12g Depron micro racer. Starter Set 2 costs **£138.95** and contains:

- HFX868 transmitter and 0.9g receiver
- 2 x mini actuators
- 7mm motor + props
- 2 x 90mm LiPo
- FMS flight simulator and connector cable
- Depron Micro Racer (your choice from 4 models)



Starter Set 1 with a GB03 motor/gearbox and 100x80 prop instead of the 7mm motor

£138.00

Individual Items:

HFX868 transmitter	£59.00
Micro9 0.4g and 0.9g 3 chan receiver	£48.00
Micro9 1.2g 4 chan servo receiver	£26.00



Micro Racers 10" Wingspan Printed Pylon Racer Kits. 10-inch Wingspan, Flying Weight of about 12 grams, Flying speed is 2 - 4 m/s approximately. Very stable models that can handle winds outdoors and are fantastic for indoor Micro Pylon Racing. You must install the Micro9 3CH receiver, 2 MicroActs, 7mm motor with either the 57x22 prop or the Tri-Turbofan prop, and of course you need HFX900 Tx and LP90 cells.

Includes: Laser Cut Depron Airframe, Control Horns, Z bends and Figure 4's.

Requires: YOU NEED the components in the starter set #2 – or use a Micro Invent Minor receiver and MCA1 actuators.

£8.75



MicroScout You'll have lots of fun building and flying this kit and its profiled wing ensures slow and stable flight - ideal as your first indoor micro-weight model. MicroScout can be built in a couple of hours - construction is extremely simple and videos of the key stages are available for download from the Micron web site.

Includes: carbon fibre fuselage; 12" profile foam wing, control links and horns.

The Starter Set #1 is a perfect match for MicroScout - the assembly videos are included on the CD-ROM that comes with the starter set.

£9.25

Plantraco Carbon Butterfly

The Coffee Table is your Runway! Sporting a rugged yet elegant Carbon Fibre frame, the Carbon Butterfly is nearly indestructible. As flexible as fibreglass and strong as steel, the Carbon Butterfly can bounce back from almost anything you can throw it at. Plantraco's 3g Carbon Butterfly set includes:

- Carbon Butterfly Frame w/Installed:
 - 0.4g Butterfly Receiver
 - GB05 4mm 5:1 Gearbox
 - Carbon Fibre Propeller
 - 0.22g HingeAct Actuator
- HFX868 Transmitter
- 30mAh 0.9g LiPoly Bahoma Battery
- FMS computer interface cable
- CDROM w/Freeware FMS flight-Sim
- Instructional Videos, and manual



Price: **£199.00** plus **£8.00** postage in the U.K.

Plantraco Components

HingeAct Actuator - 0.23 grams - Wire leads are about 18 cm length. Self Centering. Torque vs Weight ratio is good! It will kick your plane around all day. 150 Ohm coil, 0.06mm copper magnet wire. Bare wire leads – requires soldering.	£10.00
MiniAct 1.1gram Proportional Actuator. Provides ample power for most indoor R/C aircraft. The Nano Connector plugs right into the Micro9 receiver	£11.75
MicroAct 0.41gram proportional actuator. 16cm (approx) leads with nano-connector - plugs right into the Micro9 0.9g receiver. This version of the actuator can be used in hinge, and has plastic flanges under the base to fix to rudder or elevator if desired.	£11.75
LP90 'Bahoma' LiPo. High Discharge capable 90mAh cell. Connects in one second flat with magnetic Bahoma connector on the Micro9 0.9g receiver. Weight is 2.9grams - 3.1 grams. Discharge at less than 600mA.	£7.25
LP30 Bahoma LiPo 30mAh LiPo cell with Bahoma connectors. 0.92g. Can be discharged at 250mAh.	£9.75
LP30 Lithium Polymer Cell. 0.85g - Bare cell with tabs. Can be discharged at 250mAh.	£7.00
GB03 - 6mm motor + gearbox. 5.25:1 gear ratio - 0.25 mod gears. 4.5Ohm Motor. 1mm Shaft. Long motor leads 6cm and terminated with our .05 pin connector. Good for props measuring 4 - 6 inches. Pulls about 200mA or so - depends on the load a bit. 2.29 grams total weight	£8.75
GB04 - 6mm motor + gearbox. 5.78:1 gear ratio - 0.25 mod gears. 4 Ohm Rosy Motor. 1mm Shaft. Terminated with our .05 pin connector. Good for props measuring 4 - 6 inches. Pulls about 200mA or so - depends on the load a bit. 2.6 gm total weight.	£8.75
GB05 - 4mm motor + gearbox. 5:1 Gearbox Reduction. 0.2 mod gears. 4mm 13 Ohm motor. Draws about 150mA with the 4027 CF prop attached. Weight with motor is 0.86 grams excluding prop adapter and prop. GB05 includes a prop adapter but no prop.	£10.75



6mm 4.5Ohm coreless motor. These are great little workhorses, the same motor used in the GB03 Gearboxes. These motors have long 60mm leads for easy installation. 1.34gm	£1.95
7mm 3.3Ohm coreless motor. These are great little motors, a direct replacement for the SS Orange (same motor) and has a micro connector pre-installed. These motors have long 60mm leads for easy installation. 1mm Shaft. 2.9gm.	£2.00
100x80 Prop for 1mm Shaft – Black. Great for use on the GB03 gearbox. The prop is bored with a 0.98mm shaft hole. The weight is 0.85 gm.	£2.10
Tri-Turbo Fan Propeller. This prop works quite well on the 7mm coreless motor. It has a 1mm hub hole and is included with the Micro Racer Starter Set.	£1.30
3233 Carbon Fibre Propeller. Weight is 0.2g. Good match for GB05 Gearbox.	£9.00
BiCha Charger: portable charger for 1 or 2 Bahoma lithium polymer cells, or bare lithium polymer cells at variable rates of 10 mA to 150 mA. It charges two batteries of different capacities and the charger itself can be powered from from 4 AA batteries, or from an external AC or DC supply	£25.50

MicroInvent Lightweight 35MHz R/C

Micro Invent is a young Slovakian company that has already made a name for itself for producing quality miniature radio gear

Minor Receiver Weighs 0.8g (less crystal) and will drive 2 actuators or 4 servos. Has built in 1A brushed motor controller, but will autodetect when an external controller is connected to the motor channel. Uses GWS or equivalent half-size crystals.	£45.00
Minor Flat: same as the 'Minor' but with horizontal connectors	£52.00
MCA1: A micro sized actuator with pre-installed centering magnet and connector. Specifications: 80 ohm coil resistance, 0.4 g-cm torque @ 3.6 volts, 7x8x4 mm dimensions, 0.4g weight, 20g typical model weight	£12.00
MCA2: A mini sized actuator with pre-installed centering magnet and connector. Specifications: 85 ohm coil resistance. 0.8 g-cm torque @ 3.6 volts, 9x10x8 mm dimensions, 0.75g weight, 30g typical model weight	£12.00
MCA2-A: same as the MCA2, but with a double ended output arm - ideal for aileron control.	£12.50
MCA3: A larger actuator. Specifications: 65 ohm coil resistance, 1.6 g-cm torque @3.6 volts, 9x10x6 mm dimensions, 1.25g weight, 40g typical model weight	£12.50
MCA3-A - same as the MCA3, but with a double ended output arm - ideal for aileron control.	£12.50
Gasparin/Potensky GP15 5W Wasp Brushless Motor. A superb lightweight brushless motor designed for single cell use. Weight: 4.85g, thrust: 44g (at 3.6V on MCF5030S prop), max current: 2A, rotor diameter: 14.8mm, motor length: 18.6mm	£39.00
MBC2: A 1 cell brushless controller with a 2A rating. Weight: 1.0g (incl wires), PWM frequency: 16kHz, max current: 2A (2.2A over-current cutoff), cutoff voltage: 3.0V (reduce motor speed), dimensions: 14 x 9.5 x 2m	£32.00
Single Cell Lipo: 50mAh £7.00 , 85mAh £6.25 , 130mAh £7.75 , 170mAh £9.25 . All with connectors to match the Minor receiver battery connector.	
Carbon Fibre Propellers: Carbon fibre is the ideal material for lightweight yet strong propellers:	
MCF3222 (3.2" x 2.2"), MCF3047 (4" x 2.7"), MFC5030 (5" x 3"), MFC5035 (5" x 3.5")	£8.50
MFC5030S (stronger version of MCF5030, ideal for brushless motors)	£9.00
MFC5530S (5.5" x 3", 40g max thrust)	£9.50
MFC6030S (6" x 3", 80g max thrust)	£10.00

