

# STARBASE One

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### ***Some Notes from the Sysop***

This help file is not associated with any program. It's intended to help you get the most out of Starbase One by explaining what's available and how it all holds together. By using the Windows help system, I can easily have all kinds of clever links and pop ups that are simply not possible with a normal document.

It also has definitions of lots of computing and astronomical terms, and some general astronomical information too. I hope it helps anyone who is new to astronomy, or computer communications. So take a good look at the glossary, and the Index you will find lots more useful stuff!

### ***What's New***

This is NOT a major upgrade. The main changes from the previous version are:



This version has been spell checked!



General tidying up, all over the place.



Added the section on the Internet mail gateway



Added multiple search references to many sections, which should make it a lot easier to find the part you need.



Added a description of the Starbase email newsletter.



The section with sounds now has a MIDI file embedded, as well as the example .WAV files, so you can have a tune play while you are reading the help, (requires a sound card with MIDI capability).



Added the 'exploding outline' section to the Main Menu panel, to show what's one level down.



Added big red bullet points in various places!

Enjoy!

Nick Stevens, Sysop, Starbase One BBS

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Version 1.1, March 1995

# A guided tour of Starbase One

This section of the help file is intended to give you an idea of what you can find on the different menus on Starbase One. It should double as a way of exploring the system without running up your phone bill! Heres what you get on the main menu. (Fonts and colours may be different, but the layout and text will be largely the same).

```

      Starbase One Main Menu
Line 1 0171-703-3593      Line 2 0171-701-6914

<F>iles                Files menu
<K>ey Downloads        The essential files
<O>ptions              Adjust and view your settings
<J>oin                 Joining the subscriber service
<T>agged               Collect files tagged at logon
<S>ervices             Functions grouped by interest
<M>essages             Access the message areas

<H>elp                Explain the options
<G>oodbye              Leave the system
```

Note that on the real thing you must press the key surrounded by the angle brackets, <X>, as it is not possible to operate the system with a mouse. If you have hot keys turned on the system will take you to the new menu at once, if you do not then you must press return first.

One advantage of NOT using hot keys is that you can type in more than one command on the line all in one go, but most users much prefer to have hot keys turned on.

# Files Menu

Here is the main files menu. Explanations of the options follow. Please note that you may need to maximize the help window for this to look correct.

Starbase One Top level File Menu:

File Area is: Images of Shoemaker-Levy 9 & Impact  
File Category is: Images

```
<A>rea Change          <C>ategory Change

Find a file by name: <1> This area  <2> This category  <3> Anywhere
Find by description: <4> This area  <5> This category  <6> Anywhere
List since date:     <7> This area  <8> This category  <9> Anywhere

<D>ownload a file      <U>pload file  <L>ist this area

<S>tats               <K>ey downloads  <E>dit taglist  <P>eek at file

<Q>uit               <H>elp          <G>oodbye

Your Choice?
```

## Header Information

The top of the menu shows your current file category and file area. In this case the category is IMAGES, and the file area is Images of Shoemaker-Levy 9.

## Change Category

Select this option to pick a new category of file areas.

## Change Area

Choose this option to pick a new file area within the current file category.

## Finding Files

Note that there are two ways of searching for files, and three degrees of file search. You can search for a file by name if you know what it is called (or a part of the filename). You can also search the descriptions of files, which is generally the more useful option.

The 'anywhere', 'category' and 'area' options determine how much of the file system is searched. Anywhere searches the whole collection of files on Starbase One, (which may take a while, and could return a lot of files). Area searches the specific current file area, Shoemaker Levy images in the example above. A search of the category would search all image files, again for the example given above.

## Download a file

Once you know the name of the file you want, or have tagged it, press D to download the file. You will be asked for a filename (even if you have tagged everything you want). If you enter a filename, the system will try and find it anywhere on the bulletin board. In other words, you don't have to be in the correct area to download a file if you know the exact name.

## Upload a file

This takes you through the process of up loading. Please note that all files are sent to a quarantine

area for virus checking before other users can get at them.

## List Files

Use this option to get a list of the files in the current area. Here is a short sample of a listing.

Press P to Pause, S to Stop

01	CALAR11.GIF	(0007)	35k	21-Dec-94	Infra red image of <u>Jupiter</u> - SL9 effects are STILL visible!
02	AAT_GC.GIF	(0005)	107k	01-Aug-94	Big false colour IR image of the SL9 impact from the Anglo Australian Telescope
03	AAT_GC.JPG	(0004)	79k	03-Aug-94	JPEG version of the above image
04	AAT_VW.GIF	(0001)	126k	07-Aug-94	Four dithered mono <u>images</u> of SL9 impact sites from the AAT. (Large)
05	ACOUSTIC.GIF	(0006)	18k	20-Jul-94	Image of model of acoustic shock waves moving through Jupiter. <u>GIF</u> .

More (Y/n/=/(T)ag/(V)iew/(E)dit)?

Note the reminder at the top on how to pause or stop the listing. The two digit number at the left is the tag number, followed by the file name. The number in brackets is a count of the number of times the file has been downloaded, followed by the size of the file. The date is the last modified date of the file, and finally comes a description of the file.

## Stats

This will show you some figures on how much you have downloaded.

## Key Downloads

This will take you to the key downloads menu, where you can collect decompression programs, and get to the file listings menu.

## Edit Taglist

This will let you check and edit the list of files you have marked for download. See also tagged files.

## Peek at file

This option will prompt you for a file name. It will then try and find out more about that file for you. For example, if you give it the name of a GIF file, it will report the image size. Give the name of a zip file, and it will tel you what files are inside the zip

## Standard Options

Quit

Help

Goodbye

# Key Downloads

This section of the board can be reached in several ways - from the main menu directly, or via the file menus, or from the BEGINNERS section of the services menu.

The key downloads area holds all the files that everyone will want, and will be particularly handy for those new to using bulletin boards. This includes all the decompression programs for all machines. Here's what you see:

Starbase One - Key Downloads.

Note that these are 'free' downloads.  
They do not count against your download allowance.

Unarchive Programs.	File Lists, Short Texts.
<1> ARC for PC Compatibles.	
<2> Zip for PC Compatibles.	
<3> LHARC for PC Compatibles.	<F> File Lists Menu.
<4> ARC.TTP for the <u>Atari ST</u> .	
<5> LHARC for the <u>Atari ST</u> .	
<6> Unzip for the <u>Atari ST</u> .	<I> Comms for beginners.
<7> Arc.ff8 For <u>Archimedes</u> .	<J> Astronomy for beginners.
<8> LHARC for the <u>Amiga</u> .	<K> Subscription Details.
<9> Arc for the <u>Amiga</u> .	
<0> AMZIP06.ARC Zip for <u>Amiga</u> .	
<R>return To previous menu.	<X> <u>Starbase One</u> User Guide (Text)
<Q>uit Return to main menu.	<Y> <u>Starbase One</u> User Guide (ZIPped)
<H>elp Explain the <u>options</u> .	<Z> <u>Starbase One</u> User Guide (LHARC'ed)
<G>oodbye Logoff the system.	

Notice that apart from the decompression programs there are also some useful text files covering comms for beginners, Astronomy for beginners, and becoming a subscriber, plus a user guide, (which has been largely superceded by what you are reading now).

Notice also that you can get to the file list menu from here, which offers you the various Starbase One file lists, in various formats.

[The file list menu](#)

# The File List Menu

Here's what the file list menu looks like. You reach it from the [Key Downloads](#) menu.

```
File Information Menu

Download                                View Online

<A> Complete File List (Text)          <1> Complete List
<B> Complete File List (.ZIP)          <2> Astro/Space List
<C> Complete File List (.LZH)          <3> Recent Files List
<D> Astro/Space List (Text)            <4> Recent Astro/Space
<E> Astro/Space List (.ZIP)
<F> Astro/Space List (.LZH)            <5> File Area Summary
<I> Most Recent Files (Text)           <6> Your File Stats
<J> Most Recent Files (.ZIP)
<K> Most Recent Files (.LZH)           <7> Program Reviews
<L> Online CDRom file list.(ZIP)
<M> Megalist - All Starbase one CD and other files.

<R>return    To previous menu.
<H>elp       Explain Options Further.
<G>oodbye    Logoff the system.
<Q>uit       Return to main menu.
```

Your Choice?

Note that all lists are provided in three formats, as plain text, [ZIP](#) format, and LZH format. The plain text versions are obviously simplest, but they are also by far the largest, and you are probably best off going for the [ZIP](#) version.

# Options Menu (Profile)

## Starbase One: Profile Menu

```
<L>ength      Change Screen Length.      (24)
<S>creen      Change Screen Clearing (OFF)
<M>ore        Adjust MORE prompting. (ON )
<A>nsi        ANSI Graphics on/off. (ON )
<D>isturb     Set 'Do not disturb'. (OFF)
<W>here       Change your location. (America)
<K>eys        Hot Keys (ON )
<V>oice       Change home phone No. (000-000)
<R>ead        Full Screen Msg Read. (ON )
<F>ormat      Set Date Format. (DD-Mmm-YY)
<X>          Choose a Language. (English)
<B>usy        Show System Busy Graph.
<C>hoose      Choose combined message areas.
<P>assword    Select a new password.
<E>cho        Scan echomail at logon.
<T>ransfer    Change default file protocol

<Q>uit      Goto Main Menu
<H>elp      More Info.
<G>oodbye    Logoff the system.
```

Your Choice?

As you can see, the options menu is where you set the various options on how the board responds to your commands. It also has a few extras such as looking at the system busy graph.

You probably won't need to come to the options menu very often, but if there is something you don't like about the way the BBS is working, come here to see if you can change it.



# Subscribing to Starbase One

Though access to the board is free, I encourage you to become a subscriber. The board runs at a significant loss, and money is needed to help it grow, and to maintain the services already available. I think you will find that the cost of a subscription is small compared to the amount you spend on phone calls to connect.

The benefits of subscribing, (as few do this out of the goodness of their hearts!) are:



Increased time - up to 45 minutes a day



Unlimited downloads, including non astro files



Access to the offline reader



You will receive some cards with the BBS details on, for your convenience. (Or anywhere else you want to keep them).



You will receive some sheets of commonly asked questions, and their answers, to help you get the most out of the BBS.



Access to the Internet Mail gateway.



A nice warm feeling from supporting the best!

I certainly have no objections to anyone sending me more than the requested amount, though I feel very strongly that if a higher proportion of users became subscribers the board would be able to flourish and expand rapidly. As it is, its a fight to get money for replacing faulty or old hardware.

Here are some points you should bear in mind before subscribing:

1. Astronomy files and messages will always have priority. Therefore I may well delete non-astronomy/space material to make way for the material this board specializes in. DO NOT SUBSCRIBE UNLESS YOUR MAIN REASON FOR DOING SO IS ASTRONOMY.
2. Subscriptions will not normally be refunded, unless I have to change the board in such a way that you can no longer use it.
3. Certain activities will result in the immediate cancelation of subscriber status. These include uploading copyright material, leaving obnoxious messages, and uploading obvious garbage. In these cases a pro-rata refund will be made.
4. If the board is unavailable for 5 hours or more on any one day, all subs will automatically be extended for one day.
5. You are responsible for keeping your own password secret, and for all actions carried out using it.

In other words it is no defence against rule 5 to say it was not you. Please note that the system will warn you if someone tries to log on as you and fails.

If you are happy with all the above conditions, and you want the extra facilities on offer, then please send a cheque for 15 pounds, (renewals are 12 pounds), which covers 1 years subscription, made payable to Starbase One to:

Starbase One,  
Flat 8, Grange Court  
101 Talfourd Road  
Peckham,  
London  
SE15 5PB

You will be upgraded to subscriber status as soon as I receive the cheque.

Thanks for taking the time to read this,  
Nick Stevens

## Tagged files

Starbase One supports file tagging. This means you may mark a file for later ownload, once you have finished exploring.

In almost every screen that lists files you can press T to tag the ones you want. You should then give either the file's name or its two digit number. (Note that the numbers change every time you list files, and start again at zero after 99).

When you come to download files, the system will remember which ones you have marked for download, and send everything to you in one shot. This is particularly useful if you set the BBS to disconnet you once the files are transferred safely.

For this to work you should be using a batch protocol, such as ZMODEM.

Note that if you log off the system, Starbase forgets about any files you had tagged, and you will have to mark them again.

# Services Menu

The services menu is one of the newest features of Starbase One. The idea of this menu is to provide sub menus with features grouped by interest. Here is the top level menu at the moment. (I expect to add more service functions very soon).

Starbase One Services Menu:

<Y>ell for the sysop    <L>ine To Line messages    <A>djust your settings

Services by interest:

<P>ractical Astronomy's top 12 shareware  
<S>ociety for Popular Astronomy services  
<C>CD Camera Services  
<A>stronomy Societies  
<I>nternet Mail Gateway  
<B>AA Services

<H>elp        Explain the options.  
<Q>uit       to main menu  
<G>oodbye    Logoff the system.

Your Choice?

## ***Yell for sysop***

[Yell for sysop](#)

## ***Line to line messages***

[Line to line messages](#)

## ***Internet Mail Gateway***

[Internet Mail](#)

## ***Adjust your settings***

This is another route to the options menu.

[Options menu](#)

## ***BAA Services***

This is still under construction at the moment, and should arrive 'real soon now'!

## ***Example Services Menus***

[CCD Services](#)

[SPA Services](#)

## ***Astro Societies***

Please note that I will be very happy to add information about any UK astronomy society to the astro society services menu. You should provide general details, such as who to contact to find out more information, and not stuff that changes frequently, such as what happens at the next meeting.

# Yell for Sysop

If you yell for the sysop it makes the terminal at this end bleep, so I know that someone wants to type to me. Of course I may not be there, or I may be busy at the time, so please don't take it personally if I don't answer.

However I NEVER answer the chat request if the user does not enter a reason when asked for one, so bear that in mind!

Idle chat is also a lousy reason to yell for me - though idle chat is very welcome in the message areas!

Here is what you will see if you go for it. Notice that if I am not available you are given the chance to leave me a message explaining what I can do to help - please feel free to take advantage of this.

```
Why do you want to chat with Nick?

[-----]
  To tell him an idea of mine

The sysop is not available to chat to you right now.
Please leave a message to the sysop, explaining what you want.
You will be offered the chance to do this as you logoff.

Press [Enter] to continue:

Leave a message to the sysop [Y/n]? No
```

If we do end up 'chatting' online, here are a few things to bear in mind.

Don't worry too much about the odd spelling mistake - its very painful watching someone backspace to change a word when what was meant is perfectly clear.

Hit return twice when you are ready to hand over to me to type - and if I have pressed return a few times so you see some blank lines, that means it's your turn to type.

Some things are better dealt with in messages - in particular anything that involves you typing a lot, or me responding with a lot of information.

# Crosstalk - Multi line functions

Here is the crosstalk menu, which you reach from the SERVICES menu.

Starbase One - Multiline Settings.

```
<P>rivate      Toggle 'do not disturb'  
<W>ho         Who's on the other lines.  
<C>rosstalk    Send a message to another line.  
  
<Q>uit        Quit to Main Menu.  
<H>elp        Explain the options.  
<G>oodbye     Logoff the system.
```

Your Choice?

<P>rivate - if you turn this option on, other users are not allowed to send you messages from other lines.

<W>ho - this will show you if anyone is using the other line. You might also see the sysop logged onto line 3 (which is the local terminal, not a real line).

<C>rosstalk - this will let you type in a short message which will be shown to the user on the line of your choice. Note that if they are doing something which would be awkward to interrupt (such as downloading a file, or entering a message) they may not receive it for some time.

The standard HELP QUIT and GOODBYE options are included on this menu.

# Internet Mail Gateway

Via the Internet mail gateway you can reach an estimated 30 million email users, all over the world! Note that this is a subscriber only feature.

Here is the help text from the gateway menu:

This text explains how to use the internet mail. Internet mail is very different from normal Fidonet mail, so please read this carefully.

You are strongly recommended to capture this text with your comms program for future reference, or download it.

When you select the option, the TO field will be filled in for you. This is the gateway system that passes messages onwards - you have to enter who it's to in the message itself.

Enter the subject as normal.

The first line of your message MUST consist of TO: and then the address of the person you wish to mail to. There MUST be a space between the TO: and the address. Here's an example:

**TO: starbase@cix.compulink.co.uk**

IMPORTANT! The Internet is case sensitive for just about everything! So if you used any capital letters for the example, it may not work!!!

Also note that in the menu example there is a \$ between the name and the system - it should be a @ character, but the BBS interprets this as a command character in a menu!

You can then continue with your message as per usual.

As you might have guessed, the general form of an internet address is

**username@system.address**

The address bit varies wildly, but as a clue, the ending generally tells you something useful. Here are some endings, and what they signify:

<b>.gov</b>	<b>US Government organisation (Eg NASA)</b>
<b>.com</b>	<b>Commercial company</b>
<b>.org</b>	<b>Non profit organisation</b>
<b>.edu</b>	<b>American university</b>
<b>.uk</b>	<b>United Kingdom Address</b>

Outside the US, the address ends in a country code. An address ending in .uk is in the United Kingdom, .au is australia, .fi is finland, and so forth.

The route through to the Internet is fairly devious, and your message might take a day or so to get through. So please be patient if you are expecting a reply. To be specific, if your outgoing message is entered before about 11:00 am, it should make it out in the early hours the next day. Mail coming back has to work it's way around fidonet, and might take a day or so to make it back to SB1.

It is theoretically possible to do just about anything through a mail link to the Internet, but PLEASE do

not attempt such tricks as FTP by mail. This is because the BBS here will not handle any message larger than about 25k, so you won't get to see it anyway - it will just cost me money to collect it, then it will crash and burn on arrival.

Mailing lists are a bit tricky too - I am concerned that the BBS may be left picking mail indefinitely for users who no longer call. But let me know if you are after something in particular, and we can sort something out if I know what is going on.

The Internet can reach almost any major computer system in the world, but it's not always obvious how to do it! You will always need to know the id of the person you wish to contact, on the system in question. Here are a couple of examples:

To contact a user on CIX:  
TO: starbase1@cix.complink.co.uk

(Obviously you should substitute the ID of the person you wish to talk to where the starbase1 but is!)

To contact a user on Compuserve:  
You will need to know that persons user number. If it was 12345,678

TO: 12345.678@compuserve.com

Note particularly that the comma between the numbers is now a full stop.

To contact someone on Demon systems:

Users of Demon accounts don't just get a user ID, they get a system of their own, so you will need to know their system name as well as their ID. For example, my user id is nstevens, and my system name is starbase, so my Internet address at Demon is:

nstevens@starbase.demon.co.uk

If you know the system name but not the user name you should be able to send a message to postmaster at that system more often than not.

To contact someone you have spotted in a USENET conference:

Take a close look at the messages they have left - you will generally find a signature near the end, occupying a few lines. If the person wants you to know their contact address, this is where it will be.

If you see a REPLY TO: line near the top of the message, use this.

In general the FROM info refers to a system or program, not an actual person, and should not be used. Be particularly suspicious if the name is news@ or daemon@ (A term for a software agent). If the bit before the @ character looks like it's based on the senders name, it might be OK.

It might be worth mentioning that you do not have full USENET or Internet access if you are asking for info, as they will then be more likely to send you a full response, instead of just refering you to another site or USENET group.

Receiving Internet Mail:

If you wish users to be able to mail you FROM the Internet, you must tell them your address on this system. In my case it is:

Nick.Stevens@f407.n254.z2.fidonet.org



Just substitute your own name for Nick.Stevens, note that the full stop is used instead of a space, as Internet addresses do not allow embedded spaces.

Another easy way if you (or they!) find it confusing is to send them a message they will be able to reply to.

>> BE VERY CAREFUL << when replying to an incoming message from the Internet!  
The BBS software knows nothing about Internet addressing, and if you quote the message in your reply, the require TO: line will NOT be on the first line!!! So you will need to insert it before the first line manually, using the <I> command.

# CCD Services

Get to this menu via the SERVICES menu, which you reach from the main menu.

CCD Camera Services.

<A>bout CCD cameras

Press R at the next menu to get back here.

Message resources:

<M>essages about CCD photography

<B>AA Alerts - What to observe!

<O>bserver's notes messages - discussion by observers

File resources

<I>mage files from CCD cameras

<S>oftware files for CCD cameras

<C>harts file area

<Q>uit Goto the Main Menu.

<R>eturn to last menu

<G>oodbye Leave the system.

<H>elp Explain the options.

Your Choice?

Notice that various parts of Starbase One in terms of file and message areas can all be reached directly from the services menu. The intention is that for a certain type of user everything is conveniently placed on one menu. It also makes it easier for new users to find all relevant resources.

# Society for Popular Astronomy Services

The Society for Popular Astronomy has long been established on Starbase One, and provide financial support for its operation. The SPA were formerly know as the Junior Astronomical Society, or JAS. Here is the SPA services menu, which is reached from the services menu from the main menu.

Society for Popular Astronomy services.

Please address any queries to Ian Ridpath, Robin Scagell or Paul Sutherland.

<A>bout the Society for Popular Astronomy

<R>ead Messages

<E>nter a message

<S>can the messages

<V>erbose message list

<F>iles - Use the SPA files area

<Q>uit           Goto the Main Menu.

<G>oodbye       Leave the system.

<H>elp           Explain the options.

