

DYNAMAX[®]

a new way to look at things

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CSI



CRITERION SCIENTIFIC
INSTRUMENTS

A fabulous new multipurpose optical system

Presenting the power of professional-observatory optics, portably packaged in a fabulous new multipurpose optical system.

Presenting the Dynamax telescope by Criterion Scientific Instruments. It's a new way to look at things. Near or far. Visually or photographically.

The Dynamax is a direct descendant of the modern sky-mapping telescopes atop Mount Palomar in California.

It brings professional-quality astronomy down to Earth and puts it in a suitcase. It alters the very character of daytime observing.

The Dynamax features professional-size optics for brilliantly detailed images and breathtaking optical performance.

Visual Voyages: 10 Ft. to Infinity

You can use the Dynamax visually at up to 500 power or photographically at up to an incredible 1,074 power — from 10 feet to infinity.

The result: a powerful terrestrial telescope for studying the hidden worlds of nature or the daily pageant of human activity. Day or night.

And a professional-quality astronomical telescope for mind-bending views of our solar system, our galaxy and beyond.

The Dynamax features a Space-Age mirror-lens system that reflects its long, powerful optical path back and forth inside a compact, lightweight tube.

You'd need a classical telescope as tall as a man to match the power of the modern Dynamax. Yet this amazing instrument weighs only about as much as a portable typewriter and isn't much larger.

The Dynamax also replaces the classical telescope mounting with a fork mount that lets the tube swing down between the fork arms.

Futuristic Portability and Operation

The result: futuristic portability in a telescope you can rest beside you on the seat of your car or take along on a cross-country flight.

It's almost like having the universe in a suitcase.

The Dynamax also features a futuristic simplicity of operation. You can use the instrument at a moment's notice. There's nothing to setting it up or taking it down.

For general observing or casually sweeping the heavens, just rest the basic instrument on any flat surface, swing up the easy-point tube and focus. It's that simple.

For serious astronomy, star-locating setting circles let you dial celestial objects into the field of view, and a precision electric clock drive keeps them there automatically.

Even the 10-year-old in your family will find the Dynamax easy to use.

Endless Versatility

The optical features, portability and simplicity of operation of the Dynamax — coupled with the Dynamax System of photographic and visual accessories — make it a telescope of endless versatility.

Whether you're a casual observer, a nature enthusiast, a telephotographer, an educator, a student, a serious amateur astronomer or a scientist, you'll find you won't exhaust the possibilities of this optical system in a lifetime.

You'll find you have a truly professional, scientific instrument to explore the mysteries of the universe, and the mysteries of the nearest planet: Earth.

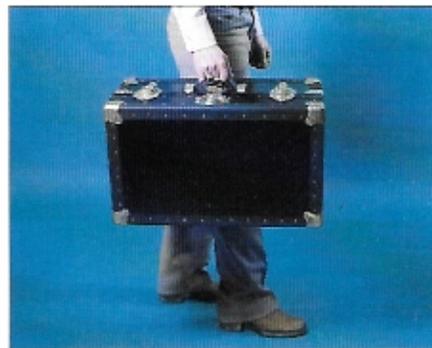
All in one incredibly easy-to-use instrument you can carry in one hand.

with the power of Palomar



Now, see the universe through your own professional-quality observatory telescope. Then turn its incredible power on the hidden worlds

around you. With the revolutionary new Dynamax. (Dx 6 shown.)



The Dynamax brings professional-quality astronomy down to Earth and puts it in a suitcase. (Dx 6 shown.)



Space-Age optics reflect the long optical path of the Dynamax back and forth inside a compact tube. (Dx 6 shown.)

For discovering the hidden worlds around you

Casual Observers, relax with the Dynamax. It's the perfect entertainment center for family and friends. It's ideal for sports events, outdoor concerts, conventions and campouts. At home, study the city skyline in breathtaking detail. On vacation, tour the cities of the world from your hotel balcony. See landmarks the way most tourists never see them.

Nature Enthusiasts, take a biology field trip from your back porch. Safari into inaccessible terrain from your campsite. The Dynamax gives brilliant images in subdued light, operates in total silence and follows rapid subject movements easily. Use it on your car hood or in a small blind. Observe without disrupting natural behavior patterns.

Stargazers, bring the universe into your own back yard. Attend star parties at remote sites. You'll be proud to find the Dynamax has many features that are much talked about. You'll also be able to take part in the joint amateur-professional observing programs and add to our knowledge of the universe.

Educators, add excitement, credibility and interest to your courses with the Dynamax. Show your students the mysteries of nature or the splendors of the night sky. Illustrate your lectures on architecture, engineering, geology, ecology or meteorology, too.

Because of the large, professional-quality optics of the Dynamax, even ordinary everyday objects are astonishing.

Everything you see is viewed from a new perspective: The Dynamax Perspective.

Subjects are brighter, sharper, more detailed, more saturated with color than if you were actually viewing them at the distance they appear to be.

The textures of the subjects — flower petals, butterfly wings, steel girders, stone walls, human faces — stand out in bold relief.

And the images are so bright and sharp, you're tempted to reach out and touch them.

Day or night.

Near or far.

The Beak of a Sparrow at 25 Ft.

At 25 feet, you can see the cracks in the beak of a sparrow, the scales on the wing of a bee or the iris muscles in an eye.

At 100 feet, you can almost feel the whiskers of a squirrel, the fur coat of a fox or the talons of a hawk.

At one mile, you can count the antlers on a deer, study the barnacles on a sounding whale or see the wind ripple the feathers of an eagle in flight.

Who knows what new secret of animal behavior you might discover with this powerful, observatory-quality telescope?

The Dust on a License Plate at 100 Ft.

At 25 feet, you can see the air bubbles in a drop of water, read the date on a dime or examine the imperfection of a typewritten character.

At 100 feet, you can see the dust on a license plate, a fingerprint on a light bulb or the dimples on a golf ball.

At 500 feet, you can see the treads on a tire, the grain in wooden plank or the rust on a bolt.

Whatever you look at, you see it from The Dynamax Perspective.

And whatever it is, it's almost like seeing it for the first time.

Faces at a Quarter of a Mile

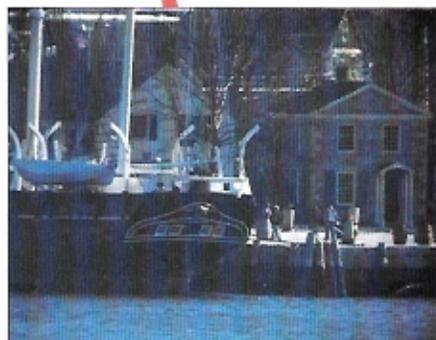
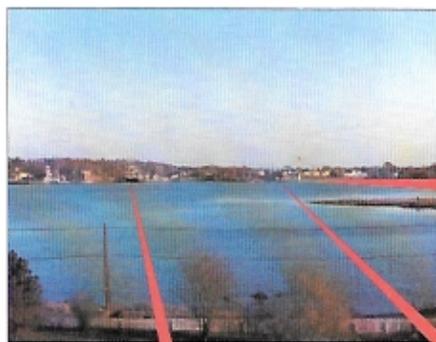
At a quarter of a mile, you can see the face of a pilot as he touches down, the face of a race-car driver as he rounds the turn or the face of a celebrity in outdoor concert.

At five miles, you can see shoppers on a crosstown bus, watch rush-hour traffic lights change in the next town or study the tops of buildings so tall they're usually seen only by helicopter pilots.

At 20 miles, you can count the cars in a freight train, watch an airliner retract its landing gear or study the superstructure of an oil-drilling platform far out to sea.

Day or night, near or far, the Dynamax is a source of endless viewing pleasures.

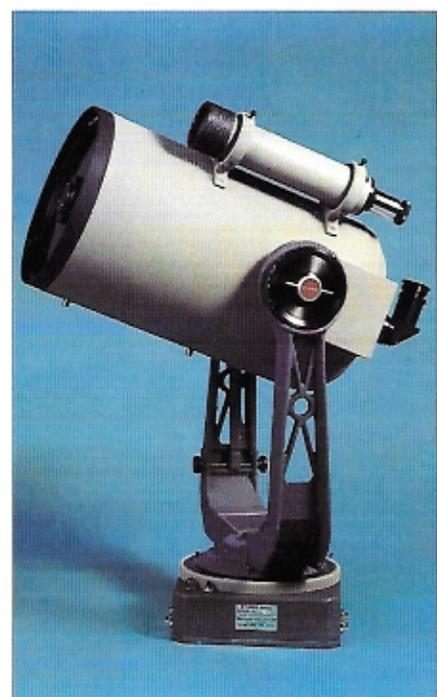
optics that produce images real enough to touch.



Historic Mystic Seaport in Connecticut, from 1½ miles away, photographed with standard 50mm camera lens (upper left) and with the Dynamax.



Notice the boat in the window of the souvenir shop. (Dx 6 photos, reproduced full-frame.)



For casual observing, just rest the Dynamax on any flat surface, swing up the tube and focus. It's that simple. (Dx 8 shown.)



The Dynamax Puts You There

In fact, with the Dynamax, viewing becomes an experience in itself.