A range of connectors compatible with MicroInvent receivers is available, please enquire for details

BATTERIES

Receiver Batteries

MINI NICAD Rx BATTERY 250mAh for small model use. Charge 30ma for 14 hours, 60ma for 6 hours or fast charge using TR2. size 29x29x29 mm, 45 gms, JR/Hitec/Futaba connector, 2/3 servos	£4.50
STANDARD NICAD RECEIVER BATTERY 700 mAh for standard use. Charge 70 mA for 14 hours, or fast charge using the TR2 charger. 90 gms 4/5 servos. Futaba style output connector. (specify block or flat pack when ordering).	£6.45
HIGH CAPACITY NH RECEIVER BATTERY 1800 mAh for long flying time. Charge 60 mA for 24 hours or 180 mA for 14 hours or fast charge using charger listed. Use with up to six servos. (specify block or flat pack when ordering).	£10.95



Poly-Pro High Discharge (20C) XXHD Gold LiPo Batteries

All packs come with a separate multi-connector PCM-Guard, which allows individual cell charging, to check cell voltage and re-balance when necessary. All packs come as pictured, with high-quality silicone cabling sized appropriately for expected current draw, cells are sonic welding to a PCB board. All 3S packs above 1200mAh have 2mm air gaps between cells, and "Cool Shrink" perforated shrink wrap is used for even cooler discharging.



	2S1P	3S1P
400mAh	£14.50	£19.50
800mAh	£15.00	£22.25
1200mAh	£19.50	£29.50
1500mAh	£22.50	£33.50
2100mAh	£31.50	£45.50
2500mAh	£39.50	£59.75

JP EnErG-Pro LiPo

Great value lipo packs with cell balancer connectors fitted, excellent discharge rate, heavy duty leads and continuous discharge rates of up to a blistering 20C! More sizes in soon.

	2S1P	3S1P
400mAh	£10.95	£16.95
800mAh	£15.95	£23.95

Other LiPo

E-Tec 130mAh single cell	£5.00
E-Tec 250mAh single cell	£5.50
E-Tec 250mAh 2S1P	£9.75
E-Tec 250mAh 3S1P	£13.50

E-Tec 450mAh 20C 2SP1	£10.95
E-Tec 450mAh 20C 3SP1	£15.95
E-Tec 700mAh 20C 2SP1	£11.95
E-Tec 700mAh 20C 3SP1	£17.95

Chargers and Balancers

JP LiPo 1-3 cell, 250ma-2A charger (12V). Selectable output current: 250-500-1000-1500-2000mA. Dimension: 125mm x 68mm x 24mm	£15.95
Apache 2020 1-3 cell LiPo charger (12V). Selectable output current: 110, 250, 500, 750, 1200mA	£16.45
Kontronc LiPo 1-4 cell 0.5A – 2.5A charger: a small but very capable charger. size: 70 x 38 x 8mm	£34.00
PolyPro 2-4 cell LiPo balancer: operators with any charger	£19.50
Kontronc charger & PolyPro balancer: special deal on charger plus balancer	£42.00
BiCha dual small LiPo charger: a precision portable charger for 1 or 2 Bahoma lithium polymer cells, or bare lithium polymer cells at variable rates of 10 mA to 150 mA	£25.50

SERVOS

JR & SuperTec Servos

Selected for compatibility with Micron receivers, precision engineering and excellent electronics. Manufactured by GWS for J Perkins as their 'SuperTec' brand.

Digital Titch 4.4 The latest generation Supertec Digital Titch servo offers sustained power hi-resolution and affordability never before seen in such a servo! 19x7.5x15.7mm, 1kg/cm, 0.12sec	£13.25
PICO SERVO Incredibly tiny 23x15.5x9.5 mm, 5.4gms. Plain bearing 0.7kg/cm. For indoor or 'Park Fly' models.	£9.85
NARO SERVO tiny perfection! 22x20x11 mm, 8 gms. 0.8 kg/cm. Very quick for small models.	£8.75
EnErgS7.5 a micro servo with high performance. 24x11.5x23mm, 7.5gm 1.1kg/cm, 0.12 sec for 60°.	£4.50



Micro/BB/MG High performance high power micro servo. Ideal for building into wings to power ailerons, flaps, elevator, etc 28x14x29.8mm, 28gms, 5.4kg/cm, 0.17sec.	£13.75
PARK FLYER SERVO a mini servo with punchy power for small electric aircraft. 31x16x29mm, 18gms, 2.8kg/cm, 0.18sec/60deg.	£7.95
HPXF SERVO same size as the Park Flyer servo, with a single ball bearing on the output shaft, slightly higher torque (3.0kg/cm) and faster transit (0.07sec/60deg).	£10.50
Mini Std The new industry standard in mini servos, with an astonishing 3.4kg-cm of torque and .19sec/60 degree transit time. In fact, the new Mini pulls as strongly as the much larger SO3 servo. Use this as a general purpose servo in all aircraft and also in smaller electric models and gliders. Weighs just 26g. 35x16.9x32mm, 24.3gms, 3.4kg/cm, 0.19sec.	£7.50
SO3 SERVO the 'standard' SuperTec servo: 40x37x20 mm, 40gms. Phosphor bronze output bearings. 2.3 kg/cm. Fast transit 0.27 sec	£6.50
SO3/BB SERVO same specification as above but has two ball bearings fitted on the output shaft.	£9.75
SO4/BB SERVO a mighty servo with twin ball bearings and amazing output torque: 54x27x52mm, 116gms 10kg/cm.	£13.50

Blue Arrow Servos:

2.5g SERVO 20x8x16mm, torque 0.15kg/cm. It is ideal for lightweight indoor models and the weight can be reduced to less than 2g by removing the lower case and replacing the servo leads with enamelled copper wire. It is available only with a JST connector on a 40mm or 130mm lead.	£10.50
3.6g SERVO 20x8x17mm. This is the smallest and lightest servo we offer. With its torque of 0.3 Kg/cm, it is ideal for indoor models and the weight can be reduced to a startling 2.5g by removing the lower case and replacing the servo leads with enamelled copper wire.	£9.00
4.3g SERVO 20x8x19mm. Not much larger or heavier than the 3.6g, but with considerably more torque at 0.7 kg/cm. A good match for the larger indoor model or park flyer	£8.50
6.4g SERVO 21x22x11mm. The 'heavyweight' of our Blue Arrow range, but still only 6.4g with 0.8 Kg/cm torque	£8.00

SCORPION BRUSHLESS MOTORS AND ESC

Scorpion brushless motors and ESC raise the bar in both quality and performance, and are establishing themselves as the new Gold Standard for model aircraft power! All of the Scorpion Brushless Motors are manufactured from the finest quality components using state of the art CNC machine tools. Every component of the motors is of the highest quality, from the materials used, to the box they ship in. They are designed to provide reliable power for your model aircraft at affordable prices. Scorpion are so confident in the quality of their motors and ESC that they back them with a 2-Year Warranty against defects in materials and workmanship.