From this menu you can find out more about the society, read or enter messages in the SPA message area, or take a look at the SPA files area.

## ***Standard Options***

[Quit](#)

[Help](#)

[Goodbye](#)

## The Quit Command

Typing Q for Quit at almost any menu will take you directly to the main menu for the whole system. If you are lost deep in the menus, its a good key to press! To leave the system entirely see the GOODBYE command.

## The Help Command

Typing H for Help at almost any menu will show you a text file describing the various options, and what they do. Not that there are a couple of points in the system where the bulletin board software will use a ? instead of H for help - these can normally be identified by the way there are many ptions on the one line. If you see ? as an option, it is equivalent to H for Help.

# The Goodbye Menu

Starbase One - Logoff Menu

```
<R>eturn    Go back to previous Menu.  
<L>eave     Leave a message to the sysop & go.  
<G>oodbye   Leave the system now.  
  
<Q>uit      Goto the Main Menu.  
<H>elp      Help.
```

Your Choice?

This is the menu you see just before you log off. Get to it from almost every menu by typing G for Goodbye. If you change your mind, then press R to return to the previous menu. Leave a message and go will do exactly that - you will be started in a message to me, and once you save it you will be logged off of the system.

Goodbye ends your session on Starbase One.

# Messages Menu

Messages are at the very heart of Starbase One. This is what the main message menu looks like:

```
Starbase One - Messages Menu.

Message Category is: All Astronomy Messages
Message Area is: sci.space.news

<C> New Category   <A> New Area   <J> Jump Anywhere   <E>mail

<R>ead            Read Messages
<W>rite           Enter a message
<S>can            Scan the messages
<M>ailcheck       Check for unread mail
<O>ffline         Use the Offline reader

Combined message area options:
<P>ick combined areas   <L>ook - Read Combined Areas

<Q>uit to main   <G>oodbye   <H>elp

Your Choice?
```

## Heading Information

The header information shows your current message area and message category. In this case the area is the USENET conference sci.space.news and the message category is All Astronomy Messages.

## Changing message areas and categories

There are four commands to control your message area and category.

### New Category

This selects the active message category. Examples are ASTRONOMY MESSAGES, and USENET CONFERENCES. You will then be asked to pick a specific message area. You pick from the list by entering the number of the category you want.

### New Area

The new area command can be used to pick a new message area within the current message category. You pick from the list by entering the number of the category you want.

### Jump Anywhere

Use this command to pick a message area from any that you have access to. You pick from the list by entering the number of the category you want.

### Email

Select this option to set your current message area to personal mail, used for private person to person messages. You have the option of attaching files to these messages, but please be sure to delete the files once you have downloaded successfully.

## Read Messages

Select this option to read messages from the current message area. You will then be asked to select which messages you want. These options include:

- Read Reverse - the most recent messages first
- Read New - read all unread messages.
- Read forward - read ALL messages starting with the oldest available. This can return a LOT of messages!
- Read Selected. You can then choose to select messages by who they are from or too, text in the subject line, or a word occurring in the main body of the message. Its a handy way of finding messages that interest you in a busy conference.

Very often you will want to start by doing a READ REVERSE on a new message area to get the most recent messages. You can then keep up to date with READ NEW.

### ***Write - enter a message***

Use this option to send a message. If you want the message to be to everyone then enter ALL when asked who it is to. If you want to send a message to me then SYSOP will do. Here are some other pints to bear in mind:

- You can upload a previously prepared text file. This should be plain text, with the lines less than 72 characters long.
- Messages can be private or public. Private messages can only be read by the recipient, public messages can be read by anyone.
- You can ask for confirmed receipt of a message. This means that you will receive an automatic message when the person gets your message, so you know it has been read.
- You can send copies of a message to other users once you have entered it.
- For message areas local to Starbase One you can attach files to a message. Please be sure to delete the file after it has been received to avoid wasting disk space on Starbase One.
- When you have finished entering your message type S to save it.
- Hit return on a blank line to stop entering your message. If you want to enter a blank line then tap space before pressing return.
- You have the option of including the text from the original message when replying. This can be handy to show context, but avoid quoting too much of the original message.
- There is a limit of 60 lines for a message entered directly. Longer messages can be uploaded as files.

### ***Scan Messages***

This lets you scan the subjects lines of the messages, handy for checking if there is anything of interest. When scanning you have the same options as when reading, (ie scan new, scan reverse etc).

### ***Mailcheck***

[Check for unread personal messages](#)

### ***Offline Reader***

[Use the offline reader](#)

### ***Combined Messages***

Combined messages gives you a way of reading several message areas in one go, without having to change areas each time. This is how it works.

Start by choosing which areas you want to read, using the pick combined areas command. For



example, suppose you want to read the message areas for General Chat, BAA Alerts, and Observers Notes. use the pick combined to add areas 1, 3 and 4.

If you now do a combined read the system will take you from area to area automatically as required, to read the messages asked for. As with any other read you have the option of reading forwards, backwards, new messages, or selected messages.

It may take a little while to set this up, but its well worth the effort in the long run, and makes the board much easier to use.

If you are not a subscriber then be sure to set up the combined messages options, as this is a great time saver. Remember that if you tell the board not to pause between messages, and type = at the first 'more' prompt, you can get the whole lot to scroll past really quickly. (Obviously you will need to capture it or save it to disk somehow!)

### ***Standard Commands***

[Help](#)

[Quit](#)

[Goodbye](#)

## The Mailcheck command

The mailcheck command is used to check if there are any messages (including personal email, and messages in echo conferences) addressed to you that you have not yet read. You do not have to read them right away if any are found.

It's a good idea to do a mailcheck once per session to make sure you don't miss out on any personal messages.

# Offline Mail



What its for

Many bulletin boards receive large numbers of messages, and it can take a long time to read them all - which means big phone bills for you, and a bulletin board that's hard to get through too. The solution to this is the offline reader, which will pass you mail as one big compressed file to read without running up the bill.



What they do.

Offline mail systems come in two parts. Theres one part that runs at the BBS end, and another that you run at home. The program at this end is called MKQWK and it is quite separate from the main bulletin board. It is this program (MKQWK) which is responsible for assembling your mail packets, and keeping track of your particular profile. You may tell MKQWK which conferences you wish to receive, if you also want to receive your own messages and so forth. You then select DOWNLOAD and the program packs it up in a bundle, compresses it (with your choice of archiver, ZIP LZH or ARJ), and sends it to you.



Reading the messages.

Once you have received the file you may quit from MKQWK and leave the system MKQWK produces message files in a format known as QWK, and you will need a compatible reader to run at your end. Some of these are available here on Starbase One. Each will work in a slightly different way, but they all have certain features in common, which include allowing you to reply to to messages without being online. When you have finished your reader will assemble your replies into a packet, and compress it ready to send back to Starbase One, (into MKQWK), which will slot your replies into the correct conferences. MKQWK also has the option of creating a plain text file out of the messages. This will NOT allow you to reply offline, but it will prove useful if you cannot get a QWK reader for your machine.



Recommended Sequence

Offline Readers are not for everyone, though most will find one useful and money saving. If you are new to computers and or comms I suggest you get more familiar before trying it. If you only occasionally read messages, or read few messages you may also not find it worthwhile. But if you like the idea, this is what I suggest:

- 1 Get an offline reader for your machine, (see the Download Reader menu). Decompress the program, read the docs, and install it.
- 2 Dial Starbase One and select the offline reader. You should start by configuring the options, taking care to set:
  - a) Which conferences you want.
  - b) Compression method.
  - c) Protocol to transfer the packet.
- 3 Select download messages.

There will be a short delay as MKQWK builds your mail packet, and compresses it before sending it.

What will happen now will depend on your reader, but as a guide here are some potential errors or problems you may encounter:



#### TOO MANY MESSAGES

This message can be generated if you select a lot of messages, and MKQWK thinks it would take too long to transfer them. You are most likely to get this on your first run, and its a lot more likely if you select ALL messages, rather than just new ones.

Fix: Select fewer conferences, or fewer messages in conferences you want. MKQWK lets you set a ceiling on total messages, and messages per conference, so adjust these if you have problems.



#### NO MESSAGES SELECTED

You probably have not set any message areas to on!

Go back and check that you have added some message areas.



You cannot make sense of the downloaded packet.

This could be for several reasons. If you got the reader elsewhere, it may not be QWK compatible. You may have chosen a compression method not supported by your machine. (You will need a decompressor as well, to cope with .ZIP .ARJ or .LZH files).

### ***This is the OLR menu:***

Starbase One - Offline Mail Menu

```
<D>ownload  an offline reader.  
<A>bout    All about offline readers.  
<U>se      Offline Reader
```

Please note that the OLR is now a subscriber only feature.

```
<R>eturn    Return to message area select menu.  
<G>oodbye   Leave the system now.  
<Q>uit      Goto the Main Menu.  
<H>elp      Help.
```

# This help file

This help file is meant to get you familiar with the working of the Starbase One bulletin board. It is also intended to explain terms from computer communications for those who are astronomers first and computer users very much second. It also tries to explain some common astronomical terms for those whose main interest is computers but who have an interest in astronomy or space exploration.

You will also find some details on the major planets, illustrations of the odd nebula, sound clips, and other goodies to tempt you to explore.

To achieve this without breaking things up or getting cluttered, this help file has a VERY comprehensive glossary section - I hope you will find it useful if you ever get confused by terms.

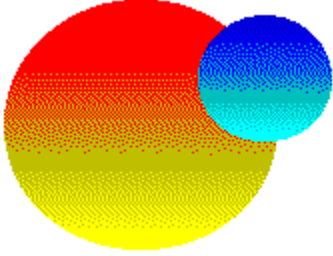
In every case I have tried to use clear and common sense descriptions even at the expense of them not being precisely correct. So if you spot that the definition of a baud rate is not precisely technically accurate, don't bother telling me - just give yourself a pat on the back (if you can find a nearby cow), and carry on.

For all that, suggested corrections and additions are very welcome, and should be left on the bulletin board addressed to the sysop.

Please also note that the illustrations in this help file were taken from the BBS, but were reduced in size (mostly) and reduced to 16 colours, to avoid this file getting unmanageably huge!

Suggestions and corrections for this file are very welcome - but please bear in mind that the board is constantly changing and (I hope) improving, so a few differences are to be expected.

## About Starbase One:



This section of the help file will give you an overview of the bulletin board Starbase One, and is largely intended for those new to Starbase One, or new to bulletin boards in general.

[History of Starbase One](#)

[Purpose of Starbase One](#)

[Major Features](#)

# History of Starbase One

Starbase One was created many years ago now by myself, shortly after I discovered the delights of computer bulletin boards. It occurred to me that my favorite subject, Astronomy, would be a good basis for a theme based bulletin board, but I couldn't find one anywhere.

So I decided to do it myself.

At first the system ran on an Atari ST using FoReM software, and had a high proportion of general material. As I collected more astronomy and space material, general public domain stuff was deleted to make way for it, and the board gradually began to get the character (and many of the users) it has today. Particularly important in these early days was the contribution of Don Miles of the BAA, who devoted much personal time and effort to providing the alerts (a role now taken over by Garry Burford). Also the BBS would never have got off the ground in the first place without some heavy duty technical assistance from Clive Strudwick and Steve Edwards.

At this early stage Starbase Two appeared, ran by Andrew Hartridge. Andrew moved out to the USA a couple of years later, and is currently active on the Internet. (Starbase Two was briefly known as 'strange'.

It was Andrew who located Starbase Three (Run by John Pickens) in Fresno California. John had started at three and was quite tickled to find that one and two had appeared underneath him!

After several years, I was fortunate enough to be offered excellent redundancy terms, and set off around the world, leaving the BBS in the care of Rob Robinson for about 8 months. Rob did well enough to get the BBS rated as the best in the UK while I was away, and by the time I got back I was brimming with plans and ready to make a major upgrade, and the BBS moved onto a 386 IBM PC, (the same machine it runs on today).

After talking to other sysops I decided on Remote Access software - it was extremely flexible and would let me get the board looking exactly as I wished, albeit at the cost of a lot of development effort.

It was at this point that the system began to look largely as does today.

Extras that went in afterwards were larger hard disks, (to meet an ever increasing demand for space), faster modems, and this year, and online CD Rom drive to bring the number of files available for download up to over 18,000. The BBS has exhibited twice at Astrofest thanks to Astronomy Now magazine, and in 1993 we had our own astronomical event at London University, the Digital Star Party. This may happen again, but there is a terrifying amount of work involved!

There are currently two other astronomy bulletin boards in the UK that I know of - Starbase Four (run by Pete Williamson), and Astronomers Den (Mike O'Brien). This is a lot healthier than when there was just me, and helps to keep me on my toes! It sometimes surprises people but there is very little rivalry between us. Well, we are all very proud of what we do, but we compete on a friendly basis, and pass on files and news, and generally help each other out.

So what's in the future for Starbase One?

Personally I would like to see stronger hooks into the Internet, like turning the USENET conferences read/write, and maybe providing Internet email access. I would like to dump much of the BBS off to a CD Rom - I am not very impressed with the astro shareware collections I have seen so far on CD Rom

Thanks to all the users who keep me going at this lark, with uploads, or messages of encouragement - without such encouragement I'd probably be playing computer games, or some such!

Nick Stevens



# Purpose of Starbase One



At it's most basic level I run Starbase One because I enjoy doing it (at least most of the time I do!).

It's intended as a place where anyone interested in astronomy or space exploration can come and meet like minded people. Age, ability, experience, a big telescope, a big computer are not needed. Enthusiasm, curiosity and interest are needed! Don't be afraid of looking silly or asking dumb questions just because some other might appear to be experts - there are plenty of others at your level WHATEVER IT IS. The youngest user I know of is seven (there may well be younger), and he has come out with some VERY good questions.

Sadly the BBS costs a lot to run, and subscriptions only cover a small part of the cost. And experience has shown that users will only subscribe if the free access is restricted. I have tried various ways, but have settled on restricting time as the fairest - on subscribers can see all the features, try out everything, and be generally sure of what they are getting.

If you don't want to pay for subscriber access, thats fair enough. If you do want to pay for subscriber access, that's great. If you want more access without subscribing, no way.



# Major Features

This section describes in very broad terms what you can find on Starbase One. For fuller details see the menu details.

[Local Messages](#)

[World Messages](#)

[Text Database](#)

[Program Files](#)

[Image Files](#)

[Other Files](#)

## Local messages

LOCAL messages refer to messages that only appear on Starbase One. These include private messages between users, and general discussions. Starbase One is a GREAT place to meet other astronomers for free advice and socializing - even when the skies are cloudy, and you cannot use your telescope. There are special message areas for those new to the subject, hardened observers, CCD camera users, and much more.

## World Messages

Some messages are passed between bulletin boards all over the world - effectively forming one giant astronomy society. This is often called echomail. If you have a difficult or obscure astronomy or space exploration question, it's odds on that someone out there will have the answer you need.

Some professional bodies make their news and data available to amateurs in this way. For example, every day the latest NASA news arrives on the board, as well as detailed solar activity information. Satellite orbital elements arrive every week, and are updated every day when a shuttle mission is up.

Starbase One is one of the few conventional bulletin boards that has it's own source of USENET messages. USENET is the gigantic worldwide news and chat system on the Internet, and all the space and astronomy topics are covered on Starbase One at no extra charge.

At the moment these USENET conferences are all read only, (any messages entered do NOT go back out into the world), but I am working on a fix for this.

# Text Databases

## ***SYSOP'S NOTE***

At the moment the databases are disabled due to memory difficulties. These will be reinstated when I upgrade the system to OS/2 shortly, (If I can ever get it to install!)

Text databases used to be a separate menu in their own right - they are now dealt with under various of the SERVICES menu options. The idea is that each database stores a selection of text files on a similar topic, and you can search them for a key word, or a word that occurs somewhere in the text.

When I get the rest of the system tidied up I intend to improve and update the texts available here.

Here is a small sample from one of the documents in the database. (Note that the hypertext links do not appear in the real thing).

### SANITATION IN ORBIT

Sanitation is more important within the confines of a spaceship or space station than on Earth. Studies have shown that the population of some microbes can increase extraordinarily in micro gravity and confined spaces. This means many infectious illnesses could easily spread to everyone aboard.

The eating equipment, dining area, toilet, and sleeping facilities in an orbiter are regularly cleaned, to prevent the growth of microorganisms. Since there is no washing machine aboard, trousers (changed weekly), socks, shirts, and underwear (changed every two days) are sealed in air tight plastic bags after being worn. Garbage and trash are also sealed in plastic bags. Shuttle travelers don't have to do many dishes. Food containers go into the plastic bags, and eating utensils and trays are cleaned with wet wipes.

A favorite early question of people interested in space was how the astronauts took care of digestive elimination. The orbiter travelers use a toilet that operates very much like one on Earth. A steady flow of air moves through the unit when it is in use, carrying wastes to a special container or into plastic bags. The container can be opened to vacuum, which exhausts the water and dries the solids, and the plastic bags, when used, can be sealed.

Some of the wastes may be returned to Earth for post flight laboratory analysis. In the past, such analyses have helped doctors understand how the body functions in micro gravity, including data on which minerals the body loses in unusual amounts.

Unlike Skylab, which had an enclosed shower, Shuttle travelers can only take sponge baths in space. Water droplets float about in weightlessness, creating a potential hazard for electrical equipment. Water is obtained from a handgun, where the temperature can be set at any comfortable level from 18 to 35 degrees C (65 to 95 degrees F). Dirty water from the sponge is squeezed into an airflow system which conveys it to the orbiter's waste collection tank.

Whiskers cut off in shaving could also become a nuisance if they floated about, with a potential to damage equipment. Male astronauts can avoid this problem by using conventional shaving cream and a safety razor, then cleaning off the face with a disposable towel.

The sleeping and sanitary arrangements for the Space Station are still in the design stage. Engineers are drawing on the experience gained in earlier manned space flight programs to plan systems that will be more like those on Earth. Eventually, a visitor to the Space Station should be able to eat a meal or use the sanitary facilities without special instructions.



## Program Files

Programs are available covering all kinds of things to do with space exploration and astronomy. Though most are for the IBM PC and compatibles, there are also file areas devoted to [Amiga](#), [Macintosh](#), [Archimedes](#), and [Atari ST](#) computers. And if you don't have one of those, there is plenty of [BASIC](#) source code, for you to crate your own masterpiece.

There are planetarium programs, space flight simulators, demonstration versions of commercial programs, galaxy collision simulators, observers databases, gravity simulators, constellation guides - you name it!

A relatively recent addition to the board is the TOP 12 [Shareware](#) menu, from under the [services menu](#). This provides access to the 12 programs I rate as the best for the astronomer, and you can also read the text for the original article that was written for Practical Astronomy magazine by myself.

It's a great place to start if you are new to astro [shareware](#).

# Image Files

Please note that the sample images and pictures used in this help file have been reduced to the minimum of the 16 basic windows colours - the real versions you can download are much more subtly coloured, and in many cases larger too.

Images are a very popular part of Starbase One's file library, with many many thousands on offer. Pictures of planets, pictures of deep sky objects, pictures of the space shuttle, finder charts for objects in the night sky, large sections of Mars images, including modelled views from the surface of the red planet, voyager shots of Saturn, wonderfully detailed shots by the Hubble space telescope, you name it!

Particularly popular are the NASA images released when a major event occurs. Starbase One can make these images available to you MUCH faster than your favorite astronomy magazine. And as they are already in digital format, it is a simple matter to zoom in, or process and enhance the pictures. Needless to say, software to do this for most machines is freely available on Starbase One. This makes excellent material for society newsletters.

Images are normally provided in GIF or JPEG format - these image formats are widely supported by many machines, as they are very compact ways of storing the data. This means you spend less time collecting them and so have a smaller phone bill at the end of the day.

Note that JPEG is a 'lossy' format - you do not get out exactly what you put in. The differences are very slight though, and JPEG files are even smaller than GIF's.

Some images are also provided in native formats for Atari, Macintosh, and Amiga computers.

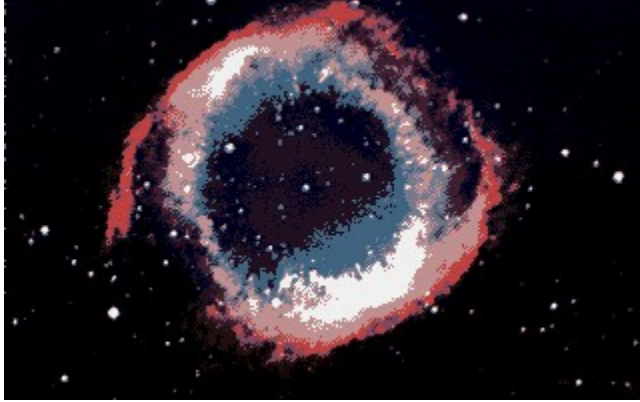
If you are looking for somewhere to start, then I have created a special file section called BEST IMAGES. This contains copies of the best images from the other file areas on Starbase One.

Here is an example image of the galaxy M83 - and it looks even better in 256 colours than in this necessarily 16 colour version!

