Contents

GeoClock version 7.5 for Windows (3.1,WFW,95,NT,OS/2)

What Is GeoClock

"It's inconceivable that you won't like this program."
  -- Jerry Pournelle, BYTE

GeoClock shows the current time (based on your computer's clock) with a high quality map of the earth.   The current sun position is displayed, and the parts of the earth in sunlight and twilight are highlighted.   This display is automatically updated every few seconds. Local sunrise, sunset, the sun's azimuth and elevation, and times around the world are also displayed.   A variety of map backgrounds and other options are available. A color graphics adapter (640x480x16 or better) and a hard disk are required.   Both DOS and Windows 3.x versions are included with registration.

GeoClock is distributed as shareware.   This means that if you use and enjoy the program, you are expected to register it.   See "Ordering GeoClock" for details.   The registered version includes the zoom, distance measuring, and city time display functions, and at least 40 maps.

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Getting Started

See also:

If you have purchased the registered version of GeoClock for Windows, there is a SETUP program on the distribution disk that installs and customizes GeoClock.

GeoClock is available in both DOS and Windows versions.   GeoClock for Windows is distributed in the file GCKWINxx.ZIP (where xx is the version number).   This ZIP has file has the following files:

GEOCKWIN.EXE   (GeoClock for Windows executable file)
GEOCKWIN.HLP   (GeoClock for Windows Help file)
USCITY.BIN   (US city data base)
WRLDCITY.BIN   (world city data base)
GECONFIG.DAT   (initial configuration information)
GEOCLOCK.DAT   (default map annotation file)
GEOn.DAT   (n=1,2,2000, and 2501) (Map annotation files)
MAPn.EGA   (n=1,2,2000, and 2501) (Map graphics files)

(The distribution file for GeoClock for DOS is GEOCLKxx.ZIP.   This file has all the files listed above, except the first two, plus the special files required for DOS)

In addition, there is an extra file which contains more maps and some additional features:

MAPn.EGA   (n=3,4,5)
GEOn.DAT   (n=3,4,5)
ZIPCODES.BIN   (zip code configuration file)

To set up GeoClock, you must at a minimum unZIP the GCKWINxx.ZIP file to a directory made for GeoClock.   If you have a version of GeoClock for DOS, you should place the Windows files in the same directory.   You can unZIP other GeoClock files if you have them. If you have a registered version of GeoClock for DOS, you should run the REGISTER program to register the Windows version.   At this point you can set up an icon for GEOCKWIN.EXE and run the program.   GeoClock will take you though a setup menu the first time you run it.

When GeoClock for Windows runs, it creates several files:

GCWINDEX.BIN   (list of maps)
GCWZOOMU.BIN   (zoom up control file)
GEOCLOCK.INI   (GeoClock for Windows configuration information)

GeoClock does *NOT* make any changes to Windows files, or add any DLLs to Windows.

Common Problems

1.   Contrast is poor.   Click <u>FILE/SETUP.</u>   Make sure the proper box is checked in the Video radio box.   In particular, if you have a black/grey/white monitor, be sure the Grey box is checked.   If you have a 16 color system, check the 16 color box.

2.   Out of Resources message.   This is caused by some old video drivers in 65K and 16M color modes.   If you can get GeoClock running, when a map is displayed, press "C" and then enter NOGLYPH and return.   You may have to check the OK box a few times before it takes. If this eliminates the Out of Resources messages, click <u>FILE/GEOCLOCK.INI</u> and add the line NOGLYPH and save the file.   It is also possible to start GEOCKWIN.EXE with NOGLYPH on the command line.   See <u>NOGLYPH</u>

3.   Slow updates.   Click <u>CONTROLS/TIME CONTROLS,</u> and set the Foreground Update time to 0.01.   You might want to save this setting (click <u>CONTROLS/SAVE SETTINGS ON EXIT</u>) if it helps.   The Windows version of GeoClock is inherently much slower than the DOS version. Also, the update time is more or less proportional to the screen area, so making the window smaller will increase the speed.

4.   Missing maps when installing update.   GeoClock updates must be installed to the same directory as the original registered copy of GeoClock for the update to incorporate all the original programs and maps.   Reinstall.

5.   The sun is not in the right place or local times are not correct.   This is usually caused by your PC's system clock not being set to the correct time (check AM/PM if you are not using a 24 hour clock), or by having a wrong or missing PCZONE command in the GECONFIG.DAT or GEOCLOCK.INI file.   Click the FILE/SETUP menu item to set the correct time zone.

6.   Your home town is not displayed, or is in the wrong place, or your local time zone is not displayed.   Run the FILE/SETUP menu item to provide the required information.   If your city is not listed in the setup, and your <u>zip code</u> covers a very large area, you might want to get your latitude and longitude from a good atlas, your local airport or weather station, or from the GeoClock BBS.

7.   BuckMaster CDROM does not work with GeoClock.   Starting with the October 1995 release, BuckMaster has changed the format of the data files that GeoClock uses, and will not release the new format.   GeoClock does support the QRZ CDROM, which is much less expensive and more available than the BuckMaster disk, as well as the BuckMaster disks that contain the HAMCALL.129 file.

Using GeoClock

GeoClock is available for DOS and for Windows 3.x.   Both versions use a similar interface and share most files.

GeoClock for Windows is distributed in the GCKWINxx.ZIP (where xx is the version number). This file contains:

GEOCKWIN.EXE (executable file)
GEOCKWIN.HLP (Windows help file)

If you already have a registered copy of the DOS version or a previous GeoClock for Windows version, unZIP the file into the directory with the prior GeoClock materials, and then run the REGISTER program.   If you are installing new a registered version of GeoClock for Windows, execute the SETUP program on the GeoClock for Windows diskette.

After the files have been installed, you can execute GEOCKWIN using the program manager, or by setting up an icon for the program.   The first time GEOCKWIN is run, it will automatically take you though the customization and setup procedure.

There are a variety of way to navigate through the maps.   The easiest is to click the left mouse button over an area of interest.   This displays the highest resolution map containing that point.   Clicking the right mouse button displays successively large area maps until the world map is reached.   You can also use the Gazetteer function (press W or select Actions| Where Is) to bring up the most detailed map containing a particular city.   You can also use the functions in the map menu, including map list, to select a map.

You can access many functions with a single key press or mouse click.

Single Key Commands

Important: If you are running without a border, the main menu bar will not appear, and you must use these single key commands.   In particular, pressing N will activate the windows controls menu so that the menu bar can be restored.

There are a number of functions which can be controlled by a single keystroke or a mouse click:

Function Key 1   Help!
?   Help!
C   Command Entry
D   Distance measurement
K   Switch back to previous map
L   Toggle latitude/longitude display
M   Select map from list
N   Window Controls
O   Major Options
R   Reset time, scripts, etc
S   Set speed of time passage
T   Set Time
U   Set Update Interval
W   Where Is...
X   Exit
Y   Toggle between city and country display
0..9 Start script
<space>   Terminate script

Left-clicking the mouse over a point on the map will zoom down to the most detailed map containing that point.

Right-clicking the mouse over the map will zoom up to the next less detailed map.

System Requirements

GeoClock for windows will run on a minimal windows system - VGA, 4 MB RAM, 80286 processor.   However, the performance will be extremely poor on such a system.   We recommend as a minimum:

486DX33 processor
8 MB RAM
256 color display
800x600 display

Whats New

New in 7.5 versus 7.4
- Interactive map annotation
New in 7.4 versus 7.3 are
- Improved accuracy in sun rise and set calculations .
- Improved Clocks Setup and Control .
- Map resolution control
- Display of Moon Rise and Moon Set .   These times are displayed   whenever moon azimuth and elevation are displayed.
- A variety of screen saver bugs fixes, including a new NOSSHELP command.
- The maximum size of the city data bases was increased to 64K
- A GeoClock version of the WINMEM32.DLL is included, and used on those systems which do not already have a WINMEM32.DLL.
- Files are opened Read-Only (see SHARE) when possible to enhance Network Security.
- Bug fixes concerning time zones, drawing vectors, screen savers, and rapid clicking.

New in 7.3 versus 7.2 are
- Clocks window
- Time accuracy improvements, especially in scripts and with large update intervals.
- All maps can be shown at any screen resolution (except in Win3.1 standard mode).
- mouse position kept on lat/long during zoom-up and zoom-down.
- Automatic (more or less) registration of updates for registered users.
- Automatic pop-up of What's New when a new version is loaded.
- Partial typing to quick index WhereIs and MapList.
= Variation of the MAPCENTER to allow centering on the sun position
- New Commands: NOMEM32   NONEW

New in 7.2 versus 7.0 are
- Better responsiveness
- Handling 16 color, grey scale, and 640x480 resolution systems automatically
- Support for the QRZ CD-ROM in the HAM package
- Specific network support
- True windows screen saver mode
- Wallpaper mode (except Win95)
- New Commands: InBackground Network NOGLYPH POWER

GeoClock for Windows runs under Windows 3.x.   It uses the same files and utility programs as the DOS version, and ordinarily both versions should be installed in the same directory. The primary features in the Windows version that are not available in the DOS version are:

+ Maps may be scaled to any size
+ Runs in the background or foreground
+ Online setup
+ Simplified interaction

The primary features in the DOS version that are not in the Windows version are:
- Advanced zoom and distance functions
- GeoGlobe

The Windows 3.x version has a few limitations due to Windows 3.x characteristics:

- Much slower update times
- Less accurate timing
- Much larger program size.

File

File Menu

Quit
Edit GEOn.DAT
Edir GEOCLOCK.INI
Setup

Quit

Pressing Q, selecting this menu item, or pressing ESCape twice terminates GeoClock and closes all GeoClock Windows.

Customize Map Annotation

This menu (click File/Customize) allows you to easily add or delete cities displayed on the maps.   Note that GeoClock has a very flexable system to annotating maps, and that the customize facility gives access to only a few of these capabilities.

The "Primary City" area allows to to change the primary city (i.e., the city for which sun rise, sun set, and other ephemeris data) it calculated.   When the "INI" box is checked, the city you selected during GeoClock SETUP is used.   When "User" is checked, a user defined city is used.   You can change the user city by clicking "Change Primary City".

The "City List" area shows all the cities displayed on the map.   If *Hidden* appears next to a city name, that city is not actually displayed because another city name overlaps the space required for that city.   If *Deleted* appears, that city has been deleted by can be restored. You can click on any city, then click "Delete" or "Undelete" to remove or restore the city.

You can add a city by clicking the "Add City" button.   This brings up a form that allows you to choose a city either by zip code or from the built in list of about 4000 cities (see Select City).   You can also specify a city directly by giving its latitude and longitude.   Registered users can also select the type of local time information to be displayed by the city.

You can edit a city by clicking the "Edit City" button.

The customization information is written to USRn.DAT, where n is the map number.   This is a text file in the same format as the GEOCLOCK.INI and GEOn.DAT files.   If you keep all the customization information in the USRn.DAT file, updating the GEOn.DAT file will preserve your customization.

For more techincal information, see City Locations on Maps and City Name Placement and Time Display .

Select Cities

This form allows you to choose a city for display on maps.   There are three ways to choose a city:

1)   If you live in the US, the most accurate way is to use the "US Zip Code" button.   By specifying your <u>5 digit postal zip code</u> , your location accurate to a few kilometers, and your time zone, will be set.   After typing your zip code, you must enter your city name in the box (this area will show ENTER_NAME_FOR_ZIP_CODE_00000).   If you get the message INVALID_ZIP_CODE (which can mean that you have a new zip code not in the table GeoClock uses, or a zip code outside the 50 states), you must use one of the other methods.

2)   You can use the "City List" button.   This will allow you to pick your location from about 4000 cities around the world using the GeoClock Gazetteer.   Select the "US city" or "World City" radio buttons to determine which data base to use.   You can sort by city name or by state/country name.   Double click the city you want, or click the OK button when the city is highlighted.   If your city does not appear, you should pick the city that is closest and is in the same time zone.

3)   You can enter the city and location manually.   Type the city name, latitude and longitude in the appropriate boxes.   Make sure the latitude and longitude are in the correct format.   If you use this method, we strongly recommend that you first choose a nearby city *in the same time zone* using one of the above methods, and then edit the city name and lat/long fields.   This will ensure that the time zone information is correct.

Registered users can also control the display of local time.   Checking the "Show Time" box displays current local time next to the city name.   Checking the "Show Zone" box also displays the local time zone (for example, EST for Washington DC).

Note: if this form is started from the "Edit City" button, and no time zone information was included with the city being edited, the closest city for which GeoClock has time zone information will be used to supply a time zone.   If this is required, a line at the bottom of the form will give the city name and distance.   You should confirm that the named city is in the same time zone.

Edit DAT files

Annotation and other map display characteristics are controlled by text files.   For any particular map (for example, MAP1), there is a corresponding text file (for example, GEO1.DAT) that has the specific custom characteristics for that map.   This file is provided with each map to provide the default annotation data.   There may also be a customization text file (for example, USR1.DAT).   This file is maintained by the <u>Customize</u> function, but may also be edited manually.   The GECONFIG.DAT and GEOCLOCK.INI files have customization data that applies to all maps.   These files ordinarily do not need to be changed by the user, but they may be edited using the menu items.   The various commands and their syntax and functions are described in detail in the <u>Commands</u> section of help.

Make Zoom Up Table

In most GeoClock installations, more than one map can serve as the world map (the map at the top of the zoom hierarchy).   The menu item allows the user to select the particular map to be used as the world map.

You can develop your own zoom hierarchy by using the DOS progran MAKEZOOM with the W parameter:
MAKEZOOM W
See the GeoClock for DOS documentation for more information about this program.

Set Up

GeoClock for Windows must be configured for your particular location.   In particular, the time zone of your computer's clock **MUST** be set correctly, or all the times, the sun and moon positions, and the sunlight curve, will be incorrect.

To set up GeoClock, selected the Setup item from the Files menu.   (The setup program is run automatically the first time you start GeoClock).

First, check the Video Radio-Group in the upper right corner.   Automatic works on most systems, but if you have a shade-of-grey rather than a color monitor, you should check the "grey" box.

There are three ways to specify your location, which is used to calculate sun rise and set times, and to mark your location on the maps.

1)   If you live in the US, the most accurate way is to use the "Init by ZipCode" button.   By specifying your 5 digit postal zip code , your location accurate to a few kilometers, and your time zone, will be set.   After typing your zip code, you must enter your city name in the box (this area will show ENTER_NAME_FOR_ZIP_CODE_00000).   If you get the message INVALID_ZIP_CODE (which can mean that you have a new zip code not in the table GeoClock uses, or a zip code outside the 50 states), you must use one of the other methods.

2)   You can use the "Init by LookUp" button.   This will allow you to pick your location from about 4000 cities around the world using the GeoClock Gazetteer.   Select the "US city" or "World City" radio buttons to determine which data base to use.   You can sort by city name or by state/country name.   Double click the city you want, or click the OK button when the city is highlighted.   If your city does not appear, you should pick the city that is closest and is in the same time zone.

3)   You can enter the city and location manually.   Type the city name, latitude and longitude in the appropriate boxes.   Make sure the latitude and longitude are in the correct format.

You select when your city will be displayed by the "Show City" radio group.   If you select "never", you r city will only appear on the maps if it happens to be included in the standard data file for that map.   If you select "when on map", your city will appear on the map, and your city will be used for showing sun rise and sunset and local time, whenever the city fits on the map displayed.   If the city does not fit on the map displayed, the primary city in the standard data file for that map will be used.   If you select "always", your city will be displayed on the map if it fits, but will always be used for sun rise and sunset and local time zone information.

Once your city and location are selected, you must set the time zone information.   If you use methods 1 or 2, the time zone fields will automatically be filled in.   There is usually no reason to change these settings.   If you use method 3, it is best to use method 2 to set to a close city in the same time zone, then use method 3 to change to city and location.   If you need to change the time zone, use the drop down list to pick the proper zone.   The drop down list shows the GeoClock time zone code name, then the name(s) of the standard and summer zones (for example, ET is EDT in the summer, and EST the rest of the year), and the hours from UTC (GMT) for standard and summer time (for ET, -5 and -4).   The location time zone is the time zone your location uses.   The PC time zone is for the time zone your PC is set to.   Usually this is the same as the local zone, but some PC users keep the PC clock on UTC, or on standard time all year, and these users must set the PC time zone to that zone.

When you click OK, this configuration information will be written to the GEOCLOCK.INI file

and will be used every time GeoClock starts.

