



WinsHub

Help manual
Version 1.19.0

A Telnet / SSH / Rlogin terminal for bulletin boards, with file transfers, an FTP client, login scripts and RIP graphics, including clickable menus, cards and forms for Winserver / Wildcat! hosts that send no RIP.

By Kim Horn

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1. Welcome and quick start

WinsHub is a Windows terminal program for bulletin boards (BBSs) and other text hosts: Telnet, SSH and Rlogin, with file transfers (ZMODEM, YMODEM, XMODEM, HTTP), an FTP / FTPS / SFTP / SCP client, phone books, login scripts, web tiles - and RIP graphics, including a way to give hosts that have **no** RIP, such as Winserver / Wildcat! 10, clickable colour menus.

This manual is in the Help menu of every window (or press **F1**). The list on the left is the table of contents; the box at the top searches the whole manual.

Five minutes to your first connection

1. Start the program (double-click **run_winshub.pyw**, or **WinsHub.exe** if you built it).
2. Click the **Telnet** tile. The Telnet window opens.
3. Press **F9** (or click **Phone Book**), choose **New**, type a name and the address of the BBS, and save it. For a BBS leave the character set at **cp437** and the terminal type at **ansi**.
4. Double-click the entry. You are connected.
5. If the BBS has a text menu, WinsHub draws it as a screen of clickable buttons after a moment. Click a button - it sends the same key you would have typed.

Where things are

- **File** menu - phone book, quick connect, disconnect.
- **Transfer** menu - receive or send files with ZMODEM / YMODEM / XMODEM, download a web address.
- **Script** menu - Quick Learn (record a login) and login scripts.
- **Terminal** menu - character set, screen size, font and the **Graphics** submenu.
- **Help** menu - this manual.
- **Text view** button (bottom right of the Telnet window) - switch the cards and buttons off and use the plain terminal; see **Text view**.

Note - Everything the program saves (phone books, tiles, RIP settings, converted screens, known SSH hosts) is in one folder: %APPDATA%\WinsHub. Type that into the Windows Explorer address bar to open it.

2. The windows of the program

WinsHub starts with a small **main window** that stays open. The tiles across the top open the other windows, and the picture below shows the logo of the site you are on.

- **Telnet** - the terminal. New text scrolls into view by itself; if you scroll up yourself, it leaves you alone for six seconds. It also has a button bar (Phone Book, Quick Connect, Hang Up, the receive buttons, URL Download, Abort, Download Folder, Clear Screen, Quick Learn, Run Script), a row of site tiles, a local command bar (F8) and a status bar with the **Text view** button.
- **Web** - tiles that open a web site in your browser and sign in for you.
- **FTP** - two lists, your folders on the left and the server's on the right.

- **Voice Chat** and **Video Chat** - WinsChat calls in a window of their own, no browser needed (see **Voice and video calls**).
- **File Xfer** - send and receive files with people on WinsChat, no browser needed (see **Sending files**).

Closing the Telnet, Web, FTP, Voice Chat, Video Chat or File Xfer window returns you to the main window. Closing the main window (or File > Exit) quits the program.

Remembering window sizes

Press **Ctrl+Shift+X** in any window to remember its size and position; it opens there next time. The Telnet window can be resized: the text grows or shrinks to fill it. Choosing a font size or a screen size from the Terminal menu puts it back to its natural size.

Editing the tiles on the main window

The tiles across the top of the main window can be changed. Choose **File > Edit tiles...**, or right-click any tile (or the empty space beside the tiles).

- **Rename** a tile and give it **another picture** (a PNG or GIF; a big picture is shrunk to fit). Leave the picture empty to use the standard one.
- **Hide / Show** a tile. A hidden tile stays in the list so you can bring it back. At least one tile always stays showing.
- **Move up / Move down** puts the tiles in the order you like, left to right.
- **Add tile...** makes your own tile that opens a **web address** in your browser, or a **program or file** on your PC (a document, a game, a folder's shortcut).
- **Remove** deletes a tile you added. The Telnet, Web, FTP, Chat, Voice Chat, Video Chat and File Xfer tiles can be renamed, moved and hidden but not removed. **Reset all** puts everything back as it was at the start.

Changes show on the main window at once and are remembered. **The Chat tile can open any web page or program:** right-click it > **Chat page or program...** (or File > **Chat page or program...**), choose A web address or A program or file, and enter it. Empty puts back the standard chat page.

Tiles in the Telnet window

Tiles are one-click shortcuts. **Add Tile** makes one, **Edit Tiles** turns on edit mode (the tiles turn yellow; click one to change or delete it). Right-clicking a tile also offers Edit.

3. Connecting: Telnet, SSH and Rlogin

The phone book (F9)

File > Phone book (or **F9**) lists your saved sites with search, New, Edit, Duplicate and Delete. Double-click a site (or press Enter) to connect. Each entry stores the name, address, port, protocol, character set, terminal type, Enter-key mode, a username and password, a login script, notes, a logo picture and whether the site uses RIP (untick **This site uses RIP** for a plain text board and the Terminal > Graphics settings are ignored for it). The file is %APPDATA%\WinsHub\addressbook.json; passwords are protected by your Windows account and never appear in a script.

Quick connect

File > Quick connect takes `host`, `host:port`, `ssh://user@host:port` or `rlogin://user@host[:port]`. **File > Add current site to phone book** saves it.

Telnet (BBS settings)

- **Character set: cp437** (the default) shows ANSI art and line-drawing characters correctly. Choose UTF-8 only for modern hosts.
- **Terminal type: ansi** is what BBS software expects.
- **Enter key** - CR+LF, CR or LF; the BBS default is normally right.

SSH

Set an entry's **Protocol** to ssh. The port becomes 22 (and the character set, terminal type and Enter key change to UTF-8, xterm and CR if they were still at the Telnet defaults). Give a username and password, or leave the password empty to be asked. The login order is: the entry's key file (**Make a key...** creates one; see **SSH keys**), then your SSH agent and the keys in `~/.ssh` (`id_ed25519`, `id_ecdsa`, `id_rsa`), then the password. The first time you connect to a server you are shown its fingerprint and asked whether to trust it; the key is remembered in `%APPDATA%\WinsHub\known_hosts`. If it later changes, the connection is refused until you delete that host's line - this protects you from someone in the middle.

Rlogin

Set the protocol to rlogin (port 513, a username is required). There is no password: the server decides from the user names and your address. WinsHub connects from a privileged source port (1023 down to 512) when Windows allows it, as classic servers expect, and reports the window size.

Automatic login

Type the username and password into the phone-book entry and leave the script empty. After connecting, WinsHub watches for the usual prompts (Login:, Handle:, Enter your name:, Password:) and answers them. For anything more, see **Login scripts and Quick Learn**.

4. Files: downloads, FTP, SFTP and SCP

Downloading from a BBS

- **ZMODEM** starts by itself when the host begins a ZMODEM send. If it does not, use **Transfer > Receive files - ZMODEM (manual start)**.
- **XMODEM / YMODEM** - tell the host to send, then choose **Transfer > Receive file - XMODEM** or **YMODEM batch**.
- **Uploading** - start the upload on the host (for example File Menu > U). With ZMODEM, WinsHub notices when the host is ready and asks which file(s) to send. Or choose **Transfer > Send files - ZMODEM (upload), YMODEM batch** or **XMODEM**, pick the files, and start the upload on the host. The **Upload Files** button and the local commands `sz`, `sy` and `sx` do the same. **Abort Transfer** cancels.
- **HTTP / HTTPS - Transfer > Download URL**, or in the local command bar (F8): `get https://example.com/file.zip`.

- Files go to your download folder (default Downloads); change it with **Transfer > Set download folder**. Existing files are never overwritten (a second copy becomes `name (1).ext`). **Abort** (or Transfer > Cancel transfer) stops a transfer.

The FTP window

Folders on the left (your PC) and the server on the right. **Download** copies the files selected on the right into the folder on the left; **Upload** copies the selected local files to the server (it asks first if the name exists). **New Folder**, **Rename** and **Delete** work on the server side. **Refresh** is F5. Double-click a folder or the `..` row to move around. Files only - folders are not copied.

The FTP **Phone Book** (F9) has its own sites. **Quick connect** takes `host`, `host:port`, `ftp://user:password@host:port/folder`, `sftp://user@host/folder` or `scp://user@host/folder`.

Security choices for a site

- Plain FTP** sends your password unprotected, like any ordinary FTP program.
- Explicit TLS (FTPS)** encrypts the connection when the server supports it, and checks the server's certificate unless you turn that off for the site. Implicit FTPS (port 990) is not supported.
- SFTP (over SSH)** - port 22, same login rules as the SSH terminal (password, key file or agent, host-key check). Works like FTP.
- SCP (over SSH)** - also port 22 and the same login. SCP is only a copy protocol and cannot list folders, so browsing, delete, rename and new folder run ordinary commands on the server (`ls`, `rm`, `mv`, `mkdir`), while every download and upload uses the real SCP protocol. The server needs a shell and the `scp` program. If a server offers only SFTP, use SFTP.

Note - SFTP and SCP need the `paramiko` package (`pip install paramiko`; WinsHub.exe built with `build_exe.bat` already includes it).

5. Text chat (the Chat tile)

The **Chat** tile is WinsChat text chat in a window of its own, with no browser. It talks to the same chat server (WinsBridge) as the WinsChatx web page, so you chat with people on the web page, with people on the BBS terminal, and with other copies of WinsHub, all at once.

Online while you are connected

When you log on to a system in the **Telnet** window (Telnet, SSH or Rlogin), WinsHub also signs you in to WinsChat under your user name there, quietly, with no window open. You then show up in the user list of the WinsChat web page and of every copy of WinsHub, and:

- people can **chat** to you, **whisper** and **page** you, and **send you files**;
- voice and video calls** ring you;
- nothing opens a whole chat window for you. A **call** shows a small box on top of everything - the caller's name with **Accept** and **Decline** (it rings; it clears itself if the caller hangs up, and declines after 45 seconds). Only when you press Accept does the **Voice Chat** or **Video Chat** window open, already answering. A **file offer** is a small Accept / Decline box too. A **whisper** or **page** shows in a small box with an **Open chat** button; ordinary chat in the main channel is kept quietly and is there when you open **Text Chat**.

Hanging up, closing the Telnet window or exiting takes you offline again. If you do not want to be shown, turn off **File > Show me online in WinsChat while connected**. The name is the one the phone-book entry has, or the one you type at the BBS login prompt; if neither is known you are not shown (open a chat tile to sign in by hand). The Text, Voice, Video and File windows all share this one connection - the chat server knows a name only once - so opening them does not sign you in twice.

Signing in

Your WinsChat name is filled in for you, first from the system you are logged on to: the user name of the connected Telnet / SSH / Rlogin site (the phone-book entry's, or the one you typed at the BBS login prompt) or of the web site tile you last opened. Failing that it is the name saved on your WinsChat web tile, then the phone-book entry for the chat site, then the name you used last time. If one is found the tile connects by itself. The **Text Chat**, **Voice Chat** and **Video Chat** buttons in the Telnet and Web windows open the chat under that name, so you can log on to a system and chat, talk or video-call without typing your name again. (Names are cleaned to letters, numbers and spaces, up to four words; **Change Name** fixes one that does not suit.) **Change Name** signs in under another name; **Use a guest name** makes one up. If the connection drops it reconnects by itself.

The window

- **Users** (left) - everybody in the chat with their picture and a **WEB** or **TERM** badge. **Double-click** a name to send that person a file. **Right-click** for Send file, Voice call, Video call and Copy name.
- **Conversation** (middle) - your lines are tinted. Whispers and pages are highlighted and beep. The last 2500 lines are kept; **Clear Screen** empties it and **Prev** shows the last few lines said earlier.
- **# Channels** (right) - **Main**, **My Channel** (your own, made on the server when you click it) and the others on the server. Click one to move there. **Channels** refreshes the list.
- **Your line** (bottom) - up to 255 characters. Press Enter or **Send**.

Commands

Anything starting with **/** goes to the server, so the page's commands work here too: **/who**, **/channels**, **/join 3**, **/create**, **/mychan**, **/destroy**, **/help**, and the action and whisper commands the server offers (type **/help**). **/clear** clears the screen.

Buttons

- **Who's Here** and **Channels** ask the server again.
- **Change Avatar** picks a JPG, PNG, GIF or WEBP picture. It is shrunk and cropped round to the size WinsChat wants (up to 100 KB) and sent the way the web page sends it.
- **Theme** has the page's six colour schemes (dark, red, blue, green, orange, purple) and **Rotate**. **Sound** turns the beeps on and off.
- **Chat Server** changes the address of WinsBridge; leave it empty for the chat site on port 9003.
- **Leave** says goodbye and disconnects; the same button then reads **Reconnect**.

Files and calls

Files are sent and received right in this window (see **Sending files**): a progress strip shows under the conversation, and an incoming offer asks **Accept** or **Decline**. Voice and video calls are made from the **Voice Chat** and **Video Chat** tiles; if someone calls you while you are here, a line in the conversation says so and beeps.

Good to know

- The web page is still there: **File > WinsChat web page (browser)** opens it, and **File > Chat page or program...** (or right-click the tile) makes the tile open a page or program of your choice instead.
- Pictures other people have need OpenCV (the full exe has it) or are limited to PNG and GIF.
- Needs the Python package `websockets` (`pip install websockets`).

