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 **More Library
Resources**

▼ **Citation
Indexes: Arts
and Human-
ities; Social
Sciences;
Science ... 1**

▼ **New Data-
bases and
Journals... 2**

▼ **Library
Materials
Preservation
Issues 4**

▼ **Newspaper
Symposium
..... 3**

 **20 Questions:
Computer and
Info Tech
Changes .. 5**

 **Global
Positioning
Systems .. 6**

 **Web Tip:
Typing Short-
cut 11**

Information Technology

Newsletter

Citation Indexes Available Over the Web

Nancy K. Herther, University Libraries <<http://www.lib.umn.edu>>

ISI Citation Indexes

Need to check to see how your colleagues reacted to a recent article of yours? Need to check for current articles by some author or produced at some particular institution? Want a quick bibliography on some hot research topic?

The citation indexes from the Institute for Scientific Information (ISI) are good basic research tools for you to use. They're available from the Library's **Indexes** section.

These three ISI indexes are key databases covering all fields of research:

- Science Citation Index
<<http://www.lib.umn.edu/index/i-engin.html>>
- Arts and Humanities Citation Index
<<http://www.lib.umn.edu/index/i-arts.html>>
- Social Sciences Citation Index
<<http://www.lib.umn.edu/index/i-socsci.html>>

I have had the privilege to get to know the 'inventor' of these indexes, Dr. Eugene Garfield. A chemist with great intellectual curiosity, Garfield's idea was seen as pure folly when he first envisioned an index to cited references in articles. The index would allow a

UNIVERSITY
LIBRARIES

More Available Through the Libraries' Web Page

ELECTRONIC JOURNALS

Two new full-text electronic journals have been added to the Libraries web page: <<http://www.lib.umn.edu/ej/ej-title.html>>

- *Demography* (Population Association of America), Current Holdings: v.1-28, 1964-1991
- *Contemporary Sociology* (American Sociological Association), Current Holdings: v.1-20, 1972-1991

Also, the following two journals have had backfiles of older issues added to the online collections for your use:

- *Annals of Mathematics*, Series 2: v.133-134 (1990-1991)
- *Journal of American History*, Coverage: v.77-78 (Issues 1-3) (1990-1991)

For these, and our other, growing collections see our web page: <<http://www.lib.umn.edu>>.

DATABASES

Several new databases are now available for current staff, students and faculty of the University of Minnesota Twin Cities campus via our web page. Check them out! We will cover these in greater depth in future issues of the newsletter.

- **ABI Inform**, a critical business/management database from UMI: <<http://www.lib.umn.edu/index/abi-login.html>>

The following databases are all available through the Eureka interface (Research Libraries Group): <<http://www.lib.umn.edu/index/subj.html>>.

- Handbook of Latin American Studies
- Index to Foreign Legal Periodicals
- Inside Information Plus
- SCPIO Art and Rare Book Sales Catalogs
- World Law Index Part 1: Index to Hispanic Legislation

■ Nancy K. Herther

researcher to retrieve a list of works that have cited a specific author or specific earlier work as well as allowing for searches by subject, author name, etc. In addition, Garfield saw that such an index would be an aid in tracing the evolution of ideas and research in the literature. At the time, few really understood the revolutionary approach to research that he was proposing. ISI is now a major corporation with new ownership, and Garfield has gone on to other scientific pursuits. But his indexes remain and grow in popularity and value each year.

The Libraries have decided to offer access to these key databases by connecting directly to ISI's own website and using their search interface. Each database is updated weekly to keep the files as current as possible. Let's look first at each of the indexes and then do some quick searches to see how useful and flexible the ISI search software can be.

SCI: Science Citation Index Expanded

Covering all sciences – from agriculture to zoology – the database provides bibliographic citations plus author abstracts for about 70 percent of the articles covered in the database. Each citation also includes a list of references cited in the source article. Over 5,300 major journals in 164 different disciplines are included. Each week over 5300 new articles are added to this database.

- The online version of SCI covers 1997 only.



- For coverage from 1986 through June 1997, CD-ROM versions of the database are available in the Science and Engineering Library (Walter Library) and at the St. Paul Campus Central Library.

