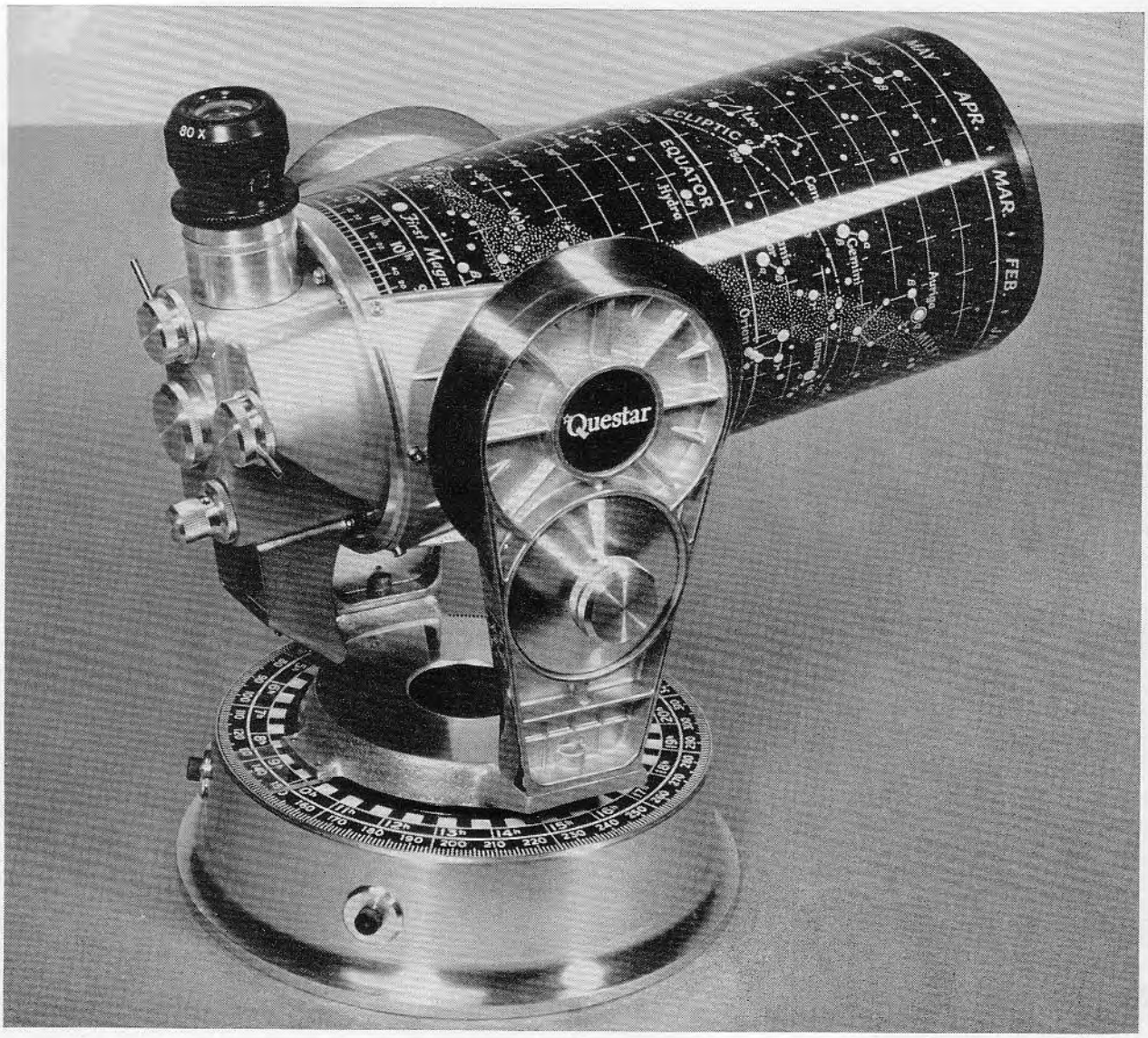

QUESTAR GUARANTEES 0.9-SEC. RESOLUTION

ON NATIONAL BUREAU OF STANDARDS TEST CHART. FINAL TEST RECORD AND CHART COMES WITH EVERY INSTRUMENT.

If telescopes are guaranteed at all, as they ought to be, they are usually guaranteed to equal their theoretical resolving power. For Questar's 3½-inch aperture the Dawes limit is 1.3 seconds of arc. Since nature seems to favor small apertures of some 3 to 5 inches, a telescope in this size range is poor indeed if it cannot meet its theoretical limit of resolution. It therefore seems to us that such a guarantee means little. Further, it puts the burden of proof entirely on the purchaser.

Absolutely tremorless and quiet air is essential to the testing of a telescope if you really want to know how well it will perform. When an instrument is tested on the night sky, the rays of light that reach it must traverse the earth's entire atmosphere. The least movement in the disc and ring system of a star image is evidence of atmospheric interference, as W. H. Pickering has pointed out. Bell tells of a famous English astronomer who "had seen but one first-class night in 15 years." One Questar owner observed for two years before a night of exceptionally fine seeing revealed his instrument's full capabilities. This all sounds discouraging, but we are speaking of not just good seeing, but of seeing that is perfect.

We can make our own perfect seeing by drastically shortening the air path through which we look to read the proper test chart, and this will demonstrate precisely the resolving power of a telescope in seconds of arc. The charts we use are purchased from the Bureau of Standards. They may be used outdoors in the quiet air of early morning or late afternoon at distances up to 300 feet, or even indoors at only 41 feet.

Here is a method of testing telescopes on which we can base a performance guarantee and at the same time furnish the simple means to prove it. We do not ask the novice to familiarize himself with star or planetary test objects, and then wait weeks or months for steady air to look through. The man who buys a Questar now may have room to test it indoors the very day it arrives, regardless of the wind or rain or cold of outside weather. He can duplicate our test himself; the chart will tell him at a glance whether his 3½-inch Questar resolves the 0.9 second of arc that we guarantee.

In going to the chart system, we only do what the Air Force and other photographic people have been doing for years. They have to know the exact quality of some very large and costly lens systems, and various kinds of charts and patterns for this purpose are in common use.

In consulting the experts at the Bureau of Standards on our special needs, they suggested that we use a chart which they make photographically on glossy paper, the smallest lines of which cannot be seen with the naked eye. The Bureau's recommendations for its proper use are embodied in the directions which we send with every chart.

The De Luxe Questar sells complete with all accessories at $995. The Field Model at $495 consists of the same major optics in a simple barrel without built-in auxiliary devices, with bracket casting for mounting on a panhead tripod, 40x eyepiece and choice of star diagonal or erecting prism. This model will accept 1¼-inch standard eyepieces.

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