Zip Code Use

Both the setup and HAM systems can use USPS zipcodes to improve accuracy for locations with the 50 US states.   During setup , you can click on "Init by Zipcode" to enter a zip code and city name.   In the HAM package , if you have one of the supported call sign CD-ROMs, GeoClock will use the zip code to find the location of any US call sign found on the CD-ROM.

The zipcode lookup uses the centroid (center location) of the area covered by the zipcode. This is usually within a few kilometers of any point in the area, and is much more accurate than using the city as a whole.

The USPS is adding and changing zipcodes all the time.   If a zipcode is entered that is not in the GeoClock zipcode data base (ZIPCODES.BIN), the average of the two nearest known zip codes is used.   This method is usually fairly accurate, but it can give large errors.   In Setup, and warning message is issued to alert the user that the location may be wrong.   In the HAM package, a question mark is added after the city name displayed.

Screen Saver Setup

GeoClock can be setup as a Windows screen saver.   After GeoClock is initially configured from this menu, you can select, configure, and test the screen saver from the Windows Control Panel (Desktop).

In the upper left is a radio group that specifies what is to be done while the screen saver is active.   The first choice is to display a single map, selected by clicking the "select map" button.   The second allows maps to be changed at fixed intervals.   The maps are chosen at random from the types checked in the "Random Maps" check boxes.   The third, the most flexible method, allows a script to be used to determine the screen saver action.   Be sure to include a REPEAT command at the end of the script so that the map changing continues.

The "update" time is the number of seconds that the screen saver waits between screen updates.   This permits processing by other windows programs that are still running.   This value should be fairly large (30 seconds or more) if you frequently have long tasks (like a data base update or network server activities) running when the screen saver because active.

The "change map" time is the minimum number of seconds between changing maps when using the second screen saver mode (random maps).   The actual time may be somewhat larger, depending on the update time, the load from other running programs, and the speed of your system.

The "show seconds" checkbox controls whether seconds are shown in the time box at the bottom of the screen.   If you are not updating frequently, the seconds data can be in error, so it may be better not to display it.

The "show border" checkbox controls whether a windows border and title bar are display.   Ordinarily, this should not be displayed in a screen saver, so it should not be checked.

If you set a password , before the screen saver terminates you will be asked to supply the password.   The screen saver will not terminate unless the correct password is entered.

As with all screen savers, when the GeoClock screen saver is activated by Windows, any key press or mouse movement will terminate the program.

See Screen Saver and Wallpaper , Scripts , and Power for more detailed technical information.

Screen Saver Password

The screen saver mode of GeoClock supports password protection.   If a password is specified when the screen saver is set up, this password must be supplied to shut down the screen saver.   This, in theory, protects your computer if you walk away while running a sensitive application or have access to sensitive files.

Click the "set" button on the <u>GeoClock screen saver setup menu</u> to set the password.   You can type a password in the "New Password" edit box.   If the "old password required" box is checked, you must enter your current password in the "Old Password" box before a new password will be accepted or that box or the "use password" box can be unchecked.

Map Menu

These menu items allow you to select maps in a variety of ways.   In addition, clicking the left mouse button on a point on the current map will bring up the most detailed map available containing that point, and clicking the right button will select less detailed maps containing the map displayed, until the world map is reached.   (See also ZOOMFRACT).

World
Zoom Up
Zoom Home
Random
Back
Map List

World

Selecting this menu item changes to the map at the top of the zoom sequence.   This is usually a map of the world.

Zoom Up

Selecting this menu item, or clicking on the map with the right mouse button, moves to the next larger map containing the currently displayed map.

Zoom Home

Selecting this menu item switches to the smallest map containing the home town selected for this installation.   See <u>setup</u> .

Random

Selecting this menu item displays a map chosen at random from all available maps.   This will always be different from the currently displayed map.

Back

Pressing "K" or selecting this menu item displays the map prior to the current maps (goes bacK).

Map List

Selecting this menu item, or pressing the "M" key, displays a list of all available maps.   The maps are sorted by size, title, or number according to the "Sort Method" radio box.   Double clicking an entry, or selecting an entry and then clicking OK, will display the selected map. Typing the first few characters of the title, size, or number will quick index to that entry.

Controls

These menu items provide ways to control the appearance of GeoClock.

Save Settings
Time Control
Window Controls
Options
Resolution
Command Entry
City/Country
Lat/Long Lines

Save Settings

This check item determines whether or not the user settings, such as window sizes and positions, are save between GeoClock runs.   The setting information is written to the GEOCLOCK.INI file.   To save the current settings, you can toggle the Save Settings button on the Controls|Window Controls menu item.

Command Entry

GeoClock has a large number of commands which may be used to control the display.   The most commonly used commands have been implemented on the mneu bar at the top of the screen.   You can activate any of these commands by clicking the approprate menu item (such as Controls|Lat/Long).   Many commands can be activate by pressing a single letter (such as "L" for Lat/Long)   Other commands (such as SUNANGLE) may be included in the configuration file, in a data file, on the GeoClock command line, or entered interactively by pressing the C (for Command) key while GeoClock is displaying a map.

The commands are described in detail in another section of help.

Time Control

This dialog box allows the current time to be changed (this affects GeoClock time display but not the system time), and also allows the update intervals to be changed.

The first six spin boxes change the current time.   The hours are based on a 24 hour clock. Above the hours spin box is an indication of the time zone to which the time corresponds.

The Fgnd Update box allows the GeoClock foreground update interval to be changed.   This is the number of seconds that GeoClock will remain idle between screen refreshes while GeoClock is in the foreground.   0 seconds indicates that GeoClock will update continuously. The default value is 5 seconds.

The Bgnd Update box allows the GeoClock foreground update interval to be changed.   This is the number of seconds that GeoClock will remain idle between screen refreshes while GeoClock is in the background.   0 seconds indicates that GeoClock will update continuously. This setting is not recommended because other applications will become sluggish.   The default value is 60 seconds.

The Time Rate box determines how much time will appear to pass every time the screen is updated.   For example, 24 causes the displayed time to change by 24 hours (1 day) every time the screen is updated.   This feature can be used to see how the sun and moon and sunlight curves change over the day or season.

Window Controls

This dialog box controls how GeoClock will be displayed on the screen.   The X and Y spin boxes on the right allow the width and height of the map display to be varied.   These can be set to 640x480, or 800x600, by clicking the appropriate button.

The radio buttons in the upper left set how GeoClock will respond to window size changes.   If "Full Control" is selected, the window may be set to any size.   If "4x3 aspect" is selected, the window will be constrained to maintaining a 4x3 aspect ratio, which gives the most accurate map display.   If the window size is changed while this button is selected, whichever dimension is changed last will be held, while the other dimension will be changed to maintain 4x3.   For example, if the left vertical side is dragged left so that the width is 720 pixels, the height will be changed to 540 pixels.

The radio buttons in the middle left control the window state.   Selecting "Maximize" maximizes the window, "Minimize" minimizes the window, and "Normal" restores the window to the last non-maximum non-minimum state.   These are equivalent to the maximize, minimize, and restore buttons and system menu choices.

The upper check box on the left controls whether or not the display will be forced into the background.   If the box is checked, GeoClock will always run as the bottom-most window.   Combined with the Maximized command, this makes GeoClock into wallpaper.

The lower check box on the left enables or disables the display of the menu bar, title bar, and border of the map window.   This display is disabled, the map display will be somewhat larger, but the mouse cannot be used to change window size or position, or select menu items.   All hot keys still function in this mode.   Therefore, pressing "N" will bring up this dialog box and the bars and borders can be reenabled.

Options

This menu allows you to change to eight most commonly used values in GeoClock.   Select the item by clicking the appropriate radio button on the left, then select a new value by clicking the appropriate radio button on the right.   You can make the change effective in this run only, or you can make the value the new default value for GeoClock (writting the value to GEOCLOCK.INI) or the value for that map only (writting the value to GEOn.DAT).

Legend controls the data displayed at the bottom of the screen
Display Mode controls how sun shading is displayed
Units controls statute/nautical miles in the distance function
Moon controls the display of the moon symbol and ephemeris data
MoonRS controls the calculation of moon rise and set
City Time Format controls showing day ahead/behind with arrows
Year Format selectes between two and four digit year format
Show Seconds controls the display of time seconds
Show Day of Week controls showing the day of week
Month Format controls showing text or number months

Resolution

Selecting this menu item brings up a menu for control of map resolution.   Frequently, there are several GeoClock maps that are identical except for the inherent resolution of the maps. For example, MAP2 and MAP6002 are both rectangular maps of 48 US states, but MAP2 is in 640x480 resolution, while MAP6002 is in 800x600 resolution.   Either map can be scaled to any window size, but each looks best when the windows size is approximately the same as the map resolution.   This menu item determines which map should be displayed.

The radio buttons determine when the resolution criterion should be applied.   "Never" means that a selected map is never changed because of resolution, "When Zooming" means that a map cahnged be changed because of resolution only if the map was selected by a zooming operation (such as a mouse click), and "Always" means the map can be changed regardless of how it was selected (zoom, map list,   or direct entry).

The two spin boxes determine when the 800x600 map should be used.   If the current window X and Y sizes are greater than or equal to the values in the X and Y boxes, the 800x600 map is used. otherwise the 640x480 map is used.

Clicking SAVE makes the selection permanent.   Clicking OK makes the selection valid only for this run, unless Save Settings is checked.

The MAPGROUP command also controls this function.

City/Country

Pressing "Y" or selecting this menu item toggles between showing city names and country names on the maps.

Lat/Long Lines

Pressing "L" or selecting this menu item toggles between showing or not showing latitude and longitude lines on the maps.

Actions

These selections control special features of GeoClock.

[Where is](#)
[Distance](#)
[Scripts](#)
[Clocks](#)

Where is

GeoClock has a data base with about 4000 cities around the world.   Using this dialog box, you can select any one and display the city on the best map containing that place, in addition to finding the current local time, sun rise, and sunset.

The radio boxes on the right control whether to display US or world cities, and whether to sort the cities by city name or country/state name.   Pressing the first few letters will advance the display to the first city (or country/state) starting with those letters.   The selected city will be displayed in the box along with the current local time.

Selecting OK will display that city on the best map GeoClock has containing the city. Selecting Ignore will continue to display the current city.   Selecting Cancel will restore the display of the primary city on that map.

Distance

Clicking on this menu item, or pressing D, starts a special two point distance measuring function.   One point is fixed and the other is controlled by the mouse.   Pressing a mouse button, or pressing ENTER, moves the first point to the current mouse position.   At the bottom of the screen, the coordinates of both points, the distance between them, and the azimuths between them are displayed.   To exit the distance function, click the reset menu item, or press ESCape.

Scripts

10 scripts can be played by GeoClock.   Each script consists of   GeoClock command lines (including a map selection command) and optionally a time (by default, 60 seconds).   At the end of the specified interval, the next command line in the script is executed.   Scripts can be edited and controlled from the Actions|Scripts... menu item.

One way to start a script is to press a number key (0 through 9).   The corresponding script file is named GEOSCR0.DAT through GEOSRC9.DAT.   Another way to invoke a script is to use the command SCRIPTx, where x is any number.   The corresponding script file is GEOSCRx.DAT.   If this command is on the command line in GECONFIG.DAT or in GEOCLOCK.INI, that script is executed as soon as GeoClock starts.   If not, and if GEOSCR0.DAT exists, it is executed automatically when GeoClock is started. If the script encounters a REPEAT command, the script restarts at the beginning of the file.   If the script encounters a HALT command, GeoClock immediately stops and returns to DOS.   The script stops when the end of the script file is reached, or any key is pressed.
   Example:
GEOSCR9.DAT contains:
MAP1   LINE30   SHOWLL
MAP2   LINE5
RANDOM   30   NOLINE
REPEAT

When 9 is pressed, MAP1 with LINE30 and SHOWLL is displayed for 15 seconds. then MAP2 with LINE5 is displayed for 15 seconds, then a randomly selected map is displayed for 30 seconds with NOLINE, and the sequence repeats.

Scripts can also be used as macro keys.   For example, if GEOSCR1.DAT contains:
MAPP1

then when 1 is pressed, the next sequential map in map number sequence is displayed.   If GEOSCR2.DAT contains:
T+0.0416666667

then when 2 is pressed, the current time is advanced by one hour (1/24 day).

Clocks

GeoClock can display a separate window with a list of cities and their current local times. The clocks can be activated by clicking ACTIONS/CLOCKS or by starting GeoClock with the runtime parameter CLOCKS (i.e., GEOCKWIN.EXE CLOCKS) .   The clocks window and GeoClock windows may be independently minimized, but closing the main GeoClock window will close the clocks window.

Clicking anywhere in the clocks window, or clicking Actions/Clock Setup brings up the setup window.

With that window you can cut and paste cities, or choose a city using the WhereIs function. To delete cities from the list, select the cities and click "Cut" or press the delete key.   To insert previously cut cities, select the position in the list and click "Paste" or press the insert key (the inserted cities goes *before* the selected position).   Clicking the "Select" button brings up the WhereIs menu, and the city selected from the menu is immediately before the selected position.   You can also sort the cities by name, by ascending times, or descending times.

The setup window also allows the date and/or day of week to be displayed next to the times and city names.   The day of week use the names set by the SHOWDAY command (defaults to Sun Mon Tue ...).

Because of the difficulty in selecting the correct time zone for a city, there is no built-in provision to add a city to the clocks list except from WhereIs function.   However, the clocks are controlled by the data in the file CLOCKS.INI in the GeoClock directory.   You can edit this file with the NOTEPAD or other ASCII editor to add cities.   Be sure you understand the GeoClock time zone system and the ZONE command before attempting this.   One good method is to select a close-by city known to be in the same time zone, and then edit CLOCKS.INI to change the city name.

Reset

Pressing "R" or selecting this menu item sets the GeoClock time to the current system time, and changes the update intervals to their default values, and sets the time passage to real time.

Help Menu

Clicking the Help item in this menu starts the GeoClock help system.

Clicking the About item in this menu gives basic information about the GeoClock program, including version number and registration status.   You can start the registration screen by clicking the REGISTER button, or get information about registering by clicking the WHY button.   Clicking the INFO button gives some technical information that may be usefull in debugging.

Clicking the Register item in this menu starts the registration screen.

Advanced Topics

These topics cover a variety of technical aspects of GeoClock

About Time Zones

Time zones are more complicated than most people think.   To begin with, they change with longitude, so that the sun is approximately overhead at noon.   However, various political decisions based on uniformity, local custom, and how to handle daylight saving time (or summer time), have made time zones very complex.   There are a number of changes every year, and countries can and do change their time systems without warning.

Data for all known time zones (about 100, including permutations of daylight saving time) are distributed with GeoClock.   They are included in the GEOZONES.DAT file.

To specify a time zone, several items are needed.   First, how the time zone relates to the standard time zone must be defined.   This zone is variously called Greenwich Mean Time (GMT) or Universal Time Coordinated (UTC) or Zulu Time (Z).   US Eastern Standard Time is five hours behind (earlier than) GMT.   Next, the dates and times when the zone changes to and from summer time must be defined.   US Eastern Time goes to summer time on April 7, 1991 at 0700 GMT, and returns to standard time on October 27, 1991 at 0700 GMT.   Finally, names for the time zone and the standard and summer times must be specified.   As an example, US Eastern Time from April 1991 to April 1992 is specified by:

ZONE   ET   EST   -5   EDT   -4   91/04/07:7   91/10/27:7
ET is the name the time zone is referred to by all GeoClock commands.   The definition states that the zone is called EST and is 5 hours behind GMT, except between 91/04/07 0700 GMT and 91/10/27 0700 GMT, when it is called EDT and is 4 hours behind GMT.   A special time zone called ST gives true local sun time.

If the ZONE commands are not for the correct year, GeoClock will automatically update. This update is close but not always correct, and countries' summer time definitions can change.   Therefore, I recommend that the ZONE commands be kept current. A GEOZONES.DAT file with current time zone data is available on the GeoClock Bulletin Board.

The PCZONE command sets the relationship between the local time on the PC's clock and GMT, i.e., declares which time zone the PC's clock is in. It takes one parameter - a time zone code, as defined in the ZONE command. For example, if you use Eastern Time, specify:
PCZONE ET
This command is best used in the GECONFIG.DAT or GEOCLOCK.INI files.

About Lat/Long

Every point on the Earth's surface has an address.   The first part of the address is the latitude, which is the distance north or south of the equator.   The second part of the address is the longitude, which is the distance east or west of a line going from the north pole to the south pole through Greenwich, England (this is called the Greenwich meridian). Since the Earth is a sphere, these distances are expressed as angles.