You'll find yourself watching a robin build a nest in the tree across the street, and suddenly you'll wonder where the time went.

You'll take your telescope to the boat races to watch the crews work the far turn, and you'll come away feeling you were actually in the competition.

"Whatever your subject, you get so close you're no longer an observer. You're a participant."

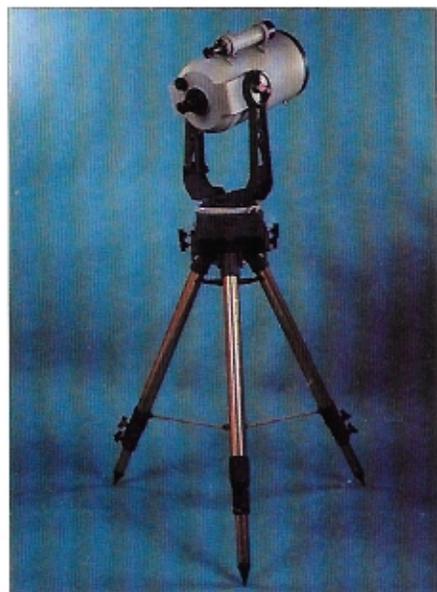
You'll set up your telescope and know the reason for those flashing red lights down the street while others are still wondering what's going on.

Whether the subject is wildlife, sports or the drama of a news story in the making, you get so close you're no longer an observer. You're a participant.

You're there. In the middle of the action.

Because the Dynamax puts you there.

NOTE: Because of the limitations of the printing process, the photographs in this catalog cannot reveal all the detail of the original transparencies. Your photos with the Dynamax will be even better than these. (All photos in this catalog are unretouched.)



The Dynamax mounted in alt-azimuth position on the Dynamax Field Tripod for ultra-stable terrestrial viewing or telephotography in the field. (Dx 8 shown.)



Hang gliders at 1,500 ft., photographed with standard 50mm camera lens (center) and with the Dynamax. With the Dynamax, action shots



like these are a snap. Note absence of light fall-off toward the corners. (Dx 8 photos, reproduced full-frame.)



New York, New York, photographed with standard 50mm camera lens (upper left) and with the Dynamax. The ferry, on its way to Staten Island, is one mile away; the Coast Guard tug is two miles away; and the Statue of Liberty is 2½ miles away. (Dx 6 photos, reproduced full-frame.)



The Apollo-Soyuz launch at Cape Kennedy, photographed from three miles away with standard 50mm camera lens (above) and with the Dynamax. The Saturn rocket is carrying U.S. astronauts to an orbital rendezvous with Soviet cosmonauts. (Dx 8 photo, reproduced full-frame.)



For pioneering the mysterious universe

Because of the incredible power of the Dynamax telescope, it transforms the starry night sky into a cosmic wonderland.

The Dynamax reaches far into deep space as no smaller telescope could ever do, plucking from the void images of objects so remote it would take us millions of years to reach them — even at the speed of light.

The Dynamax is a magic window on the universe. It makes professional-quality astronomy available to everyone.

Cosmic Encounters

Which is as it should be. Because astronomy is no longer the rarified science it once was. The people have reclaimed it.

Today, astronomy is a pastime for millions throughout the world, and interest in it is gaining ground rapidly. Today, people of every age, from every walk of life, meet under the stars and look up.

Because under the stars there is serenity and perspective. Because under the stars, you are in touch with creation and you can feel it. But most of all, because under the stars there is wonder.

Personalizes the Space Age

The Dynamax is your cosmic doorway to unexplored worlds. It is a telescope that says yes to Man's desire to reach out to the stars. It is a telescope that personalizes the Space Age — in form as well as function.

It is a telescope that will reward the imagination of advanced astronomer and beginner alike — that will inspire a lifetime of cosmic adventures. With it, you can pioneer the universe to your heart's content. You'll soon know our island universe of stars as well as you know your own back yard.

And who knows what discoveries you might make with this powerful observatory telescope?

The Moon and Beyond

Through the Dynamax, you'll see the Moon as you never believed possible.

You'll see craters, mountain ranges, valleys, canyons, plateaus and river-like rills — in intricate detail. You'll see craters within craters, chains of craters and the impact craters of giant meteorites, the debris from which stretches in rays across the entire face of the Moon.

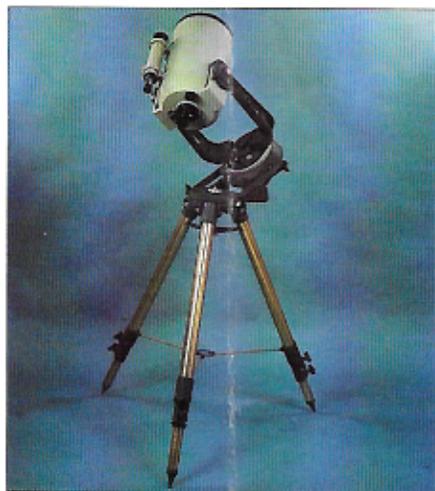
You'll study the terraces inside a crater, and watch the shadow of the crater's rim move across the crater floor. You'll see mountain peaks suddenly break into lunar sunrise. You'll see craters and mountains at the edge of the Moon towering into lunar space. You'll see stars and planets pass behind the Moon then re-emerge, or skirt the edge of the Moon blinking on and off.

You'll see the planet Venus travel through its Moon-like phases, and watch it grow larger or smaller as it advances toward or recedes from the Earth.



The Trifid Nebula, a cloud of glowing gas deep in our galaxy, is only one of the thousands of celestial showpieces within reach of the Dynamax. (Dx 8 photo.)

“Optics that turn the starry night sky into a cosmic wonderland.”



Just imagine yourself at the eyepiece of the Dynamax observatory telescope. You'll soon know our galaxy as well as your own back yard. (Dx 8 shown mounted equatorially on field tripod for serious astronomy.)

Clouds of Jupiter, Storms of Mars

You'll watch the multicolored cloud belts of Jupiter change position. You'll see the famous Red Spot — a 300-year-old atmospheric storm — rotate with the planet in the course of an evening.

You'll watch the Jovian moons change position as they orbit the planet. You'll see them cast their shadows onto the planet, or wink on and off as they pass through its giant shadow around the other side.

You'll see the red deserts, the pink seas and the white polar caps of Mars. You'll see the yellow dust storms that cloud the Red Planet.

The Furthest Planets

You'll see the golden rings of Saturn, perfectly divided and beautifully concentric, in orbit about the planet's globe — eerie testimony to the destruction of a former moon. You'll see the rings appear to open and close every eleven years as Saturn orbits the Sun.

You'll see the green disk of Uranus, the pale blue disk of Neptune, the point of light that is the planet Pluto — all moving from night to night against the starry background of our galaxy.

You'll see asteroids — specks of light roaming the outer reaches of our solar system. You'll see comets — expected and unexpected — their tails outstretched and diaphanous in the solar wind.

Celestial Glitter, Celestial Fire

You'll see variable stars that brighten and dim, in a few hours or a year, then repeat the process like clockwork. You'll see double-, triple-, quadruple-stars in orbit about each other or a common center of gravity.

You'll see exploded stars throwing off translucent shells of glowing gas — in the shapes of ovals, rings, corkscrews or simply soft splashes of light on the night sky.

You'll see star clusters of every size and shape scattered like diamonds, rubies, emeralds and sapphires against the velvet of night, or against the pale background glow of the most distant stars in our galaxy.

You'll see great assemblies of stars packed loosely into perfect spheres — each blazing with a thousand distinct points of light, each in orbit about the center of our galaxy and some so large it takes light a century to cross them.

You'll see wisps of cosmic dust silhouetted against great clouds of gases — clouds of gases deep in our galaxy, glowing with intricate filamentary detail.

Distant Galaxies, Faintly Glowing

You'll see distant galaxies, glowing faintly, the shapes of pinwheels, needles, teardrops — jeweled sojourners in the remotest depths of the universe.

You'll see galaxies large and small, alone and clustered, perfectly formed and misshapen by cataclysmic explosion.

You'll see the quasars, perhaps the strangest of all creatures in the dark menagerie of space. Only twice the size of our solar system, they seem to shine with the brilliance of 50 galaxies.

Literally thousands upon thousands of such wonders are within reach of the Dynamax.

Now you too can discover the mysteries of the universe. With your own professional-quality observatory telescope. Without ever having to leave your own back yard.

Now the stars truly belong to everyone.



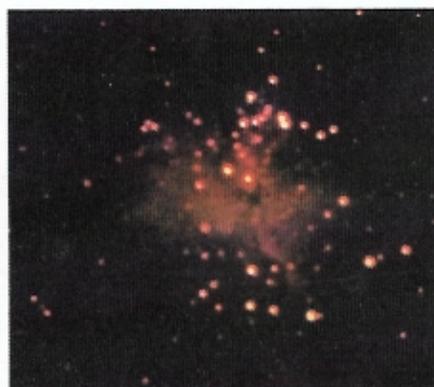
The Moon, scarred from eons of impacts by comets and giant meteorites, passes through first quarter.



The Triangulum Galaxy, a member of our own local cluster of galaxies, displays its curious symmetry.



