GC27-3270-04
File No. S370-30

Systems

3270BBS Terminal User's Guide: Users and Moderators

3270BBS Version 4.2.8

m o s h i x

Edition Notice

Fifth Edition (September 2026)

This edition applies to Version 4.2.8 of 3270BBS and to all subsequent versions and modifications until otherwise indicated in new editions. Changes are made periodically to the information herein; before using this publication in connection with the operation of a bulletin board system, consult the release notices distributed by your system operator.

Information in this publication is subject to change. Any such change will be reported in a new edition or in a technical newsletter posted in the **3270BBS** conference of the system to which this publication applies.

Screens reproduced in this publication were captured from a running 3270BBS system with a Model 2, a Model 3, or a Model 4 display station; 3270BBS supports all three. The exact contents of the screens at a given installation depend on the options the system operator has enabled, on the access level of the user, and on the activity of the community.

Requests for copies of this publication should be made to your system operator. A form for readers' comments is provided at the back of this publication; comments may also be posted as a topic in the **3270BBS** conference.

Copyright 2025, 2026 by moshix. All rights reserved.

3270BBS is the community name of the TSU program product. Other product and company names mentioned herein, including IBM, MVS, z/OS, ISPF, SDSF and TSO, are used for descriptive purposes only.

Preface

About This Publication

This publication is a guide for *users* and *moderators* of 3270BBS. It describes every function that is available to a user at a display station. Functions reserved for the system operator (the administrator of the system) are mentioned only where they explain something that the user can see, and are not described in detail.

Who Should Read This Publication

This publication is intended for anyone who holds an account on a 3270BBS system. No previous experience of mainframe systems is assumed; however, much of the material will be familiar to users of TSO, ISPF, and SDSF. Chapter 21 is addressed to conference moderators; the remainder of the publication applies to all users.

How This Publication Is Organized

- **Chapters 1 through 4** introduce the system, describe how to log on, and explain the two menus, the function keys, and virtual sessions.
- **Chapters 5 through 11** describe the community functions: conferences and topics, the content editor, mail, notes, `bbs://` links, the user rolodex, one-liners, the summon function, and live chat.
- **Chapters 12 through 15** describe the user profile and preferences, printing and held output, the system displays, and the TSO command line.
- **Chapters 16 and 17** describe the BASIC and Assembler environments, including the full-screen ISPF-style editor and the file browser that both of them use.
- **Chapters 18 through 20** describe the games, the marketplace, and the doors to other systems.
- **Chapter 21** describes the additional functions available to conference moderators.
- **Appendixes A through D** summarize the function keys, the text color tags, and the messages that may be displayed, and define the terms used in this publication.

Conventions Used in This Publication

- Keys are shown as **`F3`**, **`ENTER`**, **`PA1`**, and **`CLEAR`**. On most 3270 emulators, the keys **`F13`** through **`F24`** are produced by holding **`Shift`** while pressing **`F1`** through **`F12`**.
- Data that the user types is shown in `THIS TYPEFACE`. Text that the system displays is shown in the same typeface when it is quoted in a sentence.
- Screens captured from a running system are shown as numbered figures. Each caption indicates whether the screen was taken on a Model 2 (24 x 80), a Model 3 (32 x 80), or a Model 4 (43 x 80) display station, and names the file in which the capture is kept.
- The abbreviation **PF** and the letter **F** are used interchangeably for the program function keys, as they are on the screens themselves.

Related Publications

- *Timesharing BASIC/3270BBS Language Manual*: the complete description of the BASIC language, at `https://github.com/moshix/3270bbs/blob/main/basic_manual.md`. A summary is displayed by the `HELP` command at the BASIC command line.
- *Timesharing Assembler Manual*: the complete description of the System/360 assembler subset, at `https://github.com/moshix/3270bbs/blob/main/assembler_manual.md`. A summary is displayed by the `HELP` command at the assembler command line.
- The program itself, and the remainder of its documentation, at `https://github.com/moshix/3270bbs`.
- *Configuring 3270BBS*: for system operators.

Contents

Edition Notice ..... **i**

About This Publication ..... **ii**
- Who Should Read This Publication ii
- How This Publication Is Organized ii
- Conventions Used in This Publication ii
- Related Publications iii

Introduction to 3270BBS **1-1**
- Display Station Requirements 1-1
- Ways to Reach the System 1-3
- The Parts of a Screen 1-4

Logging On and Logging Off **2-1**
- The Logon Screen 2-1
- Registering as a New User 2-2
- Recovering a Lost Password 2-4
- Logging Off 2-4

Using the Menus **3-1**
- The Main Menu 3-1
- The Extended Menu 3-4
- Shortcuts 3-7
- Typed Commands 3-7
- Function Keys That Work Almost Everywhere 3-11
- F2 — What's New 3-13
- F4 — Summoning Another User 3-13
- F6 — System Information 3-14
- F13 — Changing the Menu Colors 3-14

Virtual Sessions **4-1**
- Starting and Switching Sessions with F24 4-1
- The Virtual Sessions Screen 4-3
- Where F23 and F24 Are Accepted 4-5

Conferences, Topics and Posts **5-1**
- Listing the Conferences 5-1
- Subscriptions 5-3
- Listing the Topics in a Conference 5-4
- Sorting a List 5-6

Reading a Topic 5-7
Starting a Topic 5-10
Replying 5-10
Changing or Removing Your Own Post 5-10
Searching the Whole System 5-12

Writing: the Content Editor 6-1
The Changed Indicator 6-2
Editor Commands 6-2
Editor Function Keys 6-3
The Editing Keys in Practice 6-8
Color Tags 6-16
Signatures 6-17
Drawing Boxes 6-17

Mail 7-1
The Inbox 7-1
Reading a Message 7-3
Writing a Message 7-4
Mail To and From the Internet 7-5

Notes 8-1
The Reserved Subjects 8-3
Reaching Your Notes by FTP 8-5

Linking to Content: bbs:// Links 9-1
The Form of a Link 9-1
The Link Clipboard 9-1
Copying, Pasting and Following 9-1
Following a Link From the Command Line 9-4

Finding and Reaching People 10-1
The User Rolodex 10-1
The Wall of One-Liners 10-3
Summoning 10-3
Being Fingered From Outside 10-4

Live Chat 11-1
Asking the AI: @ai 11-3
Who Is Typing 11-5

The Room Topic 11-5
Points to Remember 11-5

Your Profile and Preferences 12-1
Account Information 12-2
Preferences 12-3
Function Keys on the Profile Screen 12-5
Changing Your Password 12-5
Setting Your Time Zone 12-6
Your About Me Page 12-6
Closing Your Account 12-7

Printing, Held Output and Mail Limits 13-1
What You Can Print 13-1
Where It Goes: the Print to Held Preference 13-1
The Held Output Queue 13-2
Reading a Held Job 13-4
Nothing Is Cleaned Up For You 13-4
Limits on Outgoing Mail 13-4

System Displays 14-1
SDSF: System Activity 14-1
DELTAMON: Performance Monitor 14-2
User Performance: Who Is Using the Machine 14-4
DBMON: the Database Transaction Monitor 14-5
The MVS Console 14-6
The Clock 14-8
Market Data 14-9
DSLIST: the Data Set List 14-10
Other Displays 14-11

The TSO Command Line 15-1
Examples 15-3

Programming in BASIC 16-1
Writing and Running a Program 16-1
Commands 16-4
Keys at the BASIC Command Line 16-5
Your Files 16-5

Worked Examples 16-6
The File Browser 16-9
The Full-Screen Editor 16-10
The Language 16-14
Limits 16-15

Programming in Assembler 17-1
Commands 17-2
Assembling and Running 17-4
Checking and Listing a Program 17-5
The Machine 17-7
Macros 17-7
Limits 17-8

Games 18-1
Balloon 18-1
Blackjack 18-2
Space Invaders 18-2
Flappy Bird 18-3
Wordle 18-4
Checkers 18-5

The Marketplace 19-1
Posting an Item 19-2

Doors to Other Systems 20-1
Coming Back: the PA3 Key 20-1

Guide for Moderators 21-1
The Moderator's Options 21-1
Managing Topics 21-1
Managing Posts 21-2
Conferences 21-2
Chat 21-2
Practice 21-3

Summary of Function Keys A-1
Everywhere A-1
The Menus A-1
Conferences, Topics and Posts A-2

The Content Editor A-3
The ISPF-Style Editor A-4
Mail, Notes and the Rest A-4
Games and Displays A-5

Summary of Color Tags B-1

Messages C-1
Logging On C-1
Writing and Posting C-2
AI Assistance in the Editor C-2
Links C-4
Printing and Mail C-4
Programming C-5
The Console C-6

Glossary D-1
A D-1
B D-1
C D-2
D D-2
E D-3
F D-3
H D-3
I D-3
J D-3
L D-3
M D-4
N D-4
O D-4
P D-5
R D-5
S D-5
T D-6
V D-7
W D-7

Figures

Figure 1-1. Supported display stations 1-2
Figure 1-2. The main menu on a Model 3 display station 1-3
Figure 2-1. The logon screen 2-1
Figure 2-2. Function keys on the logon screen 2-2
Figure 2-3. Registration fields 2-3
Figure 3-1. The main menu on a Model 2 display station 3-1
Figure 3-2. The main menu information panel 3-2
Figure 3-3. Main menu options 3-3
Figure 3-4. The main menu on a Model 4 display station 3-4
Figure 3-5. The extended menu 3-5
Figure 3-6. Extended menu options 3-6
Figure 3-7. The COMMANDS overlay, listing typed commands 3-8
Figure 3-8. Typed commands available from either menu 3-9
Figure 3-9. The main help panel 3-11
Figure 3-10. Universal function keys 3-12
Figure 3-11. The SUMMON USER overlay 3-13
Figure 3-12. The System Information overlay 3-14
Figure 4-1. Virtual session keys 4-1
Figure 4-2. The Virtual Session Status overlay 4-2
Figure 4-3. The Virtual Sessions screen 4-3
Figure 4-4. Fields on the Virtual Sessions screen 4-4
Figure 5-1. The Available Conferences screen 5-2
Figure 5-2. Function keys on the conference list 5-3
Figure 5-3. Conference Subscription Management 5-4
Figure 5-4. The topic list for one conference 5-5
Figure 5-5. Function keys on the topic list 5-6
Figure 5-6. Reading a topic 5-7
Figure 5-7. The topic view function key panel 5-8
Figure 5-8. Function keys while reading a topic 5-9
Figure 5-9. The F6=Edit marker, shown only on your own post 5-11
Figure 5-10. The Search and Data Set List menu 5-12
Figure 6-1. The content editor, opened to reply to a topic 6-1
Figure 6-2. Text typed into the editor, with color tags. The red asterisk at the right of the Command line says the text has been changed 6-2
Figure 6-3. Content editor commands 6-3

Figure 6-4. Lines of text in the content editor 6-4
Figure 6-5. The editor on a Model 3 display, with the two-line key legend and a selection 6-5
Figure 6-6. The content editor function key panel 6-6
Figure 6-7. Content editor function keys 6-7
Figure 6-8. A line copied with F16 and pasted below with F18 6-9
Figure 6-9. A line boxed with F11 6-10
Figure 6-10. F2 has found two misspelled words 6-11
Figure 6-11. A signature appended with F21 6-14
Figure 6-12. Text color tags 6-16
Figure 7-1. The mail inbox 7-2
Figure 7-2. Function keys on the mail list 7-2
Figure 7-3. Reading a message 7-3
Figure 7-4. The message view function key panel 7-3
Figure 7-5. Function keys while reading a message 7-4
Figure 7-6. Choosing the recipients of a message 7-5
Figure 7-7. How an arriving Internet message is reduced for the screen 7-7
Figure 8-1. The notes list 8-1
Figure 8-2. Function keys on the notes list 8-2
Figure 8-3. Reading a note 8-2
Figure 8-4. Function keys while reading a note 8-3
Figure 8-5. The notes help panel, listing the reserved subjects 8-4
Figure 8-6. Reserved note subjects 8-4
Figure 9-1. Where F22 works, and what it does there 9-3
Figure 9-2. A link copied from the topic list with F22 9-4
Figure 10-1. The user rolodex 10-1
Figure 10-2. Keys on the user rolodex 10-2
Figure 10-3. A user's About Me page, displayed with F5 10-2
Figure 10-4. The wall of one-liners 10-3
Figure 11-1. Local chat 11-1
Figure 11-2. The chat function key panel 11-2
Figure 11-3. Function keys in chat 11-2
Figure 12-1. The user profile screen 12-1
Figure 12-2. Account information on the profile screen 12-2
Figure 12-3. Preferences on the profile screen 12-3

Figure 12-4. The profile screen on a Model 4, showing statistics 12-4
Figure 12-5. Function keys on the profile screen 12-5
Figure 12-6. The change password screen 12-5
Figure 12-7. The time zone selection screen 12-6
Figure 12-8. The first account deletion warning 12-7
Figure 12-9. The final confirmation screen 12-8
Figure 12-10. What closing your account removes 12-9
Figure 13-1. What can be printed, and from where 13-1
Figure 13-2. The held output queue 13-2
Figure 13-3. Columns of the held output queue 13-3
Figure 13-4. Actions on the held output queue 13-3
Figure 13-5. Reading a job from held output 13-4
Figure 13-6. Limits on outgoing mail 13-5
Figure 14-1. The SDSF system activity display 14-1
Figure 14-2. Columns of the SDSF activity display 14-2
Figure 14-3. The DELTAMON performance monitor 14-3
Figure 14-4. Keys on the DELTAMON display 14-4
Figure 14-5. The per-user processor display 14-5
Figure 14-6. The database transaction monitor 14-6
Figure 14-7. The MVS operator console, after a D A,L command 14-7
Figure 14-8. Commands accepted by the MVS console 14-8
Figure 14-9. The wall clock 14-9
Figure 14-10. The Stock Quotron 14-10
Figure 14-11. Other displays 14-11
Figure 15-1. The TSO command line 15-1
Figure 15-2. The commands available on the TSO command line 15-2
Figure 15-3. Commands on the TSO command line 15-3
Figure 15-4. The WHO command 15-4
Figure 15-5. The TIME, UPTIME and CPU commands 15-5
Figure 15-6. The USER command 15-5
Figure 15-7. The CALC calculator 15-6
Figure 16-1. The BASIC command line 16-1
Figure 16-2. A program listed with the LIST command 16-2
Figure 16-3. The same program saved and run 16-3

Figure 16-4. Commands of the BASIC interpreter 16-4
Figure 16-5. Keys at the BASIC command line 16-5
Figure 16-6. What the first character of a file name means 16-5
Figure 16-7. Listing your files with FILES 16-6
Figure 16-8. LOAD, RUN and VARS 16-7
Figure 16-9. The CHECK command 16-7
Figure 16-10. VIEW of the listing produced by CHECK 16-8
Figure 16-11. EMAIL on a system with no outgoing mail configured 16-9
Figure 16-12. The file browser 16-9
Figure 16-13. The file browser 16-10
Figure 16-14. The ISPF-style editor 16-10
Figure 16-15. The editor function key and command panel 16-11
Figure 16-16. Function keys in the ISPF-style editor 16-12
Figure 16-17. Primary commands in the ISPF-style editor 16-13
Figure 16-18. Line commands in the ISPF-style editor 16-14
Figure 16-19. Limits of the BASIC interpreter 16-15
Figure 17-1. The assembler command line 17-1
Figure 17-2. Commands of the assembler 17-2
Figure 17-3. The community programs, listed with FILES /C 17-3
Figure 17-4. A community program loaded and listed 17-4
Figure 17-5. A program run, and the registers displayed afterwards 17-5
Figure 17-6. The CHECK command 17-6
Figure 17-7. EMAIL on a system with no outgoing mail configured 17-7
Figure 17-8. The simulated machine 17-7
Figure 17-9. Limits of the assembler 17-8
Figure 18-1. The Hot Air Balloon Challenge 18-1
Figure 18-2. Balloon controls 18-1
Figure 18-3. Blackjack 18-2
Figure 18-4. Space Invaders 18-3
Figure 18-5. Flappy Bird 18-4
Figure 18-6. Wordle, ready for the first guess 18-5
Figure 18-7. Wordle, after a guess has been entered 18-5
Figure 19-1. The marketplace 19-1
Figure 19-2. One marketplace item 19-2

Figure 19-3. The marketplace 19-2
Figure 20-1. The remote host selection screen 20-1
Figure 21-1. What a moderator has that a user does not 21-1
Figure 21-2. Actions on the topic management screen 21-2
Figure A-1. Keys that work on nearly every screen A-1
Figure A-2. Keys on the main and extended menus A-2
Figure A-3. Keys in the conferences A-2
Figure A-4. Keys in the content editor A-3
Figure A-5. Keys in the ISPF-style editor A-4
Figure A-6. Keys in mail, notes and the profile A-4
Figure A-7. Keys in the games and the system displays A-5
Figure B-1. Color tags B-1
Figure C-1. Messages when logging on C-1
Figure C-2. Messages while writing C-2
Figure C-3. Messages about AI assistance in the editor C-3
Figure C-4. Messages about links C-4
Figure C-5. Messages about printing and mail C-4
Figure C-6. Messages from BASIC and the assembler C-5
Figure C-7. Messages from the console C-6

Chapter 1

Introduction to 3270BBS

3270BBS is a bulletin board system and productivity suite for 3270 display stations. This chapter describes the services it provides, the display stations it supports, the ways in which the system may be reached, and the general layout of its screens.

3270BBS provides a set of related services that share one account and one screen. The services are as follows:

- public discussion in **conferences**, which contain **topics**, which in turn contain **posts**;
- private **mail** between users and, where the operator has enabled it, mail to and from the Internet;
- personal **notes**, some of which have special meanings (the public profile, the signature, and the finger reply of the user);
- **live chat**: local, private, and federated;
- a **marketplace** of items for sale and wanted;
- **programming** in Timesharing BASIC and in System/360 Assembler, with a full-screen ISPF-style editor;
- **games**, a wall clock, market data, and other diversions;
- **doors** to other mainframe systems on the network;
- system displays modeled on SDSF, including **held output**, where the printed documents and program listings of the user are kept;
- optionally, federated **newsgroups** and federated **real time chat**, where the operator has joined this board to others.

Display Station Requirements

3270BBS accepts three screen sizes, and no others. Every screen in the system is laid out for whichever of the three sizes the emulator reports when it connects.

Model	Size	Notes
`Model 2`	`24 x 80`	The standard screen. Every function of the system is available on it. This publication describes the Model 2 screen unless otherwise stated.
`Model 3`	`32 x 80`	Provides eight additional lines. Lists and topics display more data before paging is required, and the last five lines carry the terms, message, and function key lines.
`Model 4`	`43 x 80`	Provides nineteen additional lines. Lists display many more entries per page, topics display more text per page, and the profile screen displays a statistics section for which the smaller screens have no room.

Figure 1-1. Supported display stations

The emulator should be set to **3279-2**, **3279-3**, or **3279-4** (the color models) before connecting. The monochrome 3278 models are supported; however, 3270BBS uses color throughout to convey meaning, and a monochrome session therefore loses information. If the emulator offers a screen smaller than 24 x 80, the system refuses the connection with `WARNING! Your terminal size is too small!` followed by `Minimum terminal size required: 24x80`.