Scorpion motors are available now in 22mm and 30mm diameter. 40mm, 55mm, 65mm and 85mm motors are coming soon - also kits and components for all sizes.

22mm Series Brushless Outrunner Motor






All Scorpion 22mm motors come with 3.5mm male bullet style connectors already attached, and include a complete hardware package that contains the following: 3 matching female bullet connectors for your speed controller, a cross style backplate mount with 4 screws, a wobbly type prop adapter with 2 O-rings for GWS style props, and a 5mm threaded shaft prop adapter for APC style props. Prop data is available for all motors and can be downloaded from the Micron website.



2205: Spec: 22mmx5mm stator, weight 32g, dia 28mm, length 17.6mm. A 160W motor, available with 3 winds: 2205-32 (1979Kv), 2205-36: (1750Kv) and 2205-40 (1550Kv)	£17.95
2208: Spec: 22mmx8mm stator, weight 40g, dia 28mm, length 20.55mm. A 180W motor, available with 2 winds: 2208-30 (1349Kv) and 2208-34 (1206Kv)	£19.25
2212: Spec: 22mmx12mm stator, weight 52g, dia 28mm, length 24.6mm. A 200W motor, available with 2 winds: 2212-22 (1175Kv) and 2212-26 (994Kv)	£24.50
2215: Spec 22mmx15mm stator, weight 62g, dia 28mm, length 27.7mm. A 230w motor, available with 2 winds: 2215-18 (1213Kv) and 2215-22 (987Kv)	£26.75

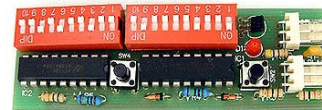
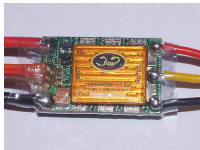
30mm Series Brushless Outrunner Motor

All Scorpion 30mm motors come with 3.5mm male bullet style connectors already attached, and include a complete hardware package that contains the following: 3 matching female bullet connectors for your speed controller, a cross style backplate mount with 4 screws, and a 6mm threaded shaft prop adapter. Prop data is available for all motors and can be downloaded from the Micron website.

	3008: Spec 30mmx8mm stator, weight 85g, dia 37.50mm, length 25.9 mm. A 400w motor, available with 2 winds: 3008-28 (1253Kv) and 3008-32 (1086Kv)	£26.75
	3014: Spec 30mmx14mm stator, weight 122g, dia 37.50mm, length 31.9 mm. A 600w motor, available with 2 winds: 3014-16 (1187Kv) and 3014-18 (1064Kv)	£29.75
	3020: Spec 30mmx20mm stator, weight 157g, dia 37.50mm, length 37.9 mm. A 800w motor, available with 2 winds: 3020-12 (1088Kv) and 3020-14 (944Kv)	£35.75
	3026: Spec 30mmx26mm stator, weight 190g, dia 37.50mm, length 43.9 mm. A 1000w motor, available with 3 winds: 3026-8 (1212Kv), 3026-10 (980kV) and 3026-12 (840Kv)	£41.75
	3032: Spec 30mmx32mm stator, weight 224g, dia 37.50mm, length 49.9 mm. A 1200w motor, available with 3 winds: 3032-8 (988Kv), 3032-10 (823kV) and 3032-12 (687Kv)	£47.75

'Commander Series Brushless ESC

Scorpion Commander ESCs are manufactured from top quality components, in a state of the art manufacturing facility, and are designed to provide years of trouble free operation. All ESC can operate off 5-12 NiCd/NiMH cells or 2-4 LiPo cells. Unlike some speed controllers that need to have the current de-rated at the maximum cell count, all of the Commander Series Speed controllers can be safely operated on the maximum stated cell count at full rated current. Every ESC is supplied with a programming module that allows all setup parameters to be configured using switches.



11A: BEC: 1A, size: 27 x 17 x 9mm, weight: 9gm, on resistance: 6.77mOhm	£18.45
15A: BEC: 2A, size 43 x 26 x 9mm, weight: 17.7gm, on resistance: 7.11mOhm	£20.45
25A: BEC: 2A, size 48 x 26 x 9mm, weight: 20.3gm, on resistance: 3.66mOhm	£25.95
35A: BEC: 3A, size 67 x 26 x 9mm, weight: 31.7gm, on resistance: 2.56mOhm	£31.95
45A: BEC 4A, size 75 x 30 x 9mm, weight: 41.5 gm, on resistance: 2.33mOhm	£34.45
55A: BEC 4A, size 79 x 30 x 9mm, weight: 43.7gm, on resistance: 1.56mOhm	£39.95
70A: BEC 3A, size 69 x 30 x 12mm, weight: 47.0gm, on resistance: 1.28mOhm	£45.95
90A: BEC 4A, size 76 x 30 x 12mm, weight: 50.2gm, on resistance: 1.17mOhm	£51.95
110A: BEC 4A, size 79 x 30 x 12mm, weight: 54.7gm, on resistance: 0.78mOhm	£63.45

SPEED CONTROLLERS

Blue Arrow Brushed ESC

The Blue Arrow speed range of low cost speed controllers are designed for use in indoor or park flyer models with brushed motors. They all feature 'soft start' to be gentle on gearboxes and 1024 step throttle resolution to give a very smooth response. All controllers have a fixed cutoff voltage – please specify which version you require: type A for 7-8 cell NiCd/NiMH, type B for 2 cell LiPoly and type C for 3 cell LiPoly.



All controllers come with JR/Hitec/Futaba compatible connectors and provide a 1A BEC supply for powering the receiver. The PP-3 and PP-5 are also available with lightweight JST servo connectors to match the JST connected Blue Arrow R3P4 receiver. The PP-3 and PP-5 are supplied with JST power connectors for battery and motor connections; the other controllers have bare ended leads for you to fit your favourite power connectors.

Blue Arrow Brushed ESC Prices:

ESC	Size	Weight	Price
PP-3	18 x 12 x 6mm	7g	£ 8.40
PP-5	18 x 12 x 6mm	7g	£ 8.75
PP-10	18 x 14 x 8mm	13g	£ 9.25

ESC	Size	Weight	Price
PP-15	34 x 24 x 10mm	18g	£ 9.75
PP-20	34 x 24 x 10mm	18g	£ 10.50
PP-30	34 x 24 x 10mm	18g	£ 11.25

Blue Arrow Brushless ESC

These are the mk2 versions from Blue Arrow. An innovative feature on some models is the on-board LiPo balance discharge monitor and protection. The ESC is connected to the LiPo balance plug and, if any of the cells drops below the cut-off voltage, the ESC reduces the motor power to avoid damage.



The 18A, 25A and 40A controllers use separate PCBs for the MOSFETs and control/BEC circuits. An air gap between the PCBs reduces the heat exchange to improve ESC reliability. These controllers are also available with an additional heat radiator on the BEC circuit to improve reliability on installation with poor air flow (e.g. helicopters).