6. Voice and video calls

The **Voice Chat** and **Video Chat** tiles place and take WinsChat calls without a browser. They talk to the same chat server (WinsBridge) as the WinsChat web pages, in the same way, so a call can be made **between this program and someone on the web page, in either direction**, and with other copies of WinsHub. Voice calls take up to six people, video calls three.

Signing in

Your WinsChat name is filled in for you: it is the name you logged on with in the Telnet or Web window (their **Voice Chat** and **Video Chat** buttons open this window), else the user name saved on your **WinsChat** web tile, else the one in the phone book for the chat site, else the name you used last time. If one is found, the tile connects by itself and goes straight to the list of people who are online. **Change Name** (in the window's button bar) lets you sign in under another name. Names are plain letters, numbers and spaces, up to four words.

Calling

- **Double-click** a name in the Online now list, or type a name and click **Start Voice Call / Start Video Call**.
- A call coming in rings (the window comes to the front) with **Accept** and **Decline**. A call you do not answer stops ringing after 45 seconds.
- While you are in a call, anyone else who calls you is told you are busy.
- **Invite** adds another person to a call in progress; everybody connects to everybody.
- **End** hangs up. If everyone else leaves, the call ends by itself.

In a call

- **Mic** and **Speaker** mute you and what you hear. **Camera** (video) turns your picture off.
- **Voice** shows a level meter for you and for each person. **Record** saves everybody's voices, yours included, as one WAV file in your download folder.
- **Video** shows each person in their own tile and you in the corner. **Snapshot** saves the other person's picture (never your own) as a PNG in your download folder. If you have no camera the call still works, with a note saying why, and you still see the others.

Good to know

- **Use a headset.** A web browser cancels echo for you; here there is none, so speakers near the microphone will feed back.
- Calls are direct between the two PCs when they can reach each other, using public STUN servers to find the way. Two people behind strict firewalls may not be able to connect.
- The chat server address is the chat site on port 9003 (for example `wss://www.crappiecracker.com:9003`). The **Chat Server** button changes it; leave it empty for the standard one.

Installing the extra packages

These tiles need Python packages the rest of the program does not. In a command window:

```
pip install aiortc websockets numpy sounddevice opencv-python-headless
```

Without them the tiles open and tell you what is missing. The **lite** exe leaves them out on purpose.

7. Sending files

The **File Xfer** tile sends and receives files over WinsChat without a browser. It uses the same chat server (WinsBridge) and the same file transfer as the WinsFile page, so a file can go **between this program and someone on the web page, in either direction**, and with other copies of WinsHub.

Signing in

The same as the Voice and Video tiles: your WinsChat name is filled in for you (from the WinsChat web tile, else the phone book, else the last name you used) and the tile goes straight to the list of people online. **Change Name** signs in under another name.

Sending

1. **Double-click** a name in the Online now list (or type a name) and choose the file. Files can be up to **10 MB**.
2. The other person sees your offer and clicks **Accept** or **Decline**. If nobody answers in three minutes the offer is withdrawn.
3. Once accepted the file goes by itself. **Cancel** stops it.

Receiving

An offer shows the sender, the file name and its size, with **Accept** and **Decline**; the window comes to the front and beeps. Accepted files are saved in your **download folder** (the same one the terminal uses; **Download Folder** opens it). An existing file is never overwritten - the new one gets a number, like `photo (1).jpg`. **Show file** opens the folder with the new file selected.

How the file travels

- **Fast path.** The file is uploaded once to the site (`/code/html-filetransferupload`) and the other side downloads it from there with a one-time link. Nothing stays on the server after the download.

- **Pieces.** If the fast path is not there or fails, the file goes in small pieces over the chat connection, about 7 a second. The receiver keeps asking for any piece the server dropped, so a transfer is slow on a big file but repairs itself. **Retry missing** (receiving) asks again for pieces that gave up after 50 tries.

You never choose between them; the program tries the fast path first and quietly falls back.

Good to know

- One file can go out and one can come in at a time. An offer that arrives while you are busy is declined for you.
- The fast path address is the chat page's site. If your site serves it elsewhere, put the address in the setting `file_http_url`.
- Needs the Python package `websockets` (`pip install websockets`).

8. Login scripts and Quick Learn

Each phone-book entry can run a **login script** after connecting. The easy way to make one is **Quick Learn**.

Quick Learn

1. Connect to the site.
2. Click **Quick Learn** (toolbar or Script menu).
3. Log in and move around the way you normally do.
4. Click **Quick Learn** again.

It records what the site asked and what you typed, turns your username and password into `USER` and `PASS`, saves them to the entry and opens the entry so you can review the script. Keys typed without Enter (menu hotkeys) are recorded as `SEND`.

The script runs automatically after connecting (untick the box in the entry to stop that). **Run Script** repeats it; **Script > Stop script** cancels it; **Script > Run script file...** runs any text file.

Script commands

One per line; `;` starts a comment; text goes in "quotes" and may contain `\r \n \t \e`.

```
WAIT "text" [secs]          wait for text (default 30 s); error if it never arrives
IFWAIT "text" secs label    jump to label if the text arrives in time
SEND "text"                send text without Enter      SENDLN "text" send text then Enter
USER / PASS                send the saved username / password then Enter
LOGIN [secs]               answer the usual login prompts by itself
KEY name [count]           ENTER ESC TAB SPACE BS DEL UP DOWN LEFT RIGHT HOME END PGUP PGDN INS F1-F4 CTRL-A..CTRL-Z
PAUSE secs                 wait                        ECHO "msg" show a local message
RECEIVE zmodem|ymodem|xmodem ["file"] start a download and wait until it finishes
LABEL name / GOTO name      jump around                HANGUP / END disconnect / stop
```

Example

```
WAIT "name:" 60
USER
WAIT "password" 30
PASS
IFWAIT "press any key" 5 go
LABEL go
KEY ENTER
WAIT "main menu" 30
SEND "f"
WAIT "file menu" 15
RECEIVE zmodem
```

9. What RIP is and what we do with it

What RIP is

RIPscrip (RIP) was the graphics system of the BBS era. A host sends drawing commands, buttons and mouse regions instead of plain text, and a RIP terminal (RIPterm) draws them. WinsHub understands **RIPscrip 1.54**.

The problem with Winserver / Wildcat! 10

RIP was made by TeleGrafix. When TeleGrafix went under, Wildcat! 5 and later dropped RIP, so **Winserver / Wildcat! 10 does not send RIP at all**. Its menus are plain text with ANSI colours. WinsHub fills that gap on **your** PC - the server does not change. There are four layers, and each one is only used when the layers above it have nothing to show:

1. **Real RIP from the host.** If a host sends RIP (lines that start with `!|`), the picture is drawn and the buttons work. WinsHub also answers the host's "are you RIP?" question (`ESC[!`) so RIP-capable boards offer RIP without asking you.
2. **RIP triggers.** You tell the program: "when this text arrives from this host, show this .RIP file". See **RIP triggers**.
3. **Converted RIP screens.** You convert the host's display files (.BBS) into .RIP files once (see **Converting your screens**), and the program shows the matching one when its text appears on the terminal. This gives menus exactly the titles and key labels the sysop wrote.
4. **Automatic buttons and cards.** With nothing set up at all, the program reads the text on the terminal and builds the screen itself: a menu becomes a screen of clickable **buttons**, and an information screen that waits for a key ("Press [ENTER] to continue?") becomes a **card** with a Continue button.

Layers 3 and 4 are drawn by WinsHub itself in a crisp font and in the **theme** you choose (colours, rounded buttons, icons). Layer 4 works on every host with no setup, which is why it is the one most people see.

What callers with other programs see

Only WinsHub draws these screens, on your own PC. A caller using RIPterm or any other program connecting to the same Winserver still sees the plain text menus, because Winserver cannot send RIP. Making Winserver itself serve RIP would need a gateway between the server and the caller - a separate, much larger project.

Where the picture appears

The RIP screen is a panel that **covers the terminal area** inside the window, scaled to fit. **Show text screen** (bottom right, or right-click) hides it and shows the text again. Typing still goes to the host while it is showing. Close it and it stays closed for that screen; it comes back by itself when a different screen appears.

10. RIP setup, step by step

Almost everything is under **Terminal > Graphics**. The first four entries are the everyday switches and are all on by default:

- **Graphics from the server** - draw RIP when a host sends it. Turn it off and RIP lines show as plain text.
- **Buttons for text menus** - build clickable buttons from a plain-text menu.
- **Cards for text screens** - show information screens that wait for a key as a themed card.
- **RIPscript Games on BBS main menus** (directly under the Terminal menu, on by default) - adds the RIPscript Games button to every recognised main menu; untick it to remove the button.
- **Cards for every screen** - every screen that is waiting at a prompt (message areas, lists, questions, Y/N prompts ...) that is not already a menu or a "Press Enter" card becomes a card with a **text box and a Send button**, an **Enter** button and, for a [Y/N] prompt, **Yes** and **No** buttons. Type your answer and click Send (or press Enter in the box); an empty box + Send just presses Enter. Full-screen editors and anything else that is not waiting at a prompt stay as normal text. **Show text screen** switches the cards off until the next menu appears (a chat or editor then stays out of the way); the tick box turns them off for good. F8: `rip all on | off`.
- **Logon and goodbye screens as cards** - the **logon** (welcome screens, the name prompt and the **password prompt**, whose box shows dots and is never echoed) and the **goodbye** screens are cards too. While the automatic login is answering the prompts the card just says "Signing in automatically ..." (type in the terminal if you need to step in). When the host hangs up, its last screen stays as a card with a **Reconnect** button. Quick Learn still records what you type in a logon card. F8: `rip logon on | off`.
- **Message card** - writing a message (To:, Subject:, the body lines) is **one card** that stays up the whole time, with a multi-line box: **Enter** sends the lines, **Shift+Enter** starts a new line, **Finish** sends a blank line (ends most editors). What you typed is kept when the host's prompt changes. F8: `rip compose on | off`.
- **New message form** - starting a message shows a compact form (Conference, To, Subject, return receipt, message box). **Post message** answers the BBS prompts for you and types the message into its full-screen editor; if the BBS asks something unexpected it stops and leaves you in the terminal.
- **Prompts with bracketed answers** ([R]ead, [M]ark, [Q]uit ...) show each answer as a button. A **message list** is a clickable list (select a message, then **Read**); a message being read is a card with Reply / Edit / Forward / Kill / Download / Sysop / Help. The **Tagline** choice (Choose from the list / Random / None) answers the host's tagline list box after Save; Choose from the list shows it as a card: click a line, then Use this tagline.
- **Keyboard click sounds** (Terminal menu) - a loud click for every key you type, a deeper one for Space and Enter, and a short one for Backspace; also when you type in a card's text box.

On by default (Windows). F8: `rip click on | off`. The click files are made once in `%APPDATA%\WinsHub\sounds`.

- **Modem sound while connecting** - a real dial-up modem recording plays while the **Connecting ...** card is showing on a RIP site. It stops when the first screen arrives, if the call fails or you disconnect. Terminal > RIP graphics > Modem sound while connecting; F8: `rip modem on | off | test`. Windows only, and it follows the Sounds switch.
- **Sounds for new screens and transfers** - synthesised chimes: a glassy two-note rising chime for a new menu, a single soft bell for a new card, a four-note shimmering arpeggio when your name and password are through, a recorded voice saying "File sent OK" when a download or upload finishes, and two low wobbling notes when a transfer fails. Windows only (other systems just beep for transfers). F8: `rip sound on | off | test` (test plays all five). The sound files are made once in `%APPDATA%\WinsHub\sounds`.
- **Use my converted screens** - look for a stored .RIP screen first (needs the folder set up below). The Winserver / Wildcat! screens that come with the program (folder `wintelnet\screens`) are used too; a file of the same name in your own folder wins.
- **Text view (plain terminal, no cards)** - the same switch as the **Text view** button at the bottom of the window; see **Text view**.

Then **Theme** (**Copper** is the default; there are also Dark, Red, Blue, Green and Orange themes, and Aurora, Ocean, Sunset, Forest and Light) and **Advanced**.

RIP on or off for each site

Those switches are your general settings. Each phone-book entry also has its own tick box, **This site uses RIP (graphics, menu buttons and cards)** (F9, then New or Edit, near the bottom of the entry). It is ticked by default, so nothing changes for the sites you already have.

- **Ticked** - the site follows the Terminal > Graphics switches described above.
- **Unticked** - for that site every RIP setting is ignored: RIP graphics, buttons for text menus, cards for text screens, your converted screens and RIP triggers. The terminal shows the host's plain text, and the program does not answer the host's "do you support RIP?" question, so a board that offers RIP to RIP-capable callers sends its normal text instead. Use it for ordinary text boards, shell servers and SSH logins.

Your Terminal > Graphics settings are not changed by this; they simply do not apply while you are connected to an unticked site, and apply again at the next RIP site. The change takes effect the next time you connect. A site opened with Quick connect (no phone-book entry) uses the Terminal settings. `rip scan` shows "OFF for this phone-book entry" when a site is unticked.

Step 1 - nothing to do for the automatic menus

Connect to your BBS. When its text menu has finished drawing, the screen of buttons appears over the terminal. Hover over a button to see its key in the status line; click it to run the command. It sends the key followed by Enter; if you want the key alone, turn off **Advanced > Menu buttons also press Enter**.

Step 2 - pick a theme

Terminal > Graphics > Theme (or the **Theme** button at the bottom of the screen while it is showing, or right-click > Menu theme, or `rip theme ocean` in the F8 bar). The choice is remembered. See **Themes**.

