

SPEC: 2WD CARBON FIBRE CHASSIS **CLASS:** ON-ROAD COMPETITION **COST:** £209.99

Building



Links



The latest update for Xray's 1:12 platform sees the manufacturer make many subtle chassis changes and perfect the design for the latest brushless and LiPo demands



The 1:12 scale carpet class is the birthplace of RC car racing and it has provided the learning ground for many of the World's greatest RC drivers including our own David Spashett. As a class, the cars are very different to the more common touring cars and off-road buggies and the years have seen a lot of innovative ideas and concepts tried. However, the pace of evolution has not been as rapid as other classes and until the advent of LiPo and brushless there were still two main types of chassis – T-bar and link. The need to have one larger but lighter LiPo cell in the car has basically rendered the T-bar types of car obsolete, much to the chagrin of a large contingent of the 1:12 scale field and has focused all manufacturers along the path of link cars.

FROM T TO L

Initially, Xray concentrated their efforts in the touring class but then they exploded their product line into nearly every class of RC vehicle. However, their 1:12 scale entry was quite late in this timeline. For several years they even allowed their top touring car drivers to use other manufacturers chassis's at the World Championships where many drivers compete in both classes since the touring car event follows the 1:12 class at the same venue in the same week.

Now we have reviewed a lot of Xray cars before, but this is only their third proper 1:12 scale, excluding the attempt to produce a four-cell powered touring car early in their history! Xray have tended to innovate in the classes that they enter but in 1:12 scale, dare we say it, they have played it safe and gone with imitation – it is the sincerest form of flattery after all.

Their first 1:12 car appeared in production at the end of 2008 was the named XII (Latin for 12) and frankly it was simply a beautifully crafted version of the Team Associated RC12L4. It featured a circular stiction-style rear damping system, front to rear battery slots (about the only difference to an L4 where the cells went across), a raised/angled steering servo and it was a T-bar car. This was replaced almost exactly a year later with the XII Link, featuring (unsurprisingly) a link-type rear suspension, 'through' shaft cross shock for side damping, a flat servo and cell slots for the four

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Racer Tips

Like any 1:12 scale car, the X12 is very simple yet the devil is on the fine detail. Everything must be built square with no binding at all in any of the linkages. The rear links are the suspension and with a lightweight car, are critical to its handling. The chassis at the end must be tweak free.

◀ NiMH cells. This bore an uncanny resemblance to the Team Associated 12R5. So the latest revision of the car is the X12 and as it has a new title it implies it is a new platform, but is it an original design? Let us take a closer look.

TWELVE SPEC

The main new features of the car are different weight distribution, optimised for the LiPo/brushless combination, longer wheelbase, revised rear suspension geometry and a different method of side damping. A first glance at the car shows the standout new feature is the inline (front to rear) but off-centred position for the battery pack. Positioning the pack like this means better balance and less weight transfer when cornering, hopefully making the car more nimble with better handling. The battery is situated to the right hand side of the car and therefore the electrics sit in the vacant space on the left – this is actually the opposite way around to some of the Xray's competition. By placing the battery pack in this position, it has necessitated moving the front shock mount, which has been achieved by building a raised mount that essentially sits the ball joint above the battery pack. The mount

is further forward in car relative to the old model, the shock is longer than the older car nevertheless the top pod plate has been redesigned moving the rear shock mount further forward too to allow room to mount the new type of rear side dampers. The front shock now has less of an angle in the car than in the old car.