	Continuous Current	Peak Current	BEC	Dimensions	Weight	LiPo Balance	BEC HeatSink	Price
BS-12A	12A	15A	1A	24x32x8	12g			£ 18.50
BS-12B	12A	15A	2A	24x32x10	13g			£ 20.25
BS-18A	18A	22A	2A	24x45x11	21g			£ 19.75
BS-18B	18A	22A	2A	24x45x11	22g	X		£ 20.55
BS-18C	18A	22A	2A	24x45x12	24g	X	X	£ 21.50
BS-25A	25A	35A	2A	24x45x11	24g			£ 20.75
BS-25B	25A	35A	2A	24x45x11	25g	X		£ 24.75
BS-25C	25A	35A	2A	24x45x12	27g	X	X	£ 25.55
BS-30A	30A	40A	2A	25x45x11	25g			£ 28.50

Seeker-RC Brushless ESC and BEC

Higher power brushless ESC from the same OEM that makes the Blue Arrow ESC (also available with several other labels). The Guard 40A and 60A controllers include a LiPo balance interface – this can be disconnected for use with NiCd/NiMH

	Cont. Current	Peak Current	BEC	LiPo	Size	Weight	LiPo Balance	Price
Guard 40	40A	55A	3A	2-5	55x28x15	40g	X	£ 36.50
Guard 60	60A	80A	3A	2-5	56x28x18	50g	X	£ 44.50
Emperor 80	80A	100A	N/A	2-6	66x55x18	95g		£ 54.50

U-BEC 3A a switch-mode BEC with 3A output using 2S – 5S LiPo, output is selectable between 5V and 6V. £ 8.25

The Seeker-RC programming card allows an ESC to be setup simply using push-button selection of the desired parameters. Also works for Blue Arrow and HiModel ESC. £ 8.45

TowerPro Brushless ESC

A range of low cost brushless ESC from TowerPro.

10-15A 10A continuous, 15A peak (20 sec). 4-12 NiCd/NiMH or 2-3 LiPo. Auto-detect cell count (manual over-ride) and auto-adjustment of timing to suit the motor; fixed 8KHz PWM frequency. Programmable selection of brake function. Size: 22 x 18 x 5mm, weight: 10g. 1.5A BEC £ 9.95

15-18A 15A continuous, 20A peak (20 sec). 6-16 NiCd/NiMH or 2-5 LiPo. Programmable cell count, cell cutoff voltage, brake and motor timing - fixed 8kHz PWM. Size: 40 x 25 x 12mm, weight: 22g. 1.5A BEC. £ 15.95

18-20A 18A continuous, 20A peak (20 sec). 4-12 NiCd/NiMH or 2-3 LiPo. Auto-detect cell count (manual over-ride) and auto-adjustment of timing to suit the motor; fixed 8KHz PWM frequency. Programmable selection of brake function. Size: 40 x 25 x 12mm, weight: 22g. 1.5A BEC £ 13.95

25-35A 25A continuous, 35A peak (20 sec). 6-12 NiCd/NiMH or 2-3 LiPo. Programmable cell count, cell cutoff £ 18.95



voltage, brake and motor timing - fixed 8kHz PWM. Size: 45 x 25 x 12mm, weight: 28g. 1.5A BEC

40-60A 40A continuous, 60A peak (20 sec). 12-21 NiCd/NiMH or 4-6 LiPo. Easy configuration of cell type and count, PWM frequency and timing and brake via transmitter. Size: 55 x 35 x 12mm, weight: 37g. Opto coupled, no BEC.

£ 24.50

60-80A 60A continuous, 80A peak (20 sec). 12-21 NiCd/NiMH or 4-6 LiPo. Easy configuration of cell type and count, PWM frequency and timing and brake via transmitter. Size: 65 x 35 x 12mm, weight: 40g. Opto coupled, no BEC.

£ 26.75

E-PRO BRUSHLESS ESC

We are stocking two controllers from the E-Pro range: the tiny 7A and the 12A. Both are fully programmable from the transmitter: battery type/cells, brake, timing, frequency, low-voltage behaviour, soft start.

	Weight (inc wires)	Size	Current	Price
E-PRO 7A	8.6g	22x21x4mm	7A cont / 9A peak	£19.75
E-PRO 12A	19g	34x24x7mm	12A cont / 15A peak	£21.75

PROTECH BRUSHLESS ESC

The tiny Protech 4A controller weighs only 2g bare and 6g with supplied leads



Current: 4A continuous, weight: 2g bare (6g inc wires), BEC 1A, size: 25x17x4.3mm,

£35.45

MOTORS

GoBrushless Motor Kits

GoBrushless (www.gobrushless.com) have been providing components and do-it-yourself kits to US constructors for some time. The kits containing all the components needed to successfully build a brushless outrunner motor. Perhaps more importantly, the kits allow you to build as many motors as you wish, whether they're completely identical or each one is unique. All kits stocked by Micron come with a build tutorial and a set of wind 'recipes' to get you started – the tutorial may also be downloaded from the Micron web site. The GoBrushless web site supports a discussion forum for motor constructors and a motor performance database.

The low cost **GBv™ 1.1** kit is based directly on the CD-ROM motor format. The kit contains the following parts: **£ 9.50**
22.7mm Insulated Stator and stock can, 15-pack of N50 5x5x1 magnets, Ball Bearing Sleeve Holder and 3mm Ball Bearings, Stock 3mm Shaft, 3-colour Set (~25 ft ea) of 26g magnet wire.

The **GBx** kits are a GoBrushless design composed of numerous custom-made parts to allow you to build stronger, more powerful, more efficient motors. One, two and three stator kits are available allowing you to match the motor to your aeroplane.

Each **GBx** kit contains: Pre-pressed Endbell/Short Shaft Assembly, Single, Double-or Triple Stator Flux Ring, Aluminum Bearing Tube, 3mm Ball Bearings, 1, 2 or 3 22.7mm Insulated 9-pole Stators, 13 NdFeb N50 Magnets (5, 10 or 15)mm x 4mm x 2mm, Plenty of red, green and gold enamelled magnet wire.

GBx prices:

	8mm mount	firewall mount
single	£ 19.25	£ 21.75
double	£ 21.75	£ 24.75
triple	£ 24.25	n/a

GBx firewall mount (replaces bearing tube) – not suitable for GBx3. Mounting hole tapped M3.5x.5 and spaced to match SP400 and SP300 patterns. **£ 5.60**

Magnet spacer template in re-usable high-density plastic. Very useful if you are making more than one motor **£ 3.00**



Flyware Brushless Motors

This German manufacturer produces a range of superb brushless motors. We are initially stocking the microREX 220-3-3200 with more to follow.

The **microREX 220-3-3200** at 11g is the smallest motor from the Flyware range. It will run off 1 or 2 cell LiPos and is particularly suitable for models with a take-off weight under 100g. **£39.95**

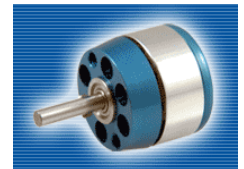
RPM/V: 3200Kv
 Performance on 2cells: 6x3: 12,500rpm, 200g thrust, 6.6A
 7x3.5: 10,500rpm, 210g thrust, 7.2A



The **microREX 220-6** motors are the medium size of the microREX range. They are available with Kv ratings of 1600, 2000 and 2800.

Performance on 2 cells:

	5x3	6x3	7x3.5	Price
1600Kv	2.8A, 12,800RPM, 123g	4A, 11,701RPM, 187g	3.1A, 9,100RPM, 172g	£32.95
2000Kv		3.8A, 11,500RPM, 170g	5A, 10,500RPM, 220g	£32.95
2800Kv	6.9A, 17,000RPM, 220g	9.4A, 15,000RPM, 340g	11.3A, 13,000RPM, 380	£35.75



Komodo Brushless Motors

Komodo rightly have a reputation for producing high quality out-runner brushless motors in both kit form and ready made. Full building instructions are provided with each kit – performance data may be downloaded from the Micron web site.

