Introduction

How Do I ...

Get around in Cyberspace?

Interact with Others ?

Get the most out of CyberGate and the WorldWide Web ?

Background Information

What's New in Beta 3

CyberGate Beta_3 adds the following new features:

Use your own Avatars

> You can now use your own custom-built VRML avatar instead of selecting one from the Black Sun Avatar Room.
>
> *Note:*   please be sure that your custom Avatar complies with the CyberGate <u>Avatar Design Rules</u>!

Ignoring Avatars

> You can now choose to "<u>ignore</u>" any Avatar(s)   for the duration of you session.   Just press a button, and they become (for you) completely "invisible."

Larger Chat Area

> The Chat Area can now be made much larger, thus greatly reducing the need to scroll back during Chat sessions.

ChatLog Files

> An option has been added to purge the ChatLog files at the end of a session [the default is still to keep the Logs until you choose to edit or clear them].

Again, our thanks to all those who have offered their comments and suggestions on how to make CyberGate more useful.   We are still listening hard: expect many more improvements to come!

The Black Sun Development Team

What's New in Beta 2

Beta_2 includes lots of changes and enhancements, many of them in response to experiences reported by Beta_1 users—our sincere thanks to all!   The major changes are:

- a greatly <u>enhanced Chat</u> feature,
- easier access to <u>online documentation</u>,
- <u>streamlined interaction</u> with other avatars,
- a bunch of <u>new avatars</u> to choose from,
- customizable <u>navigation</u> aids
- more complete <u>VRML</u> support
- compatibility with Microsoft <u>Internet Explorer</u>
- a faster image-rendering option in <u>PointWorld</u>

Note: the streamlining of card-exchange means that users of Beta_1 cannot "hear" the request of a Beta_2 user to exchange cards (you can hear them just fine).   This should cause only a temporary problem, as the multi-user features of Beta_1 will be deactivated as soon as people have had a chance to upgrade.

Enhancements to Chat

The biggest changes to Beta_2 are in the Chat features.   A new Chat thread has been added, and there are several enhancements to the user interface.

- **Public Chat:** in addition to Group and 1:1 chat, there is now also a "public" chat mode, open to anyone in the current <u>world</u>.

- **New layout:** The "overlapping windows" paradigm of Beta_1 has been replaced by a "tiled windows" paradigm.   This involved a redesign of the Chat Area, so that now its two fields are stacked vertically, instead of being presented side by side.

- **ENTER = Send:** in response to many user requests, the ENTER key now transmits the message you have composed (this is intuitive, since the composition field is now a single line). You can still compose a multi-line message by using CTL+ENTER to add a new line.

- **Blinking tabs:**   you can now be involved in 3 chat sessions at a time (public, group and 1:1). So that you can tell when it's your turn to talk in each thread, incoming messages are indicated by a blinking tab on the appropriate Chat panel.

- **ChatLogs:**   many people said they would like to be able to get transcripts of their chat sessions. All sessions you take part in are now logged in standard text files, which are available via a new Menu item.

There is now nearly twice as much online documentation, and it is much more accessible.   Every panel in CyberGate has its own Help button, which takes you directly to relevant information.   The "Info" panel is now used to display a variety of context- specific information, and by default shows a basic "How to Navigate" guide.

To reduce the steps needed to get in touch with another avatar,

- the old Contact panel is now part of the Avatars panel.
- Cards are now exchanged in a single step.

Beta2 comes with a total of 22 avatar models.
Check out the avatar room!

Long click = Lock

You can now "lock" your navigation to an object (so that you can orbit around it) just by pressing the left mouse button for 1.5 sec (a so-called "long click"), as well as by holding down both mouse buttons at once ("double drag").

Two new Display Options

- The navigation crosshair can now be switched off.
- See the coordinates of your current position in the world

Improved VRML support

- Level Of Detail (LOD) is now supported.
- The default lighting is improved, as is the handling of huge files.
- The default texture mapping (alignment) has been corrected.

The problems reported when using Beta_1 with MS Internet-Explorer as your HTML-Browser have been corrected.

A new specially-tuned rendering algorithm makes the Black Sun PointWorld much faster now. In particular, avatar motions can be displayed smoothly even while you are navigating.

Rendering speed can only be purchased at some cost to rendering accuracy (TANSTAAFL - "There Ain't No Such Thing As A Free Lunch").   Therefore, we have made the new fast-rendering mode a switchable Preference.   If you prefer prettier pictures to faster-moving ones, just switch it off.

A quick tour of CyberGate

The CyberGate window is divided into 4 main areas: 2 for graphic display and two structured text domains.   To optimize the use of onscreen space, three of the areas are allowed to overlap, without ever being more than a pushbutton away.   Here is a brief description of each area (with hyperlinked details).

3D Front View The main VRML Viewer – in fact, the only window you need when browsing worlds not supported by Black Sun's CyberHub™.

3D Top View An aerial view of the current scene. Interacts with the Front View.

Information Panels A concise stack of information about the things you can (and can't) see, and how to access and/or interact with them.

Chat Area Twin fields for following online conversations, and composing your own scintillating contributions to the same.

Tool Bar The essence of a VRML browser is the ability to access VRML scenes. CyberGate offers an easy-to-use toolbar for the basic scene-loading and scene-traversing functions.