Step 3 - (optional) use your own converted screens

1. Convert the host's display files - see **Converting your screens**. This makes a folder of .RIP files.
2. Choose that folder: **Terminal > Graphics > Advanced > Converted screens folder....** If you put the files in %APPDATA%\WinsHub\rip\screens you do not even need to choose it - that is the default.
3. Make sure **Use my converted screens** is ticked.
4. Connect and open a menu the sysop has a .BBS file for. If it matches, the converted screen is used instead of the automatic one.
5. To check what loaded, type **rip screens** in the F8 bar: it reloads the folder, says how many menu screens it found and which one matches the current terminal text.

Step 4 - (optional) triggers

For a picture you drew or converted that should appear when certain text arrives, use **Advanced > RIP triggers...** (see **RIP triggers**).

Step 5 - (optional) the menu pictures

Some menus and screens open with a picture first, drawn on the colours of your menu theme. Press **Enter**, **Space** or **Esc** (or click the picture) to go on; nothing is sent to the host. The picture appears **at once**, while the host is still answering, so a slow board does not delay it; the menu or screen follows as soon as the host has finished (a "Loading ..." card shows until then).

- **Mail, File and Bulletin** - the picture shows the moment you pick that menu (for example **File menu** on any board's menu), and again if the menu opens some other way - once per visit, so coming back from a file list does not show it twice. Choices that are not menus, such as "List available files", never show it.
- **Main Menu choices** - the picture shows when you pick it (by clicking its button, or typing its letter and Enter): Sysop Menu, Comments to Sysop, Stats on BBS, User List, Who is Online, Internet Menu, Command Help, Questionnaire Menu, Join Conference, Your Settings, News Letter, Page Sysop for Chat, Doors Menu, Games/Live Chat and Page Online User.
- Turn them all off with **Graphics > Advanced > Pictures when menus open**.
- To use your own, draw a picture in RIPaint and save it as **mail.rip**, **files.rip**, **bulletin.rip**, **sysop.rip**, **comments.rip**, **stats.rip**, **users.rip**, **who.rip**, **internet.rip**, **help.rip**, **quest.rip**, **conference.rip**, **settings.rip**, **news.rip**, **pagesysop.rip**, **doors.rip**, **games.rip** or **pageuser.rip** in %APPDATA%\WinsHub\rip\splash (yours replace the built-in ones and are shown exactly as you drew them).
- The folder **pictures** in the source holds six stand-alone RIP pictures (Wins Telnet, Connector, Rip, Chat, FTP, Convert) that are not built in: open them with **Open a .RIP file...** or tie one to host text with a trigger.

Your own pictures before bulletins

This is for a site that has its own bulletins, such as your own board. Before a bulletin opens, WinsHub can show a picture of your own: a RIP picture you drew in RIPaint or WinsRip, or a bulletin screen you converted. The picture is shown **on your computer, from a folder on your computer**; nothing about it is sent to the host, and callers who are not using WinsHub never see it.

What you need

- **The bulletin files.** On a Wildcat! board the bulletins are display files in the BBS's **bull** folder, for example `C:\wcat\bull\BULL1.BBS`, `BULL2.BBS`, `BULL3.BBS` ... The **Bulletin menu** lists them: each entry has a key (1, 2, 3 ...) and a title.
- **One RIP picture per bulletin you want to dress up**, saved in that same **bull** folder with the bulletin's name and the extension `.rip`: `C:\wcat\bull\BULL1.RIP` next to `BULL1.BBS`, `BULL2.RIP` next to `BULL2.BBS`, and so on. Capital letters do not matter (`Bull1.rip`, `BULL1.RIP` and `bull1.rip` are all the same). Bulletins without a picture simply open as usual.
- **WinsHub must be able to read that folder.** It works when the program runs on the computer that holds `C:\wcat\bull` (the BBS computer), or on a computer that has a copy of the folder or reaches it as a network drive. A picture is never fetched from the host.

Setting it up, step by step

1. Open the **phone book**, click your site (for example Crappie Cracker Online) and press **Edit**.
2. Find **Bulletin pictures folder** in the **Site details** window and press **Browse...** (or type the path): choose the **bull** folder, for example `C:\wcat\bull`. Press **OK**.
3. Check **Graphics > Advanced > Pictures before bulletins (your own)**. It is the on/off switch for every site at once, and it is on by default.
4. Connect to the site with that phone-book entry (not with Quick connect), go to the **Bulletin menu** and click a bulletin. The picture appears at once; press **Enter**, **Space** or **Esc**, or click it, to go on to the bulletin.

This is set for one site only

The folder belongs to the phone-book entry, so only that site shows pictures. For every other site leave **Bulletin pictures folder** empty (that is the default) and it shows none - another board's own "Bull1" is never matched against your folder. A **Quick connect** has no site details, so it never shows bulletin pictures either. To stop the pictures everywhere without touching the folders, untick **Pictures before bulletins (your own)**.

How the picture is chosen

When you pick an entry on the Bulletin menu, WinsHub looks in the folder for a `.rip` file in this order and shows the first it finds:

1. **The bulletin's file name from the key.** You picked the entry with key 1: it looks for `Bull1.rip` (and `Bulletin1.rip`). Key 2: `Bull2.rip`, and so on.
2. **A file name written in the entry.** If the menu entry itself shows the name, for example `BULL4 - Wins Rip`, then `Bull4.rip` is used whatever the key is. This helps when the keys on the menu are not the same numbers as the files.
3. **The complete title of the entry.** A file named like the full title: for the entry Wins Rip - the editor use `Wins Rip - the editor.rip`. Capital letters, spaces and punctuation are ignored, so `WinsRip the editor.rip` matches as well. Use this when your bulletin files are not called Bull1, Bull2 ...

Examples:

- You pick key 1, title "Rules": it looks for `Bull1.rip`, `Bulletin1.rip`, then `Rules.rip`.
- You pick key 5, title "BULL4 - Wins Rip": `Bull5.rip`, `Bulletin5.rip`, then `Bull4.rip` (named in the title), then `BULL4WinsRip.rip`.

- You pick key 7, title "What's new": **Bull7.rip**, **Bulletin7.rip**, then **Whatsnew.rip**.

Making the pictures

- **Draw one** in RIPaint or WinsRip (640 x 350, 16 colours) and save it as **Bull1.rip** in the bull folder. It is shown exactly as you drew it - WinsHub adds no text of its own.
- **Convert the bulletin itself** with the converter. For example, in a PowerShell window in the WinsHub program folder: `python tools\bbs2rip.py C:\wcat\bull\BULL1.BBS -o C:\wcat\bull`. It writes **BULL1.RIP** (a text screen of the first 25 lines). Be careful with this: Wildcat itself may send a **.RIP** file instead of the **.BBS** to callers who use RIP graphics, so put a converted file in the BBS's own folder only if you want that. To keep the pictures away from the BBS, convert into another folder (`-o D:\ripbull`) and choose that folder in step 2.
- **Test a picture** before using it: **Graphics > Advanced > Open a .RIP file...** plays it on the screen without connecting.

What you see

Bulletin menu card, click an entry, your picture (the status line at the bottom says "Press Enter or click to continue"), Enter, and the bulletin text follows as usual (while the host is still sending it, a "Loading ..." card shows). **Text view** shows no pictures, because it shows the plain terminal. The picture of the **Bulletin menu itself** (the one shown when the menu opens) is a different thing: it is **bulletin.rip** in the **splash** folder (see the menu pictures above) and has nothing to do with this folder.

Smooth words

A picture drawn in a RIP painter has its words in RIP's built-in font, which is made of big square dots and looks rough when the picture is enlarged. WinsHub can redraw those words in a smooth, sharp font. It takes the plain words out of your picture, shows the picture itself (lines, boxes and colours exactly as you drew them), and writes the same words on top in the same places and colours: a big bold title, a clean subtitle and footer, and a fixed-width font for the words inside the drawing. Your **.rip** file is never changed. It is on by default; to see the pictures exactly as drawn, untick **Graphics > Advanced > Smooth text on my pictures**. Words in RIP's other (stroked) fonts are left as drawn.

If no picture shows

- **Is the folder set for this site?** Phone book > the site > Edit > Bulletin pictures folder, and you connected with that entry (a Quick connect has none).
- **Is the switch on?** Graphics > Advanced > Pictures before bulletins (your own).
- **Is the file name right?** **Bull1.rip** for key 1 - not **Bull1.bbs** and not **Bull1.rip.txt** (turn on "File name extensions" in Windows Explorer to see the real name). Try the key and the title of the entry you clicked.
- **Is it the Bulletin menu?** The menu's title must contain the word bulletin (WinsHub shows the title at the top of the card).
- **Does the file play at all?** Try it with **Open a .RIP file...**
- **Still nothing?** Start the **F8** trace, click the entry, and look for the line **** bulletin picture shown: Bull1.rip**. If the line is there the picture was shown; if not, send the trace and the title of the menu.

The other Advanced items

- **Menu buttons also press Enter** - on by default. Menus that have no command prompt line (see **Hot-key boards**) never get the extra Enter.
- **RIP button hot keys** - lets the keys of a RIP picture's buttons work from the keyboard while the picture shows.
- **Show the graphics window** - brings back a RIP screen you closed.
- **Open a .RIP file...** - plays a local .RIP file (handy for testing a converted screen). Nothing is sent to the host unless you click a button.
- **Save RIP picture as PNG...** - saves the RIP picture as an image.

Buttons that need more than one key

A button whose label says **Goodbye / Log off / Sign off** sends the key, a space, Y and Enter (for example G Y) so it also answers the "are you sure?" question (on a hot-key board it sends the key alone and the question comes up as its own card). A button for an [ENTER] item (such as "[ENTER] to go back") sends Enter. A **Back** button on stored sub-menus (for example the Telnet site list) sends Enter by default; change it with **rip back esc** or **rip back Q** in the F8 bar.

The **Doors menu** lists the games but no way out, so it gets an extra **Quit to Main Menu** button under the game buttons. It sends Q and Enter; if your host uses another key, type **rip quit X** in the F8 bar. A Doors menu that already lists its own exit item (Main Menu, Quit, Exit...) is left alone.

11. How menus and cards are recognised

Knowing the rules helps you understand why a screen does, or does not, turn into buttons. You can always see what the program saw: type **rip scan** in the F8 bar while the screen is showing.

A menu (buttons)

The program looks for **hotkey items** on the terminal. These forms are understood:

```
[M]ail      (F) Files      A) Areas      D. Download      Q - Quit
B BULLETIN MENU      P Page Sysop for Chat      (a key, two spaces, a label)
D .... Winschat Terminal      (a key, then dots, then a label)
[ 1]...Voluntary questionnaire      (a numbered item)
[ENTER] to go back      (the Enter key as an item)
[^] Previous menu      (#) Jump to number      = Expert mode      (keys that are symbols)
```

The key does not have to be a letter or a number. Inside brackets, parentheses or angle brackets **any single character** is a key ([^], (#), <=>, [\$] ...). Without brackets the symbols ? = # ^ ! @ \$ % & + / ~ < > are understood in the same forms as letters (^) **Back**, # - **Number**, = **Expert mode**, ^ **Back**). A click sends exactly that character, followed by Enter when the menu needs it.

A menu needs **three or more** items. They must sit together: if more than two lines of other text separate the items, the older ones are ignored (so an old menu above a new screen does not join in). A menu also stops counting once the host has moved on - more than three lines of other text below the last item, unless the last line is the menu's own prompt (such as **Main Menu Command >>**).

The line above the items gives the **menu title** and the **system name** (for example **Main Menu Crappie Cracker Online**). Version text such as "Wildcat! v5", notes in brackets such as **[On Every Menu]**, and a leading **Title:** label are ignored. If there is no header line, a prompt like **WinsChat Menu Command >>** supplies the title.

Items with the same key appear once. Buttons are laid out in 1, 2 or 3 columns; long labels use two lines and then "...". **Goodbye, Log off and Quit to the main menu** are always the last buttons, in the last cells of the last column, in their own colour, so they are in the same place on every menu. Labels written with a space after the key, such as [M] **essage menu**, read "Message menu".

Long menus are shown in pages

A menu with more than 14 buttons (a long Settings or Message-menu list) is split into **2 to 4 even pages**, starting at **page 1**. The heading says "page 1 of 3", and **Previous page** and **Next page** buttons move between the pages. Goodbye and Quit-to-main stay on every page, and if the host redraws the same menu after you change something you stay on the page you were on. A menu that is taller than the window also reads the lines that scrolled off the top since the last clear screen, so its first items are not lost (up to 60 items). **The Main Menu is never changed by this** - it is read from the visible screen, as always.

A card (information screens)

A **card** is shown for a plain-text screen that **ends** with a prompt that waits for a key:

```
Press [ENTER] to continue?      Press any key      -More-      [ENTER] to continue
```

or with a prompt that offers to quit and lets you type:

```
Enter all or part of a first or last name, [ENTER] to quit?
```

Only screens that end like this get a card, so editors, chat, message entry and anything else you type into are never covered.

- The card starts below the key you just typed (the program finds that echoed key on its own line, even above the visible screen), so old menu text does not leak in.
- Lines like **Label : value** are shown with coloured labels; lines whose pieces sit in columns (user lists, Mail Networks) keep their columns; other lines are plain text.
- A screen that is too long for the window at a readable size is split into **pages** with **Next page** and **Previous** buttons, and a table's header row repeats on every page. Lists longer than one screen, which scrolled off the terminal, are collected from the scrollbar (up to 400 lines).
- The button at the bottom sends Enter: **Continue**, or **Quit** (red) for a "[ENTER] to quit" prompt. A prompt that asks you to type gets a **text box** on the card - type and press Enter to send it.
- If the host sends the next screenful after you press Continue, the card shows the newest page.
- A long bulletin that clears the screen and then scrolls (the host pauses with "Press [ENTER]" every screenful) is collected into one card, split into pages at the section breaks. A bulletin that is written as short **Label: value** lines and short headings, without padded columns, makes the cleanest card.

