

# MARINE SEXTANTS

## THE ASTRA IIIB *Celestaire*

The frame is made from lightweight aluminum alloy which resists corrosion. Aluminum alloy is not new to sextant construction. It has long been used by many manufacturers for lightweight versions of their heavier brass or bronze sextants in order to reduce arm fatigue and unsteadiness among infrequent users. The sextant is electrically lighted by an LED on the arc and drum. The Astra IIIB is considered by many to be the easiest sextant to use. Its light weight and excellent balance makes it a pleasure to hold and makes sights easier to take under dynamic weather and sea conditions. Even reading the sextant is easier under low light conditions by having white degree marks against a black background as opposed to scribe marks on a brass arc.

We are impressed with the degree to which each component of the sextant is tested. For example, each mirror and shade glass is tested for perfect flatness by the Fresnel diffraction pattern method. The sextants are assembled and tested in a clean, professional, environment. Random units have been tested by us and several professional navigators, with results that rival the most expensive German and Japanese models.

### Features

The ability to quickly and economically change the type of horizon mirror is an attraction of this sextant to many navigators. This is because whole horizon mirrors are generally preferred by beginners who later may wish to change to a traditional mirror as proficiency is attained (see "Selecting A Marine Sextant" on the previous page).

Maintainability is appreciated by schools and other groups who because of heavy usage need inexpensive replacement parts due to the threat of student mishandling.

### Included and Optional Equipment

It comes in a varnished wooden case, with instruction book, certificate of accuracy, and adjusting wrench. Case external dimensions are 6.5 x 13 x 11 inches. It includes a 3.5x40 monocular telescope as standard equipment. Optional accessories include a 7x35 prism telescope, a slip-on rubber eyecup for use while wearing glasses, and a zero-magnification sight tube (see page 9). A practice bubble horizon (see page 11) is available which facilitates effective back-yard practice without the need for a sea horizon. Although the sextant comes with a choice of either whole horizon or traditional split horizon mirror, an extra mirror of either kind is available at nominal cost, and comes already mounted in its frame. Changing mirrors is done quickly by means of two easily manipulated screws.



## ASTRA IIIB

### Specifications

Arc	-5° + 130°, radius 153mm
Accuracy	± 20" throughout the arc
Micrometer Drum	1' scale, vernier reads to 0.2'
Horizon Mirror	51mm diameter
Index Mirrors	56x42mm
Shades	4 index, 3 horizon
Weight	2 lbs., 10 oz.

## THE ASTRA PROFESSIONAL *Celestaire*

Just as the Astra IIIB has become world famous as the premier low cost metal sextant, the Astra III Professional Model with its low cost, high accuracy, and excellent handling qualities is destined to be the standard for professional seamen.

Its construction is similar to the Tamaya sextants in that it has a bronze arc fused to an aluminum frame. The bronze arc can be manufactured to a higher tolerance than aluminum, which gives the sextant higher accuracy. At the same time the aluminum frame keeps the over-all weight low enough that fatigue is not a problem as with a solid bronze or brass sextant. Nevertheless, the additional weight of the bronze arc adds about 8 oz. and gives the instrument an excellent balance and "heft".

The handle is a new more comfortable design, and has an electrical outlet suitable for powering accessories. Except for the weight difference, accuracy, and handle improvement, it is exactly the same sextant as the basic Astra IIIB, and has all the attributes of it. These include thoroughly tested mirrors, maintainability, and the ability to quickly and economically change the horizon mirror type.



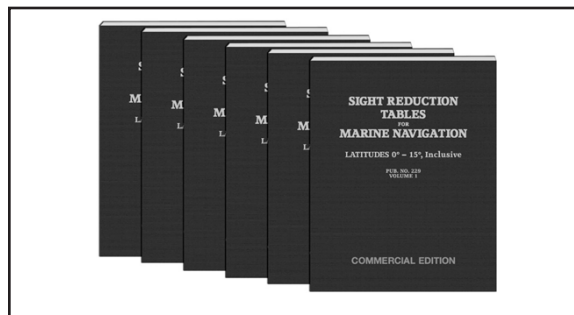
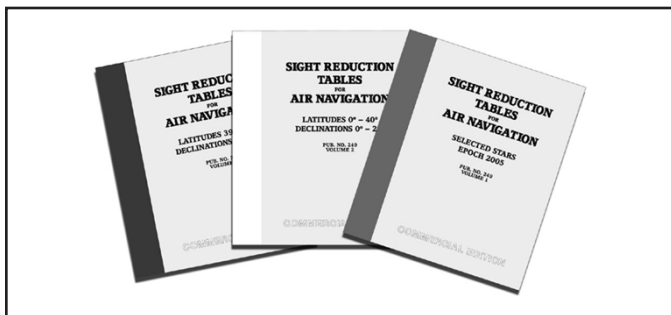
## THE ASTRA PROFESSIONAL

The sextant comes with a 3.5x40 telescope and wooden case as standard equipment. Optional items include a 7x35 telescope (see page 9), zero magnification sight tube (see page 9), a practice bubble horizon (see page 11) which facilitates effective back-yard practice without the need for a sea horizon, and a more expensive Professional Artificial Bubble Horizon. This provides a 2X power artificial horizon for use on land, or at sea if extremely calm conditions exist and the natural horizon is not visible. It connects to batteries in the handle for night lighting, and incorporates a dimming rheostat for use with faint stars. Shipping weight includes all accessories which are ordered from this page. SW 20 lbs.