AHCI: Arts and Humanities Citation Indexes

Cover to cover indexing to over 1100 core arts and humanities journals is provided – including book reviews, performance reviews, editorials, letters – along with selected coverage from an additional 6800 relevant journals. Each week over 1100 new articles are added to the database.

This database is currently available in two different formats from the Libraries.

- The ISI web version covers only 1997 and the future.
- A FirstSearch version – with both telnet and web versions – is still available from the Libraries and covers 1980 to the present.

SSCI: Social Sciences Citation Index

Over 1700 journals covering 50 disciplines are indexed fully – giving access to not only articles but reviews, letters, etc. – along with selective coverage from an additional 3300 related journals. About 60 percent of the articles in the database include abstracts, and each citation also includes the listing of references cited in the source article. Each week over 1700 are typically added to the database.

- The online version covers 1997 only.
- A CD-ROM version, covering 1981 through 1996, is available in Wilson Library General Reference for searching backfiles of this database.

Taking Citations for a Spin

Once you select any of the three citation indexes from ISI, you will get to the general ISI Web of Science interface. At this point you can select a single database to search or you can select all three to do a comprehensive search of your topic.

In mid-December while working on this article, the combined databases contained 1,111,242 documents. First, I did a check to get a feel for the flexibility of the database.

- *How many articles were published with the University of Minnesota listed as the institutional affiliation of the authors in 1997?*

I searched for **univ minnesota** in the address field and found 5,058 articles. Pretty impressive!

- *Has anyone from UMN written in the field of gene therapy this year?*

I searched for **gene therapy** in the topic field and **univ minnesota** in the address field and found eight hits. Each included not only the bibliographic citation (author, title, source, date of publication, volumes, pages) but abstracts and, in the full records, I could see all of the references cited by the authors of the various articles.

NEWSPAPER SYMPOSIUM PROCEEDINGS

Available on the Web

Preservation and Access: Global Newspapers

The Symposium on Access to and Preservation of Global Newspapers, held May 27-28, 1997, was sponsored by the Association of Research Libraries (ARL), the Center for Research Libraries (CRL), the Commission on Preservation and Access/Council on Library Resources (CPA/CLR—now the (CLIR) Council on Library and Information Resources), and the Library of Congress (LC).

These organizations convened this meeting to define the problems of collecting, storing, preserving, and providing access to international newspapers and, most importantly, to design a course of action that will guarantee acquisition of and access to international newspapers.

Selected presentations from the symposium are available in full at <<http://www.crl.uchicago.edu/icon/papers.htm>>.

■ Nancy K. Herther

Some Quick Search Tips

Truncation

All databases allow you to truncate terms to retrieve variants of words. Since this is an international database, spellings may be a critical issue in doing a good search. You can use the * key to search for multiple characters (such as **environ*** which would retrieve *environ*, *environs*, *environment*, etc.).

To replace a single character, use the ? key (such as **wom?n** for *woman* and *women*).

These can be combined in this database for advanced searches (such as **ch?mi*** for *chemist*, *chemistry*, *chemie*, *chimia*, etc.).

Boolean Operators

Boolean Operators work in this database as well. **AND**, **OR** and **NOT** are all available, although users are cautioned to use the **NOT** operator with care since any time some term might be mentioned in an article the article would be discarded from consideration.

You can create complex subject searches, such as:

(**mars OR martian**) **AND meteorite**

or

(**smell* OR odor* OR olfact***) **AND mammal***

Source Authors

ISI captures all source authors; although, if the list is incredibly long, only the first 255 are searchable. It is good to use as little information as possible about authors, unless the name is very common, since some publication rules cite authors with only one or two initials and others may give full names as listed on the source articles. The source document may list a full name, but in the database the names are kept to full last names and first initials.

Hyphenated and other complex names are treated as a single word without spaces, so *Oscar de la Renta* would be searched as **delarenta o**.

Searching Cited Authors or Works

Searching cited authors or works can be confusing, and you may want to try a few options as you work with the database. For example, to search for a cited author you may wish to **OR** together different possibilities (such as **clinton wj OR clinton w OR clinton w* OR clinton b OR clinton b***).