Status Line Messages and icons that track what's happening in the background, in case you want to know.

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The Tool Bar

Here is a brief introduction to each of the buttons on the toolbar:

Entry Black Sun's "green room" where you can prepare for your entrance on the cyberspace stage by stepping into the "Avatar Room" to choose your 3D costume for the day.   You can also use the unassigned doors as personal portals providing direct entry to your favorite VRML world.

Home If you are a VRML developer, you can use this to take you to your own Home World (enter the URL under Options/Preferences);   by default, it takes you to the Entry room.

Open For direct access to any world (including local VRML files).

Back / Fwd CyberGate remembers where you've been, with these buttons you can move back and forth through your "history list."

Reload Worlds you visit are cached on your local PC. Press this button to download the scene afresh from its server.

Stop	If your time is worth more than the world you're waiting for, you can use this to cancel the delivery.
URL field	Holds the full Universal Resource Locator for the current VRML world – on top of a stack made of previously accessed URLs. You can enter an URL here by hand, too.
Full 3D	While visiting worlds not supported by the Black Sun CyberHub, you can hide the other panels and use the whole CyberGate window as a simple VRML viewer.
Top View	The Top View window and the Information Panels overlap. This button lets you switch back and forth between them.
Rewind	CyberGate also remembers where you've been within a single VRML world. This button is a kind of "UnDo" for navigation, tracing back the route you followed as you explored this scene.
Playback	What do you do after you rewind? Show the scene again on fast forward, of course!

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The Status Line

The bottom of the CyberGate window is divided into 6 fields:

Names, Msgs, Coords	Whatever you point to in the scene: if it has a name, it shows up here. If you load a new scene, its URL shows up here. And optionally, you can have a continuous display of World Coordinates, to pinpoint your current location in 3D space.
Avatars	The number next to the little guy in a hard hat says how many avatars (including yours) are currently on the scene.
Symbols	A set of small icons flashes during any chat session, card exchange, or file load.
Progress	Graphic indicator of file download from net.
Inlines	This field first counts up the WWWInline elements and images encountered as the VRML file is parsed, and then counts down again as each Inline/image is rendered, providing a close account of the loading of complex worlds.
Clock	In case you want to know the time …

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The Chat area

Beneath the 3D Viewer are two Chat fields.   The upper field shows a continually updated transcript of the conversation.   The lower field is for your input (just type and ENTER).

The **size** button invokes (or hides) a new larger chat area, which covers much of the 3D View but greatly reduces the amount of scrolling during chat sessions.

Click on the appropriate heading below for details beyond this brief summary:

Public Chat	Anytime you enter a scene, this chat thread is automatically available: anything you enter will be sent to everyone else in the room.
Group Chat	In contrast to the ad hoc nature of much party "chatter," CyberGate chat groups are required to have a topic – at least in theory!.
1:1 Chat	1-on-1 conversation is not heard by anyone else. It is a way for two people to carry on a private discussion outside the context of a public or group chat..
SIze	The **size** button invokes (or hides) a new larger chat area, which leaves much less room for the 3D View but greatly reduces scrolling during chat sessions.
"Send"	Just type what you want to say, then press the SEND button or ENTER. Your message will then appear in the transcript window, preceded by your Nickname.
"Quit"	Signals that you are leaving the conversation.

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The Information Panels

The 7 Information Panels are a part of what makes CyberGate more than just a 3D browser.   Together with the Chat area, they put 3-D scenes in the context of a rich, information-based online social environment.   Briefly, the Panels provide the following information:

Info	Dynamic information window and Help-Map.
$s	Counts the avatars in each <u>world</u> on your current CyberHub server, so you can choose to avoid the crowds or go where the action is.
Objects	Lists all hyperlinked objects in the current world, for

quick navigation via local "Beaming" or immediate loading of a new world or Web page. |
Avatars	Lists all avatars in your current 3D world, so you can "beam" directly to them.
Groups	Lists the current topics of local Group Chat, and who is participating in each group.
Cards	Archive of all the CyberCards you have collected. Whenever you receive a new CyberCard, the panel is activated automatically.

Log	Record of system messages produced while loading and parsing VRML or HTML files. (Debugging aid for VRML world developers).

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The "Info" Panel

This panel provides information relevant to the current scene.   For example, in the Avatar Room it tells you how to select an Avatar; in PointWorld, it displays the Site Review associated with each URL. The Info Panel also offers several direct jumps into the CyberGate online documentation: pressing any yellow accesses the Help topic for that subject.

The Black Sun logo is also a button: pressing it takes you to our WorldWide Web home page.

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The "Worlds" Panel

This shows a list of (up to) 10 of the most popular worlds supported by your current CyberHub server, listing their URLs next to the number of Avatars currently visiting each world.

Note: as used here, *world* is a technical term.   Files which contain the VRML source code for a 3-D scene are given URLs with the extension ".wrl" for "world."   Thus, in VRML,   a world is any scene description syntactically complete enough for a VRML browser to display.   A place like PointWorld may appear to the user as a single place, a world of its own; but in VRML terms, it is actually a hyperlinked set of some 200 separate "worlds."

