

Choosing a binocular from the large variety of makes and models can be difficult and confusing. Only you can make the choice between price and performance. This leaflet will help you through the selection process, and explain how to get the best out of your purchase.

How to choose a binocular

The first step is to decide on the following; How much do you want to spend? Are size and weight important? What magnification and what type of binocular do you want? Initial thought on these questions will help you narrow down the range before going to a shop to make your choice.

When choosing a binocular, one of the most important criteria is comfort. The binocular must be comfortable to hold and the focusing wheel easy to reach and turn. It must also be possible to look through it without straining your eyes, and it must provide a clear sharp image without distortions. Make sure that you as an individual can see a sharp image at all focusing distances. If you wear spectacles, check for image quality with and without them. Look out for binoculars with retractable eyecups, as these can be used conveniently with or without spectacles. You also need to decide whether you want your binocular to be rubber armoured to protect it against small knocks, and whether it needs to be waterproof.

Only once you have identified specific binoculars that fit your criteria and that you find good to use, should you consider the brands. Although there are differences in the robustness and optical quality between brands, brand choice is often down to fashion - a make's popularity among birdwatchers does not in itself make it the best buy for you.

If you can, try binoculars out under field conditions to ensure that you are completely happy before purchase. Contact your local RSPB shop for details of their field days, when the shop has a bigger than normal range to try, and experts available to answer questions and help you make the correct choice.

What do the figures mean?

All binoculars have a set of two figures indicating their

specification, for instance 10x40.

The first figure refers to the magnification. This is usually between 7x and 10x, although binoculars with lower or higher magnification are available.

The second figure refers to the diameter of the larger lens, the objective lens, in millimetres. Generally speaking, the larger this lens, the greater amount of light that will be gathered and, therefore, the brighter the image. The size of binoculars is governed by this second figure, not by the magnification.

The field of view may be quoted in degrees or figures (such as '6.5°' or '140m at 1,000m'). Roughly, 1°=17m at distance of 1,000m.

Do not consider the figures in isolation. An inferior 10x50 using poor glass and inadequate lens coatings may have an image less bright and sharp than a better quality 10x40.

What magnification do I need?

Generally speaking, the lower the magnification:

- the brighter the image
- the closer the nearest focus point
- the greater the depth of field, requiring less focusing
- the wider the field of view
- the easier the binoculars are to hold.

Generally speaking, the higher the magnification:

- the less bright the image
- the further away the nearest focus point
- the narrower the depth of field, requiring more frequent focusing
- the narrower the field of view
- the heavier the binoculars are likely to be
- the harder they are to hold still.

For general birdwatching, lower magnifications such as 7x or 8x are recommended, especially if you also use a telescope. Higher magnifications (10x) are more suitable for use in hides or for viewing estuaries, reservoirs or other large, expansive areas. If you do not use a telescope and weight is not a problem, the higher 10x magnification can be a good compromise.

Many people simply choose the magnification that gives them the most satisfying image.

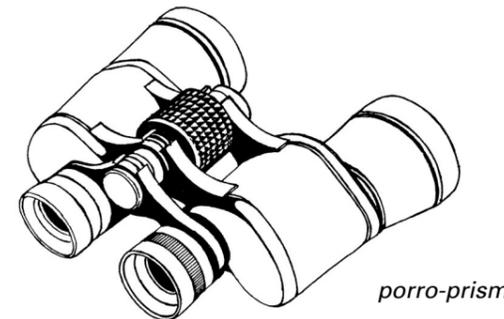
Zoom binoculars with variable magnification are not recommended. They rarely give as good an image across their range as single magnification binoculars and have more chance of developing faults.

What types of binoculars are there?

There are two main body types:

- 1 Porro-prism is the traditional, 'stepped' shape with an angled body.
- 2 Roof-prism is recognised by a 'straight-through' appearance. These tend to be more compact than porro-prism binoculars.

Choice of style comes down to personal preference. At least in part because of fashion, most of the high quality binoculars available today are roof-prism. The cheaper end of the market is dominated by porro-prism binoculars, as the more complicated construction of roof-prism binoculars tends to make them more expensive.

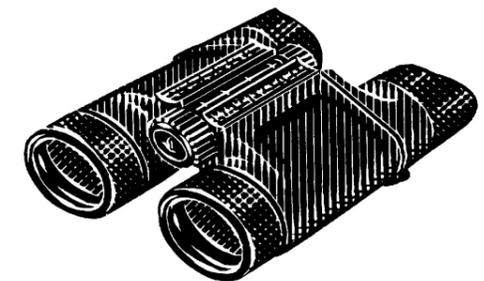


Compact binoculars are useful if size and weight are important factors. Their main disadvantage is reduced light-gathering power and field of view. Most people find them easy to hold, but you may prefer a more solid shape for steady viewing.

Rubber covering offers better protection from knocks to the binocular's body (though not of course to the lenses). **Waterproof** binoculars are widely available. The internal focusing in the roof-prism style makes them inherently more water resistant. **Coatings** on

lenses and prisms improve light transmission through the binocular and give a clearer image.

For disabled birdwatchers – the choice of binocular is dependent on the nature of the disability and personal preference. Trying out different models is particularly important. Lower magnification means less refocusing and offers greater steadiness. Stabilising binoculars work well but they are heavy and expensive. Specialist optical suppliers can offer personal solutions.



roof-prism

How much should I pay?