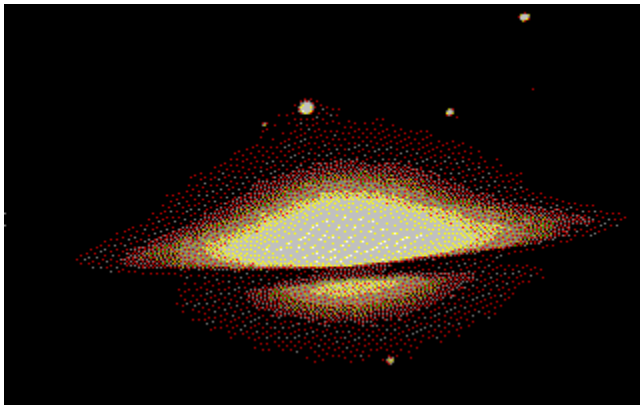


And here is a picture of the Helix nebula - a shell of gas emitted by an old star.





And finally an image of the distant galaxy catalogued as M104, (see details of the [Messier](#) objects), and commonly known as The Sombrero.



## Other Files

Apart from [images](#) and programs, there is still an awful lot of material on [Starbase One](#). For example, there are many thousands of text files, (provided compressed by the [ZIP](#) program). These cover all sorts of things, from the operation of the space shuttles zero gravity toilet to descriptions of particularly attractive double stars..

There is a VERY extensive collection of catalogue and database information - ideal for the serious amateur observer, or the programmer who needs numbers to feed into his latest astronomy program.

You will find all the source code to the software that has appeared in Sky and Telescope magazine, directly from them. Very handy if you enjoy putting together your own software!

There are animations - such things as simulated flights over the surface of [Mars](#), and multimedia clips of project Apollo. Be warned though, many of these files are very large, and you will need a fast [modem](#) if it is going to be practical for you to get them.

There are also [sound](#) clips - if your PC has a [sound](#) card (or even the Microsoft speaker driver), then try clicking on the three lines below to hear short [sound](#) clips. (This may not work for every machine, but give it a go)

[Mercury astronaut speaks!](#)

[Message from Apollo 11](#)

[Message from Apollo 13](#)

For something even stranger from a help file, if your system supports MIDI, (and most with a proper [sound](#) card do), then you should be able to use the two buttons below to start and stop playing a tune! It will carry on playing while you look at the help file. The speaker driver does NOT support playing MIDI files.



# Menu Structures

This is the top level description of the menu system used on Starbase One. It covers your first call, (when you will register), the Airlock menu (The first proper menu you will see, where you can check for personal messages and new files), the main menu (you will see a lot of this!), and the goodbye menu.

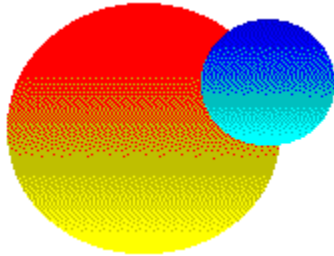
[Your First Call](#)

[The Airlock Menu](#)

[The Main Menu](#)

[The Goodbye Menu](#)

[Menus in general](#)



## Your First Call

On your first call to Starbase One you will be asked to provide a few basic details, and decide how you want the system to respond to you. This is also known as REGISTERING, (which is different from subscribing).

A sample registering session, (using the fictitious example of Carl Sagan), follows, with some explanatory text at the end.

Welcome to Starbase One!

Please enter your first and last names: Carl Sagan

Scanning user-file ...

Available languages:

- |         |                   |         |                   |
|---------|-------------------|---------|-------------------|
| 1 ..... | English           | 2 ..... | Dutch             |
| 3 ..... | Francais (French) | 4 ..... | Deutch (German)   |
| 5 ..... | Icelandic         | 6 ..... | Svenska (Swedish) |
| 7 ..... | Dansk (Danish)    | 8 ..... | Greek             |

Select your preferred language: 1

I cannot find you in the user log.  
Please check that you have entered your name correctly.

Name entered: Carl Sagan.

Did you enter your name correctly [Y/n]? Yes

Welcome as a new user to STARBASE ONE, a bulletin board devoted to supporting and popularizing space and astronomy. Anyone with an interest in these subjects is very welcome on this board, whatever their level of experience or expertise.

Starbase One is unusual in that it supports one subject over many machines, particularly IBM PC, Atari ST, Amiga, Archimedes and Mac. There is also a wide selection of text files and source code suitable for any machine.

If astronomy and or space exploration is NOT your main reason for using this system you will probably be disappointed, as there are many many boards with a much wider range of general software.

Starbase One also offers a subscription level service, which will give you greatly increased time allowed.

As a new user you will now be asked some questions, to tell me a bit more about yourself, and set the way the system responds to you. All answers are entirely confidential, and this board counts as a club under the Data Protection Act.

Press return to continue:

Until I have checked out the details you enter you will only be allowed to download the free files, such as the Key Downloads, and most astronomy files. It is not required to be a subscriber to download files, but you will have to wait for me to upgrade you to REGISTERED status.

Even when registered there is a tight download allowance on non-space files.

Yellow On Blue

If the above says Yellow on Blue, in those colours, you have ANSI colour. If it has some numbers then text, then numbers you do not support ANSI. If it says Yellow on Blue, no numbers, no colour, you support ANSI but only in mono.

If possible I recommend using ANSI Graphics.

Would you like ANSI colour and graphics [Y/n]? Yes

Would you like hot-keyed menus [Y/n]? Yes

Use the full screen message viewer [Y/n]? Yes

How many lines does your display have (10-66, 24 recommended): 24

Do you want screen clearing codes sent [Y/n]? No

Please enter a rough location: America

Please enter your home/voice phone number:

Number: 000-000

Number entered: 000-000

Is this correct [Y/n]? Yes

When choosing your password, please remember:

1. Do not use an obvious or easy to guess password
2. Do not use the same password on more than one system
3. Write the password down somewhere safe

Enter the password you wish to use: \*\*\*\*\*

Please re-enter for verification: \*\*\*\*\*

Did you enter all the above information correctly [Y/n]? Yes

Scanning phone numbers, please wait a moment..

Thank you for giving me those details.

Now you can get on with exploring the system!

Feel free to leave the sysop a message as you log off, particularly if I can help in any way.

Press return to continue:

Starbase One - Entrance Airlock  
This BBS is financially supported by the SPA news circulars service.

<M>ailcheck    Check for your mail.  
<F>iles        Check for new downloads.  
<T>agged       Collect Tagged Files.  
<O>ffline      Go directly to offline reader.

<Q>uit         Go to Main Menu  
<H>elp         Explain the options.  
<G>oodbye      Logoff the system.

Your Choice?

### **Notes on Registering:**

- 1 Names. You do not HAVE to use your real name, but it is appreciated. If for some reason you do not want your real name known, please pick a sensible and believable pseudonym. Anyone calling themselves by childish hacker names will be deleted from the system promptly.
- 2 Languages are only used for prompts, not for the menus.
- 3 If the system does not recognize your name, it assumes you are a new user - if it does recognize it, the system asks for your password.
- 4 Subscription level service - this is optional and will give you much more time, and let you download as many files as you want without having to upload anything.
- 5 The Data Protection Act - This bulletin board counts as a club or society, and therefore does NOT have to register under the act.
- 6 ANSI Colour - If you don't support ANSI at all you will see extra square brackets and numbers and junk all over the place. If you spot this at a later date, turn off ANSI graphics from the OPTIONS menu.
- 7 Download Restrictions. You can always download the Space and Astronomy files, but for every few general files you download, you will be expected to upload something, before you are allowed any more. This serves two functions:

It gives an incentive to become a subscriber  
It emphasizes that this is an astronomy BBS.

- 8 Hot Keys. With hot keys on you only have to press the letter of the option you want and the system will respond. With hot keys OFF you have to press return after each letter. One advantage of having hot keys off is that you can enter a sequence of commands in one go, but most users seem to prefer hot keys on.
- 9 Full screen message viewer. This will let you read messages a full screen at a time, rather than by scrolling the text up. Note that you must have ANSI graphics turned on for this to work, as it uses ANSI codes to paint the screen and clear it.
- 10 Number of display lines. This is where you set the length of your screen - most users like the setting of 24, but others may be able to fit more on a screen at a time, (such as Mac users with portrait format monitors, and those with very high resolution displays).
- 11 Screen Clearing Codes. This determines if Starbase One will try and clear your screen for you at appropriate times. It is not an important setting.
- 12 Location. This is an optional entry - well, the system will insist you enter something, but it can be a county, a town, the name of your local astronomy society, whatever you like. Other users will see this if they check the other line when you are using it.
- 13 Phone Number. This is also an optional field, and again the system will insist that you enter something. If you do not want to reveal your phone number, just make something up. Only the sysop can ever see your phone number, and it is treated as HIGHLY confidential. Phone numbers entered are checked for duplicates automatically, so you may find a dummy number such as 999 has already been used!
- 14 Password. Follow the instructions carefully. Many comms packages will store passwords for you, and this is a good way to avoid losing them. Please note also that the sysop can NOT tell what your password is! Though I can force it to something different.

### ***Your First Real Menu***

The first 'real' menu you see is the airlock menu, which is described separately under the menu structures. But for your first call you may want to bear in mind that:

- As you have just joined, it is very unlikely there will be any mail for you yet!
- New files will show every file on the system. (ouch!)
- Type Q to get to the main menu.

You may now wish to examine the other menu structures:

### Top Level Menu Structures

# The Airlock Menu

Starbase One - Entrance Airlock

This BBS is financially supported by the SPA news circulars service.

<M>ailcheck	Check for your <u>mail</u> .
<F>iles	Check for new downloads.
<T>agged	Collect <u>Tagged Files</u> .
<O>ffline	Go directly to <u>offline reader</u> .
<Q>uit	Go to Main Menu
<H>elp	Explain the <u>options</u> .
<G>oodbye	Logoff the system.

Your Choice?

The AIRLOCK menu is the first menu you will see after entering your name and password. You will often type M to check for personal mail, F to check for new files since your last call, then Q to quit to the main menu. Q may seem an odd key to use, but it is used everywhere else, so is used here for consistency.

[Mailcheck command](#)

[Check for new files](#)

[Tagged Files](#)

[The QUIT command](#)

[The GOODBYE command](#)

[The HELP command](#)



## Check for new files command

This command will check for new files since your last call to Starbase One. Note that it is since your last call NOT since the last time you checked for files.

The CD Rom files are not checked with this command.

When files are being listed you may TAG any you want for download later. If you tag more than one file, you should use a batch protocol such as ZMODEM to download them.

You can collect tagged files from the main menu.

If you type N for no when asked if you want to check from the last call date, you will be given the chance to enter a different date to check since. This can be useful if you want to find a file that you think appeared recently.









# The Main Menu

The Main Menu is something you will get to see quite a lot of, and it is your route to the various other sections of Starbase One. I have recently put a lot of effort into simplifying this, as new users were finding it confusing.

The best way to get the hang of the main menu is to go for a guided tour.

But here's a short 'exploding' view, where you can click on the bit you are interested in, to expand it:

## Starbase One Main Menu

-  Files
-  Key Downloads
-  Options
-  Join as a Subscriber
-  Tagged
-  Services
-  Messages
-  Winhelp












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## Starbase One Main Menu

-  **Files**
-  **Find a file by name**
-  **Find a file by searching the description**
-  **Download a file**
-  **Key Downloads**
-  **Options**
-  **Join as a Subscriber**
-  **Tagged**
-  **Services**
-  **Messages**
-  **Winhelp**












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## Starbase One Main Menu

-  **Files**
-  **Key Downloads**
-  **Lists of available files**
-  **Decompressors - UNZIP etc**
-  **Introductory texts**
-  **Options**
-  **Join as a Subscriber**
-  **Tagged**
-  **Services**
-  **Messages**
-  **Winhelp**

























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## Starbase One Main Menu

-  **Files**
-  **Key Downloads**
-  **Options**
-  Length - Set the number of lines of text you receive before the system prompts you for more. 24 is recommended.
-  Screen - do you want screen clearing codes sent.
-  More - do you want MORE prompting at all?
-  ANSI - Turn ANSI off or on
-  Disturb - Set do not disturb for inter line chat.
-  Where - change your location description.
-  Hot keys - instant response or press return?
-  Voice - change your voice number field (optional)
-  Full Screen - Use the full screen message viewer, or not?
-  Date - set date format
-  Language - choose the prompt language
-  Busy - show the system busy graph for your line.
-  Combined - choose combined message areas.
-  Password - change your password.
-  Echomail at logon - include it in new mail checks?
-  Transfer protocol - Set the default, ZMODEM recommended.
-  **Join as a Subscriber**
-  **Tagged**
-  **Services**
-  **Messages**
-  **Winhelp**










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## Starbase One Main Menu

-  Files
-  Key Downloads
-  Options
-  Join as a Subscriber
-  Show details of how to subscribe
-  Tagged
-  Services
-  Messages
-  Winhelp










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## Starbase One Main Menu

-  Files
-  Key Downloads
-  Options
-  Join as a Subscriber
-  Tagged
-  This command will let you collect any files you tagged at logon, if you chose to list new files at the airlock menu, and marked some of them for later download.
-  Services
-  Messages
-  Winhelp














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## Starbase One Main Menu

-  **Files**
-  **Key Downloads**
-  **Options**
-  **Join as a Subscriber**
-  **Tagged**
-  **Services**
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-  British Astronomical Association services
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-  UK Astronomy Societies
-  **Messages**
-  **Winhelp**














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## Starbase One Main Menu

-  Files
-  Key Downloads
-  Options
-  Join as a Subscriber
-  Tagged
-  Services
-  Messages
-  Check for new messages to you
-  Read messages
-  Send personal email
-  Winhelp










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But here's a short 'exploding' view, where you can click on the bit you are interested in, to expand it:

## Starbase One Main Menu

-  Files
-  Key Downloads
-  Options
-  Join as a Subscriber
-  Tagged
-  Services
-  Messages
-  Winhelp
-  Download the latest version of this help file. Note that I have tried to design it such that it does not need updating very often.

# Menus in general

This section described some general features of menus that you should be aware of. For example, here is what the main menu looks like (minus a few options to keep things small).

```
Starbase One Main Menu

<M>essages    Discussions, NASA News, BAA Alerts etc.
<F>iles       For getting and giving software.
<K>ey         Key Downloads - Essential files and lists.
<O>ptions     Adjust and view your settings.

<H>elp        Explain the options.
<G>oodbye     Logoff the system.
```

Your Choice?

Notice that at the start of each command, one letter is in angle brackets, like this: <M>

This is the letter you should type to pick that menu option. If you have ANSI graphics on, it will be shown as white on red, to make it stand out even more.

If you have HOT KEYS turned on you just have to tap the key for the option you want. If not, you must press return afterwards.

You will also notice the H for Help, and G for Goodbye menu options. These appear on almost every menu on the system. Help will tell you about the options on offer, and Goodbye will take you to the logoff screen.

Menu's other than the main menu also feature QUIT, which takes you back to the main menu. Quite a few feature an R for Return option, which will take you back to the previous one. For example, the Goodbye menu features an R for Return option, in case you change your mind.

Something else you will often see is a prompt which look like:

```
More? (Y/n/=)
```

You get this when there is more text than will fit on the screen. Type Y for more, N for no more, and = if you want all the rest non-stop, (which can be handy if you are capturing the text to a file). Note also that the default is YES, which is shown in upper case. This means that you can get the option just by tapping return on it's own.

# Virus Information

There is a lot of press coverage about viruses, and much of it is just so much scare mongering. Yes, viruses can cause you a lot of grief. But some simple basic precautions will keep you safe.

[Types of virus](#)

[Avoiding viruses](#)

[What to do if you find one.](#)

[Starbase One virus precautions](#)

# Types of virus

Viruses come in several varieties, and understanding how they work will help you understand how to detect and avoid them. At it's most simple, a virus is a program that creates copies of itself - whether you want it to or not.

A virus will typically do nothing except make copies of itself for a while (this is how it spreads), then eventually take action. This is sometimes called the payload of the virus, and could be anything from a silly message to destroying everything on your hard disk.

## **Boot Viruses**

With most computers it is possible to start the computer from a floppy disk. When this happens a small program in an area of the disk known as the boot sector is run. For example, this is how games that run directly from the floppy disk automatically get started. If a virus manages to get into that area, it can then copy itself to any other disk that is put into the floppy drive. This boot sector program (or virus) does NOT show up on any directory listing.

One good way of avoiding boot sector viruses should be immediately apparent - don't boot from floppy disks if you can avoid it, and definitely avoid booting from other peoples floppy disks.

## **Link Viruses**

A link virus is a more complex virus. This type of virus attaches itself to the front of another program file, so it gets run before the main program. It can then attach itself to the front of a new program.

From this description it should be clear that there is one easy way to spot a link virus - the size of the program files will change if one is present.

## **Trojans**

A trojan is not really a virus at all, but the effect are very similar. It is named after the Trojan Horse, and it's a very appropriate name - a nice looking present that turns out to be a source of major destruction.

A trojan is a nobbled version of a program, meddled with so that it will do something it should not do in certain circumstances. It relies on people passing on pirate copies to spread before they discover the payload. One example was a pirate version of the Leisure Suit Larry game, which did major damage to the hard disk if you completed it.

One good way of avoiding Trojans should now be clear - don't accept copies of pirated software.

# Avoiding Viruses

Some simple precautions will help you to avoid getting a virus.

## ***Write protect your disks***

Use the write protect tab on your floppy disks to protect your data. If you do not expect to write to a disk, slide the tab. This will prevent boot viruses from spreading.

## ***Check disks you are given***

When you get a new disk, or download a new program use a virus checker on it. There are perfectly good shareware virus checking programs, (such as McAfee's for IBM PC's, and you don't need to spend a small fortune on top of the range tools.

## ***Avoid pirate software***

Trojan's cannot spread at all if you don't accept pirate software.

## ***Don't boot from a floppy disk***

On PC's it is generally possible to set the BIOS so that your computer will not boot from the floppy drive - this is a good idea if you don't actually need to do it. It is all too easy to leave a disk in the drive as you turn the machine on. If you don't boot from floppy, you cannot get a boot sector virus.

## ***Use a program that checks file sizes***

Use a virus detector that spots changes in file sizes. This will let you spot a link virus before it delivers a payload. There are perfectly good shareware tools to do this.

# If you find a virus...

## ***Don't Panic!***

Stay calm. Think carefully about what you are going to do next.

## ***Tell the person you got it from.***

If you can tell where it came from, tell the source so that they can take action too. Be very careful before assigning blame! It can be very embarrassing if you accuse someone of infecting you, and it turns out to be the other way around!

## ***Avoid using your computer***

Avoid using your computer until you have taken steps to remove the infection. One good idea is to keep a known clean boot floppy (stored write protected of course, and never used for anything else).

## ***Find Your Backups***

Ooops! You haven't got a backup have you? Well, at the very least you should make sure that your original program disks are safe (and write protected), and that the seriously important files are backed up. And make a boot disk with the AUTOEXEC.BAT and CONFIG.SYS on it too - getting them just right if you start blind can take months!

# Starbase Virus Precautions

Starbase One has up to date virus checking software, and I believe that no virus has ever got through, (though I have trapped a few).

However, it is sensible to take your own precautions as well.

Also note that I only have an IBM PC, so there is no way I can check for viruses for other machines such as Amiga, Macintosh, Atari, or Archimedes. Users with these machines are therefore totally responsible for virus checking.

(Though if anyone knows of a virus scanner for the PC that can detect other machines viruses, I'd be very interested to hear about it).



# Comms in General

This section describes technical aspects of using bulletin boards in general, and Starbase One in particular.

[Modems and settings](#)

[Comms Software](#)

[Problems and Troubleshooting](#)

[Doing things efficiently](#)

# Modems and settings

Some general comments. When you are starting, its a good idea to try both lines for Starbase One. The modems at this end are different, and you may well find that one works better than the other for you.

If you do not connect as fast as you are expecting, then it may be an idea to lock the speed of your modem. If both ends are speed seeking, (and my end has to), then they may miss the best possible speed.

A modem is the device that lets your computer connect to other computers over phone lines, and you will need one to connect to Starbase One. Some are external, and some are internal - internal ones come on a card and you have less wires trailing, but they use up an expansion slot. Most people go for an external modem. Many modems also include a fax option at little or no extra cost.

What to look for:

Modems come with a bewildering array of features and options, but the most important one is the speed. (Take care if getting a fax modem that the speed does not only apply to faxing). The speeds are sometimes referred to by their standard names, which include V21, V22, V22 bis, V23, V32, V42 and VFAST. (Click on the standard in question for an explanation).

The lowest acceptable speed these days is 2400 baud (V22 bis) and even this is stretching things a bit. If buying a new modem then 9600 baud should be viewed as an absolute minimum.

As a specific recommendation, consider the HST Sportster modem, which should cost well under œ200 if you shop around. This modem will do speeds up to 14400 baud, includes fax capability and software, and I bought one myself to go on line 1 of Starbase One.

The speed of a modem will determine how long it takes to collect a file. For example consider the following typical downloads someone might want from Starbase One:

A text file from NASA about the space telescope at 15k

A large image file at 100k

A star catalogue in 6 parts totaling 700k

Here is a table showing how long it takes in minutes to download these files at the various speeds.

Size/Speed	1200	2400	9600	14400
10000	1.25	0.63	0.16	0.10
100000	12.50	6.25	1.56	1.04
700000	87.50	43.75	10.94	7.29

Notice that the time taken with slow modems is so long that it's not really practical to get the larger files at all. But with 9600 or better even the largest files arrive in a few minutes..