Seeing how many avatars are in each world may help you decide where to go next. Depending whether you want to avoid the crowds or go where the action is.   The Panel has 2 buttons:

Refresh   The Most Popular Worlds list is created by a query to the CyberHub.   It is *not* updated every time you select the panel, since that would force a query any time you flip through the panels, whether or not that's the information your were looking for. The "Refresh" button updates the list on demand.

Open World   Leave the current world, and go to the one currently highlighted in the list.

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Note: as used here, *world* is a technical term.   Files which contain the VRML source code for a 3-D scene are given URLs with the extension ".wrl" for "world."   Thus, in VRML,   a world is any scene description syntactically complete enough for a VRML browser to display.   A place like PointWorld may appear to the user as a single place, a world of its own; but in VRML terms, it is actually a hyperlinked set of some 200 separate "worlds."

The "Objects" Panel

This panel provides a concise summary of all hyperlinks   in the current <u>world</u>:

List	As the elements of a world are loaded, CyberGate displays them on the screen, and records their Titles in the Objects list.
this world:	the list shows all objects in the current world
PointWorld:	In PointWorld, the Object list can be sorted by different criteria, or replaced by an outline of the entire POINT category structure.
URL	In this beta release, the URL is for display only.
Beam To	Direct jump within a world: your avatar is positioned directly in front of the selected object.
Open	Equivalent to "load this URL"

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The "Avatars" Panel

This panel helps you locate and identify other folks in Cyberspace. Whenever anyone contacts you to exchange <u>Cards</u> or initiate a <u>Chat</u> session, it is automatically activated to help you decide whether this is an invitation you wish to accept… ;-)

List	The nicknames of all avatars in the current <u>world</u>, whether you can see them or not.
Interests, URL	whatever the person behind each avatar is willing to publish about her/himself. URLS can be loaded directly into your HTML browser.
Chat	Invite the selected avatar to join you in a <u>1:1 conversation.</u>
Beam to	Position your avatar directly in front of the avatar you have selected.
Show Card	If you already have a <u>CyberCard</u> from the selected avatar, this button lets you display it.
Exchange	If you don't, use this button to request the selected avatar to exchange cards with you.
Refresh	Ask the CyberHub to update the avatar list.
Ignore	Make the selected avatar (seem to) "<u>vanish</u>" for rest of your current CyberGate session.

Note: The information in this list is updated very frequently, but it can still happen that an avatar leaves the world at the moment you try to establish contact.   Things happen *fast* on the Internet!

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The "Groups" Panel

In a crowded <u>world</u>, how do you focus on individual threads of conversation?   CyberGate's answer is the Group Chat session: anyone who wants to crank up a topic of conversation can do so, and invite others to join in.   This panel gives a summary of what groups are active in the current <u>world</u>.

New   If you want to start a new group, you simply give
                   it a name and a brief topical description.

Join   If you join an existing group, you are given a
                   transcript of the most recent statements.

Avatar   Selecting a group member and then pressing
                   this button takes you to the <u>Avatar panel</u>

Refresh   Update the Groups/Members lists.

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The "Cards" Panel

Any time you exchange cards with someone, their card is stored in a local archive which you can manage from this panel.   Selecting any entry displays some of the Card data directly in the panel. A button is available to display the complete card. If the CyberCard contains an e-mail address, you can launch your e-mail program from CyberGate directly. Another button lets you contact the card's owner, if he or she is currently in your online world. Finally, you can always discard any Cards you don't want anymore.

Show   Display the complete Card-set, including
                 business and personal cards.   (In a future
                 release, these will be exchanged separately).

Delete   Remove the card from your archive

Avatar   Selecting a card and pressing this button takes
                 you to the Avatar panel.

Mail to   Initiate an Email to the address on the card.

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The "Log" Panel

This panel tracks all system messages generated as CyberGate loads, interprets and renders VRML and HTML files.   If you don't write VRML or HTML source code, these messages won't mean much to you, but they can help our support people in identifying problems: in particular, whether the data you are trying to load are syntactically correct or not.

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A Showcase: PointWorld™

PointWorld is a demonstration project: an application of Black Sun technology designed to give CyberGate users a sense of the direction, scope and potential of cyberspace evolution.

Visualizing the Web

The Point Survey, a service of Lycos, Inc., is a leading Internet guide in which the best websites are categorized, reviewed and rated.   Black Sun has transformed Point into PointWorld, a 3-dimensional meeting place.

The basic plan of PointWorld is a town square.   The buildings around the main square are top-level categories (e.g., Entertainment, Sports...).   Each category contains a large communal space, which serves as a "transit area" to a set of next-level squares, each representing a sub-category (e.g., Music, Tennis...).   The sub-categories are again separate "towns" (hundreds of them!) whose buildings represent sites reviewed by the Point Survey.

Site Buildings offer visual cues as to their content: large buildings are sites which offer lots of information content; colorful buildings are sites rich in visuals and experience.   So it's easy to spot the most interesting sites.

Socializing the Web

The site review "towns" are generated on-the-fly by CyberGate, using the latest review data as the basis for each visualization. Basically, any site reviewed by Point now has its meeting place in Cyberspace. Chances are, any avatars standing in or around the building representing a site are interested in talking about that site or related topics (after all, why else would they be there?).   No more wondering what to talk about, no more enforced isolation: Black Sun's PointWorld gives the Internet a new multi-user dimension.

