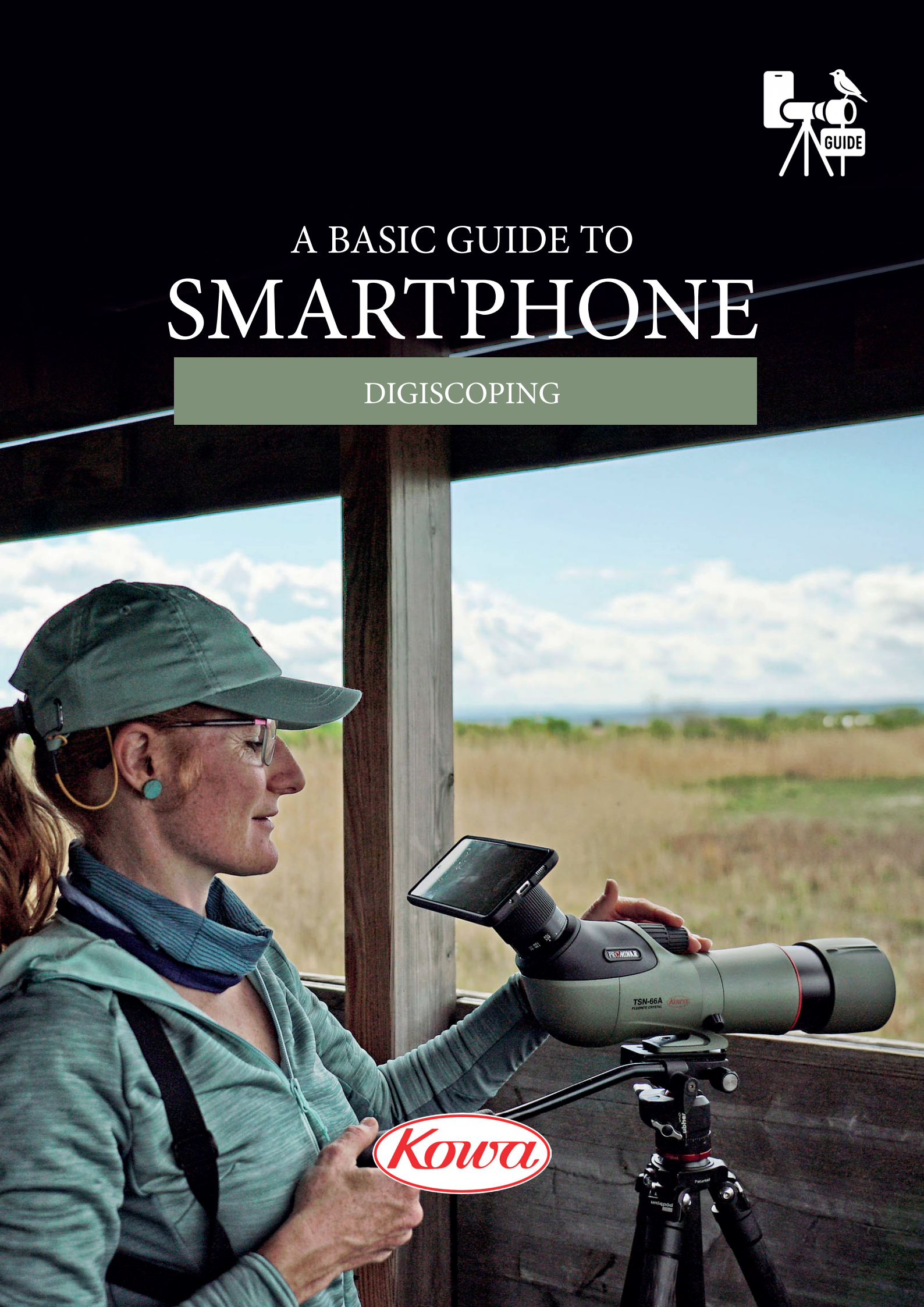
GUIDE

A BASIC GUIDE TO SMARTPHONE

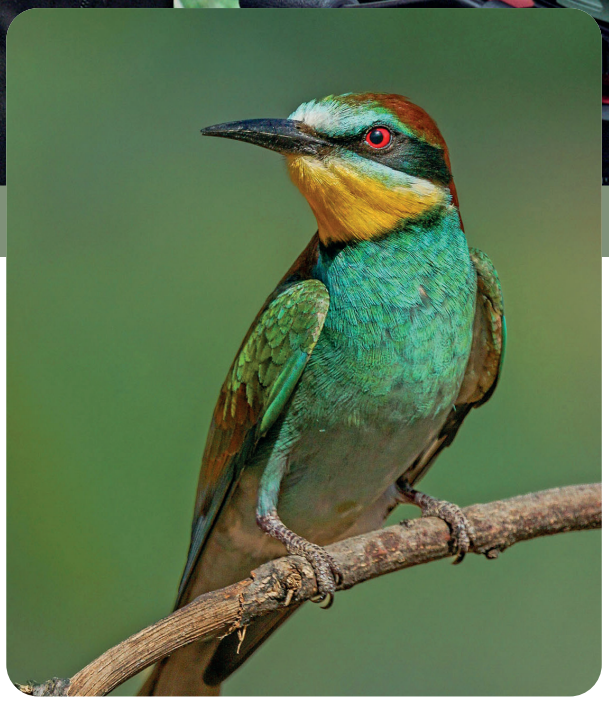
DIGISCOPING



1. What is Smartphone Digiscoping?

Smartphone digiscoping is the method of attaching a mobile phone camera to a spotting scope to capture high magnification photographs and video.

Your phone uses the scope like a powerful zoom lens, transforming it instantly from observation tool to telephoto camera system.



2. The benefits of smartphone digiscoping

Ultra-compact setup: No need to carry big, heavy telephoto lenses.

Dual-use: Observe normally through your spotting scope, then attach your phone when you want to record images or video.

Modern phone features: Take advantage of 4K video, slow-motion, time-lapse, and powerful built-in image processing.

Amazing reach: Spotting scopes provide much longer focal lengths than DSLR lenses — letting you shoot from a respectful distance without disturbing wildlife.

Simple & accessible: Easy to set up, lightweight to carry, and you can leave your full camera kit at home.

3. Adapter Options

A. Dedicated Fit Adapter
Fast and simple — just push on and shoot.
Very stable alignment.

Downside: Only works with that exact phone model — so when you upgrade your phone, the case becomes redundant.

B. Universal Fit Adapter
(e.g. SMARTOSCOPE VARIO + Kowa Eyepiece Ring)
Fits any phone — ideal if you change devices often.
Works with the push-on Kowa eyepiece rings.
Slightly more setup time, but much better long-term flexibility.

Big advantage: Lets you choose which camera lens on your phone to use — e.g. the 2× lens for extra telephoto power.

A Kowa eyepiece ring is used to connect a smartphone adapter to the spotting scope eyepiece. Some 3rd party adapters include a friction controlled adjustable eyepiece attachment to fit a variety of eyepiece sizes.

4. Understanding Focal Lengths