Numbered tables are not menus

A list of numbered rows that ends with "Press [ENTER] to continue" (such as Who is Online) is shown as a card, not turned into buttons.

12. Lists, chat, pages and forms

These are the screens WinsHub builds from the plain text of a Winserver / Wildcat! host, beyond menus and "Press Enter" cards. They need no setup; each can be closed with **Show text screen**, and **Text view** switches all of them off.

Connecting and logon

While the host is still sending its welcome screens, a small **Connecting ...** card is shown, so the screen does not flash text and menus before the logon. The name and password prompts are cards too (see **RIP setup**). A menu that is already showing is never drawn twice at logon.

File and message lists

A full-screen list (file areas, message areas, message lists) is drawn as a clickable list with buttons for the host's own commands (Read, Next, Previous, Tag, Download ...). Click a line, then the button. The lister takes single keys, so no Enter is added. There is no Help button on these screens; it sent the wrong key on some hosts and the host's help is one keystroke away in the terminal.

ANSI art as pictures (logon screens)

Many boards show ANSI art (block characters, shading, box lines) when you log on. Until the Main Menu appears, WinsHub converts those screens to **RIP pictures** and shows the text over them in smooth letters, instead of a text grid. The name and password prompts appear as an entry line under the picture; press **Enter** or click the picture to continue, or **Show text screen** to see the original. The Main Menu and later screens are not affected.

- Turn it on or off: **Terminal > Graphics > ANSI art as pictures (until the main menu)**, or F8 `rip ansi on / rip ansi off`.
- Plain-text screens with no art are left alone.
- A one-key question such as `[Y/n]?` shows "Press Y or N": answer with the key alone, no Enter.
- If a screen looks wrong, save an F8 `trace` and send it. Traces hide everything you type at logon (names and passwords).

Writing a message and Comment to Sysop

Starting a message, and **Comment to Sysop**, show the **New message form** (Conference, To, Subject, return receipt, message box). **Post message** answers the host's prompts for you.

Cancel backs out of the host's prompts the way you would by pressing Enter (twice, when the host asks "To [ENTER] = Abort?") and returns you to the menu, so you are not left on a text screen.

The Comment to Sysop form appears when the host asks a question such as `Do you wish to leave a comment [y/N]?` or `Leave a comment for the sysop (Y/N)?`. If your host words it differently and no form appears, save an F8 `trace` and send it.

Your Settings and Offline mail settings (forms)

Screens that list numbered settings and end with `Setting to change [1-21]`, `[P]assword change`, `[H]elp`, `[Q]uit?` are shown as a **form**:

- **Your Settings** (Y on the Main Menu or the Message menu) has **two pages**. Page 1 lists every numbered setting with its value: click one, then **Change** (or double-click it) - the program sends that number and the host's own question follows as a card. Page 2, **My account**, shows the figures printed beside the list (messages written, calls, last call, downloads, uploads, balances). The buttons also include **Password change**, **Offline mail settings** and **Quit**.
- **Offline mail settings** (QWK / Blue Wave packets) is the same form with its own buttons: **Select conferences to scan**, **Upload ... PTR file** and **Quit**.
- The form always opens on page 1.

Pages and broadcasts

When the sysop pages you, or sends a broadcast, the host prints "Page from Sysop:" and the text under its menu prompt. WinsHub shows that text as a small card with an **OK** button (and in the status bar) and keeps it out of the next screen you open, such as Activity Logs. The card closes when you answer the host.

Chat

WinsChat Terminal and **Chat Between Nodes** are one card each: the conversation above, a line to type at the bottom (**Enter** or **Send**), the newest line always in view, and buttons for **Who**, **List**, **Channels**, **Main**, **Topics** and **Quit chat** (the host's slash commands /who /list /channels /main /topics /quit). Your own lines appear marked with ">". If a chat ever seems stuck, click **Show text screen** and carry on in the terminal.

Hot-key boards (EMS!BBS and others)

Some boards run a command as soon as you press its key and show no "Command >>" line under the menu. When a menu ends with its last item like that, a button sends the **key alone**: an extra Enter would redraw the menu over the answer (for example "You have no personal mail"). Menus with a prompt line (Wildcat!, Blue Wave) still get the Enter.

- **Questions under a menu** - when the host asks something under the menu ("To [ENTER] = ALL?"), the menu card is replaced by a card for the question.
- **New message form** - it also works on these boards: the board takes the default conference itself and asks "To" first, so the form starts there, and the "return receipt" step is skipped when the board does not ask it. The conference box shows the default and cannot change it on such a board (use the board's **Join conference** first).

Menus without hot-key marks

Some hosts (Blue Wave, for example) list commands as plain lines with a bare "Command:" prompt. WinsHub uses the first letter of each line as the key and shows the title of the menu without the packet identifier.

13. Text view

Third-party doors and some host menus do not translate well into buttons and cards. The **Text view** button at the **bottom right** of the Telnet window (next to the status panels) is a quick way to work in plain text.

- **Text view: ON** (the button looks pressed) - the plain terminal only. No menu buttons, no cards, no stored RIP screens, no page card. Whatever card is showing is closed.
- **Text view: OFF** - the RIP screens, buttons and cards take over again, and the screen you are on is converted straight away.

The setting is remembered. It stays on for every later connection, and after you restart the program, until you turn it off. The same switch is under **Terminal > Graphics > Text view (plain terminal, no cards)**.

Text view does not touch real RIPscrip graphics that a host sends itself; those are controlled by **Graphics from the server**. For one site that should never use cards, untick **This site uses RIP** in its phone-book entry instead.

14. Themes

One theme for the whole program

The **Theme** menu on the main screen (the launcher) picks the colours for **every** window: the launcher and its icon tiles, the Telnet, Web, FTP and Chat windows, the phone book, and every dialog and list. The choice is remembered, and it stays until you pick another one. **Copper** (black with copper and gold, matching the panther icon) is the default. Change it at any time; windows that are already open change at once.

The same list is in the Telnet window under **Terminal > Theme**. The sections below describe the themes and the other ways to change the colours of the menus and cards.

Menus and cards

Themes colour the automatic menus, the converted menu screens and the cards. Change them with **Terminal > Graphics > Theme**, the **Theme** button at the bottom of the RIP screen, right-click > **Menu theme**, or the F8 command `rip theme <name>`. A change shows at once, even while you are connected.

- **Copper** (black, copper and gold) - the default.
- **Dark** (charcoal). Every button is the same quiet grey-blue.
- **Red, Blue, Green, Orange** - dark screens tinted with one colour, and every button the same colour, so the screen looks calm and consistent.
- **Aurora** (indigo and violet) - the old default, with a different colour for each kind of button.
- **Ocean** (teal and aqua)
- **Sunset** (plum and coral)
- **Forest** (green and gold)
- **Light** (clean and bright)

In the colourful themes (Aurora, Ocean, Sunset, Forest, Light) each button gets a colour and a small icon from what its label is about - mail, files, chat, sysop, internet, settings, help, games, or exit - so a long menu is easy to scan. Labels that are about none of these take colours in turn from the theme. In Dark, Red, Blue, Green and Orange every button has the same colour and only the small icon tells them apart.

Themes only change how WinsHub draws a screen on your PC. They do not change the server, and they do not change the .RIP files the converter writes (the converter has its own look, see **Converter reference**).

15. RIP triggers

A trigger says: "when **this text** arrives from **this host**, show **this .RIP file**." It is for a picture you want shown even though the host sends no RIP. Triggers are checked before the automatic menus.

Making a trigger

1. Connect and go to the screen you want the picture for.
2. **Terminal > Graphics > Advanced > RIP triggers...**
3. Pick the text from the lines on the terminal screen (the editor lists them), choose the .RIP file, and save. The **Check on screen** button tells you whether the text is on the screen now.
4. The next time that text appears from that host, the picture opens. Its buttons send their commands to the host as if you had typed them.

Triggers are saved in %APPDATA%\WinsHub\rip\triggers.json.

Trigger or converted screen?

A **converted screen** is matched against all the fixed text of a menu and needs no setup beyond choosing the folder; use it for menus. A **trigger** is for one specific picture and one specific line of text.

16. Converting your screens (.BBS to .RIP)

This chapter takes you from nothing to converted screens showing in WinsHub. Read **Why convert?** first if you are not sure you need it; everything else is step by step.

Why convert?

Without conversion, WinsHub builds menus from the text it sees. That works everywhere and needs no setup. Converting your server's **display files** adds two things:

- menus use **exactly** the key labels and titles the sysop wrote in the .BBS file (the program does not have to guess from the text), including sub-menus such as the Telnet site list, with a **Back** button;
- the converted files are real **.RIP** screens you can open in WinsHub (**Open a .RIP file...**), show with a **trigger**, or look at in any other RIP viewer.

Note - The .RIP files are for your PC. Winserver itself does not display RIP, so they cannot replace the .BBS files on the server, and a caller using another program does not see them.

What you need

- **Python 3** on the PC that will run the converter (a free download from python.org; during setup tick **Add python.exe to PATH**). To check, open PowerShell and type `python --version`. If Windows says python is not recognised, try `py --version`; if that works, type `py` instead of `python` in every command below.
- The **.BBS display files** from your server. On a Winserver / Wildcat! machine they are in the display folder, normally `C:\wcat\disp`. You can run the converter on the server itself, or copy the folder to your PC first - the files are only **read**, never changed.
- The converter itself: the folder **tools** next to the program (WinsHub\tools\bbs2rip.py). If you only have WinsHub.exe, copy the **tools** folder (two small files, bbs2rip.py and ripauto.py) anywhere; it does not need the rest of the program.

Note - WinsHub.exe does not contain Python, so the converter always needs Python installed, even if the program itself is the .exe.

The quickest way

1. Open **PowerShell** (Start menu > type PowerShell).
2. Go to the tools folder. Example, if the program is in C:\Programs\WinsHub:

```
cd C:\Programs\WinsHub\tools
```

3. Convert the whole folder of display files and put the result where WinsHub looks by default:

```
python bbs2rip.py C:\wcat\disp -o %env:APPDATA%\WinsHub\rip\screens
```

(In the older Command Prompt, type `%APPDATA%` instead of `$env:APPDATA`.)

4. You will see one line per file, for example:

```
telnet.bbs -> telnet.RIP (menu: 27 buttons)
YOURSETT.BBS -> YOURSETT.RIP (text screen: 25 lines)
verinfo.dat: skipped (not a display screen)
```

5. Start WinsHub, connect, and open a menu you converted. If the folder is the default one, nothing else is needed. If you wrote the files somewhere else, choose the folder with **Terminal > Graphics > Advanced > Converted screens folder...**
6. Type `rip screens` in the F8 bar to see how many menu screens were loaded.

Even quicker: the batch file

Double-click **convert_screens.bat** in the WinsHub folder. It asks for the folder with the .BBS files (press Enter for `C:\wcat\disp`), runs the converter and writes the screens to `%APPDATA%\WinsHub\rip\screens`, the default folder.

Keeping your output somewhere else

Use any folder name after **-o**; it is created if it does not exist. A common choice is a sub-folder next to the display files:

```
python bbs2rip.py C:\wcat\disp -o C:\wcat\disp\rip_screens
```

Then point the program at it with **Converted screens folder...**

Note - Do not end a folder name with a backslash inside quotes ("C:\wcat\disp\"): Windows then passes the closing quote as part of the name. Write C:\wcat\disp, or "C:\wcat\disp" without the last backslash.

Looking at the result before you use it

Add **--png** to also write a picture of every converted screen next to its .RIP file, so you can check them in any image viewer. The previews need the program's drawing code, so run the command from the **WinsHub** folder (the one that contains the **wintelnet** folder), not from tools:

```
cd C:\Programs\WinsHub
python tools\bbs2rip.py C:\wcat\disp -o C:\Temp\rip_preview --png
```

If you run it from somewhere else you get the screens but the message "no PNG: run this from the WinsHub folder".

After you change a display file

Run the same command again. Existing .RIP files with the same names are replaced. Close and reopen the Telnet window (or type **rip screens**) so the program reloads the folder.

Converting just some files

The input can be a folder, a wildcard, or one file, and you can give several:

```
python bbs2rip.py C:\wcat\disp\telnet.bbs -o C:\Temp\one
python bbs2rip.py "C:\wcat\disp\tel*.bbs" "C:\wcat\disp\main.bbs" -o C:\Temp\two
```

A folder means every file whose name ends in .bbs (any capital letters), not the folders inside it.

17. Converter reference and limits

Command line

```
python bbs2rip.py INPUT [INPUT ...] [-o OUTDIR] [--theme vibrant|classic]
                    [--colors N=07,H=0F,T=0B,F=0E,B=0A,O=0E,Q=07]
                    [--back-label "text"] [--png]
```

- **INPUT** - a folder, a wildcard such as "C:\wcat\disp*.bbs", or a file. At least one is required.
- **-o OUTDIR** (or **--out**) - where the .RIP files go; the default is the current folder.
- **--theme** - **vibrant** (the default) or **classic**, see below.
- **--colors** - the real values of Winserver's named colours, see below.
- **--back-label** - the text of the Back button written for menu screens.
- **--png** - also write a picture of each screen (run from the WinsHub folder).