The planet Jupiter, flattened by its enormous speed of rotation, roams the outer reaches of our solar system.



The Eagle Nebula, a gigantic star factory, basks in the glow of its newly formed suns.



The Dumbbell Nebula, the remains of an exploded star, floats hauntingly in the astronomical night.



The Orion Nebula blazes forth, as the dark side of the Earth faces the outer edge of our galaxy.



The Sombrero Galaxy, nearly a dozen times larger than our own, reveals its beauty edge-on.

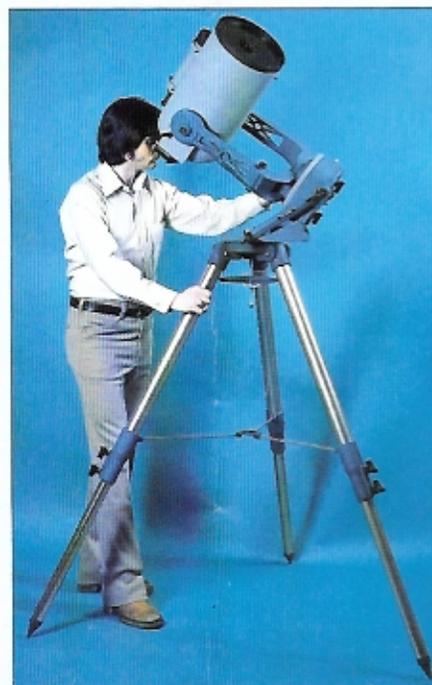
A Beginner's Gallery
Excellent as they are, all of these photos — except for the portrait of the Moon — were made with a standard Dynamax by an amateur during his first year as an astro-photographer. Except for the Omega Nebula, each object was photographed only once. No custom equipment was used. These photos, and many others throughout the catalog, represent what you too can achieve as a beginner. (Lunar portrait: Dx 6 photo; all others: Dx 8 photos.)



The Whirlpool Galaxy, viewed broadside, adorns the night sky with its delicate spiral structure.



The Omega Nebula — so large it takes light 500 years to cross it — drifts deep in interstellar space.



Now the stars truly belong to everyone. (Dx 8 shown on field tripod with legs fully extended.)



The Lagoon Nebula glows in the void, as the dark side of the Earth faces the center of our galaxy.

The ultimate in high-power photography

The Dynamax is a remarkable technical achievement. But coupled with the Dynamax System of photographic accessories, it becomes even more remarkable.

Because the Dynamax System extends the versatility of the Dynamax into the realm of photography.

With the Dynamax System, the Dynamax becomes

- a super-telephoto lens,
- a long-range microscopic camera,
- a lunar-and-planetary camera,
- a solar camera,
- a deep-space camera.

So what you can see, you can also photograph.

In fact, using the Dynamax as a deep-space camera, you can photograph things you can't see. Such as star clusters, nebulae or galaxies too faint for the eye to perceive.

You might say the Dynamax extends the range of human vision.

Telephotography Near or Far

The Dynamax is the ultimate in high-power terrestrial photography, whether the subject is near or far.

"You'll get dramatic candid, nature shots, sports shots whether the subject is 50 feet or a mile away."

Just couple your 35mm single-lens-reflex camera body, using our convenient photographic adapters, and click away at up to an incredible 1,074 power (53,700mm).

You'll get dramatic candid, nature shots, sports shots or human-interest portraits that just can't be achieved any other way — whether the subject is 50 feet away or a mile away. (See specifications.)

You'll get unbelievably sharp images from one edge of the frame to the other, and perfect color rendition without light fall-off toward the corners.

You'll also get resolution which exceeds that of even the finest-grain commercial films.

A Challenge for the Imagination

If you're an amateur photographer — or even a pro — you'll find the Dynamax challenges your imagination with its astonishing capabilities.

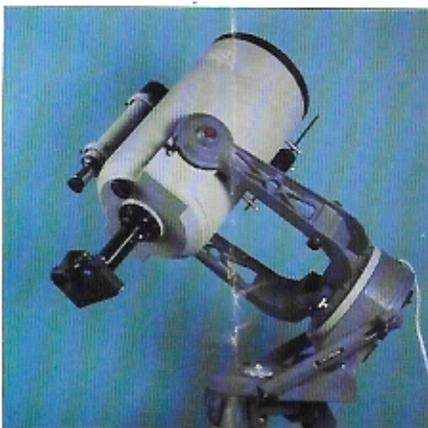
If you're a nature photographer, you'll find you can freeze the tenderness, the fury, the unexpected in the animal kingdom on film almost without trying.

If you're a sports photographer, you'll find you can underscore the power, the excitement and the grace of athletic competition with the Dynamax — and do it from surprising distances.

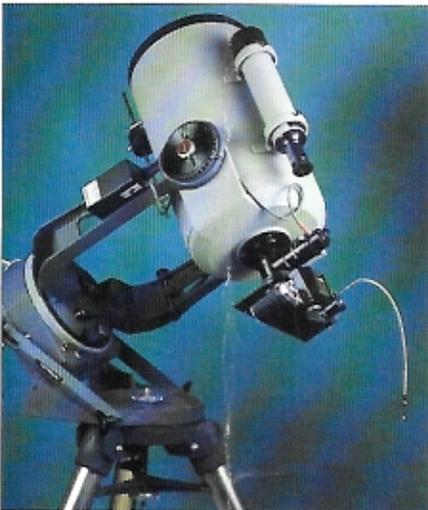
If you're a photojournalist, you'll find the optical characteristics of this super-long lens enhance the aesthetic quality and dramatic impact of your photoessays.

The Dynamax Set Up for Astrophotography

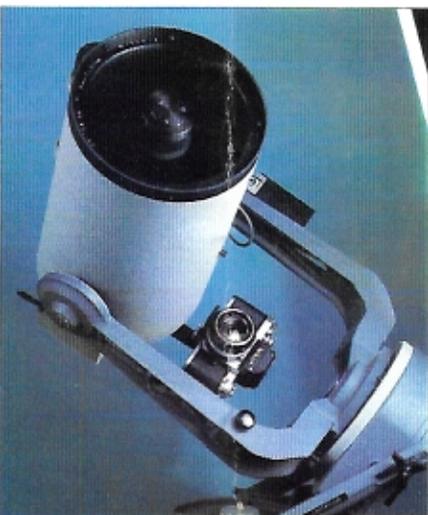
(See "The Dynamax System." Dx 8 shown in all photos.)



Eyepiece-Projection Tube coupled to the Dynamax for close-up photography of Moon, Sun and planets.



Off-Axis Guider and Illuminated Eyepiece coupled to the Dynamax for close-up photography of star clusters, nebulae and galaxies.



Paraxial Camera Mount attached to the Dynamax for ultra-wide-field astrophotography with standard or telephoto camera lens.

The Dynamax Perspective on Film

Whatever the subject, your photographs will show it from The Dynamax Perspective — a powerful perspective that transforms the ordinary into the extraordinary, and virtually forces originality into any composition.

Whatever the subject, you'll have a permanent record of it to re-live again and again.

You'll have a lasting expression of The Dynamax Perspective.

And you'll find it adds a new dimension to your slide shows, gallery showings or office decor.

(See "The Dynamax System.")

The Cosmic Camera

With the Dynamax System, you can also enter the specialized world of the lunar-and-planetary photographer.

You can enter the prestigious domain of the deep-space photographer.

Even if you've never used a telescope before.

You can take photographs of the Moon, Sun and planets with snapshot ease.

You can make time exposures of deep-space objects and reveal them in all their splendor.

You can photograph the stellar hues in star clusters. You can record the reds, yellows, blues and violets in glowing cosmic gases. You can capture the delicate silvers in remote galaxies.

Observatory-Quality Portraits

And your portraits will rival the beauty of those made at professional observatories.

In fact, the Dynamax can actually be expanded into an astrophotographic laboratory.

Then you can photograph whole sections of the Milky Way or record clusters of galaxies.

You can examine deep-space objects in different wavelengths of light.

You can photograph a deep-space object up close and capture its entire surrounding constellation at the same time.

All this and more, with the Dynamax System.

A system that brings professional-quality astrophotography down to Earth and puts it in your darkroom.

For Decoration or Discovery

As an astrophotographer, you'll be able to decorate your den or office with your own portraits of the universe.

You'll be able to prepare a gallery of astrophotographs well worth formal showing.

You'll be able to submit your photographs to magazines, or use them as illustrations for your own articles.

You'll be able to make your own atlas of the universe.

And who knows what discovery you might make while examining the photographs made with a professional-quality, observatory telescope like the Dynamax?

(See "The Dynamax System.")

The DYNAMAX it'll change your way



Jupiter's giant windstorm, the Great Red Spot, casts a baleful eye Earthward. (Dx 6 photo.)



Loops of hydrogen gas loom above the solar surface during an eclipse of the Sun. (Dx 8 photo.)



The rings of Saturn, shadowed by the planet's globe, display their concentric beauty. (Dx 6 photo.)



The craters Theophilus and Fracastorius brighten in the lunar dawn. (Dx 6 photo.)

The Dynamax Perspective.
It's visual. But it's also intellectual. And genuinely so.

