



Questar Field Ranger 3.5 (82010) Specification Sheet

The Questar Field Ranger is the ultimate spotting scope. From 20 feet to Infinity, for situations requiring long focal lengths, no other scope matches the Field Ranger's resolution and image contrast. As a telephoto lens, the Field Ranger is comparable in size to a 250mm f/2.8 lens, and weighs less than 2.6 pounds. The Field Ranger 3.5 is based on the acclaimed Questar Field Model design. The combination of unsurpassed optics with a simple and rugged design contributes to making it the ideal high-magnification field surveillance lens. The Field Ranger 3.5 is light, compact and well balanced. Its configuration makes it perfect for use with eyepieces, video, and night vision equipment. The Field Ranger has the rapid focus option that was developed primarily for the convenience of photographers. It providing a 2.3 times faster acquisition of a target. The Questar Field Ranger 3.5 includes the lens cap, basic camera coupling set, C-Mount video adapter and waterproof carrying case. There is room in the case for camera and other small accessories.



TYPE:	Maksutov Cassegrain Catadioptric. No coma, astigmatism or spherical aberrations.
CLEAR APERTURE:	3.5 inches, 89mm (Center Obscuration, 27.9mm)
FOCAL LENGTH:	Basic Video 50.5 inches, f/13.2, 1175mm
FOCAL LENGTH:	Visual with Image erector, 63 inches, f/16.5, 1475 mm
FOCAL LENGTH:	Camera with Ext. Tubes, 64 inches, f/18, 1600mm
POWERS:	Powers are eyepiece dependent and can range from 36x to 185x with Questar Brandon eyepieces
POWERS LIMIT:	Resolves 1 sec. Arc at 50" (1300mm) EFL
FIELD OF VIEW:	Photographic model, 1°30min, visual field of view 1.1° to .16°
LENS:	BK7, MgF ₂ coated, passes UV to 3300 A, IR to 1.5 micron
MIRROR:	F2, Pyrex®, Zerodur® or Quartz. AlSiO coated 3.800" (96mm) dia. (All Questars for UV or IR on special order)
SPECIAL COATINGS:	On special order, broad-band dielectric coating applied to the mirror, which increases its reflectivity. To both sides of front lens, a very low reflection coating is then applied which reduces the light loss at each surface to less than 1/10 of 1%. It transmits all frequencies of the visible spectrum and improves total light grasp by approximately 22%.
BARREL ASSEMBLY:	Barrel: forged aluminum, machined full length.
LENS CELL:	Aluminum 24S-T4, black anodized.
REAR CLOSURE PLATE:	Stainless steel CENTRAL TUBE - precision machining and alignment after assembly.
FOCUSING MECHANISM:	Mirror thimble, stainless steel sliding tube. Slides on stainless, fixed, light-baffle tube, with front-end insert tube of .010" wall thickness. Conical SS spring-loaded. Focus rod SS 303, ground shaft, 10-24 T.P.I. precision ground threads. ½" (13mm) Knurled Aluminum 24S-T4, corrosion-resistant, hand-turned on turret lathe.
FINISH:	Aluminum parts: anodized; Exterior surfaces: Polane T polyurethane

Dimensions:

Mounting:

Length with C Mount: 26.3 cm (10.35 inches)
 Length with Image Erector and 16mm EP: 30.6 cm (12.05 inches)
 Maximum Height: 14.0 cm (5.53 inches)
 Maximum Diameter: 10.8 cm (4.25 inches)

Case (outside) – ABS Plastic:

Length: 47 cm (18.5 inches)
 Depth: 37 cm (14.6 inches)
 Height: 14.5 cm (5.7 inches)

Weight:

