

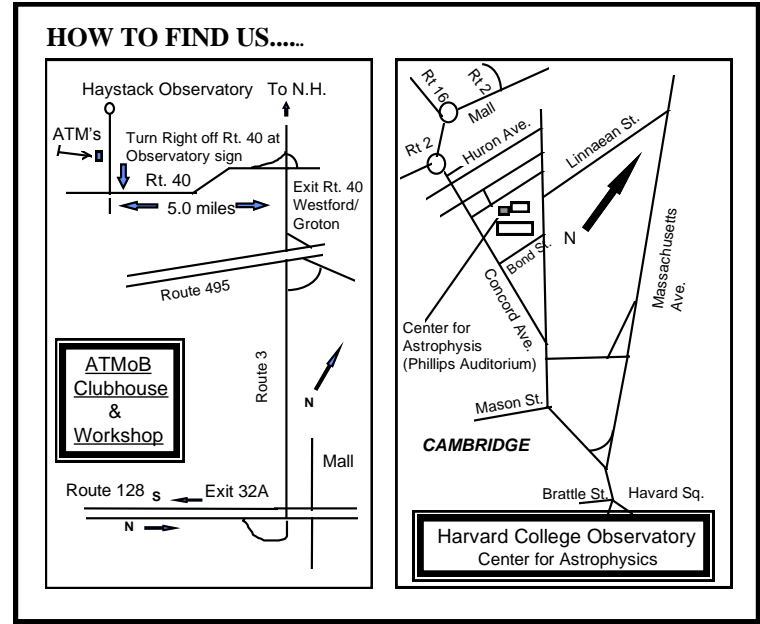
BEST BUY FIRST TELESCOPE...

Most club members tend to recommend Dobsonian type telescopes as a first scope. Dobsonian Telescopes are reasonably priced for the aperture, are rugged and easy to use. These are not usually sold in the Department Stores, but they can be found in any telescope store. The Dobsonian telescope looks much like a cannon on a swivel. You point it in the direction you want, and then look. There are no fancy bells or whistles to confuse the beginner, and you develop a better feel for the sky. The price for a 6" varies around \$400 to \$500.

Some Suggestions For first Telescopes


The 6" Orion Deep Space Explorer and the Meade Starfinder both sell for around \$400, the 6" Celestron Starhopper has a few more features and sells for about \$450. These scopes are great for children about 9

and up to use alone. For smaller children, Celestron makes a 4.5" Dobsonian and a company called "Stargazer Steve" (<http://stargazer.isys.ca>) sells a 4.5" kit scope you can build in an afternoon and use the same night. Most telescopes come with a small finder scope that is usually the cause of a lot of frustration. We recommend the use of a reflex sight for beginners. The "Telrad" is the most popular of these; it has no power or image reversal and shoots a red "Bulls Eye" into space. You put the Bulls Eye on what you want to look at, and then with a low power eyepiece you can usually find the object quickly. There are Telrad maps you can purchase that show the Bulls Eye in relation to the bright stars. A crude but workable set of maps for the 110 Object Messier Catalog of Deep Space Objects is on our web page at: www.atmob.org/library/member/skymaps_ismall.html



THE AMATEUR TELESCOPE MAKERS OF BOSTON

MEMBERSHIP APPLICATION				PLEASE PRINT		Member Information	
Family	\$35.00	<input type="checkbox"/>		Name			
Regular	\$25.00	<input type="checkbox"/>	Choose	Family Members:			
Senior Membership	\$12.50	<input type="checkbox"/>	one	Address:			
Student Membership	\$12.50	<input type="checkbox"/>	Only	City:			
				State & Zip:			
Optional				Home Phone:			
Sky & Telescope Mag.	\$32.95	<input type="checkbox"/>		Work Phone:			
Astronomy Mag.	\$34.00	<input type="checkbox"/>		Occupation:			
				E-Mail:			
Donation* (Your gift in any amount is needed. Thank you!)				Unless otherwise specified, Your Name, Town, Home Phone and E-mail are published yearly in a (members only) club directory. Please Check the box below if you do not want your name on this list.			
TOTAL Enclosed \$				Do not publish <input type="checkbox"/>			
Please make your check payable to the: "ATM's of Boston" and mail it along with this form to the: ATM's of Boston, c/o Tom McDonagh, Membership Secretary 48 Mohawk Drive, Acton, MA 01720							
* Your gift is tax deductible. The ATM's of Boston is a tax-exempt 501C-3 organization.							



INTERESTED IN ASTRONOMY?

Join with others having the same interest by becoming a member of the Amateur Telescope Makers of Boston and Bond Astronomical Society -- one of the nation's largest and oldest astronomy clubs.

Visit our Club Web Site at www.atmob.org

Revised 6/17/2014

INTRODUCING AMATEUR ASTRONOMY...