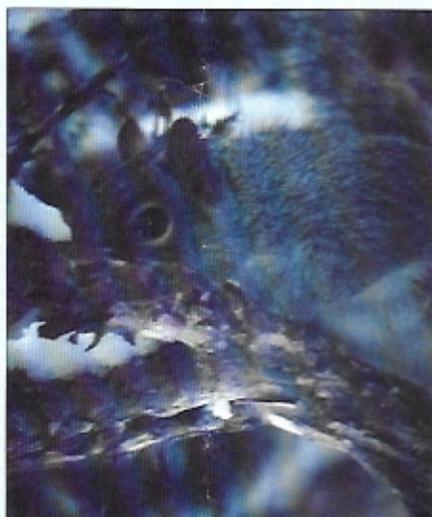
It elevates you to a higher plane of perception.

A plane where the doors of the mind are opened wide to the reality of the universe.

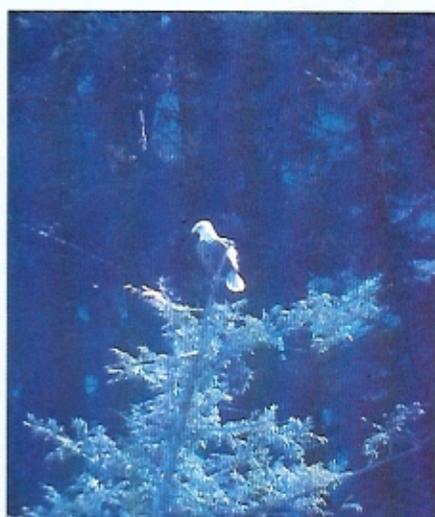
Not just the distant universe of stars and planets, but the nearby universe of everyday things as well.

Here on this plane, the evening star becomes the planet Jupiter, streaked with windswept clouds.

A speck of light in the north becomes a titanic sphere of a thousand glittering stars.



Squirrel in Winter Light
50 ft., Dx 6 photo

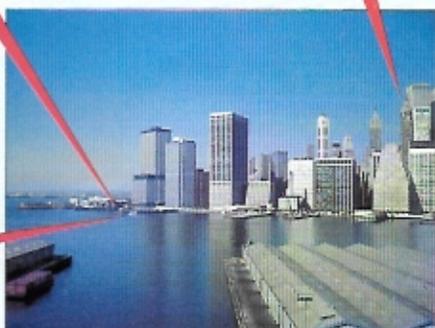
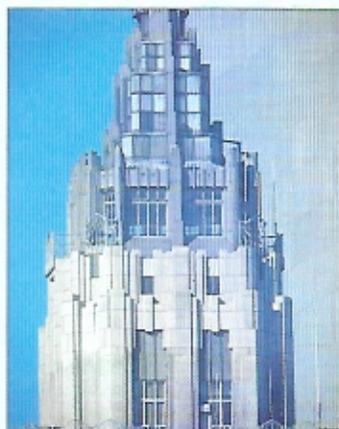


American Eagle at Dawn
½ mile, Dx 6 photo

Day or Night



New York Panorama
A view of Manhattan Island, looking across the East River from Brooklyn (Dx 6 photos, reproduced full-frame) 



Above: photo with standard 50mm camera lens. Clockwise from left, with the Dynamax: commuter seaplane at ½ mile, Coast Guard helicopter at ½ mile, skyscraper at ¼ mile.

PERSPECTIVE of looking at things

A faint glow in the south becomes a vast cloud of glowing gases, laced with intricate filamentary detail.

Here on this plane, what appears to be a piece of paper fluttering across a nearby lawn becomes a butterfly.

What appears to be a leaf on a tree becomes a katydid.



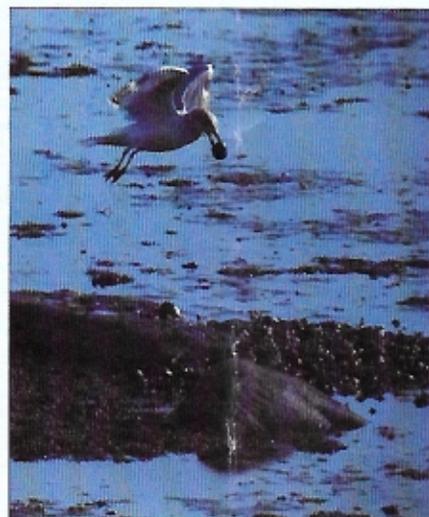
State Flower of Hawaii
20 ft., Dx 8 photo

What appears to be a log floating far out to sea becomes an otter dining on a clam.

Here on this plane, you have acquired the Dynamax Perspective.

You see the whole and its parts simultaneously.

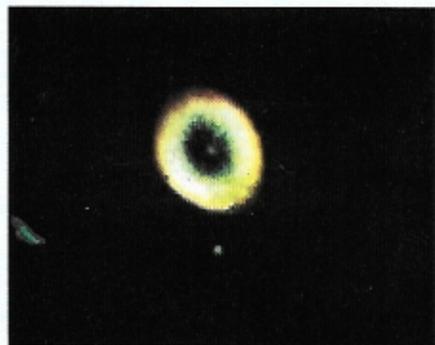
You see things as they really are — filled with the force of existence.



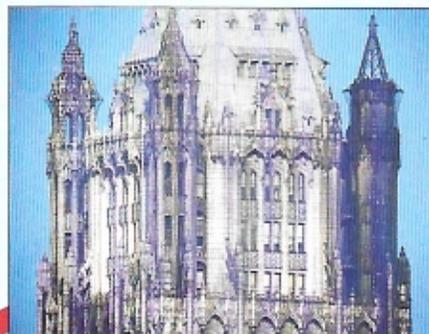
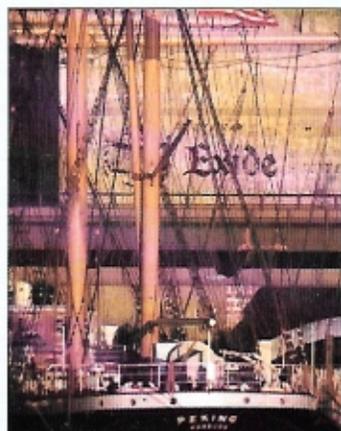
Seagull with Seafood Dinner
1,000 ft., Dx 6 photo



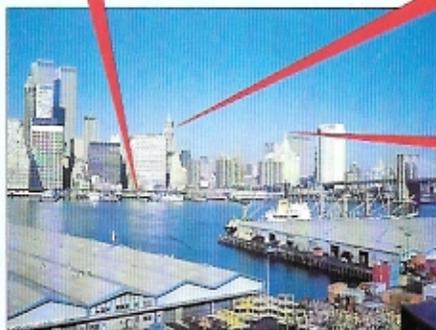
The shadow of the Earth darkens the lunar surface during an eclipse of the Moon. (Dx 8 photo.)



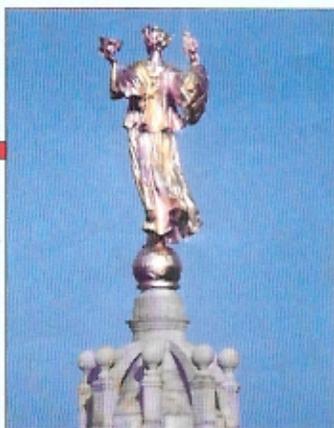
The Ring Nebula, oval remnant of a supernova, attests to the power of cosmic forces. (Dx 8 photo.)



Near or Far



Above: photo with standard 50mm camera lens. Counter-clockwise from right, with the Dynamax: statue atop the Municipal Building at one mile, the Woolworth Building at $\frac{3}{4}$ mile, a ship from the past at $\frac{1}{2}$ mile.



The Great Globular Cluster in Hercules, a spherical gathering of stars, glitters in the night. (Dx 8 photo.)



The Orion Nebula, veiled with celestial dust, glows majestically in the winter sky. (Dx 6 photo.)

The Large-Aperture Axiom

It is a law of optics, and common knowledge in the astronomical community, that the larger the optical diameter of a telescope, the greater its resolving and light-gathering powers.

Put simply, this means that *at the same magnification* a six-inch telescope will show you more detail than a five-inch or a four-inch, and the images will be brighter as well.

Specifically, between two instruments, relative resolving power is a ratio of apertures, and relative light-gathering power is a ratio of apertures squared.

In other words, *at the same power*, a six-inch telescope will show you twice as much detail as a three-inch and, in addition, the images will be four times as bright.

For this reason and others, a six-inch telescope is acknowledged to be the minimum size suitable for serious amateur astronomy.

The Dynamax telescope is available in two models: the Dynamax 6 and the Dynamax 8.



The size of the image of the Moon as it appears on film at Cassegrain focus with the Dx 6 (left) and with the Dx 8.

The Dynamax Telescope: Experience in Focus

For more than 35 years, Criterion Scientific Instruments has been proud to serve the astronomical community and the scientific community at large.

We have made more telescopes than any other telescope manufacturer in the country.

More professional astronomers have started out with a CSI telescope than with any other instrument.

For more than a generation, we have been meeting the needs of professional and amateur astronomers alike.