Give it a Spin!

Whether looking to see who's citing you or looking to research the evolution of some theory or treatment, the ISI databases are excellent resources. If you encounter any difficulties using the database, ISI has built-in help menus or you can connect with any reference unit in our Libraries system for assistance.

The University Libraries offer a wide variety of free classes and tours of our facilities, services and collections. These are listed in the various web pages and under **CLASSES** <<http://www.lib.umn.edu/services/classes.html>> on our web page. Or, for more information, feel free to stop in or call any of the reference units in our libraries.

■ Communications about this column can be sent to: Nancy K. Herther, Ed/Psych Reference Service, University of Minnesota Libraries, 108 Walter Library, East Campus; 4-2020; <n-hert@tc.umn.edu>.

? Interested in Preservation Issues for Library Materials?

RLG has just released the third issue of RLG DigiNews, the web-based, quarterly newsletter available at: <<http://www.rlg.org/preserv/diginews/>>.

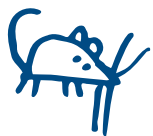
The third issue contains a feature article by Franziska Frey of the Image Permanence Institute, "Digital Imaging for Photographic Collections: Foundations for Technical Standards." Complementing the feature article, this issue's technical review introduces the concept of Color Management Systems (CMS) and the work of the International Color Consortium (ICC). In addition, the issue contains a current calendar of events, project announcements, relevant websites and a FAQ about the array of free digital preservation newsletters and journals.

Readers can continue to search issues of RLG DigiNews by keyword or browse the hyperlinked tables of content of available issues.

■ Nancy K. Herther



Test Yourself, 20 Questions



In 1982 *Time* magazine declared “The Computer” to be the “Man of the Year.” Time’s 1997 entry is Intel’s Andrew Grove, a man they’ve termed a digital revolutionary. To help you keep past and future computer and information technology changes in perspective and to test your knowledge of significant happenings on those fronts since 1982, we’re prepared 20 questions you can try to answer—or you can just peek at the answers we’ve provided.

The list below contains two entries for 1982, four for 1987, and one for each of the years 1983–86 and 1988-1997.

- 19__ Microsoft ships Windows 1.0, and Apple introduces a laser printer with built-in PostScript
- 19__ UM Campus-wide Email and Internet accounts project is begun, including SLIP access
- 19__ Lotus announces 1-2-3 for the IBM PC
- 19__ Windows 95 introduced
- 19__ IBM introduced the XT, an “extended” PC
- 19__ Apple introduces the 128K Mac
- 19__ Word-Wide Web released by CERN
- 19__ TCP/IP established as protocol for ARPANET
- 19__ IBM announces that copper can be used to create circuitry on silicon wafers
- 19__ 3M introduces a 2MB 3.5-inch diskette
- 19__ Apple announces the Mac II
- 19__ PCMCIA card specification v1.0 is released
- 19__ HP introduces the DeskJet inkjet printer
- 19__ IBM announces 16-inch monitor that displays 1024x768 in 256 colors for \$~3000
- 19__ Intel ships the 80386 CPU
- 19__ First 80486 systems and first relays between a commercial e-mail carrier and the Internet
- 19__ MCI upgrades Internet backbone to effective speed of 622 Mbps
- 19__ The 2nd most popular net service is the web
- 19__ Intel introduces the Pentium processor
- 19__ U.S. Robotics unveils its 9600 bps modem

More Chronologies and Information

- Chronology of Events in the History of Microcomputers; this series of files starts in 1947 and currently ends in 1997: <<http://www.islandnet.com/~kpolsson/comphist.htm>>
- Time magazine’s digital revolution timeline, which accompanies their 1997 Man of the Year feature: <<http://www.pathfinder.com/time/moy/timeline.html>>

- Hobbes Internet Timeline: <<http://info.isoc.org/guest/zakon/Internet/History/HIT.html>>
- Charles Babbage Institute, Center for History of Computing: <<http://www.cbi.umn.edu/>>
- Chronology of Digital Computing Machines, 1662 to 1952: <<http://www.best.com/~wilson/faq/chrono.html>>