There are several ways to express these angles. The first system was invented by the Babylonians about 5000 years ago.   It divides angles into 360 degrees ( ), each degree into 60 minutes ('), and each minute into 60 seconds (").   The Washington Monument is 38   53' 21.5" north of the equator, and 77   2' 8.0" west of the Greenwich meridian in this system. This location is accurate to about 60 feet, or 0.5 seconds. GeoClock can use this system. For example, the Washington Monument is at 38x53x21.5N   77x2x8.0W

A more modern system gives these same angles as decimal degrees. North latitudes and east longitudes are positive, while south and west are negative.   GeoClock can use this system also.   It is used for data files distributed with GeoClock.   For example, the Washington Monument is at +38.8893   -77.0356

Configuring For Your Time Zone

GeoClock has a comprehensive system for handling all known time zones in the world.   The GEOZONES.DAT file contains definitions of all time zones and daylight saving time systems identified to date.   You can read or print this file for the complete list.

These definitions include the dates for switching between standard and summer time (for example, 91/04/07 and 91/10/27 for most of the U.S. in 1991), the common names for standard and summer time (for example, EST and EDT), and a codename to refer to the definition (for example, ET).   Ordinarily, you should not need to change these definitions. Each time zone is preceded by the keyword ZONE.

To make sure that GeoClock gives the proper sun position, you must tell GeoClock what time zone your PC's clock uses.   (For most users, this will be the time zone in which you live.) This is done by using Setup or editing GECONFIG.DAT or GEOCLOCK.INI and adding the proper PCZONE command.   This command should be placed in the GECONFIG.DAT or GEOCLOCK.INI file. s The format is:
PCZONE   codename

where codename is the codename for the time zone, as listed in the ZONE commands. There should be no other characters on this line.
    Some common codenames are:
ET   Eastern Standard/Daylight Time
EST   Eastern Standard Time all year (most of Indiana)
CT   Central Standard/Daylight Time
MT   Mountain Standard/Daylight Time
MST   Mountain Standard Time all year (Arizona)
PT   Pacific Standard/Daylight Time
AKT   Alaska
HST   Hawaii
UKT   United Kingdom, Ireland
+1A   Most of continental Europe
+2A   Eastern Europe
JST   Japan

The GEOSETUP program will prompt you for the time zone code (or supply it automatically if you live in a US zip code area) and place the time zone code in the GECONFIG.DAT or GEOCLOCK.INI files.

About Sunrise and Sunset

GeoClock calculates the sunrise and sunset times for your location. The times are usually within one minute of local newspaper data.

The precise moment of sunrise or sunset is difficult to determine.   It depends not only on the position of the Earth and sun, but also on the terrain near you (it appears to rise later from behind a mountain than from the sea), and on the earth's atmosphere.   Another complication is that the sun appears quite large, and takes about two minutes to shift position by its own diameter.   All these factors together mean that even at sea level, the sun appears to just break above the horizon when it is in reality almost one degree BELOW the horizon.

By default, GeoClock uses the value of 0.833 degrees below the horizon to compute sunrise and sunset.   This agrees well with observed times at moderate latitudes and flat terrain. The SUNANGLE parameter, which is the angle GeoClock uses for the sunrise and sunset calculations, can be adjusted to correspond to your local conditions.

About The Terminator

The terminator is the boundary between day and night.   Its position changes during the day (it makes a complete circuit around the Earth in one day), and it also changes during the year.   Daylight is longer in the northern hemisphere than in the southern hemisphere from about March 21 to September 21, and daylight is longer in the southern than in the northern hemisphere during the rest of the year.   You can see the changes by using the time control features of GeoClock.

The terminator more or less divides the Earth into halves: facing the sun and facing away from the sun.   Like sunrise and sunset times, the precise location of the terminator is hard to define.   By default, GeoClock shows the optical terminator, which corresponds to visual sunrise and
sunset.   The SUNLIGHT command can be used to control the precise terminator position.   If it is set to the same value as SUNANGLE, the terminator position will agree with sunrise and sunset.

GeoClock also shows the twilight terminator.   By default, GeoClock uses -6^, which corresponds to the civil definition of twilight: the time when it is so dark that you must use your headlights.   The TWILIGHT parameter is used to control the precise definition of this terminator.

City Locations on Maps

GeoClock has great flexibility in displaying cities on the maps.   For most maps (e.g., MAP2) there is a corresponding text file (e.g., GEO2.DAT) that contains the customization information for that map.   GEOCLOCK.DAT is used for MAP1, and any other map that does not have a corresponding GEOn.DAT file.

The first line of any GEOn.DAT file is the time zone codename that determines which time zone will be used for time display on that map.   For example, ET indicates Eastern time, and CT indicates central time.   (See "Configuring for Your Time Zone.")   This should normally be the time zone codename for the first city listed (the second line of the file).   This city is the "primary" city for the map.   The rest of the lines in the file specify the names and locations of other cities to be displayed.

The format for display of a city is   "Latitude Longitude Name".   Either decimal degrees or degrees minutes seconds (DMS) may be used.   In the decimal degree format, the minus sign (-) indicates south latitude (south of the equator) and west longitude (in the western hemisphere).   For DMS format, separate entries by an "x", and place the direction indicator at the end.   For example, 31 degrees 15 minutes west longitude would be 31x15W in DMS, and -31.25 in decimal, while 45 degrees 12 minutes 38 seconds north latitude would be 45x12x38N in DMS and 45.2106 in decimal.   Some examples of these lines are:

```
34.00      -118.25    Los Angeles
30x3N      31x15E     Cairo
-26.17     28.03      Johannesburg
27x49N     85x21E     Katmandu Nepal
```

The first city listed in a file is the "primary" city.   It is used for the astronomical calculations which are normally shown at the bottom of the map.   The sunrise and sunset time, azimuth and elevation to the sun, local time, and the sun's sub point (the point on earth where the sun is directly overhead) can be displayed for this location.

Finding Your Latitude and Longitude

Accurate lat/long are essential for proper display of cities on a map, and also for accurate sunrise and sunset times of a map's "primary" city.   An error of one degree of longitude changes sunrise and sunset by four minutes.   The easiest way to find a particular latitude and longitude is to look it up in an atlas.   The next easiest way is to call your local airport or weather bureau for the information.   You can also leave a request for information on the GeoClock Bulletin Board, and you should get a reply in a short time.

City Name Placement and Time Display

For registered users only, additional control over city placement, color, size, and local time display is possible.   All are marked by characters appearing after an exclamation point (!) on a city line in GEOn.DAT.   This new data consists of an optional string of characters as follows:

       A - show city name Above mark
       B - show city name Below mark
       L - show city name Left of mark
       R - show city name Right of mark
       Y - show city name in color 5 (Yellow by default)
       E - show city name in 8x14 font
       M - show city name in 8x8 font (default)
       S - show city name in 4x8 font
       T - show city name in 4x6 font
       X - show city name in external font (see FONTLOAD command)
number - show city name in color number (e.g., 6 shows city name in
           color 6).   Color numbers are described in "Color Control."
       N - show a name without a mark.   This is particularly useful if you
           want to name an area, such as the Pacific Ocean
       Z - indicates a country name rather than a city name
       O - display the last symbol defined (see SYMDEF) instead of the normal
           marker for the city.

After these optional codes, the line may be followed by a space and a time zone code.   If included, this specifies that the local time for that city is to be displayed to the right of the city name.   If a "*" is included, the name of the time zone will be displayed in addition to the time.   THE SPACING OF THESE CHARACTERS IS CRITICAL.   For example:

                    ET
    38.90   -77.02   Washington !E
    42.65   -73.75   Albany !Y
    35.08   -106.65   Albuquerque ! *MT
    42.28   -83.75   Ann Arbor !A
    33.75   -84.39   Atlanta !0
    44.30   -69.76   Augusta
    33.52   -86.81   Birmingham ! CT
    46.80   -100.78   Bismarck !B6 *CT

In this example, Washington will be displayed in the 8x14 font, Albany will be displayed in yellow, Albuquerque will be followed by the local time and MST or MDT as appropriate, Ann Arbor will appear above the marker, Atlanta will be displayed in color 0 (red), Birmingham will appear follow by local (central) time but without a CST or CDT, and Bismarck will be displayed below the marker in color 6 (black) and followed by local time and CST or CDT.

Ephemeris Data and Accuracy

The ephemeris data in GeoClock is calculated using formulas from "Astronomical Formulae for Calculators" (Jean Meeus, Willmann-Bell Inc, Richmond VA).   They were calibrated by comparing with data from "Interactive Computer Ephemeris" (ICE) (Nautical Almanac Office, Code FA, US Naval Observatory, Washington, DC 20392).   For a period of 400 days including 1991, the maximum and RMS latitude errors are 0.0047383 and 0.0019377 degrees, while the maximum and RMS longitude errors are 0.0131104 and 0.0053660 degrees.   This accuracy is approximately four times better than the method used in GeoClock 4.2 and earlier, and should provide better accuracy for past and future years.

The terminator is shown as the locations where the sun's center is a specified angle above the horizon, ignoring atmospheric effects.   For 0 degrees, the sunrise occurs earlier and the sunset occurs later than the terminator indicates.   The sun rise and sun set times are also computed as the times that the sun's center is a specified angle above or below the horizon. The default value, -0.8333, corresponds to the normal definition of sun rise and set (as printed in newspapers and almanacs), where the visible top edge of the sun just breaks the horizon.

GeoClock uses an iterative method to determine sun rise and sun set.   This generally gives accuracy to within one minute (time).

Software structure

GeoClock for Windows is written entirely in 16-bit Delphi 1.0, with a very small amount on inline assembly for speed in some of the main loops.   Much of the code was directly transported from the DOS version, and it took only 3 months from buying the compiler to the first working version of GeoClock for Windows.   As a fourth generation language, it is hard to estimate the number of lines in a Delphi program, but there are about 1.3 million bytes in the source code, including the data structures that support the Windows, menus, and forms.

GeoClock for DOS is written entirely in Turbo Pascal version 7.0, except for the mouse interface routines and a few inline sections required for speed. It has approximately 19000 lines of source code. It uses 8 byte reals for most calculations, and thus relies on the 80x87 emulation package for systems without a math co-processor. It uses a custom graphics package which provides access to special hardware features (such as independent control of screen planes, fast fill, and preserving the graphics memory during text display) that are not available in the EGAVGA.BGI driver.

Map Generation System

The maps used for the GeoClock program were produced by a custom data base and software system. This system consists of a highly compressed vectorized map data base and a set of programs to convert the data into custom maps. The data bases are used. The primary data base is a PC conversion of World Data Bank II. It contains approximately 5.7 million vectors covering coastlines, islands, lakes, rivers, and similar geologic features, together with political boundary data. It covers the entire earth, and included features are accurate to approximately 600 meters. World Data Bank II was converted to this custom PC format by an ad hoc program which took advantage of specific features of both data bases. In its operational form, the PC data base uses approximately 0.84 bytes per vector, and in archival form takes approximately 0.5 bytes per vector. The data base is therefore easily stored and manipulated on an AT class PC.

A secondary data base is a PC conversion of 1979 1:2 Million Digital Line Graph data base from USGS.   It includes highway and railroad data in addition to much more detailed physical and political features, and contains about 8.3 million vectors covering the 50 states, compressed to about 13 MB (1.6 bytes per record) on the PC.

A third data base is a PC conversion of the 1992 "Digital Chart of the World", made by digitizing 1:1 Million ONC charts (and some other paper sources).   The extracted the data (highway, railroad, coastlines, islands, lakes, rivers, and streams) contains about 30 million vectors and compressed to about 50 MB on the PC.

A graphics tablet and several custom programs are used to add features than were not contained in the original data bases, for example, the borders of the countries of the former USSR.

Custom maps are generated by using two programs. The first, MAPGEN, reads the appropriate parts of the map data base and produces separation files of the required feature data as EGA, VGA, or 800x600 raster images. Rectangular, polar, orthoscopic, azimuthal-equidistant, and Lambert projections may be used in forming these separation files. Depending on complexity and scale, this process takes between 30 and 300 seconds on an AT with a co-processor. The second, MOVIE, allows the user to process the separation files to select the features and colors for the final map, including filling areas. This program also writes the map in a rasterized compressed format with headers and trailers so that it may be easily used as background data for other programs (for example, the GeoClock program).

Both these programs, and the converted data bases, are proprietary and not yet available to the general public. World Data Bank II is available from National Technical Information Center, Springfield, VA, for about $1000 on 5 reels of tape.   Both the 1;2,000,000 DLG data base ($30 on one CD-ROM) and the Digital Chart of the World ($200 on 4 CD-ROMs) are available from the US Geological Survey (Earth Science Information Center) in Reston VA.

Screen Saver and Wallpaper

The GeoClock screen saver can be initially configured by running GeoClock and running the FILES/SCREEN SAVER SETUP menu item.   After this is run, you can select the GeoClock screen saver (GEOCLOCK SAVER) from the list of screen savers in the windows desktop. The information in this section is not required to configure or use the GeoClock screen saver, but it provided only for technical background.

GeoClock has some special features which allows it to be used as a Windows screen saver. Because of the way Windows runs screen savers, it is necessary to copy some files to the main windows directory.   In particular, a GEOCKWIN.SCR (which is just a renamed GEOCKWIN.EXE)a special GEOCLOCK.INI are copied to this directory.   In addition, some GEOSCR*.DAT files might be created when the screen saver is configured.   To insure that the proper files are generated, before screen saver is used, you should run GeoClock and click the FILES/SCREEN SAVER SETUP item and do the initial configuration.

The screen saver mode uses the map and data files in the main GeoClock directory.   To access these files, the GEOCLOCK.INI in the windows directory has a NETWORK command pointing to this directory:
NETWORK@geoclock directory@windows directory@

This GEOCLOCK.INI also has the commands that establish the screen saver parameters (SCRNSAVER, BORDER, SIZE, SCRIPT, UWIN, etc).   The GEOCLOCK.INI in the main GeoClock directory is also read (so that commands such as PCZONE and HTS can be picked up), but the commands in windows directory version take precedence.

If you have set a password but forget it, the only way to recover is to restart windows and delete the GEOCLOCK.INI file in your windows directory (not the GeoClock directory), then run GeoClock from the GeoClock directory and rerun the screen saver setup.

Since GeoClock is written in Delphi, the screen saver mode will not run exactly like a screen saver written using the Microsoft SCRSAVER.LIB.   In particular, the password set for other screensavers will not effect the GeoClock password, and vice versa.   In addition, it may be possible, with suitably wild keystrokes, to escape out of the GeoClock screen saver password dialog without entering the password.   Note that even the Microsoft screen savers are not bulletproof.   You can ALT-CTRL-DEL while a screen saver is running, and choose to terminate the application, which will return full control of the computer (including any open applications) to the person at the keyboard.

The wallpaper mode of GeoClock just forces GeoClock to always be in the background. Thus, all windows and icons appear in front of GeoClock.   Be sure to set the background update time to a large value (60 seconds is the default), or the wallpaper will take significant resources from the system.   If you add GeoClock to the startup group with the command line parameter INBACK1 , it will come up as windows wallpaper when windows is started.

32 bit

GeoClock for windows is a 16 bit windows program, but it uses 32 bit data segments, 32 bit addressing modes, and 32 bit operations in several places to improve performance.   The most significant use is in the flood fill code, which draws the sunlight and twilight coverage areas.

Use of 32 bit memory modes requires the WINMEM32.DLL.   This DLL is frequently distributed with windows and with applications programs.   If GeoClock finds WINMEM32.DLL in the SYSTEM directory or the path, it will use that copy.   Otherwise, it will use a copy named WINMEM32.$LL distributed with GeoClock.   If neither can be found, or if windows is operating in Win3.1 standard mode, the 32 bit features will not be used.   In most cases, this only results is a slight speed decrease.   The only major impact   is that polar, orthographic, and equidistant-azimuthal projection maps will be limited to 800x600, and will not fill the window if the window is larger than 800x600.

The NOMEM32 command disables 32 bit memory segments.

Problem Solving Parameters

Several special commands are including in GeoClock to help solve system level incompatability problems (especially timing and video driver problems).   Ordinarily, these commands should not be used, and in any case you should contact the author if you have system problems.

NONEW   prevents the "what's new" screen from appearing.   This command must be on the GEOCKWIN.EXE command line to be effective.

NOSSHELP   prevents the help system from being activated during screen saver operation.

NOGLYPH   prevents the pictures on buttons from being displayed.   This may prevent "out of resources" messages.

NOMEM32   prevents 32 bit addressing from being used.

WINMAXx/y   prevents graphics larger than X width and Y height. If the window is larger than this, a black border will surround the map.

VBLOCKn   breaks up the screen rewrite bitblt into blocks of about n pixels.   If n=0 (the default), the whole screen is rewritten with a single bitblt.