We have participated in lunar-landing projects. We have participated in programs to build airborne telescopes and military defense systems.

Our microscopes and microprojectors are in use at leading colleges and universities throughout the country.

Our special optics are used daily in microsurgery at major medical centers throughout the world.

We are constantly engaged in the design and production of a vast variety of optical instruments and components requiring the highest standards of precision.

This is the experience we bring to the design and production of the Dynamax telescope.

The result is a telescope that for the first time brings professional-quality astronomy down to Earth, and puts it in the hands of the people.

Available in



The Dynamax 6 (left), world's smallest six-inch telescope, and the Dynamax 8, a telescope for

those who take their astronomy seriously, with tubes swung down.

The Dynamax 6: World's Smallest Six-Inch Telescope

If you're just as interested in terrestrial observing or telephotography as you are in astronomy, the Dynamax 6 is your ideal choice.

The Dx 6 weighs only 15 lbs. and its size swung-down is an incredibly compact 9 in. x 10 in. x 20 in. — which makes it the smallest six-inch telescope in the world!

Because of its super-portability and compactness, this little giant is the perfect table-

top observatory, nature telescope or high-power spotting scope, with visual powers ranging from 30x to 360x.

And the Dx 6 is also an extraordinary super-telephoto lens, with photographic powers ranging from 30x (1,524mm) to 777x (38,828mm)!

Add to these features a close-focus capability of 10 ft., and you have the most versatile six-inch telescope ever made.

(See specifications.)

The Pride and Prestige of Dynamax Ownership

- Powerful, High-Resolution Optics
- Quality of Construction
- Simplicity of Operation
- Intelligence of Design
- One-Hand Portability
- Futuristic Elegance
- Endless Versatility — Visually or Photographically
- Lasting Value

No other telescope in the world has everything the Dynamax has.

Not one.

Little wonder then that the Dynamax has already won the recommendations of serious amateur astronomers and astronomy educators at leading universities across the country.

Or that the Dynamax is already in use at professional observatories around the world.

Little wonder that leading businessmen, celebrities, statesmen and ambassadors have already received the Dynamax as a gift.

Because the Dynamax is not only a high-performance optical system, it is also an instrument of distinctive quality.

We too are proud of the Dynamax. And we thought about how best to show it.

So we decided to do it with a warranty unprecedented in the history of telescope making.

We decided to give the Dynamax a warranty that means something. That's written so it can be understood.

We decided to give the Dynamax a warranty that protects the consumer rather than the manufacturer.

Examine the warranty. No other telescope manufacturer offers one like it.

two models



The Dynamax 6 (left) and the Dynamax 8, set up for casual observing. NOTE: Purchase price of

The Dynamax 8: A Professional-Quality Suitcase Observatory

If your interest lies mainly in astronomy, but you'd also like to look at or photograph the world around you from time to time, the Dynamax 8 is your telescope.

The Dx 8 has enormous resolving and light-gathering powers. It has 25% more resolving power than the Dx 6, and nearly 100% more light-gathering power.

Actually, because of its oversized primary mirror, the Dx 8 even has more power of illumination than other eight-inch telescopes. In fact, the *additional* mirror-surface area amounts to the light-gathering power of a two-inch telescope!

these fine instruments includes astronomical equatorial mounting. (See back cover.)

Also, the Dx 8 is equipped with a large 8-power, two-inch-diameter finder scope suitable for seeking out even the faintest celestial objects.

Here is a telescope designed expressly for those who take their astronomy seriously.

It has a visual power range of 40x to 500x, and a photographic power range of 40x (2,110mm) to 1,074x (53,700mm)!

It comes in a 28-lb. package that measures 12 in. x 13 in. x 24 in.

And it focuses down to 25 ft.

Which means that, should the spirit move you, you can also take your birdwatching seriously.

(See specifications.)

FULL ONE-YEAR WARRANTY

~~With No-Risk, 30-Day Free Trial Offer~~

And Additional Full 10-Year Clock-Drive Warranty

This warranty supersedes all others. It is effective from the date the product is received, and its provisions are transferable for the period of the warranty. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

NO-RISK, 30-DAY FREE TRIAL OFFER

If, within a period of 30 days, you are not completely satisfied with the Dynamax telescope, please contact Customer Relations Department for authorization to return the instrument to us and we will promptly refund your money in full.

FULL ONE-YEAR TELESCOPE AND ACCESSORY WARRANTY

The Dynamax telescope and all Dynamax accessories are warranted to be free from defects in materials and workmanship for a period of one year.

Further, barring defects in materials and workmanship, the optical system of the Dynamax, when properly tested, is warranted to:

- 1.) be diffraction-limited and equal or exceed all theoretical limits of definition and resolution.
- 2.) equal or surpass the overall optical performance of any comparable telescope, and

- 3.) surpass the overall optical performance of any telescope of smaller aperture.

FULL 10-YEAR CLOCK-DRIVE WARRANTY

The electric clock drive of the Dynamax is warranted to be free from defects in materials and workmanship for a period of 10 years.

If, during the warranty period specified, the Dynamax or any of its accessories fails to operate properly, or is found to be defective, return the product to us and we will repair or replace it, at our option, free of charge.

This warranty does not apply in cases of abuse, mishandling and unauthorized repair or modification by any person or company not associated with Criterion Scientific Instruments.

Return all products freight-prepaid to:

Criterion Scientific Instruments
620 Oakwood Avenue
West Hartford, CT 06110 Telephone (203) 247-1696

The Optical System of the Dynamax

The Dynamax is a Schmidt-Cassegrain telescope, which produces sharper images over a wider flat field than any other telescope (or telephoto lens) ever designed.

No other telescope in commercial production meets the optical specifications of the Dynamax.

At the front of the Dynamax is a large, zero-power lens. This lens, termed the corrector plate (A), eliminates spherical aberration without introducing coma.

At the back of the telescope is a larger element — a concave mirror with a circular perforation through its center. This mirror is termed the primary mirror (B).

Mounted at the center of the corrector is a smaller convex mirror facing the primary. This mirror, termed the secondary mirror (C), magnifies the image formed by the primary and reflects it to Cassegrain focus (D).



Optical Quality of the Dynamax

Dynamax telescopes are produced and assembled by the nation's finest optical craftsmen at the CSI optical laboratories in West Hartford, Conn., U.S.A.

After manufacture, the optical system of each Dynamax must pass performance tests far more demanding than the system will ever experience in actual use.

Criteria for these tests are established by the professional astronomical community, the Optical Society of America, the National Aeronautics and Space Administration and the Department of Defense.

Additional criteria are established by the National Bureau of Standards.

During testing, the optical system of the Dynamax is examined interferometrically with a neon-helium laser centered at 6328 Angstroms.

To pass inspection, the system must a.) clearly define the diffraction (Airy) disk, b.) produce intra- and extra-focal diffraction patterns of textbook quality, c.) demonstrate absolute radial symmetry, and d.) meet the Abbe-sine and Seidel conditions.

This extreme smoothness of figure combined with optical coatings accurate to 1/250th of a wavelength of sodium light assures the ultimate in optical performance.

As a result, the Dynamax is guaranteed to equal or exceed all theoretical limits of definition and resolution, and to equal or surpass the performance of any other comparable telescope.

Futuristic elegance and

Mark Twain once said that you can't throw enough style into a miracle.

We agree.

It's one thing to bring professional-quality astronomy down to Earth. But it's another thing to do it in style. And that's what the Dynamax does.

A Model of Excellence

From its chrome-plated brass controls, through its weather-resistant baked-enamel finish, to its black-anodized micro-polished surfaces, the Dynamax offers quality of construction throughout.

Where other manufacturers are content to paint the numbers on their setting circles, we engrave ours.

Where others are content to knurl their controls, we scallop ours.

Where others give you a small finder scope with spyglass-quality optics, we give you a large one with observatory-quality optics.

Where others give you ordinary eyepieces with your telescope, we give you high-acuity Symmetrical eyepieces of Plossl quality.

In appearance, the Dynamax speaks for itself. Nothing has been added on. Everything has been designed in from the start. Bolts are concealed. Screws are recessed. There's no distracting hardware to mar the cosmetic appearance of the instrument.

From top to bottom, the Dynamax is a model of excellence.

"Inside and out, the Dynamax is the perfect expression of excellence — by design. Because we not only build our telescopes, we also use them."

Excellence by Design

Inside and out, the Dynamax is the perfect expression of excellence — by design.

Because we not only build our telescopes, we also use them.

That's why the Dynamax has setting circles that can be read from the observer's position.

That's why the Dynamax has sturdy inside-stress-cantilever fork arms that are solidly vibration-resistant yet also permit you to mount your accessories conveniently.

That's why the Dynamax has an on-off switch and a pilot light for the clock drive. A simple matter. But what other telescope of comparable size has them?

With the Dynamax, there's no fumbling around in the dark to turn on the clock drive. You just push a button.

With the Dynamax, there's no fumbling around for this or that special tool. Because the Dynamax requires no tools to operate.

And these are among the least of the advanced features the Dynamax offers.

