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The Personal Observing Log (PO-Log) is now being marketed as a Shareware product for Windows. I have done this because I want to get the product into as many people's hands as possible, and still be able to invest in future versions. The registration fee for PO-Log is \$20.00. It was sold as a commercial DOS package for over one year at a price of \$79.95. Not many were sold at this price, and it received limited attention. My hope is that by lowering the price to \$20.00, re-writing it as a Windows package and marketing it as a Shareware product, it will experience a much greater presence in the market place. If you decide to use the PO-Log as one of your applications, you should register it.

Individual licenses for the Personal Observing Log package cost \$20.00. A "club license" for the Personal Observing Log package can be purchased by astronomy organizations for \$50.00. This will allow all members of the organization to make legal copies of the software and documentation. To register this version of the Personal Observing Log package, send a check or money order along with a completed order form to Ohio Star Software, 8919 Deep Forest Ln., Centerville, OH 45458. You can print the order form within Write or Notepad by editing and printing the file "ORDER.TXT".

The documentation for the Personal Observing Log is in the file PO-LOG.WRI.

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DISTRIBUTION

You may make copies of the Personal Observing Log application and distribute them to others, upload to bulletin boards etc. for non-commercial purposes. The program files should not be distributed without the documentation files PO-LOG.WRI and ORDER.TXT. None of the files should be modified in any way.

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Introduction

Welcome to the Personal Observing Log! This application has been written to provide a tool for recording your astronomical observations and for producing various reports of astronomical objects. The reports are a valuable tool in planning an observing session and for use while observing. This system developed as a result of my own needs to record what I had seen, where, and when.

System Features

Over 1240 "seeable" astronomical objects - All 109 Messier objects, 399 Herschel Objects, 242 Open Clusters, 75 Globular Clusters, 68 Planetary Nebulas, 109 Dark Nebulas, 606 Galaxies, 105 Double Stars, and 28 Variable Stars
Up to 5000 characters of text can be entered for each observation of each object
Allows recording multiple observations of the same object
Customizable reports for planning and observing aids
Automatically computes page numbers for 4 popular star atlases
Allows you to add objects of any type
Allows you to restrict (by any field) what objects are shown on-line and in reports
All reports can be viewed on screen, printed, or output to a text file
Choose from existing filters, or define a new filter to limit your view of the database
Records what instrument, eye piece, and filter were used to see an object
Runs under Microsoft Windows 3.x

Why Have a Computerized Observation Log?

Keeping a log of your astronomical observations provides you with many benefits. If you do not currently keep a log of your observations then you should start. If you do keep a log then Great!!!, but does your log help you plan your next session or allow easy access to notes on any viewed object? If not then you need the Personal Observing Log system.

Some of the benefits of having an computerized log of your observations include:

You can easily determine which objects you have or have not seen. For example, it would show you which Messier objects you still needed to see in order to join the "Messier Club".

The log creates a measure of your equipment and observing skills. Comparing old notes to current observations will show how the equipment that you are using now compares to the equipment that you used for the earlier observations. If your equipment has not changed, then you might see that your observing skills have changed (for the better hopefully!).

The log will allow you to keep track of objects that you tried to see but were unsuccessful on. On nights of exceptional seeing or a trip to a better than normal site, you can try to knock off some of the objects that you have failed on previously.

The log will allow you to see how your observing skills compare to others. Comparing what you see to Burnham's or Webb's documentation is sometimes very surprising. Sometimes you are seeing exactly what they say they saw, and sometime its completely different. If your notes don't match what someone else's say, then maybe you were looking at the wrong object - it does happen...

Recording your observations in detail forces you to observe in enough detail to make a log entry. This will force you to look harder and longer and therefore see more. Keeping a log will make you a better observer.

If you don't record your observations into a computerized log, then you probably can't do a good job in planning out what objects to review, what object to try for the first time, and what objects to try for that you had failed on before. Having a log and a good planning tool will keep you from only seeing the same old objects each time you go out.

