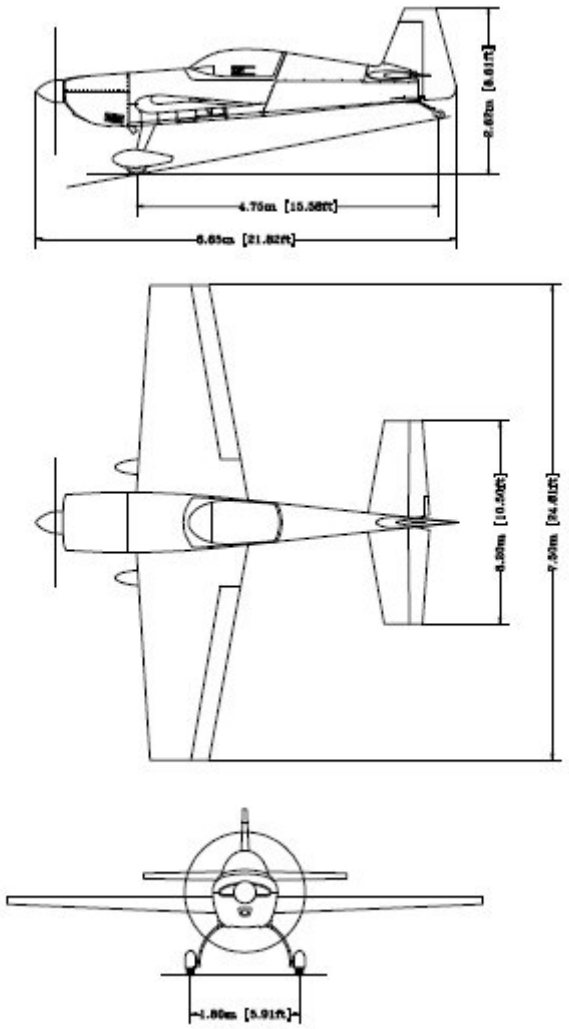
Special aircraft for extreme aerobatics for REFLEX XTR

Extra EA-300S

True-to-scale behavior as a model or even 3D capable

The EA-300S is a special aircraft for extreme aerobatics, built by Extra in Germany (http://www.extraaircraft.com/). *Gerd Gunzenhauser* created a model for the REFLEX flight simulator after a real EA-300S. It's an aircraft in the striking Red Bull outfit, flown by *Peter Besenyei*. You'll find some pictures on RC-Network.

From http://www.extraaircraft.com/Tech-Manuals/MM300S/CH06.pdf (no longer available):



The REFLEX models

The EA-300S was set up for REFLEX in several sizes/scales. In any case the model supplied by *Gerd Gunzenhauser* is used, but each size has its own drive sound. For each size there is a version adjusted to a flight behavior similar to that of the real airplane, and another version adjusted as a 3D model.

Scale	*Wingspan*		*Weight*		
1:1.8	78 in	4.17 m	92.6 lb	42.0 kg	
1:2.3	134 in	3.26 m	44.5 lb	20.2 kg	(different setups)
1:3.5	89 in	2.14 m	12.7 lb	5.75 kg	(different weights)
1:4	78 in	1.88 m	8.49 lb	3.85 kg	(also F3A)
1:5	62 in	1.55 m	4.37 lb	1.98kg	(electric)

Aileron deflection is set to 30 degrees, elevator to 25 degrees, and rudder to 30 degrees, according to the original manual. In the 3D versions, rudder and elevator are increased to 45 degrees and the ailerons are drawn near the fuselage. In REFLEX, expo is set with different rates to have easier and more precise flying with the good control response. If you don't like that simply remove these settings (F5).

Trust/weight ratio is 1.2 in the normal versions and 1.8 in the 3D versions (even 2.15 in the biggest 3D version). That's enough for good conventional aerobatics and for 3D. Astonishingly, the Extra goes through all patterns completely neutral even though it's a low-wing design. Obviously, after the symmetric mid-wing designs (as the EA-260 and EA-300) new tricks were found. The original's geometry doesn't make for a real 3D model because the controls are too small. But with substantial propwash on the empennage many 3D patterns can be flown. After all, the Extra is said to be the best compromise for classic pattern and 3D.

The parameters of the EA-300S are set strictly according to its geometry, but also following the same rules as for the EDGE 540 and Su-26M as well as even the Z-50LS and the Z-526AFS. The first three even have the same wing airfoil parameters. Consequently, these aerobatic aircraft may be not completely realistic in REFLEX but are directly comparable. The Extra flies best.

The REFLEX Model Files

Gerd Gunzenhauser kindly permitted to publish his model (mod file) together with my parameters files. The installer program creates the folder (directory)

...\Flugzeug\Extra\

and stores all model files there. If you would like to have also the original version, download the package published by *Gerd Gunzenhauser* and *Jürgen Dreyer* from RC-Sim.

I prefer a model engine's sound for the REFLEX model, even if I don't have the „correct" one. *Herbert and Janning Quint* recorded the sound of a ZG 38 and published it on RC-Sim.de. This quite sonorous sound is assigned to the biggest model versions (use permitted by *Janning Quint*). The sound of a Zenoah G20ei is assigned to the medium versions. The small versions have the O.S. 120 AX engine sound as a perfect fit. *Jorma Kinnunen* published an electric P-47 model for REFLEX. The included sound of a Hacker A30-26 brushless motor is quite well suited to the electric version and is used here with his permission.

The drive sound files are

ZG38-1550.wav and ZG38-1550_.wav,
ZenoahG20ei.wav and ZenoahG20ei_.wav,
OS120AX.wav and OS120AX_.wav,
HackerA30.wav and HackerA30_.wav.

Now all should be available, including a demo flight, and this text should be accessible in the program menu „Programs\REFLEX\models". Of course, the demo flight „ EA-300S " (hit F9 in REFLEX) is not really artistic but shows the impressive flight performance of the model.

Enjoy!

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http://time.hs-augsburg.de/~erd/Modellflug/textReflex.html

More REFLEX models and the latest versions are on my page
http://time.hs-augsburg.de/~erd/Modellflug/textDownloads.shtml

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