INTERLOCKi/t   controls sequencing and task sharing within GeoClock.   Various values of i determine under what circumstances GeoClock relinquishes control to windows for other processing.   0, the default value, gives up control frequently.   t determines how long to wait before concluding an internal deadlock has occurred and resetting GeoClock.   0, the default, never resets GeoClock.

Commands

GeoClock has a large number of commands which may be used to control the display.   The most commonly used commands have been implemented in an Icon Bar, which is displayed at the top of the screen.   A mouse device may be used to activate any of these commands simply by moving the mouse controlled cursor to the appropriate icon and clicking on it with the left mouse key.   The commands consisting of a single letter (such as S) are activated by pressing that letter.   The other commands (such as MAP) may be included in the configuration file, in a data file, on the GeoClock command line, or entered interactively by pressing the C (for Command) key while GeoClock is displaying a map.
     The available commands are listed alphabetically below.   (For a list by command type, see Commands By Type)   More detailed information is available in other sections of Help.

BLANK	Sunlight highlighting is not used
BORDERn	Control window border
CALL	Specify initial call sign
CITY	Display city names
CLINE	Clear all specific latitude/longitude lines
COLOR	Set color (out of 64)
COUNTRY	Display country names
Country/City	Toggle between city and country display
DARK	No sunlight is displayed
DATAFILE	Select extension for data files
DATECHANGEn	Control display of next/previous date
DRAWCIRCLE	Draw circle on map
DRAWFCIRCLE	Draw a filled circle on map
DRAWLINE	Draw line on map
DST	Control Daylight Saving Time
EPHEMERISdisp	Control display of ephemeris data
F	Set rate of time passage
FAST	Use reduced accuracy but faster calculations
FCOLOR	Set map frame color
FONTE	Set default font to 8x14
FONTM	Set default font to 8x8
FONTS	Set default font to 4x8
FONTT	Set default font to 4x6
FONTX	Set default font to external font
FONTLOAD	Loads an external font
FORCEMARK	Always display location markers for cities
FULL	City, sun rise/set, local time, sun position legend
GINCLUDE (or GI)	Global include data file
GLINC	Set longitude line increment
GLSPEC	Specific longitude line
GRID	Display GeoClock Selected lat/long lines
HALT	Terminate script and return to Windows
HAM	Activate HAM features
HAMCD	Specify option HAM CDROM data base
HAMDB	Specify HAM data base maximum speed configuration
HAMDBX	Specify HAM data base minimum memory configuration
HIDELL	Do not show Latitude/Longitude values
HTA	Display specified city as primary city on all maps
HTN	Do not display specified city on any maps
HTS	Display specified city as primary city on local maps
INBACKn	Force window to background
INCLUDE (or I)	Include data file

LIGHT	All sunlight is displayed
LINE	Set lat/long line increment
LINEPERM	Make TLSPEC and GLSPEC lines permanent
LLCOLOR	Set color and style of lat/long lines and labels
MAP	Select MAP from list
MAPCENTERn	Center world map on longitude n
MAPGROUP	Map Resolution Control
MAPMINUSn	Selects the previous sequential map using sort
MAPPLUSn	Selects the next sequential map using sort method n
MAPn	Changes to MAP number n
MARK	Display location markers for cities.
MARKLIMIT	Control display of cities close to HTA/HTS city
MOONdisp	Control display of moon
MOONRS	Control moon rise/set calculation
NAUTICAL	Display distances in nautical miles
NETWORK	Network configuration
NOCITY	Do not display city names
NODAY	Does not show display the day of the week
NOGRID	Do not display GeoClock selected lat/long lines
NOGLYPH	Do not display glyphs on buttons
NOHAM	Deactivate HAM features
NOHT	Same as HTN
NOLINE	Do not display latitude/longitude lines
NOMEM32	Do not use 32 bit addressing
NOMARK	Do not display location markers
NOMONTH	Show month number rather than name
NONE	No legend
NONEW	Do not automatically display "What's New"
NORMAL	Normal Display
NOSECONDS	Shows time to last minute
PALETTE	Specify Windows color
PCZONE	Specify PC time zone
POWER	screen saver / power saver interaction
Quit	Terminate GeoClock
RANDOMn	Select map at random
REM	Remark remainder of line is ignored
REPEAT	Start script over from first line
RESIZEn	Control window resizing
SCRIPT	Invoke a specific script
SCRNSAVER	Control screen saver attributes
SHARE	File sharing
SHOWDAY	Show day of week
SHOWLL	Show Latitude/Longitude values
SHOWMONTH	Show month name rather than number
SHOWSECONDS	Show time to nearest second
SLOW	Use high accuracy but slower calculations
STATUTE	Display distances in statute miles
SUN	City, sun rise/set, local time legend
SUNANGLE	Sun rise/set definition
SUNLIGHT	Terminator definition
SYMBOL	Displays an external symbol
SYMDEF	Load an external symbol definition
SIZE	Control size state of window
T	Set new time
TEXT	Display text on all maps

TEXTBG	Set text background color
TIME	Local time only legend
TLINC	Set latitude line increment
TLMASK	Twilight area pattern
TLSPEC	Specific latitude line
TWILIGHT	Twilight terminator definition
UWIN	Set update times
VECTOR (or V)	Continue a line
WINDOW	Set window size and position
WINSET	specifies that the GeoClock program has been initialized
YEAR2	Show 2 digit year
YEAR4	Show 4 digit year
ZONE	Define time zone
ZOOMFRACT	Set screen active area for zoom

Commands By Type

Sun and Moon Display
BLANK   Sunlight highlighting is not used
DARK   No sunlight is displayed
LIGHT   All sunlight is displayed
MOONdisp   Control display of moon
MOONRS   Control calculation of Moon rise and set
NORMAL   Normal Display
SUNANGLE   Sun rise/set definition
SUNLIGHT   Terminator definition
TLMASK   Twilight area pattern
TWILIGHT   Twilight terminator definition

Windows controls
BORDERn   Control window border
INBACKn   Force window to background
POWER   screen saver / power saver interaction
RESIZEn   Control window resizing
SCRNSAVER   Control screen saver attributes
SIZE   Control size state of window
WINDOW   Set window size and position
WINSET   specifies that the GeoClock program has been initialized

HAM radio
CALL   Specify initial call sign
HAM   Activate HAM features
HAMCD   Specify option HAM CDROM data base
HAMDB   Specify HAM data base   maximum speed configuration
HAMDBX   Specify HAM data base   minimum memory configuration
NOHAM   Deactivate HAM features

Map Annotation
CITY   Display city names
COUNTRY   Display country names
Country/City   Toggle between city and country display
DATAFILE   Select extension for data files
FORCEMARK   Always display location markers for cities
GINCLUDE (or GI)   Global include data file
HTA   Display specified city as primary city on all maps
HTN   Do not display specified city on any maps
HTS   Display specified city as primary city on local maps
INCLUDE (or I)   Include data file
MARK   Display location markers for cities.
MARKLIMIT   Control display of cities close to HTA/HTS city
NOCITY   Do not display city names
NOHT   Same as HTN
NOMARK   Do not display location markers

Lat/Long lines
CLINE   Clear all specific latitude/longitude lines
GLINC   Set longitude line increment
GLSPEC   Specific longitude line
GRID   Display GeoClock Selected lat/long lines
HIDELL   Do not show Latitude/Longitude values

LINE	Set lat/long line increment
LINEPERM	Make TLSPEC and GLSPEC lines permanent
NOGRID	Do not display GeoClock selected lat/long lines
NOLINE	Do not display latitude/longitude lines
SHOWLL	Show Latitude/Longitude values
TLINC	Set latitude line increment
TLSPEC	Specific latitude line

Screen Display
COLOR	Set color (out of 64)
FCOLOR	Set map frame color
LLCOLOR	Set color and style of lat/long lines and labels
PALETTE	Specify Windows color
TEXTBG	Set text background color

Time Display
DATECHANGEn	Control display of next/previous date
DST	Control Daylight Saving Time
F	Set rate of time passage
NODAY	Does not show display the day of the week
NOMONTH	Show month number rather than name
NOSECONDS	Shows time to last minute
PCZONE	Specify PC time zone
SHOWDAY	Show day of week
SHOWMONTH	Show month name rather than number
SHOWSECONDS	Show time to nearest second
T	Set new time
YEAR2	Show 2 digit year
YEAR4	Show 4 digit year
ZONE	Define time zone

Drawing
DRAWCIRCLE	Draw circle on map
DRAWFCIRCLE	Draw a filled circle on map
DRAWLINE	Draw line on mapn
SYMBOL	Displays an external symbol
SYMDEF	Load an external symbol definition
TEXT	Display text on all maps
VECTOR (or V)	Continue a line

System Control
FAST	Use reduced accuracy but faster calculations
NAUTICAL	Display distances in nautical miles
NETWORK	Network Configuration
NOGLYPH	Do not display glyphs on buttons
NOMEM32	Do not use 32 bit addressing
NONEW	Do not automatically display "What's New"
Quit	Terminate GeoClock
REM	Remark remainder of line is ignored
SHARE	File Sharing
SLOW	Use high accuracy but slower calculations
STATUTE	Display distances in statute miles
UWIN	Set update times
ZOOMFRACT	Set screen active area for zoom

Fonts

FONTE	Set default font to 8x14
FONTM	Set default font to 8x8
FONTS	Set default font to 4x8
FONTT	Set default font to 4x6
FONTX	Set default font to external font
FONTLOAD	Loads an external font

Legend

FULL	City, sun rise/set, local time, sun position legend
NONE	No legend
SUN	City, sun rise/set, local time legend
TIME	Local time only legend

Scripts

HALT	Terminate script and return to Windows
REPEAT	Start script over from first line
SCRIPT	Invoke a specific script

Map Selection

MAP	Select MAP from list
MAPCENTERn	Center world map on longitude n
MAPGROUP	Map Resolution Control
MAPMINUSn	Selects the previous sequential map using sort
MAPPLUSn	Selects the next sequential map using sort method n
MAPn	Changes to MAP number n
RANDOMn	Changes to random map

Sun and Moon Display Commands

BLANK	Sunlight highlighting is not used
DARK	No sunlight is displayed
LIGHT	All sunlight is displayed
MOONdisp	Control display of moon
MOONRS	Control calculation of moon rise and set
NORMAL	Normal Display
SUNANGLE	Sun rise/set definition
SUNLIGHT	Terminator definition
TLMASK	Twilight area pattern
TWILIGHT	Twilight terminator definition

Windows controls Commands

BORDERn   Control window border
INBACKn   Force window to background
POWER   screen saver / power saver interaction
RESIZEn   Control window resizing
SCRNSAVER   Control screen saver attributes
SIZE   Control size state of window
WINDOW   Set window size and position
WINSET   specifies that the GeoClock program has been initialized

HAM radio Commands

CALL	Specify initial call sign
HAM	Activate HAM features
HAMCD	Specify option HAM CDROM data base
HAMDB	Specify HAM data base maximum speed configuration
HAMDBX	Specify HAM data base minimum memory configuration
NOHAM	Deactivate HAM features

Map Annotation Commands

Command	Description
<u>CITY</u>	Display city names
<u>COUNTRY</u>	Display country names
<u>Country/City</u>	Toggle between city and country display
<u>DATAFILE</u>	Select extension for data files
<u>FORCEMARK</u>	Always display location markers for cities
<u>GINCLUDE (or GI)</u>	Global include data file
<u>HTA</u>	Display specified city as primary city on all maps
<u>HTN</u>	Do not display specified city on any maps
<u>HTS</u>	Display specified city as primary city on local maps
<u>INCLUDE (or I)</u>	Include data file
<u>MARK</u>	Display location markers for cities.
<u>MARKLIMIT</u>	Control display of cities close to HTA/HTS city
<u>NOCITY</u>	Do not display city names
<u>NOHT</u>	Same as HTN
<u>NOMARK</u>	Do not display location markers

Lat/Long lines Commands

CLINE   Clear all specific latitude/longitude lines
GLINC   Set longitude line increment
GLSPEC   Specific longitude line
GRID   Display GeoClock Selected lat/long lines
HIDELL   Do not show Latitude/Longitude values
LINE   Set lat/long line increment
LINEPERM   Make TLSPEC and GLSPEC lines permanent
NOGRID   Do not display GeoClock selected lat/long lines
NOLINE   Do not display latitude/longitude lines
SHOWLL   Show Latitude/Longitude values
TLINC   Set latitude line increment
TLSPEC   Specific latitude line

Screen Display Commands

COLOR	Set color (out of 64)
FCOLOR	Set map frame color
LLCOLOR	Set color and style of lat/long lines and labels
PALETTE	Specify Windows color
TEXTBG	Set text background color

Time Display Commands

DATECHANGEn	Control display of next/previous date
DST	Control Daylight Saving Time
F	Set rate of time passage
NODAY	Does not show display the day of the week
NOMONTH	Show month number rather than name
NOSECONDS	Shows time to last minute
PCZONE	Specify PC time zone
SHOWDAY	Show day of week
SHOWMONTH	Show month name rather than number
SHOWSECONDS	Show time to nearest second
T	Set new time
YEAR2	Show 2 digit year
YEAR4	Show 4 digit year
ZONE	Define time zone

Drawing Commands

DRAWCIRCLE	Draw circle on map
DRAWFCIRCLE	Draw a filled circle on map
DRAWLINE	Draw line on mapn
SYMBOL	Displays an external symbol
SYMDEF	Load an external symbol definition
TEXT	Display text on all maps
VECTOR (or V)	Continue a line

System Control Commands

FAST	Use reduced accuracy but faster calculations
NAUTICAL	Display distances in nautical miles
NOGLYPH	Do not display glyphs on buttons
NOMEM32	Do not use 32 bit addressing
NONEW	Do not automatically display "What's New
NOSSHELP	Do not display help in screen saver mode
NETWORK	Network configuration
Quit	Terminate GeoClock
REM	Remark remainder of line is ignored
SHARE	File Sharing
SLOW	Use high accuracy but slower calculations
STATUTE	Display distances in statute miles
UWIN	Set update times
ZOOMFRACT	Set screen active area for zoom

Fonts Commands

FONTE	Set default font to 8x14
FONTM	Set default font to 8x8
FONTS	Set default font to 4x8
FONTT	Set default font to 4x6
FONTX	Set default font to external font
FONTLOAD	Loads an external font

Legend Commands

<u>FULL</u>	City, sun rise/set, local time, sun position legend
<u>NONE</u>	No legend
<u>SUN</u>	City, sun rise/set, local time legend
<u>TIME</u>	Local time only legend

Scripts Commands

<u>HALT</u>   Terminate script and return to Windows
<u>REPEAT</u>   Start script over from first line
<u>SCRIPT</u>   Invoke a specific script

Map Selection Commands

MAP	Select MAP from list
MAPCENTERn	Center world map on longitude n
MAPGROUP	Map resolution control
MAPMINUSn	Selects the previous sequential map using sort
MAPPLUSn	Selects the next sequential map using sort method n
MAPn	Changes to MAP number n
RANDOMn	Changes to a random map

BLANK

See <u>Sun and Moon Display Commands</u>

BLANK   Highlighting is not used
This does not perform any highlighting.   This is appropriate for some specialized maps
which use more than 7 colors.

Border

See <u>Windows controls Commands</u>

BORDERn   Control border
BORDER1 causes all window borders to be hidden, including all four border lines, the top menu, the title bar, and the system control items such as the minimize, maximize, and system control menu.
BORDER0 displays all these items.

CALL

See <u>HAM radio Commands</u>

CALL   Specify initial call sign
This commands allows the initial call sign, when a HAM map is brought up, to be specified. For example, GEOCLK MAP9009 CALL=K3NA   will cause the HAM package to be activated with K3NA data displayed.   The last displayed call sign will be displayed after switching away from and then back to a HAM map.

CITY

See <u>Map Annotation Commands</u>

CITY   Display city names.   The city names and locations are contained in the corresponding GEO*.DAT file.   The name is usually displayed to the right of the location, but the name may be moved if it does not fit.   The location can be controlled by the user, and local time can be added (see Advanced Topics).   A special form, CITY1, displays cities but does not display local times next to the cities.

CLINE

See <u>Lat/Long lines Commands</u>

CLINE   Clear all specific latitude/longitude lines
CLINE removes all non-permanent special lines from the display.   CLINE1 removes all line including permanent lines.