THE DYNAMAX DIFFERENCE

Most of the features shown here are available *only* with the Dynamax. These features are described in greater detail under specifications on the back cover.

Other features of the Dynamax are also described in the specifications. Some of these features are available with other telescopes; some are not.

If you're in doubt whether any other telescope has the features offered by the Dynamax, ask *before* you buy.

Then compare features side by side.

And subtract the features offered by the other telescope from the features offered by the Dynamax.

The result is the difference between simply owning a telescope and owning a Dynamax.

The result is The Dynamax Difference.

Compare the features offered by the Dynamax with those offered by any other telescope:

1 OPTICAL TUBE ASSEMBLY

True Schmidt-Cassegrain optical components and configuration. Sharper images over a wider flat field than any other type of telescope (or telephoto lens) ever designed.

• True Schmidt Corrector Plate.

Aspheric front surface, plano back surface. Eliminates spherical aberration without introducing coma, ghosts or spurious color.

• Oversized Primary Mirror (fully baffled).

Primary oversized with respect to corrector diameter. Prevents light fall-off, as well as coma, at edge of field.

• Precision-Figured Secondary Mirror (fully baffled).

Assures optimum edge-of-field and total-system performance.



The Revolutionary Dynamax Telescope (Model shown: The Dynamax 6)

intelligence of design

- **Ball-Bearing Mounted Secondary Mirror.** Lightweight bearing assures retention of optical centering. Assures rapid collimation without lateral shift of secondary mounting.

② MECHANICAL TUBE ASSEMBLY

Compact, closed-tube design. Rugged phenolic-resin-laminate barrel, thermally and dimensionally stable — even with extreme temperature changes. A telescope for all seasons.

- **Compact Tube.** Ease of telescope point. Resists wind and mechanical vibrations. (Proof that sometimes less is more.)
- **Closed Tube.** Corrector closes tube to image-degrading air currents and airborne contaminants that can damage mirror surfaces.
- **Strength and Durability.** Rugged, all-weather phenolic-resin-laminate tube. Won't warp, crack, shrink or sag like fiberglass; resists denting better than aluminum. Type tube military fires rockets from.
- **Dimensional Stability.** Tube won't expand or contract like metal — even with the most extreme changes in temperature. Prevents shifts in focus. Assures retention of optical configuration.
- **Thermal Stability.** Tube won't conduct heat or cold like metal. Guards against image-degrading thermal currents caused by differences in temperature between inner and outer tube walls.
- **Oversized Tube Diameter.** Tube oversized with respect to diameters of corrector and primary. Visually eliminates any residual inner-wall thermal currents.
- **Rapid Thermal Acclimation.** Corrector, geometry of rear-cell casting provide rapid thermal acclimation during pre-observing set-up.

③ FINDER SCOPE

Large 8 x 50mm standard with Dynamax 8. Permits easy visual location of the fainter star clusters, nebulae, galaxies.

④ FOCUS

Precision-threaded-and-centered micrometer. Steel in brass. Slides primary along primary baffle tube *via* dual land bearings. Image remains laterally stable.

⑤ EYEPIECE ADAPTER

⑥ STAR DIAGONAL

⑦ EYEPIECE

Like all eyepieces supplied with the Dynamax, Symmetrical of Plossl quality. Fully achromatized. Brass barrel. Precision-threaded for conventional filters.

⑧ FORK MOUNT

Sand-cast, easy-point fork mount with inside-stress-cantilever fork arms. Rock-solid, durable. Conveniently accepts accessories. A mounting worthy of the optics it supports.

- **Sand-Cast Construction.** Thickset base and arms sand-cast from aircraft-quality aluminum. Eliminates thin-wall, die-cast jitters. Damps vibration rapidly.
- **Inside-Stress-Cantilever Fork Arms.** Fork arms feature inside-stress-cantilever design, one of strongest open-air forms known. Directs thrust to critical support points. Permits convenient fork-mounting of accessories.
- **Ball-Bearing-Supported Tube.** Mechanical tube assembly supported with Nice-brand thrust ball bearing in Dec. housing. Provides satin-smooth rotation of tube without wobble, play or slump.
- **Omni-Point Tube Rotation.** Tube assembly 360°-rotatable around R.A. and Dec. axes simultaneously. Permits rapid acquisition of subjects with fingertip ease — regardless of subject location.

⑨ SETTING CIRCLES

Precision-calibrated star-locating circles with vernier scales, both readable from observer's position. Translate star-atlas coordinates into telescope point automatically.

- **Single Dec. Circle.** Eliminates double-circle correlations. Solid-aluminum, half-inch-thick wheel. Precision-turned-and-engraved. Fully hand-adjustable; won't warp. Graduated to one degree of arc. Readable to ¼° using vernier.
- **Multipurpose R.A. Circle.** Precision-calibrated aluminum annulus. Clock-driven and manually adjustable. Graduated to one degree and also to four minutes of R.A. Permits use of Dynamax as true alt-azimuth telescope as well as equatorial telescope. Using vernier, readable to one minute of R.A. or ¼° of arc.

⑩ SLOW-MOTION CONTROLS

Provide precise centering of subject in field of view vertically or horizontally. Manual operation permits use with or without clock drive.

- **Dec. Slow-Motion.** Dual knobs — one on each side of fork arm — assure control is always readily accessible. Fine displacement rate: ¼° of arc each turn of knob.
- **R.A. Slow-Motion.** Pinion radially adjustable with respect to R.A. slow-motion gear. Adapts control to observer's touch. Slewing displacement rate: one hour of R.A. each turn of knob.

⑪ DEC. BRAKE

Friction type. Large, easy-clamp lever locks tube position vertically. Engages or disengages fully at a touch.

⑫ R.A. BRAKE

Lever-activated nylon-tip screw. Wear-resistant. Locks fork mount (and tube) position horizontally. When engaged with clock drive on, causes telescope to track.

⑬ ACCU-AXIS POLAR HOUSING

Precision-balanced fork base, with large, metallurgically compatible polar axle and bearings. Assures silk-smooth rotation of fork mount about R.A. axis without wobble or play — even in harshest climates.

- **R.A. Brake Counterthrust Support.** Wear-resistant nylon-tip support 180° from R.A. brake provides added braking power when R.A. brake is engaged.
- **Large Polar Axle.** Oversized, hardened-steel shaft. Vibration-resistant. Axial Deformation Limit: 10 tons. Assures ultimate mechanical stability.
- **Heavy-Duty Ball Bearings.** Main Support Bearing: Half-pound, self-centering Sealmaster ball bearing. Equatorial-tilt Support Bearing: Timken tapered roller ball bearing. Both pre-loaded.
- **Compatible Axle-and-Bearing Metals.** Axle: hardened steel. Bearing races: hardened steel. Eliminates differential expansion, and rotational irregularities, due to changes in temperature.

⑭ ELECTRIC CLOCK DRIVE

Large sidereal clockwork, coupled with polar axle and bearings, compensates for Earth's rotation under stars; keeps celestial objects centered in field of view. Five gears, two synchronous motors. Observatory-grade. System assembled with Swiss-watch precision.

- **Continuous-Feed Gear Train.** Chamfered teeth for sustained contact. Eccentrically located slant-thrust motors for uniform power transmission. Periodic error: virtually zero.
- **Fully Enclosed Drive Housing.** Protects gear train from dust, dirt, and moisture. Guards against electrical hazard.

⑮ CLOCK-DRIVE SWITCH

Conveniently activates or deactivates drive motors with the push of a button.

⑯ CLOCK-DRIVE PILOT LIGHT

Conveniently tells at a glance when drive motors are operating.

⑰ CLOCK-DRIVE CORD

Permanently installed. Cannot be misplaced or forgotten.

NOTE: The terms "R.A." and "Dec." are sometimes used to describe various parts of the Dynamax. These terms are abbreviations for "Right Ascension" and "Declination." Right Ascension is the astronomical term for the east-west direction in the sky. Declination is the term for the north-south direction.

The DYNAMAX System:

Accessories shown here are available optionally for visual or photographic use. For photography, a 35mm single-lens reflex camera or camera body is required.

Some accessories must be used in conjunction with other accessories. To determine your needs for a given type of photography, read the first part of each accessory description.

Dynamax accessories are manufactured from the highest-quality materials, to the same exacting standards applied to the Dynamax itself. All product photos in this and other sections of this catalog are unretouched.

NOTE: Accessories for each model of the Dynamax are completely interchangeable. Should you decide to move up to the Dynamax 8, accessories purchased for the Dynamax 6 retain their value.

Eyepieces. Required for observing; ultra-high-power terrestrial photography; close-up lunar and planetary photography; and close-up solar photography (with Sun filter).

Eyepieces are used to vary the magnification power of your telescope. CSI eyepieces range in type from our standard high-acuity Symmetricals to our 8.3-21 mm Zoom Orthoscopic.

See our price list for the types of eyepieces available from us, and for the types of eyepieces supplied with the Dynamax.

Special Optical Coatings. Recommended for critical low-light observations or photography.

The mirrors of the Dynamax are Al/SiO-coated for maximum light reflectivity. For greater overall transmission through the corrector plate, we offer MgF₂ coatings on both surfaces of the plate. These coatings reduce the light loss of this element by 50%.