Binocular prices range from a few tens of pounds to well over a thousand, depending on the make and quality of the binocular. It is worth paying as much as you feel you can afford. 10x binoculars are often more expensive than the comparable 8x version. Unless you particularly want 10x binoculars, it may be worth spending the same amount of money on an optically superior 8x.

Generally speaking, the more you pay, the better quality binocular you will get, although especially in the mid-range some makes are more expensive than others for a comparable quality binocular. Within a given specification, optical quality increases with increasing price. The optimum point of quality for price is probably around £400. Above this price point, the amount of improvement in optical quality per unit price decreases the higher up the scale you go.

Second-hand binoculars are usually a good buy so long as you keep to well-known brand names. Be sure to check all moving parts for wear, especially the focusing. Make sure there are no scratches on the lenses, and that the retractable eyecups function properly. Look inside from the 'wrong' end to check the prism for chips.

How to use your binoculars

When you first get your binocular, you need to prepare it for use. Many of them come with individual lens caps, which are rarely needed, since the case is usually adequate protection. Ranguards for the eyepieces are often not supplied but are most helpful when you are out birdwatching in all weathers. Attach the strap and the ranguard so that it can easily cover the eyepieces as you are walking. Always store your binocular in its case away from any dust. Many birdwatchers do not use a case when out in the field but keep it for travelling and storage.

In order to get the clearest possible image, you should carry out the following adjustment to your binocular:

- Adjust it for the width between your eyes. Looking through the binocular, move the two halves apart or closer together until you get maximum overlap of the images.
- Adjust the individual eyepiece for your eyesight. To do this, choose an object with a sharp outline, such as a fence post, chimney or road sign. Close your right eye or cover the right objective lens with your hand. Focus with the central wheel until the image with your left eye is as sharp as possible. Then cover the left-hand side and, using the right eye only, adjust the independent eyepiece until the same object is as sharp as possible - do not touch the main focusing wheel at this time. When you use both eyes, you should have an excellent, very sharp picture. Once you have adjusted the right eyepiece, you only need the main focusing wheel to view birds at different distances. Many models allow you to 'lock' the right eye setting.
- Note the setting of your eyepiece, so that if others use your equipment and alter the

adjustment you can quickly re-set it to your own needs.

Looking after your binocular

Binoculars and telescopes are the most expensive tools used for birdwatching, and so it is worth taking care of them in order to achieve the best results and keep them in good working order for years to come.

Binoculars require very little maintenance, and only require a little cleaning now and again. Clean the lenses as little as possible. If a lens has become smudged or dirty, wipe it clean with a clean lens cloth. To prevent scratches, first remove any grains of sand or salt with a lens blow brush. After using your binocular in the rain, always wipe it dry. If moisture has got inside, leave it in a warm place to dry. Do not put it back in the case until it is fully dry. Never be tempted to dismantle it yourself, but leave such jobs to a specialist.

Even if you have a solid, rubber-armoured binocular, it can become knocked out of alignment if you drop or knock it. Realigning is easy to carry out by a trained repairer. The owner often does not notice a slight alignment fault, so ask a friend to check your binocular occasionally.

A wide range of binoculars and telescopes is available from the following RSPB Gift Shops:

ENGLAND

Bempton Cliffs, East Yorkshire, tel: 01262 851179
Carsington Water, Derbyshire, tel: 01629 541842
Darts Farm, Devon, tel: 01392 879438
Dungeness, Kent, tel 01797 320588
Fairburn Ings, West Yorkshire, tel: 01977 628191
Leighton Moss, Lancashire, tel: 01524 701601
Minsmere, Suffolk, tel: 01728 648281
Old Moor, South Yorkshire, tel: 01226 751593
Pulborough Brooks, West Sussex, tel: 01798 875851
Radipole Lake, Dorset, tel: 01305 778313
Rainham Marshes, Essex, tel: 01708 899840
Ribble Discovery Centre, Lancashire, tel: 01253 796292
Saltholme, Tees Valley, tel: 01642 542081
The Lodge, Sandy, Bedfordshire, tel: 01767 680541

Titchwell Marsh, Norfolk, tel: 01485 210779
Top Lodge, Northamptonshire, tel: 01780 444691

SCOTLAND

Lochwinnoch, Strathclyde, tel: 01505 842663
Loch Garten, Strathspey, tel: 01479 831476 (April to early September only)
Vane Farm, Kinross, tel: 01577 862355

WALES

Conwy, Conwy, tel: 01492 584091
Lake Vyrnwy, Powys, tel: 01691 870278 (weekends only in Jan - March)
Newport Wetlands, Newport, tel: 01633 636363

The RSPB

UK Headquarters, The Lodge, Sandy, Bedfordshire
SG19 2DL. Telephone 01767 693690

Northern Ireland Headquarters, Belvoir Park Forest,
Belfast BT8 7QT. Telephone 028 9049 1547

Scotland Headquarters, 25 Ravelston Terrace,
Edinburgh EH4 3TP. Telephone 0131 311 6500

Wales Headquarters, Sutherland House,
Castlebridge, Cowbridge Road East, Cardiff
CF11 9AB. Telephone 029 2035 3000

www.rspb.org.uk

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The RSPB speaks out for birds and wildlife, tackling the problems that threaten our environment. Nature is amazing - help us keep it that way. We belong to BirdLife International, the global partnership of bird conservation organisations.

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INFORMATION Selecting and using your binoculars



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