Komodo Kits:

KH-257: a lightweight and high torque motor kit weighing only 21-25g. That is perfect for shock flyer, aerobatics and 3D indoor models. The 22mm 12 tooth stator and 16 pieces 4 x 4 x 1.5mm N50 magnet allows you set-up the motor in many ways. For example: Distributed LRK winding with 14 magnet poles.
 Price: **£13.75**

KH-257D: a double stator version of the KH-257. Two 22mm 12 tooth stators and 16 pieces of 4 x 9 x 1.7mm N50 magnet allow you set-up the motor in many ways.
 Price: **£16.75**

KH-278 V2: is a modified out-runner motor kit designed for 3D aerobatics and parkflyer models

The KH-278 V2 is powered with 1.9mm-curved NdFeB magnets covering 80% inner circumference of flux ring.

Price: **£14.25**

KH-283 V.2: a double stator version of the KH-278. It is designed for powering 3D and aerobatic RC airplanes. There is a choice of either back mount style or stick style. This motor is powered with 2mm thick curved NdFeB magnets with only 9 degree gap.

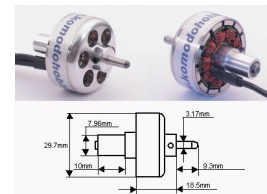
Price: **£16.95** (please specify stick or firewall mount!)

Komodo Ready-Built Motors:

Full prop data may be downloaded from the Micron web site.

KH2204: built from the KH-257 motor kit and available in two versions, both at **£23.50**

	KH-2404-15	KH-2404-17
RPM/V:	1361Kv	1210Kv
Model Weight:	200-400g	200-400g
Propeller:	2S: 8x4, 3S: 7x6	2S: 9x5, 2S: 8x4
No Load Current:	8V: 0.4A, 10V:0.5A	8V: 0.2A, 10V: 0.3A



KH2208: built from the KH-257 motor kit and available in a single version (more coming soon) at **£25.50**

	KH-2408-9
RPM/V:	1020Kv
Model Weight:	200-650g
Propeller:	2S: 10x7, 3S: 9x6
No Load Current:	7V: 0.6A, 10V: 0.8A



KH2407: built from the KH-278 V2 motor kit and available in two versions, both at **£23.75**

	KH-2407-12	KH-2407-16
RPM/V:	1035Kv	1022Kv
Model Weight:	200-550g	200-600g
Propeller:	2S: 9x3.8, 3S: 7x4	2S: 10x7, 2S: 9x4.5
No Load Current:	8V: 1.1A, 10V: 1.3A	8V: 0.7A, 10V: 0.8A



KH2413: built from the KH-283 V2 motor kit and available in three versions, all at **£26.00**. The 'SP' has special curved magnets to support high efficiency at high-RPM operation:

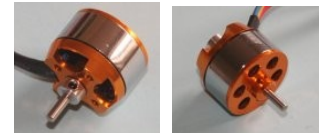
	KH-2413-10	KH-2413-11	KH-2413-SP
RPM/V:	823Kv	750Kv	2023Kv
Model Weight:	300-700g	300-800g	300-550g
Propeller:	2S: 9x3.8, 3S: 7x4	2S: 10x7, 2S: 9x4.5	2S: 7x5 #S: 6x4
No Load Current:	0.9A at 10V	0.9A at 10V	1.8A at 10V



TowerPro Brushless Motors

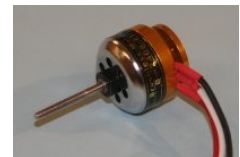
A range motors from this Chinese manufacturer. Don't let the low-cost fool you – these are very good motors.

2406-32 (80W). An ideal motor for park flyers. Kv 980, no load current: 0.8A at 10V, operating current: 4A-8A, efficiency: >70%, size: 28x30mm, weight: 34g, shaft: 3mm. Recommended prop: 8 x 4. **£11.25**



The 2406-32 is available with shaft at either end for firewall or nose-ring mounting – the firewall mount is most suitable for foam 'shock flyer' types of aeroplane. Please specify when ordering.

2408-21 The TowerPro version of the ubiquitous bell brushless motor. Don't let the low cost fool you, this is a powerful motor and will power any plane that requires a 400/480 type motor. Size 31mm dia x 32mm length (excluding shaft). weight: 46g, 3.0mm shaft, recommended prop: 8x4. The 3mm shaft is 30mm long and threaded for prop fitting GWS style or the shaft can be cut down and a 3mm prop adapter used. **£7.95**



2409-12 (200+W). A '400 class' motor at 1600KV. no load current: 1.2A at 10V, operating current: 1.7A-20A, efficiency: > 75%, size: 31x30mm, weight: 66g, shaft 3mm. Recommended prop: 8 x 4 - 9 x 4.5 **£16.95**

Available with shaft at either end for tractor or pusher use. Please specify when ordering.



2908-10D (1100Kv), A '300W' class motor, roughly equivalent to a .20 sized glow engine and is recommended for planes up to 3 lbs (48 oz / 1.36 kg) total weight. Size 37mm dia x 39mm length, weight: 108g, 5mm shaft, no-load current: 2.5A at 10V, max voltage: 12.6V (3S LiPo), max current: 25A, efficiency > 85%, recommended prop 8x6 - 11x6 APC-E. Supplied with radial mount and prop adapter **£27.95**



2915-5D (1100Kv) A '400W' class motor, roughly equivalent to a .30 sized glow engine and is recommended for planes up to 4 lbs (64 oz / 1.8 kg) total weight. Size 37mm dia x 44mm length, weight: 132g, 5mm shaft, no-load current: 3.6A at 10V, max voltage: 12.6V (3S LiPo), max current: 40A, efficiency > 85%, recommended prop 9x6 - 9x7.5 APC-E. Supplied with radial mount and prop adapter. **£31.95**



3520-7D (750Kv). A '600W' class motor, roughly equivalent to a .40 or .50 glow engine and is recommended for planes up to 8 lbs (128 oz / 3.6 kg) total weight using 4-5 LiPo cells. Size: 46mm dia x 56mm length, weight: 230g, 5mm shaft, no-load current: 1.0A at 10V, operating current: 1A - 45A, efficiency > 85%, recommended prop: 13x8 - 14x7. Supplied with prop adapter and radial mount.**£35.95**



TowerPro 3mm and 5mm prop adapters are available separately at £2.50.

Feigao Brushless Motors

1208430S: Baby brushless. This motor will fit into the GWS LPS gearboxes as a direct swap for a GWS LPS motor. This motor is ideal for the newer generation of smaller indoor models. Ideally suited to the LPS C 6.2:1 gearbox with a 7x6, 8x4.3 or 8x6 prop & 2 lithium cells. Dimensions: 12mm x 22mm, Shaft Diameter: 1.5mm, Weight: 10.5g, RPM/V: 5250, Internal resistance: 1ohm, No load current: 0.2A, Max Amps: 2A. **£21.95**



1208436L: Tiny brushless the perfect motor for small models. It fit in a GWS IPS gearbox. 4100 rpm per volt. Dimensions: 12mm x 30mm , Shaft Diameter: 1.5mm , Weight: 17g , RPM/V: 4100 , Internal Resistance: 0.6ohm , Current: no-load 0.2A, max .4A **£21.95**

Blue Arrow Brushless Motors

We are stocking a selection of brushless motors from this innovative Chinese manufacturer.