Barlow Lens. Recommended for high-power observing.

To double the power of any eyepiece, we offer the famous CSI 2x Barlow Lens, a negative achromat precision-centered in a barrel housing machined to "pop-tight" tolerance.

The CSI Barlow has been praised by professional astronomers as perhaps the finest ever offered.

Porro Prism. Recommended for terrestrial observing.

To maximize the light-gathering power of the Dynamax, a minimum of optical elements is employed. As a result, the Cassegrain-focus image is upside down and backwards. The star diagonal supplied with this telescope inverts this image but leaves it backwards. The Porro Prism inverts the image and gives it true left-to-right orientation as well.

Straight-through viewing device. Mounts into Eyepiece Adapter. Set-screw eyepiece clamp.

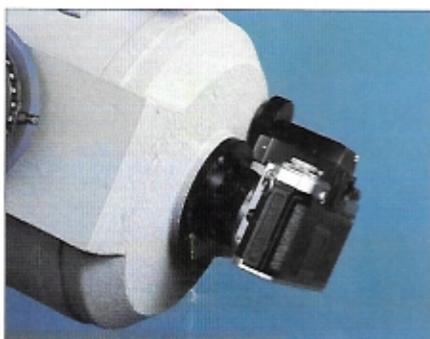
Cassegrain-Focus Adapter (T-Camera Adapter). Required for terrestrial photography; wide-field lunar and planetary photography; and wide-field solar photography (with Sun filter).



Eyepieces and (far right) Barlow Lens



Porro Prism



Cassegrain-Focus Adapter

Couples your 35mm camera body and Universal T-Thread Adapter Ring to the Dynamax.

For telephotography; full-disk lunar and solar photography; and small-scale planetary photography. Photographic magnification: 30x with Dx 6; 40x with Dx 8. Slip ring permits vertical or horizontal format for 35mm photography.

Universal T-Thread Adapter Ring (T-Camera Ring.) Required for any type of through-the-telescope photography.

Specify your brand of camera. See price list for those available from us. Couples camera body to Cassegrain-Focus Adapter, Eyepiece-Projection Tube or Off-Axis Guider.

Eyepiece-Projection Tube (Tele-Extender). Required for ultra-high-power terrestrial photography; close-up lunar and planetary photography; and close-up solar photography (with Sun filter).

Threads onto Eyepiece Adapter fitted with eyepiece. Permits projection of highly magnified image onto film plane. Selection of eyepiece determines photographic magnification and F/number. (See specifications for range of powers possible.)

Counterweight Set. Required for close-up lunar and planetary photography, and for close-up solar photography (with Sun filter). Recommended for wide-field deep-space photography with Paraxial Camera Mount, and for close-up deep-space photography.

Dynamic-action bar and sliding weight attach to counterweight stations pre-installed in tube of Dynamax. Restores balance of fork assembly when photographic accessories are coupled to Dynamax. Assures precision operation of clock drive. (See page 7.)

Paraxial Camera Mount (Piggyback Camera Mount). Required for wide-field deep-space photography.

Right-angle mounting device with standard 1/4-20 camera mount. Couples to Dynamax ahead of Eyepiece Adapter or Off-Axis Guider. Rotatable.

Mounts camera-with-lens for wide-angle or telephoto time-exposures. Permits portraits of star fields, groups of nebulae or vast sections of Milky Way.

NOTE: Wide-field and close-up deep-space photography require time-exposures. These in turn require "guiding" your telescope, or making fine adjustments in telescope point to compensate for long-cycle image wander. These adjustments are made using the Dynamax Dec. slow-motion control, the Dynatracker Drive Corrector and the Illuminated Reticle Eyepiece.

Illuminated-Reticle Eyepiece. Required for wide-field and close-up deep-space photography. (Included with Off-Axis Guider.)

A 9 mm eyepiece with red-light cross-reticle. Variable-brightness control. Powered by four A-cell batteries. Power pack clips onto Dynamax fork arm.

Eyepiece slips into Eyepiece Adapter or star diagonal. In conjunction with drive corrector, permits acquisition of reference guidestar for guided time-exposures.

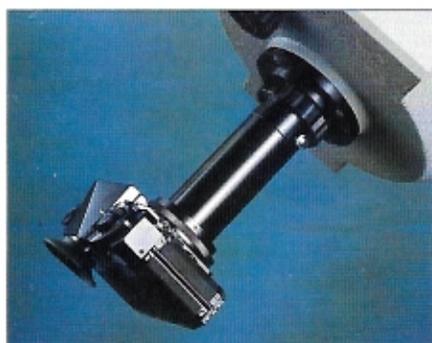
Off-Axis Guider. Required for close-up deep-space photography. (Includes Illuminated-Reticle Eyepiece.)

Couples your 35mm camera body and Universal T-Thread Adapter Ring to the Dynamax. Right-angle extension accepts illuminated eyepiece.

In conjunction with drive corrector, permits acquisition of guidestar through telescope optics for guided exposures of nebulae, star clusters and galaxies at Cassegrain focus.

Guider body rotatable. Patented manual shutter permits interruption of exposure to re-acquire guidestar if de-centered.

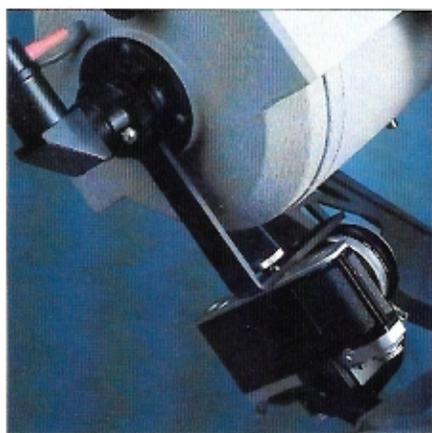
consider the possibilities



Eyepiece-Projection Tube



Focal Reducer



Paraxial Camera Mount



Dynamax Field Tripod set up with wedge in astronomical equatorial mode. The wedge, which need not be removed, folds down for alt-azimuth terrestrial use. (See page 4.)

Dynatracker Drive Corrector. Required for wide-field and close-up deep-space photography. Recommended for ultra-high-resolution lunar, solar or planetary photography.

Alters speed of motors to compensate for air turbulence, atmospheric refraction, power surges, etc. during guided time-exposures.

Alters speed of motors to compensate for different apparent motions of Moon, Sun and planets during lunar, solar or planetary photography.

Operates on house current or field power source such as car or motorcycle battery. Battery cables, cigarette-lighter adapter jack and AC extension cord included.

Solid state. Draws 110/120-V AC or 12-V DC. Frequency range: 40 to 81 Hz. AC power limit: 6 watts. DC power limit: 12 watts. Stability: 0.2. Power consumption: one amp/hr. All controls hand-held. Pulsing pilot light verifies correction rate. Temperature-insensitive construction.

Evaluated by professionals as probably the finest commercial drive corrector available.

Focal Reducer (Tele-Compressor). Recommended for close-up deep-space photography.

Observatory-quality, positive achromat. Mounts between Off-Axis Guider and Universal T-Thread Adapter.

Increases photographic speed of the Dynamax from F/10 to F/5. Yields F/10 image density in one-fourth the time.

Photographic power: 15x with Dx 6; 20x with Dx 8.

Includes extension tube for Illuminated-Reticule Eyepiece.

Field Tripod. Required for serious astronomy or astrophotography. Recommended for terrestrial observing or telephotography in the field.

In terms of construction, utility and versatility, the finest collapsible field tripod available to the astronomical community. Suitable for other telescopes.

Independently telescoping legs. The tripod adjusts to your height, not vice-versa. Use it comfortably seated or standing.

Ground-to-cyepiece height: 3' 6" with legs fully telescoped; 5' 3" with legs fully extended.

Adjustable legs also assure easy leveling even on unlevel ground. Bubble level factory-installed.

Multipurpose equatorial mount. Wedge type. Latitude-adjustment range: 0 to 90°. Wedge folds down for alt-az or terrestrial use. (See page 4.)

Easy polar alignment. 360°-rotatable azimuth adjustment table. Leg-twist fine latitude adjustment.

Rock-solid stability. Aircraft-quality aluminum sand castings. Thick two-inch-diameter, gold-anodized aluminum legs. Dual-knob leg locks. Six leg-tension struts. Ground-spike feet.

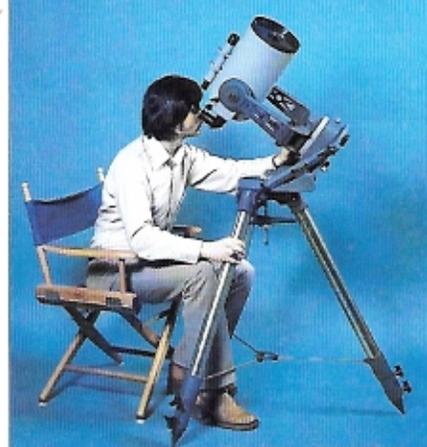
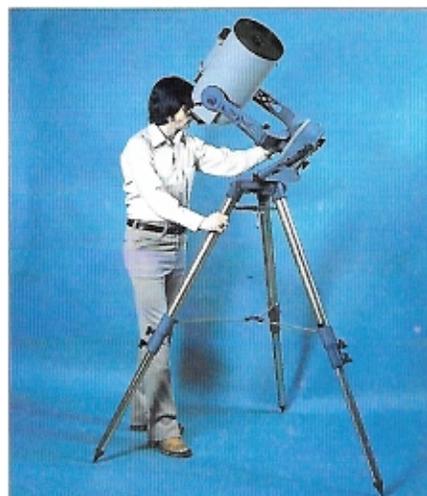
Wt.: 18 lbs. Includes vinyl zip-up carrying case with hand strap.