Figure 1-2 shows the main menu on a Model 3, and Figure 3-4 in Chapter 3 shows the same menu on a Model 4. A comparison of either figure with Figure 3-1, the Model 2 screen, shows how the system uses the additional lines.

```
                      3270BBS - a 3270 BBS                                1
Option ===>

1  Conferences       Organized community discussions     User ID . : bcooper
2  My Subscriptions  Manage conference subscriptions     Time. . . : 10:45a
3  Search Content    Full text search                    Online .  : 1
4  Mail              Send and receive Mail               In chat . : 0 : 0
L  One Liners        Short messages to community         Unread Msg: No
R  Chat              Local real-time chat                Release . : 4.2.7
U  User Rolodex      Look up users                       Terminal. : 3-310
N  Notes             Personal notes
S  SDSF              System activity                        September   2026
0  Edit Profile      Update your account information     Su Mo Tu We Th Fr Sa
M  Extended Menu     More applications                          1  2  3  4  5
X  Logoff            Exit to TSO                          6  7  8  9 10 11 12
                                                         13 14 15 16 17 18 19
                                                         20 21 22 23 24 25 26
                                                         27 28 29 30
                                                            Day of year 253

                                Welcome to 3270BBS
F1=Help F2=WhatsNew F4=Summon F5=VirtualSess F6=SysInfo F10=Month- F11=Month+
```

Figure 1-2. The main menu on a Model 3 display station (Model 3, 32 x 80; capture screens/92-main-menu-model3.txt)

Widely used emulators are x3270, c3270, and wc3270; any emulator that supports the TN3270 protocol may be used. No emulator need be installed, however. 3270BBS includes **web3270**, a browser-based 3270 display station with the full 3270 keyboard, color, the function keys, and file transfer. Where the operator has started it, it is reached through the 3270 terminal page of the system's web site; no installation or configuration is required. All functions operate under web3270 as they do under a dedicated emulator, except for keys that the browser reserves for its own use.

Ways to Reach the System

The system may be reached in the following ways. The system operator can state which of them are enabled, and on which port numbers.

- **TN3270**: the ordinary connection, unencrypted.
- **TN3270 with TLS**: the same connection, encrypted. It should be used in preference to TN3270 when it is offered.
- **web3270**: the 3270 display station that is supplied with 3270BBS and runs in a web browser. See "Display Station Requirements".
- **SSH**: a terminal session for clients that have no 3270 emulator.
- **FTP**: not a display session, but a means of transferring the text of notes to and from the user's workstation. See "Reaching Your Notes by FTP" in Chapter 8.
- **FINGER**: allows people outside the system to read a user's finger note. See Chapter 10.

The Parts of a Screen

Nearly every screen in 3270BBS is laid out in the same way. A screen consists of the following parts:

- a **title line** at the top, which names the screen;
- an **input line**: on the menus it is `Option ===>`, in the editors it is `Command ===>`, and in lists it is a search field or a column of one-character selector fields;
- the **body** of the screen;
- a **message line** near the bottom, where errors and confirmations are displayed, often in reverse video;
- a **function key line** at the bottom, which lists the keys that the screen accepts.

The function key line names the action that each key performs on that screen. It is not always complete, however. Several screens accept keys for which the legend has no room, such as **`F6`** and **`F22`** on the conference list, **`F1`** on the topic list, and **`F20`** on the message and note viewers. Where this publication lists a key that the screen does not name, the key is nevertheless valid; where it lists none, none is accepted.

Note
Screens are 79 columns wide by design. The eightieth column is left empty so that no character is lost on display stations that treat it specially.

Chapter 2

Logging On and Logging Off

This chapter describes how to log on to 3270BBS, how to register as a new user, how to recover a lost password, and how to log off.

The Logon Screen

When a connection is established, the system displays the logon screen shown in Figure 2-1. The heading lines identify the host, the terminal address, the port and protocol of the connection, the model of the display station, and the program level.

```
HOST:     MACPRO.LOCAL        DATE: September 10, 2026 TIME:  17:56:24 UTC
TERMINAL: ::1                 PORT: NoTLS - 23270/Mod2 BUILD: 4.2.7 00 00 00

                          Welcome to 3270BBS
                          a 3270BBS by moshix
             _______  ________  ____  ____ _____
            /__  /__ \/__  / __ \/ __ )/ __ ) ___/
             /_ <__/ /  / / / / / __  / __  \__ \
           ___/ / __/  / / /_/ / /_/ / /_/ /__/ /
          /____/____/ /_/\____/_____/_____/____/



                         User:
                         Password:

Use of this system is subject to the terms and conditions as posted
by the SysOp. Press F5 to register as a new user.


F1 Help  F2 About  F5 Register as new user  F9 Recover lost password
```

Figure 2-1. The logon screen (Model 2, 24 x 80; capture screens/01-logon.txt)

To log on, type the user identifier in the `User:` field, press **`TAB`**, type the password in the `Password:` field (the password is not displayed as it is typed), and press **`ENTER`**. The following keys are valid on the logon screen:

Key	Function
F1	Displays help.
F2	Displays information about this system. Shown only when the operator has enabled logon statistics.
F5	Registers a new user.
F9	Recovers a lost password.
ENTER	Logs on with the identifier and password typed.

Figure 2-2. Function keys on the logon screen

If the identifier or the password is incorrect, the system displays `Invalid username or password. Please try again.` The message does not indicate which of the two was incorrect. Repeated failures from one address are rate-limited; a user who is locked out should wait a few minutes and try again.

After a successful logon, the system displays a brief `LOGON IN PROGRESS` notice, together with any broadcast message from the operator. Pressing **`ENTER`** continues to the main menu. Any function key has the same effect, except **`F23`**, which is ignored on this screen.

Registering as a New User

To register, press **`F5`** on the logon screen. The registration screen requests the following information. All fields are required, as the screen indicates in reverse video: `ALL FIELDS REQUIRE INPUT FOR ACCOUNT CREATION`.

Field	Rules
`Username`	Specifies the user name: six or seven characters, letters and digits only, not beginning with a digit. The names `admin` and `noreply` are reserved. The user name cannot be changed after the account is created.
`Password`	Specifies the password: six to twenty-two characters.
`Confirm`	Must match the password exactly.
`Email`	Specifies a valid electronic mail address. If the operator has enabled electronic mail and verification, a four-digit code is mailed to this address and must be typed on the next screen. Many operators do not enable it; see the note that follows the table.
`Home City`	Required for password recovery. This is the only secret question that the system keeps; the user must remember exactly what was typed.
`Country`	Specifies the country of the user.
`Units`	`metric` or `imperial`. Determines how temperatures and distances are displayed.

Figure 2-3. Registration fields

Note
Electronic mail is an *optional* feature of 3270BBS. It is available only where the operator of the board has obtained a SendGrid API key and enabled mail in the system configuration. Many operators run without one. Where mail is not enabled, registration completes without a verification code, and a lost password cannot be recovered by mail (see "Recovering a Lost Password"). The electronic mail address is nevertheless recorded, and must still be specified correctly, because it is one of the two items that a password recovery checks.

F3 terminates the registration. When the fields are accepted, the system displays the time zone selection screen described in "Setting Your Time Zone" in Chapter 12; the account is created when that screen is completed. The first time the user reaches the main menu, a welcome panel suggests reading mail, writing a `PUBLIC` note, and greeting the community on the wall of one-liners. **F3** closes the panel and displays the wall of one-liners; any other key leaves the panel on the screen.

Recovering a Lost Password

To recover a lost password, press **F9** on the logon screen. The `Password Reset` screen requests the user identifier, the electronic mail address recorded in the profile, and the home city. If all three agree with the records, a new temporary password is generated and displayed on the next screen. (The city is compared leniently, so that a small difference in spelling is tolerated.) The user should log on with the temporary password and change it immediately, as described in "Changing Your Password".

Where the operator has enabled electronic mail, the reset may also be confirmed by a message sent to the address in the profile. Where mail is not enabled (it requires a SendGrid API key that the operator must obtain and configure), nothing is sent, and the temporary password on the screen is the only copy. The temporary password is not displayed again; the user should record it before pressing a key.

The failure message is the same whatever the cause of the failure, so that this screen cannot be used to discover which accounts exist. Administrative accounts cannot be recovered in this way. If the user has forgotten the electronic mail address or the city, only the operator can restore access; there is no other means of regaining access to the account.

Logging Off

To log off, select option `X` (Logoff) from the main menu. This does not disconnect the session immediately; instead, it displays the TSO command line described in Chapter 15, where `READY` is displayed. Type `LOGOFF` to terminate the session, or `MENU` to return to the main menu.

If the emulator is simply closed, the system cleans up the session after a period of inactivity. Logging off properly is preferred, because it releases the session slot at once and records the end of the session correctly.

Note
If a menu is left displayed without input, the screen saver described in "Preferences" may start. Pressing any key returns to the menu.

Chapter 3

Using the Menus

This chapter describes the main menu and the extended menu, the shortcuts and typed commands that are available from them, and the function keys that are valid on most screens of the system.

Every function of 3270BBS is reached from one of two menus: the **main menu** and the **extended menu**. Both menus operate in the same way. To select a function, type its option at the `Option ===>` prompt and press **`ENTER`**, or press one of the function keys named at the bottom of the screen.

The Main Menu

```
                      3270BBS - a 3270 BBS                                  1
Option ===>

1  Conferences       Organized community discussions     User ID . : bcooper
2  My Subscriptions  Manage conference subscriptions     Time. . . : 9:57a
3  Search Content    Full text search                    Online .  : 1
4  Mail              Send and receive Mail               In chat . : 0 : 0
L  One Liners        Short messages to community         Unread Msg: No
R  Chat              Local real-time chat                Release . : 4.2.7
U  User Rolodex      Look up users                       Terminal. : 2-310
N  Notes             Personal notes
S  SDSF              System activity                        September   2026
0  Edit Profile      Update your account information     Su Mo Tu We Th Fr Sa
M  Extended Menu     More applications                          1  2  3  4  5
X  Logoff            Exit to TSO                          6  7  8  9 10 11 12
                                                         13 14 15 16 17 18 19
                                                         20 21 22 23 24 25 26
                                                         27 28 29 30
                                                            Day of year 253



                                Welcome to 3270BBS
F1=Help F2=WhatsNew F4=Summon F5=VirtualSess F6=SysInfo F10=Month- F11=Month+
```

Figure 3-1. The main menu on a Model 2 display station (Model 2, 24 x 80; capture screens/02-main-menu.txt)

The options are listed on the left of the screen. The right of the screen contains an information panel and a calendar. The information panel contains the following fields:

Field	Meaning
`User ID`	Indicates the account to which the user is logged on.
`Time`	Indicates the current time in the user's time zone.
`Online`	Indicates the number of users now connected.
`In chat`	Indicates the number of users in local chat, followed by the number of users in federated chat.
`Unread Msg`	Contains `Yes`, in blinking red, when mail is waiting for the user; otherwise `No`.
`Release`	Indicates the level of the program.
`Terminal`	Indicates the display station model and the character set in use; for example, `2-310`.

Figure 3-2. The main menu information panel

Below the panel, a month calendar is displayed with the current date highlighted, together with the day of the year. **`F10`** and **`F11`** move the calendar back and forward one month; they have no other effect.

The green number at the right end of the title line is the number of the virtual session in which the menu is displayed: `1`, `2` or `3`. It is displayed on both the main menu and the extended menu. See Chapter 4.

A white asterisk two columns to the left of the session number indicates that a `bbs://` link is on the clipboard and may be pasted into a post or a message. See Chapter 9.

Option	Name	Function
1	Conferences	Displays the organized community discussions. See Chapter 5.
2	My Subscriptions	Selects the conferences that the user follows. See Chapter 5.
3	Search Content	Performs a full text search of topics and posts.
4	Mail	Sends and receives mail. See Chapter 7.
L	One Liners	Displays the wall of short messages to the whole community. See Chapter 10.
R	Chat	Invokes local real-time chat. See Chapter 11.
U	User Rolodex	Looks up users. See Chapter 10.
N	Notes	Displays the user's personal notes. See Chapter 8.
S	SDSF	Displays system activity and the user's held output. See Chapters 13 and 14.
0	Edit Profile	Displays the user's account information and preferences. See Chapter 12.
M	Extended Menu	Displays further applications. See below.
X	Logoff	Exits to the TSO command line. See Chapter 15.
7, 8	Mod Topics, Mod Posts	Displayed to moderators and administrators only. See Chapter 21.
6, D	Admin Users, DB Maint	Displayed to administrators only. These options are not described in this publication.

Figure 3-3. Main menu options

On a Model 4 display station, the calendar and the information panel are displayed in full, as shown in Figure 3-4.

```
                      3270BBS - a 3270 BBS                                1
Option ===>

1  Conferences       Organized community discussions     User ID . : bcooper
2  My Subscriptions  Manage conference subscriptions     Time. . . : 10:15a
3  Search Content    Full text search                    Online .  : 1
4  Mail              Send and receive Mail               In chat . : 0 : 0
L  One Liners        Short messages to community         Unread Msg: No
R  Chat              Local real-time chat                Release . : 4.2.7
U  User Rolodex      Look up users                       Terminal. : 4-310
N  Notes             Personal notes
S  SDSF              System activity                        September   2026
0  Edit Profile      Update your account information     Su Mo Tu We Th Fr Sa
M  Extended Menu     More applications                          1  2  3  4  5
X  Logoff            Exit to TSO                          6  7  8  9 10 11 12
                                                         13 14 15 16 17 18 19
                                                         20 21 22 23 24 25 26
                                                         27 28 29 30
                                                            Day of year 253

                                 Welcome to 3270BBS
F1=Help F2=WhatsNew F4=Summon F5=VirtualSess F6=SysInfo F10=Month- F11=Month+
```

Figure 3-4. The main menu on a Model 4 display station (Model 4, 43 x 80; capture screens/90-main-menu-model4.txt)

The Extended Menu

The extended menu is displayed when option `M` is selected from the main menu. **`F3`** returns to the main menu.

```
                      3270BBS - Extended Menu                              1
Option ===>

1  Clock            Wall clock                        User ID . : bcooper
2  Balloon          Hot air balloon game              Time. . . : 10:07a
3  Blackjack        Play some blackjack               Online .  : 1
4  Doors            Connect to other mainframes       In chat . : 0 : 0
5  Space Invaders   Famous 1970s game                 Unread Msg: No
6  Flappy Bird      Endless side-scroller
7  Marketplace      Buy and sell items
P  DELTAMON         Performance monitor
F  Forex            Real time forex exchange prices      September   2026
W  Wordle           Word guessing game                Su Mo Tu We Th Fr Sa
Q  Stock Quotron    View financial markets data              1  2  3  4  5
O  MVS Console      Operator Console                   6  7  8  9 10 11 12
M  Screen Saver     Burn-in protector for CRT/OLED    13 14 15 16 17 18 19
I  Private Chat     Password-access live chat         20 21 22 23 24 25 26
R  Federated Chat   Worldwide 3270BBS chat            27 28 29 30
G  Newsgroups       Worldwide, federated newsgroups      Day of year 253
B  BASIC            Program in BASIC
A  Assembler        S/360 assembly learning environment

                            Welcome to 3270BBS
F2=WhatsNew F3=Main Menu F5=VirtualSess F6=SysInfo F10=Month- F11=Month+
```

Figure 3-5. The extended menu (Model 2, 24 x 80; capture screens/07-extended-menu.txt)

Option	Name	Function
1	Clock	Displays a wall clock in several styles. See Chapter 14.
2	Balloon	Invokes the hot air balloon game. See Chapter 18.
3	Blackjack	Invokes the card game. See Chapter 18.
4	Doors	Connects to other mainframes. See Chapter 20.
5	Space Invaders	Invokes the game. See Chapter 18.
6	Flappy Bird	Invokes the game. See Chapter 18.
7	Marketplace	Buys and sells items. See Chapter 19.
P	DELTAMON	Displays the performance monitor. See Chapter 14.
F	Forex	Displays foreign exchange rates.
W	Wordle	Invokes the word guessing game. See Chapter 18.
Q	Stock Quotron	Displays financial market data. See Chapter 14.
O	MVS Console	Displays the operator console. See Chapter 14.
M	Screen Saver	Starts the screen saver immediately.
I	Private Chat	Enters a password-protected chat room. See Chapter 11.
R	Federated Chat	Is not available in this release. The option returns the message `Federated chat is disabled`. See Chapter 11.
G	Newsgroups	Is not available in this release. The option returns the message `Newsgroups is disabled`.
B	BASIC	Invokes the BASIC programming environment. See Chapter 16.
A	Assembler	Invokes the System/360 assembler environment. See Chapter 17.

Figure 3-6. Extended menu options

Note
The letter R selects *local chat* on the main menu and *federated chat* on the extended menu.

Shortcuts

A function need not be reached one menu at a time. The following shortcuts are available:

- From the extended menu, = followed by a main menu option selects that option directly. For example, `=0` selects Edit Profile and `=X` selects Logoff.
- From the main menu, `M;` followed by an extended menu option selects that option directly, without displaying the extended menu. For example, `M;7` selects the marketplace and `M;B` selects BASIC.

Typed Commands

Some functions do not appear on a menu and are invoked by a command typed at the `Option ===>` prompt. The `COMMANDS` command displays the list of commands that apply to the user's account, as shown in Figure 3-7.

`F12` on either menu retrieves the last command that was typed at the `Option ===>` prompt of either menu during the current session, whether or not the command was valid. The command is placed in the field with the cursor after it, and is not run: it can be changed, or run again with **`ENTER`**. If no command has been typed yet, **`F12`** has no effect. While an overlay is displayed on the menu, **`F12`** does not retrieve.

```
                      3270BBS - a 3270 BBS                                1
Option ===>

 Commands available to you - Main Menu

 TYPED COMMANDS                       DBMON    DB transaction monitor
 SD       SDSF system activity        DSLIST   Data set list utility
 CLOCK    Wall clock                  LASTPOST Latest post; -n = nth last
 BALLOON  Balloon game                MAIL     Mail: MAIL <user|address>
 CHECKERS Checkers game               WHOIS    User card: WHOIS <user>
 CONSOLE  MVS operator console        CLEAR    Clear the link clipboard
 NEWS     News headlines              COMMANDS Show this command list

 F3=Close
                                                        20 21 22 23 24 25 26
                                                        27 28 29 30
                                                           Day of year 253



                              Welcome to 3270BBS
F1=Help F2=WhatsNew F4=Summon F5=VirtualSess F6=SysInfo F10=Month- F11=Month+
```

Figure 3-7. The COMMANDS overlay, listing typed commands (Model 2, 24 x 80; capture screens/06-commands.txt)

Command	Function
SD	Displays the SDSF system activity display.
CLOCK	Displays the wall clock.
BALLOON	Invokes the balloon game.
CHECKERS	Invokes the checkers game. This game has no menu option and can be invoked only by this command.
CONSOLE	Displays the MVS operator console.
NEWS	Displays news headlines, if the system operator has configured a news source.
DBMON	Displays the database transaction monitor.
DSLIST	Invokes the data set list utility. See Chapter 14.
LASTPOST	Displays the topic that contains the most recent post, positioned at the page that holds that post. LASTPOST –*n* displays the *n*th most recent post instead, where *n* is 1 to 1000000; LASTPOST –1 is the same as LASTPOST. Blanks around the dash are optional, and the dash itself can be omitted if a blank separates the number from the command: LASTPOST–2, LASTPOST – 2, and LASTPOST 2 are equivalent. The *n*th most recent post is determined by the date and time at which each post was written, whatever order the user has chosen for displaying posts. Posts are counted across all topics, but only in the conferences that the user is permitted to read; posts in a topic whose conference has been deleted, or whose author's account no longer exists, are skipped, because such a topic cannot be displayed. Opening the topic counts as a view of it. **F3** displays the topic list of the topic's conference (or the list of all topics, for a topic that belongs to no conference), and **F3** again leaves that list as usual. If fewer than *n* posts are available to the user, the menu remains displayed with a message.
MAIL	MAIL *user* opens the message editor with the message addressed to *user*; uppercase and lowercase letters in the user name are equivalent. When the editor is closed, whether or not the message was sent, the menu at which the command was entered is displayed again; after a send, it shows Message sent to *user* in green reverse video. MAIL without a user name displays the list of messages, like option 4; as for option 4, **F3** on that list returns to the main menu, even when MAIL was entered on the extended menu. If no user has that name, the menu remains displayed with the message No such user: *name*; a closed account gets the same message. The system accounts noreply and smtp are refused with *name* is a system account and cannot receive mail. MAIL *address* sends a message to an Internet mail address; see "Mailing an Internet Address" below.
WHOIS	WHOIS *user* displays the user's name, the date on which the user registered (only if that date is known; it was not recorded for older accounts), the date of the user's last logon (Never if the user has not logged on), the number of posts that the user has written, and the user's About Me text. Dates are shown in the time zone of the user who entered the command. If the About Me text does not fit on one screen, **F7** and **F8** page through it. **F22** follows a bbs:// link in the About Me text; elsewhere on the screen, it copies a link to the user's About Me page. **F3** or **F12** returns to the menu at which the command was entered. If no user has that name, or the account is closed, the menu remains displayed with the message No such user: *name*. The system accounts noreply and smtp are refused with *name* is a system account.
CLEAR	Empties the bbs:// link clipboard. The system responds Link clipboard cleared.
COMMANDS	Displays the list of typed commands.