■ Mary Kelleher, Academic and Distributed Computing Services



Answers

- 1982: Lotus announces 1-2-3 for the IBM PC
- 1982: TCP/IP (Transmission Control Protocol/Internet Protocol) is established as the protocol suite for ARPANET by DCA and the Advanced Research Projects Agency (ARPA)
- 1983: IBM introduced the XT, an “extended” PC, with a built-in 10MB hard drive and 128K RAM
- 1984: Apple introduces the Mac; it has a 3.5-inch, 400K floppy drive and 128K of RAM
- 1985: Microsoft ships Windows 1.0 for \$100, and Apple introduces a laser printer with a built-in PostScript controller
- 1986: Intel ships the 80386 CPU
- 1987: Apple announces the Mac II; it has 1MB RAM
- 1987: U.S. Robotics unveils 9600 bps Courier HST modem; BBS systems can purchase it for \$495
- 1987: 3M introduces a 2MB 3.5-inch diskette
- 1987: IBM announces the 8514 16-inch monitor (\$1550) a Display Adapter that adds 1024x768 in 16 colors (\$1290) and 256 colors with the Memory Expansion Kit (\$270)
- 1988: Hewlett-Packard introduces the DeskJet inkjet printer for \$1000
- 1989: First 80486 systems shown and first relays between the Internet and a commercial e-mail carrier: MCI mail and Compuserve
- 1990: PCMCIA card specification v1.0 is released
- 1991: Word-Wide Web released by CERN
- 1992: Campus-wide E-mail and Internet accounts project is begun, including SLIP (modem) access to the Internet
- 1993: Intel introduces the Pentium processor
- 1994: WWW (the web) edges out telnet to become the 2nd most popular service on the Net
- 1995: Windows 95 introduced
- 1996: MCI upgrades Internet backbone adding ~13,000 ports, bringing the effective speed from 155 to 622 Mbps
- 1997: IBM announces CMOS 7S, a technology that uses copper to create circuitry on silicon wafers, enabling smaller, more powerful systems to be developed





TRENDS AND TUTORIALS: Global Positioning Systems

If you're a fan of some of the websites that provide directions on how to get from your home to some unknown street address

(such as <http://www.mapquest.com>), you've probably wished you could always have that kind of aid on hand. Well, the required hardware, software, and maps have become more affordable. And more portable computers can "speak" — meaning you could keep your eyes on the road and "hear" when it's time to turn right. So, now is a good time to look at what's behind using the global positioning technology that's available for boats, bikes, cars, tracking falcons, or just for walking around.

This article is divided into two parts. Part I is the Global Positioning Systems (GPS) overview written by Karen Nakamura who took over maintenance of the GPS FAQ (and is a doctoral student focusing on Deaf communities in the U.S. and Japan). Ms. Nakamura wrote a short GPS background article for *TidBITS*. Most of her friendly introduction is reprinted below. Ms. Nakamura's company, GPSy, developed a GPS system for Macintoshes. GPS software is also available for computers running Windows software and for other setups.

Part II contains pointers to other GPS-related links, including an on-line GPS tutorial from Trimble Navigation Ltd.

GPS Overview

This article is a reprint from the on-line publication called *TidBITS* and appeared in the July 14, 1997 #388 edition. We added the subheadings in italics.

Feeling Lost? An Overview of Global Positioning Systems

by Karen Nakamura

Until about five years ago, the Global Positioning System (GPS) existed in the realm of high-tech military thrillers. Fictional spies

would tote hand-held units that precisely displayed their locations (or that of their objectives) anywhere on earth - with street maps and 3D topographic representations to boot!

Reality imitates art. In the past ten years, three amazing things have happened. First, the U.S. military opened up the Global Positioning System for civilian use. Then, the price of receivers plummeted from the \$1,000-\$10,000 range to \$100-\$200, making them widely affordable. And last, advanced computer-controllable units have appeared, making integration with personal computers a reality. With your Macintosh and about \$300 in additional hardware and software, you can do things that were science fiction just a little while ago.