To approximate your photographic focal length when digiscoping with a phone:

Phone camera focal length × Scope eyepiece zoom =
Effective focal length

Example:
Phone lens =22 mm
Eyepiece zoom =25×
→ 22 × 25 = 550 mm (equivalent focal length)

To convert that into magnification power compared to a 35mm ('full-frame') camera:

Effective focal length ÷ 35 mm = Digiscoping magnification
550 ÷ 35 =15.7×

Increasing the zoom on the scope's eyepiece boosts your effective focal length = tighter framing and more reach.

Example:
60x optical zoom on spotting scope
22mm focal length on camera lens
60x22 = 1320mm

Magnification = focal length divided by full frame equiv (35mm):
1320 / 35 = 37.7x magnification

5. Choosing Your Spotting Scope

Kowa PROMINAR scopes (pure fluorite crystal) provide exceptional clarity and contrast.

Larger objective lenses (e.g. 88 mm / 99 mm) gather more light → faster shutter speeds and better low-light shooting.

Compact models (50 mm / 55 mm) are ideal for travel and still offer superb performance.

Dual focus system = fast coarse focus + precise fine-focus - perfect for critical smartphone focusing.

Recommended Eyepieces

TE-11WZ (25–60× zoom): Wide-angle, versatile, perfect for digiscoping.

TE-80XW (35× ultra-wide): Zero vignetting and bright edge-to-edge image — popular with serious smartphone digiscopers.

6. What is Vignetting & How to Avoid It

Vignetting is when you see a black circular border on your photo. This happens when the phone's camera captures the outside of the eyepiece.

How to eliminate it:

Zoom the scope eyepiece up (optical zoom) until the circle disappears.

Switch from your phone's wide-angle lens to the telephoto lens (e.g. 2×) — this "looks past" the circle.

Avoid using digital zoom on the phone — it reduces image quality.

For best performance at lower magnifications → use the TE-80XW ultra-wide eyepiece (designed to minimise vignetting).