Figure 3-8. Typed commands available from either menu

Additional commands are available to administrators. They are listed for administrators in the same overlay and are not described in this publication.

Mailing an Internet Address

`MAIL` *`address`*, where *address* is an Internet mail address such as `jdoe@example.com`, sends an external message to that address. The argument is first looked up as a user name; only if no user has that name is it taken as an address, so a user whose name contains `@` is still reached as a user. The message recipients form is displayed with the address in the `Email to:` field and the cursor in the `Subject` field. A subject is required: if **`ENTER`** is pressed with the `Subject` field empty, the form is displayed again with the message `Subject is required` and the cursor in the field. The subject is never taken from the first line of the message on this path. Once a subject has been typed, **`ENTER`** goes on to the message editor. From the form, the message is handled as if the address had been typed there, and the form's own checks apply when **`ENTER`** is pressed. **`F3`** on the form, or leaving the editor, returns to the menu at which the command was entered. After a send, the menu shows, in green reverse video, `Email sent to` *`address`* if all the recipients in `Email to:` are external, or `Message sent to` *`names`*, listing the users and then the addresses, if users were added on the form. Addresses in the `cc:` field are not named.

Only one plain address is accepted: exactly one `@` with a name before it, a domain that contains a dot but does not begin or end with one or contain two in a row, and no blanks, commas, semicolons, angle brackets, parentheses, square brackets, backslashes, quotation marks, colons, or characters outside printable ASCII. Because the `Option ===>` field holds 43 characters, the address can be at most 38 characters long. The command is rejected, and the menu shows the reason in red reverse video, in the following cases, which are checked in this order:

1. External mail is not available on the system: `External mail is not available: SendGrid is not configured`, or `External mail is not available: mail domain is not configured`.
2. The account is too new to send external mail: `INFO14D GENERAL ERROR`.
3. The user has reached the daily limit for external mail. The message gives the limit and the number of messages sent.
4. The address is not acceptable: `Invalid email address:` followed by the address.

The daily limit is checked again when the message is sent; if it has been reached meanwhile, the editor shows the same message and the message is not sent.

Function Keys That Work Almost Everywhere

Figure 3-9 shows the help panel that **F1** displays on the main menu. The panel summarizes the conventions that apply throughout the system.

```
                              MAIN HELP
 Common Function Keys:                   Editor Function Keys:

  F1  = Display this help screen        F2  = Spell checker
  F3  = Exit/return to previous screen  F3  = Abandon edit session
  F4  = Reply                           F4  = Delete current line
  F5  = Create new                      F5  = Insert line below
  F7  = Scroll up                       F6  = Insert line above
  F8  = Scroll down                     F7  = Scroll up
  F9  = Delete an item                  F8  = Scroll down
  F20 = Print Topic/Message/Note        F9  = Select text (press twice)
  F22 = Copy/paste/follow a bbs:// link F10 = Center current line
  F23 = Virtual Sessions list           F11 = Make centered box
  F24 = Next virtual session            F12 = Save and exit
  F12 = Retrieve last menu command      F13 = Centered box until next empty row
                                        F14 = Go to first line of text
                                        F15 = Make left aligned box
                                        F22 = Paste a copied bbs:// link
                                        Save content with SAVE
                                        Exit editor unsaved with CANCEL
 In Editor press F1 for detailed editor commands.
 From the TSO command line, issue LOGOFF command to disconnect
 In TSO, issue HELP to see useful commands in command line mode.
  F3=Return
```

Figure 3-9. The main help panel (Model 2, 24 x 80; capture screens/05-main-help.txt)

Key	Function
F1	Displays help for the current screen. On exit from help, the user is returned to the screen from which help was requested. Help is available on most screens, but not on the extended menu.
F3	Leaves the screen; that is, cancels the current function or returns to the previous screen. On the main menu, F3 only refreshes the screen.
F4	Replies, on screens where a reply is meaningful. On the main menu, F4 invokes the summon function; the extended menu does not accept it.
F5	Creates a new item, such as a topic, a message, or a note. On the main menu, F5 displays the virtual session overlay.
F6	Changes the user's own post. The key is valid from anywhere on the screen while the `F6=Edit` marker is displayed. The marker is displayed only on a post that the user wrote, only for three hours after it was written, and only if the post has not already been changed. See "Changing or Removing Your Own Post" later in this chapter.
F7, F8	Scroll up and down.
F9	Deletes an item, on screens where deletion is meaningful.
F12	On the main menu and the extended menu, retrieves the last command typed at the `Option ===>` prompt, without running it. See "Typed Commands". The key is not shown in the menus' function key lines.
F20	Prints a topic, a message, or a note. See Chapter 13.
F22	Copies, pastes, or follows a `bbs://` link. See Chapter 9.
F23	Displays the Virtual Sessions screen, which lists the user's three sessions and allows the user to go to one by number. See Chapter 4.
F24	Goes to the next virtual session. If the session is not yet in use, it is started at the main menu. See Chapter 4.

Figure 3-10. Universal function keys

F2 — What's New

F2 on either menu reports the activity, since the user's previous logon, in the conferences to which the user subscribes and on the wall of one-liners. If there has been no activity, the message `No new activity since your last logon` is displayed in reverse video on the message line.

F4 — Summoning Another User

A summon is a short, urgent page to a user who is currently logged on. The message is displayed on that user's screen, whatever screen the user is on. To send a summon, press **F4** on the main menu. The overlay shown in Figure 3-11 is displayed.

```
                      3270BBS - a 3270 BBS                                  1
Option ===>

1  Conferences       Organized community discussions     User ID . : bcooper
2  My Subscriptions  Manage conference subscriptions     Time. . . : 10:25a
3  Search Content    Full text search                    Online .  : 1
4  M
L  O  SUMMON USER
R  C
U  U  Username:         (max 7 chars)
N  N
S  S  Message:                                                          6
0  E                                                                    Sa
M  E  Summon valid for 15 minutes                                        5
X  L  Enter=Send  F3=Cancel                                             12
                                                                        19
                                                       20 21 22 23 24 25 26
                                                       27 28 29 30
                                                          Day of year 253



                              Welcome to 3270BBS
F1=Help F2=WhatsNew F4=Summon F5=VirtualSess F6=SysInfo F10=Month- F11=Month+
```

Figure 3-11. The SUMMON USER overlay (Model 2, 24 x 80; capture screens/08-summon.txt)

Type the user identifier (at most seven characters) and a message of up to seventy characters, and press **ENTER**. **F3** cancels the summon. A summon is valid for fifteen minutes; if the user does not see it within that time, it expires. Afterwards, a `SUMMON STATUS` overlay indicates whether the summon was seen or expired unread.

A summon should be sent only to a user who is online. To reach a user who is not online, send mail (see Chapter 7). The wall of one-liners should not be used for this purpose, because a one-liner is addressed to the whole community and not to one person.

F6 — System Information

F6 displays the `System Information` overlay, shown in Figure 3-12, which describes the system to which the user is connected. Pressing **F6** again closes the overlay.

```
                      3270BBS - a 3270 BBS                                  1
 Option ===>

 1  Conferences       Organized community discussions     User ID . : bcooper
 2  My Subscriptions  Manage conference subscriptions     Time. . . : 9:57a
 3  Search Content    Full text search                    Online .  : 1
 4  Mail              Send and receive Mail               In chat . : 0 : 0
 L  One Liners                                            sg: No
 R  Chat          System Information                      . : 4.2.7
 U  User Rolode                                           . : 2-310
 N  Notes           Major Version . . :  4.2.7
 S  SDSF            Minor Version . . :  4.2.7.7          mber   2026
 0  Edit Profil     Uptime. . . . . . :  00h 08m           We Th Fr Sa
 M  Extended Me     Architecture. . . :  ARM64              2  3  4  5
 X  Logoff          Database. . . . . :  SQLite3            9 10 11 12
                    Build Date. . . . :  08 Sep 2026 06:32 UTC 16 17 18 19
                                                           23 24 25 26
                  Press any key to close                   30
                                                          f year 253


                                Welcome to 3270BBS
 F1=Help F2=WhatsNew F4=Summon F5=VirtualSess F6=SysInfo F10=Month- F11=Month+
```

Figure 3-12. The System Information overlay (Model 2, 24 x 80; capture screens/04-sysinfo.txt)

F13 — Changing the Menu Colors

F13 on the main menu cycles through the available color schemes for the menu. The selected scheme remains in effect for the rest of the session.

Chapter 4

Virtual Sessions

This chapter describes virtual sessions: how to start them, how to switch between them, and how to display their status.

A display station displays one screen at a time; however, 3270BBS provides **three** independent sessions within one connection. For example, a user may read a long topic in the first session, compose a reply to a message in the second, and leave a BASIC program listed in the third, and move among them without losing the current position in any of them. The following keys control virtual sessions:

Key	Function
F24	Goes to the next virtual session. If that slot is not yet in use, a new session is started in it at the main menu. Otherwise, the session is *restored* exactly as it was left: the screen, its data, the selected conference, and the last command typed.
F23	Displays the Virtual Sessions screen, which lists all three slots with their times and allows the user to go directly to any one of them by number. See "The Virtual Sessions Screen".
F5	On either menu, displays the virtual session overlay, a short summary of the contents of each slot. Pressing **F5** again, or any other key, closes the overlay.

Figure 4-1. Virtual session keys

Starting and Switching Sessions with F24

F24 is the only key required both to start a new virtual session and to switch between sessions. After logon, the user is in session 1 and the other two slots are empty. The first press of **F24** goes to session 2, which is started at the main menu because it does not yet exist. The next press starts session 3 in the same way. From session 3, the next press wraps around to session 1. Thereafter, each press goes to the next session and restores it as it was left.

F24 never discards anything. A session, once started, remains until the user logs off.

On the main menu and the extended menu, the number of the current session is displayed in green at the right end of the title line. After each press of **F24** that arrives at a menu, the number shows which session is now displayed.

```
                      3270BBS - a 3270 BBS                                  1
Option ===>

1  Conferences       Organized community discussions     User ID . : bcooper
2  My Subscriptions  Manage conference subscriptions     Time. . . : 1:17a
3  Search Content    Full text search                    Online .  : 1
4  Mail              Send and receive Mail               In chat . : 0 : 0
L  One
R  Cha  Virtual Session Status                                          7
U  Use                                                                 0
N  Not    Session 1 . . . . :  Main Menu        Active
S  SDS    Session 2 . . . . :  Notes            Background             026
0  Edi    Session 3 . . . . :  Not in use       Empty                  r Sa
M  Ext                                                                 4  5
X  Log  F23   Virtual Sessions list: times, CPU, and a direct          1 12
        F24   switch to session 1, 2 or 3.                             8 19
        F5    Switch to the next session and resume where it was.      5 26
              An empty slot starts at the Main Menu.
              Close this window                                        71


                                 Welcome to 3270BBS
F1=Help F2=WhatsNew F4=Summon F5=VirtualSess F6=SysInfo F10=Month- F11=Month+
```

Figure 4-2. The Virtual Session Status overlay (Model 2, 24 x 80; capture screens/03-virtual-sessions.txt)

The overlay displayed by **F5**, shown in Figure 4-2, names the screen on which each session is positioned, so that the user can see which screen will be displayed before pressing the key. Each slot occupies one line, which contains the session number, the screen, and the status. `Active` indicates the current session. `Background` indicates a session that has been started and is waiting. `Empty` indicates a slot that has not yet been used; its screen is shown as `Not in use`. In the figure, session 1 is on the main menu, session 2 was left on the Notes list, and session 3 has not been started.

Below the slots, a short legend lists the virtual session keys: **F23** for the Virtual Sessions screen, **F24** for the next session, and **F5** to close the window. The window is for information only; it does not switch sessions. While the window is displayed, the first key pressed, whatever it is, closes the window and has no other effect. Thus, to use **F23** or **F24** from the window, the key must be pressed twice.

The Virtual Sessions Screen

F23, pressed on any screen, displays the Virtual Sessions screen shown in Figure 4-3. This is an ordinary full screen, not a window. It lists all three slots, indicates how long the user has been logged on, and allows the user to go directly to any session by its number instead of stepping through the sessions with **F24**.

```
VIRTUAL SESSIONS             BCOOPER                                01:17:24

 Logon time . . . . : 2026-09-28 01:15:34 UTC
 Logged on for  . . : 1m:49s
 System CPU . . . . : 16%

 SLOT  STATUS      SCREEN            STARTED            TIME IN SESSION
  1    Background  Main Menu         2026-09-28 01:15   53 sec
  2    Active      Notes             2.026-09-28 01:16  56 sec
  3    Empty       Not in use        -                  -

 Session ===>

 Type 1-3 to switch, blank Enter returns to Notes









Enter=Switch/Return  F3=Return  F23=Refresh  F24=Next session
```

Figure 4-3. The Virtual Sessions screen (Model 2, 24 x 80; capture screens/03b-virtual-sessions-list.txt)

Field	Meaning
Logon time	Indicates the time of logon, in the user's own time zone.
Logged on for	Indicates the time elapsed since logon.
System CPU	Indicates how busy the host computer is, as a whole-number percentage. This is the same figure as `CPU` on the first line of the SDSF activity display. It applies to the whole system, not only to the user.
SLOT	Indicates the session number: 1, 2, or 3. This is the number to type to go to that session.
STATUS	`Active` indicates the session in which **`F23`** was pressed. `Background` indicates a session that has been started and is waiting. `Empty` indicates a slot that has not yet been used.
SCREEN	Indicates the screen on which the session is positioned; this screen is displayed when the user goes to the session. An empty slot shows `Not in use`.
STARTED	Indicates when the session was started, in the user's own time zone. Session 1 is started at logon.
TIME IN SESSION	Indicates the total time spent in the session, counting only the time during which it was the active session. For the active session, the figure includes the time up to the present.

Figure 4-4. Fields on the Virtual Sessions screen

To select a session, type its number at `Session ===>` and press **`ENTER`**. The entry is processed as follows:

- `1`, `2`, or `3` goes to that session and restores it as it was left. If the slot is empty, a new session is started in it at the main menu, and the message `Virtual Session Nr. 3 started.` (with the number of the slot) is displayed on the message line.
- The number of the current session returns the user to that session.
- Instead of typing a number, the user may place the cursor anywhere on a session's line in the table and press **`ENTER`** with the field blank. The session is then selected as if its number had been typed. A number typed in the field takes precedence over the cursor position.
- Any other entry is rejected with a message, and the screen is displayed again.

ENTER with the field blank, or **F3**, returns to the screen that was displayed when **F23** was pressed. The line below `Session ===>` names that screen in turquoise; for example, `Type 1–3 to switch, blank Enter returns to Notes` in Figure 4-3. **F24** operates here as it does elsewhere, and **F23** displays the screen again with the times updated.

Where F23 and F24 Are Accepted

F23 and **F24** are accepted on nearly every screen in the system, including within the content editor and the games. If a screen contains unsaved work, the work is kept with the session and is still present when the user switches back. There are two exceptions:

- On the `LOGON IN PROGRESS` notice after logon, **F23** is ignored. Every other key continues to the main menu as usual.
- The ISPF-style editor (Chapter 16) ignores both **F23** and **F24**. The user must leave the editor first.

Note

Only one of a user's virtual sessions may be in chat at a time. If the user is in chat in one session and attempts to enter chat in another, the system rejects the request. To enter chat in the second session, leave chat in the first session with **F3** and try again.

Chapter 5

Conferences, Topics and Posts

This chapter describes how public discussion is organized, how to list conferences and topics, how to subscribe to a conference, how to read, start, and reply to a topic, and how to change a post after it has been written.

Public discussion is arranged in three levels. A **conference** is a subject area, such as `General` or `Hardware`. A conference contains **topics**. A topic contains **posts**. The first post is written by the user who created the topic, and each reply is another post in the same topic.

Listing the Conferences

To list the conferences, select option `1` from the main menu.

Each conference is devoted to one subject (for example, the system itself, hardware, or programming, as the community has chosen), and every topic must belong to exactly one conference. Conferences keep the discussion organized when the system holds many thousands of posts: a user who is interested in terminals opens the hardware conference and sees only the topics that belong there. The list comprises the whole public part of the system. Except for the user's own mail and notes, all material that can be read on the system is contained in one of these conferences.

Some conferences are open to all users. A conference may be restricted by the system operator, or a user may be banned from a conference by its moderator; in either case the conference is not displayed to that user. A post cannot be written outside a conference, and only a moderator or an administrator can create a conference.

```
                       Available Conferences
  Total conferences: 3     Total topics: 5                  Page 1 of 1
S Conference Name        Topics Subscrd Latest Topic
****************************************** *Desc****************************
  3270BBS                2              Colour tags in posts - a cheat s...
  Hardware               2              Show us your 3179G
  General                1              Welcome to the General conference


F6 while on a conference row shows preview of topics
F3=Return  F5=Subscriptions  F7=Prev  F8=Next  F11=Point&Sort
```

Figure 5-1. The Available Conferences screen (Model 2, 24 x 80; capture screens/10-conferences.txt)

The columns contain the conference name, the number of topics in the conference, an indication of whether the user is subscribed to it, and the title of the most recent topic. To open a conference, type any character in the selector field (`S`) at the left of its line and press **`ENTER`**.

Key	Function
F3	Returns to the main menu.
F5	Displays the subscription management screen.
F6	With the cursor on a conference line, displays the topics in that conference without leaving the list.
F7, F8	Displays the previous or the next page.
F10	Invokes conference administration. This key is valid for moderators and administrators only; see Chapter 21.
F11	Sorts the list. The cursor must first be placed on a column heading. See "Sorting a List".
F22	Copies a bbs:// link to the conference under the cursor.

Figure 5-2. Function keys on the conference list

Subscriptions

A subscription does not change which conferences the user may read; it determines which conferences are reported by **F2** (What's New) at the menu. To manage subscriptions, select option 2 from the main menu, or press **F5** on the conference list.

```
                    Conference Subscription Management      Page 1 of 1
  Total conferences: 3
S Conference             Topics Subscribed  Latest Post
*******************************************************************************
  3270BBS                2      NO          Colour tags in posts - a cheat ...
  General                1      NO          Welcome to the General conference
  Hardware               2      NO          Show us your 3179G


S=subscribe, U=unsubscribe (then press ENTER)
ENTER=Process Actions  F3=Return
```

Figure 5-3. Conference Subscription Management (Model 2, 24 x 80; capture screens/38-subscriptions.txt)

Type `S` next to a conference to subscribe to it, or `U` to unsubscribe from it, and press **`ENTER`**. Several lines may be marked before **`ENTER`** is pressed. **`F3`** returns to the menu.

Listing the Topics in a Conference

A topic is a single conversation: for example, a question and its answers, an announcement and the comments on it, or a review and the discussion that follows. A topic has a title, an author, and the posts that make it up. It remains in the conference indefinitely; thus a topic written two years ago can still be found, read, and replied to. Most use of the system takes place on the two screens described next: the topic list and the topic view.

```
 Conference: 3270BBS - Sorted by Topic Creation Date         Page 1
 S Topic Title                              Author   Posts Views Likes Created
 *******************************************************************************
   Colour tags in posts - a cheat sheet      jbrooks  1     62    0     05Sep26
   How do virtual sessions work?             bcooper  1     73    0     02Sep26




















   Search:
  F3=Conferences  F5=Add Topic   F7=Up F8=Dn F10=SortActive F11=Sort  F22=Link
```

Figure 5-4. The topic list for one conference (Model 2, 24 x 80; capture screens/11-topics-list.txt)

The title line names the conference and the sort order in effect. The columns contain the topic title, the author, the number of posts, the number of times the topic has been viewed, the number of likes, and the date on which the topic was created. Topics that have received posts since the user last logged on are displayed in pink and underscored, so that new activity can be recognized at a glance.