Your Tax Dollars at Work

The Global Positioning System is truly amazing. Developed by the U.S. military at a cost of several billion dollars, GPS is based on 24 orbiting satellites (space-heads call them SVs, which is short for "Space Vehicles"). These satellites broadcast a precise data signal that allow GPS receivers to locate themselves anywhere on the planet. A receiver can calculate its position (latitude and longitude), altitude, velocity, heading, and precise time of day. Most units also have a built-in mapping feature that displays their positions relative to waypoints you've pre-programmed into them and a plot trail that shows where you've traveled. Advanced models have built-in street or waterway maps, plus serial ports for computer connections.

Accurate at the Millimeter or 100 Meter Levels

Military and high-end survey-grade models are accurate to the millimeter level (less than one-sixteenth of an inch). However, standard over-the-counter civilian models are nominally accurate to "only" about 100 meters (roughly a city block). This is due to military-induced



Selective Availability - a euphemism for scrambling the GPS signal just enough to reduce the accuracy to sub-military levels. Such scrambling leaves the signal accurate enough to find your favorite fishing hole, but prevents you from accurately dropping a cruise missile into the government's classified Area 51 base in Nevada. One amusing consequence is that many car navigation systems that use GPS will put you slightly off the road - making it seem as though you're driving into a river or building!

DGPS: Differential GPS

If you need better accuracy than 100 meters, an FM radio receiver called a Differential GPS unit (DGPS) used in conjunction with your GPS receiver can provide three to ten meter accuracy. The U.S. Coast Guard broadcasts DGPS signals for free along the entire coastline of the United States, and inland for a small subscription cost from various DGPS broadcast companies. The inland cost should go away soon because the Federal Aviation Administration (FAA) wants to use GPS for all aircraft and plans to begin wide-scale broadcasting of free DGPS signals around the year 2000. DGPS receivers currently go for about \$500, but once the FAA plan goes into action GPS units should start to have built-in DGPS receivers.

Behind the Scenes

The 24 satellites have a staggered orbit designed so four satellites will be visible from any location on earth 95 percent of the time. This number four is important, as we will see.

Each satellite broadcasts a repeating message, indicating the position and orbital parameters of itself and the other satellites (almanac), a bill of health for the satellites (health bit), and the precise atomic time. The information is encrypted into a signal with strict timing characteristics.

Echolocation

In order to understand how the GPS system works, we're going to jump into a bit of simple algebra. Remember echolocation from high

school physics? If we send out a pulse of sound or radio waves and wait for them to bounce off something and come back, we can determine the distance to the object by dividing the time it took for the reply by the speed of sound (or light).

$$\text{Distance} = \text{Speed} * \text{Time}$$
$$\text{Time} = \text{Distance} / \text{Speed}$$

Satellites Transmit; Receiver Units Receive

GPS works on much the same principle, except that unlike RADAR/SONAR, where the transmitter is also the receiver of the signal, GPS satellites only transmit the timing data pulses; GPS receiver units only receive.

A Simple Example

So how does the system work? Imagine you and a friend had precision-synchronized watches and were standing in a football field. If she shouted, "I'm at the far right cornerpost and it's now 5:00 and 0.0000 seconds!" and you heard this message at 5:00 and 0.333 seconds, you could determine how far away she was by the timing delay of 0.333 seconds. Estimating the speed of sound at around 300 meters per second, you can guess she's about 100 meters away from you (or that you're 100 meters away from the far right cornerpost).

Suppose you had another friend at the far left cornerpost and he shouted the same message at the same time and you calculated him to be 150 meters away. Could you tell where you were? Pretty much. You know that you're 100 meters away from your first friend, so you could take a diagram of the field and draw a circle with a 100 meter radius around her known position. Then you could draw a circle with a 150 meter radius around your second friend's known position. The two circles should intersect at two points - one of which should be your real position. With three friends, you'd have no ambiguity.

Draw this on a piece of paper if it doesn't make sense as a written example.