# Comms Software

A good comms program will make life a lot easier for you. When people have problems with using the BBS, as often as not its the comms program that's giving the trouble, not the bulletin board!

The good news is that there is some EXCELLENT shareware covering communications, for all popular machines. Most of the good stuff for the IBM PC is DOS based. I can recommend any of the following shareware DOS comms progs:

TELIX  
BOYAN  
ODYSSEY

Telix is my personal favorite, Boyan is great for those who like to tinker at a low level, and ODYSSEY came top in comparative review in PC MAGAZINE, competing with commercial applications costing hundreds of pounds.

Microlink is a decent comms program for Windows users - almost ANYTHING is better than the dreadful windows terminal.

NCOMM is handy for the Amiga.





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## **Z**

Zenith

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ZMODEM



# Asteroids

Asteroids are rocky bodies, that vary in size from a few hundred kilometres across down to gravel sized bits of debris. The majority of them orbit between Mars and Jupiter, but some are found out beyond the orbit of Pluto, and a very few get closer to the Sun than Mercury.

There is currently much debate as to how many asteroids are burnt out comets.

Here is an image of the asteroid Ida, as imaged by the Galileo probe on its way to the giant planet Jupiter.



# Astronomers Den

Astronomers Den is another UK astronomy BBS, run by Mike O'Brien in Wigan. Its a system that's well worth a look. Several message areas are linked between the Starbase One and Astronomers Den, so its easy to converse.

The number is: 01942-831-925

# BAA Alerts

One of the most popular features of [Starbase One](#) is the [BAA Alerts message area](#), which contains much up to date information on comets, [variable stars](#), and other material of interest to the active observer.

(You may need to expand your help window for this to look correct)

Message #1046 - Local Discovery [News](#) (BAA).

Date: 18-Jun-94 20:14

From: Gary Burford

To: All

Subject: baa alerts

-----  
COMET TAKAMIZAWA-LEVY (1994f)

Extension to [ephemeris](#) on [IAUC 5997](#):

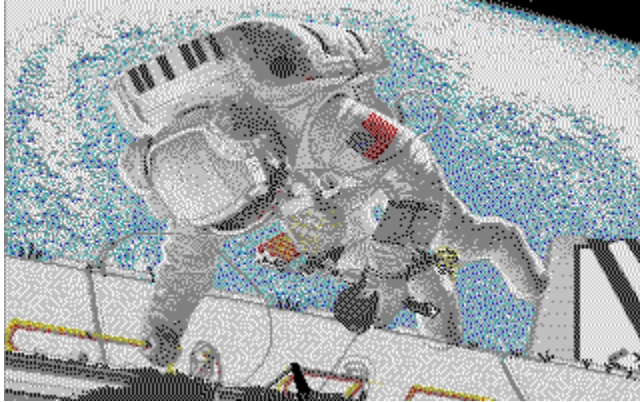
1994 TT	R.	A. (2000)	Decl.	Delta	r	Elong.	<u>Phase</u>	m1
June 12	13	30.93	+65 19.9	1.117	1.392	81.4	46.1	8.7
17	12	46.26	+60 32.9	1.225	1.410	77.4	44.7	8.9
22	12	19.88	+55 58.8	1.344	1.431	73.2	42.8	9.2
27	12	03.43	+51 55.1	1.469	1.455	68.9	40.7	9.5
July 2	11	52.70	+48 23.0	1.597	1.483	64.7	38.3	9.7
7	11	45.52	+45 19.1	1.727	1.513	60.6	35.8	10.0
12	11	40.67	+42 39.1	1.854	1.546	56.5	33.2	10.2
17	11	37.42	+40 19.0	1.979	1.581	52.5	30.6	10.5
22	11	35.30	+38 15.6	2.100	1.618	48.5	28.1	10.7
27	11	34.03	+36 26.0	2.217	1.657	44.7	25.5	10.9
Aug. 1	11	33.38	+34 47.9	2.328	1.698	41.0	23.1	11.1
6	11	33.23	+33 19.7	2.433	1.740	37.5	20.8	11.3

Total visual [magnitude](#) estimates (cf. [IAUC 5992](#)): May 29.94  
UT, 8.4 (A. Diepvens, Balen, Belgium, 0.15-m refractor); June 1.90,  
8.7 (K. Sarneczky, Budapest, Hungary, 20x60 binoculars); 8.27, 8.0  
(C. E. Spratt, Victoria, BC, 0.20-m reflector).

# Earth

The home planet, third out from the Sun.

Starbase One features many images of the Earth from orbit, many of which are extremely beautiful. Most of these were returned by the Space Shuttle.



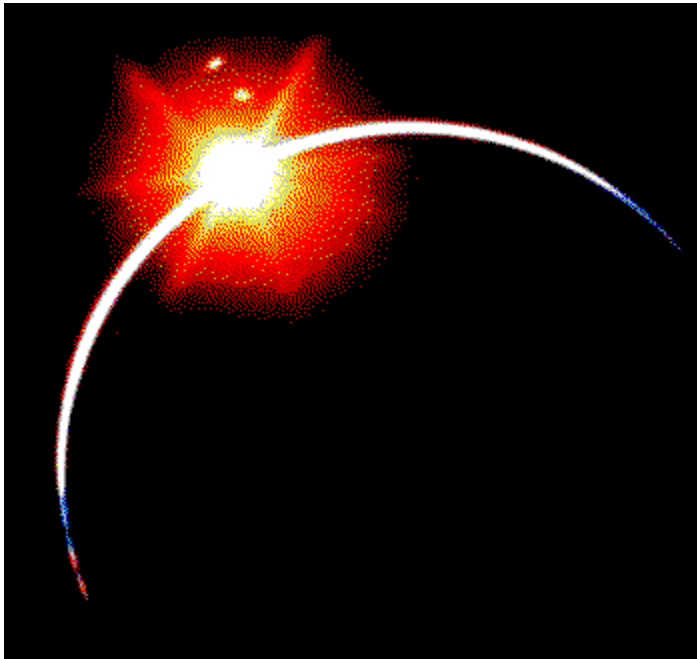
# Eclipses

Eclipses come in two different varieties - eclipses of the Sun and eclipses of the Moon.

Eclipses of the Moon are visible most years, and occur when the Moon moves into the shadow of the Earth. They are not very spectacular, as the Moon fades, though it does sometimes go a startlingly red and coppery colour. This is due to the light of all the sunsets in the world creeping around the limb of the Earth.

Eclipses of the Sun are also visible most years, but the most spectacular events are total eclipses of the Sun which are much rarer, particularly at a given location (the UK gets about one a century on average).

Below is a picture of the 'diamond ring effect', which occurs JUST before the eclipse becomes total, as the last glimmer of sunlight is still visible.



## Doing things efficiently

This section is intended to give you a few tips on holding down the phone bill, and generally moving around the system with minimum effort, without missing anything.

If your comms software supports it, use ZMODEM for transferring files. Its faster, and it passes names of files for you. It also lets you download many files in one go. If your software does not support ZMODEM then get some better software!

It's a good idea to check for unread messages at the airlock menu - that way you will be sure not to miss any waiting messages.

File Tagging makes life easier. When browsing the files, or looking at new files when you log on, you can mark the files for later download, (either by number or by name).

It's obviously a good idea to save money by calling cheap rate whenever possible!

Plan your session before you call Starbase One - it is very easy to spend lots of time exploring the files and menus, and BT make quite enough money already. You will probably find it worth downloading the file list, so you can choose which files you want before calling. There is also a file called THISWEEK.ZIP which contains all the new files from the last 8 days - this is obviously a lot smaller than the full list of files, and downloading this regularly will keep you up to date with what's new.

The offline reader is a good way of keeping calls short. This is a subscriber only feature, but for most callers the cost of a subscription will be small compared with the phone bill, so its a good investment, (and helps me to keep the board running).

If you are not a subscriber then be sure to set up the combined messages options, as this is a great time saver. Remember that if you tell the board not to pause between messages, and type = at the first 'more' prompt, you can get the whole lot to scroll past really quickly. (Obviously you will need to capture it or save it to disk somehow!)

JPEG files are normally much smaller than GIF's for the same image. If you are still using only GIF, then consider switching.

# Faults and Problems

This section is intended to answer common problems, and 'how do I' type questions. Please let me know of any misunderstanding or confusion or other problems I can add to this section to make it more useful.

There are separate sections for problems with:

[Modem settings](#)

[Offline Mail](#)

## ***My file downloads keep stopping***

Check your comms software. You should have [flow control](#) set to HARDWARE. If flow control is set to XON/XOFF then characters that control the flow of information may appear in files.

## ***My screen has odd numbers and square brackets***

If the menus are hard to read with all sorts of extra numbers and letters appearing, then you probably have [ANSI](#) graphics turned on, when your comms program does not support this feature. Turn off [ANSI](#) graphics from the [OPTIONS](#) menu.

Alternatively [DOS](#) users can enable [ANSI](#) graphics by adding [ANSI.SYS](#) to their CONFIG.SYS file.

## ***I connect too slowly***

If you are connecting to [Starbase One](#) at a lower speed than you expect, try using the other line. The modems are different, and you may well get better results on one line than the other.

## ***Starbase tells me I must upload some files!***

[Starbase One](#) is first and foremost an astronomy [BBS](#). For that reason the number of non astro files you can [download](#) is restricted, and you are expected to [upload](#) some in return, (unless you are a subscriber). You should always be able to [download](#) space and astronomy files.

## ***I don't have time to collect the file list!***

Check you are connecting at the maximum possible speed. Check that you are downloading a compressed version of the list. If this is still not enough, [download](#) partial file lists rather than the full list.

## ***I don't get enough time online!***

If you are not a subscriber, [join](#). If you are a subscriber let me know, and I will make arrangements.

## ***What do I do with a .ZIP file?***

[ZIP](#) files have been compressed and grouped using the PKZIP utility, and you will need to decompress the files before you can use them. By using [ZIP](#) you [download](#) one file rather than bits and pieces, and it takes less time to [download](#). Take a look at the [KEY DOWNLOADS](#) menu to get a decompression program (PKUNZIP for PC's)

***How do I view the images?***

There is a graphics files area for each popular computer, and image viewers can be downloaded from there.

***How do I get colour menus?***

You need a comms program that supports ANSI graphics, and then turn ANSI graphics on in the options (profile) menu.

***How do I tell if my message has been read?***

If you look at the message you sent you will see RECEIVED in the header if it has been received. You can also ask for a message to be sent back to you when the message is received (this is called confirmed receipt). See the messages menu help for full details.

***How do I change my password?***

From the options menu.

***How do I find messages on a particular subject?***

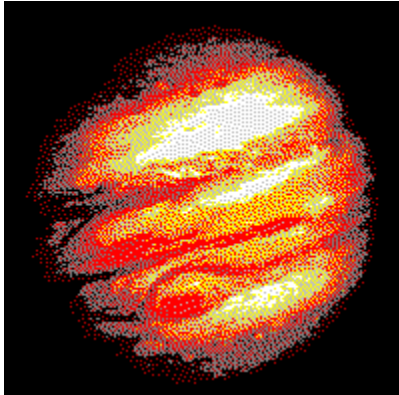
See the details for the messages menu for assistance in searching messages.

***How do I tell if someone is a user?***

Try and send them a private email message. The system will tell you if the name you enter is not a user of the system.

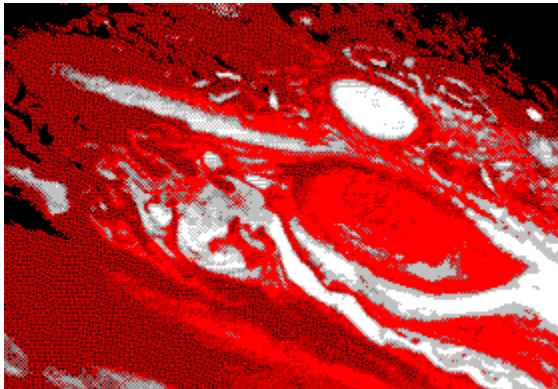


# Jupiter



The largest planet in the solar system, with a diameter just over 10 times that of the Earth.

The picture on the right also shows the Great Red Spot - a semi permanent storm larger than our world which has been visible for centuries.



Jupiter was visited by both the Voyager probes, which returned a wealth of detailed images of this fascinating planet and its four large satellites (Io, Europa, Ganymede, and Callisto). Many unprocessed Voyager images in their original stats are available from Starbase One, as well as montages and colour images.

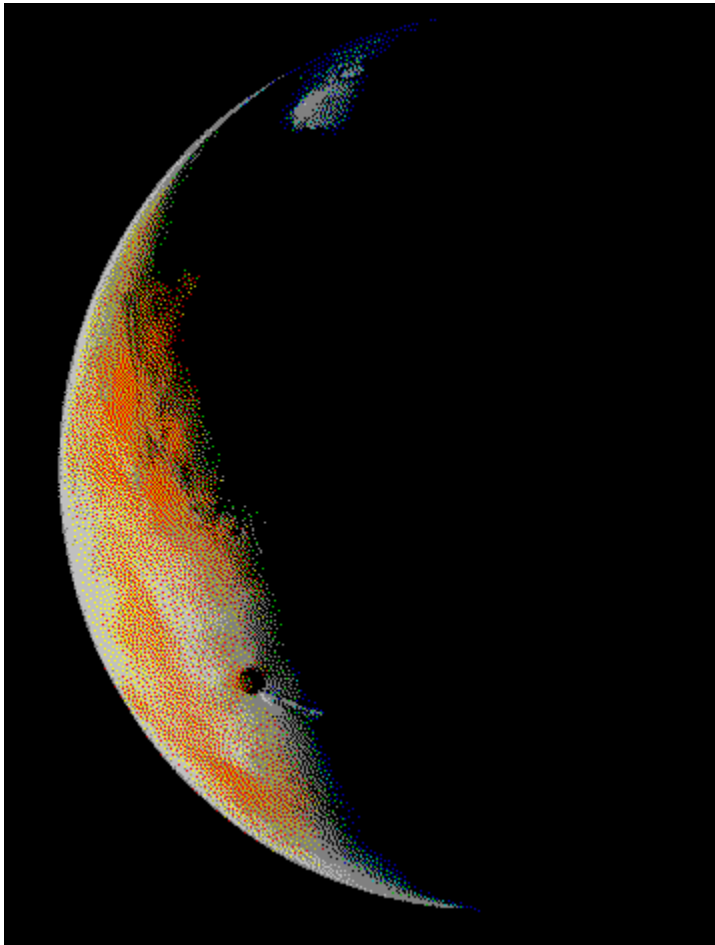
Images are generally in GIF and / or JPG format.

There is a separate file area devoted to the impact of comet Shoemaker-Levy 9 with Jupiter, and the pictures from the hubble space telescope are particularly impressive.

# Mars

The planet Mars is the next one out from the Sun from Earth. It is noticeably smaller than the Earth, and has hardly any atmosphere. Much of it looks very like the surface of the Moon, but there are many large features which appear to have been carved by running water.

If there was running water early in the history of Mars, it seems very possible that simple single celled life may have existed there. Though current circumstances are so dry and cold that it would be VERY surprising if any still lived.



Here we see a crescent view of the planet. The full colour version is available on the board as MARSCRES.JPG

The dark spot near the centre with the bright trailing cloud is the gigantic volcano Olympus Mons.

# Charles Messier

Charles Messier was a French astronomer who compiled a list of objects in the sky that might be mistaken for comets, and it is this list for which he is chiefly remembered.

With modern telescopes (even small ones) most of his objects are fairly easy targets, and some are very beautiful indeed. They are generally indicated by the letter M and a number up to 107.

For example, here is a picture (with exaggerated colour) of the lovely Great Nebula in Orion, also known as M42.



# Meteors

Meteor is the technical name for a shooting star - they are visible any moonless night of the year, but on certain occasions (when the Earth moves through a stream of dust and grit) they appear in much larger numbers.

Here is part of a much larger text from Starbase One describing meteor showers for 1995:

Tables  
=====

Table 1 -- Working list of visual meteor showers. Streams marked with an asterisk only produce the indicated ZHR in certain years, and otherwise produce much lower activity. Contact the IMO's Visual Commission for more information.

Shower	Activity	Maximum Date	lambda	Radiant			Diam
				alpha	delta		
			(deg)	(deg)	(deg)	(deg)	
<u>Quadrantids</u>	Jan 01-Jan 05	Jan 03	283.1	230	+49		5
Pi-Puppids II (3)	Jan 06-Jan 14	Jan 10	290.7	113	-43		5
Delta-Cancrids	Jan 05-Jan 24	Jan 17	296.7	130	+20		10/5
Alpha-Crucids	Jan 06-Jan 28	Jan 19	299.7	192	-63		10/5
Lambda-Velids II (3)	Jan 18-Jan 26	Jan 21	301.7	133	-46		5
Alpha-Carinids	Jan 24-Feb 09	Jan 31	311.7	95	-54		5
Virginids	Feb 01-May 30	several		Table 2			15/10
Theta-Centaurids	Jan 23-Mar 12	Feb 01	312.7	210	-40		6
Alpha-Centaurids *	Jan 28-Feb 21	Feb 07	318.7	210	-59		4
Omicron-Centaurids	Jan 31-Feb 19	Feb 11	322.7	177	-56		6
<u>Delta-Leonids</u>	Feb 05-Mar 19	Feb 15	326.7	159	+19		8
Gamma-Normids	Feb 25-Mar 22	Mar 14	353.7	249	-51		5
Beta-Pavonids	Mar 11-Apr 16	Apr 07	017.2	308	-63		10/15
Scorpid/Sagittarids (1)	Apr 15-Jul 25	several		Table 3			15/10
<u>Lyrids</u> *	Apr 16-Apr 25	Apr 22	032.1	271	+34		5
Pi-Puppids *	Apr 15-Apr 28	Apr 23	033.3	110	-45		5
Alpha-Bootids	Apr 14-May 12	Apr 27	036.7	218	+19		8
Eta-Aquarids	Apr 19-May 28	May 03	043.1	336	-02		4
Alpha-Scorpiids (2)	Mar 26-May 12	May 03	043.4	240	-27		5
Ophiuchids N (2)	Apr 25-May 31	May 10	049.7	249	-14		5
Beta-Corona Australids (2)	Apr 23-May 30	May 15	054.7	284	-40		5
Kappa-Scorpiids (2)	May 04-May 27	May 19	058.9	267	-39		5
Ophiuchids S (2)	May 13-May 26	May 20	059.8	258	-24		5
Omega-Scorpiids (2)	May 23-Jun 15	Jun 04	074.2	243	-22		5
Chi-Scorpiids (2)	May 24-Jun 20	Jun 05	075.2	248	-14		6
Gamma-Sagittarids (2)	May 22-Jun 13	Jun 06	076.1	272	-28		6
Theta-Ophiuchids (2)	Jun 04-Jul 15	Jun 13	082.4	267	-20		5
<u>Lyrids</u> (Jun)	Jun 11-Jun 21	Jun 16	085.2	278	+35		5
Bootids (Jun)	Jun 26-Jun 30	Jun 28	096.3	219	+49		8
Lambda-Sagittarids (2)	Jun 05-Jul 25	Jul 01	099.6	276	-25		6
Pegasids	Jul 07-Jul 11	Jul 10	107.7	340	+15		5
Phoenicids (Jul)	Jun 24-Jul 18	Jul 15	112.7	021	-43		7
Piscis Austrinids	Jul 09-Aug 17	Jul 29	125.7	341	-30		5
Delta-Aquarids S	Jul 08-Aug 19	Jul 29	125.7	339	-16		5
Alpha-Capricornids	Jul 03-Aug 25	Jul 30	126.7	307	-10		8
Iota-Aquarids S	Jul 15-Aug 25	Aug 04	131.7	333	-15		5
Delta-Aquarids N	Jul 15-Aug 25	Aug 12	139.7	337	-05		5
<u>Perseids</u>	Jul 17-Aug 24	Aug 12	139.5	046	+58		5
Kappa-Cygnids	Aug 03-Aug 31	Aug 19	145.7	286	+59		6
Iota-Aquarids N	Aug 11-Sep 20	Aug 20	147.7	327	-06		5
Pi-Eridanids	Aug 20-Sep 05	Aug 29	155.7	052	-15		6
Alpha-Aurigids	Aug 24-Sep 05	Sep 01	158.6	084	+42		5

Delta-Aurigids	Sep 05-Oct 10	Sep 09	166.7	060	+47	5
Piscids	Aug 15-Oct 14	Sep 20	177.7	008	00	8
Kappa-Aquarids	Sep 08-Sep 30	Sep 21	178.7	339	-02	5
Puppids/Velids	Sep 28-Dec 30	several		Table 5		10
Capricornids (Oct)	Sep 20-Oct 14	Oct 03	189.7	303	-10	5
Sigma-Orionids	Sep 10-Oct 26	Oct 05	191.7	086	-03	5
Draconids *	Oct 06-Oct 10	Oct 10	197.0	262	+54	5
Epsilon-Geminids	Oct 14-Oct 27	Oct 20	206.7	104	+27	5
Orionids	Oct 02-Nov 07	Oct 22	208.4	095	+16	10
Taurids S	Sep 15-Nov 25	Nov 03	220.7	050	+14	10/5
Taurids N	Sep 13-Nov 25	Nov 13	230.7	060	+23	10/5
Leonids *	Nov 14-Nov 21	Nov 18	235.6	152	+22	5
Alpha-Monocerotids	Nov 15-Nov 25	Nov 21	239.4	117	-06	5
Chi-Orionids	Nov 26-Dec 15	Dec 02	250.0	082	+23	8
Phoenicids (Dec) *	Nov 28-Dec 09	Dec 06	254.3	018	-53	5
Sigma-Puppids II (3)	Nov 27-Dec 12	Dec 06	254.7	102	-45	5
Monocerotids (Dec)	Nov 27-Dec 17	Dec 10	258.7	100	+14	5
Sigma-Hydrids	Dec 03-Dec 15	Dec 11	259.7	127	+02	5
Geminids	Dec 07-Dec 17	Dec 14	262.0	112	+33	4
Coma Berenicids	Dec 12-Jan 23	Dec 19	267.7	175	+25	5
Ursids *	Dec 17-Dec 26	Dec 23	270.9	217	+75	5
Tau-Puppids (3)	Dec 19-Dec 30	Dec 23	272.0	104	-50	5