To read a topic, type any character in its selector field and press **`ENTER`**. To find a topic, type a word in the `Search:` field and press **`ENTER`**. Titles are searched first; if no title matches, the text of the posts is searched.

Key	Function
F1	Displays help.
F3	Returns to the conference list, or to the main menu when the list is not limited to one conference.
F5	Adds a topic. See "Starting a Topic".
F7, F8	Scrolls up or down one page.
F10	Switches between ordering by creation date and ordering by latest activity. The choice is retained for the next visit.
F11	Sorts by the column on which the cursor is placed. See below.
F22	Copies a bbs:// link to the topic on which the cursor is placed. See Chapter 9.

Figure 5-5. Function keys on the topic list

Sorting a List

The conference list and the topic list are sorted by pointing at a column and pressing a key. There is no sort menu. The procedure is as follows:

1. Move the cursor into the heading of the column by which the list is to be sorted, for example Author or Views.
2. Press **F11**. The list is sorted by that column, and the separator line under the heading shows *Asc or *Desc to indicate the direction.
3. Press **F11** again on the same column to reverse the order.

Sorting always returns the display to page 1. The **F10** choice on the topic list (creation date or latest activity) is saved in the user's profile and is retained after logoff. The **F11** sort order is retained only while the screen is displayed.

Reading a Topic

```
Topic: Colour tags in posts - a cheat sheet    Conference: 3270BBS
By:    jbrooks   on 5 Sep 2026  Replies: 0 Views: 55               Page 1 of 1
 ---+----1----+----2----+----3----+----4----+----5----+----6----+----7----+---
jbrooks wrote on 5 Sep 2026         First Post
Yellow is good for headings.
Turquoise reads well for links and quotes.
Plain text is green by default.









F2=Oldest F12=Newest F13=AboutUser F14=HalfUp F15=HalfDn F22=Cpy/Flw URL
F1=Help F3=Topics F4=Reply F5=I Like F7=Up  F8=Down F9=LastPost  F10=Save2Note
```

Figure 5-6. Reading a topic (Model 2, 24 x 80; capture screens/13-topic-view.txt)

The heading contains the topic title, the conference, the author, the date, the number of replies, and the number of views. Each post is preceded by a line that gives its author and date. The first and last posts of the topic are marked `First Post` and `Last Post` in reverse video. A ruler line indicates the column positions.

Figure 5-7 shows the panel that is displayed by **`F1`**. It lists every key that is valid in the topic view.

```
Topic: Colour tags in posts - a cheat sheet    Conference: 3270BBS
By:    jbrooks                                                  1 of 1
 ---+----1----  Topic View - Function Keys                     +----7----+---
jbrooks wrote   |                                              |
Yellow is good    F2  = Show oldest first (this topic only)    |
Turquoise read    F3  = Return to topics list                  |
Plain text is     F4  = Reply to topic                         |
                  F5  = I like this topic                      |
bcooper wrote     F6  = Edit your own post (within 3 hours)          F6=Edit
Agreed. I use     F7  = Scroll up (previous page)              |
                  F8  = Scroll down (next page)                |
                  F10 = Save topic to Notes                    |
                  F12 = Show newest first (this topic only)    |
                  F13 = View PUBLIC note (cursor on user)      |
                  F14 = Half-scroll up                         |
                  F15 = Half-scroll down                       |
                  F20 = Send topic as PDF email                |
                  F22 = Copy/follow bbs:// link at cursor      |
                  |                                            |
                    F23 = Virtual Sessions list                |
                    F24 = Next Virtual Session                 |
                                                               |
F2=Oldest F12=      Press ENTER to close this help             /Flw URL
F1=Help F3=Top                                                  F10=Save2Note
```

Figure 5-7. The topic view function key panel (Model 2, 24 x 80; capture screens/14-topic-view-help.txt)

Key	Function
F2	Displays the oldest post first, in this topic only.
F3	Returns to the topic list.
F4	Creates a reply. The content editor is displayed; see Chapter 6.
F5	Records a like for the topic. The like is recorded against the opening post of the topic, from any page and in either order. Each post may be liked once.
F7, F8	Scrolls up or down.
F9	Positions the display at the end of the topic; at the end, it returns to the beginning. The label names the post that is there: when the oldest post is displayed first, the key is labeled F9=LastPost on the way down and F9=FirstPost at the end; when the newest post is displayed first, the labels are the other way round.
F10	Saves the current page in the user's notes, under the subject Topic: followed by the topic title.
F11	Scrolls down one half page; the same as **F15**.
F12	Displays the newest post first, in this topic only.
F13	With the cursor on a user name, displays that user's PUBLIC note.
F14, F15	Scrolls up or down one half page.
F20	Prints the topic: mails it to the user as a PDF document, or places it in held output. See Chapter 13.
F22	Follows the bbs:// link under the cursor. With the cursor on a post, copies a link to that post; with the cursor on the heading line, copies a link to the topic. See Chapter 9.

Figure 5-8. Function keys while reading a topic

The order selected with **F2** or **F12** applies only to the topic being read. To change the order that is used when any topic is first opened, set `Posts Sort Order` in the profile; see Chapter 12.

Starting a Topic

1. Press **F5** on the topic list.
2. Type the title of the topic and press **ENTER**. The title is what other users see in the topic list, and should be chosen accordingly.
3. If the topic list was not entered from a conference, select the conference to which the topic belongs.
4. The content editor is displayed. Write the first post as described in Chapter 6, and type `SAVE` or press **F12** to create the topic.

An empty post is rejected. To abandon the topic before it is created, type `CANCEL`, or press **F3** and then **F9** to confirm.

Replying

To reply to a topic, press **F4** while reading it. The editor is displayed with the heading `Reply to:` and the topic title. When the reply is saved, it is added at the end of the topic, and the display is positioned at the page that contains it. Replies are not quoted automatically. To quote earlier text, copy the required lines with the editor's copy and paste keys, or type them.

Changing or Removing Your Own Post

The author of a post may change it **once**, and only within **three hours** of writing it. While a change is still permitted, the marker `F6=Edit` blinks at the right-hand end of the heading line of the post, as shown in Figure 5-9. The marker is displayed only to the author; other users do not see it. The marker is removed when the three hours have elapsed, or as soon as the one permitted change has been made.

```
Topic: Colour tags in posts - a cheat sheet    Conference: 3270BBS
By:    jbrooks   on 12 Sep 2026 Replies: 1 Views: 55               Page 1 of 1
 ---+----1----+----2----+----3----+----4----+----5----+----6----+----7----+---
jbrooks wrote on 12 Sep 2026         First Post
Yellow is good for headings.
Turquoise reads well for links and quotes.
Plain text is green by default.

bcooper wrote on 12 Sep 2026         Last Post                        F6=Edit
Agreed. I use pink only for warnings, never for body text.









F2=Oldest F12=Newest F13=AboutUser F14=HalfUp F15=HalfDn F22=Cpy/Flw URL
F1=Help F3=Topics F4=Reply F5=I Like F7=Up  F8=Down F9=LastPost  F10=Save2Note
```

Figure 5-9. The F6=Edit marker, shown only on your own post (Model 2, 24 x 80; capture screens/13b-post-edit.txt)

To change the post, press **F6**. The cursor may be anywhere on the screen: while the marker is displayed, the key is valid from any position. If the user has written more than one post in the topic that can still be changed, the **most recent** of them is selected. This applies to the whole topic, not only to the current page, and regardless of the order in which the posts are displayed. When the change is complete, the display is positioned at the page that contains the post. To change an earlier post instead, place the cursor on that post before pressing **F6**. The content editor is displayed with the text of the post. Make the corrections and save in the usual way, with `SAVE` on the command line or with **F12**; see Chapter 6. **F3** leaves the post unchanged.

Two rules are applied when the change is saved. If either rule rejects the change, the editor displays a message:

- A post cannot be emptied, and it cannot lose more than half of its words; for example, a post of forty words must retain at least twenty. Otherwise, the editor displays `Edited post cannot have less than half the words of your original post` and the text remains on the screen. The purpose of this rule is to prevent a post from being removed in substance after other users have replied to it, which would leave their replies without context.
- The three-hour limit is checked again when the change is saved, not only when the marker is displayed. If the limit expires while the editor is in use, the change is rejected and the text remains on the screen, so that the user can copy it elsewhere if required.

After a post has been changed, its heading line reads `wrote and edited on` instead of `wrote on`. This is displayed to every reader, not only to the author. The post cannot be changed again: the marker is not displayed, even if the three hours have not yet elapsed.

No function is provided for a user to *delete* a post, or to change a post after the three hours have elapsed or after the one permitted change has been made. If material must be removed, or corrected after that time, the user should ask a moderator of the conference. The functions available to moderators are described in Chapter 21.

Searching the Whole System

Option `3` on the main menu provides a full-text search of topics and posts, and the data set list utility described in Chapter 14.

```
                           Search and Data Set List

 Option ===>

   1  Search         Search for content throughout 3270BBS
   4  DSLIST         Process data sets from a catalog list









 F1=Help  F3=Main Menu
```

Figure 5-10. The Search and Data Set List menu (Model 2, 24 x 80; capture screens/37-search.txt)

Chapter 6

Writing: the Content Editor

One editor, the content editor, is used for all text that a user writes in 3270BBS: topics, replies, mail, notes, marketplace descriptions, and the public profile. This chapter describes the content editor, its commands, its function keys, the color tags, and signatures. The programming environments use a different, full-screen editor, which is described in Chapter 16.

```
Reply to: Colour tags in posts - a cheat she Pos 1     Lines in file: 1
Command:  _                   SAVE/CANCEL/FIND  F1=HELP!  F7=Up F8=Down
```

Figure 6-1. The content editor, opened to reply to a topic (Model 2, 24 x 80; capture screens/15-editor-reply.txt)

The heading indicates what is being written, the current position in the text, and the number of lines in the text. The `Command:` field is below the heading. The remainder of the screen contains the text, one input field per line. Type into the lines, and use **`TAB`** or the cursor keys to move between them.

```
Reply to: Colour tags in posts - a cheat she Pos 4     Lines in file: 3
Command: _                    SAVE/CANCEL/FIND  F1=HELP!  F7=Up F8=Down       *
<<yellow>>Thanks for the cheat sheet.<</yellow>>
I use <<turquoise>>turquoise<</turquoise>> for quoted text and
leave everything else green. Tags on their own line work best.
```

Figure 6-2. Text typed into the editor, with color tags. The red asterisk at the right of the Command line says the text has been changed (Model 2, 24 x 80; capture screens/17-editor-typing.txt)

The Changed Indicator

When the editor has accepted a change (a character typed, a line inserted or deleted, or a signature or link pasted), a red asterisk is displayed at the right-hand end of the `Command:` line, in the last column of the second row of the screen. The asterisk is visible in Figure 6-2.

The asterisk indicates that *the text differs from what was saved*. It remains until the editor is terminated; it cannot be reset. It is a reminder rather than a warning, and is interpreted as follows:

- If the asterisk is displayed and the editor is terminated with `CANCEL` or **`F3`**, the changes are discarded. **`F3`** requests confirmation; `CANCEL` does not.
- If a significant amount of text has been typed and the asterisk is *not* displayed, the editor has not yet accepted the typing. Press **`ENTER`**: the contents of the screen are committed to the text, and the asterisk is displayed.

Editor Commands

The following commands are entered in the `Command:` field, followed by **`ENTER`**:

Command	Function
SAVE	Saves the text and terminates the editor. Trailing blank lines are removed. Equivalent to **F12**.
CANCEL	Terminates the editor without saving.
FIND text	Finds the specified text. Quotation marks around the text are optional.
RFIND	Finds the next occurrence. Equivalent to **F19**.
TOP	Displays the first line of the text at the top of the screen and places the cursor on it.
BOTTOM	Displays the last line of the text on the last line of the screen and places the cursor on it.
IMPROVE	Improves the grammar and style of the whole text with AI, or only of the selected text when a selection exists. Available only if the 3270BBS operator has configured AI support. See “Improving the Text: IMPROVE and UNDO” below.
TRANSLATE	Translates text written in another language into English, for the whole text or only the selected text when a selection exists. Text already in English is not changed. Available only if the 3270BBS operator has configured AI support. See “Translating into English: TRANSLATE” below.
UNDO	Reverses the last AI change made by **F2**, IMPROVE, or TRANSLATE; after a change made on a selection, only that part of the text. One level only. Available only if AI support is configured.

Figure 6-3. Content editor commands

Editor Function Keys

Press **F1** in the editor to display the panel shown in Figure 6-6. Press **ENTER** to remove it.

On a Model 3 (32 × 80) or Model 4 (43 × 80) display, the last two lines of the editor screen show a key legend in reverse video, as in Figure 6-5. The legend lists the most frequently used keys in short form, for example `F2=Spell`, `F3=Exit`, `F9=Select`, `F12=Save&Exit`, and `F22=PasteLink`. `F3=Exit` still asks for confirmation before the text is discarded. The full list is in the panel displayed by **`F1`**. The figure also shows a selection made with **`F9`**, from *logbooks* to *entries*, in reverse video; see "Selecting Text: F9" below.

A Model 2 (24 × 80) display has no legend, so that the smaller screen keeps as many lines of text as possible. The other figures in this chapter show a Model 2. The number of lines of text that the editor displays is therefore as follows:

Display	Lines of text	Key legend	Lines of text, read-only view
Model 2, 24 × 80	22	None	22
Model 3, 32 × 80	28	Last two lines	30
Model 4, 43 × 80	39	Last two lines	40

Figure 6-4. Lines of text in the content editor

When the editor only displays text that the user cannot change, such as a BASIC or assembler listing, the legend is not shown, and the full screen is used for text: 30 lines on a Model 3 and 40 lines on a Model 4.

```
2 lines, 42 characters selected
Command:  _                    SAVE/CANCEL/FIND  F1=HELP!  F7=Up F8=Down       *
                    +-------------------------------------+
                    |  Club meeting, Saturday 10 October  |
                    +-------------------------------------+

The next meeting of the radio club is on Saturday at 10:00 in the
community hall. Please bring your logbooks; we will check the contest
entries before they are sent in.

Agenda:
- Results of the September field day
- Antenna workshop for new members
- Plans for the winter net

Coffee and cake will be provided. If you cannot attend, send a
message to the club secretary before Friday.

73, John









F2=Spell F3=Exit F4=DelLine F5=InsBlw F6=InsAbv F9=Select F10=Center F11=CtrBox
F12=Save&Exit F16=Copy F17=PasteAbv F18=PasteBlw F19=RFind F22=PasteLink
```

Figure 6-5. The editor on a Model 3 display, with the two-line key legend and a selection (Model 3, 32 x 80; capture screens/15b-editor-mod3.txt)

```
Reply to: Colour tags in posts - a cheat she Pos 1     Lines in file: 1
Command:  _                    SAVE/CANCEL/FIND  F1=HELP!  F7=Up F8=Down
 ┌──────────────────────────────────────────────────────────────────────┐
 │  F1  = Show this help                 F12 = Save and exit            │
 │  F2  = Spell checker                  F13 = Center box to next empty row │
 │  F3  = Abandon edit session           F14 = Go to first line of text │
 │  F4  = Delete current line            F15 = Make left aligned box    │
 │  F5  = Insert line below              F16 = Copy current line        │
 │  F6  = Insert line above              F17 = Paste above cursor       │
 │  F7  = Scroll up                      F18 = Paste below cursor       │
 │  F8  = Scroll down                    F19 = Find next (same as RFIND) │
 │  F9  = Select text (press twice)      F21 = Insert SIGNATURE note    │
 │  F10 = Center current line            F22 = Paste copied bbs:// link │
 │  F11 = Make centered box                                             │
 │                                                                      │
 │  Commands (on the Command: line):                                    │
 │  SAVE      Save and exit              FIND text Find the text       │
 │  CANCEL    Exit without saving        RFIND     Find next occurrence │
 │  TOP       Go to the first line       BOTTOM    Go to the last line  │
 └──────────────────────────────────────────────────────────────────────┘
```

Figure 6-6. The content editor function key panel (Model 2, 24 x 80; capture screens/16-editor-help.txt)

Key	Function
F1	Displays the key panel.
F2	Checks the spelling of the lines on the screen, or of the selected text when a selection exists. Without AI support, the lines that contain words that are not in the dictionary are displayed in yellow; nothing is changed. If the 3270BBS operator has configured AI support, the errors are first corrected. See “Checking the Spelling: F2”.
F3	Abandons the edit. A confirmation panel is displayed; press **F9** to discard the text, or any other key to continue editing.
F4	Deletes the line on which the cursor is placed.
F5	Inserts a blank line below the cursor.
F6	Inserts a blank line above the cursor.
F7, F8	Scrolls up or down.
F9	Selects text: the first press marks the start at the cursor, the second the end. Pressed while a selection is on the screen, removes it. See “Selecting Text: F9”. To reach the end of the text, use the command BOTTOM.
F10	Centers the current line.
F11	Draws a centered box around the current line.
F12	Saves the text and terminates the editor.
F13	Draws a centered box around the block of lines from the cursor to the next empty line.
F14	Positions the display at the first line of the text.
F15	Draws a left-aligned box.
F16	Copies the current line.
F17	Pastes the copied line above the cursor.
F18	Pastes the copied line below the cursor.
F19	Finds the next occurrence of the last FIND text.
F21	Inserts the user's signature. See "Signatures".
F22	Pastes the bbs:// link that is on the clipboard. See Chapter 9.

Figure 6-7. Content editor function keys

Warning

The editor accepts only the keys listed above, **ENTER**, and the virtual session keys **F23** and **F24**. Any other key discards all input typed on the screen since the last **ENTER**. When writing a long post, press **ENTER** periodically; it commits the contents of the screen to the text buffer.

Lines do not wrap during typing: each screen line is one line of the text. Text that is pasted into the editor, however, is folded at the last blank before the right margin, so that no text is lost.

The Editing Keys in Practice

Each of the keys described below acts on **the line on which the cursor is placed** when the key is pressed. There is no marked block and no selection: move the cursor to the line, then press the key. No text is destroyed without indication; the changed indicator (described above) shows that the text differs from what was saved.

Making Room and Taking It Away: F5, F6 and F4

In the following example, a sentence is to be inserted between the two lines:

```
Agreed – and one more rule:
keep the body of a post green.
```

Place the cursor anywhere on the first line and press **F5**. A blank line is inserted *below* it, the following line moves down, and the new text can be typed into the blank line. **F6** performs the same function *above* the cursor line; it is used to add a new first line without retyping the existing one.

F4 performs the opposite function: it deletes the line on which the cursor is placed and closes the gap. No confirmation is requested and the deletion cannot be undone, so the line should be checked before the key is pressed. If the text consists of a single line, **F4** blanks that line instead of deleting it, so that the editor always contains at least one line.

Repeating a Line: F16, F17 and F18

F16 copies the line on which the cursor is placed into a one-line buffer and displays `Line copied`. The line itself is not changed. Move the cursor to the position where the copy is required, and press **F17** to insert it *above* that line, or **F18** to insert it *below*.

In Figure 6-8, the second line was copied with **F16** and pasted below itself with **F18**. The buffer still contains the line, so it can be pasted again elsewhere.

```
Reply to: Colour tags in posts - a cheat she Pos 2     Lines in file: 3
Command:  _                    SAVE/CANCEL/FIND  F1=HELP!  F7=Up F8=Down       *
Agreed - and one more rule:
keep the body of a post green.
keep the body of a post green.
```

Figure 6-8. A line copied with F16 and pasted below with F18 (Model 2, 24 x 80; capture screens/20-editor-copy.txt)

The copy buffer holds one line and is retained until the editor is terminated. It is not the `bbs://` link clipboard described in Chapter 9, which is a separate buffer with a separate key (**`F22`**).

Headings and Boxes: F10, F11, F13 and F15

`F10` centers the line on which the cursor is placed within the width of the text. If the line is changed, pressing the key again centers it again.