A computerized log like the Personal Observing Log will be a tremendous aid in planning your observing sessions. You can go out with a report that shows by constellation (or Sky Atlas 2000 chart number), scores of objects, and highlights which objects you should try for. This list of objects will tell you the R.A. and

Declination of the object, its type, size and magnitude, and any general comments about it.

A computerized log eliminates all the messy, sloppy pieces of paper that are the hallmark of a manual system of note keeping. A computerized system puts all of your information into one place and allows you the security of having backup copies of the information.

Installation

Installation of this system is done by creating a subdirectory to hold the PO-Log program and data files, and then copying all of the distribution files into this new subdirectory. After copying all of the files into the new subdirectory, you should add the PO-LOG.EXE program to Program Manager. For help in creating a subdirectory, copying files, or adding a new program icon to Program Manager see your windows documentation.

Start Up

To start up the Personal Observing Log application, run the file "PO-LOG" from Program Manager. If this is the first time that you are running the PO-Log system, there will be four messages saying that some index files are being created, and you will be asked to press a key to continue. The index files are only created the first time you run the package. All other times the system will go straight to the introductory screen. After starting the system, the introductory screen comes up. Click on the "I'll pay if I continue to use it..." button. The next screen to come up is the main window. If this is your first time to run the software, you should define your equipment and preferences under the configuration menu.

Using the PO-Log

The main screen of the PO-Log package shows the current database record. The buttons at the bottom of the screen allow you to move from record to record, add, change, and delete 7

records, and to enter your observational notes. An explanation of all of the fields and buttons is provided below:

<u>Field Name</u>	<u>Description</u>
Object Name	Database object number or name
Messier Number	Messier object number (there are 109 of these)
Herschel Number	Herschel object number (there are 399 of these)
Type	Type of object (corresponds the Object Type Codes at the bottom of the screen)
Con	Abbreviation of the constellation name that contains this object
R.A.	Object's Right Ascension
DEC	Object's Declination
Size	Size of object measured in arc minutes unless the arc seconds symbol is used (arc seconds are shown with a quote mark like 23")
MAG #1	Magnitude of the object or primary in a double star
MAG #2	Magnitude of secondary star in a double star
PA	Position angle for double stars
Period	Period for variable stars
Name	Name or brief (25 character) descriptive note
Sky Atlas	Wil Tirion's Sky Atlas 2000 chart number
Uranometria	Object's page number in Wil Tirion's Uranometria
Peterson	Peterson Field Guide chart number
Norton	Norton Atlas chart number
General Info	Text field where you can enter up to 5000 characters of information about the object
Easy to See	Flag indicating that the object is easy to see in an amateur telescope
Try Object Again	Flag indicating that you should try this object again
User Flag #1	User definable flag
User Flag #2	User definable flag
User Flag #3	User definable flag
Rise	The local time of when the object will rise
Transit	The local time of when the object will be due south
Set	The local time of when the object will set

If the rise, transit, and set times show as "-----", that means that the object never rises at your latitude. If the rise time is the same as the set time, that means that the object never sets. In order for the rise, transit, and set times to be accurate, you

need to define your viewing location to the system under the configuration menu. If the screen does not make any reference at all to the rise, transit, and set times it is because this option is turned off in the configuration menu. Any object with a Right Ascension of 24 or greater will not show a rise, transit, or set time.

The buttons at the bottom of the screen are what you drive the PO-Log with. All button commands can be done with the mouse or by pressing the first letter of the button. The button commands are described below:

<u>Button</u>	<u>Description</u>
Next	Move forward in the file to the next object (dependent on the sort order in effect).
Previous	Move backward to the previous object (dependent on the sort order in effect).
Goto	Prompts you for an object name, Messier number, Herschel number or R.A. to position on.
Add	Add a new object to the database. You are allowed to enter all fields.
Edit	Change the contents of all fields (except Object Name) of the currently shown object.
Info	Allows you to view or edit information about the current object.
Observations	Enter new text or edit existing text for any observation of the current object.
First	Move to the first object in the file (dependent on the sort order in effect).
Last	Move to the last object in the file (dependent on the sort order in effect).
Delete	Delete the current object.
Jump	Prompts you for how many records to move forward or backwards (dependent on the sort order in effect).
Text Goto	Prompts you for a phrase and positions you on the next record that has that text in the name field or the observation text.
Quit	Quit (exit) the PO-Log application.