What each kind of file becomes

Menu files - any display file that contains @LINK entries, such as the Telnet site list:

```
@LINK SEL=T TITLE="Telnet to BBS" GOTO="..."@
```

becomes a screen of **buttons**, one per @LINK, labelled **T - Telnet to BBS**. A click sends the key (SEL) and Enter, the same as typing it. Beside it the converter writes **NAME.menu.json** with the full, untruncated titles, the menu title and the Back button's label; WinsHub draws such menus itself from that file, in your theme, with crisp text, and with a **Back** button. The .RIP file's own button labels are cut to fit the 640x350 picture. The Back label defaults to "Back to Internet Menu" for files whose name starts with telnet, ftp or internet, and "Back" for everything else; change it with --back-label. If two entries use the same key, the converter prints a note: both buttons send that key, so the second can never be reached - worth fixing in the .BBS file.

Text screens - every other display file becomes an 80 x 25 text screen drawn with the RIP 8x8 font, keeping the colours:

- @XX@ colour codes (a background digit and a foreground digit, DOS colours 0-F), the named colours @N@ @H@ @T@ @F@ @B@ @O@ @Q@;
- long lines wrap onto more rows; rows of -, =, _ or box-drawing characters become a drawn line;
- characters the RIP font does not have (box and block drawing, accented letters) are turned into look-alikes in plain ASCII;
- data fields such as @USER.NAME@ are shown as <NAME>: only the server knows the real value, so a stored picture can only show a placeholder;
- @CLS@ and @PAUSE@ are ignored;
- if a file has more than 25 lines only the first 25 fit, and the converter says so.

Skipped - files with the extension .dat (version data, not screens) are skipped with a message. A file the converter cannot read prints **FAILED (reason)** and the rest of the folder still converts.

Names - YOURSETT.BBS becomes YOURSETT.RIP. A file that is not .bbs keeps its extension in the name (warn30.msg becomes warn30_msg.RIP) so it cannot overwrite warn30.bbs.

Which converted screens does WinsHub use by itself?

Only **menu screens** (the ones with buttons). A text-only screen would just cover the same text, and it could never show the live values. Live information screens are handled much better by the **cards** (see **How menus and cards are recognised**), which show the real values from the server. The text-only .RIP files are still useful: open them with **Open a .RIP file...**, show one with a **trigger**, or view them in another RIP program. The F8 command **rip screens** reports how many menu screens were loaded and how many text-only screens were ignored.

Making your own RIP screen the default for a host screen

Your stored screens are always checked **before** the automatic menus and cards, so a matching one wins. Three ways to get a screen of your own used:

- **Menu screens** (buttons) from the converter are used automatically when about 70% of their text is on the terminal.
- **Terminal > Graphics > Advanced > Also use my text-only screens** - every text-only .RIP in the folder is used too, when its text matches. (It shows the stored layout, with placeholders

such as <NAME> instead of live values, and has no text box - so it suits welcome, news and information screens, not prompts.)

- **A match file for one screen** - put `NAME.match.txt` next to `NAME.RIP` (same folder, same name). Each line is a piece of text that must be on the terminal, for example `Main Menu` and `Crappie Cracker`. When ALL the lines are there, that .RIP is shown, exactly as you drew it (your artwork and its buttons - WinsHub does not redraw it), whatever buttons or text it has and even if it is text-only. This is the way to make a hand-made or edited .RIP the default for one host screen. Match files win over everything else. `rip screens` says how many are loaded.

After adding files, type `rip screens` in the F8 bar to reload the folder.

Themes of the converter

- **vibrant** (default): a deep navy background replaces black and the 16 screen colours are redefined to fresher ones (so every colour a display file asks for comes out brighter), a rainbow strip runs along the top and bottom, and a header band sits behind the first line (when the screen has room for it - 23 lines or fewer).
- **classic**: the plain look, black background and the standard DOS colours.

RIP has only 16 colours, so there are no true gradients; the colour strips stand in for them. Menu screens are drawn by WinsHub in the theme you choose in the program, not by this setting.

Named colours (--colors)

WinsHub lets the sysop set what `@N@`, `@H@`, `@T@`, `@F@`, `@B@`, `@O@` and `@Q@` look like, and the files only hold the letter. The converter assumes N=07 (grey on black), H=0F (white), T=0B (light cyan), F=0E (yellow), B=0A (light green), O=0E, Q=07. If your colours are different, give the real ones as two hex digits each - background digit then foreground digit:

```
python bbs2rip.py C:\wcat\disp -o C:\Temp\x --colors H=0E,T=0C
```

Limits

- The picture is 640 x 350 with 16 colours; scalable RIP fonts are not used.
- Data fields cannot be filled in; they stay as `<PLACEHOLDERS>`.
- The converter reads each file as UTF-8, or as the old DOS character set (CP437) if it is not valid UTF-8.
- It reads files; it never writes to, renames or deletes your .BBS files.

18. RIP troubleshooting

The first thing to try: rip scan

Click the Local command bar (**F8**), type `rip scan`, press Enter while the screen in question is showing. It prints:

- the program version and whether RIP and auto menus are on (and whether RIP is switched off for this phone-book entry);
- the **menu** it found (every key and label) and the title and system name it read, or why there is none;
- whether it sees a **text screen waiting for a key** (a card);

- which **stored screen** matches, and what the RIP window is showing now;
- the screen text exactly as the program reads it (| marks the left edge).

Send that output with a question and the cause is usually visible in the text.

Common problems

- **No buttons appear.** A menu needs three or more hotkey items, close together, and the host must have stopped sending. Check `rip scan`. Check that **Terminal > Graphics > Buttons for text menus** is ticked and RIP graphics are not turned off. If you closed the screen with **Show text screen** it stays closed for that menu and comes back for a different one; `rip menu` forces it to try again.
- **The wrong (old) menu shows.** Only the newest group of menu lines counts. If it still happens, send the `rip scan` text.
- **A button does nothing / does the wrong thing.** It sends the key and Enter. If the host takes the key without Enter, turn off **Advanced > Menu buttons also press Enter** (menus with no command line already send the key alone).
- **The board's answer flashes by or never shows.** The board redrew its menu over it. This is what the extra Enter did on hot-key boards (fixed in 1.12.2); if it still happens, press **Show text screen** and send the F8 trace.
- **An old list (User List ...) is joined to a new card.** Fixed in 1.12.2: only lines that scrolled off after the last clear screen can join a card.
- **Your Settings is missing rows [1] to [9], or Offline mail settings starts at 4.** Fixed in 1.12.3: single-digit rows were taken for the file-transfer protocol list. Both screens are now forms.
- **Transfer QWK Menu shows the Files picture.** Fixed in 1.12.3: QWK, Blue Wave and offline-mail menus show the Message (mail) picture.
- **The Back button does not go back.** It sends Enter. If your host wants Escape or a letter, type `rip back esc` or `rip back Q`.
- **A screen that waits for a key shows no card.** The last line must be a prompt like "Press [ENTER] to continue?" or "[ENTER] to quit?". Another wording is not recognised - send the `rip scan` output so it can be added.
- **The card is cut off.** It should split into pages with Next page; if rows are missing, send `rip scan`.
- **Typing seems to do nothing.** Typing goes to the host while any RIP screen is showing. For a "type your answer" prompt the card has its own text box.
- **Converted screens are not used.** Type `rip screens`: it shows the folder it is reading, how many menu screens it loaded, and whether one matches. The folder must hold the .RIP files (and their NAME.menu.json); **Use my converted screens** must be ticked. Only screens with buttons are used.
- **The converter says python is not recognised.** Python is not installed or not on the PATH. Install it from python.org (tick **Add python.exe to PATH**) and open a **new** PowerShell window. Try `py` instead of `python`.
- **The converter prints "not found" or "no files found".** The path is wrong, or the folder has no .bbs files. Quote paths with spaces: `"C:\My Files\disp"`.

- **The converter prints FAILED for one file.** That file could not be read; the rest were still converted. Send the message.
- **I see "RIP lines" as text.** RIP graphics may be turned off (**Terminal > Graphics > Graphics from the server**), or the host sent `ESC[1!` (RIP off).

Saving files for support

Terminal > Save diagnostic files (or the F8 command `diag`) saves the current screen cell by cell and the raw data the host sent, which shows exactly what the program received.

19. Session log and finding text

Session log

Terminal > Session log > Log this session to a file... (or `log` in the F8 bar) saves what the host sends to a text file as you would read it: colour and cursor codes are removed, backspaces erase and a line that is redrawn is written once. The file name is the site name plus the date and time. Choose **Log every session automatically** to start a log on every call, **Put the time in front of each line** for time stamps, and **Log folder...** / **Open the log folder** to choose and see where the logs go.

- A log ends when the call ends (or with **Stop logging**).
- File transfers are never written to the log, and neither is what you type - only the host's own echo of it, as on the screen.

Find in scrollbar

Press **Ctrl+Shift+F** (or **Terminal > Find in scrollbar...**, or `find` in the F8 bar). Type what to look for; matches are marked as you type. Use the arrows or Enter / Shift+Enter for next and previous; tick **Match case** or **Pattern** (a regular expression) when you need them. Esc closes the bar.

Save scrollbar and screen as text... writes the whole scrollbar and the current screen to a text file.

Saved menus

WinsHub turns a host's text menus into button screens. With **Terminal > Save the menus I see** ticked (the default), each such menu is saved once per BBS in the `menus` folder next to the phone book (**Terminal > Open the saved menus folder**, or `menus` in the F8 bar), in three forms:

- **.svg** - the menu as it looks on screen, sharp at any size; open it in a browser or a picture program.
- **.rip** - a RIPscrip version for any RIP terminal and for a Winserver RIP add-on. It is simpler than the picture (RIP is 640x350 with 16 colours); a click sends the menu key.
- **.json** - the keys and texts of the menu, with the theme.
- **themes folder** - the same picture in every colour theme (copper, aurora, ocean, sunset, forest, dark, red, blue, green, orange, light), named like `Main_Menu_ocean.svg`.

A menu is written again only when its items change. The main picture uses the theme chosen under **Terminal > Graphics**.

20. Text triggers and key macros

Text triggers

Script > Text triggers (reply, highlight, sound)... lists rules of the form "when the host sends this text, do that". Each rule has a text to look for (plain, or a regular expression), an optional host (the rule applies only to addresses containing it), and an action:

- **Send a reply** - types the reply for you (`\r` is Enter). Good for "Press any key" and "Continue? (Y/n)".
- **Highlight the text** - paints matching text in a colour you choose.
- **Play a sound** or **Show a note**.

A rule fires once per connection unless you untick **once**. To stop a loop, no reply is sent more than once a second, and a connection stops answering after 100 replies. Rules are kept in `autoactions.json` next to the phone book.

Key macros (Alt+1 ... Alt+0)

Macros > Edit macros... holds ten snippets for the current site and ten for all sites. Alt+1 to Alt+0 send the site's own snippet, or the all-sites one if the site's is empty; a key with no macro is left alone. The text may contain:

<code>\r \n \t \e \\ \xHH</code>	Enter, line feed, tab, Escape, a backslash, any byte
<code>{USER} {PASS}</code>	the saved user name / password of the site
<code>{DATE} {TIME}</code>	today's date (YYYY-MM-DD) and the time (HH:MM)
<code>{WAIT 2}</code>	pause 2 seconds (at most 30) before going on

21. Transfer history, queue and resume

Transfer history

Transfer > Transfer history... (or **history**) lists every transfer with its date, site, protocol, size, result and file. **Open file**, **Open folder**, **Save list as CSV...** and **Clear history** work on the selected line or the whole list.

Download queue

Transfer > Download queue... (or **queue**) downloads web addresses one after another. **Add addresses...** takes pasted text (any text with addresses in it will do) and starts the queue; **Pause**, **Start**, **Stop current**, **Try failed again**, **Remove** and **Clear finished** manage it.

Resume

With **Carry on interrupted downloads where they stopped** ticked, an interrupted download keeps its `.part` file.

- **HTTP** continues with a range request when the server supports it and the file has not changed; otherwise it starts again.
- **ZMODEM** asks the sender to continue from the saved position (backing up 1 KB to be safe). If the sender restarts from the beginning, the file is rewritten from the start.

Untick the option to always download from the beginning.

22. Sharing and checking the phone book

Export and import

In the phone book (F9) the **Lists** button has:

- **Export the list shown...** - saves the sites on screen as a WinsHub list (JSON), CSV or text file you can share. User names, passwords and scripts are never exported.
- **Import a list...** - reads a WinsHub export, a CSV or text file, a SyncTERM .lst file, or a web address. Boards already in your phone book are skipped, and no user names or passwords are imported.

Check which sites answer

Lists > Check which sites answer... tries each site and shows whether it answered, how long it took and what it said. Use **Select the ones that failed** and **Remove selected from the phone book** to clean up, or **Save list...** to keep the report.

23. SSH keys

WinsHub already logs in with key files, the SSH agent and the keys in `~/.ssh`. In an SSH phone-book entry you can now also:

- **Make a key...** - creates an Ed25519 key pair (with an optional passphrase), saves it and fills in the key file box.
- **Show public key** - shows the public key so you can copy it into the server's `authorized_keys`.

If the key has a passphrase, the entry's password is tried as the passphrase; otherwise you are asked. Keep the private key file safe and never send it to anyone.