Observing the sky on a clear, starry night can be an enjoyable and even inspiring activity for people of all ages. It is an experience that is particularly rewarding if you observe from a suburban or rural location away from the glare of Boston lights. Using binoculars or a small telescope can also greatly increase your enjoyment of the night sky.

However no matter where you observe from, or whether or not you have a telescope, exploring the many aspects of astronomy can be an exciting hobby. It can be an activity shared with thousands of other amateurs all over the world. These individuals have the interest, curiosity, and imagination to want to explore the mysterious universe around them for the simple joy of it or to better understand their place in the scheme of things.

The popularity of amateur astronomy is not only due to its intriguing subject matter, but also because it is a multifaceted hobby enjoyable on many levels. Astronomy can be explored from your armchair by reading about how astronomers have probed the depths of space to learn the nature of the universe. You may pursue astronomy more actively by joining a local astronomy club like the Amateur Telescope Makers of Boston and learning by direct association with other amateurs.

If you enjoy building things, you may want to fabricate your own optics and build a telescope, as many amateurs have done. However, if you want to begin observing immediately, you may decide to purchase a telescope or binoculars. The telescopic study of the Moon, planets, and deep sky objects such as star clusters, nebulae, and distant galaxies can be a challenging adventure. By adding a film or video camera to a telescope, you can also learn to obtain striking astronomical images. The more experienced amateur astronomers contribute scientifically to astronomy by searching for comets and novae (exploding stars), observing sunspots and meteors, or by regularly observing a class of stars known as "variables" to determine how their brightness varies with time. This data is of great importance to the astronomical community in exploring the nature of these objects.

Just plain star gazing without optical aid is also a lot of fun. Making friends with the brighter stars and constellations, watching the seasonal changes in the sky, and observing the five naked eye planets and their movements is a fascinating activity. The occasional eclipse of the moon or sun, an aurora display, or a meteor shower adds extra excitement to visual observing.

AMATEUR TELESCOPE MAKERS OF BOSTON

The Amateur Telescope Makers of Boston, Inc. (ATMoB) is an amateur astronomy club devoted to telescope making, observing, and the study of the stars. The ATMoB was founded in 1934 with the cooperation of Dr. Harlow Shapley at Harvard Collage Observatory. In 1973, the Bond Astronomical Society, another long-standing club, merged with the ATMoB making the club one of the oldest and largest general interest astronomy clubs in the country. We meet formally every month (except August) to hear a speaker, to discuss club activities, and to just socialize. We also maintain a clubhouse with an observatory, workshop, library, and observing area in Westford, MA. Membership is open to all those interested in pursuing astronomy as a hobby.

Meetings: Our monthly meetings are held at 8 p.m. on the second Thursday of the month (except August) at the Phillips Auditorium of Harvard-Smithsonian Center for Astrophysics. The center is located at 60 Garden Street in Cambridge (see map on the last page). Visitors are always welcome and free parking is available on the grounds.

Clubhouse & Observatory: Our Clubhouse and Ed Knight Observatory are located on the grounds of the MIT Haystack Observatory in Westford, Massachusetts (to reach the clubhouse, see map on last page). It is officially open every Saturday, (except holidays, Full Moon Weekends, and during certain astronomical events) from 7 p.m. to 12 midnight. Visitors are always welcome. Please contact one of the two clubhouse committee members who are on duty the night you decide to visit. We will be happy to show you around our clubhouse and observatory or answer any questions you may have. Since the opening and/or closing of the clubhouse is subject to the varying weather conditions (especially in the winter months), please call ahead between 7 and 8 p.m. (978) 692-8708.

Membership: Joining the ATMoB provides a special network with others who also enjoy astronomy as a hobby. Included in the yearly dues is a subscription to our monthly newsletter, STAR FIELDS. Other privileges of membership include discounts on subscriptions to astronomy magazines as well as books and telescope making supplies.



To join the Amateur Telescope Makers of Boston, use the application included on the back of this brochure, or download a membership application from the “Join Us” Section of our Website.

ASTRONOMICAL RESOURCES IN THE BOSTON AREA...
POPULAR ASTRONOMY LECTURES are presented by the Harvard-Smithsonian Center for Astrophysics every third Thursday of the month at Phillips Auditorium of the Harvard Observatory in Cambridge starting a 8 p.m. Admission is free. Telescopic observing is available after the lecture. For more information call (617) 495-7461.

The Astronomy Department of Boston University conducts PUBLIC TELESCOPIC observing every clear Wednesday night. Admission is free. Since the time varies throughout the year, call (617) 353-2630 on Wednesdays after 5:30 p.m. for up-to-date information.

SKY SHOWS are presented daily at the Hayden Planetarium of the Boston Museum of Science. For more information and admission prices, call (617) 723-2500.