Off-Axis Guider and Illuminated Eyepiece



Dynatracker Drive Corrector



With its telescoping legs, the Dynamax Field Tripod eliminates back-breaking isometrics — seated or standing. (Dx 8 mounted with legs fully extended; Dx 6 mounted with legs fully telescoped.)

DYNAMAX 6 / DYNAMAX 8 Technical Specifications



Latitude-adjuster legs supplied with each Dynamax convert it into a complete astronomical telescope for tabletop use.

Optical Design. Compound catadioptric Schmidt-Cassegrain.

Front-Aperture Diameter. Dx 6: six inches, 152 mm; Dx 8: eight in., 203 mm.

Effective Focal Length. Dx 6: 60 in., 1,524 mm; Dx 8: 83 in.; 2,110 mm.

Visual Magnification Range. Dx 6: 30x to 360x; Dx 8: 40x to 500x.

Closest Focusing Distance. Dx 6: 10 ft.; Dx 8: 25 ft.

Resolving Power. (Dawes limit) Dx 6: 0.75 arc secs., 110 lines/mm; Dx 8: 0.5 arc secs., 110 lines/mm.

Faintest Star Visible. Dx 6: mag. 14; Dx 8: mag. 14.4.

Photographic Speed (Focal Ratio). F/10.

Image Scale. Dx 6: 1"/in; Dx 8: 0.72"/in.

Photographic Magnification at Cassegrain Focus. Dx 6: 30x; Dx 8: 40x.

Upper Photographic Magnification Range. (Using eyepiece projection; see "The Dynamax System.") Dx 6: 62x (3,099 mm) to 777x (38,828 mm); Dx 8: 85x (4,267 mm) to 1,074x (53,700 mm).

Illuminated Field. Dx 6: 2-in. diameter circle; Dx 8: 2.75-in. dia. circle.

Infrared Focus Compensation. None required with Schmidt-Cassegrain system.

Accessory Barrel Diameter. 1 1/4-in. OD. Eyepieces and accessories for Dx 6 and Dx 8 interchangeable.

Eyepieces. Symmetrical. Flint and crown. Precision-centered. Fully achromatized for C and F lines of spectrum. Brass barrel. Threaded for conventional filters. **Standard with Dx 6:** 30 mm, 50x, 0.79° true field; 18 mm, 84x, 0.47° **Standard with Dx 8:** 30 mm, 70x, 0.6° true field; 18 mm, 117x, 0.34; 12.7 mm, 166x, 0.24.

Prism Diagonal Eyepiece Adapter (Star Diagonal). For right-angle viewing. Diaphragmed. Set-screw type. Manufactured to "pop-tight" tolerance.

Corrector Plate. Crown glass. $N_d = 1.523$; $V = 58.6 \pm 0.5$. Transmits all frequencies of light in visible spectrum. Special coatings for UV and IR available on request. Figure: $y = x^4 - kx^2r^2$.

Primary Mirror. Composition: fine annealed Pyrex. Mirror-thimble tolerance: ± 0.0003 in., Class IV, zero allowance. **Dx 6:** 6.25-in. diameter; 22.875-in. R. **Dx 8:** 8.33-in. dia. 33.277-in. R.

Secondary Mirror. Composition: fine annealed Pyrex.

Amplification: 5x. Mounted on 5/16-in. chrome-plated steel ball bearing. **Dx 6:** 1 21/32-in. diameter; **Dx 8:** 2 3/16-in. dia. Secondary Housing: **Dx 6,** 2-in. dia.; **Dx 8,** 2.75-in. dia. Collimation adjustments protected by removable aluminum faceplate.

Optical Coatings. Mirrors: Al/SiO vacuum-deposited to scatter-free thickness of 1/10th-wave Na light, $\pm 1/250$ th wave. Silver available on request. Corrector: optional MgF₂ coatings on both surfaces reduce light loss of this element by 50%.

Tube Construction. Phenolic resin laminate. Fiber-sealed, smooth centerless ground. Axial compressive strength: 4,000 psi. Specific gravity: 0.95. Thermal coefficient of expansion: virtually zero. Wall thickness: 1/8th-in. **Dx 6 OD:** 7 1/4 in.; **Dx 8 OD:** 9 1/2 in.

Finder Scope. Micrometer diopter adjustment; ultra-fine crosshairs; diaphragmed; dew-cap; ring-grooved for mounting stability; brass eyepiece holder. **Dx 6:** 6 x 30 mm; 6° true field; **Dx 8:** 8 x 50 mm; 4°.

Focus. Internal micrometer. Advances primary mirror with respect to secondary. Activated with scalloped focus knob on rear-cell casting. Steel screw in threaded brass housing. 32 TPI. Precision-centered. Image remains laterally stable.

Casting and Extrusions. Castings molded in sand from rugged, vibration-resistant USCO-Sr-319.0 aircraft-quality aluminum. Extrusions: 6061-T6 aluminum alloy.

Fork Mounting. FORK ARMS: inside-stress-cantilever construction; individually gauged for precise perpendicularity to polar axis. DEC. HOUSING: precision-turned-and-bored aluminum hub; Nice-brand thrust ball bearing (0.75-in OD). DEC. BRAKE: friction-type; braking-surface diameter, 2-in. FORK BASE: toolroom-turned, jig-bored, precision-milled-and-reamed; 1/4-20 threaded tripod mounting holes. R.A. BRAKE: nylon-tip pressure screws. **BASE DIAMETER:** Dx 6, seven inches; Dx 8, nine inches.

Polar Axle and Bearings. AXLE: centerless ground 5/8-in. ± 0.0005 hardened-steel shaft; Type 1045, smooth-ground finish; 10-ton adl. BEARINGS: 1.85-in. OD self-centering Sealmaster ball bearing (South); 1.63-in. OD Timken tapered roller ball bearing (North). Both pre-loaded, permanently lubricated.



The Dynamax and Dynamax Field Tripod come complete with distinctive carrying cases. (Dx 6 shown.)

Electric Clock Drive. MOTORS: dual Synchros; 110-V, 60-Hz, 6 watts; permanently sealed and lubricated; slant-thrust installed. **Dx 6:** 0.75 rph; **Dx 8:** 1 rph. MAIN DRIVE GEAR/ R.A. GEAR: diametral pitch, 48; pressure angle, 14.5°; composition, steel. **Dx 6:** 4.5-in.-diameter spur; **Dx 8:** 6-in. dia. spur. Spur-to-pinion ratio: 32 to 1. Pinion composition: brass.

Slow-Motions. Manual, independent of drive. DEC.: tangent-arm type; threaded carriage advances over stainless-steel rod; dual-knob control; 1/4° of arc displacement each turn of knob. R.A.: pinion-type; radially adjustable; 360° rotation; one hour of R.A. displacement each turn of knob.

Setting Circles. Both readable from observer's position. DEC.: solid-aluminum wheel; hand-turned-and-engraved on precision indexing head; black-anodized, white-enamel filled; brass wing-knob adjustment; graduated in degrees; readable to 1/4° of arc with vernier; 4-in. diameter. R.A.: precision-calibrated aluminum annulus; direct reading; silver-on-black; graduated in degrees and 4-min. increments of R.A.; readable with vernier to 1/4° of arc or one minute of R.A. **Dx 6:** 6.5-in. dia.; **Dx 8:** 8-in. dia.

Complete Astronomical Telescope. Latitude-adjuster legs supplied to mount telescope equatorially. No hidden extras needed to use clock drive or setting circles.

Telescope Weight and Size Swung-Down. Dx 6: 15 lbs.; 9 in. x 10 in. x 20 in. Dx 8: 28 lbs.; 12 in. x 13 in. x 24 in.

Carrying-Case Dimensions and Telescope Shipping Weight. Dx 6: 11 in. x 13 in. x 23 in.; 30 lbs. Dx 8: 15 in. x 17 in. x 28 in.; 55 lbs.

Instruction Manual. Everything you need to know to become an amateur astronomer. Includes detailed instructions on astrophotography. 86 pp., 29 illus. Perfect bound. The most comprehensive commercial manual available.

NOTE: CSI reserves the right to make engineering, design or cosmetic modifications in the Dynamax telescope. While such modifications are not anticipated, they may be made from time to time without notification and without obligation to make the same modifications to instruments already in the field.



CRITERION SCIENTIFIC INSTRUMENTS
620 Oakwood Avenue
West Hartford, CT 06110
Telephone (203) 247-1696

TELESCOPE HOUSE
63 FARRINGTON ROAD
LONDON EC1M 3JB
01-405-2156