Accessing PointWorld Information

The Point reviews are displayed automatically in the CyberGate <u>information panel</u>, whenever you "beam to" a building representing a site.   Click and bring up a web browser to look at the site itself.   Since CyberGate operates as a Netscape Navigator PlugIn, both document access and electronic mail are always instantly available.

Cyberspace as Convergence

The purpose of PointWorld is to make a particular definition of "cyberspace" palpably real.
For us, cyberspace is a label for the new domain of computer applications made possible by the convergence of 3 different classes of system capability:

- the use of networks to support multi-user interaction: a fundamental shift from the computer-as-calculator to the computer-as-communicator;
- the technology of data visualization, which transforms complex information structures into graphic images that people can intuitively make sense of;
- the emergence of multimedia three-dimensional user interfaces ("virtual reality"), replacing the flat papers-on-your-desk imagery that has dominated desktop computing since the mid-1980s with rooms and spaces you can move around in,   and "live" objects which respond not only to you, but to each other.

Cyberspace is where these three technologies come together.   More exactly: cyberspace   is the world of interlocking online applications –PointWorld being a first example – which the convergence of these technologies has suddenly made it possible to build.

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PlugIn or Standalone ...

If you use Netscape Navigator 2.0, CyberGate will integrate seamlessly into your environment, using Netscape's "plug-in" technology.   If you did not take advantage of this possibility at installation, you can still do so.   See the separate "ReadMe" file and/or consult the Black Sun website for a detailed explanation.

CyberGate can also be used as a "helper" app, automatically invoked by either Netscape or the Microsoft Internet Explorer.

CyberGate as a standalone VRML Browser ...

CyberGate™ is a full-featured browser for worlds defined in the Virtual Reality Markup Language (VRML). CyberGate includes a complete VRML 1.0 parser, which you can use to check your own VRML files for compliance to the standard (any errors detected by the CyberGate VRML parser will be recorded in the Log panel).   The current beta version cannot render everything it recognizes (LoDs and ASCII text are the main exceptions) – however, that will change as time goes on.

Black Sun is actively involved in the current work to define VRML Release 2.0.   As that work moves forward, CyberGate will be continually upgraded to track the evolving VRML standard.

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How to Select your Avatar

1.   Go to   the Entry Room (the Black Sun logo in the Toolbar).

2.   Select Avatar Room from the Objects list, and press Open,
       (or just double-click on the triangular "door").

3.   You are now in a chamber full of – well, not avatars, exactly,
       since these are just lifeless models –   but models of how

other PointWorld visitors will see you, after you select one of them to be your avatar.

4. Select an model by clicking on it or picking its name from the **Objects** list.   (Remember, a model only becomes an avatar when someone like you inhabits its!   That is why they aren't on the **Avatars** list.)   When you "beam to" one of the models, you will receive a message that "I am now your avatar."

5. Leave the Avatar Room by clicking the "Back" icon on the Toolbar (next to the URL field), or by selecting another URL from the History scroll under the URL field, or by double-clicking on the "door" again to get out.

In case anyone asks: "avatar" is a Sanskrit word meaning "incarnation."   Modern dictionaries use it to mean "the physical embodiment of an idea or spirit."   The avatars were designed to fit their PointWorld™ showcase environment – which is why they don't look like anyone you are likely to see on the street!

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How to get around in Cyberspace

There are 2 basic ways of moving through 3-D worlds:

1. You can teleport magically from point A to point B.   This is called "**Beam**ing" if both A and B are in the same world, and "**Open**ing" a new world if they're not.

    To teleport, select the name of your goal from the list in the Objects or Avatars panels, and then press the **Beam To** or **Open** button.   Alternatively, you simply double-click on a Portal (i.e. whenever the Cursor indicates an "URL").

2. You can move your point of view around the world, enjoying the scenery as you go;   this is called **Walk**ing if you keep your "feet" on the "ground," and **Fly**ing if you don't.

    To Walk or Fly, you use the Mouse and/or Keyboard. Special navigation cursors provide feedback while you move.

Advanced navigation capabilities include lock-and-orbit, upSHIFTing for higher speeds, and modification via the Preferences panel.

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How to Navigate: Cursors

Since your eyes always tend to track its motion, the cursor is an ideal carrier for navigation information. In addition to the standard Microsoft Windows™ cursors, CyberGate uses several special purpose symbols to provide useful feedback:

Navigation Cross — This is the basic navigation control. Moving red dots indicate the speed of motion forward/back, and also the rate of turning to the right or left.

Navigation Box — Any object which contains an URL can be "locked in" by dragging with both mouse keys at once. In this situation, "turning" to the right or left becomes "orbiting" around the focused object. This makes it much easier to approach an object from a distance, and also to swivel around for a 360° view.

Arrow with "URL" — Indicates objects linked to a Web node. You can "Beam" to such objects with a click, or Open the link by double-clicking.

Avatar "Face" — The object under the cursor is under the "live" control of another CyberGate user, who can be contacted for Chat or exchange of CyberCards.

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How to Navigate: Mouse & Keyboard

Getting around in Cyberspace can be confusing. In a 3-D world, there are always 6 directions to move in (front/back, left/right, up/down), and another 6 more directions in which you can turn (spin around, cartwheel, and head-over-heels) – and, as users of flight simulators know, *all* of these can happen independently and simultaneously!