File Menu

Order by Object Name

This command will cause the object file to be logically ordered by the Object Name field. This will have all of the double stars (A00094 for example) before the NGC objects (NCG0024 for example). Out of the three "Order by" commands, only one can be effective at any time. The effective command is grayed-out in the menu.

Order by Messier Number

This command will cause the object file to be logically ordered by the Messier Number field. There are 110 Messier objects in the database. All other objects should have a Messier number of 0. When you ask to have the file ordered by Messier number, all of the non-Messier objects will show up before the Messier objects. To get to the Messier objects, either do a Last command (takes you to Messier object number 110), or use the Goto command to get to Messier object number 1.

Order by R.A.

This command will cause the object file to be logically ordered by Right Ascension. This is the default order for the PO-Log.

Compute Chart Numbers...

This command will go through all of the objects and calculate what page number of 4 different star atlases the object will appear on. The chart numbers in this system are based on the Sky Atlas 2000 and Uranometria by Wil Tirion, the Peterson Field Guide, and the Norton Atlas. You would typically use this function after you had added new records to the system, and you did not enter (or are not sure about) the chart numbers. Any object with a Right Ascension of 24:00 or greater will not have a page number calculated.

Re-size Files...

This command will physically remove any records that you have deleted. If you delete a lot of records, this will reduce the size of the database files. You probably will never need to run this command...

Load Records...

This command is used to load new records from Ohio Star Software into the object database. It will ask you for the name of the database file containing the records to be loaded, scan the new records to check for duplicates, and then load the new records into the object database.

Exit

This command will close all open files and then end the PO-Log program. This is the same as the "Quit" button.

Filter Menu

Choose Filters...

This command will bring up a window that will allow you to specify a new filter or select an existing filter. A filter will limit the programs view of the records in the database. For example, a filter of TYPE="DS" will restrict your view of the database to records whose type is "DS" (double star). Likewise, a filter of MAG1<8 will limit your view to objects whose magnitude is less than 8. You can enter a new filter or select from any of the existing filters. If you create a new

filter that you will want to use again, check the option box "Add New Filter To Existing Filter List" to add it to the list of existing filters. Clicking on the HELP button will bring up a list of valid database field names.

The general format for a filter will be

fieldname operator expression

Fieldname is the name of a database field. You can get a listing of all of the database fields by clicking on the Help button. Field names are not case sensitive but they must be spelled correctly.

Operator is a comparison operator from the list below:

=	equals
<>	not equal
<	less than
>	greater than
<=	less than or equal to
>=	greater than or equal to

Expression will normally be either some characters enclosed in quotes (like "GC"), a number (like 15), or a date function (like ctod("11/11/90")). The expression portion of the constraint is case sensitive.

Multiple "fieldname operator expression" constraints can be joined together with ".and." or ".or.". A couple of these are shown in the examples below. Useful functions that might be of use include substr() (sub-string) and ctod() (character to date). Any valid dBASE will work as a function. It takes a bit of a programmer's mentality to be completely comfortable with specifying constraints. The examples in the existing filters list should be able to be adjusted to fit just about any filter you want to make.

Maintain Filters...

This command allows you to perform some simple file maintenance tasks on the list of existing filters. The main reason for having this command is to allow you to get rid of any filters that you don't want to have.

Configuration Menu

User Flags...

This command brings up a window that allows you to change the labels used on the main screen for the database fields extra1, extra2, and extra3. Remember that when you refer to any of these

fields in a filter, you must still call them extra1, extra2, or extra3.

Define Equipment...

This command brings up a window that allows you to define up to twenty pieces of observational equipment that you use or have used. By default, the twenty instruments are initialized to being:

Naked Eye	8" F6 Dobsonian	28mm RKE	Other Eyepiece	1
Binoculars	12" Newt @ JB	20mm Widescan	Other Eyepiece	2
60mm Refractor	Other Telescope	117mm Plossol	UHC Filter	
Other Refractor	Other Telescope	212mm Konig	Barlow (2.5x)	
4" AstroScan	Other Telescope	37.5mm Orion	Barlow (3.0x)	

Remember that these are just the labels that appear on the screen. The screen label that you specify in this function is what shows up on the file maintenance screen. What you enter in all of these label fields has no impact on the data in the PO-Log system - you are simply specifying labels to be used on the screen.