PUBLIC TELESCOPIC observing is conducted at the Wheaton College Observatory every clear Friday Night from 7:30 to 8:30 p.m. when college is in session (Sep-May). Located at the intersection of routes 123 and 140 in Norton, MA, the observatory is on the roof of the Science Center. Admission is free. Call (508) 286-2700 to listen to STAR TAPE for more information.

SKY SHOWS are given daily at the Christa McAuliffe Planetarium, Concord, NH 03301. For information and show times call (603) 271-2842.

ASTRONOMY HOTLINES...

For general observing information on the Moon, planets, and sky phenomena
SKY REPORT, (617) 496-7827, Harvard-Smithsonian Center for Astrophysics. The three minute recorded message is updated every Thursday afternoon. Normal telephone rates apply.

SKYLINE (617) 497-4168, Sky and Telescope. The three minute recorded message is updated every Friday afternoon. Normal telephone rates apply.

ASTRONOMY ON THE INTERNET

SKY ON LINE, an astronomical news and information site on the World Wide Web. www.skyandtelescope.com

TELESCOPE MAKING information can be found at:
<http://www.atmsite.org/>

MIRROR MAKING information can be found at:
<http://www.bbastrodesigns.com/tm.html>

SPACE WEATHER, an update of the conditions relating to our solar-terrestrial environment can be found at:
www.spaceweather.com

METEOR SHOWER info can be found on the N. American Meteor Network: www.namnmeteors.org

ASTRONOMY MAGAZINES...

These monthly magazines, which can be found on most newsstands, contain general astronomy articles, monthly observing information, and star charts.

SKY & TELESCOPE, Sky Publishing Corp. 90 Sherman Street, Cambridge, MA 02140, \$42.95/year. This publisher also supplies a free catalog of astronomy books. Telephone: (800) 253-0245.

THE NIGHT SKY, Sky Publishing Corp. 90 Sherman Street, Cambridge, MA 02140, Back Issues available. A great magazine for kids and/or beginners. (Recommended age group: 8 and up)

ASTRONOMY, Kalmbach Publishing Co., P.O. Box 1612, Waukesha, WI 53187, \$39.95/year. Telephone: (800) 533-6644

OBSERVING GUIDES FOR THE AMATEUR...

Check your local library, or contact Sky Publishing Corp., 90 Sherman Street, Cambridge, MA, (800) 253-0245, as a source for a wide variety of astronomical books, including many observing guides. The following observing guides have been very popular with amateurs:

SKY CALENDAR, Monthly calendar and star map for beginners is published quarterly, and is developed by the Abrams Planetarium, Michigan State University, East Lansing, MI 48824-1324.

www.pa.msu.edu/abrams

TURN LEFT AT ORION, By Guy Consolmagno & Dan Davis, designed for beginners and use with a small telescope.

NIGHTWATCH, An Equinox Guide to Observing the Universe by Terence Dickinson is a great beginner's book. It has a little bit of everything, and is available at most bookstores.

THE OLD FARMER'S ALMANAC can be bought at any supermarket. Take the lore for what it's worth, but there is a wealth of astronomical information such as sun, moon, planet and bright star rise and set times. A cheaper guide you will not find. Great for naked eye astronomy.

ASTRONOMICAL SOFTWARE...

There are hundreds of astronomy programs for your computer, ranging from free shareware to programs costing several hundred dollars. Most of the ones that apply to the amateur astronomer will be advertised in astronomy magazines. There is a comprehensive Website for all platforms, maintained by Bill Arnett at:

www.seds.org.billa/astrosoftware.html

Some of our member favorites are: SkyMap, The Sky, MegaStar, Skyglobe, Starry Night, Voyager II, Redshift and The Guide. Which is the best? Opinions are widely varied. Many of the companies offer demo versions that can be downloaded and evaluated from their websites. Remember the night sky cannot be fully appreciated from your computer. These programs are helpful but not the real thing. Get out to a dark sky and observe!

AMATEUR CONVENTIONS...

There are several amateur astronomy conventions within the New England area. These meetings are very enjoyable and provide amateurs an opportunity to network with other amateurs from the local area, across the country and throughout the world.

The major New England conventions are:

STELLAFANE, one of the biggest and oldest conventions in the country. As many as 2000 amateurs gather annually on Breezy Hill in Springfield, VT for a weekend in late July or August for telescope judging, swap tables, talks, and observing under dark skies. This world-renowned event is sponsored by the Springfield Telescope Makers, PO Box 50, Belmont MA 02478.

www.stellafane.com

STARCONN, an annual event held at Wesleyan College in Middleton, CT, is host to several hundred amateurs. This convention is usually held in the month of April and includes talks, swap tables, and commercial vendor exhibits. The Astronomical Society of Greater Hartford, P.O. BOX 2271, HARTFORD, CT 06145, sponsors this event.