CyberGate helps you cope with this complexity by *limiting* motion to sensible directions, and providing a natural mapping of these motions to the (also limited!) tools most of us have available on our desktops. In the main 3D window, the options are as follows:

Motion	Mouse	Keyboard
Move Forward	Drag Forward	UP arrow
Move Back	Drag Back	DOWN arrow
Turn Left	Drag Left	LEFT arrow
Turn Right	Drag Right	RIGHT arrow
Move Left	CTL+Drag Left	CTL+LEFT
Move Right	CTL+Drag Right	CTL+RIGHT
Rise Up	CTL+Drag Up	CTL+UP
Sink Down	CTL+Drag Down	CTL+DOWN

Similar (but not quite identical) rules apply in the Top View.

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Top View: Mouse & Keyboard

Since in the " Top View" window, the idea is that you are looking down on the scene, its motion controls have slightly different semantics:

Motion	Mouse	Keyboard
Move Forward	DRAG Forward	UP arrow
Move Back	DRAG Back	DOWN arrow
Move Left	DRAG Left	RIGHT arrow
Move Right	DRAG Right	LEFT arrow
Zoom In	CTL+DRAG Forward	CTL+UP
Zoom Out	CTL+DRAG Back	CTL+DOWN
Look Up		PAGE Up
Look Down		PAGE Down

Similar (but not quite identical) rules apply in the Main 3D View.

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How to   Navigate: Fine Points and Extras

CyberGate provides a number of special navigation features.   One of these is the ability to to accelerate your walking/flying speed by "shifting up," i.e. pressing the **SHIFT** key.   How much this speeds up your rate of motion is adjusted by a Preference setting.

An especially powerful feature is **locking/orbiting.**   Holding both mouse buttons down while you have an " URL" cursor has the effect of "locking" all navigation functions on that object.   All motion and changes of direction are done with respect to the locked-in object; turning to the right or left becomes "orbiting" – something not at all easy to do in the more familiar "flight simulator" mode.

Unlike most 3D browsers based on the paradigm of the flight simulator, CyberGate provides you with a **"neck."**   In other words, it is possible to look around without moving around, and to change your direction of motion to match where you're now looking.   To avoid packing any more motion controls into the mouse, head-motion in CyberGate is handled from the keyboard:

To do this:	Press this key:
Look Up	PAGE Up
Look Down	PAGE Down
Look Left	INS
Look Right	DEL
Look Back	END
Go this way!	ENTER

One last thing: the VRML specification allows you to "wear a headlight," i.e. the browser can associate a special light source with your point of view. The TAB key turns your "headlight" on/off – a feature whose effects depend strongly on the design of the VRML world, but are usually good for a laugh ;-)

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Turn your "body" to line up with your "head," so that the next "forward" motion will take you in the direction you are now looking.   Useful in combination with END to "turn on your heel."

All about Chatting ...

"Chat" is the generic name for online conversation via the keyboard. CyberGate supports 3 different kinds of chat, each with its own possibilities and constraints:

- <u>Public Chat</u> – open and unstructured
- <u>Group Chat</u> – for moderated discussions on specific topics
- <u>1:1 Chat</u> – for private conversations between two people

All 3 kinds of chat use the same <u>Chat Area</u> in the lower left of the CyberGate window. The larger field above displays a transcript of the ongoing conversation, each message labeled with its sender's <u>Nickname</u>.

To Chat: type your message in the lower field (the text will scroll as needed), and then press ENTER or the SEND button.

Size   The *size* button invokes (or hides) a much larger chat area, which leaves little room for the 3D View, but greatly reduces scrolling in the chat transcript field.

You may have up to three separate conversations going at the same time: one in each mode.   Incoming messages are indicated by a blinking tab on the appropriate Chat panel.   Outgoing messages are always preceded by your Nickname.

Transcripts of all your chat sessions are kept in three **ChatLog** files, which can be accessed from the Main Menu.   These are plain text files which you can read with MS WordPad or any other ASCII editor.

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Since many people like to choose when (or whether) to reveal their real name in an online Chat session, CyberGate uses a Nickname, entered by you in your <u>CyberCard</u>, to identify you to others.

Public Chat ...

Public chat is what you hear just by walking into a room.   Anything you Enter in the input field can be read by anyone else on the scene.

To Chat: type your message in the lower field (the text will scroll as needed), and then press ENTER or the SEND button.   The larger field above displays a scrollable transcript of the ongoing conversation, each message labeled with its sender's Nickname.

Size   The *size* button invokes (or hides) a much larger chat area, which leaves little room for the 3D View, but greatly reduces scrolling in the chat transcript field.

In the public thread, anyone can play, everyone can "hear."   That means, unless there are *very* few participants in the chat session, it is usually a good idea to preface your messages with a word or two that identifies the person or subject you are responding to, so that your readers can connect up your message to its intended context…

The Public Chat area is a good place to meet, and a good place to find partners for Group or 1:1 chat sessions.

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Group Chat ...

Anyone who's ever been to a large dinner party knows the problem with free-for-all public discussions.   Everyone talks at once, and it soon becomes impossible to follow anything anyone is saying.