The decisions that you make about how to use these fields is important! You should decide up front what equipment you want to have listed. It is recommended that you put N/A into all unused fields. This will allow you room to add in additional equipment later on and not impact the information that you already have entered. What you want to avoid is changing the meaning of a field (changing equipment definitions) after you have observations that equipment.

For example, if you have a field called "60mm Refractor" and have a few observations where you answered "Y" for the "60mm Refractor" field, then you will have a problem if you want to change the field to being "20x80 Binoc". If you change the field to "20x80 Binoc" then your data will indicate that all of the object that you actually saw with the 60mm refractor were seen with the 20x80 binoculars. It would have been better to put the "20x80 Binoc" field in the system in place of a "N/A" field. That way you would keep the old information about what objects were seen with the 60mm refractor and you would be able to enter new information about objects seen with the 20x80 binoculars.

If in the example above you were to change "60mm Refractor" to "20x80 Binoc", then you would need to manually go through and change all of the records that have a "Y" in the old "60mm Refractor" field to "N". If you had seen very many objects with the 60mm refractor, this will be a tedious job.

Default Location...

This command serves two purposes. First, it allow you to have a default location name for use when you enter an observation. Second, it is where you tell the system your latitude and longitude so it can accurately calculate the rise, transit, and set times for all objects. The initial settings (39.79 N, 83.86 W) are for an observing site in eastern Ohio.

Select Chart...

This command brings up a window that allows you to indicate which of the four star atlases are to be used in the Chart Number column of the reports.

Date Format...

This command brings up a window that allows you to indicate which date format is to be used. Your choices are American (mm/dd/yy) or European (dd/mm/yy). Note that this setting applies to all observation records, so you should decide which format you want before entering in observations.

Sound

If there is a check mark beside this command then sound is turned on, otherwise the system will not make any sound.

Rise And Set Times

This is a toggle like Sound that is used to indicate whether or not the rise, transit, and set times of each object is to be calculated. This calculation slows down the PO-Log application.

Reports Menu**Output to File**

This command causes subsequent report output to go to a file. This is useful for manipulating the data with a word processor, or viewing it with a utility program such as Notepad.

Output to Printer

This command causes subsequent report output to go to the printer. Be sure your printer is turned on before generating any reports if this option has been selected.

Output to Screen

This command causes subsequent report output to go to the screen. If you have more than a few records in the report, the output will scroll off the top of the screen.

Generate 80 Column Report

This command will cause the system to generate an 80 column report to the current output destination. The sort order and filter in effect at the time this is run affects what records will appear in the report.

Generate 96 Column Report

This command will cause the system to generate an 96 column report to the current output destination. The sort order and filter in effect at the time this is

run affects what records will appear in the report.

Generate Double Star Report

This command will cause the system to generate a double star report to the current output destination. The double star report includes the magnitude of the secondary as well as the Position Angle of the pair. The sort order and filter in effect at the time this is run affects what records will appear in the report.

Generate Variable Star Report

This command will cause the system to generate a variable star report to the current output destination. The variable star report includes the maximum and minimum magnitudes and also the period of variance. The sort order and filter in effect at the time this is run affects what records will appear in the report.

Generate Notes Report

This command will cause the system to generate a report of all of the observational notes for each object. The sort order and filter in effect at the time this is run affects what records will appear in the report.

Generate Report By Chart #

This command will cause the system to generate an 80 column report that is sorted by chart number to the current output destination. This report is useful for planning an observing session in that it gets all of the objects in a limited area together in the report. The filter in effect at the time this is run affects what records will appear in the report.

Help Menu

Register PO-Log...

This command will allow you to print the registration form, and also to enter in a registration number. Once the product is registered, the opening commercial and occasional reminders to register will go away. Please register the product if you use it...

About PO-Log

This command displays the current version of the program.