`F11` draws a box around that one line, centered on the screen. Figure 6-9 shows the result of placing the cursor on the first line of the reply and pressing **`F11`**. The line count in the heading has changed from 3 to 5, because the two rules are now lines of the text like any others.

```
Reply to: Colour tags in posts - a cheat she Pos 4     Lines in file: 5
Command:  _                    SAVE/CANCEL/FIND  F1=HELP!  F7=Up F8=Down       *
               +----------------------------------------------+
               |  The colur tags are simpler than they look.  |
               +----------------------------------------------+
Put each tag on a line of its own and the
editor will not break it accross a line end.
```

Figure 6-9. A line boxed with F11 (Model 2, 24 x 80; capture screens/19-editor-box.txt)

F13 draws a box around a block of lines instead of a single line: it includes the lines from the cursor to the next empty line and draws one box around all of them. Before pressing the key, ensure that a blank line follows the last line to be enclosed.

F15 draws the box at the left margin instead of centering it. This form is more suitable for a quotation or a code fragment than for a heading.

After it is drawn, a box is ordinary text. Text may be typed inside it, and a rule line may be deleted with **F4** like any other line; the editor does not subsequently repair the box.

Checking the Spelling: F2

F2 works in one of two ways, depending on whether the 3270BBS operator has configured AI support. In both cases it works on the lines displayed on the screen, not on the whole text: to check a long text, the user scrolls with **F8** and presses **F2** again. When a selection exists, **F2** works on the selected text instead, all of it, even the part that is not on the screen; see “Selecting Text: F9”.

Without AI support, **F2** checks every word on the screen against the system dictionary, displays in yellow the lines that contain doubtful words, and reports the result on the heading line. In Figure 6-10, the message is `Found 2 misspelled words`; the words *colur* and *accross* were detected.

```
Reply to: Colour tags in posts - a cheat she  Found 2 misspelled words
Command:  _                    SAVE/CANCEL/FIND  F1=HELP!  F7=Up F8=Down       *
The colur tags are simpler than they look.
Put each tag on a line of its own and the
editor will not break it accross a line end.
```

Figure 6-10. F2 has found two misspelled words (Model 2, 24 x 80; capture screens/18-editor-spell.txt)

The check reports errors; it does not correct them, and nothing in the text is changed. The user must retype the word, and the highlighting is removed as soon as the line is changed, and also when the display is scrolled (**F7**, **F8**, **F14**, `TOP`, `BOTTOM`, or a `FIND` that moves the display), because it belongs to the screen lines it was made on. Words within a `bbs://` link are not checked, so that a link does not cause a whole line to be displayed in yellow. If no errors are found, the message is `No spelling errors`.

With AI support, **F2** first sends the lines displayed on the screen to an AI service, which corrects spelling mistakes, typing errors, and obvious grammar slips without rewording the text. The corrected lines replace the originals, and the message is `AI corrected n lines. UNDO restores` (`AI corrected 1 line. UNDO restores` for a single line). The command `UNDO` restores the lines as they were before the correction. The dictionary check then runs on the corrected text, so words that are still unknown, such as names, are still displayed in yellow.

The following are never changed: boxes made with **F11**, **F13**, and **F15**; text within double quotation marks (**"…"**); color tags; and **bbs:// ** links. A corrected line that would no longer fit on the screen keeps its original text. If the AI service does not answer within 3 seconds, or its answer cannot be used, **F2** performs only the dictionary check described above, automatically. If the AI service finds nothing to correct, the messages are those of the dictionary check.

The command IMPROVE, which also uses the AI service, goes further: it improves the grammar and style of the whole text. See “Improving the Text: IMPROVE and UNDO” below. When AI support is active, the text that is checked with **F2** is sent to an external AI service (OpenAI) for processing.

Improving the Text: IMPROVE and UNDO

If the 3270BBS operator has configured AI support, the command IMPROVE improves the grammar and style of the whole text while keeping its meaning. Type IMPROVE on the Command: line and press **ENTER**. The message Improving text, please wait... is displayed and the keyboard remains locked until the result arrives, which can take up to 40 seconds. The improved text then replaces the original, and the message is Text improved by AI. UNDO restores. When a selection exists, only the selected text is improved, and the message is AI improved the selection. UNDO restores; see “Selecting Text: F9”.

Blank lines, boxes made with **F11**, **F13**, and **F15**, text within double quotation marks, bbs:// links, and color tags are not changed. A paragraph that the AI service has changed is rewrapped to the width of the screen; a paragraph that it has not changed keeps its line breaks. A line that begins with blanks or with a list marker (such as – or 1.) starts a new paragraph. The text can contain at most 8000 characters. If IMPROVE fails, the text is not changed, and a message that begins with IMPROVE failed: gives the reason.

The command UNDO restores the text as it was before the last change made by **F2**, IMPROVE, or TRANSLATE. Only one level is kept: a second UNDO displays Nothing to undo. Note that UNDO also reverses any typing done after the AI change. After an AI change made on a selection, UNDO restores that part of the text only, and keeps everything changed elsewhere since. The text is not saved until SAVE or **F12** is used.

When AI support is active, the text that is checked with **F2** or improved with IMPROVE is sent to an external AI service (OpenAI) for processing.

Translating into English: TRANSLATE

If the 3270BBS operator has configured AI support, the command TRANSLATE translates text written in any other language into English. Type TRANSLATE on the Command: line and press **ENTER**. The message Translating...pls wait is displayed and the keyboard remains locked until the result arrives, which can take up to 40 seconds. Each paragraph that is written in another language, wholly or in part, is replaced by its English translation, and the message reads, for example, Translated 2 paragraphs to English. UNDO restores. Paragraphs that are already in English are not changed; if the whole text is in English, the message is TRANSLATE: text is already in English. TRANSLATE only ever translates into English, never from English into another language.

Technical terms are translated with the usual English words of IT and of IBM mainframes, and names such as z/OS, JCL, CICS, or RACF are kept as they are. When a selection exists, only the selected text is translated; see "Selecting Text: F9". Text within double quotation marks is not translated: a quotation stays in its original language. As with IMPROVE, boxes, bbs:// links, and color tags are not changed either, a translated paragraph is rewrapped to the width of the screen, and the text can contain at most 8000 characters. If TRANSLATE fails, the text is not changed, and a message that begins with TRANSLATE failed: gives the reason. UNDO restores the text as it was before the translation. The text to be translated is sent to an external AI service (OpenAI) for processing.

Finding Something: FIND, RFIND and F19

To locate text in a long post, type FIND green on the Command: line and press **ENTER**. The editor positions the display at the first line that contains the text. **F19** (or the command RFIND) moves to the next occurrence, and to each subsequent occurrence when repeated. If no search has yet been performed, the message is No previous find.

Signing Off: F21

F21 appends the user's SIGNATURE note (see Chapter 8) after the last line of the text, preceded by a blank line, regardless of the position of the cursor. Figure 6-11 shows a reply immediately after **F21** was pressed.

```
Reply to: Colour tags in posts - a cheat she Pos 2     Lines in file: 6
Command:  _                    SAVE/CANCEL/FIND  F1=HELP!  F7=Up F8=Down       *
Agreed - and one more rule:
keep the body of a post green.
keep the body of a post green.

--
bcooper - Endicott, NY - "green on black forever"
```

Figure 6-11. A signature appended with F21 (Model 2, 24 x 80; capture screens/21-editor-signature.txt)

The key should be pressed once, at the end, when the post is otherwise complete. If it is pressed twice, the signature is appended twice; the editor does not detect this.

Selecting Text: F9

F9 selects part of the text, so that **F2**, IMPROVE, TRANSLATE, and UNDO work on that part alone. To make a selection:

1. Place the cursor on the first character to be selected and press **F9**. That character is displayed in reverse video, and the message is `Selection started. Move cursor and press F9 again`.
2. Place the cursor on the last character to be selected, scrolling with **F7** and **F8** if necessary, and press **F9** again. The end can be before the start; the editor puts the two in order.

The selected characters, from the first to the last inclusive, are displayed in green reverse video. A selection can begin and end in the middle of a line and can span any number of lines. The message gives its size, for example `2 lines, 42 characters selected`. Figure 6-5 shows a selection from *logbooks* to *entries*. On a line that **F2** has displayed in yellow, the selected characters are displayed in yellow reverse video instead.

To remove the selection, press **F9** while at least part of it is on the screen. The message is `Selection removed`. If the selection has been scrolled completely off the screen, **F9** does not remove it; the message `Selection is off screen; scroll to it to unselect` is displayed instead, so that a selection that cannot be seen is never removed by accident.

While a selection exists:

- **F2** checks and, with AI support, corrects only the selected text, including any part of it that is not on the screen. The messages end with `in the selection`, or read `AI corrected the selection (n lines). UNDO restores`.
- `IMPROVE` improves only the selected text. The parts of the first and last lines outside the selection are kept as they are; a line is rewrapped only where the new text no longer fits.
- `TRANSLATE` translates only the selected text, in the same way.
- `UNDO` restores the selected text as it was before the last AI change made on it. Changes made outside the selection since then are kept.
- After an AI change, the selection covers the new text.

Boxes, text within double quotation marks, color tags, and `bbs://` links in the selection are protected exactly as they are without a selection.

The selection stays in place while the text is edited, and follows the text when lines are added, deleted, or moved: **F4**, **F5**, **F6**, **F10**, **F11**, **F13**, **F15**, **F17**, **F18**, and a `bbs://` link pasted with **F22** all move it with the text. Deleting the line on which the selection starts moves the start to the beginning of the next line; deleting the line on which it ends moves the end to the end of the previous line; deleting every line of the selection removes it. Typing within a line does not move the selection: the screen reports only the new contents of a line, not where characters were inserted or deleted, so the selection keeps its columns. A line within the selection that becomes empty remains part of it. Scrolling, `TOP`, `BOTTOM`, and `FIND` do not change the selection, and it is kept when the user switches virtual sessions with **F23** or **F24**. The selection is not saved with the text: `SAVE`, **F12**, and `CANCEL` end it.

In the confirmation panel displayed by **F3**, **F9** still discards the text. In a read-only view, such as a BASIC or assembler listing, **F9** positions the display at the bottom of the text.

Getting About: F7, F8, F14, TOP and BOTTOM

F7 and **F8** scroll one screen at a time. The command BOTTOM positions the display at the bottom of the text (the quickest way to reach the end of a long reply), and **F14** or the command TOP returns to the first line.

Color Tags

The text of a post or a mail message may be colored by means of tags. A tag is a word enclosed in double angle brackets. It takes effect at the point where it appears, and remains in effect until another tag or the end of the text. The tags themselves are not displayed.

Tag	Effect
<<white>>	White text.
<<red>>	Red text.
<<green>>	Green text. This is the color of ordinary text; thus the tag is required only to return to it after another color.
<<yellow>>	Yellow text.
<<blue>>	Blue text.
<<turquoise>>	Turquoise text.
<<pink>>	Pink text.
<<reverse>>	Begins reverse video.
<</reverse>>	Ends reverse video. Specifying any color also ends reverse video.

Figure 6-12. Text color tags

The color tags have no closing form. A tag such as <</yellow>> may be typed, and it is removed from the displayed text like any other unrecognized tag, but it does **not** return the text to green: all subsequent text remains yellow until another color tag is specified. To return to ordinary text, specify <<green>>. The only closing tag is <</reverse>>.

The following recommendations apply:

- Where possible, place a tag on a line by itself. The text is then easier to read in the editor, and the tag cannot be split by a line ending.
- Color has a meaning elsewhere in the system: red indicates errors, pink indicates new material, and turquoise indicates links. Use yellow for headings, and leave the body of the post green.
- A tag name that the system does not recognize is removed from the text and not displayed. Consequently, a misspelled tag has no effect, and no error is reported.
- Tags are interpreted when a **post** or a **mail message** is displayed. The note viewer displays a note exactly as it was typed, including any tags; see Chapter 8.

Signatures

A signature is a note whose subject is exactly `SIGNATURE`, in uppercase. It is created once, as described in Chapter 8. Thereafter, pressing **`F21`** anywhere in the content editor appends the signature to the end of the text, after a blank line. The key is valid in topics, in replies, and in mail.

The signature is never added automatically; the user decides, for each message, whether to press **`F21`**. If no `SIGNATURE` note exists, the key has no effect. The signature should be short; three or four lines is sufficient on a 24-line screen.

Drawing Boxes

`F11`, **`F13`**, and **`F15`** draw boxes around text: around the current line, around the block of lines up to the next blank line, and left-aligned instead of centered, respectively. They are useful for headings and for setting off quoted material. After it is drawn, a box is ordinary text, and it may be edited.

Chapter 7

Mail

Mail is private correspondence between users. Where the system operator has configured it, mail can also be exchanged with the Internet: messages may be addressed to ordinary electronic mail addresses, and messages sent to the user's address at this system are delivered into the user's inbox. This chapter describes the inbox, the reading and writing of messages, and the exchange of mail with the Internet.

The Inbox

Mail is intended for correspondence that does not belong in public: an answer meant for one person, an arrangement to meet, a word to a moderator, or a reply to a marketplace advertisement. A message is visible only to the users to whom it is addressed, and no link can refer to a message from the conferences (see Chapter 9). Each message has a subject, up to three recipients on this system, and a body written in the same editor that is used for posts. Thus color tags and the user's signature are valid in mail, as they are elsewhere.

The system keeps two folders for each user: the mail received, and the mail sent. Users cannot create folders of their own. A message that is to be kept permanently should be saved into the user's notes with **`F10`**, where it may be given any subject. Unwanted mail is deleted one message at a time with **`F9`**, or in bulk with the purge function.

To display the inbox, select option 4 from the main menu.

```
                                Inbox
Search:                     Total messages: 2               Page 1 of 1
S  From     Subject                                         Date      Status
*******************************************************************************
   mmartin  Emulator settings  I use c3270 with a Model...  09Sep26   Read
   jbrooks  Welcome to the Hardware conference  Thanks ...  08Sep26   Read
```

```
F1=Help F3=Rtrn F5=New Message F6=Spam List F7=Up F8=Dwn F9=Purge F11=Rcv/Sent
```

Figure 7-1. The mail inbox (Model 2, 24 x 80; capture screens/20-mail-inbox.txt)

The columns show the other party, a preview of the message, the date, and the status (`Read` or `Unread`). To read a message, type any character against it and press **`ENTER`**. To search the user's mail, type a word in the `Search:` field.

Key	Function
`F1`	Displays help.
`F3`	Returns to the main menu.
`F5`	Begins a new message.
`F6`	Displays the spam list, that is, the senders outside the system whose mail the user has blocked.
`F7, F8`	Scroll up and down.
`F9`	Purges messages that have been read. A confirmation screen allows the user to select what is removed.
`F11`	Switches between received mail and sent mail.

Figure 7-2. Function keys on the mail list

Reading a Message

```
                              View Message
From:     jbrooks
To:       bcooper
Message:  #1 - 08Sep2026 01:15
Welcome to the Hardware conference

Thanks for the 3179G post. If you have photographs, put them in a
PUBLIC note and I will link to it from the conference.

Press F4 to reply, or F10 to keep this message in your Notes.









F1=Help F3=Messages F4=Reply F5=About F9=Del F10=Save2Notes
```

Figure 7-3. Reading a message (Model 2, 24 x 80; capture screens/22-mail-view.txt)

Figure 7-4 shows the key panel that is displayed when **F1** is pressed.

```
                              View Message
From:     jbrooks
To:       bcooper  View Message - Function Keys
Message:  #1 - 08
Welcome to the Ha    F3  = Return to messages list
                     F4  = Reply to message
Thanks for the 31    F5  = View sender's About Me page      in a
PUBLIC note and I    F7  = Previous page (if multi-page)
                     F8  = Next page (if multi-page)
Press F4 to reply    F9  = Delete message
                     F10 = Save message to Notes
                     F12 = Opt-out (topic notifications)
                     F20 = Print message

                     F23 = Virtual Sessions list
                     F24 = Next Virtual Session

                     Press ENTER to close this help




F1=Help F3=Messages F4=Reply F5=About F9=Del F10=Save2Notes
```

Figure 7-4. The message view function key panel (Model 2, 24 x 80; capture screens/23-mail-view-help.txt)

Key	Function
F2	Forwards the message to an electronic mail address outside the system.
F3	Returns to the list.
F4	Replies to the message. A reply to mail from outside the system quotes the original automatically; a reply to mail from another user of this system does not.
F5	Displays the sender's PUBLIC note.
F6	Blocks the sender. Subsequent mail from that outside address is discarded. See the spam list, above.
F7, F8	Display the previous and next page of a long message.
F9	Deletes the message.
F10	Saves the message into the user's notes.
F12	Discontinues the topic notifications that produced this message.
F20	Prints the message. See Chapter 13.

Figure 7-5. Function keys while reading a message

Messages from the system account `noreply` cannot be answered.

Writing a Message

To write a message, press **F5** on the mail list.

```
                            Message Recipients

 Please enter up to 3 message recipients (leave blank if not needed):

   Internal users:

   Subject:









  F1=Help  F3=Cancel  F9=Find Username      Enter=Continue
```

Figure 7-6. Choosing the recipients of a message (Model 2, 24 x 80; capture screens/21-mail-compose.txt)

Type up to three user identifiers of this system, and a subject. To select a name from a list, press **F9**. Where the system operator has enabled external mail, further fields are displayed for Internet addresses in the To and CC positions. When **ENTER** is pressed, the content editor is invoked for the body of the message. To send the message, save it with SAVE or **F12**; to discard it, terminate the editor with CANCEL.

Color tags (see Chapter 6) are valid in mail, and **F21** appends the user's signature.

Mail To and From the Internet

Note
Internet mail is an *optional* feature, and it consists of two separate features. **Sending** requires that the system operator has obtained a SendGrid API key and configured a mail domain. **Receiving** requires that the system operator runs the system's mail service on a fully qualified domain. A system may provide both, either, or neither. Where sending is not configured, the Internet address fields are not displayed on the compose screen, and **F2** and **F4** are not offered while a message from outside is being read. No function is hidden in error, and no function fails later as a result. Users who are unsure of what their system provides should ask the system operator.

Your Address

On a system that receives Internet mail, the user's address consists of the user identifier, an @, and the system's mail domain (for example, jbrooks@example.org). The banner on the main menu usually states the address. However, the banner is text that the system operator writes by hand; on a system that has changed domains, it may be out of date. The system operator can supply the correct address.

Sending Outward

Internet addresses are not entered in the `Internal users` fields. The Message Recipients screen contains two further fields for them, `and/or Email to:` and `cc:`, each of which accepts several addresses separated by commas. The two fields are displayed only if the system operator has configured external mail, that is, both a SendGrid key and a mail domain. Internal users and Internet addresses may be specified in the same message. In this case, the copy that remains on the system contains a short block at the end that names the outside recipients, so that the internal reader knows that the message was also sent beyond the system.

No more than ten Internet recipients are accepted for one message, including those in the `cc:` field. **A file cannot be attached to an outbound message.** The compose screens provide no attachment function; only the text that the user has written is sent. (The function that mails a document to the user as a PDF, described in Chapter 13, is a different facility: it mails a rendering of something already on the system, not a file of the user's choosing.)

Receiving

A message from outside the system is shown in the inbox with `–EXT–` in place of a user name. When the message is read, the real address, the subject, and any `CC` list are displayed in a heading above the text. Two function keys are valid only on such a message: **`F2`** forwards it to another Internet address, and **`F6`** adds the sender to the user's spam list. Subsequent mail from that address is discarded and does not reach the user. The spam list itself is displayed with **`F6`** from the inbox.

Mail addressed to a user identifier that does not exist on the system is discarded, and the sending system is informed that the message was accepted. This is intentional: it prevents an outside party from discovering which accounts exist by mailing guessed identifiers. Consequently, a correspondent who mistypes a user identifier receives no warning, and the intended recipient receives nothing.

What Arrives, and What Does Not

A 3270 display station has its own character set, and an inbox message is plain text of a fixed width. Therefore, an arriving message is reduced to what the screen can display before it is filed. The effects of this reduction are not always apparent from the result, and are listed in the following table.