Group Chat has 3 characteristics designed to improve that situation:

- a published and agreed-on topic

- a moderator: the person who "owns" the topic

- a self-selected membership of people who have chosen to join this group, and thereby agreed to discuss *this* topic.

Groups and their topics are listed on the Groups panel, where you also find the buttons for joining and starting groups.   Upon joining a group, you receive a transcript of the last 10 lines of conversation.

To Chat: type your message in the lower field (the text will scroll as needed), and then press ENTER or the SEND button.   The larger field above displays a scrollable transcript of the ongoing conversation, each message labeled with its sender's Nickname.

Size   The *size* button invokes (or hides) a much larger chat area, which leaves little room for the 3D View, but greatly reduces scrolling in the chat transcript field.

Leaving a group is simple: just press QUIT in the Group Chat panel.

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1-to-1 Chat ...

This is sometimes known as "whispered" chat, because it cannot be overheard by anyone else on the scene.   But what perhaps does more to set it apart is the fact that it always begins and ends with an

explicit choice by all (i.e. both) its participants,

One party invites another the chat by selecting an avatar name from a list (on the <u>Groups</u> or <u>Avatars</u> panel) and pressing the **Chat** button. This causes the invited party's "phone" to ring, and requires a decision either to accept or refuse the invitation. If an acceptance is not forthcoming in ca. 30 sec, the inviter is advised to look elsewhere.

To Chat: type your message in the lower field (the text will scroll as needed), and then press ENTER or the SEND button. The larger field above displays a scrollable transcript of the ongoing conversation, each message labeled with its sender's <u>Nickname</u>.

Size   The *size* button invokes (or hides) a much larger chat area, which leaves little room for the 3D View, but greatly reduces scrolling in the chat transcript field.

The chat session ends when either party presses QUIT.

Note that it is perfectly proper to carry on a private 1:1 conversation with someone who is also a member of a discussion Group, while all the while continuing to monitor the traffic in the public chat booth. That's exactly what these multiple-thread features are for.

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How to Join a Chat Group ...

Select the Groups panel. Note the small field in the upper right, which indicates the number of currently active groups. Selecting a group brings up a brief description of its topic and a list of its members.

Press JOIN. The left-hand field of the Chat area will show a transcript of the most recent exchanges in the group. You're in!

To get out again, press QUIT.

How to Start a New Chat Group ...

Select the Groups panel. If none of the existing groups strikes your fancy, press START GROUP.

You will be asked to give your new group a name, and to supply a brief description of its topic. This will serve as an "advertisement" for the group to all other visitors to this <u>world</u>.

Just because you started it, doesn't mean you own it. Like the rest of the Web, it is now a creature with a life of its own. The group will live on until it has no more members, at which point the CyberHub will quietly put it to rest.

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About CyberCards ...

One of the great attractions of cyberspace is that you meet such nice people there – only, how best to keep up the contacts made online?

The current version of CyberGate provides you with a set of three CyberCards™ which you can use to share information about yourself with folks you meet online.

- **Chat Card** – your own online "advertisement", consisting of the name you want to be known by, and a few lines you want to be associated with. Optionally, you can also choose to "publish" your real name (i.e. the one that is associated with your Personal and Business cards).

- **Business Card** – your coordinates in the world of Work.

- **Personal Card** – where you live and/or play …

Warning: in this Beta release, the whole set of CyberCards are exchanged at once: give someone your business card, and they get your Home Phone as well (unless you leave that blank!)   In the future you will be able to distribute these and other CyberCards selectively.

Click below for Details on:

- How to create/edit your CyberCards
- How to Exchange CyberCards

Contents   How Do I … ?   Background

How to Create/Edit your CyberCards ...

Select **Cards** from the **Options** menu.

Note the separate Tabs for your public Chat-card, and for your business and personal cards.

On the Chat-card, you may choose to mask the Name and URL fields from public view ("public" means these fields are displayed to anyone who clicks on your avatar).

In this beta release, the separate cards cannot be individually exchanged: it's all or nothing, folks!   In future releases, individual cards will be managed separately, and made more flexible.   Integration with standard PIM formats is planned.

Contents   How Do I … ?   Background

How to exchange CyberCards ...

Any time you select an avatar, either from a list in the Groups or Avatars panel or by clicking on it directly, the Avatar panel comes up with the public information available on that avatar.   You have the options of:

- Beaming over to meet the person
- initiating a 1:1 conversation (Chat)
- offering to exchange Cards

You offer to exchange Cards may either be

- accepted (in which case, you each receive a card)
- or rejected   (that's life!)

Cards you receive are stored in your Cards collection.

Note: Users of CyberGate Beta_1 cannot "understand" your request to exchange cards (although you can understand and respond to theirs).   If you get no answer to your request, try inviting the other person to Chat;   if they are still using the previous release, encourage them to update!

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How to read the Point Reviews   ...

The "leaves" of the point directory contain over 4,000 reviews and graded evaluations of the sites that make up "the top 5% of the Web."

Any time you beam to one of the buildings on the "outer" set of disk worlds (the ones with the uniform

Ascii signs on them), the text of the review and the Point evaluations are displayed in the "Info" panel.