Moving forward the flat mounted steering servo can be fitted offset to either side of the car in order to optimise the side-to-side weight balance and this is a nice touch. The overall wheelbase of the car is longer to aid stability and the front end of the car has also been made a little wider, this has all been done by modifying the chassis which now uses a slightly stiffer grade of carbon fibre. Bolted onto the front end is the front suspension – the same as found on their earlier cars – and why change it! It was based on the design of the L4's suspension, and one this version the mouldings are made with a slightly stronger and stiffer plastic, although it is hard to see much difference in the material though. The front suspension features adjustable dynamic caster, turnbuckles to adjust camber and utilises spacers under the suspension arm mounts to alter the ride height. The lower arms like most 1:12 cars

are rigid items, where only the top arm moves and the spring fits on the king pin below the arm. There is a carbon brace to stiffen the front end flex and this is considered the medium option, an optional aluminium brace is the stiff setting and with the brace removed creates the softest. The front of the car is rounded out with small chassis protectors under the body mounting posts – a must for any 1:12 chassis. There is no foam front bumper provided though so if you have some foam handy it wouldn't hurt to create a small wedge shape to fit under the shell, especially if your driving is as inaccurate as ours....

TUBES REPLACE SHOCKS

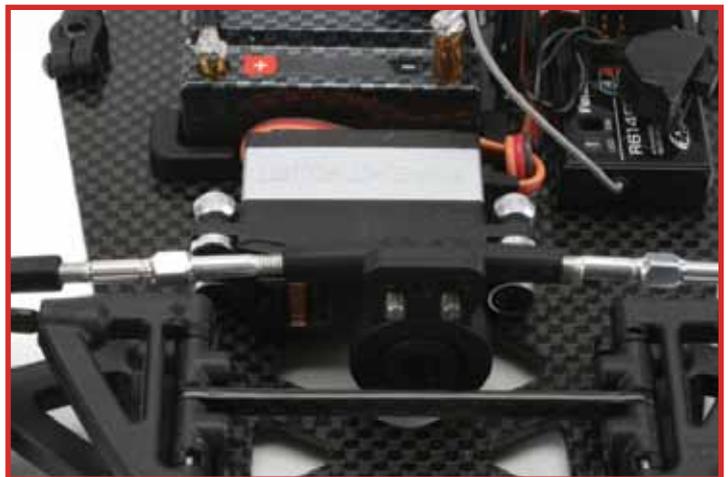
Moving to the rear of the car the pod looks essentially the same. The end plates have been modified slightly to allow you to run very small diameter tyres yet still have enough ride height to satisfy the scrutineers. The differential is still the very smooth unit from previous models featuring a thrust race assembly to handle the side loads as you tighten the diff. This method does weigh a tiny bit more than diffs that simply side load the normal flanged bearing and die hard old school racers



The latest 1:12 chassis from Xray now features a longer wheelbase



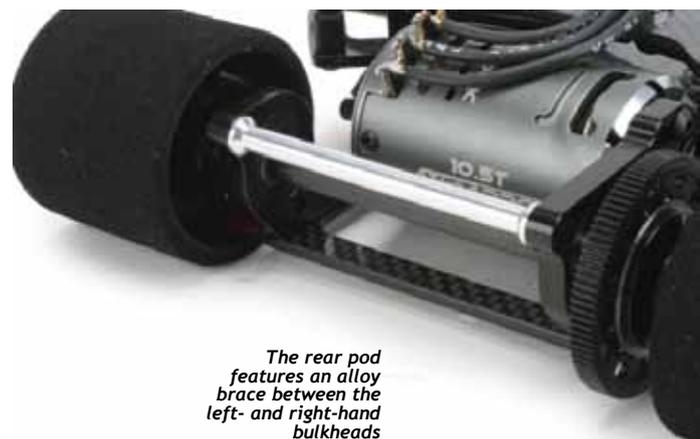
The Team Orion 1S LiPo locates down the right-hand side of the chassis



The servo can be fitted offset to either side of the car in order to optimise the side-to-side weight balance



Parma provided us with a set of their 1:12 Blackhawk tyres on rims



The rear pod features an alloy brace between the left- and right-hand bulkheads

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ON TEST



We tested the car at several club meetings where the grip was low to average and the car has been used by better drivers at national and international events. We found the car a little easier to drive than the old car, particularly as the grip increased, whilst the damper tubes also made changing rear damping far faster. The lap

to lap consistency has improved over the older car making the car easier to drive over a whole eight minutes. At national level with Andy Murray, the car has made several A finals and at the 2012 World Championships Alexander Hagberg made the top ten, which speaks volumes about its effectiveness.