COLOR

See <u>Screen Display Commands</u>

COLOR   Set color
The COLOR command provides a way to change the GeoClock default colors. The format is:
COLORnddbb
where n is the feature number (0-7), dd is the color value for the non-sunlit feature, and bb is the color value for the sunlit feature (n+8). The easiest way to get the proper values is to use the CSET menu. The proper COLOR commands to produce the colors as modified by CSET are given on the right hand side of the CSET menu. For example, for the color values given in the CSET example, the command is COLOR22062.

COUNTRY

See <u>Map Annotation Commands</u>

COUNTRY   Display country names
Supporting the above capability is a control character used after the ! in GEOn entries: Z.
Any city (or entry in the GEOn.DAT file) with a !Z is not displayed unless the COUNTRY
command has been given.   CITY reverts back to normal display, and cities with the !Z are
not displayed.   In the data files included, this capability is used to toggle between normal
display of cities and times, and display of country names.

Country/City

See <u>Map Annotation Commands</u>

Country/City   Toggle between city and country display
Selecting this menu item, or pressing Y, toggles between display of city names and country names.

DARK

See <u>Sun and Moon Display Commands</u>

DARK   No sunlight is displayed
This does not highlight any of the screen, and does not display the sun symbol.

DATAFILE

See <u>Map Annotation Commands</u>

DATAFILE   Select extension for data files
This command sets the extension to be used for GEOn files.   By default, it is DAT (the previous default).   This allows multiple sets of GEOn files to be used with the maps.   If the extension does not exist, then DAT is used.   For example, DATAFILE XYZ would first check GEOn.XYZ, and if it does not exist, then check GEOn.DAT, and it that did not exist, check GEOCLOCK.DAT.

DATECHANGEn

See <ins>Time Display Commands</ins>

DATECHANGEn   Control display of next/previous date
If n is 0, the date is not indicated.   If n is 1, the local time shows a ":" if the local date is the same as the current date, it shows an up-arrow if the local date is one day ahead of the current date, and it shows a down-arrow of the local date is one day behind the current date.

DRAWCIRCLE

See <u>Drawing Commands</u>

DRAWCIRCLE   Draw circle on map
DRAWCIRCLE latcenter longcenter latrad longrad color   draws an ellipse centered at (latcenter, longcenter) and with latitude (vertical) radius latrad and with longitude (horizontal) radius longrad, and with color. The command operates ONLY when contained in a GEOn.DAT file that is processed for the map. Color is the color in which the line will be drawn. If omitted, color defaults to 5, which is displayed as yellow. Example:
DRAWCIRCLE   38.9   -77.0   10 20 6
draws an oval centered on Washington DC that is 10 degrees from the center to the northernmost point, and 20 degrees from the center to the easternmost point, and in color 6.   Alternatively, the form: DRAWCIRCLE latcenter longcenter -radius 0 color   can be used. This draws a circle of the specified radius (in kilometers) in the specified color around the specified center point.   For example:
DRAWCIRCLE   38.9   -77.0   -100 0 6
draws a 100 km circle in color 6 around Washington DC.   The negative sign in front of the radius, and the 0 after the radius, are required to ensure compatibility with the older system.

DRAWFCIRCLE

See Drawing Commands

DRAWFCIRCLE   Draw a filled circle on map
DRAWFCIRCLE has the same syntax as DRAWCIRCLE, except that the circle or ellipse drawn
is solid rather than outlined.

DRAWLINE

See <u>Drawing Commands</u>

DRAWLINE   Draw line on map
DRAWLINE lat1 long1 lat2 long2 color   draws a line between (lat1, long1) and (lat2, long2) on the current map.   Color is the color in which the line will be drawn.   See "Color Control" for an explanation of the use of color.   If omitted, color defaults to 5 (yellow).   Example:
DRAWLINE 38.9 -77.0 34.0 -118.3 0
draws a line between Washington DC and Los Angeles in color 0. The DRAWLINE command cannot be issued from the Command level.   It operates ONLY when contained in a GEO*.DAT file that is processed for the map, or in a text file that is appended to a map with the INCLUDE command.

DST

See <u>Time Display Commands</u>

DST   Control Daylight Saving Time
The method GeoClock uses to handle summer time when current data is not available in GECONFIG.DAT or GEOCLOCK.INI is close, but not perfect.   This command specifies for which years the GeoClock computed correction is to be applied.   By default, GeoClock does not use summer time before 1980. DST is used to change this date.   The syntax is:
DST year1 year2 extrapolation
Year1 is the earliest year in which to use summer time under the current specification, and year2 is the latest year in which to use summer time.   If year2 is omitted, there is no upper limit.   For example, DST 1950 specifies that summer time is to be used from 1950 on, while DST 1985 1995 specifies that summer time is to be used only between 1985 and 1995. "extrapolation" specifies the algorithm used to estimate summer time dates which are not included in the GEOZONES file.   If extrapolation is 1, the date used is the one closest same day of the week to the specified date (for example, 95/04/02 (a Sunday) would become 96/03/31 (also a Sunday).   If "extrapolation" is missing or any other value, and the original date is in the first or last week of the month, the new date is the same day of the week also in the first or last week of the month.   For example, 95/04/02 would become 96/04/07.

EPHEMERISdisp

See <u>System Control Commands</u>

EPHEMERISdisp   Control display of ephemeris data with the Distance function.   If disp is 0 or omitted, only coordinates and distances are displayed with the distance function.   If disp is 1, the current local time and time zone are displayed, along with the sun rise, sun set, sun azimuth, and sun elevation, for the selected point.

F

See <u>Time Display Commands</u>

Fn makes the rate of time passage n hours per iteration.   It is the equivalent of the rate of time item in the time control menu, but can be used in scripts and from the command line.

FAST

See <u>System Control Commands</u>

FAST   Use reduced accuracy but faster calculations
Forces GeoClock to use a faster but slightly less accurate algorithm for drawing the sunlit area. This is the default for systems without an 80x87.

FCOLOR

See <u>Screen Display Commands</u>

FCOLOR   Set map frame color
FCOLORn   sets the color of the frame around the map display to n.   The default value is 15 (white).   A value of 0 through 15 frames the map in that color.   Any other value (for example, -1) does not display any frame.

FONT_E

See <u>Fonts Commands</u>

FONT-E   Set default font to 8x14.   This font size is used for city and time display on the maps unless it is overridden by an !E, M, S, or T on the corresponding line in GEO*.DAT.

FONT_M

See <u>Fonts Commands</u>

FONT-M *   Set default font to 8x8

FONT_S

See Fonts Commands

FONT-S   Set default font to 4x8

FONT_T

See <u>Fonts Commands</u>

FONT-T   Set default font to 4x6

FONT_X

See <u>Fonts Commands</u>

FONT-X   Set default font to external font

FONTLOAD

See <u>Fonts Commands</u>

FONTLOAD   Loads an external font
FONTLOAD filename   loads the external font specified by <filename> The format of the external font file is:
Byte 0   horizontal character width in bits (w)
Byte 1   vertical character height in bits (h)
Byte 2   first character in table (c1)
Byte 3   last character in table (c2)
Bytes 4 through 4+(c2-c1+1)*h*entier((w+7)/8)   character bits   If the requested character is not in the c1..c2 range, the character is displayed as c1.

FORCEMARK

See <u>Map Annotation Commands</u>

FORCEMARK   Always display location markers for cities, regardless of the   presence of the "N" flag.

FULL

See <u>Legend Commands</u>

FULL *   City, sun rise/set, local time, sun position legend GeoClock can display a time legend at the bottom of the screen.   FULL displays the full range of time and sun-related information on the legend.   This includes primary city name, its time and date, including local time zone name, and sunrise and sunset time.   (The time zone is the one specified in the corresponding GEO*.DAT file.)   It shows sunrise and sunset times for the primary city, the sun's subpoint coordinates, and the azimuth and elevation of the sun from the primary city.   The format of the time and date can be controlled with other commands (see "Time, Zone, and Format Control").

GINCLUDE

See <u>Map Annotation Commands</u>

GINCLUDE (or GI)   Global include data file
The commands works the same as include above, except that the file is included on all maps.   Ordinarily, the GINCLUDE command would be in GECONFIG.DAT file, but it can be on the command line (using the @ character) or in response to P or C.   The command is canceled by GINCLUDE or GI with no file name specified.   If both GI and I are active on the same map, both files will be processed.

GLINC

See <u>Lat/Long lines Commands</u>

GLINC   Set longitude line increment
TLINC and GLINC allow the spacing between latitude and longitude lines to be set independently. For example, TLINC 15 and GLINC 30 set the latitude spacing to 15 degrees, and the longitude spacing to 30 degrees.

GLSPEC

See <u>Lat/Long lines Commands</u>

GLSPEC   Specific longitude line
TLSPEC and GLSPEC allow specific latitude and longitude lines to be displayed.   For example, TLSPEC -67 draws a latitude line at 67 degrees south (the Antarctic circle).   Up to 20 of these special lines can be specified.

GRID

See <u>Lat/Long lines Commands</u>

GRID   Display GeoClock Selected lat/long lines
This command overrides all the other Lat/Long commands and display GeoClock selected lines.   It is equivalent to LINE, TLINCx, GLINCy, and SHOWLL, where x and y are selected by GeoClock on a map by map basis.

HALT

See <u>Scripts Commands</u>

HALT   Terminate script and return to DOS

HAM

See HAM radio Commands

HAM   Activate HAM features
This command activates the HAM features on azimuthal-equidistance maps. A good place for this command is in the GEOn.DAT file corresponding to your HAM map.

HAMCD

See <u>HAM radio Commands</u>

HAMCD   Specify option HAM CD-ROM data base
HAMCD file   specifies that the BuckMaster HamCall (April 1995 or earlier) or QRZ CD-ROM is loaded and should be used to obtain extra information about US call signs.   If the file parameter is missing, all online local CD-ROM drives will be checked for the data base.   This will almost always correctly identify the CD, but you may specify the complete path to the data base (for example,   HAMCD D:\HAM0\HAMCALL.129 or HAMCD D:\CALLBK\ CALLBKC.DAT) if GeoClock cannot automatically locate this data base.   When a call sign is parsed, the CD will be checked first.   If the call is not found, the GeoClock HAM data base (see below) will be used.

HAMDB

See <u>HAM radio Commands</u>

HAMDB   Specify HAM data base - maximum speed configuration HAMDB file   loads the HAM call sign data base from file the named file. Only the first occurrence of this command in a GeoClock execution is effective (i.e., the data base will not be reloaded or changed). A good place for this command is in the GEOn.DAT file corresponding to your HAM map. The HAM data base and other required files are an extra cost option in GeoClock.

HAMDBX

See <u>HAM radio Commands</u>

HAMDBX   Specify HAM data base - minimum memory configuration HAMDBX file specifies the file with the HAM data base.   Whenever a call sign needs to be analyzed, the data base is loaded into temporary memory, and the memory is released after analysis. This slows the analysis slightly, but requires about 60Kb less RAM.   If you are shelling to GeoClock from another program and get Error 203 messages when you use the HAM features, placing this command in GECONFIG.DAT may solve the problem.

HIDELL

See <u>Lat/Long lines Commands</u>

HIDELL *   Do not show Latitude/Longitude values

HTA

See <u>Map Annotation Commands</u>

HTA   Display specified city as primary city on all maps
HTA/Lat/Long/ZoneCode/CityName   forces the specified city to be the primary city on all maps.   HTA with no home town specified forces the display of a previously specified home town.   It overrides the first and second lines in every GEOn.DAT file, and thus is a shortcut method to configure GeoClock for your city.   For example, HTA/38.90/-77.03/ET/Washington forces Washington to be the primary city on all maps, and displays ET (Eastern Time) for all ephemeris data.   HTA is an acronym from Home Town Always.

HTN

See <u>Map Annotation Commands</u>

HTN   Do not display specified city as primary city on any maps
HTN/Lat/Long/ZoneCode/CityName   forces the specified city to be the primary city on all maps, but prevents it from being displayed as the primary city.   HTN with no parameters does not change any previously defined city, but does prevent it from being displayed.   HTN is an acronym from Home Town Never.

HTS

See <u>Map Annotation Commands</u>

HTS   Display specified city as primary city on maps containing it HTS/Lat/Long/ZoneCode/CityName   It works identically to HTA, except that it uses the specified city only if the city appears on the map.   HTS with no parameters use a previously defined home town, but display it only if the city appears on the maps.   For example, HTS/38.90/-77.03/ET/Washington   would force Washington to be the primary city on MAP2 (US - 48 States), but not on MAP5 (Europe).   HTS is an acronym for Home Town Showing.

IGNORE

IGNOREx   Forces the GeoClock to not use any line with a CRC of x in a GEOn.DAT,
USRn.DAT, or include file.   The polynomial used for the CRC is X**15+X**13+1.

INBACK

See <u>Windows controls Commands</u>

INBACK   Forces the GeoClock windows to be bottom most.

INBACKn   If n is 1, GeoClock is always the bottom most window.   If the screen is maximized, then GeoClock functions as wallpaper in this mode.

INCLUDE

See <u>Map Annotation Commands</u>

INCLUDE (or I)   Include data file
When contained in a GEOn.DAT file, INCLUDE <file>   suspends reading from the file being processed, and processes all commands in the <file>.   When all commands in that file have been processed, reading resumes from the original file.   INCLUDE may be nested up to ten levels.   INCLUDE may also be used in response to the "P" command.   In this case, the named file will be included at the end of the GEOn.DAT file for the map currently displayed. The effect of the INCLUDE command will be negated when a new map is selected or a new file is specified with INCLUDE.   The INCLUDE command can be abbreviated by I (i.e., I DATELINE).   An include file can be set on the command line or in a script by using the @ character as a separator (e.g., GEOCLK   MAP1   I@dateline).   This syntax is not allowed in data files or in response to P or C.

LIGHT

See Sun and Moon Display Commands

LIGHT   All sunlight is displayed
This highlights the entire screen, and does not display the sun symbol.   This often provides a better display of details of small-area maps, on which terminator display may be unimportant, e.g., city maps.

LINE

See <u>Lat/Long lines Commands</u>

LINE   Set lat/long line increment and display lines This command enables latitude and longitude lines on the display, and sets the spacing between the lines. For example, LINE15 draws latitude and longitude 15 degrees apart.

LINEPERM

See Lat/Long lines Commands

LINEPERM   Make TLSPEC and GLSPEC lines permanent
LINEPERM makes all currently defined TLSPEC and GLSPEC lines permanent, i.e., they will be displayed on all maps.   If TLSPEC and GLSPEC commands are followed by LINEPERM in GECONFIG.DAT, these lines will be permanent.   A similar sequence in a GEOn.DAT file will make these lines permanent.   CLINE1 clear all permanent lines.

LLCOLOR

See <u>Screen Display Commands</u>

LLCOLOR   Set color and style of lat/long lines and labels This command takes two parameters LLCOLOR a/b.   a is the color number for the lat/long lines (the default is 6).   b is the color number for the lat/long line labels (the default value is 7).   If a is negative, the lines will overwrite all map features, while if a is positive it will only overwrite colors 1, 2, 3 (water, land, and land/water).

MAP

See Map Selection Commands

MAP   Select MAP from list
This command works identically to F.   If it is included on the GeoClock command line (for example, GEOCLK MAP), the selection menu will appear before the program starts.

MAPCENTERn/k

See <u>Map Selection Commands</u>

MAPCENTERn   Center world map on longitude n
Centers any rectangular projection world map on longitude n (more or less).   For example, MAPCENTER-77 centers the world map on Washington.   It does not have any effect on non-rectangular projection or non-world maps. Like FCOLOR, this command does not take effect immediately if used in the GEOn.DAT files   (except GEOCLOCK.DAT) or scripts, but does work correctly in GECONFIG.DAT, the command line, and "P".

MAPCENTERn/1   Center world map on current sun longitude+n degrees
This is similar to the above form, except that the current sun longitude is added to n.   For n=0, the map will be centered on the sun.   Note that the centered calculation is done only when the map is redrawn, so the map will be "offcenter" after about 20 minutes (depending on the window size).   To keep the map in sync with the sun, use the command in a script. For example:
MAP1   60   "MAPCENTER0/1"
will redraw the map every 60 seconds and thus keep it in sync.   Note that the quotation marks are required in the script.

MAPGROUP/k

See Map Selection Commands

MAPGROUPn/x/y   Determines map resolution selection .   n is the applicability (0=never, 1=when zooming, 2=always), and x and y are the minimum width and height for the GeoClock window to select 800x600 rather than 640x480.

MAPMINUSn

See Map Selection Commands

MAPMINUSn   Selects the previous sequential map using sort method n.   This command chooses the previous sequential map using the sort method described in MAPPLUSn.