The Evaluations are based on a scale of 0-50 points in each of three categories:

- Content – the information provided by the site
- Presentation – the layout and esthetics of the site
- Experience – a simple "would you go back again?" rating

These values are used to determine the height, bulk and color of the buildings generated to visualize that sector of the Point site.   Basically, "more is better":   bigger, taller, brighter buildings have higher ratings than smaller, shorter, duller ones.   In addition, the color indicates the category in which the site did best: green for content, blue for Presentation, red for Experience.

Double-clicking on these buildings (or indeed, on any object in any VRML world that serves as anchor to an HTML file) invokes your standard Web browser to display the Web page.

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How to change how CyberGate Behaves ...

 Click for details on each set of customizing options …

General   Avatar number, homespace, etc.

Entry   Customizing the Entry room

Navigation   Navigation options,

Directories   Sound and CyberCard libraries

Cache   Size and Location

Network   Server and Proxy names and ports

System   Parser optimization

Contents   **How Do I … ?**   **Background**

Preferences: General

The General preferences panel offers the following options:

Own Avatar   If you are using one of the Black Sun avatars (Annie, Bernie, etc.) its number appears here. You can use your own *custom avatar* by entering its URL in this field.
Important: before entering your custom Avatar, be sure to check out our **Avatar Design Rules**!

Home World   Users who would like to incorporate their own VRML creations can do so here (as well as in the Entry room, which is the default setting).

Use Sound   Some love it; some hate it.   You get to choose.

Multi-User   CyberGate can also be used in "torso" form, as a simple VRML 1.0 browser,   Those with no access to a CyberHub server may wish to switch off the multi-user features in the interim.

Delete ChatLogs on Exit   CyberGate keeps a transcript of all your Chat sessions (ChatLogs).   If you do a lot of chatting, these will soon get to be awfully long!   Check this option to clear all your ChatLogs automatically each time you exit CyberGate. [To save a Log for future use, simply rename it.]

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Avatar Design Rules

Your avatar will function best if you

1.   use syntactically correct VRML (Version 1.0).

2.   keep its total file size (including all WWWinlines) under 48K

3.   put its coordinate origin (0,0,0) inside its "head" (so that other Avatars can "look you in the eye")

4.   give it an Orientation toward its "front"   (so that you don't wander through cyberspace like a drunk crab!)

5.   "fit" your avatar into its virtual surroundings: between 1 and 2 meters tall, and max. 3 meters wide or long.

6.   keep its "look & feel" acceptable to the communities it visits

Note that CyberGate users now have the ability to ignore Avatars they find offensive – and CyberHub administrators may choose to   banish visitors who trespass on other people's bandwidth or otherwise insist on being anti-social.   So be nice!

The "Ignore" button on the "Avatars" Panel removes all evidence of the selected Avatar from your view.   It becomes invisible to you in the 3D scene, you will see none of its messages in the Public Chat area, nor will you "hear" its requests to chat or exchange cards with you. The Ignore command lasts for the rest of your current CyberGate session, even if you change scenes.

Customizing the Entry Room

This panel offers the user easy access other frequently-visited VRML worlds, using the Entry Room as a kind of spatial "hot list".

Black Sun will be providing CyberHub™ support for a wide range of VRML worlds.   Some of these will be automatically linked to the Black Sun world, others you may choose to attach here.

As a CyberGate user, you will also have the chance to set up your own personal space "at home online": in a VRML world of your own, which you can customize to reflect your taste, and entertain the new friends you make in cyberspace.

Keep an eye on the Black Sun home page for announcements of this and other exciting new programs!

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Navigation Options

This preferences panel offers the following controls over Navigation:

Speed: motion, lift and turn	Users can set the default navigation speed along multiple axes: movement in the plane of reference ("X-Z translation"), movement out of that plane ("Z translation") and rate of rotation ("pitch/yaw rotation"). CyberGate does not support "roll."
Acceleration	How much should the SHIFT key increase any of the default rates set above?
Head re-alignment	If you are going North, stop to look toward the East, and then move *forward*, in what direction do you expect to move? If this box is checked, you keep going North; if not, you are now going East.
Crosshairs	A crosshair in the middle of the 3D screen indicates the vector components of your motion. Some users find it exceedingly helpful, others exceedingly distracting. You get to choose!
Fast rendering	CyberGate offers two display modes: one is slower and "cleaner"; the other is faster and "sloppier." This lets you choose whether you want the picture to move more smoothly or be drawn more accurately.
Show coordinates	Some people like to know where they are in terms of an X.Y.Z coordinate system. Others find the constant flicker of numbers distracting. This lets you choose.

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Using custom Directories

This preferences panel allows you to select alternate directories for sound effects and business cards. By setting your own sound directory, you can customize the sounds used by CyberGate in various situations.   And if you work in a permanently networked environment, then you can use a shared network directory to store your CyberCards, as a first step toward collaborative use of all kinds of online information.

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Cacheing Preferences

This preferences panel allows you to set the size and location of your VRML cache.   It uses the same option-set popularized by Netscape for cacheing HTML documents.

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Network Preferences

This preferences panel allows you to identify the CyberHub providing you with multi-user support, and also to state whether you are using a proxy to access the network, and if so, where it is.

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System Preferences

VRML Parser Optimization

CyberGate is able to optimize many VRML scenes for faster rendering and reduced memory requirements.   The following optimizing-steps can be chosen:

Double Separator: search for Separators and WWWAnchors whose only child is itself a Separator. The redundant separator is removed and its children are appended to the current node. This reduces runtime memory requirements.