BL-1230 (Kv 4200): **£ 21.50 (carbon), £ 20.25 (alu.)**

This in-runner motor is available with either aluminium or carbon shell..
Spec: 12mm x 30mm, 13gm weight, 1.5mm shaft, 2 pole, 20 turn, 0.024mH inductance, 1R resistance, no load current 0.4A, max load current 6A



BL-2030 (Kv 3500 and Kv 4400): **£ 20.75**

These in-runner motors have an aluminium shell and heat sink. Suitable for helicopter or indirect gearbox drive. Spec: 20mm x 30mm. 43g weight, 2.0mm shaft. Available in Kv3500 and Kv4400.

BL-2040 (Kv 2800 and Kv 3500): **£ 25.00**
Spec: size 20mm X 40mm, 57g weight. 2.0mm shaft. Available in Kv2800 and Kv3500



BL-2836 (Kv 4400) **£ 24.75**

Spec: in-runner, 28mm x 36mm. 85g weight, 3.0mm shaft, 10 turns, 35A max load current.



BL-290S (Kv 1200): **£ 18.50**

Spec: out-runner, 29mm x 15mm, 44g weight, 3.0mm shaft, 16 turns, 25A max current

Brushed Motors and Gearboxes

GWS EDP-20A Hyperdrive motor and propellers. **£8.95**

GWS EDP20A motor and prop set. Includes CN12-B2C2 motor with lead and JST connector plus 2 off 2.5X8 props. Voltage: 6-7.2v, Thrust: 17g-22g, Amps: 0.52-0.69.

GWS 50XC Hyperdrive motor and propellers. **£9.50**

GWS 50XC motor and prop set. Includes CN12-RXC motor with lead and JST connector plus 2 off 3X20 props. Voltage: 6-7.2V, Thrust: 50g-61g, Amps: 1.36-1.76.

GWS B2C motor: **£4.50**

GWS CN12-B2C2 motor: voltage - 6-7.2V, RPM (no load) - 23700, shaft size - 1mm, weight - 5.6g.



GWS IPS motor/gearbox (S2, S1, B ratios)	£13.90
GWS IPS (Indoor Power System) with Carbon Brush Motor, Gearbox, and spinner. These small motors pack a surprising punch. Available in S2 (3.5:1), S1 (4.14:1) and B (7:1) ratios.	
GWS LPS-B2C Motor/Gearbox	£9.50
GWS LPS (Light Power System) dual ball bearing gearbox with B2C motor and spinner. Ratio: 6.2:1 ('C' model).	
GWS LPS Gearbox	£6.90
A lightweight plastic gearbox suitable for use with either GWS LPS motors or the Feigao 12mm or Blue Arrow BL-1230 brushless motors. Available in ratios: 4:1 and 6.2:1.	
Feigao 12mm Gearbox	£7.90
A well machined aluminium gearbox with pinion to fit any IPS/LPS size motor (including the Feigao brushless motors). Weighs 14g including spinner. It also has the normal stick mount fitting on the back to accept a 10mmx5mm stick. Available in ratios: 5.86:1 and 8.6:1.	

Motor Accessories

Fox XL Combination 12mm Motor Mount / Heat Sink 50XC: an excellent firewall combination motor mount and heat sink for all 12mm dia motors. Aluminium, 5 gm. Mounts to firewall with provided fasteners. Motor installs and removes easily with clamping action/fastener.	£3.50
Komodo 8mm Firewall Mount: a quality CNC manufactured firewall motor mount. Supplied with two M3 x 3 screws and M2.5 x 8 screws Net Weight: 3.5gm. This mount can be used for KH-257, KH-278, KH-278 V.2, KH-283 V.2 (stick style) motors or other 8mm bearing tube motor.	£3.00
Komodo 8mm Stick Mount: this CNC machined stick motor mount is designed for to fit a 10x10 mm wood stick and 8mm bearing tube motors. It can be used for KH-257, KH-278, KH-278 V.2, KH-283 V.2 (stick style) motors or other 8mm bearing tube motor. Net Weight: 3.5gm (Including screws).	£5.50
RadioActive Stick Mounts: a versatile tube mount that can accept a wide range of motors. Available in two versions with 8mm and 10mm tubes. At one end of the tube is a clamp that is tightened by a screw - this will grip the bearing tube of most CD-ROM style motors. A removable plate allows radially mounted motors to be fixed.	£1.75 (8mm) £2.00 (10mm)
1.5mm prop adapter with 2mm prop shaft: a prop adapter for motors like the: GWS 50XC, GWS IPS Direct, Blue Arrow and Feigao 12mm motors. Supplied with collar to adapt to 4mm props.	£2.50
1.5mm prop saver: a prop saver style adapter for 1.5mm shafts, supplied with one o-ring..	£2.00
1.5mm push-on collet adapter: A plastic collet style adapter that fits 1.5mm motor shafts and props with a 4mm centre hole. It is simply pushed on and the precision laser cut form is a surprisingly tight fit. Price is for a pack of 3.	£1.15
Collet Prop Adapters: solidly engineered collet prop adapters. Available in various sizes: 2mm/5mm, 2.3mm/5mm, 3mm/5mm and 3.2mm/5mm.	£2.50
TowerPro 3mm or 5mm collet prop adapter	£2.50

Propellers

GWS MicroFly 2.5x8, 2.5x10, 2.5x20 (5 pack)	£2.45	APCE 5x5, 6x4, 7x5	£2.50
GWS MicroSpeed 4x2.5, 4.5x4, 5x3, 5x4.3	£0.85	APCE 8x4, 8x6	£2.75
GWS MicroSpeed 5x5, 6x3	£0.95	APCE 9x6, 10x7	£2.95
GWS MicroSpeed carbon 5x5	£1.20	APCE 11x5.5, 11x8.5	£3.50
GWS Direct Drive 8x4	£0.95	APCE 12x6, 12x8	£3.95
GWS Direct Drive 9x5	£1.10	APC-E 13x4, 13x6.5, 13x8, 14x7, 14x10	£4.95
GWS Direct Drive 10x6	£1.20	APC-E 15x8, 15x10	£6.25
GWS Direct Drive 11x7	£1.25	APC-E 16x10, 16x12	£7.50
GWS Direct Drive 12x8	£1.45	APC-E 17x8, 17x10, 17x12	£9.25
GWS SloFly 6x5, 7x6, 8x4.3, 8x6. 9x4.7, 9x7, 10x4.7, 10x8	£1.25	GWS SlowFly 14x7, 14x10	£1.95
GWS SlowFly 11x4.7, 11x8	£1.45	GWS SlowFly 15x7.5	£2.45
GWS SlowFly 12x6, 12x8, 13x6.5, 13x9	£1.75	GWS SlowFly 15x10	£2.75
	£1.95		
Gunther 125x110 (5 pack)	£3.40	Gunther 17.5x16 (2 pack)	£2.40

MODEL KITS

Blue Arrow Aircraft Kits

3DX

There are five low-cost models in the fun-fly '3DX' range: P-51, P-47, Zero, Champion and Fire Hawk: All are laser cut from 6mm depron and employ a cruciform fuselage for speed of construction and strength.



	P-51	P-47	Zero	Champion	Fire Hawk
Wing Span	880mm	880mm	880mm	880mm	780mm
Length	760mm	895mm	640mm	895mm	875mm
Price	£ 17.50	£ 17.50	£ 17.50	£ 17.50	£ 19.50

Call or email for details of 3DX package deals: 'plane, motor, receiver, servos, and speed controller.

Radical R/C Kits

Please call or email Micron or see the web site for details of special value options packs (motor, servos, receiver, LiPos) for these kits.