Shouting from the Stars

The Global Positioning System works on this principle, although it uses much more precise clocks and the speed of light. There's a hitch, though. The above example required that each person had precision-synchronized clocks. If each GPS unit had to have an atomic clock, it would be outrageously expensive. With three friends (or three satellites) we can solve three of these four variables:

X, Y = horizontal position
Z = altitude
t = time

Four Satellites, Four Variables

With only three satellites and an imprecise clock, we have to assume altitude to be a known constant (e.g., sea level), since we can only solve for three variables using three satellites: X, Y, and time. But if we have four visible satellites, we can solve for all four variables: X (longitude), Y (latitude), Z (altitude), and t (precision time). The pleasant side effect is that not only do we have our precision location, but we also have precision time - which makes GPS valuable technology not only for geophiles, but chronophiles as well. Many people are now synchronizing their systems or network clocks to GPS signals, since it's a cheap and highly accurate source.

Accuracy Barriers

However, thinking back to our example, there are some important caveats. Our friends, or the satellites, must be spaced well apart. If they're too close together, the timing difference between their signals isn't enough to calculate our location precisely. In GPS parlance, this is your "dilution of precision," and it greatly affects your accuracy. Also, there must be a clear path between us and them - we can't have anything blocking our signals, or a large reflective object causing unwanted echoes ("multipath" signals). These errors can further degrade the accuracy of our location.

GPS signals work in the microwave band. They can pass through glass, but are absorbed by water molecules (wood, heavy foliage) and

reflect off concrete, steel, and rock. This means that GPS units have trouble operating in rain forests, urban jungles, deep canyons, inside automobiles and boats, and in heavy snowfall - among other things. These environmental obstacles degrade positional accuracy or make it impossible to get a fix on your location.

GPS Receiver Technology

The core of GPS receivers come in two major variations: sequential single-channel and parallel multi-channel. Single-channel GPS units have only one radio receiver unit, and they must step sequentially through all possible satellites. This takes time and degrades their accuracy, since they may lose a "lock" each time they switch channels. Parallel units have from between four and twelve receivers, each dedicated to one particular satellite signal, so strong locks can be maintained on all the satellites.

There are some two-channel units out there, but in practice these are only slightly better than single-channel units. Parallel-channel units are up to 15 times faster in satellite acquisition times and they are unparalleled (sorry for the pun) in their ability to lock onto the satellite signals even in difficult situations like heavy foliage or urban skyscraper canyons.

[*Editor's note:* I've deleted the shopping information sections. If you're interested in her recommendations and discussions of handheld versus mounted, external antennas and other features, read the entire article <<http://www.tidbits.com/tb-issues/TidBITS-388.html>> or visit her reseller site <<http://www.gpsy.com/gpsinfo/index.html#resellers>> and cable page.]

Finding Your Way

GPS receivers aren't yet standard equipment in cars, but with price drops and improvements, it's only a matter of time. Ubiquitous availability of GPS devices will help eliminate the angst of finding yourself, in at least one sense.

For more information about GPS, check out resources from the U.S. Coast Guard, NOAA (National Oceanic and Atmospheric Administration), Iowa State University, and my own Web site.



<<http://www.navcen.uscg.mil/>>
<<http://www.ngs.noaa.gov/GPS/GPS.html>>
<<http://www.cnde.iastate.edu/gps.html>>
<<http://www.gpsy.com/gpsinfo/>>

About TidBITS

Back issues of *TidBITS*, published by Adam Engst, are available from this website: <<http://www.tidbits.com>>.

Non-profit, non-commercial publications and websites may reprint or link to articles if full credit is given; others must contact TidBITS.



Online GPS Tutorial

Those who prefer an interactive approach can access an on-line GPS tutorial from Trimble Navigation Limited at <<http://www.trimble.com/gps/>>.

The tutorial is available in frame and no-frame versions and presents one topic after another, with optional sidetracks to expanded topics, for example, “Using the Pseudo Random Code as an amplifier.” The main tutorial has sections such as “How GPS works” and “Putting GPS to work.”