Shower	Drift	V	r	ZHR
	Delta			
	alpha delta			
	(deg) (deg)	(km/s)		
<u>Quadrantids</u>	+0.8 -0.2	41	2.1	110
Pi-Puppids II (3)	+0.4 -0.2	35	3.0	
Delta-Cancrids	+0.9 -0.1	28	3.0	5
Alpha-Crucids	+1.1 -0.2	50	2.9	5
Lambda-Velids II (3)	+0.7 -0.2	35	3.0	
Alpha-Carinids		25	2.5	
Virginids	Table 2	30	3.0	5
Theta-Centaurids	+1.1 -0.2	60	2.6	
Alpha-Centaurids *	+1.2 -0.3	56	2.0	25+
Omicron-Centaurids	+1.0 -0.3	51	2.8	
Delta-Leonids	+0.9 -0.3	23	3.0	3
Gamma-Normids	+1.1 +0.1	56	2.4	8
Beta-Pavonids	+1.2 +0.1	59	2.6	13
Scorpid/Sagittarids (1)	Table 3	30	2.3	10
<u>Lyrids</u> *	+1.1 0.0	49	2.9	90
Pi-Puppids *	+0.6 -0.2	18	2.0	40
Alpha-Bootids	+0.9 -0.1	20	3.0	3
Eta-Aquarids	+0.9 +0.4	66	2.7	50
Alpha-Scorpid (2)	+0.9 -0.1	35	2.5	10
Ophiuchids N (2)	+0.9 -0.1	30	2.9	
Beta-Corona Australids (2)	+0.9 -0.1	45	3.1	
Kappa-Scorpid (2)	+0.9 0.0	45	2.8	
Ophiuchids S (2)	+0.9 -0.1	30	2.9	
Omega-Scorpid (2)	+0.9 -0.1	23	3.0	
Chi-Scorpid (2)	+0.9 -0.1	21	3.1	
Gamma-Sagittarids (2)	+0.9 0.0	29	2.9	
Theta-Ophiuchids (2)	+0.9 0.0	27	2.8	

<u>Lyrids</u> (Jun)	+0.8	0.0	31	3.0	5
Bootids (Jun)			14	3.0	2
Lambda-Sagittarids (2)	+0.9	0.0	23	2.6	
Pegasids	+0.8	+0.2	70	3.0	8
Phoenicids (Jul)	+1.0	+0.2	47	3.0	
Piscis Austrinids	+1.0	+0.2	35	3.2	8
Delta-Aquarids S	Table 4		41	3.2	20
Alpha-Capricornids	Table 4		23	2.5	8
Iota-Aquarids S	Table 4		34	2.9	3
Delta-Aquarids N	Table 4		42	3.4	5
<u>Perseids</u>	Table 4		59	2.6	95
Kappa-Cygnids			25	3.0	5
Iota-Aquarids N	Table 4		31	3.2	3
Pi-Eridanids	+0.8	+0.2	59	2.8	
Alpha-Aurigids	+1.1	0.0	66	2.5	15
Delta-Aurigids	+1.0	+0.1	64	3.0	7
Piscids	+0.9	+0.2	26	3.0	3
Kappa-Aquarids	+1.0	+0.2	16	3.0	3
Puppids/Velids	Table 5		41	2.9	
Capricornids (Oct)	+0.8	+0.2	15	2.8	3
<u>Sigma-Orionids</u>	+1.2	0.0	65	3.0	3
Draconids *			20	2.6	storm
Epsilon-Geminids	+1.0	0.0	71	3.0	5
<u>Orionids</u>	+1.2	+0.1	66	2.9	25
Taurids S	Table 6		27	2.3	10
Taurids N	Table 6		29	2.3	8
Leonids *	+0.7	-0.4	71	2.5	storm
Alpha-Monocerotids	+1.1	-0.1	60	2.7	5
Chi- <u>Orionids</u>	+1.2	0.0	28	3.0	3
Phoenicids (Dec) *	+0.8	+0.1	18	2.8	100
Sigma-Puppids II (3)	+0.3	-0.1	38	2.9	
Monocerotids (Dec)	+1.2	0.0	42	3.0	5
Sigma-Hydrids	+0.7	-0.2	58	3.0	5
Geminids	+1.0	-0.1	35	2.6	110
Coma Berenicids	+0.8	-0.2	65	3.0	5
<u>Ursids</u> *			33	3.0	50
Tau-Puppids (3)	+0.2	-0.1	33	3.0	

(1) Radiation area of the Scorpid-Sagittarid complex. Observers north of 30deg N should only take into account this area.

(2) Major components of the Sco-Sgr complex, to be analyzed by observers south of 30deg N only.

(3) Major components of the Puppids/Velid complex.

# NASA Bulletins

NASA news and announcements are received every day on Starbase One, covering all aspects of their work and discoveries.

Here is a short sample from sci.space.news:

(Note that the real thing does not have the hypertext pop ups and jumps).

Message #2219 - sci.space.news

Date: 08-Jul-94 21:02

From: Admin@ccmail.Jpl.NASA.Gov

To: All

Subject: JPL/Mars Global Surveyor mission fact sheet

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Date: 8 Jul 1994 14:05:02 -0700

Organization: Jet Propulsion Laboratory - Pasadena CA

Sender: daemon@news.arc.NASA.gov

Approved: sci-space-news@Ames.arc.NASA.gov

FACT SHEET: MARS GLOBAL SURVEYOR

Mars Global Surveyor will be a polar-orbiting spacecraft at Mars designed to provide global maps of surface topography, distribution of minerals and monitoring of global weather.

Launched with a Delta II expendable vehicle from Cape Canaveral, Fla., in November 1996, the spacecraft will cruise 10 months to Mars, where it will be initially inserted into an elliptical capture orbit. During the following four months, thruster firings and aero braking techniques will be used to reach the nearly circular mapping orbit over the Martian polar caps. Aero braking, a technique which uses the forces of atmospheric drag to slow the spacecraft into its final mapping orbit, will provide a means of minimizing the amount of fuel required to reach the low Mars orbit. Mapping operations are expected to begin in late January 1998.

The spacecraft will circle Mars once every two hours, maintaining a 'sun synchronous' orbit that will put the sun at a standard angle above the horizon in each image and allow the mid-afternoon lighting to cast shadows in such a way that surface features will stand out. The spacecraft will carry a portion of the Mars Observer instrument payload and will use these instruments to acquire data of Mars for a full Martian year, the equivalent of about two Earth years. The spacecraft will then be used as a data relay station for signals from U.S. and international landers and low-altitude probes for an additional three years.

Mars Global Surveyor is the first mission of a new, decade-long program of robotic exploration of Mars, called



the Mars Surveyor program. This will be an aggressive series of orbiters and landers to be launched every 26 months, as Mars moves into alignment with Earth. The program will be affordable, costing about \$100 million per year; engaging to the public, providing fresh new global and close-up images of Mars; and have high scientific value obtained with the development of leading-edge space technologies.

International participation, collaboration and coordination will enhance all missions of the program. Landers in future years -- 1998, 2001, 2003 and 2005 -- will capitalize on the experience of the Mars Pathfinder lander mission to be launched in 1996. Small orbiters launched in the 1998 and 2003 opportunities will carry other instruments from the Mars Observer payload and will serve as data relay stations for international missions of the future.

The Mars Global Surveyor spacecraft will be acquired from industry through a competitive procurement. The science payload will be provided as government-furnished equipment that was built to duplicate the instruments flown on Mars Observer. The payload includes the Mars orbital camera, thermal emission spectrometer, ultra-stable oscillator, laser altimeter, magnetometer/electron reflectometer and Mars relay system.

The Jet Propulsion Laboratory will manage the project for NASA's Solar System Exploration Division and will provide the mission design, navigation, and conduct mission operations. Tracking and data acquisition will be provided by a 34-meter sub network of the worldwide Deep Space Network.

Project costs for the Mars Global Surveyor through 30 days after launch will be approximately \$155 million.

You will also find that I put informative messages into some of the other areas when I spot them.

# Nebula

The term nebula literally means cloud - and can be used to describe any 'fuzzy' object seen in the night sky. Pictures of these lovely objects are some of the most popular downloads from Starbase One. You will find them in the DEEP SKY file area. Note that the plural of this term is NEBULAE. Common types include:

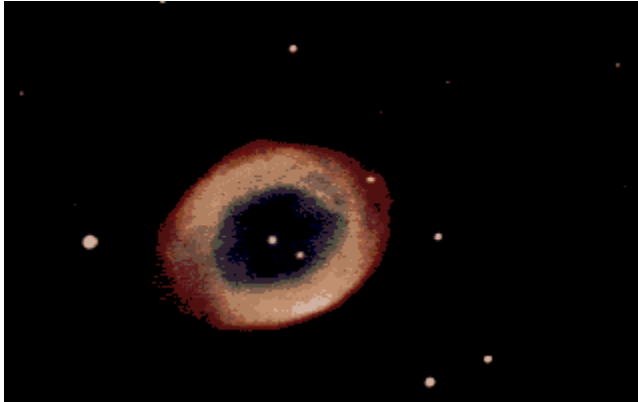
## ***Dark Nebulae***

Dark nebulae are fairly rare - they only show up as dark patches against a brighter background, and bright backgrounds are rare in the night sky.

## ***Gaseous Nebulae***

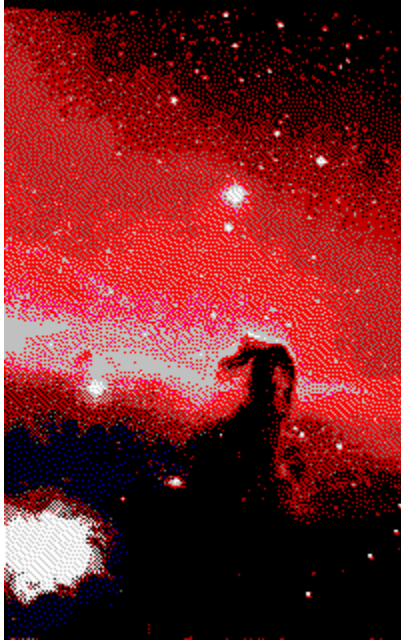
Glowing clouds of gas form another type of nebula, the gaseous nebula.

## ***Planetary Nebulae***



The Ring Nebula

Planetary nebulae are so called because they often show small bright disks, rather like a planet. They also commonly form ring shapes, such as the Ring Nebula shown to the right, (Messier 57). They are shells of glowing gas ejected by aging stars.



The Horsehead Nebula

One of the best known, (and hardest to see) nebulae is the Horsehead nebula, shown to the left. This is a combination of a dark nebula (the horses head) and a bright nebula behind it. The contrast between the two parts is very low, which is why it looks best in long exposure photographs.

There are also catalogues of nebulae available on the board, and good programs to keep a record of what you have observed, such as the excellent Personal Observing Log, (Which is available for DOS and for Windows).

# Neptune

The planet Neptune is the outermost gas giant planet, and is covered in deep blue clouds. Very little was known about it until the voyager probe flew past collecting many detailed pictures of it's cloud tops. It has a large satellite called Triton.

Voyager images of Neptune and NASA press releases from the encounter are available on Starbase One.

# Starbase One Newsletter

I produce a weekly newsletter, which is freely available by email to anyone who is interested. The idea is that some people have much cheaper access to Internet email than they do to Starbase One - commonly because SB1 is not a local phone call for them.

So each week I send out a list of all new files received in the last 8 days, and a short chunk of text at the front describing any other significant changes to the BBS, plus a bit of commentary on the files list.

(If you are a regular caller, and want to know about the new files, then download THISWEEK.ZIP for the list of files in the last 8 days.)

It's a good way to keep in touch with what's new if you don't all very often.

Please email your request to be added to starbase1@cix.compulink.co.uk

Here's a sample of a newsletter. I have not bothered with the full section on new files, as this will be very out of date when you look at it! The layout of the next bit will probably be a mess unless you maximise your help window.

Starbase One News Vol 2 No 4  
\*=====\*

Here's the latest list of what's new on Starbase One BBS. There is no outstanding new program available this time around, though there are several minor goodies. The text journal 'Focal Point' is proving very popular, due to its heavy coverage of telescope making this time around. It's mainly text files in fact, apart from the Windows FITS viewing program, and the collection of GIF format clip art of old astronomical images.

The previous resource list has proved to be very popular, and I will do another version at some point. So if you think I have missed out your favorite astro resource, let me know and I will include it next time.

I expect to get a lot more catalogues soon, as I was told about very good site (CDS in Strasbourg), which has vast amounts of hard astro data available. The bad news is that it is a prime candidate for the slowest site on the net! I could believe it is running on a 300 baud accoustic coupler it's that bad... Thanks to Owen Brazell for this information, which I picked up at the saturday meeting of the Society for Popular Astronomy. The full list of CDS files is available from th files area, for those who want a go at it themselves.

Possibly the most important long term news, even though there is nothing to show just yet, is that the British Astronomical Association, (BAA), have decided to formally support Starbase One. It will come as no surprise to those that know the way they work to hear that they intend on a very formal and highly structured area. This will feature lots of texts from the various observing sections, as well as contact information, their own message and file areas.

My thanks to Rob Harold for getting this through the various commitees, and here's hoping for a flood of new astronomers on the BBS!

The board has been growing very nicely in the last couple of months, I think largely due to publicity in Astronomy Now and Practical Astronomy magazines. It is up to (from memory) about 750 users.

On the non astronomy front, I have introduced a new message area, Computer News, which you will find in area 16. This is receiving various freely reproducible news texts, covering various aspects of computing, (though there is a distinct Internet bias). These texts are frequently long, and broken into chunks. I am training the mail robot to use a different subject line for each one, which should help you spot which ones are most useful. I expect this to be very popular.

Thats it for this week,  
Thanks for reading,  
Nick

STARBASE ONE FILE LIST  
NEW FILES (Last 8 DAYS)    ALL AREAS  
+-----+

```
+-----+
|                                     |
|               Area 1 - Astro Text Files               |
+-----+
EJASA951.ZIP (0) 11k 27/01/95 The latest issue of the Electronic Journal
                             of the Astrosoc of the Atlantic. This one
                             contains articles on books for telescopes
                             makers, and correct exposure.
OPTSCATA.ZIP (1)  4k 27/01/95 A list of programs that cover optical
                             scattering, with fairly extensive details.
ASTNET06.ZIP (4) 48k 20/01/95 Astronet Issue 6. Collected 'best of' texts
                             from the Internet for the last 2 weeks,
                             including such things as S&T messages,
                             Spacewarn, and lots of other stuff. A good
                             choice for someone who wants a general
                             coverage.
```

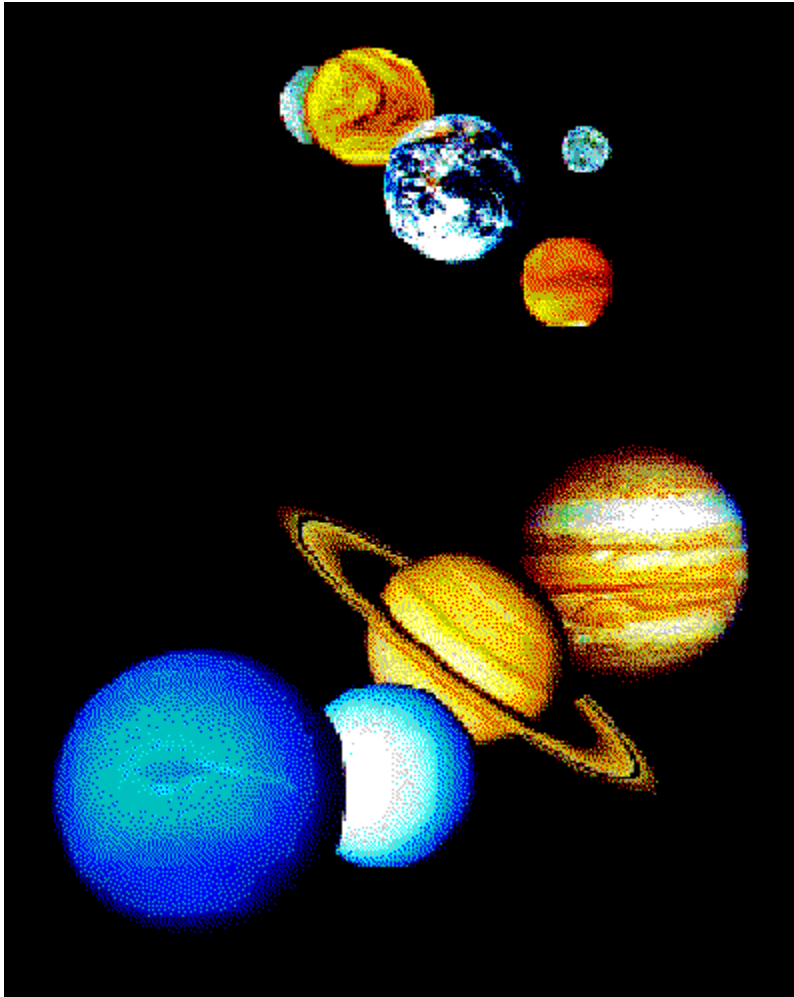
NELPAGX.ZIP (6) 7k 20/01/95 New Englad Light Pollution Advisory Group  
newsletter.  
FPV7N08.ZIP (13) 17k 20/01/95 Focal Point - Vol 7, No 8. Tons and tons of  
stuff on amatuer telescopes - building  
them, stresses, best materials (with  
detailed info on forces etc). Recommended  
strongly to atm's and active observers.

# Planets

A planet is a body which does not shine by it's own light, unlike a star. The nine planets in our Solar System are, in increasing order of distance from the Sun, Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, and Pluto.

There is growing evidence that other stars than our Sun also possess planets, but none have been fully confirmed at the time of writing.

Here is a montage of all the major planets, (excluding Pluto):



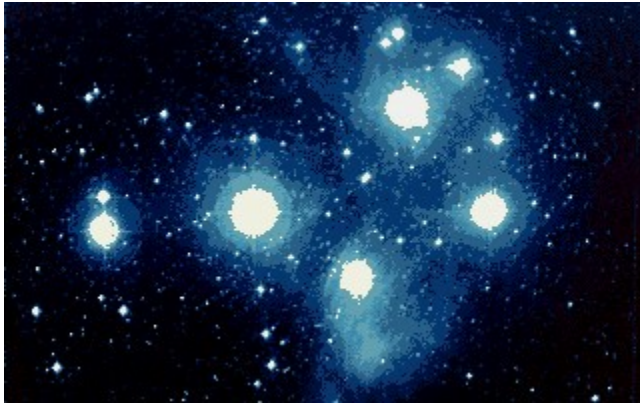


## Pleiades - M45

The brightest and best known star cluster, popularly known as the Seven Sisters. This grouping is easily located in winter skies in the constellation of Taurus, and covers an area of sky larger than a full Moon. Despite the name, the cluster contains hundreds of stars, many of which can be observed with small telescopes and binoculars.

The stars are very young and hot and bluish, and long exposure photographs (see below), show them to be embedded in clouds of dust.

The cluster is also known as Messier 45, normally written M45



# Pluto

Pluto is generally the outermost planet, though at times it lies closer to the Sun than Neptune. It is a very small planet, roughly the same size as the Moon, and has a relatively large and close satellite called Charon.

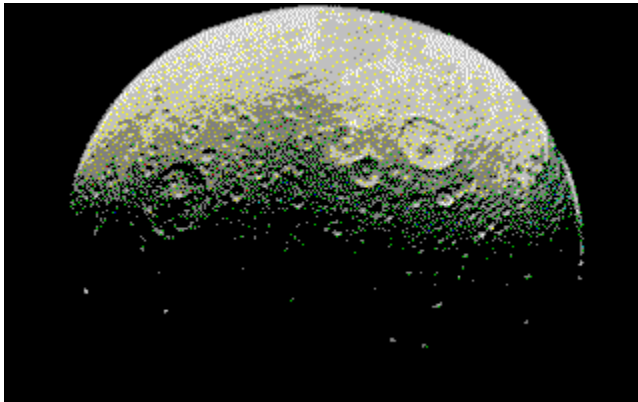
Pluto was discovered by Clyde Tombaugh in 1930 as part of a systematic search.

Very little is known of this distant world as no probe has yet visited it. However NASA plans to send a mission there, currently called the 'Pluto fast flyby mission', and details of this proposal are available on Starbase One BBS. The latest news is that the Soviets may be providing two launchers for the mission, and a probe that will smash into the planet.