“Xray’s car is one of the best made and also one of the strongest.”





Damper tubes slow down the side-to-side movement of the chassis



Spektrum H5010 servo was used for steering duties



We fitted thin 16AWG wires from the speed control to the motor for greater flexibility



LRP's SXX StockSpec Version 2 was our choice of speed control, connected to a Team Orion 10.5T



The proven oil-filled coil over shock in the centre handles the bumps

swear that lighter is better. However, the simple fact is that the diff action and diff life is massively improved using the thrust assembly and touching a board with the rear wheel won't now necessitate a new flanged bearing. The steel threaded part in the axle that the adjuster nut screws on to has been updated to further improve the strength of the axle diff assembly.

Finally we get to the other big change from the previous cars as the X12 now uses damper tubes to control side-to-side damping of the rear suspension. These work by coating a grooved inner plastic rod with grease or oil and placing them inside a tight fitting aluminium tube. With no grease the fit is perfect and there is almost no friction, with grease or oil the 'stiction' that is created is the damping. They are not a new invention and have been used on 1:12 cars for many years yet recently they have

seen a resurgence. One of the benefits of a tube damper comes when the car sees a sudden rapid movement, for example when you run a corner marker, the tubes will still allow the rear end to respond rapidly, when you use a cross shock system the shock will 'pack' which is where the oil cannot move around the piston rapidly enough and the shock essentially hydraulically locks. The negatives of a tube damper are that they need constant attention, after a couple of runs they will need to be removed, cleaned – after all carpet fluff loves a bit of sticky grease or oil – and then rebuilt. If you don't do this they become inconsistent. Overall they are a pretty simple but effective piece of technology. The rear pod is connected to the chassis by the same side links as the X11 and uses small, pre-load adjustable side springs. There are several different stiffnesses of springs available. ■

SPECIFICATION

Model:	Xray X12 Link Spec
Scale:	1:12
Class:	On-Road
Application:	Competition
Format:	Kit
Power:	Electric
Chassis:	Carbon Fibre
Drivetrain:	2WD
Transmission:	Direct Drive
Differential:	Ball-type
Shocks:	Oil-filled
Bearings/Bushes:	Bearings

TECHNICAL DATA

LENGTH:	266MM
WIDTH:	154MM
HEIGHT:	46MM
WHEELBASE:	205MM
FRONT TRACK:	170MM
REAR TRACK:	172MM
WEIGHT:	735G

WHAT WE USED - Electric Kit

TRANSMITTER:	FUTABA 4PK 2.4GHZ STEERWHEEL
RECEIVER:	FUTABA FASST R614FF 2.4GHZ
SERVO:	SPEKTRUM H5010
SPEEDO:	LRP SXX STOCKSPEC VERSION 2
MOTOR:	TEAM ORION VST PRO 10.5T
BATTERY:	TEAM ORION 6400MAH 3.7V 90C
TYRES:	PARMA BLACKHAWK
BODY:	PROTOFORM AMR-12

OPTIONAL PARTS

- Lower suspension arms – normal stiffness
- Side springs – two further options
- Centre springs – three further options
- Front springs – three further options

VERDICT

- ➕ Xray quality and fit
- ➖ Damper tube upkeep

RACER RATING

★★★★★

CONTACT

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SUMMARY

But what actually distinguishes this car from the pack? Well as per normal its Xray's attention to detail, the car is one of the best made in the field and it is also one of the strongest. You don't see as many Xrays at the 1:12 meetings as some other brands, which is a shame as it clearly has the ability to be at the front. Maybe that will change soon.