GPS Frequently Asked Questions

The GPS FAQ is available from <<http://www.gpsy.com/gpsinfo/gps-faq.txt>>. Besides the standard “About this FAQ” and “References” sections, the topics covered are:

1. The Navstar Global Positioning System
2. Navigation Receivers
3. Survey Systems
4. Aviation Systems

5. Other Satellite Navigation Systems
6. Radio Navigation Systems, and
7. Sources of GPS Equipment.

You may also want to access the U.S. Coast Guard FAQ on GPS: <<http://www.navcen.uscg.mil/faq/gpsfaq.htm>>.

Both FAQs discuss the August 1999 rollover that may pose a Year 2000 problem for some receivers.



GPS Newsgroups, Organizations, Dealers, and More

Mark Schmidt’s extensive list of organizations, institutions, manufacturers, dealers, usenet newsgroups, and more is also a good GPS resource: <<http://www.hom.net/~mark/gps.html>>. If you’re looking for anyone with interest in a “golf ball that flies by itself to the next hole” courtesy of GPS, try a newsgroup, where discussions cover the expected and unexpected.



The Geographer’s Craft

The *GPS Overview* from the University of Texas at Austin is part of the *Geographer’s Craft Project*, an experimental course that takes an integrated approach to training in geographic techniques: <<http://wwwhost.cc.utexas.edu/ftp/pub/grg/gcraft/notes/gps/gps.html>>.

Besides text explanations, the GPS section has links to numerous images and diagrams.



GIS (Geographic Information Systems)

If you're interested in GPS, you may also be interested in Geographic Information Systems. The GIS FAQ also has a section on GPS: <<http://www.census.gov/cgi-bin/geo/gisfaq?Q5.2>>. The entire GIS FAQ is available at <<http://www.census.gov/ftp/pub/geo/www/faq-index.html>>. The FAQ answers questions such as: "What are the United States map accuracy standards?" and "What's a map datum? Why are there so many of them?" The FAQ is copyrighted.

For more information on geography related topics, visit the University of Minnesota's Department of Geography website at <<http://www.geog.umn.edu/>>.



GPS Software To Download

You provide the hardware and setup; they provide the GPS software. [Note: we haven't tested any GPS software or hardware.]

For PCs

GPSS shareware is available from <<http://www.gpss.co.uk/>>; it's free to most individuals. Here's what the Sunninghill Systems introduction section says about their product:

GPSS is a Windows application intended for use within a sound-capable Notebook PC connected to a GPS satellite receiver carried within a car, or within a PC-compatible car computer system. It displays the cars position on a map and a voice speaks the position: "We are 25 miles west of London and 1.5 miles south east of Ascot"; and gives guidance: "destination is 300 yards ahead at your 12 o'clock". Direction is given as if to a fighter pilot. i.e. 6 o'clock is directly behind.

For Macintosh

You can download a copy of the Mac GPSS software from this website: <<http://www.gpsy.com>>. Unregistered copies will run for 15 minutes with some features disabled. GPSS 2.5 is \$30 and upgrades to version 3.0 are free; GPSS 3.0, which is available in a beta version, will be \$50.

A compatibility guide that includes an extensive list of GPS units that were tested, such as Garmin III and the Rockwell NavCard, is available at: <<http://www.gpsy.com/compatibility.html>>. The Macintosh Systems' list contains many models and includes this general statement:

GPSS is provided as a "fat" binary and is PowerPC accelerated. The minimum system is a 68020 or higher running System 7.0. GPSS is System 8 compatible and we recommend System 7.5 or above.



GLONASS

GLONASS is the Global Navigations Satellite System the Russian Federation is developing. The MIT Lincoln Laboratory GLONASS Group's website contains information about its status: <http://satnav.atc.ll.mit.edu/glonass/about_glonass.html>.



New Satellite Info

Satellites play an increasingly diverse role in delivering and enhancing information technology. Another important satellite resource was launched December 24, 1997 by Earthwatch Inc. For information about their commercial imaging satellite and Digital Globe database, visit their website: <<http://www.digitalglobe.com/>>.