# Saturn



Saturn is a giant ringed planet, considered by most observers to be the most beautiful in the whole of the solar system. Here is a picture of it - the full thing in 256 colours looks MUCH better, and can be downloaded as [HSTSAT2.GIF](#).



Dione is one of Saturn's larger moons, and is a ball of mixed rock and ice. As you can see, it is heavily cratered.

# Starbase Four

Starbase Four is another astronomy BBS, which maintains close links with Starbase One. It is based in Whittington, Shropshire, and the sysop is Pete Williamson.

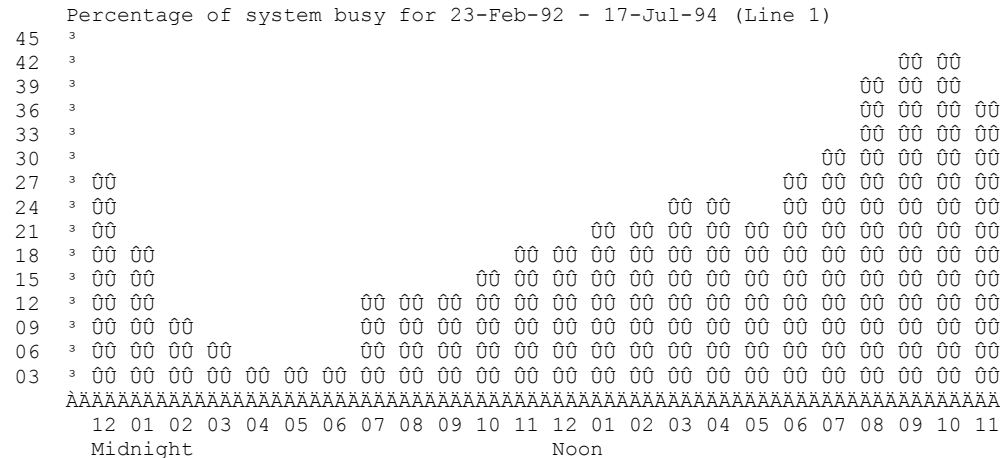
Unlike Starbase One, Starbase Four maintains a very active UFO information service, and is the UK hub for Mufonet. If you are interested in little green men Starbase Four is the place for you.

The number is: 01691-671900

# System Busy Graph

The system busy graph shows you the average usage the board gets at various times of the day. If you are always finding the lines busy, this may help you see exactly what the bst times to call are, (or may show that you are just being unlucky!)

For this graph to make sense, you will probably need to maximize the help window, unless you are operating on a high resolution monitor.



Press (Enter) to continue:

# The Moon



The Moon is the Earth's only natural satellite. The surface gravity is about 1/6th of the Earth's, and men first landed there in July 1969 in the sea of tranquility.

The Moon is probably the object most observed by the amateur astronomer, as it always shows a wealth of detail and the changing illumination means it never looks quite the same from one night to the next.

Starbase One has lots of images and data on the moon, including much Project Apollo material, and amateur CCD images.

If you have a sound card, you can also download sound clips from the Apollo missions. Click below to hear one if you do have a sound card installed:

[A message from Apollo 11](#)

# The Sun

Note that the detailed reports on Solar activity are no longer available on Starbase One, as the original providers of the information are no longer issuing it over the Internet.

# Top 12 Astro Shareware

After writing an article on the twelve best pieces of shareware for the amateur astronomer for Practical Astronomy magazine, I built a menu to make them easy to get. Note that some programs were large, and to keep matters simple the files are downloaded as one big file from this menu. So those who do not subscribe and/or have slow modems may not have enough time to get the largest files. Anyway, this is what the menu looks like. (You may have to maximize the help screen to get this looking correct).

## Starbase One - Top Twelve Astronomy Shareware

These twelve programs were selected as ideal for the Amateur Astronomer in Practical Astronomy magazine, Jan 1995 issue.

```
<1> Skyglobe (DOS) - Fast, full featured planetarium program. 362k
<2> Paint Shop Pro (Windows image processing and conversion) 310k
<3> Moon Manager (DOS based Moon phases and maps) 51k
<4> Earth Centred Universe (Full featured Windows planetarium) 368k
<5> SkyMap (Windows clean and simple charter) 1 MB! (In bits from files)
<6> Minor Planet Observer. Windows asteroid predictions. 654k (or bits)
<7> Astro Clock. Windows sidereal time on your desktop. 46k
<8> Messier Database DOS selection of Messier objects. 18k
    Personal Observing Log (Deep Sky Database)    <9> Dos <0> Windows
<A> Tracksat (DOS based satellite prediction software) 296k
<B> Astrosoft Computerized Ephemeris (DOS) Accurate astro info. 268k
<C> Win Meuss (Windows) Accurate astro info to text files. 118k

<L>ook at the original article      <R>eturn to last menu
<Q>uit to main menu.                <G>oodbye Logoff the system.
```

And here is the original article. Please note that it should NOT be reproduced elsewhere without the express permission of Nick Stevens & Practical Astronomy magazine. Since it was written Skymap has had a major pgrade, and is now an even better package.

The software may be freely passed on.

It provides a guide to what I consider the 12 best shareware applications for the amateur astronomer. Care was taken to cover a broad base of application types.

Note that the original article as published had many screen shots illustrating the article! So you are missing out if you don't buy a hard copy!

For your convenience the files have been lumped together into one large ZIP file. In some cases those with slow modems may not be able to download the files. They are available in smaller chunks in the normal file areas, and may also be ordered from PDSL by post, (details in the text)

Nick Stevens

#####

There are many excellent astronomy programs available, but unfortunately they are often expensive. However, the answer is at hand in the form of Shareware and Public Domain software. Shareware is a 'try before you buy' system - the programs are freely distributable, and if you like the program you are morally bound to send the author payment. The whole system works on trust. Public domain software is similar but no fee is requested.

The list given here is not exhaustive. There are many more items available covering almost every aspect of astronomy from three dimensional cosmology models to eclipsing binary simulators.



Software varies from simple routines that amateurs wrote to solve a problem then gave away, to full blown complex applications. Whatever the requirements, it makes sound economic sense to start by looking at shareware solutions.

Documentation is usually included as a text file of some sort. Look for files with names ending in .DOC or .TXT such as README.TXT or MANUAL.DOC.

The quality of shareware varies enormously, but here are twelve shareware and public domain programs from the IBM PC and compatibles that are well worth trying. Other computers also have astronomical shareware available, but not in the depth and breadth of coverage the IBM PC enjoys. Also not covered in this list is source code, which is widely available for those who want a flying start in writing their own astronomy applications.

#### 1. SKYGLOBE (DOS)

Skyglobe is easily the best DOS planetarium. It's packed with features, and a match for most full price astronomy programs. Users without the latest computers will appreciate the speed of operation even on a 286-processor machine. You can zoom in and out, turn the Milky Way on or off, and animate views. It can precess coordinates for accuracy in the distant past and future. It is even possible to add images of deep sky objects that pop up with a mouse click.

#### 2. SKYMAP (Windows)

Skymap is a clear, bold, simple planetarium program for windows, which excels in ease of use. It's ideal for the astronomical beginner, or for simpler tasks.

#### 3. Earth Centred Universe (Windows)

This is the most complex of the planetarium programs. The Windows software has lots of features, comprehensive data, and can even take control of an LX200 compatible telescope. The wealth of options may be a little confusing at first, but it repays the effort.

#### 4. Personal Observing Log (DOS and Windows versions)

This program will organize your observations into a database. It comes complete with details of thousands of deep sky objects, and it is simple to add your own objects and descriptions. Comprehensive search and reporting facilities are included, which can also be used to identify worthwhile objects that have not yet been observed.

#### 5. Moon Manager (DOS)

The front end is not good, but it provides useful displays of the phase of the Moon. You can also zoom in and identify craters. (Windows users may like MOONTOOL that shows the phase as an icon.)

#### 6. Tracksat (DOS)

This program is ideal for those who observe artificial satellites, and comes with comprehensive documentation. Up to date orbital elements will be needed for good accuracy, (these are widely available on bulletin boards, and over the Internet). It presents ground tracks, or shows the predicted track across the background of stars.

#### 7. Astrosoft Computerized Ephemeris (DOS)

As the name suggests, a computer driven ephemeris program. It provides accurate information on planetary positions, eclipses, Jovian satellites, and much more.

#### 8. Paint Shop Pro (Windows)

It's not an astronomy program - but it is a very useful tool. This program will cover most of your needs for image conversion and processing. Paint Shop is easy to use and powerful with 20 images filters, gamma correction control, brightness and contrast adjustment.

#### 9. Messier Database (DOS)

A good program for beginners that allows selection of Messier objects by various criteria, such as brightness or constellation.

#### 10. Minor Planet Observer (Windows)

This is a heavy duty piece of software that will provide accurate information on asteroid positions. It can also locate asteroids that pass through a given field, which will be useful for photographers seeking interesting conjunctions. The program needs a fast machine, (a maths co processor is strongly recommended), and plenty of disk space.

#### 11. Astronomy Clock (Windows)

A simple windows clock that can run on local time, universal time, or sidereal time.

#### 12. Win Meuss

This is a Windows implementation of Jean Meuss' astronomical routines. Results are collected in a text file for inclusion in other documents. It can provide lots of accurate information on solar system positions, rise and set times, and so forth. Those who produce bulletins for their local astronomy society will find this a particularly useful piece of software.

Bulletin boards and other Shareware sources.

Bulletin boards and on-line services are the most popular way of obtaining shareware and public domain software, (also see last months article on on-line astronomy). Here in the UK there are three specialist astronomy bulletin boards:

Starbase One: (0171-701-6914 & 0171-703-3593)

Starbase Four: (01691-671900)

Astronomers Den (01942-831925)

All the programs mentioned may be obtained from the bulletin boards. The system operators will also be very happy to recommend other shareware astronomy software for your needs. Users without a modem can obtain the software through the Public Domain and Shareware Library (PDSL), who are to stocking all the items.

They can be contacted at:

Winscombe House,  
Beacon Road,  
Crowborough,  
Sussex,  
TN6 1UL,

Phone 0892 663298.

**Title**

# Uranus

The planet Uranus is a gas giant, and the surface showed very little detail when it was observed by Voyager. It is unusual in that it's pole lies in the plane of it's orbit, leading to bizarre seasonal patterns. It has thin rings and 5 major satellites, which were all named after fairies from 'A midsummer night's dream.' It has a rather greenish colour.

Uranus can just be made out with the naked eye, and is an easy binocular object.

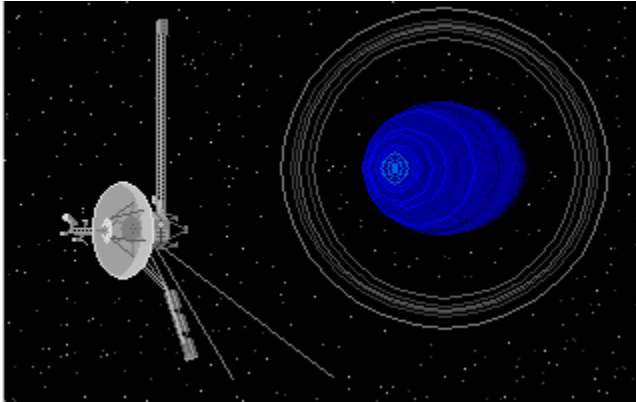
# Venus

The second planet out from the Sun. Venus is swathed in thick clouds, and the surface has never been seen from Earth. The temperatures are extremely hot, due to a runaway greenhouse effect, and most of the data we have on the planet was obtained through radar observations, largely from the Magellan orbiting probe.

To the naked eye the Planet Venus is dazzlingly bright, and is often seen just after sunset or before dawn, low down in the sky. The smallest telescope or good binoculars will show that the planet has a phase, like the Moon.

Many Magellan images and synthesized 3D views of the surface are available from Starbase One BBS.

# Voyager



The twin voyager probes are without doubt the most successful missions to the planets.

Jupiter, Saturn, Uranus and Neptune were all visited and many tens of thousands of pictures were returned, (lots are available on Starbase One).

Starbase One also has many text files direct from NASA describing the discoveries made by the Voyager probes, and the operation of JPL who managed the mission for NASA. a lot of these have ben built into the Text Database system, where you can search for key words. Here is a sample from one, (obviously the hypertext links do not appear in the original plain text version).

## 8/26/89: VOYAGER BRIEFING SUMMARY

PUBLIC INFORMATION OFFICE  
JET PROPULSION LABORATORY  
CALIFORNIA INSTITUTE OF TECHNOLOGY  
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
PASADENA, CALIF. 91109.

Neptune's magnetic field is tipped 30 degrees or more from the planet's rotation axis, according to data from two instruments on Voyager 2.

The plasma and the low-energy charged-particle instruments collected data while Voyager 2 flew through Neptune's magnetic field and, while the results are still tentative, both agree that Neptune's magnetic field is farther off the rotation axis than Jupiter's (10 degrees) and Saturn (no tilt). The magnetic field of Uranus is nearly 60 degrees from its rotation axis.

"We had expected to find a magnetic dipole roughly aligned with the rotation axis," Dr. John Belcher said. "We also expected to see plasma concentrated toward the equator, plasma in the magnetic cusp near the (geographic) pole, and a sharp change as Voyager crossed the magnetopause."

Instead, Belcher said, Voyager 2 found the tipped magnetic field, which may or may not be a dipole field, a plasma sheet that was not at the equator, and an extended magnetopause crossing.

The global magnetic field of a gas planet such as those Voyager has explored provides clues to the planet's interior. To have a field, a gas planet must fulfill these conditions:

1. There must be a region within the planet that is liquid.

2. The region must be electrically conducting.
3. There must be an energy source that sets the region in motion and keeps it moving.

Scientists are not yet able to explain the role that the variety of tilt angles play in understanding the planets' interiors.

Belcher's magnetic-field results were essentially confirmed by Dr. S.M. (Tom) Krimigis, principal investigator of the low-energy charged-particle experiment. The instrument also measured high-temperature, low-density electrons in the magnetic field of Neptune. While the electrons' temperature is about 1.3 billion degrees Fahrenheit, their density is low.

Triton's atmosphere has fascinated scientists for years, since they have attempted to determine its composition from Earth. They had known for several decades that methane is present, but the evidence for nitrogen was sparse and inconclusive. The scientists were not sure if the nitrogen and methane were in the atmosphere or on the surface.

So, while Voyager 2 was relatively close to Triton, the star called Beta Canis Majoris passed behind it, allowing Voyager's ultraviolet spectrometer to measure changes in the starlight as it passed through Triton's atmosphere.

"We found the major component of the atmosphere is molecular and ionized gaseous nitrogen," Dr. Bill Sandel of the ultraviolet spectrometer team reported, "We found methane at lower altitudes."

Meanwhile, Voyager's photopolarimeter performed an experiment that measured light from the star Sigma Sagittarius as it passed behind Neptune's outermost ring. The experiment showed the ring has a core about 17 km (10 miles) wide, and an optically thinner component about 50 km (30 miles) wide.

In Voyager images, three more rings have been detected, Dr. Brad Smith, leader of the imaging team, said. (The two earlier rings are called 1989N1A, the outer; and 1989N2A, the inner.) One new ring, wider than those two, lies closer to Neptune. The second new ring orbits between 1989N1A and 1989N2A. The third new ring is broad and diffuse, and extends virtually from just inside 1989N1A all the way to the outer edge of 1989N2A.

Smith showed an image of 1989N1A, the outer ring, that took advantage of Voyager's motion during exposure to reveal several 10- to 20-kilometer-wide bodies embedded within the ring. The bodies appear to be separated by about 100 to 200 kilometers (60 to 120 miles). They may help scientists sort out the mechanisms that cause the observed structure of the outermost ring.

He went on to show new images of Neptune's largest satellite, Triton. "The features that look like craters are almost certainly not impact craters, but must be related to internal processes," Smith said.

He also reported an updated radius for Triton -- 1,360 km (845 miles).

The Voyager Mission is conducted by JPL for NASA's Office of Space Science and Applications.



**10 x 50**

A size of binoculars, with 50 millimetre lenses and 10 times magnification.

**AAO**

Anglo-Australian Observatory

## **AAVSO**

American Association of Variable Star Observers

**Aberration**

In astronomical terms not so much a perversion as an error or fault, particularly an unavoidable one. Common examples include Optical Abberations (such as false colour from lenses), and aberration of starlight (a false apparent position due to the Earth's motion).

**Access Level**

The level of access you have to Starbase One. This might be unregistered, registered, or subscriber.

## **Accretion Disk**

When matter falls into a black hole, it is thought to collide and form into a disk of glowing matter before finally falling in. Think of something like a mix between the rings of Saturn and the Hanger Lane gyratory system on a bad day, and you won't be too far out.

**Achromatic**

An ACHROMATIC lens is one that is corrected to give minimal false colour.

**ACRV**

Assured Crew Return Vehicle - NASA speak for a space lifeboat.



## **AFAIK**

Short for As Far As I Know

## **AGN**

Active Galactic Nucleus

**Airy Disk**

The size of the apparent image of a star in a good telescope.

**Albedo**

The albedo of an object is the percentage of light it reflects. Thus black velvet has an albedo near 0%, and a good mirror near 100%. Venus with its bright clouds reflects about 90% of light, but the dark and grubby Moon has an albedo of only 7%

## **Alpha Centauri**

The nearest bright star, only visible from the Southern Hemisphere.

**Altazimuth**

An altazimuth mount is a telescope mounting that moves left to right and up and down. Not as good as an EQUATORIAL mounting, which follows the stars and planets with ease.

## **Amiga**

A popular home computer. Starbase One has several file areas devoted to this machine, though it seems to have attracted less quality astronomy shareware than othr machines.

## **Andromeda Nebula**

The nearest bright galaxy, just visible to the naked eye on a clear night. It is a bit larger than our own galaxy, 2000000 light years away, and an impressive sight in good binoculars.



**Anonymous FTP**

See FTP. The term FTP refers to transferring files over the net, anonymous means one end does not care who the other end is.

## **ANSI**

A graphics / character standard. If you support ANSI graphics, you can receive menus in colour. With old PC's this might mean installing ANSI.SYS, modern comms programs handle it for you.

**Ap.J**  
Astrophysical Journal

**Apogee**

The point in a satellites orbit when it is furthest from Earth

**Appulse**

An APPULSE of two objects occurs when they appear to be very close to each other in the sky. They may of course be a VERY long way apart in reality, (such as when the planet Venus passes in front of the star Regulus).

**ARC**

A standard for compressing files. Now considered old fashioned, and ZIP is much more common.

**Archie**

An internet tool which helps you to locate a particular file on the net by name.

## **Archimedes**

A powerful british home computer which has sadly not received broadly based support. Archimedes material is available on Starbase One.



**Archive**

Either a place where old files are stored, or sometimes used to refer to bundling files into a ZIP compressed volume.

**Ariane**

The European Space Agency's principle launcher.

**ARJ**

A compression standard, which works as well as ZIP but is less common.

**ASA**

Astronomical Society of the Atlantic

## **ASCII**

A character set and character code definition.

## **Astrology**

A buch of garbage suitable only for selling low grade newspapers to the gullible. If Mystic Meg is what you are after, DON'T call Starbase One!

## **Astrometry**

Measuring the positions of celestial bodies.

## **Astronomical Unit**

The average distance of the Earth from the Sun



**Astronomy Now**

A British astronomy magazine. The magazine has it's own message area on the BBS, and you may leave messages for potential publication. The editor, Steven Young, is a regular user.

## **Atari ST**

A home computer, now fading in popularity, Starbase One has several file areas devoted to material for the Atari ST.

**ATM**

Amateur Telescope Maker

**AU**

Astronomical Unit - The average distance from Earth to Sun, about 93 million miles.

## **Aurora**

A glow in the night sky, most common near the north or south magnetic poles, but sometimes visible over much wider areas. The most beautiful displays are truly stunning. Note that the ASTRO DATA conference on Starbase One contains warnings of major auroras (often at very short notice).

**Autobaud**

A term for a modem trying to geuss what speed another modem is operating at - Starbase One has to autobaud, but it is generally best if you lock your modem at its fastest speed. This is also sometimes called SPEED SEEKING.

## **AVATAR**

A bulletin board graphics standard. (Not supported by Starbase One at present).

## **AXAF**

Advanced X-ray Astrophysics Facility



**Azimuth**

The same as a bearing.

**BAA**

British Astronomical Association. While the BAA is not formally represented on the board, their alerts giving news of discoveries and observations appear in their own message area.

**bandwidth**

A term generally used in the sense of a finite capacity for data transfer, as in "Don't waste bandwidth" ie don't send unnecessary data.

**Barnard's Star**

A tiny and relatively nearby star which moves very rapidly by the standards of stars. In one hundred and eighty years it moves by the thickness of a full moon.

## **BASIC**

A computer programming language. BASIC is easily implemented on many computers, and source code in BASIC is available on Starbase One.

## **BAUD**

Modem speed is generally measured in BAUD. You can think of it as a rate in bits per second. A slow modem may run at 1200 baud, a fast one at 14400 baud.

**BBS**

A common abbreviation for Bulletin Board System, (such as Starbase One).

**BEM**

Bug Eyed Monster



**betanews.demon.co.uk**

The faster of the two news providers at Demon Systems, (at the time of writing).