24. Local commands (F8) and keys

The local command bar

Press **F8** (or click the bar at the bottom) to type a command to WinsHub itself - nothing is sent to the host.

get <url> [filename]	download a web address
rz ry rx <file>	receive with ZMODEM / YMODEM / XMODEM
cd <folder> pwd	change / show the download folder
connect <host> [port]	telnet to a host
ssh [user@]host [port]	SSH to a host
rlogin [user@]host [port]	Rlogin to a host
learn login run <file> stop	Quick Learn / run the site script / run a script file / stop it
book	open the phone book
main	bring the main window to the front
log	start / stop the session log
menus	open the folder of saved menus
find	search the scrollbar (Ctrl+Shift+F)
history queue	transfer history / download queue
capture	save the raw bytes the host sends (type again to stop)
trace	text log of the screens, the cards and what was sent (type again to stop)
dump	save the current screen, cell by cell, to a text file
diag	save diagnostic files (screen + host data)
disconnect cancel quit	hang up / cancel a transfer / close the window

RIP commands

rip on off	RIP graphics on or off
rip show	show the RIP window again
rip scan	say what the program sees on the screen and why it did or did not act
rip menu	try to build buttons for the current screen now
rip sound on off test	sounds for new screens and transfers
rip modem on off test	modem sound while connecting
rip all on off	cards for every screen on or off
rip logon on off	logon and goodbye screens as cards on or off
rip compose on off	one card for writing a message on or off
rip screens	reload the converted screens folder and say which one matches
rip theme [name]	show or set the theme: dark, red, blue, green, orange, aurora, ocean, sunset, forest, light
rip back [enter esc <key>]	show or set what the Back button sends
rip quit [<key>]	show or set what the Doors menu's Quit to Main Menu button sends (default Q)
rip open <file>	play a local .RIP file

Keys

- **F1** - this manual. **F8** - the local command bar. **F9** - the phone book. **F5** - refresh (FTP window).
- **Ctrl+Shift+C** / **Ctrl+Shift+V** (or Ctrl+Insert / Shift+Insert, or right-click) - copy and paste. Ctrl+C goes to the host.
- **Ctrl+Shift+F** - find in scrollbar. **Alt+1 ... Alt+0** - key macros.
- **Ctrl+Shift+X** - remember this window's size and position.

25. Arcade games

Nine small games for when the line is quiet (there are four casino games too: see the next topic). They are on the **RIPscript Games** button that WinsHub adds to the main menu of the BBS you are connected to (see the **RIPscript Games** topic), and every score is kept in the high-score pages. Click that button and pick one. Each game opens in its own window and does not touch your connection, so you can play while a download runs. **Esc** closes a game and **P** pauses it.

They are drawn with RIPscrip: every frame the game writes the same drawing commands a BBS would send (bars, filled polygons, lines, pixels, text) and runs them through the program's own RIP engine.

Galaxy Guards (a Galaga-style shooter)

- **Left / Right** or **A / D** move; **Space**, **Ctrl** or **Up** fire (two shots on the screen at a time, four with a double ship). **Space** or **Enter** starts a game.
- Each stage, 40 enemies fly in waves and settle into a formation, then dive at you and shoot. Drones are worth 50 points in formation and 100 when diving, wasps 80 / 160, bosses 150 / 400. A boss takes two hits (it changes colour after the first).
- Every third stage after the second (3, 7, 11 ...) is a **challenging stage**: the enemies only fly past and never shoot. Hit them all for a 10,000 point bonus.
- From stage 2 a boss may open a **tractor beam**. If it catches your ship you lose that ship, and the boss keeps it. Shoot that boss **while it is diving** to free the ship; it joins yours as a **double ship** with twice the firepower. Shoot it in formation and the captured ship is lost. A double ship that is hit loses only one of the two.
- You start with three ships and earn an extra one at 20,000 points, then at 70,000 and every 70,000 after that.

Asteroids

- **Left / Right** or **A / D** turn, **Up** or **W** thrust, **Space** fire (four shots at a time), **Down** or **H** hyperspace (a jump to a random spot, with a small chance that the ship is lost). **Space** or **Enter** starts a game.
- Rocks split from large (20 points) to medium (50) to small (100). Saucers cross the screen now and then: the large one (200) fires at random, the small one (1000) aims, and gets better as your score grows.
- You start with three ships and earn an extra one every 10,000 points. Your ship returns only when the middle of the screen is clear.

Space War

- Two ships fight around a star whose gravity pulls on both ships. Fall into it and you lose. Torpedoes are limited to four per ship in flight, and the first to **5 hits** wins.
- Press **1** at the title screen for a game against the computer, **2** for two players on one keyboard.
- **Player 1** (cyan rocket): **A / D** turn, **W** thrust, **F** (or **Q**) fire, **G** hyperspace.
- **Player 2** (red wedge): **Left / Right** turn, **Up** thrust, **Enter** (or **.**) fire, **Down** hyperspace.
- In a one-player game the arrow keys work for your ship too. Ramming the other ship destroys both and scores for nobody.

Star Swarm (a Galaxian-style shooter)

- **Left / Right** or **A / D** move, **Space** fires (one shot at a time). **Space** or **Enter** starts.
- The swarm sits in a swaying formation and peels off one or two at a time to dive at you and drop bombs; they return to the top if they miss. Blue 30, purple 40, red 50, flagship 60 in formation, double when diving.
- A **diving flagship** is worth 300, or 500 / 800 if one or two red escorts are still flying with it. Extra ship every 7,000 points.

Missile Defense (a Missile Command-style game)

- Move the cross-hair with the **arrow keys**; **Z / X / C** (or **A / S / D**) fire from the left, middle or right base, **Space** from the nearest base that has missiles. Each base holds 10 missiles per wave.

- Your missile flies to the cross-hair and bursts into a fireball; warheads that touch a fireball are destroyed. Protect the six cities. From wave 3 some warheads split in two.
- After each wave you score for every city left and every unused missile. A destroyed city is rebuilt at each 10,000 points. The game ends when all six cities are gone.

Rear Gunner (a Tailgunner-style shooter)

- You are the tail gunner of a battleship. Move the sight with the **arrow keys**, **Space** fires. Enemy fighters swoop in out of the stars and shoot fireballs at the ship.
- Shoot a fighter (100 x the wave number) or a fireball (25) before it arrives. A fireball that arrives costs 1 shield, a fighter that reaches you costs 2. You have 8 shields; two are restored after each wave. The game ends when the shields are gone.

Pong

- Press **1** for one player against the computer, **2** for two players on one keyboard (each is asked for a name). Left bat **W / S**, right bat **Up / Down** (or **O / L**). The ball speeds up on every hit and goes at a different angle depending on where it hits the bat. First to 11 wins.

Snow Skiing

- A downhill slalom. **Left / Right** (or **A / D**) steer, **Down** tucks for speed, **Up** brakes. Ski between the red and blue flags: each gate is 100 points, a missed gate costs 2 seconds, and a tree is a crash that costs 25 points and your speed.
- Reach the finish line before the clock runs out for a time bonus (50 points per second left) and then take the next, longer course with narrower gates.

Intimidator (explorer / battleship campaign)

- You command the starship **Intimidator** on a tour of three worlds, **Verdanis** (jungle), **Pyrrhos** (volcanic) and **Kryos** (ice). Each journey is a real-time battle against that world's enemies on a scrolling tactical screen; at the end you take a shuttle down, land it on the colony's pad and **trade the goods you salvaged for protection** for the colony. The text is drawn at full window resolution, so it stays sharp at any window size.
- **Set course:** on the star map pick a world with **Left / Right** and press **Enter**. Each world has its own enemies: the **Corsair Raiders** (raiders, cruisers, drone swarms, the dreadnought), the **Hive** (stingers, brood carriers that launch broodlings, the Hive Queen) and the **Frost Wraiths** (shards that fade out of sight, prism cruisers with five-way volleys, the Ice Lance). Later journeys bring more and tougher ships and, every second journey from the third, a boss.
- **Flying:** **Left / Right** turn, **Up** thrust, **Down** brake, **Q / E** sidestep, **X** or **Shift** afterburner (uses energy), **Space** phasers (use energy, which recharges), **Z** or **Ctrl** a homing torpedo (up to nine), **T** targets the nearest enemy, **P** pauses, **F11** full screen (the window can also be resized), **Esc** quits.
- **Two views:** **V** switches between the **tactical** view (the sector seen from above, with a radar) and the **cockpit** view (a 3-D view from the pilot's seat with canopy, instruments, a rotating radar scope, a crosshair and target brackets).
- **Salvage:** destroyed ships leave cargo pods (Ore, Tech parts, Fuel cells, Medicine, Crystals), plus torpedo and repair pods. Fly over them to collect; the hold takes 24 units.
- **Landing:** when the area is clear, fly into the orbit ring (follow the arrow) and press **Enter** to launch the shuttle. Land it on the pad: **Left / Right** tilt it, **Up** is the engine. Come down gently

(vertical speed under 2.4, sideways under 1.8, roughly level) onto the wide pad; let go of the stick and the shuttle levels itself. Each world has its own gravity, wind and landscape. After two crashes ground control lands the shuttle for you.

- **Trading:** choose a good with **Up / Down**, set the amount with **Left / Right** and press **Enter** to send it. Each colony wants three goods (shown with their protection value; anything else counts for 2). Protection levels 1, 2 and 3 repay you with upgrades for the Intimidator: Verdanis +25 maximum hull per level, Pyrrhos +20% phaser damage per level, Kryos +25 maximum shield per level. Each colony also gives you goods when you leave (Verdanis grain, Pyrrhos ore, Kryos crystals), and your ship is repaired and re-armed. Protect all three worlds fully and you earn 10,000 points and the tour goes on, with the colonies at level 2 again and tougher enemies.
- **Joystick:** a Logitech Extreme 3D Pro (or any game controller) works: stick = turn and thrust, twist = turn, throttle slider = top speed, hat left/right = sidestep, hat up/down = cockpit/tactical view, button 1 phasers, 2 torpedo, 3 afterburner, 4 view, 5 target, 6 all stop, 11 pause, 12 quit; on the menus the stick or hat chooses and button 1 selects. See the **Joystick** topic.
- The score goes in the **Arcade** high-score page like the other games.

Bowling

- Press **1** or **2** for one or two players. Ten frames with standard scoring: strikes and spares count the next one or two balls, and the tenth frame gives bonus balls.
- Each ball: **Left / Right** slide the ball along the foul line, **Space**; **Left / Right** turn the aim, **Space**; then press **Space** to throw when the power bar is where you want it. While the ball rolls you can hold **Left / Right** to add hook. The pins knock into each other, so the angle matters: aim for the gap between the head pin and the pins beside it.
- **H** hosts and **J** joins a **network game** for two players on two computers (see the **RIPscript Games** topic). In a game on one keyboard, each player is asked for a name, and the scoreboard shows the names.

26. Joystick

WinsHub's games work with a game controller, made for the **Logitech Extreme 3D Pro** but fine with any joystick Windows lists in its game controller settings. Plug it in before you open a game (it is looked for every two seconds, so plugging it in later also works). Only the focused game window listens to it.

Setup and test

Terminal > Joystick setup and test... shows the stick live: the stick, twist and throttle slider as bars, the hat switch and the buttons being held, and the name Windows reports. Check that the bars move the right way. Tick **Reverse stick forward / back** or **Reverse the throttle slider** if one is backwards, change the **dead zone** if the stick drifts, or turn the joystick off. The button numbers used in Intimidator can be changed there too (0 = not used). The settings are kept in joystick.json in the WinsHub settings folder.

Intimidator

Stick forward/back = thrust and brake (the further, the harder), stick or twist left/right = turn, throttle slider = top speed (pushed forward is full), hat left/right = sidestep, hat up = cockpit view, hat down = tactical view. Button 1 (trigger) fires phasers, 2 torpedo, 3 afterburner, 4 switches view, 5 targets the nearest enemy, 6 all stop, 11 pause, 12 quit. On the star map, trade screen and the title, stick or hat chooses, button 1 selects, button 2 goes back. In the shuttle the stick tilts and pushes the engine.

All the other games

Stick and hat press the arrow keys, button 1 is Space, 2 is Enter, 3, 4 and 5 are Z, X and C, 6 is R, 7 and 8 are 1 and 2 (the one-player and two-player starts), 9 and 10 are H and J (host and join a network game), 11 pauses and 12 quits. The twist steers as well. Space War uses button 1 to fire and 2 for hyperspace, Asteroids uses 2 for hyperspace, Blackjack uses 3, 4 and 5 for Hit, Stand and Double, and Draw Poker uses 3 to 7 to hold the five cards.

Window size

Every game window can be resized or maximised (the picture takes the largest size that fits and the text stays sharp); **F11** toggles full screen.

27. Board games

Four classic two-player games, in the **RIPscript Games** menu under **Board Games** (and drawn with RIPscrip like the others). Every one can be played three ways; press the key on the title screen:

- **1** - against the computer.
- **2** - two players taking turns on this keyboard (each is asked for a name).
- **H / J** - **two players on two computers**: one presses **H** (host) and gives the address shown to the other, who presses **J** (join) and types it; see the **RIPscript Games menu** topic for ports and routers. Only the moves are sent, one at a time, so it works on any connection. The host moves first.

Move the cursor with the **arrow keys** and press **Space** or **Enter**, or just **click** with the mouse. **Esc** closes a game. When a game ends, **Enter** goes back to the title screen. Your wins, losses and draws are kept on the **Board game records** page (RIPscript Games > High Scores), for the BBS you are connected to.