MAPPLUSn

See Map Selection Commands

MAPPLUSn   Selects the next sequential map using sort method n.   This command chooses the next map in sequence.   If n is 1, it chooses the next high map number.   If n is 2, it chooses the next map in alphabetical order.   If n is some other number, it chooses the next map in coverage area.   If n is missing, it uses the method last selected in the "M"aplist or "F"indMap function.

MAPn

See <u>Map Selection Commands</u>

MAPn   Changes to MAP number n
This command displays a specific map.   For example, MAP5 displays map number 5.   If this command in included in GECONFIG.DAT or GEOCLOCK.INI, the map specified will appear as the first map displayed.

MARK

See <u>Map Annotation Commands</u>

MARK   Display location markers for cities.

MARKLIMIT

See Map Annotation Commands

MARKLIMIT   Control display of cities close to HTA/HTS city This sets the minimum distance from the home town city that a city must be to be displayed.   For example, MARKLIMIT5 means that any mark within 5 pixels x and y of the home town mark will not be displayed. The distances can be set independently, e.g., MARLIMIT5/10 means x of 5 and y of 10.   The default is -1, or no restriction.

MOONdisp

See <u>Sun and Moon Display Commands</u>

MOONdisp   Control display of moon
If disp is 0 or omitted, no moon is displayed.   If disp is 1, a moon symbol is displayed with approximate phase information over the correct sub-point.   If disp is 2, the text moon illumination fraction is displayed with the moon symbol.   If disp is 3, the symbol, illumination, lat, long, azimuth, and elevation are all displayed.   If disp is increased by 4, the moon is displayed using the calendar convention (i.e., the moon looks like the symbol in printed calendars).   For example, if disp is 6, the moon symbol is displayed using the calendar convention, and the moon illumination fraction is displayed in text.

MOONRS

See <u>Sun and Moon Display Commands</u>

MOONRSn
If n is less than or equal to zero, moon rise and set data is not calculated.   If n is greater than or equalt to 1, moon rise and set are calculated and displayed if the <u>Moon command</u> is set to show moon azimuth and elevation.   n is the number of iterations to make for the calculation.   2 is generally satisfactory, and is the default value.

Note: Moon rise and set are not synced to the solar day.   Moon rise to the next moon rise can vary between about 24.5 hours and 26 hours.   Therefore, on any particular day, the moon may rise before it sets, or set before it rises, or set only, or rise only.   GeoClock shows the "closest" moon rise and set.   If the rise or set show is not on the current day, and up arrow (to indicate tomorrow) or a down arrow (to indicate yesterday) is used instead of a colon in the time.   At extreme latitude, the moon may not rise or set for long periods (just like the sun).

NAUTICAL

See <u>System Control Commands</u>

NAUTICAL   Display distances in nautical miles

NETWORK

See <u>System Control Commands</u>

NETWORK@server@local@

   This command sets GeoClock to run in network mode.   For every file to be read, the directory "local" is check, and if the file exists there, it is used.   If not, the directory "server" is used.   When a file is written, it is always written to the "local" directory.   Usually, GeoClock and all its files will be installed in the "server" directory, and each user will have his own "local".   The user can then customize his GeoClock without affecting other users. Ordinarily, the NETWORK command should be on the command line (FILE/PROPERTIES/COMMANDLINE in Windows 3.x).   For example, C:\SERVER\GEO\GEOCKWIN.EXE   NETWORK@C:\SERVER\GEO@X:\LOCAL\GEO@ will start GeoClock using C:\SERVER\GEO as the server directory, and X:\LOCAL\GEO as the local directory.
   A special form of the command is   NETWORK   with no additional characters.   In this case, GeoCLock uses the directory containing the GEOCKWIN.EXE file as the server directory, and the current default directory as the local directory.
   When the NETWORK command is used, all the files in the GeoClock server directory can be made read-only.   GeoClock should be run at least once from the server will full R/W privledges so that the index and other internal GeoClock files can be built.   See <u>SHARE</u> .

NOCITY

See <u>Map Annotation Commands</u>

NOCITY *   Do not display city names

NODAY

See <u>Time Display Commands</u>

NODAY *   Does not show display the day of the week.

NOGLYPH

See <u>System Control Commands</u>

NOGLYPH   Do not display glyphs (small pictures) on the buttons on menus.   On some systems with high color (65K+), you may get "Out of Resources" messages due to the way Delphi hands the glyphs.   This command deletes the glyphs to prevent the "Out of Resources" messages.   A new driver for your video card, or use of WindowsNT or Windows95, may solve this problem.   If you have trouble starting GeoClock without this command, you can place it on the command line entry (GEOCKWIN.EXE   NOGLYPH) or in GEOCLOCK.INI.

NOGRID

See <u>Lat/Long lines Commands</u>

NOGRID *   Do not display GeoClock Selected lat/long lines.   This command negates the GRID command.

NOHAM

See <u>HAM radio Commands</u>

NOHAM   Deactivate HAM features

NOHT

See <u>Map Annotation Commands</u>

NOHT   (same as HTN) Do not display specified city as primary city on any maps
HTN/Lat/Long/ZoneCode/CityName   forces the specified city to be the primary city on all
maps, but prevents it from being displayed as the primary city.   HTN with no parameters
does not change any previously defined city, but does prevent it from being displayed.   HTN
is an acronym from Home Town Never.

NOLINE

See <u>Lat/Long lines Commands</u>

NOLINE *   Do not display latitude/longitude lines
NOLINE removes all latitude/longitude lines from the display.

NOMARK

See <u>Map Annotation Commands</u>

NOMARK *   Do not display location markers.

NOMONTH

See Time Display Commands

NOMONTH *   Show month number rather than name.

NOMEM32

See <u>System Control Commands</u>

NOMEM32   Do not use 32 bit addressing.

GeoClock uses 32 bit address and segments when displaying polar, orthographic, and equidistant-azimuthal projection maps in greater than 800x600 resolution. This command inhibits using this addressing mode, and GeoClock will display these map projections in 800x600 resolution if the window size requires a greater resolution.

NONE

See <u>Legend Commands</u>

NONE   No legend

NONEW

See <u>System Control Commands</u>

NONEW   Do not automatically display "What's New".

GeoClock automatically displays the "What's New" help screen whenever a new version of GeoClock is loaded.   GeoClock writes the date/time of the GEOCKWIN.EXE file to the WHATSNEW.TIM file, and uses this information to control the display.   This command prevents this automatic display.

Since new versions of GeoClock include a new version of GEOCLOCK.INI and GECONFIG.DAT, this command is most reliable when used on the GEOCKWIN.EXE command line.

NORMAL

See <u>Sun and Moon Display</u>

NORMAL *   Normal Display
This highlights the sunlit area and displays the sun symbol at the sun's subpoint.

NOSECONDS

See <u>Time Display Commands</u>

NOSECONDS   Shows time to last minute
This command shows time to the last minute (1991/05/01 12:14)

NOSSHELP

See <u>System Control Commands</u>

NOSSHELP prevents GeoClock from activating the help system while running as a Screen Saver.   Ordinarily, this command should not be needed, but it may help solve some screen saver problems.

Palette

See <u>Screen Display Commands</u>

   PALe/r/g/b   sets the RGB value for a GeoClock color.
e is the palette position (corresponding to the DOS version), r is the red value (0-255), g is the green value, and b is the blue value.   For example   PAL2/128/64/0 sets position 2 (dark land) to red=128, green=64, blue=0 (dark brown).

Default colors in GeoClock are as follows:

palette posit	color	use
0	red	Political Bdy (dark)
1	blue	Water (dark)
2	dark green	Land (dark)
3	green	Land/Water Bdy (dark)
4	black	Text Background (dark)
5	yellow	Aux Text Color (dark)
6	black	Lat/Long Lines (dark)
7	white	Frame and Text
8	bright red	Political Bdy (sunlit)
9	light blue	Water (sunlit)
10	green	Land (sunlit)
11	light green	Land/Water Bdy (sunlit)
12	black	Text Background (sunlit)
13	yellow	Aux Text and Sun (sunlit)
14	black	Lat/Long Lines (sunlit)
15	white	Frame and Text

The EGA graphics adapter provides for the simultaneous display of 16 colors from a palette of 64.   The VGA graphics adapter provides for the simultaneous display of 16 colors from a palette of 262144.   Most programs use the default palette, which roughly corresponds to the colors provided by the CGA in text mode.   In order to make the map display the most attractive, the EGA/VGA/SVGA version of GeoClock for DOS does not use this standard palette.   Instead, the 16 colors that can be displayed simultaneously are used to represent 16 features displayed by GeoClock. The first eight numbers are for features not in sunlight, and the second eight are for features that are in sunlight.

In Windows systems supporting at least 256 colors, GeoClock for Windows can use the full palette.   In 16 color systems (VGA), GeoClock does not have access to all available colors and the display will be somewhat less pleasing.

PCZONE

See <u>Time Display Commands</u>

PCZONE   Specify PC time zone
The PCZONE command sets the relationship between the local time on the PC's clock and GMT, i.e., declares which time zone the PC's clock is in. It takes one parameter - a time zone code, as defined in the ZONE command. For example, if you use Eastern Time, specify:
PCZONE ET
This command is best used in the GECONFIG.DAT or GEOCLOCK.INI files, and it must follow the ZONE command that it references.

POWER

See <u>Windows controls Commands</u>

POWER   Control the interaction between the screen saver and power saver features.

POWERn   Specifies how the screen saver responds to power saver messages:

0   Ignore all power management messages
1   Quit screen saver on Critical Resume (that is a resume that was from an emergency power down)
2   Quit screen saver on normal resume.
4   Quit screen saver on suspend request.

These may be ORed together.   For example, POWER7 causes the screen saver to shut down if any power saver message is received.

Ordinarily, this command is not required: if the screen saver is running when the system powers down to save power, it will be running when it powers back up.   You may have to add this command to GEOCLOCK.INI if the screen saver misbehaves on a power-saver shut down or start up.

Quit

See <u>System Control Commands</u>

Quit   Quit GeoClock and return to Windows

Selecting this menu item, or pressing ESCape twice terminates GeoClock and closes all GeoClock Windows.

Random

See <u>Map Selection Commands</u>

RANDOMn   Select a new map at random

Executing this command selects a new map at random.   If the optional parameter n is included, it determines what sorts of maps can be selected:

1   World Maps
2   View From Space maps
4   Other non-rectuangular maps (polar, equi-azi, etc)
8   Non-world rectuangular maps

n is the sum of the numbers corresponding to the maps permitted.   For example, For example, RANDOM3 selects a map at random from the World maps and View from Space maps.

REM

See <u>System Control Commands</u>

REM   Remark - remainder of line is ignored
Remarks can be used within *.DAT files for additional documentation of the various text files you may change to customize GeoClock maps.

REPEAT

See <u>Scripts Commands</u>

REPEAT   Start script over from first line

Resize Control

See <u>Windows controls Commands</u>

RESIZEn   Control window resizing
RESIZE1 forces all window resizing, including dragging the window border, to keep the 4x3 aspect ratio all GeoClock maps use.   RESIZE0 allows full control of the window size.

SCRNSAVER

See <u>Windows controls Commands</u>

SCRNSAVER   sets various attributes to run GeoClock as a Windows screen saver.

SCRNSAVERa/b/c/d/e/f
  a is the mode (0=single map, 1=random maps, 2=script)
  b is the map number for the single map mode
  c is the random map selection code, see <u>RANDOM</u>
  d is the time in seconds between map changes in the random maps mode
  e is the script number (1 through 9) in the <u>script mode.</u>
  f is the one way encrypted password

This command is set automatically in the screen saver setup form and ordinarily the user does not need to modify it by hand.

SCRIPT

See <u>Scripts Commands</u>

SCRIPT   Invoke a specific script
SCRIPTx   invokes script x (i.e., the file GEOSCRx.DAT).   x may be any number.   This is especially useful from the command line.   Note that if GEOSCR0.DAT exists, it is automatically invoked when GeoClock starts unless the SCRIPTx command is in the GECONFIG.DAT or GEOCLOCK.INI file or on the command line.

SHARE

See <u>System Control Commands</u>

SHAREr/w

This command sets the file sharing codes for GeoClock.   "r" specified the sharing code to use when a file is opened for read access.   The default is 0, which is read-only exclusive. "w" specifies the code for read/write/update access.   The default is 2, which is read-write exclusive mode.   The default values work on most systems, but some systems, networks, or environments may require other values.

SHOWDAY

See <u>Time Display Commands</u>

SHOWDAY   Show day of week
This command displays the day of the week (1991/05/01 WED 12:14:45). As in
SHOWMONTH, the default is the standard 3 letter English abbreviation, but other names can
be specified:
SHOWDAY SUN MON TUE WED THU FRI SAT

SHOWLL

See <u>Lat/Long lines Commands</u>

SHOWLL   Show Latitude/Longitude values
This command labels all the latitude and longitude lines displayed. The labels appear on the top and left edges of the display. The labels may overlap other data.   Optionally, SHOWLL can control which axis are labeled: SHOWLLn
n and 1 = 0   show left latitude
n and 2 = 0   show right latitude
n and 4 = 0   show top longitude

SHOWMONTH

See <u>Time Display Commands</u>

SHOWMONTH   Show month name rather than number (91 MAY 01 12:14:45). The standard 3 letter English abbreviations are used by default. The text for the month names can be specified by giving the 12 strings to be used for the 12 months. For example: SHOWMONTH JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

SHOWSECONDS

See Time Display Commands

SHOWSECONDS * Show time to nearest second
This command shows time to the nearest second (1991/05/01 12:14:45).

SLOW

See <u>System Control Commands</u>

SLOW   Use high accuracy but slower calculations
Forces GeoClock to use the high accuracy algorithm for drawing the sunlit area.   This is the default for systems with an 80x87. On systems with an 80x87, the difference in speed between SLOW and FAST is negligible, while on those systems without an 80x87, FAST is approximately twice the speed of SLOW.   These options do not effect polar, orthoscopic, or azimuthal-equidistance maps.

STATUTE

See <u>System Control Commands</u>

STATUTE   *   Display distances in statute miles

SUN

See <u>Legend Commands</u>

SUN   City, sun rise/set, local time legend

SUNANGLE

See <u>Sun and Moon Display Commands</u>

SUNANGLE   Sun rise/set definition
SUNANGLE angle   sets the elevation angle of the sun used to compute sunrise and set. The default is -0.8333 degree, which corresponds to the sun just breaking the horizon, considering refraction effects. This parameter does not affect the terminator line calculations.

SUNLIGHT

See <u>Sun and Moon Display Commands</u>

SUNLIGHT   Terminator definition
SUNLIGHT angle   specifies the sun's elevation angle for the terminator. The default is -0.8333, which corresponds to apparent sunrise and sunset, when the edge of the sun is just visible.   0 corresponds to the geometric terminator, which divides the earth into two equal halves.

SYMBOL

See <u>Drawing Commands</u>

SYMBOL   Displays an external symbol
SYMBOL   name   lat   long   displays the symbol referred to by <name> (defined by a previous SYMDEF command) centered on lat long.   This symbol is drawn before any city names or times are drawn, so the symbol can be overwritten by this data.

SYMBOL   filename   lat long   displays the symbol defined in <filename> centered on lat long.   This symbol is drawn before any city names or times are drawn, so the symbol can be overwritten by this data.

SYMBOL   filename   name   lat long   displays the symbol defined in <filename> and named <name> centered on lat long.   This symbol is drawn before any city names or times are drawn, so the symbol can be overwritten by this data.   <filename> is assumed to have more than one SYMBOL in one file, see SYMDEF.

SYMDEF

See <u>Drawing Commands</u>

SYMDEF   Load an external symbol definition
SYMDEF filename   loads the external symbol specified by <filename>.   The format of the external file is:

Initial Byte	length	Meaning
0	2	Number of pixels in the x direction (nx)
2	2	Number of pixels in the y direction (ny)
4	2	x pixel corresponding to the symbol center
6	2	y pixel corresponding to the symbol center
8	8	Name of symbol (trailing spaces)
10	nx*ny	Color of pixel (going horizontally from 1 to nx, then vertically from 1 to ny). 0-15 displays as that color. 16-255 is transparent.

Multiple symbol definitions can be included in a single file by concatenating the above structure.

Size

See <u>Windows controls Commands</u>

SIZE   Control size state of window
SIZE0 allows normal window size
SIZE1 forces the window to Maximized
SIZE2 forces the window to Minimized

T

See <u>Time Display Commands</u>

T   Set new time
Pressing the T key prompts you for a new display time in six spin boxes (year month day hour minute second).   This does not change your PC's clock.   All times in GeoClock use the 24 hour format. If this command is used on the command line or in a DAT file, the included data is interpreted as year month day hour minute second.   The data must be given with no extra characters, and exactly two digits per item.   Missing data is set to 2000/01/01 00:00:00.   For example, T9205151207 is taken as 1992/05/15   12:07:00.   A four digit year (between 1000 and 2999) is allowed.   When used on the command line or in a DAT file, the data may have a + or - followed by a number.   With this format, the current virtual time is incremented or decremented by the specified number of days.   For example, T+30 increments the time by 30 days, while T-0.25 decrements the time by 1/4 day = 6 hours.