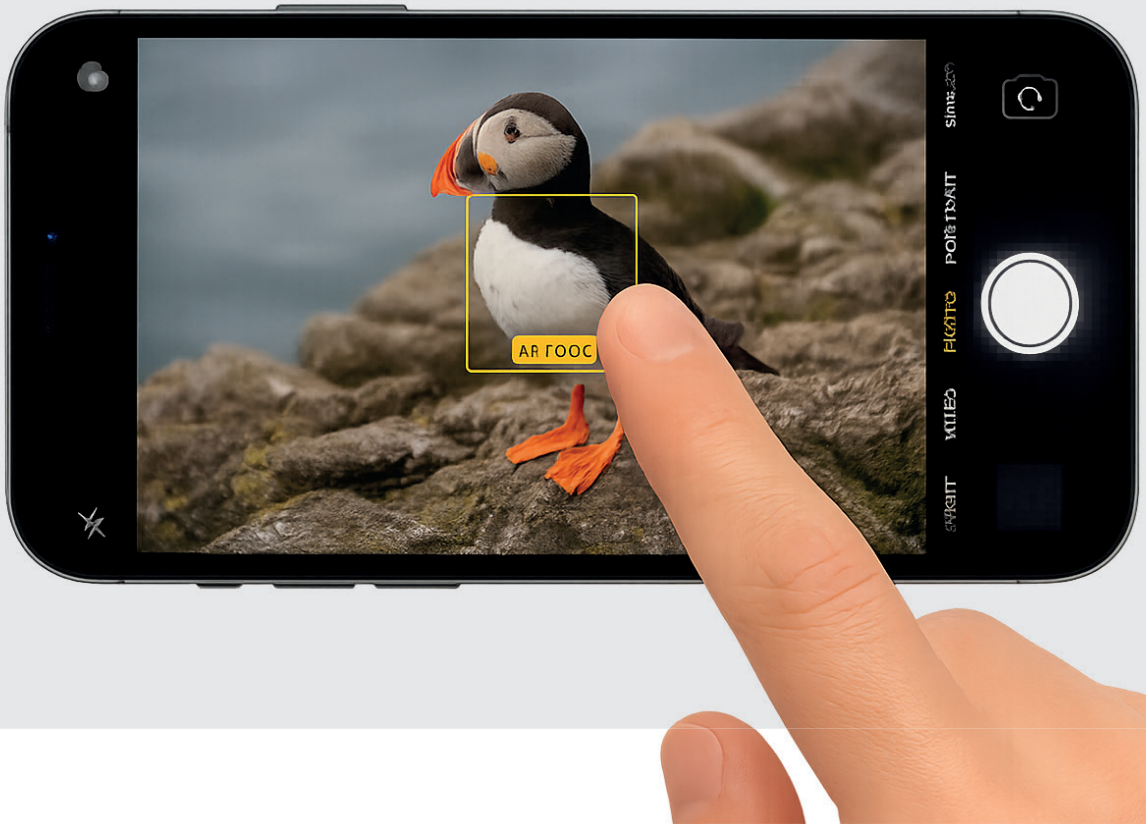
7. Helpful Techniques

- Manually focus the spotting scope, repeatedly check and adjust until tack-sharp.
- Try different camera apps that offer focus peaking / manual controls to improve accuracy.
- Zoom in on the phone screen (pinch-to-zoom) to check critical focus.
- Practice in your garden or local park before visiting your favourite bird hide or nature reserve and learn your phone's camera functions and get confident focusing the scope.

Top -Tip!

Lock focus & exposure on the phone before manually focusing the scope by holding your finger on the screen for a few seconds, this prevents the phone constantly 'hunting' for focus and allows you to focus more rapidly and accurate with the scope.

Once locked you can adjust the exposure up and down to expose the image correctly - particularity useful when photographing white birds such as gulls or terms.



8. Useful Accessories

Want to get serious about smartphone digiscoping or improve your chances of getting great images - consider these useful field accessories,

A remote shutter is perfect to help avoid motion bur - no need to disturb the smartphone by pressing the screen with your finger.

A loupe can help you confirm that the image is in focus - it magnifies the screen image and helps reduce glare from the sun.

Accessory	**Benefit**
Remote shutter release	Avoids touching phone, reduces the risk of motion blur = sharper images
External battery pack	Keeps the phone powered during long filming sessions
Screen loupe	Magnifies the phone screen & reduces glare making it easier to check focus
Tripod + fluid head	Essential for locating, tracking & stability

12. Useful Resources

There are many useful resources online to help you learn more about digiscoping with a smartphone - here are a few to get you started.

Visit the Tip Tower on our website as a useful information resource.

Visit our Youtube channel which is full of digiscoping inspiration and advice.

Follow our social media pages for advice and inspiration.