■ Mary Kelleher, Academic and Distributed Computing Services



Web Tip

Most current web browser software lets you use a shortcut to access commercial websites. You just need to type in the name of the company or a major brand name, for example crayola or kleenex. This "trick" works for several reasons. One reason is that many companies have acquired the domain names for their major products and unit names. The shortcut works if the website's "name" follows this pattern:
<http://www.domain.com>

The software assumes you want to access a website (http); it also assumes that www will precede the domain name, a convention many specialty sites do not follow. Finally, it assumes that the website's name ends in .com, the identifier for commercial domains. This means if the name ends in .org (the identifier for organizations) or some other identifier, the shortcut will not work.

Typing Shortcut

Just type `microsoft`
or another `.com` domain name.

Simply type `intel` to view
the `www.intel.com` website.

Information Technology Newsletter

Hardcopy Add/Change Subscription Request

Add Change as shown (include mailing label if possible)

Name _____

If University of Minnesota Twin Cities Campus Mail:

Full Department Name _____

- Use your departmental mailing address. **Do not use your personal office address.**
- Mail processed through the **Hospital** mailroom must be addressed to a UMHC Box number.

Department Mailing Address _____

Campus Mail Bldg-or-Dept Code (e.g. 0274) *we can lookup* _____

If U. S. Postal Service:

Address _____

City _____ State _____ Zip _____

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▼ **Help**

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CCO (BASIS/AIS/CCS), 7 am–4:30 pm 624-0555
 central systems: IBM, EPX, NVE, UZ, VX, VZ
 web: <http://www.umn.edu/cco>
 Internet/E-mail, 8 am–5 pm 626-4276
 by e-mail for U of M: help@tc.umn.edu
 Password: Forgot it? Call the ADCS helpline 626-4276
 Students go, in person, to any Microcomputer helpline.
 Microcomputers, Distributed Systems 626-4276
 8 am–5 pm, 152 Shepherd Labs and 50 Coffey Hall
 1-4 pm, 93 Blegen – web: <http://www.umn.edu/adcs/>
 NTS: 24-hour Repair Desk 625-0006
 web: <http://www.nts.umn.edu>
 Training Library, ADCS Short Courses 625-1300
 web: <http://training.micro.umn.edu/>

▼ **General**

Phone

Computer Store, Williamson Hall 625-3854
 Computer Repair Services/Engineering Services 7-4525
 CUFS 4-1617
 Digital Media Center 5-5055
 Disability & Computing Services voice/tty 6-0365
 Data Custodians • Data Warehouse Databases varies
 IDEA web: <http://notes.ais.umn.edu>
 NTS (Networking & Telecom Services) Helpline 6-7800
 Statistical Software Support:
 including SAS and SPSS 4-3330

▼ **Web and Internet Addresses Quick Guide**

- Modem Usage (current activity on your account)
<http://www.nts.umn.edu/services/modemusage.html>
- Internet/E-mail account management/validation
<http://www.umn.edu/validate>
- Information Technology Newsletter
<http://www.umn.edu/oit/newsletter>
- LUMINA (Library) – <http://www.lib.umn.edu>
 via Telnet/TN3270: admin.ais.umn.edu
- OIT – <http://www.umn.edu/oit>
- Students (manage your academic program)
<http://www.umn.edu/tc/students/academic.html>
- UM Bookstores – <http://www.bookstore.umn.edu>
- UM News Server: news.tc.umn.edu
- UM Twin Cities – <http://www.umn.edu/tc>

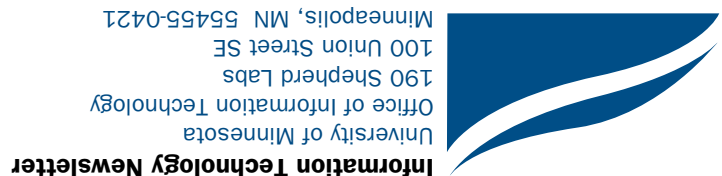
▼ **Dial-in Computer Access**

Internet/SLIP: up to 28,800 bps (V.34) 627-4250
 Internet/SLIP: ADI and ITE (with MKO) 3-0291
 SecurID Access High Speed (V.32) 19200-N81 6-1061
 2400-N81 (no parity/8 data bits/1 stop bit) 6-7770

Associate Vice President for Academic Affairs
 and Chief Information Officer,
 Donald R. Riley, Professor 626-9816

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