Connect 4

- Left / Right pick a column, **Space**, **Enter** or **Down** drops a disc (or click a column). Red moves first; four in a row - across, down or diagonally - wins; a full grid is a draw. The winning four are marked.

Checkers (American rules)

- Red moves first, up the board; pieces move one square diagonally forward and **jumps are compulsory**. A jump continues while another jump is possible (pick each landing square in turn). A piece reaching the far row becomes a king, which moves and jumps both ways. You win when the other side has no piece or no move; 40 moves without a capture or a man moving is a draw.

- Pick a piece (**Space** or click), then a square; **Backspace** picks again. The small marks show pieces that can move; green squares show where the picked piece can go.

Othello (Reversi)

- Black moves first. Place a disc so that it traps a line of the other colour between your discs: those discs flip. The dots show your legal moves. A player with no legal move passes automatically; when neither can move, the most discs wins.

Battleship

- Each side hides five ships (carrier 5, battleship 4, cruiser 3, submarine 3, destroyer 2) on a 10 x 10 sea. The computer shuffles your fleet: press **R** until you like it, then **Enter**. Then take turns firing one shot at a time at the enemy sea (arrows + **Space**, or click): white = miss, red = hit, dark red = a sunk ship. The first to sink all five wins.
- On one keyboard the screen is **covered** while the keyboard is passed, so neither player sees the other's fleet. On the network each side only ever has its own fleet; the other side only tells you hit, miss or sunk.

28. Casino games

Use the **RIPscript Games** button on a BBS main menu for four casino games. They use **play money only** - there is nothing to buy and nothing to win. **Every player has their own bankroll**, shared by the four games and remembered between runs: a new player starts with \$1,000, and if you cannot cover the smallest bet the house lends you \$500. The player is the name you log on to the BBS with (the user name saved in the phone book, or the name you type at the BBS login prompt); with no BBS logon it is your Windows user name. **Bankrolls and high scores are kept separately for each BBS**: connect to another BBS or log on as someone else and the games switch to that BBS's and that person's bankroll and score tables (the name is shown at the top of each casino game, and the BBS name on its title screen and on the high-score pages). Before you have connected to anything they are the "this PC" tables. The one shared bankroll of earlier versions went to your Windows user name. **Esc** closes a game and **P** pauses it. Like the other games, they are drawn with RIPscrip.

Draw Poker (Jacks or Better)

- **Up / Down** change the bet (1 to 5 coins of \$5), **Space** deals five cards.
- Hold the cards you want with **1-5** (or **Left / Right** and **Space**) and press **Enter** (or **D**) to draw. The other cards are replaced and you are paid by the table on the right: royal flush 250, straight flush 50, four of a kind 25, full house 9, flush 6, straight 4, three of a kind 3, two pair 2, jacks or better 1 (times your coins; a royal flush with five coins pays 800 per coin).

Blackjack

- **Up / Down** change the bet (\$5 steps, **Left / Right** \$25), **Space** deals. **H** hit, **S** stand, **D** double down (on your first two cards).
- Six decks, the dealer stands on all 17s, blackjack pays 3 to 2 and a tie returns your bet.

Roulette

- A single-zero (European) wheel and the full table. Move the cursor with the **arrow keys** and press **Space** to put a chip on that spot (chip sizes **1 / 2 / 3** = \$5 / \$25 / \$100). **X** takes the last chip off a spot, **C** clears the table, **R** repeats your last bets, **Enter** (or **S**) spins.
- A single number pays 35 to 1, a dozen or a column 2 to 1, and red / black, odd / even, 1-18 / 19-36 pay 1 to 1. Zero loses every bet except a bet on zero.

Slots

- Three reels and one pay line. **Up / Down** change the bet (\$5 to \$100), **Space** spins.
- Three of a kind pays: sevens 150, bars 50, bells 25, plums 15, lemons 10, cherries 8 (times your bet). A cherry on the first reel returns your bet, and two cherries on the left pay 4 times.

Note - These are games of chance with play money, for fun only.

29. RIPscript Games menu, high scores and two players

The RIPscript Games button

When WinsHub recognises a BBS **main menu** it adds one button of its own, **RIPscript Games**, next to the BBS's own buttons. It works the same on every site (it is added by WinsHub, not by the BBS), and it appears only on a main menu, never on other menus. Click it for:

- **Arcade Games** - the ten arcade games (Galaxy Guards, Star Swarm, Asteroids, Space War, Missile Defense, Rear Gunner, Pong, Snow Skiing, Intimidator, Bowling). Click a game to open it in its own window.
- **Casino Games** - Draw Poker, Blackjack, Roulette and Slots.
- **Board Games** - Connect 4, Checkers, Othello and Battleship (see the **Board games** topic).
- **High Scores** - the **Arcade** and **Casino** high-score pages, and the **Board game records** page (wins, losses and draws per player).

Back buttons take you up one level, and **Back to the BBS menu** shows the host's own menu again. The menu also goes away by itself when the BBS sends a new screen. The button does nothing to your connection: the games run in their own windows. It is on by default. Turn it off or on with **Terminal > RIPscript Games on BBS main menus** (a tick means on); when it is off the button is removed from the main menus until you tick it again.

High scores

Each game keeps a top ten **for the BBS you are connected to** (the last one, after you hang up) with the player's name and the date, on this PC. A BBS is recognised by its address, so the phone book, a tile and Quick Connect all reach the same tables, and everyone who logs on to that BBS from this copy of WinsHub sees everybody's scores (Sally's and Bob's when Joe logs on); the tables are not shared between different computers (file hiscores.json in the WinsHub settings folder). When a game ends with a score that makes the list you are asked for your name (also when you quit a game early with **Esc** after scoring points; a half-played Bowling game is not entered); the name you used to log on to the BBS is offered (with no BBS logon, the name you typed last time or your Windows user name). The first player in a two-player game also starts with that name. In Bowling each player on the keyboard is entered under the name given at the start.

Casino games keep the **best bankroll** of a visit, recorded when you close the game window. Space War counts matches won, so it has no list. The **Arcade** page shows the top five of each game, the **Casino** page the top ten.

Two players

- **Same keyboard:** Pong, Space War and Bowling ask for both names when you press **2**.
- **Two computers (Bowling):** one player presses **H** at the Bowling title screen (**host**): a window shows the address to give to the other player, then waits. The other player presses **J** (**join**) and types that address (**address** or **address:port**, port 5150 by default). The players take turns, each on their own computer, and each sees the other's throws. A direct connection is made between the two PCs; over the internet the host's router must forward port 5150 to the host's PC and a firewall must allow it. Each player's score goes on the high-score list under the player's own name when the game is finished. If the other player leaves, the game ends and is not entered. The four **board games** can all be played over the network in the same way (H / J on the title screen). Pong and Space War are real-time and stay on one computer.

30. WinsHub Net (chat between bridges)

WinsHub Net passes the **Main channel** chat between two or more WinsBridge chat servers ("bridges"), so people on different systems can talk to each other. It is a menu in the launcher's menu bar, before **Theme**, and the menu's name shows its state: **WinsHub Net: On** or **WinsHub Net: Off**.

Turning it on

1. Choose **WinsHub Net > Bridges...** and type one bridge address per line, for example `wss://www.crappiecracker.com:9003` (a chat page address such as `https://www.crappiecracker.com/Winschatx.wct` also works; it is turned into the bridge address). Add the names of anyone you want kept out.
2. Tick **WinsHub Net > WinsHub Net on**. The menu name changes to On. Untick it to turn it off; the relayed people disappear from the other bridges at once.
3. **Status...** shows each bridge, whether it is connected, how many people are there and how many relayed people are signed in on it.

It starts again by itself when you start WinsHub, if it was on.

What people see

- WinsHub signs in to every listed bridge as a small bot called **WinsHubNet**.
- Everybody on one bridge appears on each of the others as **name@bridge**, for example **Kim@crappiecracker.com**, in the user list, and what they say in Main shows under that name.
- Names with an @ are never passed on, so chat cannot go round in a circle. Lines that start with / are never passed on.
- Whispers, pages, file transfers and voice or video calls stay inside their own bridge. A call to a relayed name is declined.
- Against flooding: 4 lines per 10 seconds per person, 24 per 10 seconds in all, 250 characters a line and 40 relayed people per bridge. Blocked names are not passed on.

Note - Use WinsHub Net on **one** copy of WinsHub for a given set of bridges. If two copies pass the same bridges, each person appears twice under the same name. The relay needs the `websockets` package (the full exe has it), and its settings are `hubnet_on`, `hubnet_links` and `hubnet_block`.

31. Change log (dated)

Every change, newest first, with the date. A new entry is added at the top with each version. Anything marked as not tested was checked only on test servers and a virtual screen, not on a real Windows PC.

1.19.0 (Oct 25): WinsHub Net

- New **WinsHub Net** item in the launcher menu bar, before Theme, showing On or Off, to pass Main-channel chat between bridges.
- Everyone on one bridge shows on the others as name@bridge, for example Kim@crappiecracker.com.
- Under the item: **Bridges...** (addresses and a block list) and **Status....** See the **WinsHub Net** topic.
- Limits against flooding, no looping, and whispers, files and calls stay inside their own bridge.
- Checked against stand-in bridges only: not yet tested between two real bridges, and the real bridge may refuse names with an @ or a dot.

1.18.0 (Oct 25): renamed WinsHub, new banner and icon

- The program is now **WinsHub** (it was Wins Connector). Window titles, help, manual, installer, shortcuts and file names use the new name: WinsHub.exe, WinsHub-<version>-Setup.exe, WinsHub-Manual-<version>.pdf. The older change-log entries below use the new name too.
- Your settings stay in %APPDATA%\WinsHub, so your phone book, tiles and settings carry over untouched.
- The installer finds an older Wins Connector installation and offers to remove it first.
- The WinsHub banner (black, green and yellow, with glowing wildcat eyes and the line Terminal, RIP, Chat, Calls, Files, Tiles) is the default picture on the main screen (a saved Crappie Cracker or old panther picture choice is reset to it once; a picture you chose yourself is kept). Right-click it to choose another picture; **Use the default picture** brings it back.
- New, sharper icon with the same eyes, in sizes from 16 to 256 pixels.
- The manual gains this **Change log** topic, kept up to date with every release.
- Henry Horn added to the special thanks in FILE_ID.DIZ.

1.17.6 and 1.17.7 (Oct 24): small boxes, Trebek, manual name

1.17.6: calls and offers arrive in small boxes

- While you are online with no chat window open, nothing opens a whole window by itself. A voice or video call shows a small box on top of everything with the caller's name and Accept and Decline. It rings every 2.5 seconds, and declines for you after 45 seconds.
- Only Accept opens the Voice Chat or Video Chat window. That window stays hidden, answers the call at once and appears when the call starts. If the call never arrives (the caller gave up),

it appears anyway after 12 seconds.

- Decline sends the decline to the caller and opens nothing. If the caller hangs up first, the box disappears and the held invite is dropped.
- A file offer is a small Accept and Decline box too (it declines itself after three minutes). A finished or failed file transfer is reported in a small box.
- A whisper or page shows in a small box with an Open chat button, and beeps. Ordinary main-channel chat is kept quietly and is there when you open Text Chat.
- The Text Chat window never opens by itself any more.
- Windows that are already open behave as before.

1.17.7: Trebek and the manual name

- Whispers from Trebek in the first 90 seconds after you sign in to WinsChat are no longer shown, in the chat window or as a small box. His later whispers still show.
- The manual is renamed `WinsHub-Manual-1.17.7.pdf`, with the text copy named to match. The installer script takes the version from its own setting, the PDF script from the program version, and `build_installer.bat` copies whatever `WinsHub-Manual-*` files are in the folder.
- The Start menu shortcut Manual (PDF) points at the renamed file.

Tests

- Caller hanging up cancels the ring; Trebek's welcome whispers hidden but later ones shown; pages shown as a box and not a window.

1.17.4 and 1.17.5 (Oct 24): name from your logon, online while connected

1.17.4: chat under the name you logged on with

- Text Chat, Voice Chat and Video Chat buttons in the Telnet window's toolbar (on the right, so the other buttons are not pushed off) and in the Web window's button bar.
- The chat name now comes first from the system you are on: the connected Telnet, SSH or Rlogin entry's user name, the name you typed at the BBS login prompt, or the user name of the web tile you last opened. Then, as before, the saved WinsChat web login, the phone-book entry for the chat site, and the last name used.
- Names are cleaned to letters, numbers and spaces, up to four words.
- The Chat tile's Edit dialog only offers the web page when you ask for it (File > Chat page or program...).

1.17.5: you are online in WinsChat while connected

- Logging on to a system in the Telnet window also signs you in to WinsChat under that name, quietly. You appear in the user list on the web page and in other copies of WinsHub, and can be chatted to, whispered to, paged, sent files and called by voice or video.
- The name is the phone-book entry's, or the one typed at the BBS login prompt. If neither is known you are not shown.
- Hanging up, closing the Telnet window or exiting takes you offline. A note in the terminal says "WinsChat: you are online as ..." when it starts.
- New File menu item: Show me online in WinsChat while connected (on by default; setting `chat_presence`).

- One connection per name. Before, each chat window opened its own, and the chat server knows a name only once. Now Text, Voice, Video and File Xfer share one connection (new `presence.py`) and one background thread, so opening them never signs you in twice.
- A voice or video invite goes to the matching window; other call traffic reaches only a call that is in progress; file messages go to one engine only, preferring one that is mid-transfer, so an offer is never shown twice.
- A window opened late is caught up with the current user list, channels, pictures and what was said while nobody was looking (the last 400 events).
- Leave in the Text Chat window takes you offline for all the chat windows.
- Help topic added: Online while you are connected. Settings default added.

