

Field Model

The Questar Field Model is the ultimate spotting scope. For situations requiring long focal lengths, no other scope matches the Field Model's resolution and image contrast. As a telephoto lens, the Field Model is comparable in size to a 250mm f/2.8 lens, and weighs less than 3 pounds. It has all the controls of the Standard 3.5, giving the observer 3 powers per eyepiece and giving the photographer a separate selectable port for the camera attachment. The Field Model is designed expressly for terrestrial observation and photography, yet when mounted on a pan head it can also be used successfully for sky observation.

It has the same optic and built in functional control elements as the astronomical units with

the exception of the astronomical mount and the moon and star chart barrel covers. The Field Model has the rapid focus option that was developed primarily for the convenience of photographers. It can also serve the wildlife observer by providing a 2.3 times faster acquisition of a target. This modification to the Field Model must be done at the factory. The Questar Field Model 3.5 includes the lens cap, 24mm eyepiece (53-80X), built in finder (4x), stardiagonal prism, Barlow lens for eyepiece port, blue anodized dewcap, basic camera coupling set, and waterproof carrying case. There is room in the case for camera and other small accessories.



Field Model

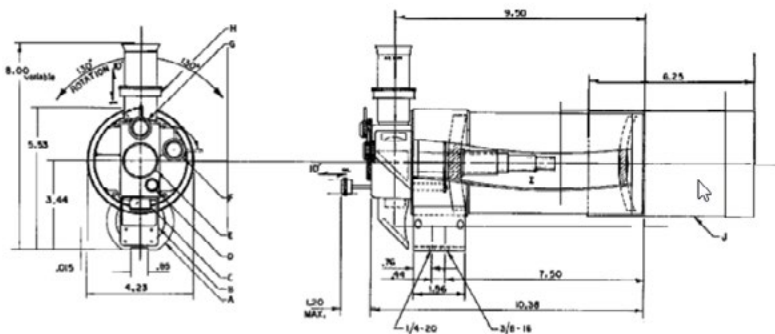
Questar Astronomy Telescope

Datasheet

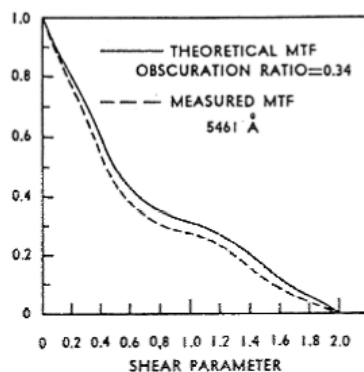


Technical data

Design type	Maksutov Cassegrain Catadioptric. No coma, astigmatism or spherical aberrations.
Clear Aperture	89 mm (Center Obscuration, 27.9 mm)
Focal length	Basic visual, 1300 mm Camera close, 1400 mm Camera with ext. tubes, 1600 mm
Finder lens	4" Fl., 4x, Field 12° with 24mm E/P
Powers	Powers are eyepiece dependent and can range from 40x to 270x with Questar Brandon eyepieces
Powers limit	Resolves 1 sec. Arc at 50feet EFL
Field of view	Photographic model, 1°30min, visual field of view 1.1° to .16°
Lens	BK7, MgF2 coated, passes UV to 3300 A, IR to 1 micron, parfocal
Mirror	F2, Pyrex®, Zerodur® or Quartz. AlSiO coated 3.800" dia. (All Questars for UV or IR on special order)
Special coating	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%
Eyepiece	24 mm Brandon, 45° ap. Field; optional eyepieces of 8mm, 12mm, 16mm, 32mm
Amplifying or barlow lens	Minus 43.9 mm FL
Erecting system	Star Diagonal type, 90° BK7, MgFL2 coated
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
Dewcap	Internally black-flocked Synthane seamless tube 1/32" thick, to which is bonded a pre-rolled aluminum sheet
Focus mechanism	Mirror thimble, stainless steel sliding tube. Slides on stainless, fixed, light-baffle tube, with frontend insert tube of .010" wall thickness. Conical ss spring-loaded. Focus rod ss 303, ground shaft, 56 T.P.I. precision ground threads
Knobs	Aluminum 24S-T4, corrosion-resistant, hand-turned on turret lathe, stainless steel shafts and levers



- A – TRIPOD MOUNT
- B – FINDER CAGE & MIRROR ASSEMBLY
- C – FINDER LENS
- D – MAIN SYSTEM FOCUS
- E – AXIAL PHOTOGRAPHIC PORT
- F – MAIN SYSTEM PRISM ACTUATION KNOB
- G – INTERNAL BARLOW ACTUATION KNOB
- H – DIOPTRER ADAPTER FINDER FOCUS, TOP PORT
- I – INTERNAL LENS & BAFFLE SYSTEM
- J – SLIDING DEW CAP/SUN SHIELD



TYPICAL MTF FOR
QUESTAR 3 1/2-INCH

Typical Questar 3 1/2 and Seven Modulation Transfer Function (MTF) as obtained with a shearing interferometer and expressed as a function of the shear parameter, S. To express the MTF as a function of the spatial frequency, R, in lines per millimeter, the following relationship can be used:

$$R = \frac{SD}{2\lambda f}$$

where S=shear parameter, λ = wavelength, f = focal length, and D = clear aperture.