## **Big Bang**

The current top dog theory for the origin of the universe. Best summed up in the words of Terry Pratchett:

'In the begining there was nothing. Which exploded.'

**Big Dipper**

The American popular name for the plough, part of Ursa Major, the Great Bear.

**Binary Star**

Sometimes just called binary. A pair of stars which orbit each other.

## **Binary**

Strictly speaking a number system that only uses ones and zeros. However much more common used to distinguish between straight text files, and ones that contain all sorts of numeric codes.

## **Binoculars**

Binoculars are a much underrated way to start in astronomy. All experienced observers keep a pair (often 10 by 50's), and a large pair such as 11 by 80's with give stunningly beautiful views of the night sky for around 200 pounds.

## **BIOS**

Part of a PC's setting up. You usually change BIOS settings by pressing the DEL key as it's powered up.

**Bitmap**

A type of computer image represented by a pattern of dots of different colours. The term also sometimes refers to the specific .BMP file format designed by Microsoft.



## **Black Hole**

A region where gravity has overcome everything else. If you want a full description there are many text files on Starbase One describing the properties of these bizarre objects.

## **Block Sizes**

Transfer protocols send data in blocks. Big blocks work best on good lines, small blocks on poor ones.

**block**

Data is generally transferred in discrete chunks, called blocks.

## **BMP**

A bitmap image file format very widely used in Windows applications.

**body**

The BODY of a message is the bit with the actual message text, that is leaving out headings, subject lines, taglines and so forth.

**Bolide**

A pretentious term for a bright shooting star.

**BTDT**

Been There, Done That!

**BTW**

By The Way...



**Bulletin Board**

A computer system equipped with a modem, which you may connect to over public phone lines from your home, to exchange messages and files.

**byte**

One character of information, made up of 8 bits each of which is one or zero.

## **Callisto**

One of the large moons of Jupiter. An icy world about as big as the Moon, smothered in small craters.  
Pics available on Starbase One.

## **Canals**

The canals of Mars are an optical illusion. Sorry!

## **Cassegrain**

A model of reflecting telescope, now unfashionable, with folded optics.

**Cassini's Division**

A gap between the rings of Saturn, visible from Earth in good conditions.

## **Catadioptric Telescope**

This gobful simply refers to a telescope that uses a mixture of mirrors and lenses. The short stubby tubes that are heavily advertised in the American astronomy mags.

**CCD**

Charge Couple Device. The term usually refers to a CCD camera - a particularly sensitive digital camera controlled by a computer, and well suited to astronomical photography.



**CCITT**

A standards comittee.

## **CD Rom**

Compact Disk Read Only Memory. Forget the jargon - it looks exactly like an audio CD, but contains lots of data that can be read on a computer with a CD Rom drive. A typical disk might hold 550 megabytes of data - as much as 700 floppy disks.

**Cello**

A graphical browser for the World Wide Web.

**Cepheid**

A type of variable star, which pulses in a regular fashion over a period of about a week.

## **Ceres**

The biggest asteroid. The profile is bigger than the UK and Ireland combined.

**CFC**

ChloroFluoroCarbon

## **Charon**

A small satellite of Pluto. The name refers to the ferryman who carried the dead across the river Styx, but the discoverer chose it because it sounded like his wife's name, Sharon!

**Circumpolar**

An object in the sky is CIRCUMPOLAR if it is close enough to the celestial pole to never set.



**CIS**

Another term for COMPUSERVE, a commercial bulletin board system.

**CIX**

Compulink Information Exchange. A commercial BBS system. You can contact the Starbase One sysop there as starbase1.

## **CLI**

Command Line Interface. (That is, you type in commands to get things done)

**Client**

A client is a program that requests a service from another program. For example, a FINGER client is used to request information on a remote system.

**CM**

Comand Module (Apollo Spacecraft).

## **COBE**

Cosmic Background Explorer (a satellite)

**Coma**

Either refers to the hazy stuff around the head of a comet, or to a defect in mirrors that makes images flare.

**Comet**

A big fuzzy chunk of near vacuum, that sometimes has a long tail if it gets near the sun. The most famous is Halley's Comet.



## **Compression**

Combining files and storing them in such a way that they use less space, and therefore take less time to transfer between computers. The most common compression standard is ZIP - others include ARJ and ARC.

**Compuserve**

A commercial bulletin board system. Comprehensive, but relatively expensive.

**Conference**

A collection of messages on a common subject, such as Astronomy Chat or Discovery News. Some conferences are passed between many boards, when they are also known as Echomail, or just Echoes.

## **Continue**

At the continue prompt you are offered the choice of Y/n= Y stands for yes is the default, so you get another screenful if you just hit return. Type N for no if you have had enough. If you type = then the rest of the text will scroll past without pausing (handy if you are capturing the display). If you change your mind after typing = just tap S for STOP. This will stop any scrolling display.

**Corona**

The outer part of the Sun's atmosphere - normally only visible during a total eclipse.

## **Cosmology**

The study of the universe as a whole, and its evolution.

## **CRAF**

Comet Rendezvous Asteroid Flyby (A NASA mission proposal).

**CRC**

Cyclic Redundancy Check - a means of checking if a file has been moved without error.



## **CU**

Sometimes used in messages - short for See You.

**Cyberspace**

A term coined by Bill Gibson, science fiction author, that refers to a graphic representation of the whole network fed directly into the brain. (!)

**DASD**

Directly Accessible Storage Device. IBM speak for a hard disk.

**Dawes Limit**

The theoretical limit to how much detail a scope of a given size can see.

## **DCX**

Delta Clipper eXperimental (A single stage to orbit vehicle under developement - it looks a bit like a flying traffic cone, and can hover).

**Dec**

Short for Declination - the astronomical equivalent of Latitude. Also the name of a computer company!

**Deep Sky**

Deep sky objects are those which lie beyond the solar system, such as star clusters, galaxies and nebulae.

**Deimos**

One of the two tiny moons of Mars - and very probably a captured asteroid.



**Demon**

Demon Systems - an Internet service provider.

**Desqview**

A DOS based multitasking system. Starbase One BBS runs under Desqview, which is more efficient than Windows, but more limited. Sometimes called DV

## **Deuterium**

A hydrogen atom with an extra neutron.

**Dewcap**

An extension to the tube of a telescope, intended to reduce the amount of dew that forms on the optics.

**DICS**

Demon Internet Connection Services. The program whose help file you are reading!

**Diffraction grating**

A series of VERY closely spaced parallel grooves, used as an alternative to a prism to produce a spectrum.

## **Diffraction Rings**

When magnified a lot the image of a star is surrounded by faint rings of light. These are caused by the wave nature of light itself.

**Dione**

A rocky and moon like satellite of the ringed planet Saturn.



**DIS**

The DOS program provided as an Internet front end by Demon Systems.

**DLL**

Dynamic Link Library. A file which contains code that can be used by several programs - generally placed in your \WINDOWS\SYSTEM directory.

**DOD**

Department Of Defence. You will often see this refering to shuttle missions as having DOD payloads.

**Dog star**

The common name for the star Sirius.

**DOS**

The character base operating system that ruins on most IBM compatibles. Stands for Disk Operating System.

**Download**

To download a file is to receive a file from a remote computer. Often confused with upload. Think of Starbase One as being in orbit - files come DOWN from it and go UP to it.

**DSN**

Deep Space Network. The various radio telescopes and receivers around the world, used by NASA to receive signals from its space probes).

**Duplex**

Full Duplex means data can flow both ways at once. Half duplex does either, but only one at a time.



**e-mail**

Electronic Mail - private, person to person messages.

**Echomail**

A conference which is automatically passed between bulletin boards - a message in an ECHOMAIL conference might be read all around the world!

## **Eclipsing Binary**

When two stars orbit each other closely it is possible for one to move in front of the other, blocking its light. Thus even if the stars are too close to be seen separately, we can still tell it's a double system.

**Ecliptic**

The apparent path of the Sun and planets across the sky as seen from Earth. The ecliptic runs along the zodiac.

# **EJASA**

Electronic Journal of the Astronomical Society of the Atlantic

**Elongation**

The apparent angular distance between a planet and the Sun.

**Email**

Electronic Mail. The term is usually used to refer specifically to private person to person messages, rather than public messages.

## **Enceladus**

A moon of the ringed planet Saturn.



## **Encryption**

Coded. The most popular form of encryption at the time of writing is PGP, which stands for Pretty Good Privacy.

**Ephemeris**

An ephemeris is a list of positions of a moving object for a series of dates.

## **Equatorial Mounting**

An equatorial telescope mounting is one that can follow astronomical objects simply by spinning on an axis. This makes it easy to add a motor, and make the whole process automatic.

**Equinox**

Twice a year the sun crosses the celestial equator, and the whole world has days and night of 12 hours.

## **ERS**

Earth Resources Satellite

**ESA**

European Space Agency

**ESO**

European Southern Observatory

**ET**

External Tank. The big orange tank attached to the Space Shuttle, that holds it's fuel.



## **Europa**

One of the large satellites of the giant planet Jupiter. It's about as big as our Moon.

## **EUVE**

Extreme Ultra Violet Observatory. An orbiting observatory.

## **EVA**

Extra Vehicular Activity. NASA speak for a space walk in other words...

## **Evening Star**

The planet Venus when it is visible after Sunset.

**Extinction**

When a star is near the horizon the light has to pass through more air, and so it looks dimmer. This is known as extinction.

## **Face on Mars**

A perfectly normal chunk of rock. By means of wishful thinking and tampering with images the gullible have convinced themselves its an artefact. It is not.

**Faculae**

Bright patches that look a bit like cloud features on the 'surface' of the Sun.

**FAQ**

Frequently Asked Questions. Many newsgroups collect answers to common questions, and publish them in messages from time to time.



**FFT**

Fast Fourier Transform. A means of breaking down a signal into it's component frequencies.

**Fido**

Short for Fidonet - an amateur mail network

**Fidonet**

An amateur network of bulletin boards - over 20000 of them in total. Starbase One is part of Fidonet.

**File Area**

A section of a bulletin board where files with a similar theme are stored. For example there are file areas on Starbase One devoted to Apollo Mission Pictures, Atari St Astronomy Programs and Sound Samples.

**File Category**

File areas are arranged in groups called CATEGORIES. For example, IMAGES is a file category, as is AMIGA FILES. Note that a file area may belong to more than one file category.

**File Mail**

It is possible to send a file with a message to another user of Starbase One. You are offered the chance to SEND FILES WITH THIS MESSAGE? when you save one, if you are using a message area local to Starbase One.

## **File Names**

Starbase One runs on an IBM PCcompatible. This means filenames should be of the form aaaaaaaa.bbb (eight letters, dot then three letters). This will only matter if you use a machine such as a Mac or Amiga which supports long file names.

**File Server**

A computer system with the prime purpose of making files available over a network.



**Finder**

A finder telescope is a small one attached to the big one. It is used to line the main telescope up with the target.

## **Finger**

If you finger a person on the net, some basic information is generally returned about them. Finger can also be used to trigger the sending of other information.

**Fireball**

A very bright meteor (or shooting star), also known as a bolide.

**FITS**

Flexible Image Transport System. An imageformat used by NASA and proffessional observers, and some CCD camera systems. It produces large files, and is a 'sloppy' format which can cause no end of trouble.

**Flame**

To 'flame' someone is jargon for pouring scorn or abuse on them in a mail message. It is considered stupid and obtrusive, as no one really wants to read anyone elses insults.

## **FLC**

An animation file format, developed by Autodesk.

## **FLI**

An animation format developed by Autodesk.

## **Flow Control**

A means that a modem signals when it is ready. You should always use **HARDWARE** flow control, and never use **XON/XOFF** flow control. This is because **XON/XOFF** uses character sequences that can occur in the data being transferred.



**FOAD**

Go Away And Die - Offensive abbreviation used in messages.

**FOC**

Faint Object Camera - an instrument on the Hubble Space Telescope.

**Focal Length**

The distance it takes a given lens to bring light to a focus.

## **Foo****bar**

A dummy file name.

**FOS**

Faint Object Spectrograph. An instrument on the hubble space telescope.

**Fred**

A sarcastic term for Space Station Freedom. The idea is that it has now shrunk so much they only have room for FRED on the side rather than the full name.

## **Free Fall**

When something is in orbit it has no sensation of weight - this is known as free fall, or sometimes zero gravity (though this is not strictly correct).

## **Free files**

A file is referred to as 'free' if you do not have to upload something in return for downloading it. All space and astronomy files on Starbase One are 'free'.



**FTP**

File Transfer Protocol. A means of shunting files around over the Internet. The term is also used as a verb - to FTP a file.

### **Full Screen Message Viewer**

This will display messages a full screen at a time, in pages rather than by scrolling. You must have ANSI graphics turned on for this to work.

**Full Text**

This is used to refer to a file which has complete contents of a document, not just highlights or extracts.

**FX**

Effects. Used in messages like stage directions, for example 'FX: storms off in a huff'

**FYI**

For Your Information

## **Galaxy**

A galaxy is a vast collection of stars - there are 100 billion stars in our own galaxy (give or take a few). Some have many more - most have less. Galaxies come in many shapes, the most common being ELLIPTICAL and SPIRAL.

## **Ganymede**

One of the 4 largest satellites of the giant planet Jupiter.

## **GCVS**

General Catalogue of Variable Stars



**GDS**

Great Dark Spot. A dark cloud feature seen on the blue planet Neptune by the Voyager probe.

**Gibbous**

A body has a GIBBOUS phase when it is part way between full and half full.

## **GIF**

A graphics file format, supported by many machines and programs. GIF files are MUCH smaller than BMP files. Many of the images on Starbase One are in GIF format.

**GMT**

Greenwich Mean Time. For UK observers this is clock time in winter. In summer GMT is one hour behind clock time. Also called Universal Time.

**Gnomon**

The pointy bit of a sundail.

## **Gopher**

An Internet tool that helps you retrieve material.

**GPS**

Global Positioning System. A network of navigation satellites.

## **Green Flash**

Sometimes just at the last moment of sunset you get an intense burst of vivid green light - this is known as the green flash.



## **GRO**

Gama Ray Observatory (A satellite)

**GRS**

Great Red Spot - a cloud feature on the giant planet Jupiter that has persisted for as long as the planet has been observed.

**GSC**

Guide Star Catalogue. A catalogue of stars collated to help aim the Hubble Space Telescope. It is the most comprehensive catalogue available.

**Handshake**

When two different systems work out if they can transfer data successfully they are said to handshake.

## **Hayes Commands**

A standard set of commands used to control a modem. hayes commands all start with AT (which is short for attention).

**HD**

Henry Draper catalogue entry.

## **Header**

The bit at the front of message that says who it's from, who it's too, and so on.

**Hellas**

A large basin on the planet Mars.



**Host**

A system that provides a service.

## **Hot Keys**

The Hot Keys option determines if you have to press return after typing the letter corresponding to your menu choice. For example, to get help with hot keys OFF you would type H then press return. With Hot Keys ON you only have to tap H.

## **Hot-keyed**

Hot keys means that all you have to do is tap the letter of the option you want - the alternative is to have to press return after each. In general most people find hot keys the more convenient option.

## **HR**

As in HR diagram - a graph in which star brightness is plotted against star colour, to reveal a diagonal line containing most stars, known as the MAIN SEQUENCE.

**HST**

Hubble Space Telescope

## **Hubble Constant**

A measure of how fast the universe is expanding, according to the big bang theory.

## **Hypertext**

A hypertext file is a txt files with 'jumps' built into it to let you immediately go to a new topic. Two good examples are this help file, and World Wide Web pages.

**Iapetus**

The outermost large satellite of the planet Saturn. It is very much darker on one side than the other.



**IAU**

International Astronomers Union.

## **IAUC**

International Astronomers Union Circulars - bulletins on discoveries aimed at professionals. Some of these appear a brief while later as BAA Alerts.

**ICE**

International Cometary Explorer - a space probe.

## **IGABW**

I've Got A Bigger Willy

**IMHO**

Short for In My Humble Opinion! Often sarcastic!

**Inferior Conjunction**

When Venus or Mercury pass between Earth and the Sun they are said to be at inferior conjunction.

**Infobahn**

Pretentious term used by the ignorant to oversell the Internet.

**Internet**

An international network of networks, with tens of millions of users on it. The sysop's internet address is `nstevens@starbase.demon.co.uk` The BBS itself is NOT accessible via the Internet.



## **IP**

Internet Protocol.

## **IRAS**

Infra Red Astronomy Satellite

**ISO**

International Standards Organistaion

**ISTM**

It seems to me...

## **IUE**

International Ultraviolet Explorer

## IUS

Inertial Upper Stage

**Janus**

A small satellite of the planet Saturn

**JAS**

Junior Astronomical Society - now known as the Society for Popular Astronomy, or SPA. They have their own message area on Stabase One - or mail Robin Scagell, Paul Sutherland or Ian Ridpath.



**Jovian**

This means 'of Jupiter', as in Jovian Satellites.

## **JPG**

.JPG files are very highly compressed image files. They are slightly changed on resotoring, but the saving in size is so great that this is considered acceptable. JPEG in full

**JPL**

Jet Propulsion Laboratory

**JSC**

Johnson Space Centre (NASA)

**KAO**

Kuiper Airborne Observatory

**Kernel**

The most central, fundamental and important part of an operating system.

## **Key Downloads**

An area of Starbase One where you will find the files that everyone needs, such as decompression programs, and lists of available files.

**Kreep**

A type of lunar soil. The name comes from what it contains, being: Pottasium (K), rare earth elements (REE) and Phosphorus, (P).



**KSC**

Kennedy Space Centre (NASA)

## **LAN**

Local Area Network

**Landscape**

A computer term referring to a layout format that is wider than it is tall, as opposed to PORTRAIT, which is taller than it is wide.

## **Languages**

Starbase One support several languages, including English, French, German, and Dutch. Only the prompts (such as PRESS A KEY) will appear in the chosen language - menus, file descriptions and so on are all in English.

**Late stars**

Red stars, of type M R N and S.

**LDEF**

Long Duration Exposure Facility - a satellite that was left in orbit for many years, to study the effects of the space environment on materials.

**LEM**

Lunar Excursion Module - The part of the Apollo spacecraft that actually landed on the Moon.

## **LEO**

Low Earth Orbit, (or the constellation Leo).



**Leonids**

A meteor shower that appears to come from the constellation Leo. It sometimes produces vast numbers of shooting stars.

**LGM**

Little Green Men - almost always used sarcastically.

**Libration**

The moon does not move totally evenly around the Earth - this means you can sometimes see a slightly different part of it. This is known as libration.

## **Light Curve**

Some stars vary in brightness, and the graph of this variation is known as a light curve.

**Light Year.**

The distance that light covers in a year - a measurement of distance, not time. Light from the Sun reaches us in less than ten minutes, but that from the nearest star takes four years. The farthest object visible to the naked eye is the Andromeda galaxy, which is 2,000,000 light years away, so we see it as it was two million years ago. Light travels at about 300,000 kilometres per second.

**Limb**

The aparent edge of an astronomical body.

**LMC**

Large Magellanic Cloud. A small dwarf galaxy in orbit around our own, and only observable from the southern hemisphere.

**Local group**

The immediate group of galaxies, of which our milky way is a member. Only a cosmologist would consider something 2 million light years away local!



**Log Off**

To leave an online system.

## **Log**

A log file is a file that keeps a record of what happened when. Log files generally need clearing from time to time to get rid of ever increasing amounts of info.

## **LTP**

Lunar Transient Phenomenon, more commonly known as a TLP in the UK, (Work it out yourself!)

**Lunar rays**

Bright craters on the Moon often have light streaks radiating away from them. These are called Lunar rays, and are most easily seen near Full Moon

**Lunation**

The technical term for the time between on new moon and the next one.

**Lyrids**

A meteor shower which appears to come from the constellation of Lyra every April.

**Mac**

Short for Macintosh - a popular and easy to use computer supported with several file areas on Starbase One

**Macintosh**

A popular and easy to use computer. Starbase One has several file areas devoted to this machine.



## **Magellanic Clouds**

Two small dwarf galaxies, which orbit our own. They are only visible in southern skies.

## **Magnetic Storm**

Extreme activity on the surface of the Sun can disturb the Earth's magnetic field drastically, leading to interference on radios, bad television reception and other effects. Magnetic Storm warnings appear in the Euro Astro Data message area on Starbase One.

**Magnitude**

The astronomical term for brightness. The LOWER the number, the brighter the object. Thus the brightest stars are magnitude 0, the faintest visible to the naked eye about 6. ABSOLUTE MAGNITUDE refers to the brightness at a set distance.

**Mail**

Private, person to person messages.

## **Main Sequence**

Most stars have a strong correlation between their absolute brightness and their colour. These stars are referred to as MAIN SEQUENCE stars.

## **Maksutov Telescope**

A telescope with compound optics - they tend to be very expensive, but give excellent results for their size.

**Mare Imbrium**

One of the largest of the lunar seas, easily visible to the naked eye near the top left of the Moon.

**Mare**

A lunar 'sea'. Pronounced Mah-Ray.



**Mariner**

A sequence of US space probes, which visited all the inner planets

**Mass**

A technical term for quantity of matter - the same as weight in Earth's normal gravity. On the Moon your weight would be much less, but your mass would be the same.

## **Mercury**

The small rocky planet nearest to the Sun. It is difficult to observe because it is so close, also it is a very small planet, which looks very like the Moon, but without the seas. Mercury was also the name of the first American manned space project - and samples of the astronauts voices are available on Starbase One.