Tests

- 9 new tests for the shared connection: one socket for every listener, a late listener caught up, invites by mode, an invite with no window, call traffic only to an active call, file messages to one engine, last listener leaving, a session with no window keeping chat, and the setting being respected. One more test for name priority.

1.17.3 (Oct 24): text chat in its own window

The Chat tile now opens WinsChat text chat in a WinsHub window, ported from WinsChatx.wct. The old web page is still one click away.

The window

- Users list on the left, with each person's picture and a WEB or TERM badge. Double-click a name to send that person a file. Right-click for Send file, Voice call, Video call and Copy name.
- Conversation in the middle with time stamps, your own lines tinted, and the last 2500 lines kept. It scrolls to new lines unless you have scrolled up.
- Channels on the right: Main, My Channel (made on the server when you click it) and the others, with Channels to refresh the list.
- Your line at the bottom, up to 255 characters, with Send. `/clear` clears the screen.
- Anything starting with `/` goes to the server, so the page's commands work (`/who`, `/channels`, `/join`, `/create`, `/mychan`, `/destroy`, `/help` and the server's action commands).
- Whispers and pages are highlighted and beep. Chat from other people beeps when sound is on.
- Buttons: Main, Who's Here, Channels, Change Avatar, Clear Screen, Prev (the last few earlier lines), Theme, Sound, Change Name, Chat Server, and Leave (which becomes Reconnect).
- Six colour schemes (dark, red, blue, green, orange, purple) plus Rotate. The scheme and the sound setting are remembered.
- Reconnects by itself when the connection drops, with a keepalive every 35 seconds like the page.
- Spam lines are filtered the way the page filters them; the page's `NELS` lines are cleaned up; the bots' avatar announcements stay quiet.
- "X joined" and "X has left" lines keep the user list current. Your own chat echo from the server is ignored, as on the page.

Avatars

- Change Avatar takes JPG, PNG, GIF or WEBP, up to 100 KB after resizing, 320 px output.
- A picture with transparency is shrunk inside the circle and saved as PNG; otherwise it is centre-cropped square as JPEG at quality 85.
- Upload uses the page's fast path (a POST to the site), with the chunked fallback: 400-byte chunks, acknowledged one by one, with retries.
- Other people's pictures are fetched and shown round. OpenCV reads all formats; without it only PNG and GIF show.

Files in the window

- File offers and transfers happen in the chat window, with a progress strip under the conversation and an Accept / Decline box for incoming offers.
- If someone calls you while you are in the chat window, a line in the conversation says so and it beeps. You answer from the Voice Chat or Video Chat tile.

The tile and menus

- The Chat tile opens the new window unless you gave it a web page or program in its Edit dialog.
- File menu: new item WinsChat web page (browser). Chat page or program... still makes the tile open a page or program of your choice, and no longer silently replaces the new window when you edit the tile.
- New help topic Text chat (F1 in the window). Settings keys added: `chat_sound` and `chat_scheme`.

Tests

- 14 new tests for the page's filters and for whole sessions through a fake chat server: connecting, chat out and in, slash commands, joining a channel, system lines, whispers and pages, legacy plain lines, own-echo handling, leaving, call invites.

1.17.2 (Oct 24): Voice Chat, Video Chat, File Xfer, installer

WinsChat voice, video and file transfer now run inside WinsHub with no browser. Everything below was tested on fake servers and a virtual display, not on Windows.

New tiles and windows

- Voice Chat and Video Chat tiles, ported from WinsVoiceChat.wct and WinsVideoChat.wct. Calls work between this program and the web pages in either direction, and with other copies. Voice takes up to six people, video three.
- Calling: double-click a name in the Online now list or type a name, then Start Voice Call or Start Video Call. Incoming calls ring with Accept and Decline and stop ringing after 45 seconds. Invite adds a person to a call; End hangs up. Someone calling while you are in a call is told you are busy.
- In a call: Mic, Speaker and Camera mute buttons, level meters, Record (all voices to one WAV file), and Snapshot of the other person's picture (never your own) as a PNG. A call still works with no camera, with a note saying why.
- File Xfer tile (first named File Chat, renamed on your request), ported from WinsFile.wct. Files up to 10 MB. Fast path: one upload to the site and a one-time download link. Fallback: 400-byte pieces over the chat connection, with gap repair, resend requests and a Retry missing button. Offers carry Accept and Decline; an offer nobody answers is withdrawn after

three minutes. Received files go to your download folder and never overwrite an existing file (the new one is numbered, like `photo (1).jpg`).

- All three windows sign in by name, using the name from your saved WinsChat web login, else the phone-book entry for the chat site, else the last name used. Change Name and Chat Server buttons, F1 help topics (Voice and video calls; Sending files).
- The tiles are named Voice Chat, Video Chat and File Xfer.

Removed

- Arcade Classics and Casino Games tiles, their menu entries and methods, and their icons.

Installer and packaging

- A Setup program (NSIS) with Start menu and desktop shortcuts, an uninstaller, and the PDF and text manuals installed with it. Your phone book and settings are left alone.
- `install_requirements.bat` downloads and installs Python if it is missing, then the packages: paramiko, websockets, aiortc, numpy, sounddevice and opencv-python-headless.
- `tools/check_requirements.py` and a built-in self-test: `WinsHub.exe --selftest` writes a report to `%TEMP%\WinsHub-selftest.txt`.
- `build_exe.bat` runs the self-test as a step. `INSTALL.txt` updated with the Setup program, packages, self-test troubleshooting and uninstall notes.
- New launcher icons for voice, video and file in the dark and light sets.

Fixes

- The chat window said to `pip install aiortc websockets numpy sounddevice opencv-python`. Cause: the exe build excluded Python's `multiprocessing` module, which aiortc needs. The exclusion is removed (kept in `build_exe.bat` as a comment). You rebuilt the exe and confirmed it worked.
- When a package fails to import, the window now shows the actual error, not just the package name.
- Tests added for the file transfer (18) and for the tiles (voice, video and file present; arcade and casino gone).

Oct 24, daytime: Winserver RIP add-on, 1.17.0 and 1.17.1

These came from earlier sessions, before the work in the next sections.

Winserver RIP add-on (first stage)

- `DetectRip` declared without empty parentheses, to match how the Winserver sources declare functions.
- `#include "windows.wch"` added to `menu.wcc` so `GetTickCount` is declared.
- Packaged as `RIP-addon.zip`. Not compiled.

1.17.0: capture, triggers, transfers, phone-book sharing, SSH keys

- Session log: save a call to a text file (Terminal menu or `log` in F8), optionally on every call, with time stamps and colour codes removed.
- Find in scrollbar (Ctrl+Shift+F or `find`) with case, regex and next/previous, and Save scrollbar.

- Text triggers: answer a prompt, highlight a word, beep or show a note when the host sends matching text, per host, with loop protection.
- Key macros: ten per site and ten for all sites on Alt+1 to Alt+0, with {USER}, {PASS}, {DATE}, {TIME} and {WAIT n}.
- Transfers: a history (*history*), a download queue (*queue*) that takes several addresses, and resume of interrupted ZMODEM and HTTP downloads kept as *.part* files, switchable in the Transfer menu.
- Phone book: export to and import from a shared list file or web address, and a site checker that shows which boards answer.
- SSH keys: make an Ed25519 key pair, view and copy the public key, and use the phone-book password as the key's passphrase.

1.17.1: saved menus

- Every menu built from a host's text menus is saved once per BBS as a sharp picture (*.svg*), a RIPscrip file (*.rip*) for RIP terminals and the Winserver RIP add-on, and a list (*.json*) of its keys and texts.
- The same picture is saved in every colour theme (copper, aurora, ocean, sunset, forest, dark, red, blue, green, orange, light) in a *themes* folder.
- Files go to a *menus* folder next to the phone book; a menu is rewritten only when it changes.
- Switch it in the Terminal menu (Save the menus I see); open the folder with Open the saved menus folder or *menus* in the F8 bar.

Oct 22: WinsTelnet and WinsTelnet Lite for Android

WinsTelnet was brought in line with WinsHub 1.16.1, and the Android app WinsTelnet Lite 1.0.1 was built and packaged. This comes from the "WinsTelnet program update" chat.

- WinsTelnet updated with the WinsHub 1.16.1 changes.
- WinsTelnet Lite 1.0.1 for Android: Telnet and Rlogin only, with no SSH, built with Kivy and Buildozer.
- Blue is the default colour theme and the app icon is blue.
- Menus and screens from the BBS turn into buttons, lists and cards, and there is a message form (To, Subject and text).
- Phone book and login scripts with Quick Learn.
- ZMODEM, YMODEM and XMODEM transfers, and HTTP downloads.
- ANSI art and RIPscrip display.
- The Android manual (PDF) is updated to match.
- Crappie Cracker Online (www.crappiecracker.com, port 2323) is a permanent built-in phone-book entry: it is added automatically, listed first, flagged as built in, and cannot be deleted.
- GitHub build workflow for the APK: the first run failed on a missing *buildozer-lite.spec*; the second failed because of a broken third-party Docker action, so the workflow now installs the Android build tools directly. It builds two APKs, one with SSH and one without.
- The APK was checked for the removed Python library dependency and is the fixed build.

- Packaged as `WinsTelnet-Android-1.0.1.zip`: the APK, a `FILE_ID.DIZ` (Blue default and Crappie Cracker Online built in, every line within 45 characters) and the PDF manual.
- Not tested: the Android app has not been run on a phone.

Packaging, documents and tests

- Each version from 1.17.2 to 1.17.7 had a source zip. Setups were built from your rebuilt exes for 1.17.2, 1.17.3 and 1.17.7.
- The 1.17.7 package: `WinsHub-1.17.7-Setup.exe`, `WinsHub-1.17.7-Setup.zip` (the Setup plus `FILE_ID.DIZ`), and `WinsHub-Manual-1.17.7.pdf`.
- The version number was bumped in `__init__.py`, `README.md` (a new entry each release, in the program folder and the installer folder), both `FILE_ID.DIZ` files, and `WinsHub.nsi` (`VER` and `VIProductVersion`).
- `FILE_ID.DIZ` now reads "WinsHub 1.17.7", mentions WinsChat text, voice, video and files being built in and you showing online while connected, and every line is 45 characters or fewer.
- The PDF and text manuals are regenerated from the built-in help each release. New help topics: Text chat (the Chat tile), Voice and video calls, Sending files, and the online-while-connected section. The tile lists in the help were updated and the Arcade and Casino mentions removed.
- A first 1.17.4 source zip accidentally included the old installer exes (114 MB); it was rebuilt without them (2.4 MB).
- The automatic test suite grew to 135 tests, all passing: file transfer, text chat, the shared connection, and the tiles.
- Mistakes caught and fixed while building: a test helper returning a stale event; a corruption test that could not be detected; a file hand-over that hung until the browser popup had loaded (a 3-second wait after Accept); unclosed files in tests; a batch-file quoting bug in `install_requirements.bat`; and the `multiprocessing` exclusion above.

Known limits

All of 1.17.2 to 1.17.7 was tested on fake chat servers and a virtual display, never on a real Windows PC or the real WinsBridge. Specifically:

- Voice and video on a real sound card and camera, and a full two-person call through the shared connection (only the "invite opens the Voice window ringing" step was checked).
- The Windows exe build, `install_requirements.bat` and the Setup program on real Windows.
- How the real chat server treats the program's connection next to the web page's of: for example, whether the Trebek bot's welcome whispers always arrive in the first 90 seconds.
- The Android app on a phone.
- The Winserver RIP add-on, which was not compiled.
- Only Telnet, SSH and Rlogin connections put you online; web tiles open in the browser and cannot be tracked.
- GIF and WEBP avatars from other people need OpenCV (the full exe has it).

32. About, versions and trademarks

WinsHub (known before version 1.18.0 as Wins Connector) is a Python / tkinter program for Windows. SSH, SFTP and SCP use the `paramiko` package; everything else uses only Python's standard library, except the **Voice Chat**, **Video Chat** and **File Xfer** tiles, which also need `websockets` (File Xfer) and, for the calls, `aiortc`, `numpy`, `sounddevice` and `opencv-python-headless` (see **Voice and video calls** and **Sending files**).

The dated list of changes is the **Change log** topic of this manual (and README.md in the program folder has the long version); the program version is under **Help > About**.

Building WinsHub.exe

Double-click **build_exe.bat** (it needs Python on the PATH). It makes **dist\WinsHub.exe** with the panther icon built in.

Installer

build_installer.bat makes **WinsHub-<version>-Setup.exe** (it needs NSIS and the exe from **build_exe.bat**). The installer puts the program in Program Files, adds Start menu and desktop shortcuts and an uninstaller, and leaves your phone book and settings alone. The manual is not part of the installer: use **Help > Help manual** in the program (or WinsHub-Manual-<version>.pdf / WinsHub-Manual-<version>.txt from the source).

Desktop shortcut and icon

Help > Create desktop shortcut (or **create_shortcut.bat**) puts a WinsHub icon on your Desktop. The icon is a tawny wildcat on a dark brown tile with the name "WinsHub" on a banner (the 16, 24 and 32 pixel sizes are plain so they stay clear). The shortcut uses the program's own icon file, so it shows the new icon even if the .exe was built earlier. If Windows keeps showing an old icon, delete the old shortcut, make a new one, and restart Explorer to clear Windows' icon cache.

Trademarks

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