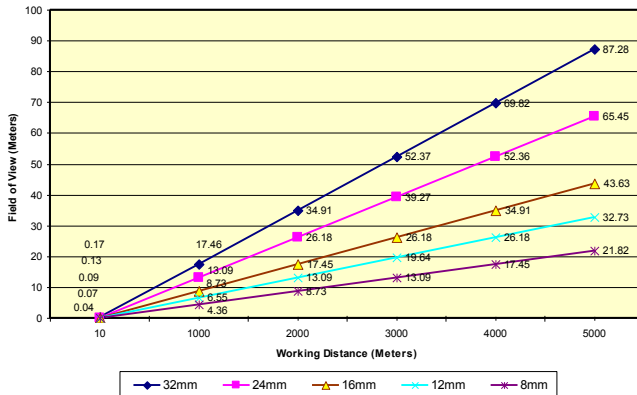
Bare Lens with C mount: 1.18 kg (2.6 lbs.)
 Lens with Image Erector and Eyepiece: 1.48 kg (3.25 lbs.)
 Standard package complete, In case: 4.9 kg (10.75 lbs.)

Eyepiece Magnifications:
 (1 1/4 type or Threaded)

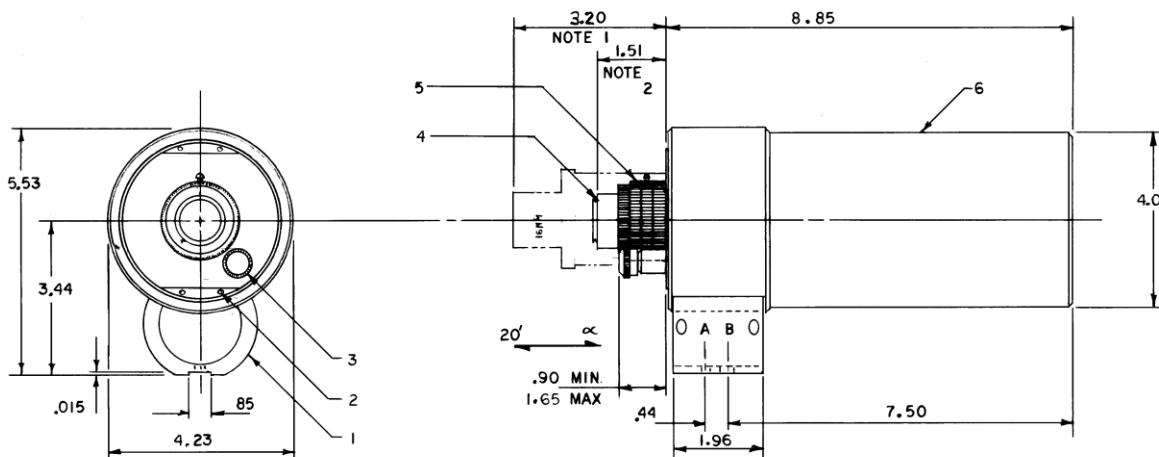
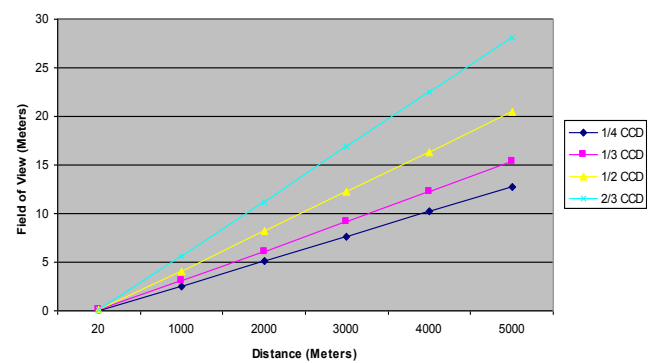
8 mm Questar	184 X
12 mm Brandon	123 X
16 mm Brandon	92 X
24 mm Brandon	61 X
32 mm Brandon	46 X

All magnifications calculated with Image Erector in place. Refer to Questar price lists for individual components or option packages to complement use. 2" type Eyepieces can be used, but will not adapt to an Image Erector.

Ranger 90 Eyepiece Field Size Chart



Ranger 90 CCD FOV



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