In the message	What you see
An attachment of any kind	Removed. A line such as `[Note: 1 attachment was dropped from this message]` is added at the end of the text. The file itself is not kept anywhere on the system, and its name is not displayed.
A message in both plain text and HTML	The plain text part is used as written.
A message in HTML only	The tags are removed and the text between them is kept. Styling and layout are lost, and any text that belongs to a style sheet or a script remains as text.
A web address	Replaced by the literal `[URL]`. **The address itself is not displayed.** Thus a link sent by a correspondent is of no use to the recipient; the correspondent should send the address as plain words.
Accented letters, Greek, Cyrillic, Chinese, Japanese, emoji	Each such character is replaced by a single space. `café` arrives as `caf` followed by a space, and a sentence in a non-Latin script arrives as a series of spaces. The replacement is not marked in any way.
Dashes, curly quotes, an ellipsis, a bullet	Translated to the nearest equivalent: dashes become `-`, curly quotes become `'` and `"`, an ellipsis becomes `...`, and a bullet becomes `*`.
A quoted-printable or base64 body	Decoded normally. Other transfer encodings are left as they arrived, and may be displayed as unreadable text.
A subject in a non-English character set	Displayed in the encoded form that the mail system used, such as `=?UTF-8?B?...?=`. Subjects are also truncated at 79 characters.
Long lines	Wrapped to 79 columns at word boundaries. A single word longer than 79 characters is not broken, and extends past the right edge of the screen.
A message larger than five megabytes	Rejected by the mail service; it is not delivered to the inbox.

Figure 7-7. How an arriving Internet message is reduced for the screen

In practice, **3270BBS is well suited to receiving correspondence and poorly suited to receiving documents.** A file, a link, or a message in a language that is not written in the Latin alphabet should be sent to the user by some other route.

Keeping the Original: the .FORWARD Note

A note whose subject is `.FORWARD` causes every message that arrives for the user from outside the system to be sent to the address written in the note, in addition to being delivered to the user's inbox. The message forwarded is the *original* message, unaltered, including attachments, HTML, and accented characters. This is the only means by which the content removed as described above is preserved. A user who expects to receive documents should therefore keep a `.FORWARD` note that specifies an ordinary mailbox. See Chapter 8.

Outbound mail is limited; see "Limits on Outgoing Mail" in Chapter 13.

Chapter 8

Notes

Notes are the user's private files. No other user can read a note unless its subject is one of the reserved subjects described in this chapter. To display the notes list, select option `N` from the main menu.

A note is a piece of text with a subject, kept for the user and written in the same editor that is used elsewhere in the system. Notes serve the following four purposes:

- **As a notebook**: a list, a draft of a long post, or any other text that the user wishes to keep between sessions.
- **As a file of material that has been read**: **`F10`**, pressed while a topic or a message is displayed, saves it as a note. Thus a reference that may be needed again is kept one screen away rather than in a conference.
- **As the source of the four reserved notes** described below, by which the user publishes an "About Me" page, sets a signature, and answers a finger query.
- **As a means of transferring text into and out of the system**: notes are the files that may be retrieved and stored over FTP, so a document written on the user's own machine enters 3270BBS as a note.

```
                              Personal Notes
Search:                                                   Page 1 of 1
Total notes: 4
S Subject                          Viewed  Size  Updated      Created
*******************************************************************************
  PUBLIC                           NO        150 10 Sep 2026  10 Sep 2026
  SIGNATURE                                   52 10 Sep 2026  10 Sep 2026
  FINGER                           NO         53 10 Sep 2026  10 Sep 2026
  3179G restoration                           56 10 Sep 2026  10 Sep 2026



F1=Help  F3=Main Menu  F5=New Note  F7=Prev  F8=Next
```

Figure 8-1. The notes list (Model 2, 24 x 80; capture screens/25-notes-list.txt)

The columns show the subject, whether the note has been viewed, its size in characters, and the dates on which it was updated and created. The `Search:` field at the top restricts the list to the notes whose subject matches the text entered. To read a note, type any character against it and press **`ENTER`**; to delete it, type `D`. If `Confirm Delete` is set in the user's profile, only one note may be marked at a time, and the deletion must be confirmed on the next screen.

Key	Function
`F1`	Displays help, including the list of reserved subjects.
`F3`	Returns to the main menu.
`F5`	Creates a note. The user types the subject, then writes the text in the content editor.
`F7, F8`	Scroll up and down.

Figure 8-2. Function keys on the notes list

```
                                View Note
Note #1           Created: 10 Sep 2026          Updated: 10 Sep 2026
Subject: PUBLIC
<<yellow>>Bob Cooper<</yellow>>
Endicott, New York.
Collects 3179G terminals and 3174 controllers.
Reachable in the Hardware conference most evenings.









 F3=Back F5=Edit F7=Prev F8=Next F9=Delete F10=Post as Topic F22=Link
```

Figure 8-3. Reading a note (Model 2, 24 x 80; capture screens/27-note-view.txt)

Key	Function
F3	Returns to the notes list.
F5	Edits the note in the content editor.
F7, F8	Display the previous and next page of a long note.
F9	Deletes the note.
F10	**Posts the note as a topic.** The note becomes a public topic in a conference that the user selects. This function is intended for a privately kept draft that is ready to be read by all users. It should be used with care, because the user cannot withdraw a post afterwards (see Chapter 5).
F20	Prints the note. See Chapter 13.
F22	Follows a bbs:// link written in the note. A note has no link of its own; therefore, nothing can be copied here. See Chapter 9.

Figure 8-4. Function keys while reading a note

As Figure 8-3 shows, the note is displayed exactly as it was typed, including its color tags. Tags are interpreted when the note is used as a PUBLIC profile, or when its text is placed in a post or a message; in the note viewer itself they are displayed literally.

The Reserved Subjects

Four subjects have a special meaning to the system. They must be typed in capital letters exactly as shown, and a user may have only one note of each. If the user attempts to create a second, the system displays You already have a PUBLIC note; edit it instead. Figure 8-5 shows the help panel of the notes list, which names the three reserved subjects that are most often used. The fourth, .FORWARD, is described in the following table.

```
                              Personal Notes
 Search:                                                          1 of 1
 Total notes: 4   Notes - Function Keys
 S Subject                                                       reated
 **************     F3  = Return to main menu                    **************
   PUBLIC           F5  = Create new note                        0 Sep 2026
   SIGNATURE        F7  = Previous page                          0 Sep 2026
   FINGER           F8  = Next page                              0 Sep 2026
   3179G restor                                                  0 Sep 2026
                    Enter on a note to view/edit it
                    Type 'D' in selector to delete

                  Special Note Names (MUST be UPPERCASE):
                    FINGER    = Displayed when someone
                                fingers your username
                    PUBLIC    = Your public 'About Me'
                                visible to all users
                    SIGNATURE = F21 during Post and Mail edit
                                appends this signature
                    F23 = Virtual Sessions list
                    F24 = Next Virtual Session
                    Press ENTER to close this help

 F1=Help  F3=Main Menu  F5=New Note  F7=Prev  F8=Next
```

Figure 8-5. The notes help panel, listing the reserved subjects (Model 2, 24 x 80; capture screens/26-notes-help.txt)

Subject	Meaning
`PUBLIC`	Specifies the user's "About Me" page. It is displayed to any user who looks up the user in the rolodex, who presses **`F13`** with the cursor on the user's name while reading a topic, or who follows a `bbs://user` link to the user. Every user should write one, because it is the means by which the community learns who the user is.
`FINGER`	Specifies the text sent to any party, anywhere, who fingers the user's name at this system. See Chapter 10.
`SIGNATURE`	Specifies the signature appended by **`F21`** in the content editor. See Chapter 6.
`.FORWARD`	Specifies an electronic mail address. Mail that arrives for the user from outside the system is forwarded to that address, in addition to being delivered to the user's inbox.

Figure 8-6. Reserved note subjects

Reaching Your Notes by FTP

Where the system operator has started the FTP server, the user's notes are also available as files. Any FTP client may be used; the user connects with the ordinary user identifier and password. Each note is presented as a file named after its subject, with spaces replaced by underscores and `.txt` appended. For example, a note whose subject is `My Ideas` is the file `My_Ideas.txt`.

- `GET` retrieves a note; `PUT` stores one, and either creates or replaces it.
- `MGET` is not supported. Files must be retrieved one at a time.
- Uploads are limited in size. The usual limit is twenty kilobytes; the system operator may specify another.

FTP is the supported means of bringing a long document composed elsewhere into the system, and of keeping a copy of the user's notes on the user's own machine.

Chapter 9

Linking to Content: bbs:// Links

A `bbs://` link is a short reference to an object inside this system (a topic, a post, a marketplace item, a conference, or a user). A link may be placed in a post or a message so that a reader can go directly to the object. Links are displayed in turquoise wherever they appear. This chapter describes the form of a link, the link clipboard, and the means by which links are copied, pasted, and followed.

The Form of a Link

A link consists of the characters `bbs://`, followed by a kind, an optional name whose only purpose is to make the link readable, and a number that identifies the item. For example:

- `bbs://topicMotorbikes41` specifies topic 41.
- `bbs://itemIbmKeyboard18` specifies marketplace item 18.
- `bbs://userMoshix7` specifies the `PUBLIC` note of user 7.

The valid kinds are `topic`, `post`, `item`, `user`, `conf`, `chat`, and, where newsgroups are enabled, `group`, `subject`, and `article`. By design, there is no kind for private mail; mail cannot be the object of a link.

Only the number identifies the item. The name is ignored; consequently, a link remains valid after a topic has been renamed.

The Link Clipboard

Links are moved by means of a clipboard that belongs to the user's session. The clipboard holds **one** link; copying another link replaces it. The clipboard is shared by all three virtual sessions, so a link copied in one session may be pasted in another (see Chapter 4). It retains its contents until they are replaced, until `CLEAR` is entered at a menu, or until the user logs off.

While the clipboard holds a link, a white asterisk is displayed at the right end of the title line of both menus, two columns to the left of the virtual session number. `CLEAR` empties the clipboard, and the system responds with `Link clipboard cleared`.

Copying, Pasting and Following

A single key, **`F22`**, performs all three functions. The function performed is determined by the position of the cursor when the key is pressed, as follows:

- If the cursor is on a `bbs://` link that a user has written, the key **follows** the link.
- If the cursor is on an item that can be the object of a link, the key **copies** a link to that item to the clipboard, and the system responds with `Link copied:` and the link.
- If the cursor is in an input field, the key **pastes** the clipboard at the cursor.

The key is not valid on every screen. Figure 9-1 lists the screens on which it is valid, and the function it performs on each.

Screen	What F22 does
Conference list (Chapter 5)	Copies a link to the conference on which the cursor is positioned (`bbs://conf...`).
Topic list (Chapter 5)	Copies a link to the topic on which the cursor is positioned (`bbs://topic...`). The cursor may be in any column of the line, including the selector field. Like the conference list, this screen displays no text written by users; therefore, it never contains a link to follow, only one to copy. Because the screen has little room for messages, the confirmation may show the link without its name, as `bbs://topic412`. This is the same link: the system reads only the number, and the name is ornamental.
Reading a topic (Chapter 5)	Follows a link in a post. Otherwise, it copies a link: with the cursor on a post, a link to *that post* (`bbs://post...`); with the cursor on the heading line of the topic, a link to the whole topic (`bbs://topic...`). Both links take their name from the topic title and therefore look alike; the kind, not the name, distinguishes them.
Marketplace item (Chapter 19)	Follows a link in the description; otherwise, copies a link to the item (`bbs://item...`).
Reading a note, and another user's About Me page (Chapters 8 and 10)	Follows a link written in the text. A note has no link of its own; therefore, nothing can be copied.
WHOIS (Chapter 3)	Follows a link in the About Me text; otherwise, copies a link to the user's About Me page (`bbs://user...`).
Chat (Chapter 11)	On the input line at the bottom of the screen, **pastes** the clipboard into the message being typed. On a line of the conversation, follows a link, or copies a link to that line (`bbs://chat...`).
Wall of one-liners (Chapter 10)	On the input line, **pastes** the clipboard. On a one-liner, follows a link. Nothing can be copied, because a one-liner has no screen of its own to which a link could refer.
The content editor (Chapter 6)	**Pastes** the clipboard at the cursor, in a post, a reply, a message, or a note.

Figure 9-1. Where F22 works, and what it does there

Figure 9-2 shows a link being copied from the topic list. The cursor was on the first topic, and the system responds on the message line at the right of the search row. The cursor is not moved, so a link may be copied from another row without further navigation.

```
 Conference: 3270BBS - Sorted by Topic Creation Date         Page 1
 S Topic Title                               Author   Posts Views Likes Created
 ******************************************************************************
   Colour tags in posts - a cheat sheet      jbrooks  1     62    0     05Sep26
   How do virtual sessions work?             bcooper  1     73    0     02Sep26

















   Search:                                 Link copied: bbs://topic5
  F3=Conferences  F5=Add Topic   F7=Up F8=Dn F10=SortActive F11=Sort  F22=Link
```

Figure 9-2. A link copied from the topic list with F22 (Model 2, 24 x 80; capture screens/11b-topics-list-copy.txt)

A link to a single *post* can be copied only while the topic is being read, because the topic list identifies nothing smaller than the topic itself.

If **`F22`** is pressed on a screen that accepts the key, but the cursor is not on an item, the message line displays `Nothing to copy here - put the cursor on an item`. If the key is pressed to paste and the clipboard is empty, the system issues a message to that effect rather than pasting nothing.

In chat and on the wall of one-liners, the pasted link must fit in the input field, which is one line long. If the message and the link together are too long, the paste is rejected; neither is truncated.

Following a Link From the Command Line

The `GO` command of the TSO command line (see Chapter 15) follows a link that the user types, for example:

```
GO bbs://topicMotorbikes41
```

If `GO` is entered without an operand, it follows the link on the clipboard. This is the quickest means of opening a link copied on another screen.

A link that refers to an object that does not exist, or to one that the user is not authorized to see, always produces the same response: `That link is not available`. The response does not distinguish the two cases; thus a link cannot be used to discover what exists.

Chapter 10

Finding and Reaching People

This chapter describes the user rolodex, the wall of one-liners, the summon function, and the reply that the system returns when a user is queried with the FINGER protocol from outside the system.

The User Rolodex

The rolodex is invoked by selecting option `U` from the main menu.

The rolodex is the directory of the community. It may be used to find out who a user is before writing to that user, to determine whether a user is online, to identify the moderators, and to obtain the exact spelling of a user name for a message or a summon.

```
 Total users: 6                User Rolodex                  Page 1/1
 Search:
   Username  Mod Adm Topics  Posts  Online  Last Login  Country     About Me
*********************************************** *Desc***************************
   bcooper   No  No  2       3      Online     10Sep26  USA              Yes
   jbrooks   Yes No  2       2      Offline    10Sep26  USA
   mmartin   No  No  1       2      Offline    10Sep26  Germany
   admin     No  Yes 0       0      Offline    10Sep26  USA
   noreply   No  No  0       0      Offline      Never  N/A
   smtp      No  No  0       0      Offline      Never  N/A









  F1=Help F3=Rtrn F5=About F7=Up F8=Down F10=Point&Msg F11=Point&Sort
```

Figure 10-1. The user rolodex (Model 2, 24 x 80; capture screens/35-rolodex.txt)

The rolodex lists every account. For each account it shows the user name, whether the user is a moderator or an administrator, the number of topics and posts the user has written, whether the user is online, the date of the last logon, the country, and whether the user has written an "About Me" page. To narrow the list, type a name, or part of a name, in the `Search:` field.

The rolodex has no selector column. A line is selected by *pointing* at it with the cursor and pressing one of the following keys:

Key	With the cursor on	Function
F3	anywhere	Returns.
F5	a user	Displays the PUBLIC note of that user (the About Me page).
F7, F8	anywhere	Displays the previous or the next page.
F10	a user	Sends a message to that user.
F11	a column heading	Sorts the list by that column. Pressing the key again reverses the order.

Figure 10-2. Keys on the user rolodex

If **F5** or **F10** is pressed while the cursor is not on a user, the system displays the message `Position cursor on a user and press F5 to view their PUBLIC note`, or the corresponding message for **F10**.

```
bcooper      About Me                    Created: 10 Sep 2 Updated: 10 Sep 2026
*******************************************************************************
Bob Cooper
Endicott, New York.
Collects 3179G terminals and 3174 controllers.
Reachable in the Hardware conference most evenings.









F3=Return to User Rolodex
```

Figure 10-3. A user's About Me page, displayed with F5 (Model 2, 24 x 80; capture screens/35b-aboutme.txt)

The About Me page is the PUBLIC note described in Chapter 8, and any color tags in it take effect on this display. If the user has not written such a note, the system issues a message to that effect instead of displaying an empty page.

The Wall of One-Liners

The wall of one-liners is invoked by selecting option `L` from the main menu. A one-liner is a single line addressed to the whole community, such as a greeting, an announcement, or a joke.

```
 Wall of One-Liners                                        3 msgs
*******************************************************************************
 bcooper 09Sep2026 Green screens forever.
 -----------------------------------------------------------------------------
 jbrooks 09Sep2026 New topic in Hardware: show us your 3179G
 -----------------------------------------------------------------------------
 mmartin 09Sep2026 Greetings from Boeblingen!
 -----------------------------------------------------------------------------









 bcooper:

F3=Menu F5=AboutUser F7=Up F8=Down F9=Revise F22=Cpy/Paste ENTER=Post
```

Figure 10-4. The wall of one-liners (Model 2, 24 x 80; capture screens/36-oneliners.txt)

Each entry shows the author, the date, and the text. One-liners added since the last logon are among the items reported by **`F2`** (What's New) at the menu. The function key line of the wall indicates which key adds a line and which keys page through the wall.

`F22` is also valid on this screen, and its effect depends on the cursor row. On the input line at the foot of the screen, it pastes the link clipboard into the one-liner being typed. On a one-liner already on the wall, it follows the `bbs://` link under the cursor. Because a one-liner has no screen of its own, there is nothing to copy. See Chapter 9.

Summoning

To reach a user who is logged on at the present time, use **`F4`** on the main menu, as described in "F4 — Summoning Another User" in Chapter 3. A summons is intended for immediate contact only; it expires after fifteen minutes.

Being Fingered From Outside

The FINGER protocol allows any user on the network to query a system about one of its users. Where the system operator has started the finger daemon, a person on another machine may enter:

```
finger yourname@thisbbs.example.com
```

The reply consists of the text of the user's `FINGER` note (Chapter 8), followed by a line indicating whether the user is online and, if so, what the user is doing. If the user has written no `FINGER` note, or if the name is not an account at all, the reply is a general description of the system. The two cases are deliberately indistinguishable, so that the finger service cannot be used to determine which accounts exist.

A query that specifies no user name returns the system banner: the name of the system, the time, how long the system has been running, and the number of users online.

Chapter 11

Live Chat

This chapter describes live chat, the AI participant, the indication that another user is typing, and the room topic. Chat is conversation in real time among the users who are at their display stations. The following chats are available:

- **Local chat**: option `R` on the main menu. This is the conversation of this system.
- **Private chat**: option `I` on the extended menu. This is a room protected by a password, for a conversation among the users who know the password.