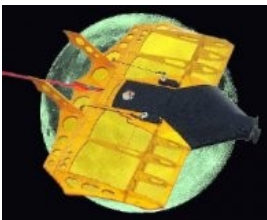
Micro Bipe: Get out the fly swatter! This aggressive little beast does not know it shouldn't be able to fly. The kit comes with all the parts required to build with the large top wing (13.8" span pictured) for intermediate pilots or the small top wing (only 10.8"!!!) for the bolder more advanced pilots. With a Feigao 12mm 4100kv motor and 3-3 or 4-2.5" prop she's a really irate insect. Comes complete with pushrod wire, horns, rod end keepers, landing gear wire and wheels.
£ 23.50



Micro Stick: A small model that uses simple gear! The Micro Stick is hot at full throttle, faster than you'd expect, yet the wing loading is that of an indoor flyer. Weighing in at only 76gm, it's hard to believe it only needs your typical park flier gear. 88 Sq. inch wing area, 17" span and 14.5" long. Wing is held on with a simple magnet! So, you can change the battery in a flash.
£ 18.50



Mini Stick: The Mini is an outgrowth of the Micro Stick with a longer tail moment, longer wingspan at 23" and is ideally suited for a Speed 300 direct drive motor system. For those wanting a more tame Mini-Stick, it also has very good sport aerobatic power on the 50XC direct system. On the Speed3 00 direct the Mini-Stick is very fast and aerobatic. It also flies well on the geared GWS/LPS-RXC-A 7-6 prop. You can build it with a Sport/Pylon Racer or with a Sweet Stick/Eindecker styled look. Finished weight 125gm-175gm. Wing span 23". Wing area 132sq in.
£ 22.50



Wicked Wing: Possibly the world's smallest servo driven flying wing ever! This little beast really moves on a simple 50XC brushed motor. Of course you could fly it with any 12mm brushless motor of your choice and even many of the micro outrunners. it needs about 14 watts to fly with authority. This model can be very fast, it's not a good first or second airplane choice. If you're flying well and want something to challenge your skills and wow your friends then this it. Judicious throttle control is a definite a requirement. Wing span: 11", target weight: approx 3oz
£19.00



Quick Wing: Capable of big sky flying or park-flyer low-n-slow! You can trust the Quick Wing in any flight condition. Any 20mm brushless motor system capable of turning a 4-6" prop at 50-150 watts or more will work well. Quick "3D Jigsaw Puzzle" assembly in only 1-2 hours. World class laser cutting and design make this one of the quickest and most enjoyable balsa models you will ever build. You'll be amazed at the wide speed envelope the Quick Wing has. It easily goes from high speed to park flying with no bad habits. Wing span: 22.5", wing area: 195sq in., target weight: 8.5 – 14oz.
£29.00



The **Verti-Go 125** sports a symmetrical airfoil. The entire kit is tabbed and notched with many alignment dovetails. You can probably get this model framed up in the time it takes just to straighten out the typical ARF. You'll see a very novel wing attachment method - no rubber bands and no screws of any kind. It pops on and off in seconds with no tools or parts to lose. The **Verti-Go 125** has a light wing loading yet has superb flying characteristics. Wing span 35", weight 400gm – 500gm.
£ 44.50



The **E-Hornet**. Anything from 6V Speed 400 to Astro 020 direct.. You can power it for extreme speed or make it a real pussy cat of a sport plane. The **E-Hornet** with high power and the addition of a folding prop is very much like a Hot-Liner without the price tag. With a 6V Speed 400 or other sub 100 watt power system it's a nice sport plane. The wing area and airfoil produce an extremely wide speed envelope. Kit has over 110 laser cut parts. 37" wingspan, 100mph+ speed rated if you wish, weight is 375 to 500 gm depending on motor/battery setup.
£ 44.50

Park Scale Models

A range of superb scale park flyers. All of Park Scale Models designs are developed using 3D CAD and feature interlocking parts to ensure precise fit and alignment. The Park Scale philosophy is to create exciting models that use low cost components, are easy to construct, have excellent flying characteristics and maintain scale appearance as much as possible.

Please call or email Micron or see the web site for details of special value options packs (motor, servos, receiver, LiPos) for these kits.



Monocoupe 90A 36" span model of a classic 30's design. Three different wing versions are available: standard with no ailerons; sport with strip ailerons and inset ailerons with optional flaps. Kit includes vacuum formed cowl and wheel pants. Suitable power options include GWS IPS-S2 motor/gearbox or a small brushless, e.g. Komodo 2204-15.
 Standard version (rudder/elevator): **£ 33.45**
 Sport (strip aileron) and aileron/flap versions **£ 34.95**



Cessna 182 Skylane: The Cessna SUV in small scale. Flies on rudder and elevator; an optional aileron wing is in development. Kit includes vacuum formed cowl. Suitable power options include GWS IPS-S2 motor/gearbox or a small brushless, e.g. Komodo 2204-15. **£ 36.95**



Cessna 206 Station Air: The Cessna people carrier. Flies on rudder and elevator; an optional aileron wing is in development. Kit includes vacuum formed cowl. Suitable power options include GWS IPS-S2 motor/gearbox or a small brushless, e.g. Komodo 2204-15. **£ 36.95**



Cessna 337: An easybuild park flyer implementation of the classic Cessna inline twin. Build as a 336, 337 or an O-2. Kit includes vacuum formed cowls. Recommended power system is two GWS IPS-S2 motor/gearbox units with GWS 8x4.3 props cut down to 7.5". **£ 45.95**

Stevens Aero Park and Indoor Kits

Please call or email Micron or see the web site for details of special value options packs (motor, servos, receiver, LiPos) for these kits.



DiddleBug: The DiddleBug was designed to introduce Bill Steven's 5 year old son to building and flying R/C models and, regardless of your age, makes an exceptional model for developing building and flying skills. The DiddleBug provides the new hobbyist with a gently introduction to working with balsa, covering, and control setup. **£ 18.50**

Spec: length 18", wingspan 24", wing area 95sq", radio 3ch (R/E/T), target flying weight 2.8oz.
Requires: sub 10g rx, 2 sub 5g servos, GWS LPS-B2C-C motor/gearbox, 7x6 prop.



DiddleRod: The DiddleRod was derived directly from the hugely successful Diddle Bug. The DiddleRod features all of the excellent flight characteristics of the DiddleBug wrapped in a classic mid-wing racer package. There is even a place for you to put a pilot in this one! **£ 18.50**

Spec: length 18", wingspan 24", wing area 95sq", radio 3ch (R/E/T), target flying weight 2.8oz.
Requires: sub 10g rx, 2 sub 5g servos, GWS LPS-B2C-C motor/gearbox, 7x6 prop.



E-Spresso: An exceptional little sport flyer that is perfect for tooling around your park or indoors (two court gymnasium recommended). The E-spresso also makes a fine platform for indoor group racing events. The low mass of the espresso allows for good slow speed manners and rapid acceleration to top-end performance. Loops, rolls and simple Aileron/Elevator aerobatics are all within the scope of this model and the long moments make for smooth stable performance.**£ 22.50**

Spec: length 18", wingspan 24", wing area 95sq", radio 3ch (R/E/T), target flying weight 2.8oz.
Requires: sub 10g rx, 2 sub 5g servos, GWS 50XC motor/prop combination.

Lil'SQuirt: A simple trainer model based on Stevens Aero SQUIRT 400. Classic old-timer charm with simple build and easy handling - ideal for your first indoor model. Makes use of conventional sub-micro radio gear.