TEXT

See <u>Drawing Commands</u>

TEXT   Display text on all maps
TEXTx/y/font/color/bg*text   No spaces before the * are allowed.   x is the horizontal coordinate of the starting pixel for the string (if negative, from the right of the screen), y is the vertical coordinate of the starting pixel (if negative, from the bottom of the screen, font is 0 for 8x14, 1 for 4x6, 2 for 8x8, 3 for 4x8, and 4 for the Xfont.   color is the color number for the text, and bg is the background color (-1 means transparent).   The text itself can be anything. The underscore (_) is interpreted as a space.

TEXTBG

See <u>Screen Display Commands</u>

TEXTBG   Set text background color
TEXTBGn   changes the text background color number to n.   The default value is 4.

TIME

See <u>Legend Commands</u>

TIME   Local time only legend

TLINC

See Lat/Long lines Commands

TLINC   Set latitude line increment

TLMASK

See <u>Sun and Moon Display Commands</u>

TLMASK   Twilight area pattern
TLMASK n   specifies the fraction (in 16ths) of halftoning for twilight display.   4 is the default, which gives 1/4 light and 3/4 dark for the twilight area.   You may have to experiment with this value to get the best display for your monitor.   A value of 4 may give a better effect, particularly if you wish to emphasize the terminator relatively to the twilight line.

TLSPEC

See Lat/Long lines Commands

TLSPEC   Specific latitude line

TWILIGHT

See <u>Sun and Moon Display Commands</u>

TWILIGHT   Twilight terminator definition
TWILIGHT angle   specifies the sun's elevation angle for the twilight terminator.   The
default is 0.   -6.00 corresponds to civil twilight, -12 corresponds to nautical twilight, and -18
corresponds to astronomical twilight.   If this angle is greater than or equal to the SUNLIGHT
parameter, the twilight area is not displayed.

UWIN

See <u>System Control Commands</u>

UWIN   Set the update time intervals
UWINf/b   sets the update intervals (the time that GeoClock relinquishes control to Windows before the next screen refresh).   f is the interval in seconds when GeoClock is in the foreground, and g is the interval in seconds when GeoClock is in the background.   The defaults are 1 second for foreground, and 60 seconds for background.

VECTOR

See <u>Drawing Commands</u>

VECTOR (or V)   Continue a line
VECTOR latx longx   draws a line starting at the position of the last DRAWLINE or VECTOR, to (latx,) using the color specified in the last DRAWLINE.   For example, if the following lines immediately follow the line in the DRAWLINE example:
VECTOR   41.83   -87.75
VECTOR   38.67   -90.25
a line from Los Angeles to Chicago to St, Louis will be drawn in color 0.   The VECTOR command may be abbreviated by V (i.e., V 41.83 -87.75).

Window

See <u>Windows controls Commands</u>

WINDOWn/xp/yp/xs/ys
WINDOW allows all GeoClock Windows to be set to special sizes and positions
n=1 specifies the main map window
n=2 specifies the Where Is (Gazetteer) window
n=3 specifies the MapList window
n=4 specifies the About Box window
n=5 specifies the Command Entry window
n=6 specifies the Data File Edit window
n=7 specifies the Registration window
n=8 specifies the Scripts window
n=9 specifies the SetUp window
n=10 specifies the TimeSet window
n=11 specifies the Window Controls window
n=12 specifies the Zip Code window
n=13 specifies the Options window

xp is the screen relative horizontal position of the upper left corner
yp is the screen relative vertical position of the upper left corner
xs is the width in pixels
ys is the height in pixels

For example, WINDOW1/0/0/400/300 places the map window in the upper left corner of the screen, and makes the map area 400x300 pixels.

Ordinarily, the user will not have to enter this command directly.   These are written automatically to the GEOCLOCK.INI file when Save Settings is invoked.   When save settings is used, comments are automatically added to make clear which windows are effected.   For example,
WindowMain1/0/0/400/300.

Winsetup

See <u>Windows controls Commands</u>

WINSET specifies that the GeoClock program has been initialized for local conditions.   If this statement does not appear in GEOCLOCK.INI, GeoClock will start with the Setup window. WINSET will be written to the GEOCLOCK.INI file automatically after GeoClock is set up.

YEAR2

See <u>Time Display Commands</u>

YEAR2 *   Show 2 digit year   (e.g., 91/05/01 12:14:45)

YEAR4

See <u>Time Display Commands</u>

YEAR4   Show 4 digit year   (e.g., 1991/05/01 12:14:45)

ZONE

See <u>Time Display Commands</u>

ZONE   Define time zone
This command defines a time zone: it relates the time zone to the standard time zone (variously called Greenwich Mean Time (GMT) or Universal Coordinated Time (UTC) or Zulu Time (Z)); it specifies the dates and times when the zone changes to and from summer time; and it   names the time zone and the standard and summer times.   As an example, U.S. Eastern Time is specified by:
ZONE   ET   EST   -5   EDT   -4   91/04/07:7   91/10/27:7 ET is the name the time zone is referred to by all GeoClock commands. The definition states that the zone is called EST and is 5 hours behind GMT, except between 91/04/07 0700 GMT and 91/10/27 0700 GMT, when it is called EDT and is 4 hours behind GMT.
If the offset to GMT is 100 or larger, the time zone will give true local sun time (i.e., the sun is at its highest elevation at exactly 12:00 every day).   A special time zone named ST (for sun-time) is defined in the GEOZONES.DAT file for this zone.
If the ZONE commands are not for the correct year, GeoClock will automatically update them by changing each date to the closest date in the correct year which falls on the same day of the week.

ZOOMFRACT

See System Control Commands

ZOOMFRACT   Set screen active area for zoom
This command sets the size of the active area on the map for zoom to prevent zoom to areas   too close to the screen edge, and to allow map to map lateral zooming. ZOOMFRACT1.0 allows zooming to any area on the screen.   ZOOMFRACT0.95, for example, does not allow zooming closer to the edge than 5% of the screen dimensions.   This parameter also affects the Where function, ensuring that the selected city is not too close to the edge of the map.   One consequence of this is that clicking near the edge of the map will bring up the highest resolution map containing that point but not near the edge, so the zoom function can be used to navigate laterally through the maps.

HAM radio features

 The HAM package is an add-in to the registered version of GeoClock.   It supports a variety of features to support HAM, SWL, and DX operators, and includes a custom Azimuthal-Equidistant (Great Circle) projection map centered on your location.

HAM package features
Starting the HAM package
BuckMaster and QRZ CDROMs
Call Sign Analysis
Use of other GeoClock features
Twilight zone definition
HAM data base
HAM package support

HAM package features

The GeoClock HAM package activates several new features of particular interest to amateur radio operators and short-wave listeners. These include:

Azimuthal-Equidistant (Great Circle) maps.

Day, night, and twilight zone display:
-Twilight zone parameters can be set to indicate boundaries of sun illumination on the F- and D-layers of the ionosphere.

Amateur radio call sign analysis (based on a user-maintainable call sign data base).   When a call sign (or prefix) is entered, the following information is displayed:
-Remote station location
-short and long great circle path
-short and long path azimuth and range
-remote station (reciprocal) azimuth
-UTC, local, and remote station local time
-DXCC and WAE country identifications
-CQ and ITU zones
-Continent, area, and location names

The package has three major components: a custom Azimuthal-Equidistant map centered on your station; a call sign data base, and a utility program to process the text call sign data base into the GeoClock form. Your registered copy of GeoClock will use this data base to overlay HAM data on the custom map.

The custom Azi-Equi map centered on your location is named MAP9009.EGA.   A custom GEO9009.DAT file is also provided to control the display of HAM data.

If the optional BuckMaster HamCall (April 1995 or earlier) or QRZ CD-ROM is online, the GeoClock HAM package will use the CD-ROM to provide very accurate coordinates and headings for US call signs in the data base.

These features are provided in addition to the other features of GeoClock.

Starting the HAM package

To start the HAM package, enter "GEOCLK MAP9009" at the DOS prompt.   The program will start with your custom map and an indication of the sun and terminator locations.   In the present release, ham features are activated only on the custom map.

TIP: Edit your GECONFIG.DAT file with an ASCII text file editor and add the command "MAP 9009" as the last line of this file.   You will now be able to start the GeoClock program by simply entering GEOCLK at the DOS prompt.   GeoClock will then start up automatically with your custom map displayed.

You should see a color Azi-Equi map displayed on your screen against a black background. Your location at the center of the map is shown with a cross symbol.   Around the edge of the map are tick marks for every 10 degrees of azimuth.   In the bottom right corner, your name, call sign, and location will be displayed.   In the bottom left corner two clock lines will be displayed: GMT clock and local time at your location.   The format of clock information can be tailored to suit your taste in clock style.   See the "commands" section of the help system.

In a few seconds (depending on the speed of your computer), the current sunlight, night, and twilight zones will be displayed.   A yellow "sun" will appear at the current sun subpoint (i.e., the spot on Earth where the sun is currently directly overhead).   GeoClock will continue to adjust the display to keep up with real time, at a rate dictated by the processing power of your computer.   The date/time of the present display is shown on the clocks in the lower left corner.

Note: The rate of updates can be slower (approximately half as fast for the worst case) whenever the boundaries of the twilight zone approach the edges of the Azi-Equi map.   This is because a larger number of calculations are required in order to accurately display the twilight zone boundary around the map edge. GeoClock automatically adjusts to this condition in order to insure that the map display remains accurate.

BuckMaster/QRZ CDROM

If your computer has a CD-ROM drive, and the BuckMaster HamCall (April 1995 or earlier) or QRZ CD-ROM is on line, GeoClock can use the database on the CD-ROM to provide very accurate locations (within a few km) and bearing for US call signs in the Data Base by using zip codes .   In addition, the name and home town of the owner of the call sign is displayed when the call sign is keyed in.   This feature is activated automatically if the   HAMCD command is in GECONFIG.DAT.   If the CD-ROM drive is on a network or otherwise non-standard, that command can be used to specify the exact path and file name of the data base.

The QRZ CD-ROM can be obtained at retail or directly from the publisher:

QRZ Ham Radio CDROM
Walnut Creek CDROM
1547 Palos Verdes Mall, #260
Walnut Creek   CA   94596
Voice: 800-786-9907 or 510-674-0783
FAX: 510 674-0821
Internet: info@cdrom.com

Call Sign Analysis

To activate call sign analysis, simply begin to type in the letters and numbers of the amateur radio call sign of interest.   When the first key is depressed, a window pops open and the call sign you are typing is displayed in the window.   Backspace and cursor keys may be used to correct any typing errors.   When the call sign has been completely entered, press the RETURN key.

To abort call sign entry, press the ESCape key.   To clear the call sign display, press any letter, then BACKSPACE and RETURN.

You do not need to enter an entire call sign.   GeoClock will operate on call sign prefixes. However, GeoClock contains over 1,700 entries in its call sign analysis database.   By entering a complete call sign, you will frequently benefit from more precise location information.

Call signs containing "/" may be entered directly from the keyboard; e.g., FR5ZD/E, KN3T/KH6, HB0/DL7FT and SP9PBE/6.

Once a call sign has been entered, GeoClock displays the following information:
a.   a cross "mark" at the location of the station is added to the map. The location chosen is the most accurate location known to the database.
b.   the local time at that distance location is added to the bottom left corner of the screen. This is the third clock time, labelled "mark:". This time is continually updated, along with all the other clocks on the screen.   Rules for local daylight savings (summer) time are applied.
c.   short and long great circle paths from your location to the distance "mark" are displayed on the map.   If you look carefully, you will see the long path has a yellow color. (On an Equi-Az map, the long path is obvious: it is the path which crosses the edge of the map.)   In addition, the left side of the screen shows the following for both short and long paths:
-- azimuth (direction) from your location to the mark.
-- azimuth from the mark to your location.
-- distance in miles and kilometers.
d.   on the left side of the screen, additional information about the call sign is shown:
-- DXCC country: standard prefix and country name.
-- WAE country: standard prefix and country name.
-- area: state, region, or ooblast within the country for this particular call sign.   For USSR ooblasts, the ooblast number is also shown.
-- mark: the city or geographical spot which is displayed on the map and used for distance and bearing calculations.
-- CQ zone(s) for the area named above.
-- ITU zone(s) for the area named above.

To erase the information, press the minus (-) key.

Use of other GeoClock features

Most of the GeoClock commands and features described in the other sections of HELP are available while using the HAM package. In addition to real time operation, GeoClock can be instructed to operate at other dates and times, and to operate at accelerated rates. Distances and great circle directions can be determined between any locations on the globe. There are many commands which allow you to customize the type and style of information displayed on GeoClock.   You should take time to read the remaining GeoClock help sections to learn about these additional capabilities.   These will help you get the most out of your GeoClock system.

GeoClock also includes many additional maps of the world, polar regions, continents, oceans, and individual countries.   These additional maps allow you to zoom in on specific areas on interest in the globe; e.g., twilight zone crossings of Africa, etc.

While using your custom map and ham features, you can enter these other GeoClock commands by holding down the SHIFT key while pressing the appropriate letter.   For example, pressing SHIFT and T (for Time) allows you to change the date/time used to calculate the displayed day, night, and twilight zones.

Note: The SHIFT key must be used.   The CAPS LOCK key and caps-lock status is ignored. Any keys pressed without the SHIFT will be interpreted as characters for a call sign.

GeoClock supports two commands which are specific to ham features.

The HAMDB command specifies the name of the call sign database to be used. This command should be in the GECONFIG.DAT file. For example, HAMDB HAM.HDB specifies that HAM.HDB contains the call sign data base.   This database MUST be in the format produced by GENHAMDB, not in text format.   Only the first use of HAMDB in a given run has effect - the data base cannot be changed while GeoClock is executing.

The second command, HAM, specifies that the HAM features are to be activated.   The best place to this command is in the GEO9009.DAT file corresponding to your Azimuthal-Equidistant (Azi-Equi) map.   In the current release of GeoClock, the HAM features may only be used when the Azi-Equi map is displayed.   NOHAM deactivates the HAM features.

Twilight zone definition

One of the strengths of GeoClock is the ability for you to use the TWILIGHT and SUNLIGHT commands to determine the boundaries of the day zone, twilight zone, and night zone. You can set these boundaries to any value desired.

The value is the offset, in degrees, of the zone boundary from the edge of the (geometric) sunlight part of the earth.   Typical values of interest for shortwave operating include:

SUNLIGHT = -6.596   Boundary where sun starts/stops illuminating the D-layer.   This controls absorption on the lower frequency shortwave radio bands.
TWILIGHT = -14.165 Boundary where sun starts/stops illuminating the F-layer. These values are based on average D- and F- layer heights.   They define the Ionospheric Gray Line: a twilight zone where shortwave radio signals can pass through the D-layer without absorption.   Within this zone signals will encounter an illuminated F- layer whose ionization level will be normally enhanced over that found in the night zone.

Other common values for these commands include:

SUNLIGHT = -0.833 Sunset/sunrise at sea level, taking into account the bending of light through the Earth's atmosphere and the apparent width of the sun.
TWILIGHT = -6   Boundary of civil (legal) twilight, where it is bright enough to work outdoors.
TWILIGHT = -12   Boundary of nautical twilight, where it is bright enough to see the horizon. One can take navigational sightings with a sextant in this zone.
TWILIGHT = -18   Boundary of astronomical twilight, where sunlight on the upper atmosphere interferes with the use of telescopes by astronomers.
                 To use the same values for twilight definition on all maps, enter these commands in the GECONFIG.DAT file.   To specify values for each particular map, the commands should appear in the GEO*.DAT file (where "*" represents the map number; e.g., GEO9009.DAT for your custom Equi-Az map).

HAM data base

Analysis of amateur radio call signs is driven by information contained in the ham database. The database consists of three files:
-- HAM70.DAT: An ASCII text file containing information described below.   You may have received a more recent version number.
-- GENHAMDB.EXE: An executable utility which converts the ASCII text file into a binary format used by GeoClock for call sign analysis. Database validation is also performed by this utility.
-- HAM.HDB: The binary format produced by the GENHAMDB.EXE utility program.