A third chat, **federated chat** (a conversation shared with other 3270BBS systems around the world), appears as option `R` on the extended menu, but it is not available in this release; the option responds with `Federated chat is disabled`. Consequently, the federated count displayed on the menus (`In chat . :`) is always zero.

```
real-time      Local Chat                                  10:22:17
Online: bcooper, jbrooks..









09:40 jbrooks  Evening all. Anyone here running a real 3174?
09:41 mmartin  I have one in the garage. Coax to twinax is the hard part.
09:42 bcooper  Just finished a topic on the 3179G if anyone wants pictures.
09:43 jbrooks  Post the link with F22 and I will follow it from here.
10:22 jbrooks  Evening all. Anyone here running a real 3174?
10:22 bcooper  I have one in the garage - coax to twinax is the hard part.
10:22 jbrooks  Post the link with F22 and I will follow it from here.

bcooper  ====>

F1=Help F2=Spell F3=Out F4=Complete F5=About F7=Up F8=Dn F9=Recall F10=ScrnShot
```

Figure 11-1. Local chat (Model 2, 24 x 80; capture screens/40-chat.txt)

The heading shows the name of the chat, the time, and, at the left, the scroll state: `real-time` while the conversation is being followed as it happens, `history scroll` after the user has scrolled back, and `top of chat history` when the beginning has been reached. Below the heading is the list of users present; two dots after a name indicate that the user is typing (see “Who Is Typing” below). To send a line, type it at the bottom of the screen and press **`ENTER`**.

```
real-time      Local Chat                                  10:22:17
Online: bcooper, jbrooks



    Function Key Help

    F1   - Display this help screen
    F2   - Spell check your message before sending
    F3   - Exit chat and return to main menu
    F4   - Complete username by typing first few unique characters
    F5   - Cursor on any username, press F5 for their About Me page
09  F7   - Scroll up through chat history
09  F8   - Scroll down through chat history
09  F9   - Recall your last sent message within 15 seconds to edit it
09  F10  - Take screenshot of current chat screen to your Notes
10  F22  - Chat line: follow or copy a bbs:// link. Input line: paste
10  F23  - Virtual Sessions list
10  F24  - Next Virtual Session

bc  Press Enter to close

F1=Help F2=Spell F3=Out F4=Complete F5=About F7=Up F8=Dn F9=Recall F10=ScrnShot
```

Figure 11-2. The chat function key panel (Model 2, 24 x 80; capture screens/41-chat-help.txt)

Key	Function
F1	Displays help.
F2	Checks the spelling of the line being typed. If the 3270BBS operator has configured AI support, the line is first corrected. See “Checking the Spelling in Chat: F2” below this table.
F3	Leaves the chat.
F4	Completes the word being typed.
F5	Displays information about this chat.
F7, F8	Scrolls backward and forward through the conversation.
F9	Recalls previously typed input.
F10	Takes a screen shot of the conversation and places it in the user's held output.
F22	On the input line, pastes the link clipboard into the message being typed. On a line of the conversation, follows the link under the cursor, or copies a link to that line. See Chapter 9.

Figure 11-3. Function keys in chat

Checking the Spelling in Chat: F2

F2 works the same way in local chat, private chat, and federated chat. It checks the line in the input field before it is sent; nothing is sent until the user presses **ENTER**.

Without AI support, **F2** checks every word of the line against the system dictionary. If all words are known, the input field turns green. Otherwise it turns yellow, and a red `%` is displayed on the line below the input field, under the first letter of each unknown word. Nothing in the line is changed. The colors and marks are removed as soon as the line is changed.

With AI support (if the 3270BBS operator has configured it), **F2** first sends the line to an AI service, which corrects spelling mistakes, typing errors, and obvious grammar slips without rewording the line. The corrected line replaces the text in the input field. The dictionary check described above then runs on the corrected line, so a word that is still unknown, such as a name, is still marked with `%`. `bbs://` links and color tags are not changed. The user can still edit the corrected line, or press **ENTER** to send it.

If the AI service does not answer within 2.4 seconds, or the corrected line would no longer fit in the input field, **F2** performs only the dictionary check, automatically, and the line stays as typed. When AI support is active, the line that is checked is sent to an external AI service (OpenAI) for processing. Chat has no `UNDO`; to go back to the original wording, the user retypes it.

Asking the AI: @ai

If the 3270BBS operator has configured AI support, a user can ask an AI assistant a question in chat. The question is typed as an ordinary chat line that begins with `@ai`, followed by a blank and the question. For example:

```
@ai what is the minimum age to fly an airplane in the US
```

The line is sent to the chat like any other line, so everyone present sees the question. A few seconds later the answer appears, posted by the user `AI-bot` in up to four chat lines of up to 64 characters each. A longer answer is shortened and ends with **...**. In SSH chat, which has less room per line, the lines of one answer are shown together as one paragraph. The prefix is not case sensitive, and `@ai-bot` is accepted as well, so a user who types `@ai` and presses **F4** to complete it to `@AI-bot` can continue typing the question. The prefix may be followed directly by one of the punctuation marks **,** **:** **;** **?** **!** or **.**, as in `@ai: what is a 3270?` or `@AI-bot, hello`; the mark is not part of the question. A word that merely begins with the letters, such as `@aiden`, is not a question for the assistant. A line that contains only `@ai` is answered with a short description of the assistant. Without AI support, a line that begins with `@ai` is an ordinary chat line, and nothing answers it.

The assistant answers in local chat, from a 3270 terminal and from SSH, and in private chat rooms. It does not answer in federated chat. When AI support is active, the chat help panel (**F1**) lists `@ai`, and so does `/help` in SSH chat.

Each user can ask at most five questions in any ten minutes. A further question is still sent to the chat as an ordinary line, but it is not answered, and only the user who asked sees the message `@ai: limit reached (5 per 10 min), try again in` *n* `min`. If the assistant cannot answer, for example because the AI service does not respond within 20 seconds, nothing is posted, and only the user who asked sees `@ai did not answer, try again`, provided that the user is still in that chat. When two users ask at the same time in the same room, the second question is answered after the first. If a question has waited about 25 seconds for an earlier one in the same room to be answered, it is not answered, and only the user who asked it sees `@ai is busy, try again in a moment`.

The assistant remembers the conversation that was addressed to it, so that a follow-up question can refer to an earlier answer. It remembers the questions that began with `@ai` (with the name of the user who asked each one) and its own answers, and nothing else. This memory is kept separately for local chat and for each private room, and only in the memory of the system, never in the database:

- Each question and its answer are forgotten 15 minutes after the question was asked.
- At most the 20 most recent questions and answers are kept for each chat or room; when a 21st is added, the oldest one is forgotten.
- When all the users who have asked the assistant something in that chat or room have left it, the whole conversation is forgotten. A user counts as having left only after being away for two minutes without interruption, so briefly leaving the chat screen (for example, with **F5**, **F23** or **F24**) does not end the conversation.
- Silence alone does not end the conversation: while at least one of those users is still present, only the 15-minute limit removes anything.

The assistant can explain these rules when it is asked about them.

Note
Only chat lines that begin with `@ai` are given to the assistant; other chat lines are never sent to it. When AI support is active, each such question, the user name of the user who asked, and the earlier questions and answers that the assistant remembers for that chat or room are sent to an external AI service (OpenAI) for processing. The password of a private room is never sent.

Who Is Typing

When a user has started to type a line but has not yet pressed **ENTER**, two dots appear after that user's name in the list of users present. For example, `Online: bcooper, jbrooks..` indicates that jbrooks is in the middle of typing a line. The dots also appear after the user's own name, which confirms that the other users can see the typing. Private chat rooms show the dots in the same way, in their `Room users:` list; typing in one room never marks the user in another.

The dots appear within approximately three seconds of the first character. They are removed when the line is sent, when the line is erased and the input line is empty again, or when the user has not typed for approximately ten seconds. Thus, a user who starts a line and is then called away does not appear busy indefinitely. The next keystroke restores the dots. The text being typed is never shown to other users; only the fact that typing is in progress is displayed.

- A 3270 terminal sends nothing to the system until an attention key is pressed. The system must therefore query the terminal every two seconds for the contents of the input line. Terminals and emulators that do not answer that query are not shown with dots; all other chat functions work as usual.
- For a user connected with SSH (shown as `name@`), the dots appear as `name@..`. If that user erases the line with the backspace key instead of sending it, the dots remain until the ten seconds have elapsed.
- The system operator can disable the dots for the whole system.

The Room Topic

A chat may have a topic, which is displayed in the heading. The topic is set by entering the command `/topic`, followed by the text, on the chat input line. It is cleared by entering `/topic` with no text after it. Only the first twenty characters are kept; the remainder is discarded without a warning, so the topic should be short. Only moderators and administrators may set the topic. Any other user who attempts to do so receives the message `Only admins/moderators can set the chat topic`. This is the only command that chat recognizes; all other input is sent to the room.

Points to Remember

- Only one of a user's virtual sessions may be in chat at a time (Chapter 4).
- The number of users in chat, local and federated, is shown on both menus as `In chat . :`.
- If mail arrives during a chat, a `New Mail` notice appears in the corner of the chat screen.
- Chat is not kept in the conferences. Material that is worth keeping should be posted as a topic.

Chapter 12

Your Profile and Preferences

This chapter describes the profile screen, which holds both the account information and the preferences that govern how the system behaves for the user. It also describes how to change the password, set the time zone, edit the About Me page, and close the account. The profile screen is invoked by selecting option `0` from the main menu, or by entering `=0` on the extended menu. To save changes, press **`ENTER`**; the message line displays `Profile updated`.

```
                              User Profile
*******************************************************************************

  Username:         bcooper
  Email:            bcooper@example.com
  City:             Endicott
  Country:          USA
  Units:            imperial    Confirm Delete: yes
                    metric/imperial             yes/no
  Time Zone:        America/Anchorage           (F4 to change)

-------------------------------------------------------------------------------
  Preferences
  Screensaver:      Y   Y/N     Timeout: 4    min(1-30) Stock ticker: N   Y/N
  Editor Scroll:    CSR    CSR/PAGE/HALF      LineNum: N
  Refresh rate for self-updating panels: 5    (3-10)
  Print to Held:    N   Y/N
  ASM/BASIC Log:    Y   Y/N  Send ASM/BASIC session log to Held Output
  Posts Sort Order: O   Oldest first or newest first O/N
  F5=Password  F9=CloseAccount  F10=AboutMe



F3=Return  F4=Set TimeZone  ENTER=Save
```

Figure 12-1. The user profile screen (Model 2, 24 x 80; capture screens/30-profile.txt)

Account Information

Field	Notes
`Username`	Displayed only; it cannot be edited. Only the system operator can change it.
`Email`	Specifies the address to which printed documents and password information are sent. A change must be confirmed. Where the system operator has enabled verification, a code is sent to the new address, and the code must be entered before the change takes effect.
`City`	Specifies the user's home city. It is the answer to the question asked during password recovery, and should therefore be kept accurate.
`Country`	Specifies the user's country.
`Units`	`metric` or `imperial`.
`Confirm Delete`	`yes` or `no`. If `yes` is specified, deletions elsewhere in the system require confirmation and are processed one at a time.
`Time Zone`	Displayed only; it cannot be typed. Press **F4** to change it.

Figure 12-2. Account information on the profile screen

Preferences

Preference	Values	Effect
`Screensaver`	`Y / N`	Indicates whether the screen saver starts when the display is left idle.
`Timeout`	`1 – 30`	Specifies the minutes of inactivity before the screen saver starts.
`Stock ticker`	`Y / N`	Indicates whether a ticker of market prices is displayed.
`Editor Scroll`	`CSR / PAGE / HALF`	Specifies how far **F7** and **F8** scroll in the ISPF-style editor: to the cursor, a whole page, or half a page.
`LineNum`	`Y / N`	Indicates whether the ISPF-style editor shows line numbers.
`Refresh rate`	`3 – 10`	Specifies the seconds between refreshes of the self-updating displays, such as SDSF and DELTAMON.
`Print to Held`	`Y / N`	Indicates whether printing places the document in held output instead of mailing it to the user as a PDF. See Chapter 13.
`ASM/BASIC Log`	`Y / N`	Indicates whether the log of each BASIC or assembler run is written to held output. See Chapter 13.
`Posts Sort Order`	`O / N`	Indicates whether a topic opens with the oldest post first or with the newest post first.

Figure 12-3. Preferences on the profile screen

On a Model 4 display station, the profile screen also shows a statistics block: the user's address, the connect time, the number of topics and posts written, and the number of logons. See Figure 12-4.

```
                              User Profile
*******************************************************************************

   Username:          bcooper
   Email:             bcooper@example.com
   City:              Endicott
   Country:           USA
   Units:             imperial    Confirm Delete: yes
                      metric/imperial             yes/no
   Time Zone:         America/Anchorage           (F4 to change)

-------------------------------------------------------------------------------
   Preferences
   Screensaver:       Y   Y/N     Timeout: 4    min(1-30) Stock ticker: N   Y/N
   Editor Scroll:     CSR    CSR/PAGE/HALF      LineNum: N
   Refresh rate for self-updating panels:  5    (3-10)
   Print to Held:     N   Y/N
   ASM/BASIC Log:     Y   Y/N  Send ASM/BASIC session log to Held Output
   Posts Sort Order:  O   Oldest first or newest first O/N
   F5=Password  F9=CloseAccount  F10=AboutMe
   ------------------------------------------------------------
   Statistics:
   IP Address:     ::1                Topics: 2
   Connected For:  37 seconds         Posts:  3
   Login Count:    44
   ------------------------------------------------------------


          Terminal: 43x80 3278-4/3279-4 CPbracket

F3=Return  F4=Set TimeZone  ENTER=Save
```

Figure 12-4. The profile screen on a Model 4, showing statistics (Model 4, 43 x 80; capture screens/91-profile-model4.txt)

Function Keys on the Profile Screen

Key	Function
ENTER	Saves every field on the screen.
F3	Returns to the main menu.
F4	Sets the time zone.
F5	Changes the password.
F9	Closes the account.
F10	Edits the user's PUBLIC note, the "About Me" page that other users see.

Figure 12-5. Function keys on the profile screen

Changing Your Password

To change the password, press **F5** on the profile screen.

```
                            Change Password

 Enter your current password and a new password (6-22 characters):
   Current Password:

   New Password:

   Confirm Password:









            Terminal: 24x80 3278-2/3279-2 CPbracket (Standard Mode)

 F3=Cancel  F12=Save New Password
```

Figure 12-6. The change password screen (Model 2, 24 x 80; capture screens/31-password-change.txt)

Type the current password, and then type the new password twice. The input is not displayed. Press **ENTER** or **F12** to save the change, or **F3** to abandon it. The following rules apply:

- The new password must be six to twenty-two characters long.
- The two copies must match; otherwise, the system displays `New passwords do not match`.
- The current password must be correct; otherwise, the change is refused.

When the change is successful, the profile screen is redisplayed with `Password changed` in reverse video. A temporary password obtained through password recovery should be changed immediately.

Setting Your Time Zone

To set the time zone, press **F4** on the profile screen. Every time shown to the user (on the menus, in topics, in mail, and in chat) is displayed in this zone.

```
                           Time Zone Selection

 Select a region, then choose a time zone:
 Region:   Africa     America or Europe or Asia, then Enter to update the list
 ---------------------------------------------------------------------------
 Current Selection:  America/Anchorage
 A) Africa/Cairo
 B) Africa/Johannesburg
 C) Africa/Lagos
 D) Africa/Nairobi









 City code:

 1. Enter continent in Region: and press ENTER
 2. Then pick input the desired city into City Code: and press ENTER.
 3. Verify your selection, and press F10 to accept and go to Main Menu
 F3=Cancel  F7=Scroll Up  F8=Scroll Down  F10=Select
```

Figure 12-7. The time zone selection screen (Model 2, 24 x 80; capture screens/32-timezone.txt)

1. Type a region in the `Region:` field and press **ENTER**. The list of cities is replaced. The valid regions are `Africa`, `America`, `Antarctica`, `Asia`, `Atlantic`, `Australia`, `Europe`, `Indian`, `Pacific`, and `UTC`.
2. **F7** and **F8** scroll the list.
3. Type the letter of the required city in the `City code:` field and press **ENTER**. The choice is displayed as `Current Selection`.
4. Press **F10** to accept it.

F3 leaves the time zone unchanged.

Your About Me Page

F10 on the profile screen invokes the content editor for the user's `PUBLIC` note. This is the page that other users see when they look up the user in the rolodex or follow a link to the user. It is the same note that can be edited from the notes list (Chapter 8); the profile screen merely provides a second way to reach it.

Closing Your Account

Users may delete their own accounts. Account deletion is the only operation in this system that cannot be undone, and it removes considerably more than the user's own contributions. Before beginning, read "What Is Removed" below.

The Procedure

To close the account, press **F9** on the profile screen. Three deliberate steps follow, and any of them may be abandoned with **F3**:

1. A warning screen, Figure 12-8, lists the consequences and shows the user identifier. Type the identifier exactly into the field and press **F9** to continue. Any other input is refused.
2. A final screen, Figure 12-9, offers **F3**, labeled as the safe choice, and **F12**, labeled `DELETE ACCOUNT PERMANENTLY`. Only **F12** proceeds.
3. The account is deleted, a farewell screen is displayed, and the connection is closed after approximately three seconds. The logon screen is not redisplayed, because the account no longer exists.

```
                        DELETE ACCOUNT - WARNING


     You are about to DELETE your account permanently!

     This action is IRREVERSIBLE and will:

        Delete all your messages and posts
        Remove your profile information
        Close your connection immediately
        Make this username unavailable forever


     Your username: bcooper


     Type your username to confirm:


     Are you absolutely sure you want to continue?


 F3=Cancel (Return to Profile)  F9=YES, I want to delete my account
```

Figure 12-8. The first account deletion warning (Model 2, 24 x 80; capture screens/33-account-delete-warning.txt)

```
                    FINAL CONFIRMATION - LAST CHANCE


          LAST CHANCE TO CANCEL!


     You have confirmed that you want to delete your account.

     This is your FINAL OPPORTUNITY to change your mind.


     Username: bcooper

     Pressing F12 will:
        IMMEDIATELY delete your account
        CLOSE your connection
        Make this action IRREVERSIBLE




  F3=Cancel (Safe Choice)  F12=DELETE ACCOUNT PERMANENTLY
```

Figure 12-9. The final confirmation screen (Model 2, 24 x 80; capture screens/34-account-delete-final.txt)

Administrators cannot delete their own accounts; the system refuses the request with `Admin accounts cannot be deleted for security reasons`. An administrator who wishes to leave must have another administrator remove the account.

What Is Removed

All of the items in the following table are deleted in a single operation. Either the whole operation succeeds or none of it takes effect; thus, a partially removed account cannot occur. No archive, no tombstone, and no record that the account existed is kept.

What	Detail
Your posts	Every post the user wrote, including replies in topics started by other users. The discussions remain, without the user's replies.
Topics you started, and every reply in them	This consequence is often not expected. Deleting an account deletes every topic that the user started in its entirety, **including the replies written in it by other users**. A long discussion opened by the user is destroyed with the account, and the other contributors are neither asked nor notified.
Mail	Every message the user sent and every message the user received, including the copies held in the mail of other users. A letter sent to another user is removed from that user's mail as well.
Notes	All notes, including the reserved notes: the `PUBLIC` page, the signature, the finger reply, and any `.FORWARD`.
Likes	Both the likes the user gave and the likes other users gave to the user's posts.
Marketplace entries	Every item the user offered or sought.
One-liners	Every line the user left on the wall.
Chat messages	The user's side of the stored conversation.
Subscriptions and opt-outs	Conference subscriptions and topic notification settings.
Spam list	The senders the user had blocked.
Profile and activity	The account information and the activity that the system had recorded for the account.

Figure 12-10. What closing your account removes

Note

Held output is not included in the list, nor is anything that the user has printed or mailed to their own address. Material that has left the system is not affected. Users who want a copy of their own writing should take it *before* beginning the procedure, by printing the relevant topics to held output or by retrieving the notes with FTP, as described in Chapters 13 and 8.

The warning screen states that the user identifier becomes unavailable forever. In fact, the identifier is released with the account and may be registered again afterward, by the same user or by another user; only `admin` and `noreply` are permanently reserved. Neither behavior should be relied upon. If the identifier is important to the user, the account should be kept.

Chapter 13

Printing, Held Output and Mail Limits

This chapter describes printing, the held output queue, and the limits on mail sent out of the system. 3270BBS has no printer attached to the display station. Instead, it provides the arrangement that a mainframe has always provided: a document is printed to a **held output** queue, where it remains until the user displays it, sends it elsewhere, or purges it. A document may also be mailed to the user as a PDF file.

Note
Every function in this chapter that *mails* something (the PDF documents, the program listings, and the daily allowance described at the end of the chapter) is part of the optional electronic mail feature. It is available only where the operator of the board has obtained a SendGrid API key and enabled mail in the system configuration. Where mail is not enabled, held output still works exactly as described. If `Print to Held` is set to `Y` in the profile, everything that is printed remains on the system; this is the arrangement used on those boards.