The removable wing rubber-bands in place making it less likely to damage when crashed. The landing gear is mounted with a shock absorbing mount to smooth over those less-than-perfect landings. The large undercambered wing encourages slow flight so there is plenty of time for the new pilot to react!**£ 18.50**

Spec: length 18", wingspan 24", wing area 95sq", radio 3ch (R/E/T), target flying weight 2.8oz.
Requires: sub 10g rx, 2 sub 5g servos, GWS LPS-B2C-C motor/gearbox, 7x6 prop.



MudBug: The latest model in the 'Diddle' range is overflowing with character. Just as simple to fly as all the other models and uses the same low-cost GWS LPS-B2C motor gearbox. The MudBug kit costs slightly more than the other models as it includes a pair of Trexler balloon wheels. **£25.95**

Spec: length 14.5", wingspan 22", wing area 105 sq", target weight 3oz
Requires: sub 10g rx, 2 sub 5g servos, GWS LPS-B2C-C motor/gearbox, 7x6 prop.



SolarFilm Lite (So-Lite) Covering

So-Lite is the ideal covering material for the Radical R/C, Park Scale and Stevens Aero kits. We stock all colours in 0.9m x 0.7m and 1.27m x 0.7m sheet sizes:

White, Dark Green, Cream, Black, Dark Blue, Yellow, Red
Transparent Yellow, Transparent Red, Transparent Blue, Transparent Green

0.9m x 0.7m	£3.50
1.27m x 0.7m	£4.50

Aircraft Accessories

GWS Ultra Light Wheels (pair)	47mm: £ 1.75, 65mm: £ 1.95
Du-Bro MiniLite Foam Wheels (pair)	1": £ 2.50, 1.25": £ 2.75, 1.5": £ 3.00
MPI Lightweight Spoked Wheels (pair)	1.5": £ 2.00, 2": £ 2.50
Du-Bro DB845 mini E/Z connectors.	£ 1.95
Du-Bro DB846 micro closed loop system	£ 5.95
Du-Bro DB847 micro push rod system (20")	£ 3.95
Du-Bro DB850 micro aileron system	£ 3.95
Du-Bro DB851 micro 90deg bellcrank	£ 1.05
Du-Bro DB853 micro tail skid	£ 1.05
Du-Bro DB854 micro tail wheel bracket	£ 1.05
Du-Bro DB916 hinge tape	£ 2.50
Du-Bro DB917 micro clevis pair	£ 2.45
Du-Bro DB917 micro clevis spare pins	£ 1.45
Du-Bro DB932 micro servo arms (SuperTec servos)	£ 4.50

SIMPLE ELECTRONIC KIT PROJECTS

AS PUBLISHED IN 'R/C MODEL WORLD' MAGAZINE

A range of kits using 'Veroboard' for assembly. Large drawings are supplied with technical notes covering the building and eventual use of the finished units. The kits include all electronic components, stripboard, plastic or aluminium case where necessary, connectors and solder.

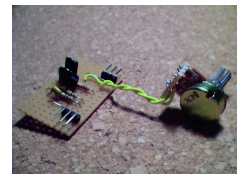
RECEIVER BATTERY LEVEL INDICATOR plugs into the receiver. Give a straightforward GO/NO indication using a red and green LED. If the red LED lights up or flashes during pre- or post- flight checks, it's time to go home. **£ 2.95 (specify 4 or 5 cell when ordering)**

The Receiver Battery Monitor is also available ready-built at **£ 5.00**

LOST MODEL ALARM a 555 IC based circuit that pulses a piezo sounder if the model is lost in corn or rapeseed. The buzzer is activated by a loss of servo pulse from the receiver. Suitable for PPM receivers only. Every model should have one!.. **£ 5.50**

The Lost Model Alarm is also available ready-built at **£ 8.50**

SERVO TESTER A very simple circuit that drives a servo without using the R/C system for setting up control surfaces or checking servos, includes case... **£ 4.95**



TR2 FAST CHARGER for receiver batteries. With 'peak detect auto cut off' when the battery is full. Input is from 12 volt car battery or similar. Charge on the field or in the workshop while having a coffee. Normal charge time is 30/40 minutes depending on depth of battery discharge. **Transmitter** batteries can be 'boost charged' using a suitable connector lead, a timed 20 minute charge gives a further 3 hours flying time... **£ 13.95**



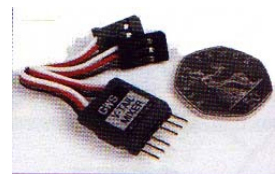
TRANSMITTER OUTPUT TESTER most ambitious of the 'R/C Model World' projects. Measures the output field strength of any R/C transmitter at a distance of 10 metres. Shows up antenna faults, circuit faults, battery faults etc. Uses five large ultrabright LEDs that can be seen even in sunny conditions. Can be set for use with transmitters on the 27MHz, 35MHz or 40MHz bands... **£1 9.95**



Ancillary Items

V-TAIL MIXER UNIT

A very small unit (16 x 17 x 6mm), which is mounted in the model and gives a 50/50 mix between two channels. Can be used to give large or small models a v-tail or flapperon mix. Has two Futaba plugs in the input and 2 universal sockets on the output. Weighs only 5.5 grams... **£ 11.95**



SWITCH HARNESS WITH CHARGING SOCKET A standard switch harness with Futaba connectors for turning your model on and off. Has shielded charging socket... **£ 4.75**

FUTABA TRAINER LEAD A lead to connect two Futaba transmitters so that your instructor can take control without having to prise the transmitter from your grasp. Uses older style round 'DIN' plugs. Particularly valuable when learning to land!.. **£4.95**

JR TRAINER LEAD as above but to link two JR transmitters... **£ 4.50**

SERVO LEADS: we can make servo leads to your specification, or use higher current wire if you drive very large servos. Standard Leads **£ 1.10**, Extra long 20" leads **£ 1.70**. Bare plug with crimp connectors only **50p**

JST SERVO LEADS: A 160mm servo lead with a small white JST connector to mate with the connectors on the Blue Arrow R3P4-J receiver. The lead has a JST connector at one end and bare wires at the other end. **£ 1.25**

METHODS OF ORDERING GOODS

- **By telephone on 01653 696008**, tell us what you want and have your credit or debit card to hand, as we will ask for card details including your telephone number.
- **By Fax on 0870 055 4578**, giving us the cardholders name and initials, cardholders full address and post code, details of the items you want together with the card number, last 3 digits of the verification number off the back, expiry date and, if a debit card, the start date and issue number.
- **By PayPal** via the Micron website.
- **By letter to Micron Radio, Uplands House, Castle Howard Road, Malton, YO17 6NJ**. Enclose a cheque, postal order or card number details as shown above for fax ordering.
- **By Email to sales@micronradiocontrol.co.uk** (*for security please split your order into two emails as follows*):
 - 1st Email...**give us your name, address, card number *only* and list of the item(s) you want.
 - 2nd Email...**give us your name and initials (as printed on your card), last 3 digits of the verification number off the back of the card, the card expiry date and, if a debit card, the start date and issue number.Don't worry we will collate the two and sort your order!

- **UK Post & packing is £2.00 per order** regardless of number of items or size of order, but see below regarding model kits.

- **Europe Post & packing is £2.50 per order** regardless of number of items or size of order.

- **Rest of World Post & packing is £3.00 per order** regardless of number of items or size of order.



Due to the size of shipping box, aircraft kits cost extra to post. A minimum charge of £4.50 is applied. Also, some kits are extremely expensive to ship internationally. Please call Micron if you wish to order multiple kits or live outside the UK so that a specific postage charge may be quoted.

Email: sales@micronradiocontrol.co.uk