

Wing span:	108"
Wing area:	1041 sq"
Wing loading:	25 oz/sq'
Weight:	11.5 lb
Motor:	Astro 40 Cobalt #640 Changing to a 25mm Crocodile motor
Gearbox:	Astro standard 1.63 : 1 Changing to direct drive
Prop:	Graupner 11x7 3-blade
Prop speed:	7700 RPM
Batteries:	20 x RC2400 Changing to 6 Lipos
Motor current (full power):	33A Probably changing to 40A
Motor power:	700w
Power loading:	60 w/lb (input)
Static thrust:	1.9kg / 4.2lb (take-off; fresh cells)
Flight times:	10 minutes (excluding thermalling!) conservative flying in good weather (8 mins with 2000's); 6 or 7 minutes with heavier throttle usage on 2400's such as in brisk winds.
Receiver:	Futaba 6ch single conversion
Servos:	2 x FMA360 (Rudder/Elevator) 2 x Futaba S148 (Ailerons) 1 x Futaba S6 (Nose wheel)
Speed control:	Jeti JES80 (JES40 would be adequate)
Rx battery:	700mah 4 cell nicad
Model design:	Scratch built
Airfoil:	Eppler 210 (slight undercamber). The full size actually uses a NASA GA(W)-1 airfoil but I only found this out later from the airfoils site you can find on my Links/Further info page.
Wing construction:	Conventional; 6mm spruce spars; 3/32 balsa ribs; cap strips; 1/16" leading edge balsa sheeting; built-up ailerons. Two pairs of spars pass through the shroud to support booms, u/c and wings. Only the front spars are used in the outer wing panels. The Rx is housed in one of the centre wing panels to minimise electrical wiring lengths.
Canopy/Shroud:	Plugs made from balsa (shroud) and insulation foam (canopy). Finished product moulded out of fibreglass, carbon and epoxy resin. Home-made windows pulled with 0.25mm vacuum-forming plastic over separate moulds (using a domestic 2-bar heater to soften the plastic).
Booms:	Built-up from 1/8" balsa formers and 3/32 balsa sheeting (cut to 1/8" strips). Glassed with 1.5oz cloth after sanding. Each epoxy'd in place between two ply wing ribs.
Undercarriage:	4mm piano wire (a bit 'wobbly' but adequate); 100mm main wheels;

	steerable 70mm nose wheel on coiled 5/32" leg.
Covering:	Solarfilm on flying surfaces; canopy and shroud sprayed.
Extra features:	Detailed cockpit; full length Pilot. Windows held by retaining screws which only need about 1 turn to loosen to allow plastic to be released. Wings panels attach with 1/4" ply joiners, retained with two strips of Velcro. The plane thermal in reasonable lift.
What would I do differently?:	The incidences and perhaps motor thrust are probably slightly out as the plane requires a bit of up-elevator trim for level flight but then climbs when power is reduced. To minimise electrical wiring, I used long plastic pushrods (on rudder and elevator) which change length slightly in different temperature ranges. I increased the wing area proportionately from 100" wingspan to 108" to reduce wing loading. This was not necessary. Home-made wheels have not been successful on this aircraft as they seem to take a beating (especially the nose wheel).