HAM70.DAT

 The text form of the call sign data base consists of lines specifying key data about a group of call signs. Each line consists of 11 data items:

1. CallPattern - the leading characters of the call sign group. For example, PY signifies all call signs beginning with the characters PY.

Wildcard characters are used in describing call sign patterns as follows:
-- represents any single digit; i.e., 0, 1, 2, ... 9.
@ -- represents any single alphabetic character; i.e., A, B, ... Z.
? -- represents any single character, either alphabetic or numeric.
* -- represents any string of characters.

For example, PY#Z* represents any call sign beginning with PY, followed by any single digit, then the letter Z, and then anything else. PY0ZZ would match this pattern.

All characters are interpreted as upper case.   This file has been created in lower case.   If you add entries of your own, you may wish to make them upper case so that you can easily recognize your own additions for future maintenance and debugging purposes.

2. HamLat - the latitude of the location corresponding to this call sign. This may be in decimal degrees (-15.146 for 15.146 degrees South), or in degrees/minutes/seconds ("15 8 45.6S"). If the latter format is used, the latitude must be enclosed in quote marks.

3. HamLong - the longitude of the location corresponding to this call sign. This may be in decimal degrees (-15.146 for 15.146 degrees West), or in degrees/minutes/seconds ("15 8 45.6W"). If the latter format is used, the latitude must be enclosed in quote marks.

4. HamTimeZone - the time zone code for local time for this call sign group.   For example, ET stands for US Eastern time.   The time zone acronyms are defined in the GEOZONES.DAT file.

5. HamCQzone - the CQ zone for this call sign group. If the zone has imbedded spaces, it must be enclosed in quotes; e.g., "3 4 5".

6. HamITUzone - the ITU zone for this call sign group. If the zone has imbedded spaces, it must be enclosed in quotes.

7. HamContinent - the continent for this call sign group. NA, SA, AF, EU, AS, AN, and OC may be used as abbreviations.

8. DXCCprefix - the standard DXCC call sign prefix designation for this CallPattern.   The DXCC country identification for this CallPattern is determined by this prefix.

9. AreaName - the name of the area within a country which is covered by this CallPattern; e.g., state, ooblast, region, or other political subdivision.   This must be enclosed by quotes.

10. MarkName - the name of the specific place used to represent this call sign group. Ordinarily this should correspond to the latitude, longitude and time zone specified above. If the MarkName is missing, the AreaName is used.   This must be enclosed by quotes.

11. WAEprefix - the standard WAE call sign prefix designation for this CallPattern.   The WAE country identification for this CallPattern is determined by this prefix.   If omitted, it is assumed that the WAE country is the same as the DXCC country.

NOTE -- Items enclosed in quotes must be separated from one another by at least one space.   All items must be contained on a single line.

Another type of line in the text call sign data base specifies equivalences in call signs. For example, ZY* =PY* specifies that any call sign starting with ZY should be treated as if it started with PY; i.e., ZY5EG can be processed as if the call was PY5EG.

Through appropriate combinations of "equates" and wildcards, the database and analysis algorithm is capable of accurately determining the location of any call sign heard on the air, including special prefixes.

Mobile call signs (K3NA/MM, for instance) will be processed but not result in a location display on the map, since the exact location of the station is not predictable in advance.

You may add additional entries to the HAM42B.DAT (or later versions) file with a simple ASCII file editor, following the conventions outlined above.

Any line beginning with a space in column 1 is interpreted as a comment.   You can see a typical comment line in the first line of the HAM42B.DAT file, where columns are named for your convenience.

After the HAM70.DAT file has been modified, it must be converted into a format which can be processed by the GeoClock program.   The program GENHAMDB.EXE does this conversion. To start the program, enter at the DOS prompt: GENHAMDB (filename).   Example: GENHAMDB HAM42B.DAT

Conversion processing can take several minutes, depending on the speed of your computer. The GENHAMDB utility provides you with a cryptic status of the current state of the conversion process.

When conversion is completed, GENHAMDB prompts you for a name for the converted file. The normal convention is to use the name HAM.HDB.   If you do not specify a name, GENHAMDB will assume HAM.HDB.

NOTE -- GeoClock is initially configured to look for the database under the name HAM.HDB. To change this, you must modify the GEO9009.DAT file with an ASCII file editor.   The command line HAMDB specifies the name of the .HDB file to use when your custom map is displayed.   For simplicity, you may wish to always tell GENHAMDB to name its output as HAM.HDB.

After writing the .HDB file to disk, GENHAMDB allows you to test the database without running GeoClock.   You will be prompted for a call sign. GENHAMDB takes the call sign given

and looks it up in the data base, and displays the data base entry, including a summary of the equivalences used in the analysis.   You can test as many call signs as you wish before exiting the program.

Note -- You will also see other numbers displayed along with the data base entry.   These other numbers are used by the GeoClock software developers in order to debug errors.

To exit GENHAMDB, enter an empty call sign (i.e., just press the RETURN key).

If you wish to conduct further tests on the HAM.HDB file, simple re-enter GENHAMDB by typing the following command at the DOS prompt:
GENHAMDB HAM.HDB /D
where "HAM.HDB" is the name of the .HDB binary file to be tested. GENHAMDB takes note of the "/D" debug switch on the command line, skips the database construction phase, and prompts you to enter test call signs.

Support

The call sign data base included with the HAM version of GeoClock was developed initially by Eric Scace, K3NA.   This is also a copyrighted software product.   You may use the database for any other software which you have developed for your personal use (e.g., contesting software, QSL card processing programs, etc).   However, the database can not be incorporated into any software product which is sold or distributed as shareware without prior permission.

Questions, comments, additional data and corrections to the ham database are welcomed! These can be sent to Eric via the GeoClock RBBS, or by other means to:

Eric L. Scace   K3NA
10701 Five Forks Road
Frederick MD   21701

home: +1-301-293-2448
work: +1-703-689-6556
fax: +1-703-689-5036
telex: +23-740-0368   ERIC UC
X400 e-mail: C:USA   A:Telemail   O:Sprintmail
FN: Eric   SN: Scace   MI: L.
amateur radio BBS: K3NA @K3NA

Call Sign Analysis Algorithm

Matching Algorithm (ALG-2):
1. Use ALG-1 on the input string.
2. If input string does not contain a "/", done
3. If there was no match, go to step 7
4. If the match after the / is exact, done
5. If the end string is /A, /M, or /P, done
6. If the end string is a single numeric, replace the first non-leading numeric in the string before the /. If ALG-1 produces a match, done.
7. If the string exactly matches one of the */ entries, use that entry
8. Use the shorter of the strings before and after the / (after if equal)   and apply ALG-1

ALG-1:
1. Find the most stringent straight match on the input string
2. Find the most stringent equate match. If none, go to 4
3. Make the substitutions, and find the most stringent straight match (Can be done recursively up to a maximum limit.)
4. If only one match was found, done
5. If both a straight and substitution match were found, use the more stringent.
expected to register it.   See "Ordering GeoClock" for details.   Registering your copy makes continued improvement and support for GeoClock possible.   Furthermore, the registered version includes the zoom, distance measuring, and city time display functions, plus many additional maps.   You also get access to additional map files from the GeoClock Bulletin Board System.

Errors

No maps found.   This indicates that no valid GeoClock map files (MAP*.EGA) were found. This may indicate that there is an error in the directories (check to make sure the working directory does indeed have GeoClock maps), or the GCW*.BIN files have been corrupted.   In the later case, try deleting the GCW*.BIN files and restarting GeoClock.

No world map.   This indicates that there is no suitable world map to use at the top of the zoom hierarchy.   Make sure you have MAP1.EGA (or 9 or 6001 or 6009) in your working directory.

Insufficient stack space for fill.   If this error persists, please report the circumstances to <u>GeoClock</u> .

Where Is buffer is too small.   If this error persists, please report the circumstances to <u>GeoClock</u> .

GPF (General Protection Violation).   If this error occurrs consistently, and is not associated with any other error (such as the ones mentioned above), please report the circumstances to <u>GeoClock</u> .   In addition, if a file named GCWERROR.TXT is produced, it would be helpfull if this file would be sent to GeoClock.

Registration

GeoClock is distributed as shareware. This means that if you use and enjoy the program, you are
See Also:
 Why Register?
 Registration Form
 Updates
 Available Maps
 BBS
 Special Pricing
 Ordering GeoClock

Why Register?

Also see <u>Registration Form</u>

There are several important reasons you should register your copy of GeoClock:

You make continued improvement and support of the program possible

You receive MANY more maps

Your copy will display local times next to the city names

Your copy will start immediately with map display, rather than pausing at the about box

You can register new versions GeoClock free

You will be notified of new versions and products

You will be able to download special maps and utilities from the GeoClock BBS

If you have already purchased a registered version of GeoClock, you can update to a new registered version of GeoClock, including the windows version, by obtaining the shareware version (from a BBS, shareware catalog, CompuServe or other online service, or by mail), copying the new files over your existing GeoClock installation, and running the REGISTER.EXE program supplied when you purchase your original registered version of GeoClock.

Registration Form

Also see Why Register?

You can print (or save to a file) a completed order form by filling out the registration menu (under Help|Register on the main menu bar, or by pressing the register button on the about box.

The various check boxes select the options available with GeoClock.   The top right box, GeoClock Registration, is required unless you already have purchased GeoClock.   If this box is not checked, you must enter your registration number.   This will be filled in already if you are running a registered copy of GeoClock.

The next five check boxes are for the various extra map sets.

The next check box is for the HAM package.   If you want the HAM package, you must fill in your call sign (enter "none" if you don't have one), and your latitude and longitude.   If you don't know your latitude and longitude, and live outside the 50 US states, you can enter the name of the nearest large city instead.   If you live inside the US, the latitude/longitude is not necessary - we can get if from your zip code.

Finally, you can order the Spinning Globe program.   This program works much better under DOS and Windows standard mode than it does under Windows in the 386 mode, OS/2, and Windows NT.

In the box on the upper left, enter your name and shipping address.   We use post office first class mail for deliveries in the US, and post office air mail for deliveries outside the US.

In the next box, choose your payment method.   We accept checks (payable in US dollars and drawn on US banks), VISA, MasterCard, and American Express.   We do not accept purchase orders or CODs.   Money orders mailed separately (especially from France) have not proved reliable and should not be used.   If you choose a credit card, you must fill in the card number and expiration date boxes.

If you live outside the US, Canada, and APO/FPO addresses, check the air mail shipping box.

To check the order, click the Validate button.   Any erroneous data will be highlighted in red. In addition, the total price will be displayed.   When the order is correct, press the Print button (to print the order form) or File button (to save the order form to the file ORDERGEO.TXT in the GeoClock directory).

Updates

If you have registered an older version of GeoClock, you can register a new version without cost.   Just unLZH the files from the newest shareware version of GeoClock and run the REGISTER.EXE program that was included on your original distribution disks.   The latest version is always available from the GeoClock computer bulletin board system (703 241 7980, N81), the IBMAPP forum on CompuServe, and our web site at http://www.clark.net/pub/bblake/geoclock .

Available Maps

GeoClock includes a large number of maps.   All these maps have border data for the former USSR, former Czechoslovakia, and former Yugoslavia as of the release date of this version. While the specific maps included change from time to time to reflect changing interests, the following maps are currently included with registration:

Africa	Australia & NZ	British Isles
Canada	Caribbean	Europe
Far East	Former USSR	Japan
Meso America	Mexico	Middle East
N America	New York City (2)	North Pole
S America	SW Asia/India	South Pacific
South Pole	United States (2)	US Regional (13)
View-From-Space (6)	World (3)	

These basic maps are also available in 800x600 resolution.

There are four supplemental map sets providing detailed coverage of every country in the world, the US states, and the Canadian Provinces.

North America has approximately 50 maps, including the 50 US states and the Canadian provinces.

Europe has approximately 40 maps, including all the countries of the former USSR.

Middle East / Asia / Pacific has approximately 35 maps.

Africa / South America has approximately 35 maps including Central America and the Caribbean.

The maps distributed are changed from time to time to reflect changing interests.   The GeoClock Bulletin Board always has all the maps available to registered users.

About the GeoClock Bulletin Board

A free computer Bulletin Board System (BBS) provides support for users of GeoClock.   It always has the latest version of the program available for downloading.   In addition, it provides a forum for all interested parties to exchange programs and information concerning GeoClock and high quality mapping for the IBM PC.

Everyone is welcome to use this BBS, but registered GeoClock users have access to certain special files and have higher access limits. HAM package owners also have access to the latest version of the HAM data base. Please have your registration number handy when you log on for the first time. Except for these special files, the messages and files on the board are available to everyone. Your comments and suggestions are welcome.

You need a modem (1200, 2400, 9600 v.32, 14400 v.32bis) and terminal emulation software (such as ProComm or CrossTalk) for your PC to access the BBS.   The BBS uses N-8-1 communications.   The BBS number is 703-241-7980.   This is a Washington DC metro area number. GeoClock is also available from many Shareware catalogs, computer bulletin boards, and CompuServe (CSID 70461,2340).

GeoClock 7. special pricing

License for multiple users at a single site (for LAN use, estimate the number of LAN users of GeoClock):

```
Number     Price
1          $ 35/User
2-9        $ 30/User
10-20      $ 25/User
21-40      $ 20/User
41+        $ 15/User
```

Site licenses, corporate licenses, educational licenses, and other large quantity licenses are available.   Contact GeoClock directly (voice 703-241-2661, FAX 703-241-5809) for details.

SVGA basic map set - $10.

Supplemental Map Sets: $ 20 for one, $30 for two, $35 for three, $40 for all four ordered at the same time.   Available sets:
Basic (included with GeoClock registration)
North America
Europe
Asia/Pacific
South America/Africa/Middle East

Spinning Globe: $15

HAM radio support package: $ 30

Custom maps - $30 for rectangular projection maps covering at least 120,000 square miles (at least 300 miles North to South) outside the US, or at least 800 square miles (25 miles North to South) within the US.   Other projections and sizes by negotiation.

Custom modifications to GeoClock - by negotiation.   Custom modifications can generally be made on a fixed price basis after agreement to specifications.

The supplemental maps and HAM package can be used by each registered user without additional charge.   The supplemental map sets contain detailed maps of all individual countries in the areas listed above.   GEO*.DAT files accompany each country(s) map(s) and provide both city and country data.

In all cases, the purchaser must make all required copies from the supplied master copy, and must protect the software the same way the purchaser protects its own proprietary software to ensure that the license is not violated.

Terms: Payment must be by VISA, MasterCard, American Express, or check in advance. Purchase Orders are accepted only for unlimited site licenses and custom programming.   No CODs.

Ordering GeoClock

Registration of GeoClock includes a copy of the latest version of the program, a large set of maps (the basic set described in "Available Maps"), a file with the names and locations of many world cities for customizing the maps, a "starter set" of map overlay files, and an installation program for automatic set-up on a hard disk. Updates to the program are available to registered users at no charge from the GeoClock BBS, the IBMAPP forum on CompuServe, and our web site at http://www.clark.net/pub/bblake/geoclock .

The supplemental map sets(North America; Europe; Middle East, Asia & Pacific; South America & Africa), and the HAM package, can be ordered with the initial registration or later. Custom maps and quantity license agreements are available. Write for details.

Orders paid by cash or check are accepted by mail.   VISA, MasterCard, and American Express orders may be made by mail, voice, FAX, or electronically via the GeoClock BBS.

Purchase orders, and checks drawn on or payable to banks outside the USA, are not accepted. International postal money orders mailed separately have not proved reliable and should be avoided.   3.5" (1.44MB) disks will be used unless another size is specified.

$35   GeoClock registration (DOS and Windows versions), programs, and basic map set
$5   Extra for international air mail and handling
$10   SVGA basic map set
$20   One supplemental map set
$30   Two supplemental map sets
$35   Three supplemental map sets
$40   All four supplemental map sets
$30   HAM package (include your call sign and QTH)
$15   Spinning Globe program

You can also order the basic GeoClock registered version ($35) via CompuServe's SWREG (search for the keyword GEOCLOCK)

GeoClock   2218 N Tuckahoe St, Arlington VA
FAX: 703-241-5809 (24 hours)
CompuServe: 70461,2340
Internet: geoclock@compuserve.com

Contacting GeoClock

GeoClock
Joseph R Ahlgren
2218 N Tuckahoe St
Arlington   VA   22205
USA

voice 703-241-2661
FAX 703-241-5809
BBS 703-241-7980/7981

CompuServe   70461,2340   or   geoclock

World Wide Web
http://www.clark.net/pub/bblake/geoclock

E-mail
geoclock@compuserve.com   {this is the prefered address}
jahlgren@capaccess.org
geoclock@att.worldnet.net