## **Meridian**

The word is used in several contexts, but when used by an Astronomer it normally refers to the line in the sky running due north to south - an object on the meridian is at its highest, and its the best time to observe it.

**Message Area**

A message area is a specific conference, such as Local Chat. Not to be confused with a message category.

**Message Category**

A collection of similar message areas, such as Astronomy Conferences.

**Meteorite**

A meteorite is a meteor that was big enough to make it down to the surface of Earth. There is a tradition of naming meteorites after the nearest post office!

**Mimas**

A small inner satellite of the planet Saturn, with a VERY large crater caled Herschel.



## **Minor Planets**

Another name for Asteroids

**Minute of arc**

Astronomers often deal with very small angles, and divide a degree into 60 minutes, and a minute into 60 seconds. For example, the largest Mars gets is about 25 seconds of arc across.

## **MIR**

The soviet space station.

**Miranda**

A small and VERY rugged moon of the gas giant planet Uranus.

**MMT**

Multiple Mirror Telescope. A specific large telescope which uses an array of small mirrors as the equivalent of one very large one.

**MMU**

Manned Manoeuvring Unit. A backpack used by shuttle astronauts to fly freely in orbit.

**MNP**

A standard for error correction. In other words, a means of ensuring that your computer gets what mine sends, even if the operator is busily frying chps.

**Modem**

Short for modulator/demodulator. Now forget that and think of it as a small box that makes funny noises and lets your computer talk to others down normal phone lines!



**Moderator**

Someone who looks after a conference. It is his or her job to warn people when they drift off topic.

## **Monochromatic**

A single colour.

## **Morning Star**

The planet Venus, when it is visible before dawn

**Mosaic**

An internet tool which offers a friendly graphic front end (unlike most).

## **MPC**

Minor Planets Circular. That's circular in the sense of newsletter, not as in round!

**MS Mail**

Microsoft Mail. An email system which is provided by Microsoft with Windows for Workgroups. It is MAPI compliant.

## **MSFC**

Marshall Space Flight Centre (NASA)

**MUD**

Multi User Dungeon. An online game that several people play at the same time.



**Multitasking**

Running more than one program at a time. For example, DOS is not multitasking, Windows is.

**NACA**

National Advisory Committee on Aeronautics. The organisation that became NASA.

**Nadir**

The point in the sky directly beneath your feet - of course the ground stops you seeing it.

## **NASA**

National Aeronautic & Space Administration. NASA news and announcements are made available on Starbase One every day, and many thousands of images from their missions are also there for download.

**NASDA**

NAtional Space Development Agency (The Japanese space agency).

**NASM**

National Air & Space Museum

**Neil Armstrong**

The first man to land on the Moon, on Apollo 11 in 1969.

**Netmail**

A term which refers to Email between two fidonet bulletin boards.



**Neutrino**

A ghostly sub atomic particle, VERY difficult to detect

**Neutron Star**

A remnant of a massive star which has collapsed until it is made almost entirely of neutrons at phenomenal density.

## **NEWS**

News, also known as USENET is a collection of themed public messages. For example, there is a newsgroup called sci.space.tech where technical spaceflight issues are discussed. This is very similar to a bulletin board ECHO.

**Newsgoup**

A USENET themed public conference. Like an ECHO on a conventional bulletin board.

## **Newtonian Reflector**

The most common type of reflecting telescope, invented by Sir Isaac Newton.

**NGC**

New General Catalogue. A list of many thousands of deep sky objects such as galaxies and star clusters. Of interest to the advanced amatuer.

**NNTP**

Network News Transfer Protocol. The protocol for transferring news across the Internet.

**NO CARRIER**

A message received when a modem fails to talk to another one. See the problems section in this help file if you get this a lot.



## **NOAO**

National Optical Astronoy Observatories

## **Noctilucent Clouds**

Rarely seen thin clouds about 50 miles high that can occasionally be seen after sunset when they still catch the light.

**Noise**

A general term for stuff you don't want interfering with stuff you do. This can include corruption on an image, or can literally be noise on the phone line, which may cause odd characters to appear on your screen for no apparent reason. If you get a lot of line noise, try calling Starbase One's other number.

**NRAO**

National Radio Astronomy Observatory

**NSF**

National Science Foundation

**NSSDC**

The National Space Science Data Centre. This is the organisation responsible for distributing NASA data, much of which they provide on CD Rom. More details on the BBS!

**null modem**

A null modem cable is a cable that lets two computers talk to each other across a distance of a few feet, as if they were connected by modems.

**Nutation**

A slight wobble in the Earth's axis due to the movement of the Moon.



## **Oberon**

One of the major satellites of Uranus.

**Objective**

The big lens at the front of a conventional telescope.

**Oblateness**

The amount of flattening of a globe.

**Occultation**

When one body passes in front of another it occults it - the most common body doing the occulting is the Moon.

**OCR**

Optical Character Recognition. Automatic scanning of text into a file as letters rather than an image.

## **Ocular**

An eyepiece.

## **Offline Reader**

A way off collecting your messages and reading them at your leisure without having to be connected. A VERY good way to keep phone bills low! Fully described in this help file. See also OLR.

**Offline**

You are said to be offline when you are NOT connected to your Internet service provider.



**OLR**

Short for Offline Reader - a good way to keep phone bills down. Fully described elsewhere in this help file.

## **Olympus Mons**

The gigantic volcano on Mars. Many pictures and simulated views are available on Strabse One.

**Online**

You are said to be online when you are actually connected to your Internet provider.

**Oort cloud**

A cloud of comets that theoretically might exist at great distances from the Sun.

**Opposition**

A planet is at opposition when it is directly opposite the Sun in the sky. This is generally the best time to view it.

## **Optical Disk**

A storage device that operates by laser light instead of the magnetic way that hard drives operate.

## **Orionids**

A meteor shower that appears to come from the constellation Orion in late October.

**Orrery**

A clockwork model of the solar system.



## **OSCAR**

Orbiting Satelite Carrying Amateur Radio

**OTOH**

On The Other Hand

**packet**

A chunk of data, rather like a block.

## **Paging**

If paging is on, the Starbase One computer will pause every so many lines, so you can be sure of reading everything before it scrolls off the top of the screen.

**parity**

An extra one or zero added to a byte to ensure there are an even (or odd) number of ones in the total nine digits. That way if there are NOT the correct number at the receiving end the error can be detected.

**Parsec**

A distance at which an object has a parallax of one arc second. Equivalent to 3.26 light years.

## **Password**

You should choose your password with care, particularly if you have paid to become a subscriber. Avoid something obvious such as your first name, or your partners first name. Avoid using the same password on more than one BBS. And write it down somewhere safe.

## **PCX**

A popular imagefile format, not widely used on Starbase One (because files are much larger than equivalent GIF or JPG images).



**Penumbra**

The lighter part of a shadow - often used astronomically to refer to the Earth's shadow on the Moon during an eclipse.

**Perigee**

The point in an objects orbit around the Earth when it is nearest th Earth.

**Perihelion**

The point in an objects orbit around the Sun when it is closest to the Sun.

**Perseids**

The best meteor shower of the year, which happens in August. Rates generally reach 60 meteors per hour or even more.

**Peturbations**

When the gravity of one object disturbs the orbit of another it is called a perturbation.

## **PGP**

Pretty Good Privacy - An encryption system.

## **Phase**

The amount of a body that is lit - the best known example is the phases of the Moon. Only Venus and Mercury among planets show the full range of phases, the rest stay nearly full.

**Phobos**

One of the tiny moons of Mars. Probably a captured asteroid.



**Photon**

An individual particle or wave packet of light.

**Photosphere**

The layer of the Sun which forms the apparent surface.

**PI**

Principle Investigator. A NASA term that refers to the ma in charge of analysing the data from a project (or a part of a project if it's a big one).

**Pioneer**

A series of American space probes.

## **PITA**

Pain In The Bottom

**Plasma**

A gas in which electrons have been removed from the nucleus.

## **PMT**

Not what you are thinking - it stands for PhotoMultiplier Tube - a device for amplifying faint light.

**Polaris**

The proper name for the pole star. Also known technically as Alpha Ursae Majoris.



**Poll**

A system is said to poll when it checks if any services are required. For example, you might poll for mail every 3 minutes, to see if any more has arrived while you are online.

**Portrait**

A computer term for a picture format that is taller than it is wide, and oppsed to LANDSCAPE which is wider than it is tall.

## **Precession**

The slow wobble of the Earth's axis over 26,000 years

**Private**

The term private should be carefully understood - it merely means private between users - the Syop of Starbase One (and all other bulletin boards) can read all messages, even if they are private.

**Prominences**

Huge plumes of glowing gas which arch over the Sun's limb.

**Proper Motion**

This term refers to a stars movement across the sky due to its own physical velocity. These motions are extremely small in most cases, and you will not notice any change over a lifetime in most cases, even with a telescope.

**Protocol**

An agreed standard for passing information. So that both ends know how to transfer the information, and can tell if its working.

**Pulsar**

A rapidly spinning neutron star, which emits rapid pulses of radio waves.



**QSO**

A Quasi Stellar Object, more commonly known as a Quasar. These are currently thought to be galactic nuclei with giant black holes inside. The most energetic objects in the universe.

## **Quadrantids**

A brief but intense meteor shower that peaks on Jan 3rd every year.

**Quiet Sun**

Solar activity (mainly visible as sunspots) varies over a roughly 11 year period. The time of minimal activity is referred to as the quiet Sun.

**RA**

Astronomically Right Ascension (the equivalent of Latitude). In computer terms Remote Access - the software that runs the Starbase One bulletin board.

**Radiant**

The point in the sky that a meteor shower appear to come from.

**Ramsden**

A type of eyepiece.

## **Ranger**

A series of early lunar probes (US).

## **Receipts**

You can 'request receipt' for a message left on Starbase One. This means you will be sent a message confirming when (or if) the intended recipient receives it.



**Red shift**

When an object is moving away from you at high speed, the light is reddened. This is widely used in astronomy, to determine speed from the colour of an object's light.

## **Reflecting Telescope**

A telescope where a mirror is the main means of collecting the light.

**Reflector**

Short for a reflecting telescope - one where a mirror is the means of collecting the light.

## **Refracting Telescope**

A telescope where the light is collected with a lens.

**Refractor**

A refractor is a telescope that uses lenses as the main means of collecting the light.

**Resolving Power**

The ability of a telescope (or other instrument) to show two close objects as separate.

**Reticle**

Fine threads or crosshairs in an eyepiece to aid measuring. Rather like a gunsight.

## **Rhea**

A large satellite of Saturn.



## **RIP**

A type of graphics used by some bulletin boards, not yet supported by Starbase One.

## **RLE**

Run Length Encoded - a way of making BMP bitmaps a good bit smaler (but not as small as GIF's)

**RNGC**

Revised New General Catalogue. A list of deep sky objects.

## **ROFL**

Abbreviation for Rolling On Floor Laughing - see also smileys. Sometimes you may also see ROFLMHO - Rolling on floor laughing my head off!

**ROFLMHO**

Rolling On Floor Laughing My Head Off!

**ROSAT**  
ROentgen SATellite

**RS232**

The comms or serial ports on IBM compatibles are sometimes called RS232 or RS232c ports.

**RSN**

Real Soon Now. Almost always meant sarcastically if used to refer to when software will be fixed...



**RTFM**

Short for Read The F@\$%! Manual! Generally aimed at someone who asks for help before reading the documentation supplied.

**SAO**

Smithsonian Astrophysical Observatory. They produced a well known star catalogue known as the SAO catalogue.

## **SAREX**

Shuttle Amateur Radio EXperiment. Some shuttle missions carry ham radio equipment, to talk to amateurs during missions. Details appear on Starbase One when the missions are approaching.

**Schmidt telescope**

Also sometimes called a Schmidt camera. A complex telescope specifically designed for covering large areas of the sky with minimal distortion.

**scroll**

When text (or graphics) slides up the screen to make room for more, its said to be scrolling.

**Scrolling**

When text slides around the computer screen (generally to make room for more) it is called scrolling.

## **SCT**

Schmidt-Cassegrain telescope. The stubby tubes you see so heavily advertised in American astronomy magazines. Often accompanied in the illustration by a dwarf woman (to make it look bigger), who is being blasted by a wind machine (something the yanks apparently find sexy), looking down the eyepiece in broad daylight. Inside a photo studio. You can tell these ads are aimed at intellectuals can't you?

## **Seeing**

Astronomers use the term to cover how well suited that atmosphere is for observing. The two main parts of seeing are how transparent the air is, and how steady it is.



**Server**

A SERVER is a program that provides a service to a remote program. For example, if you request information from another system with the FINGER command, it is a SERVER process at the remote end that provides the data.

## **SETI**

Search for Extra Terrestrial Intelligence. A serious program to detect signals from other civilisations.  
They haven't found any yet...

**SFX**

SFX refers to a self extracting Archive (I know the letters don't work!) When you run this type of program it will decompress itself to produce more files and a new program.

**Shareware**

A 'try before you buy' system of software distribution. If you use the software after the trial period you should send the author the requested amount. This is essential if the author is to continue to develop and support the software.

**Sidereal**

With reference to the stars - so for example a sidereal day is the length of time between a given star rising twice, (which is slightly less than a solar day).

**SIG**

Short for Special nterest Group - another term for a conference.

## **Silvering**

Amatuer astronomers used to coat their mirrors with silver, rather than the more modern Aluminium.

**Sirius**

The brightest star in the sky - a bit to the left of, and below, Orion.



## **Smiley**

Sarcasm, irony and some other forms of humour just don't work well in print. So to show you are joking it is common to add a smiley character at the end like this :-)

Tip your head to the left and it makes more sense! There are many many variations on the smiley theme.

**SMTP**

Simple Mail Transfer Protocol. The standard way of moving mail around the Internet.

**SNR**

Either SuperNova Remnant (whats left over when a star explodes) or Signla to Noise Ratio - how much of a signal is useful information.

**SOHO**

SOLar Heliospheric Observatory. Used in computer mags to refer to Small Office / Home Office software.

## **Solar Flares**

Jets of luminous gas ejected from the Sun. They commonly loop into strange shapes, controlled by the magnetic field of the Sun.

## **Solar System**

The Sun, and everything that orbits it, including planets, comets and asteroids.

## **Soyuz**

A manned soviet spacecraft, first launched in 1967.

## **Spectrum**

A detailed breakdown of the light from an object - with stars it will show dark lines that let you work out what the star is made of.



## **Speed Seeking**

Also known as autobauding. Modems can be set to try a variety of speeds, to try and match with another modem. This is generally best avoided, and you should lock your modem at its fastest speed.

**Spider**

Part of a reflecting telescope that holds the secondary mirror, (the bit that diverts th image out of the ide of the tube).

## **Sputnik**

Sputnik 1 was the first artificial satellite, launched in 1957 by Russia.

## **SQL**

Structured Query Language. A standard for database queries.

**SRB**

Solid Rocket Booster. The big fireworks strapped to the side of the Space Shuttle.

**SRM**

Solid Rocket Motor - see SRB.

**SSF**

Space Station Freedom - the currently shrinking US Space Station proposal. See FRED.

**SSME**

Space Shuttle Main Engine - the bits at the back of the shuttle orbiter that do most of the work.



## **SSTO**

Single Stage To Orbit.

**Star Cluster**

A group of stars bound together by gravity. A small cluster may only contain a few members - a large globular cluster may contain nearly a million stars.

## **Starbase One**

The World's biggest and best astronomy and space bulletin board! Available 24 hours a day in the UK on 071-703-3593 and 071-701-6914. Use 8N1 coms settings. Email the sysop as [nstevens@starbase.demon.co.uk](mailto:nstevens@starbase.demon.co.uk)

**Stop bit**

A one bit marker at the end of a character to indicate the end.

**Sunspot**

A relatively cool patch on the surface of the Sun, which looks dark. Sunspots are associated with intense magnetic fields.

## **Supernova**

Some large stars end their lives in massive explosions which outshine an entire galaxy. These are known as Supernovae.

## **Surfing**

Moving around the net, exploring and collecting stuff.

## **Synchronous Rotation**

When one body orbiting another always keeps the same face pointing towards it, this is Synchronous Rotation, (or captured rotation). The best known example of this is Earth's Moon.



**Sysop**

Short for System Operator - the person who runs a bulletin board system.

**Tag**

When files are being listed to the screen you can tag them for downloading later. This can save significant time, and is particularly useful when you check for new files as you log on to the system. If you tag more than one file, you should be using a batch protocol, such as ZMODEM.

**Tagline**

The bit at the end of a message which tells you something about who write it. Also called a sig (for signature).

## **TAR**

A UNIX compression standard.

**Taurids**

A meteor shower that peaks in early November.

**Telnet**

The Internet means of logging onto a remote system.

**Terminator**

The boundary between lit and unlit parts of a planet or Moon.

## **Tethys**

A large satellite of Saturn.



## **Tharsis Ridge**

The area of Mars with the largest volcanoes.

**Thread**

A sequence of messages linked by a common subject line. A subset of a conference.

**throughput**

The amount of data being transferred in a given time.

**TIA**

Thanks In Advance - usually seen at the end of a message asking for help.

## **Time Client Window**

This window will show you what happens when DICS tries to connect to the time server.

## **Time Dilation**

One of the effects of relativity is that time appears to pass at different rates depending on your speed.

**Titan**

The largest of Saturn's satellites - it has a thick atmosphere, and is easily visible in small telescopes.

## **Titania**

The largest satellite of Uranus.



**TLA**

Three Letter Acronym!

**TPTB**

The Powers That Be - normally used with reference to restrictions by a service provider.

## **Transfer Protocol**

A means of transferring files between two computers. The most common examples are XMODEM, YMODEM and ZMODEM.

## **Trapezium**

The common name for the multiple star in the middle of the Orion Nebula, M42.

**TRDS**

Tracking and Data Relay Satellites. An orbiting communications network.

**Trifid Nebula**

The common name for the nebula M 20.

## **Trojans**

Asteroids that share Jupiters orbit - some stay about 60 degrees ahead of Jupiter, and some about 60 degrees behind.

**TTFN**

Ta Ta For Now



## **Tycho**

The big bright crater to the south of the Moon, very prominent near full moon.

## **UARS**

Upper Atmosphere Research Satellite

# UGC

Uppsala General Catalogue

## **UHF**

Ultra High Frequency

**Umbra**

The darkest part of a shadow (as in an eclipse), or the darkest part of a Sunspot.

**Umbriel**

One of the satellites of Uranus.

## **UNIX**

A computer operating system developed at Bell Labs. It is very common on the Internet, and when dealing with a remote command line, you will generally need to talk UNIX.

## **Upload**

To send a file to a remote system.



**Ursids**

A light meteor shower that takes place every December.

## **USENET**

The news and conferencing system that runs on the world wide Internet system.

**UUDECODE**

A means of extracting a binary file from a message.

**UUENCODE**

A means of placing a binary file in a message.

**UV**

Ultra Violet

**V32 bis**

A modem speed standard.

**V32**

A modem speed standard.

**VAB**

Vehicle Assembly Building - formerly the Vertical Assembly Building.



## **Variable Stars**

Most stars are constant in brightness, but many vary, and following the changes is a popular activity for the serious amateur astronomer.

**VBX**

A Visual Basic Extension file. These typically contain code used by visual basic controls, and are generally placed in the \WINDOWS\SYSTEM directory.

**Vesta**

The brightst (but not the largest) asteroid.

## **VHF**

Very High Frequency

**WAGI**

What A Good Idea

**WAIS**

Wide Area Information Server. A method of searching indexed text.

**Wallpaper**

A picture used as a backdrop on your computer monitor. Most commonly used for Windows systems - Wallpaper images must be in .BMP format.

## **WAV**

A sound file format used by windows. Many .WAV files are available on Starbase One - for example Armstrongs first words on landing on the Moon.



## **WfWg**

Windows for Workgroups.

## **Whirlpool**

A popular name for the galaxy M51

**White Dwarf**

A small and dense and fait type of star.

**Winsock**

Winsock is a software system which provides Internet functionality to other Windows programs, such as DICS.

**World Wide Web**

WWW. A graphic system of linked menus that can span many Internet sites around the world. Rapidly becoming the most popular way of exploring the net. The most popular WWW browsers are Cello and Mosaic.

**WTF**

What The Flip?

## **WWW**

World Wide Web - an Internet based hypertext system that spans many nodes.

## **XMODEM**

A way of transferring files between two computers. Also known as a Transfer Protocol. XMODEM is widely supported, but if you have the option use ZMODEM.



## **XON / XOFF**

A type of flow control you should avoid - always use hardware flow control.

**YHM**

An abbreviation for You Have Mail! Commonly used to indicate a private reply has been sent to you rather than responding at length in a conference.

## **YMODEM**

A means of transferring files between two computers. Not as good as ZMODEM. Also known as a File Transfer Protocol.

**Zenith**

The point in the sky directly overhead.

## **ZIP**

The most widespread compression and decompression system. ZIP gathers several files into one, and compresses them so they use less disk space, (and transfer over a modem faster). To compress on an IBM PC use PKZIP to decompress use PKUNZIP. Both these programs are freely available from the Key Downloads area of Starbase One.

## **ZMODEM**

The best way of transferring files between your computer and Starbase One. This is an example of a File Transfer Protocol.