ASTRO ASSEMBLY is an annual weekend event held in early October at the Seagrave Memorial Observatory, North Scituate, RI. It features telescope judging, talks, swap tables, and observing. It is conducted by Skyscrapers, Inc., 47 Peep Toad Rd., North Scituate, RI 02857.

CONJUNCTION, a smaller, but no less enjoyable gathering of amateurs at Northfield, Mass, held around Labor Day weekend. Usually attended by approximately 100 people, the event is comprised of talks, discussions, swap tables, evening dinner, and guest speaker. For more information, contact: Richard Sanderson P.O. Box 54, Monson, MA 01057.

ARUNAH HILL DAYS, A fun gathering of telescopes and people at one of the darker sites available in Massachusetts. Held in late August or early September of each year. Check out the web site at www.arunah.org There is lots going on there at other times of the year as well. A very active group.

ABOUT TELESCOPES...

The most popular amateur telescope is the reflecting type. It uses a precisely curved mirror as the main optical element to collect light and form an image. The most important criteria of an astronomical telescope is its diameter. The larger the diameter of the mirror (or lens in the case of a refractor type telescope), the more light is collected and the brighter the image becomes. Typical amateur telescopes are 4 to 8 inches in diameter and magnify the image 50 to 200 times. To be useful, a telescope must be pointable while remaining rigidly supported.

If you want to own a telescope, you have three options: (1) purchase a commercial unit, (2) purchase commercially made optics and assemble the rest of the telescope yourself, (3) grind and polish your own mirror and completely assemble your scope. Option 1 may be the hardest to do if you are just starting. If you are not sure of the capabilities you want in a telescope, you may wind up purchasing a telescope too complex for your skills. Even if you know what you want, and just buy the minimum needed, it could cost \$400 - \$500. The last two options will save you money and give you the pride and satisfaction of building a fine telescope.

TELESCOPE BUILDING...

With the exception of the second Thursday of the month, Thursday nights are Mirror Grinding Nights at our Clubhouse. If you want to build your own telescope, take advantage of the help from our experts who can show you how to make your own mirror. With newer grinding methods, members are completing 8" mirrors in less than 6 months. The quality of a handmade mirror usually

exceeds that of anything you can buy. Grinding a mirror is quite a commitment, but grinding a high quality mirror meeting tolerances of 1/1,000,000 of an inch can be very rewarding. You will have the help and support you need to finish the job. Mirror making kits for popular sizes are kept in stock at the Clubhouse. Need to finish that kit you started as a kid? Bring it up and we will get you going again.

Mirror making supplies can also be purchased from:
WILLMANN-BELL, Inc., P.O. Box 35025, Richmond, VA 23235, (804) 320-7016 www.willbell.com

Parts and Accessories can be purchased from:
ORION TELESCOPES & BINOCULARS, 89 Hanger Way, Watsonville, CA, 95076 (800) 447-1001
<http://www.OrionTelescopes.com/>

Local distributors of commercial telescopes are:
HUNTS CAMERA, 100 Main St, Melrose, MA (781)662-8822
Meade, Celestron

RIVERS CAMERA, 454 Central Ave., Dover, NH (603) 742-4888
Meade, Celestron, Televue, Orion, Bausch & Lomb

ASTRONOMY SHOPPE (603) 382-0836

“Buying Guide” articles appear frequently in Sky and Telescope and Astronomy magazines. Their Web Sites have many of the past articles. Consult your local library for back issues or contact the publishers.

Astronomy: www.astronomy.com

Sky & Telescope: www.skytonight.com

TELESCOPE MAKING BOOKS...

These books may be available at your local library, or from Sky Publishing Corp., 90 Sherman Street, Cambridge, MA 02140. (800) 253-0245.

Build Your Own Telescope, Richard Berry, Scribner, 1985, 276 pgs., hardcover, \$24.95. (Beginner amateur)

All About Telescopes, Sam Brown, Edmund Scientific, 1975, 192 pgs, soft cover, \$14.95. (Covers telescope making, observing, astrophotography, and more. A must for all amateurs)

Making your own Telescope, Allyn J. Thompson, Sky Publishing Corp., 1947, 211 pgs. \$14.95.

How to Make a Telescope, 2nd Ed., Jean Texereau, 424 pgs, Anchor Books, hardcover, \$24.95. (Advanced amateur)

John Dobson, the amateur astronomer who has popularized the widely used Dobsonian telescope design, has made a Telescope Making Video. This 90-minute video gives a detailed description of how to build a low-cost 8 to 16 inch telescope and describes mirror grinding, polishing, and testing as well as tube and mount fabrication. Available from: Dobson Astro Initiatives, P.O. Box 460915, San Francisco, CA 94146. \$39.95 plus \$3.50 S & H.