Unnamed Groups: remove group-nodes which have no nodename DEFined. This reduces runtime memory requirements.

Transform Nesting: search for group-nodes which consist solely of a transformation followed by another group-node. The group-child is removed and its children are inserted at the position of the removed group-node. This reduces runtime memory requirements.

Nodes with no effect: remove nodes and transformations which have no effect or (e.g. rotations of amount 0, scaling of 1 1 1, empty text strings, WWWInlines with empty name fields).   This reduces runtime memory requirements and accelerates rendering.

Empty Group Nodes: remove group-nodes with no children. This applies for nodT_Group, nodT_LOD, nodT_Separator, nodT_Switch, nodT_TransformSeparator and even to nodT_WWWAnchor. This reduces runtime memory requirements.

Unless you have strong evidence that these changes are distorting the output of a VRML you yourself have written, we advice leaving all of these options checked – deselecting any of them will only slow your system down.

Background Information

About Black Sun and its Products

Black Sun Interactive is an international company with offices in San Francisco, CA, and Munich, Germany.   Black Sun is privately held by its employees and CMG @Ventures, an investment firm specializing in Internet-related companies, including Lycos/Point, the Web's leading catalog/review service, and Netcarta, the creators of Web Cartography.   Black Sun's management team is drawn from leading companies in both Europe and the US, combining skills from many different fields.   Black Sun was founded in July 1995 and is growing fast.   Our product line includes:

CyberGate™   Browser/Frontend for Multi-user VRML worlds.
Current Beta 2 Release dated 7 March 96.

CyberHub™   Scalable Server for online communities.
Scheduled for beta-release in 2Q96.

CyberKit™   Highly generic design tool / library for building
the kind of worlds served by CyberHubs to
CyberGates.   Scheduled for beta in 2Q95.

Cyberspace Enabling Technology

Black Sun technology provides the essential infrastructure of Cyberspace.   Just as in the real world, without infrastructure (roads, water, power, telecommunications) in place, only the largest companies can afford to develop a site.   Black Sun's technology provides this infrastructure, empowering a new generation of Internet designers to build the town halls and business offices, the schools and courtrooms, the shopping malls, museums, galleries, churches, and homes of Cyberspace.

CyberGenes™ / CyberCells™

CyberCell technology assembles virtual scenes from multi-purpose building blocks, complete with multimedia and behavioral attributes, all optimized for mainstream Internet use.   CyberGenes can be thought of as a kind of compression technology, enabling CyberCell-based virtual worlds to be downloaded from Internet servers and displayed in seconds – instead of time for a coffee break (or sometimes, lunch!).   CyberCells are extensible, composable, and customizable. Simple drag-and-drop tools make it a snap to create complex, highly individual scenes which, thanks to the speed and flexibility of CyberGene transmission, can quickly be shared with friends and colleagues across the hall, or across

the ocean.

CyberTwin™

Black Sun's multi-user avatar technology minimizes the impact of bandwidth and performance bottlenecks. When you enter a virtual world, your chosen avatar is registered with a CyberHub world-server. Thereafter, its changing position with respect to other avatars in the scene is automatically tracked. Wherever you move within the scene, the fact of your motion is transmitted to anyone whose avatar comes close enough for you to see and interact with. Locally generated "twins" of each avatar, built from their CyberGene blueprints, are kept up to date on all potentially interacting systems, their movements continually coordinated by the server. Since all users do not have identically powerful desktop machines, CyberTwin technology provides a number of optional performance enhancements. For example, users may choose to limit the number of avatars they can see at once, or to disable their animation – body-motion defined in Java scripts identified in each avatar's CyberGene description, and which run locally on every machine where the avatar is visible.

CyberMotion™

If you have ever played "Doom" or tried to pilot a flight simulator, you know that moving around in most virtual 3D scenes is neither easy nor intuitive. It's not easy to keep track of 6 directions of motion at once (each of which can not only change, but change its rate of change), and it's all too easy to get stuck in corners, or to walk into a wall right next to an invitingly open door. Black Sun's CyberMotion technology is a delicately balanced system of automated navigation and motion constraints which result in a natural feeling of "presence" in the virtual scene: you can look around, and move around, almost as unthinkingly as you do in real life – or, if you prefer, beam through cyberspace to land directly on Fred's front door…

CyberCards™

CyberCards are like business cards in the real world, except that they are layered for different degrees of confidentiality, and can include any information you want: graphics, text, links to other Web documents... CyberCards give permanence to what would otherwise be fleeting interactions, and are one of the ways that Black Sun supports the meaningful integration of information into virtual worlds.Your CyberCard separates the information you give others about yourself into different categories. "Public" information can be read by anyone without asking -- sort of like a telephone book entry. Separate clusters of "business" and "personal" information, which must be explicitly offered or asked for, can include invitations, brochures, whatever you wish. CyberCards can be used to contact their owners by Email, or to look up their Home page on the Web. They can also be collected and put in an online organizer (integration with standard PIMs such as ACT and Ecco is planned).

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We'd really like to help more …

… but we're still learning what your problems are!

Please drop us a line: info@blacksun.com,

   or drop by our Website to report on your experience!

Thanx,

The Black Sun development team

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