### Specifications

Arc	-5° + 130°, radius 153mm
Accuracy	± 15" throughout the arc
Micrometer Drum	1' scale, vernier reads to 0.2'
Mirrors	56x42mm index, 51 mm horizon
Shades	4 index, 3 horizon
Weight	3 lbs., 2 oz.

# SIGHT REDUCTION



## SIGHT REDUCTION TABLES FOR AIR NAVIGATION Pub. No. 249 (HO-249) *Celestaire*

These tables were designed for air navigation where weight and space are at a premium, so the 6 volumes of Pub 229 were squeezed into only 3 volumes in this way: Pub 249 volumes 2 & 3 cover all latitudes, but work only for declinations from 0° to 29° north or south. This covers the sun, moon, planets, and some stars. Volume 1 contains ALL of the navigational stars for all latitudes but 7 stars are pre-selected for optimum viewing and direction. The drawback here is that if you observe a star that is not one of the selected ones, AND if its declination is more than 29°, you will not be able to reduce the sight!

However, Pub 249 is very popular with sailors due to the fact that Vol. 1 offers a speedier way to compute the selected stars. This volume is valid for an 8 year period, centered on its Epoch. Volumes 2 and 3 never go out of date. SC, various dates, about 400 pages each. SW 2.1 lbs

Volume 1	Selected Stars (Epoch 2020)	#5907CE20	\$27.95
Volume 2	Latitudes 0°-40°	#5908CE	\$27.95
Volume 3	Latitudes 39°-89°	#5909CE	\$27.95

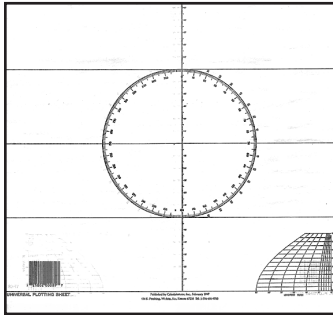
## SIGHT REDUCTION TABLES FOR MARINE NAVIGATION Pub. No. 229 (HO-229) *Celestaire*

This is the standard set of tables designed for marine navigation. The way it works is this—If the book could talk to you, it would say "tell me where you think you are, tell me where the body is, and I'll tell you how high it should be." Comparing this with your sextant reading will give you information to plot a line of position. The book consists of thousands of solutions to the celestial triangle. Since these results are purely mathematical, the tabular data never goes out of date. Although there are 6 volumes in a set, only those pertaining to the latitudes anticipated need be obtained. The latitudes listed for the Volumes work for either northern or southern hemisphere. SC, various dates, about 400 pages each. SW 2.1 lbs

Volume 1	Latitudes	0°-15°	#5901CE	\$27.95
Volume 2	Latitudes	15°-30°	#5902CE	\$27.95
Volume 3	Latitudes	30°-45°	#5903CE	\$27.95
Volume 4	Latitudes	45°-60°	#5904CE	\$27.95
Volume 5	Latitudes	60°-75°	#5905CE	\$27.95
Volume 6	Latitudes	75°-90°	#5906CE	\$27.95

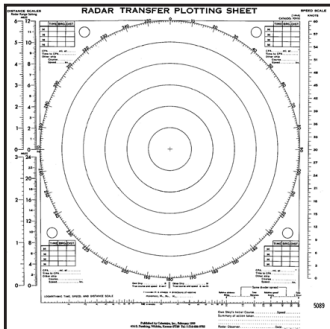
# COASTAL NAVIGATION

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## UNIVERSAL PLOTTING SHEETS (VP-OS) *Celestaire*

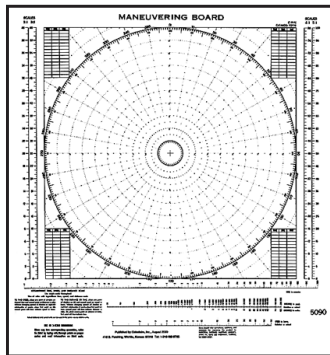
The standard way to plot positions at sea. Their use is covered in almost all navigation texts. These are also known as VP-OS charts. A graduated circle printed at the center allows meridians of longitude to be constructed for any chosen latitude, thus creating a custom-made chart for any geographical location. Pad of 50 sheets printed both sides. 13x14 inches. SW 1 lb



## RADAR TRANSFER PLOTTING SHEETS *Celestaire*

Perfect for plotting radar targets, tidal current plots, and all relative motion problems. Solutions are reached through easy-to-plot vectors. Figure course to steer in a current, heading to avoid collision, or heading to intercept another moving vessel.

This is an exact copy of the government DMA 5089 plotting sheet which has been discontinued. Comes in a pad of 50 sheets—printed both sides. Size 13x13 inches. SW 1 lb.



## MANEUVERING BOARD *Celestaire*

Maneuvering boards (or MO Boards, as they are some times called), are used aboard most navy ships to document situational awareness when other ships are in the vicinity. The bearing and distance marks from the center, and convenient scales on the side allow quick and easy plotting of course and speed vectors of your ship and others. This offers a manual way to avoid collisions or to plan a rendezvous.

This is an exact copy of the government DMA 5090 Maneuvering Board which has been discontinued. Pad of 50 sheets printed both sides. Size 13x14 inches SW 1 lb.