What You Can Print

From	Key or command	What is printed
Reading a topic	`F20`	The topic and its posts.
Reading a message	`F20`	The message.
Reading a note	`F20`	The note.
The ISPF-style editor	`PRINT`	The program source being edited. It is always printed to held output and is never mailed.
BASIC or the assembler	`EMAIL file.list`	A compilation or assembly listing, as a wide green-bar listing.
Chat	`F10`	A screen shot of the conversation.
Running a program	automatic	The log of each BASIC or assembler run, when `ASM/BASIC Log` is `Y` in the profile.

Figure 13-1. What can be printed, and from where

Where It Goes: the Print to Held Preference

The `Print to Held` preference on the profile screen determines the action of **`F20`** and of the `EMAIL` commands, as follows:

- `Y`: The document is written directly into held output as plain text. Nothing leaves the system, nothing is counted against the daily mail allowance, and the document can be read immediately. The message line displays `Printed to HELD output`.
- `N`: The document is converted to a PDF file and mailed to the address in the profile. Topics, messages, and notes are set in portrait orientation, with a title bar, and color tags are translated into real colors. Program listings are set in landscape orientation on simulated green-bar paper with sprocket holes, sixty lines to the page.

The Held Output Queue

The held output queue is reached either by selecting option `S` (SDSF) from the main menu and pressing **`F2`**, or by entering `HELD` (or `H`) on the SDSF command line.

```
  SDSF HELD OUTPUT DISPLAY FOR USER BCOOPER   2 LINES LINE 1-2 (2)
  COMMAND INPUT ===>                                    SCROLL ===> HALF
 NP JOBNAME  TYPE JNUM  DN CRDATE  C FORM FCB  DEST    RC      TOT-REC RNUM
    BCOOPER  JOB     1  1 10Sep26  X STD  BAS  BCOOPER  0000       29
    BCOOPER  JOB     2  1 10Sep26  X STD  ASM  BCOOPER  0000       34




















  F3=Return  F7=Up  F8=Down  S=Select  P=Purge  O=Email
```

Figure 13-2. The held output queue (Model 2, 24 x 80; capture screens/46-held-output.txt)

Each line represents one print job. The columns follow the conventions of a mainframe spool display:

Column	Meaning
NP	The selector field. Type S, P, or O in this field.
JOBNAME	The user who owns the job.
TYPE	JOB for a print job.
JNUM	The job number, which is assigned once and retained.
DN	The data set number within the job. Every job that this system writes has one data set, so the column always contains 1.
CRDATE	The date on which the job was created.
C	The output class. Held output is always class X.
FORM	SRC for program source printed from the editor; otherwise STD.
FCB	BAS or ASM for program output; otherwise asterisks.
DEST	The owner of the job.
RC	The return code of a program run.
TOT-REC	The number of lines in the job.
RNUM	Heading only; this system displays no value under it.

Figure 13-3. Columns of the held output queue

Action	Effect
S	Select: displays the job.
P	Purge: deletes the job. The system displays `Purged n job(s)`.
O	Mails the job to the user as a PDF file. The system displays `Emailed n job(s) to`, followed by the user's address.
F3	Returns.
F7, F8	Scrolls the queue.

Figure 13-4. Actions on the held output queue

Several lines may be marked before **ENTER** is pressed. Only the user's own jobs are displayed; other users cannot see them.

Reading a Held Job

```
SDSF OUTPUT DISPLAY BCOOPER  JOB     1 DSID   101 LINE       0 COLUMNS 02- 79
COMMAND INPUT ===>                                        SCROLL ===> HALF
******************************** TOP OF DATA ********************************
                          TIMESHARING BASIC/3270BBS V3.0.0
512135 bytes free
TYPE HELP FOR COMMANDS, BYE TO EXIT
LANGUAGE MANUAL: https://tinyurl.com/TIMESHARINGBASIC
READY
10 REM GREETING FOR THE MANUAL
READY
20 FOR I = 1 TO 3
READY
30 PRINT "HELLO FROM 3270BBS BASIC"; I
READY
40 NEXT I
READY
50 END
READY

10 REM GREETING FOR THE MANUAL
20 FOR I = 1 TO 3


 F3=Return  F7=Up  F8=Down  F10=Left  F11=Right
```

Figure 13-5. Reading a job from held output (Model 2, 24 x 80; capture screens/47-held-view.txt)

The viewer displays the job between `TOP OF DATA` and `BOTTOM OF DATA` markers, with a command line and a scroll field. **F7** and **F8** scroll up and down. **F10** and **F11** scroll left and right through lines wider than the screen, as listing lines often are. On the command line, `TOP` and `BOTTOM` position the display at the beginning and the end of the job, and `DA` returns to the queue. **F3** returns.

Nothing Is Cleaned Up For You

Held output is kept until it is purged. There is no expiration and no automatic housekeeping; consequently, a series of BASIC program runs can fill the queue with logs. Jobs that are no longer required should be purged with `P`. If a log of every run is not wanted, set `ASM/BASIC Log` off in the profile.

Limits on Outgoing Mail

Mail that leaves the system (a printed document sent as a PDF, a listing mailed from BASIC or the assembler, or a reply addressed to an Internet address) is limited in two ways. Both limits are set by the system operator.

Limit	What you see
A daily allowance of outgoing messages, four by default. The allowance is counted **once for each recipient**, not once for each message; thus, a single message addressed to three Internet addresses uses three of the allowance.	`Max daily emails (n) reached`; from the held output queue, `Max daily emails (n) reached. Need n more.`; in BASIC, `?DAILY EMAIL LIMIT REACHED` followed by `TRY AGAIN TOMORROW`. The count is reset at midnight.
A waiting period for new accounts, fourteen days by default, during which an account may not send mail out of the system.	`INFO14D GENERAL ERROR`. The wording is deliberately terse. It does not indicate a malfunction; it indicates that the account is not old enough to send mail outside the system.

Figure 13-6. Limits on outgoing mail

Neither limit applies to anything that remains inside the system. Mail to another user of this system is never restricted, nor is printing to held output. A new user who wants a copy of a topic may set `Print to Held` to `Y` and print the topic; the document is then held in the queue.

Chapter 14

System Displays

This chapter describes the displays that report the activity and the load of 3270BBS: the SDSF activity display, the performance monitors, the MVS console, the clock, the market data displays, and the data set list. The displays are modeled on the operator tools of a mainframe system and are available to every user; however, the commands that change the state of the system are reserved for the system operator.

SDSF: System Activity

To display system activity, select option `S` from the main menu, or enter `SD` at either menu.

```
ACTIVITY    TCB 16  MEM 21.6MB  CPU 19.00%  TX/H 3.1K  MAX   1
COMMAND ===>                                        00:17:52  since IPL
S USER     ACTIVITY     CPU% LAST ACT    LOGON-ST   P-S  TO SC  LOG  TERM
  bcooper  SDSF          0.0 -0 sec      13:05:57     3   2  1   24 2-310
  mmartin  DISC          0.0 -12m:02s    12:54:51     2   1  1    0
  jbrooks  DISC          0.0 -12m:08s    12:54:45     2   2  1    0
  admin    DISC          0.0 -17m:15s    12:49:38     0   0  1    4
  FTPD     FTP SRV       0.0             STOPPED      0   0  0
  TN3270D  NET SRV       0.0 -5 sec      STARTED     14   0  1
  TN3270TS TLS SRV       0.0             STOPPED      0   0  1
  HTTPD    WEB SRV       0.0             STOPPED      0   0  0
  PROX3270 PRX SRV       0.0             STOPPED      0   0  0
  SSHD     SSH SRV       0.0             STOPPED      0   0  0
  FINGERD  FIN SRV       0.0             STOPPED      0   0  0
  SMTPD    MXE SRV       0.0             STOPPED      0   0  0
  WEB3270  W3E SRV       0.0             STOPPED      0
  *MASTER*               0.1 -1 sec      STARTED
  PCAUTH   PCAUTH        0.1 -1 sec      STARTED
  GRS      GRS           0.1 -1 sec      STARTED
  CONSOLE  CONSOLE       0.1 -1 sec      STARTED
  CATALOG  IEFPROC       0.1 -1 sec      STARTED


F1=Help  F2=Held  F3=Return  F6=Auto-Refresh
```

Figure 14-1. The SDSF system activity display (Model 2, 24 x 80; capture screens/45-sdsf.txt)

The heading shows the number of tasks, the storage in use, the processor use, the number of transactions per hour, the number of users, and the time elapsed since the system was started. Each line below the heading describes either a user or a system service. The columns are as follows:

Column	Meaning
USER	Indicates the user, or the name of a service such as TN3270D or FTPD.
ACTIVITY	Indicates the current activity of the user, or the kind of service.
CPU%	Indicates processor use, as a percentage of one processor.
LAST ACT	Indicates the time elapsed since the user last pressed a key.
LOGON-ST	Indicates the time at which the user logged on, or the state of the service.
P-S	Indicates the process status: ACT (active), IDL (idle), or AWY (away).
TO	Indicates the timeout, that is, the number of minutes that remain before an idle session is logged off.
SC	Indicates the screen code, that is, the screen the user is on.
LOG	Indicates how long the user has been logged on.
TERM	Indicates the display station model and character set.

Figure 14-2. Columns of the SDSF activity display

On the service rows, these four columns contain counters that belong to the service.

F1 displays help, **F2** displays the user's held output (see Chapter 13), **F3** returns to the previous screen, and **F6** turns the automatic refresh on and off. The refresh interval is the interval specified in the user's profile.

DELTAMON: Performance Monitor

DELTAMON is option P on the extended menu. It displays the load of the system as bars that fill and empty continuously. The following resources are shown: processor, storage, tasks, interrupts, paging, garbage collection, and network connections.

```
Auto Update: ON                System Performance              10:56:59
Refresh:     5s      All CPUs%                         Uptime:  00:30:56
                     0 . . 20 . . 40 . . 60 . . 80 . . 100

Metric        Current   Range (IPL)  Rel   Actual/Range         Status
CPU %          15.0    13.0-53.0      5%-                       Normal
MEM MB         18.5    17.1-22.4     26%-----                   Normal
TCB            15.0    13.0-15.0    100%------------------      Normal
IRQ/s           0.0    0.0            0%-                       No Data
GC ms           0.1    0.0-1.0        3%-                       Normal
PageIns/s       0.0    2-6845         0%-                       Normal
PageOuts/s      0.0    1-197          0%-                       Normal
Threads      5542.0    5442-5872     23%----                    Warning
Connections    68.0    22.0-84.0     74%-------------           Normal
HeapObjects   23962    23027-25013   47%--------                Normal
SQLite:     dbTx/h=686
TCP/IP:     Sessions=1   Online=1  MaxOnline=1
System:     Processes=1191




F3=Return  F9=Slower  F10=Faster  F11=DBmon  F12=UserCPU
```

Figure 14-3. The DELTAMON performance monitor (Model 2, 24 x 80; capture screens/88-deltamon.txt)

The colors form a four-step scale, and they have the same meaning wherever they appear in 3270BBS: green indicates use of up to one quarter of the resource, yellow up to one half, pink up to three quarters, and red more than three quarters.

Key	Function
`F3`	Returns to the previous screen.
`F4`	Switches the equalizer bars between color and monochrome (Model 4 only). The label changes to indicate what the key will do next.
`F5`	Switches the bars between the current reading and a two-minute average (Model 4 only).
`F9, F10`	Decrease and increase the refresh rate.
`F11`	Displays the database transaction monitor, DBMON.
`F12`	Displays the per-user processor display, described next.
`Auto Update`	Specifies, in the field at the top left, whether the automatic refresh is active. Type over the field to stop or start the refresh.

Figure 14-4. Keys on the DELTAMON display

User Performance: Who Is Using the Machine

The per-user processor display shows the processor time that each logged-on user is consuming. It is invoked by **`F12`** from DELTAMON, or by the shortcut `M;P;U` entered at a menu.

```
                              User Performance                10:57:03
Refresh:     5.0s    All CPUs%                        Uptime:  00:31:01
                     0 . . 20 . . 40 . . 60 . . 80 . . 100


System: CPU%  17.0  TCB   16  RAM MB  20.3  IRQ/s       0  Users: 1

User      CPU%  Range     Rel CPU/Range           Status   Activity
bcooper    0.0  0.0-0.0    0% -                   Normal   DELTAMON









F3=Return  F9=Slower  F10=Faster  F12=SMTP  Enter=Refresh
```

Figure 14-5. The per-user processor display (Model 2, 24 x 80; capture screens/88b-usercpu.txt)

The heading repeats the system figures (processor, tasks, storage, and interrupts) and shows a scale from 0 to 100. Each line below the heading describes one user: the name, the percentage, the range within which the user's figure has varied, a bar drawn to the scale, the state of the session, and the current activity of the user. The percentage is of one processor, in the manner of the `top` command. Consequently, on a machine with several processors, the figures for all users may add up to more than the machine-wide figure in the heading.

Service rows are shown together with the user rows, so that the processor time consumed by the system itself is also visible. **`F9`** and **`F10`** change the refresh rate, **`ENTER`** refreshes the display immediately, **`F12`** displays the mail transfer statistics, and **`F3`** returns to the previous screen.

DBMON: the Database Transaction Monitor

DBMON is invoked by **`F11`** from DELTAMON, or by the command `DBMON` entered at either menu. Every action on the system (for example, reading a topic, saving a note, or sending a message) is a database transaction, and DBMON displays these transactions as they occur.

```
Auto Update: ON            DB Transaction Monitor              10:58:17
Refresh:     5s      All CPUs%                         Uptime:  00:32:14
                     0 . . 20 . . 40 . . 60 . . 80 . . 100
CPU:  15.0%
    TxRead/m      TxWrit/m     TotTx/min       DB ms       Online: 1
      7000          500          8000          5.0        Database: SQLite

                                                           Reads:    345
      5600          400          6400          4.0        Writes:   95

                                                           Avg ms:   0.13
      4200          300          4800          3.0        dbTx/h:   819

                                                           Read/m:   24.0
      2800          200          3200          2.0        Writ/m:   0.0
                                                           Total/m:  24.0

      1400          100          1600          1.0        Max Seen:
                                                           TxRead/m: 24
       50            33           533           0.3        TxWrit/m: 0
  TxRead/m      TxWrit/m      TotTx/min     DB ms          TotTx/m:  24
       24            0             24          000.13      DB msec:  0.13

F3=Return  F4=History  F9=Slower  F10=Faster
```

Figure 14-6. The database transaction monitor (Model 2, 24 x 80; capture screens/88c-dbmon.txt)

The right side of the screen reports the following figures for the database as a whole: the reads and writes since the system was started, the average time of a transaction in milliseconds, the transactions per hour, the reads, writes, and total transactions per minute, and (in yellow) the highest rates recorded so far. The bars at the left show the same figures as they change. **F4** displays the history of the figures rather than the current values, **F5** steps through the metrics one at a time, **F9** and **F10** change the refresh rate, the `Auto Update` field stops and starts the refresh, and **F3** returns to the previous screen.

DBMON contains no information that is private to a user; it reports the load of the system, not the content of what users have written.

The MVS Console

The console is option `O` on the extended menu; it may also be invoked by the command `CONSOLE`. The console displays the messages of the system in the style of a mainframe operator console (users logging on and off, services starting and stopping, and jobs beginning and ending), and it accepts operator commands entered on the line at the bottom of the screen.

```
- TSUSRVI TSU  23270  IEF125I BCOOPER  - LOGGED ON - TIME=13.45.38
- TSUSRVI TSU  23270  $HASP395 BCOOPER  ENDED
- TSUSRVI TSU  23270  $HASP250 BCOOPER  IS PURGED
- TSUSRVI TSU  23270  $HASP100 BCOOPER  ON TSOINRDR
- TSUSRVI TSU  23270  $HASP373 BCOOPER  STARTED
- TSUSRVI TSU  23270  IEF125I BCOOPER  - LOGGED ON - TIME=13.56.55
- TSUSRVI TSU  23270  $HASP395 BCOOPER  ENDED
- TSUSRVI TSU  23270  $HASP250 BCOOPER  IS PURGED
- TSUSRVI TSU  23270  $HASP100 BCOOPER  ON TSOINRDR
- TSUSRVI TSU  23270  $HASP373 BCOOPER  STARTED
- TSUSRVI TSU  23270  IEF125I BCOOPER  - LOGGED ON - TIME=13.58.09
-           D A,L
IEE104I 13.58.22 26.253 ACTIVITY     FRAME LAST         F      E     1A
 JOBS      M/S      TS USERS      SYSAS      INITS      ACTIVE/MAX VTAM
00007     00002      00001        00006      00006       00001/00010
 JES2     JES2     IEFPROC  NSW  S   VTAM     VTAM     NET      NSW  S
 TSO      TSO      STEP1    OWT  S   FTPD     FTPD     STOP     STO  S
 TN3270   TN3270   RUN      STA  S   TLS      TLS      STOP     STO  S
 HTTPD    HTTPD    STOP     STO  S   PROXY    PROXY    RUN      STA  S

IEE152I     ENTER     CANCEL     D C,K


IEE163I MODE= RD
```

Figure 14-7. The MVS operator console, after a D A,L command (Model 2, 24 x 80; capture screens/89-mvs-console.txt)

To issue a command, type it and press **ENTER**. The command is echoed into the log, preceded by a dash, in the manner of a real console, and its result is displayed in the command area (the **K A area**) in the lower part of the screen. Each command may be entered in either the short form or the long form shown in the following table.

Command	Also	Displays
D A,L	D A, DISPLAY A	System activity: the address spaces and services, and their current activity.
D TS,L	D TS, DISPLAY TS	The timesharing users: the users logged on, their activity, and their last logon.
D U,ALL	DISPLAY USERS	The users known to the system.
D T	D TIME, DISPLAY TIME	The time of day.
D M	DISPLAY M	Storage: the amount the system is using.
D IPLINFO	DISPLAY IPLINFO	The time at which the system was started, and the name of the host on which it runs.
D NETSTAT	DISPLAY NETSTAT	The network connections.
D C,K	DISPLAY CONSOLES	The consoles.
$DA		The active jobs, in the manner of the job entry subsystem.
HELP	?	A summary of the commands.
K	CANCEL	Clears the command area.
K A,nn		Places the command area at row *nn* (0 through 39).
K A,NONE		Removes the command area; the log then occupies the whole screen.

Figure 14-8. Commands accepted by the MVS console

If the console does not recognize a command, it writes to the log `IEE305I`, the command, and `COMMAND INVALID`. The line `IEE152I ENTER CANCEL D C,K` at the bottom of the screen is the prompt of the console, and `IEE163I MODE= RD` below it indicates that the console is ready to read a command.

Commands that *change* the state of the system (the `S` and `P` commands, which start and stop services, and the shutdown command) are accepted only from an administrator. If any other user enters them, they are rejected as invalid.

The Clock

The clock is option `1` on the extended menu; it may also be invoked by the command `CLOCK`.

```
                    Timezone: America/Anchorage (Your timezone)


           11     000000       11     333333       11     888888
          111    00    00     111    33    33     111    88    88
         1111    00    00 :  1111          33 :  1111    88    88
           11    00    00 :    11         33  :    11    88    88
           11    00    00      11      3333        11     888888
           11    00    00      11         33       11    88    88
           11    00    00 :    11          33 :    11    88    88
           11    00    00 :    11    33    33 :    11    88    88
         111111   000000     111111   333333     111111   888888


                          NY: 14:13  London: 19:13
                          Rome: 20:13  Tokyo: 03:13

                        Thursday, September 10, 2026



 F2=Eye  F3=Return  F10=Matrix  F11=CycleTimezone  F12=IBM
```

Figure 14-9. The wall clock (Model 2, 24 x 80; capture screens/86-clock.txt)

F11 steps through the time zones, **F10**, **F12**, and **F2** select other faces for the clock, and **F3** returns to the previous screen. The clock is suitable for display in a spare virtual session.

Market Data

Option Q on the extended menu displays the Stock Quotron, which shows the market indices and the prices of the symbols in the user's watch list.

```
                                   Quote Terminal
   NY Time: 14:57:20 EDT   Market: OPEN        Auto-refresh: OFF
   Dow Jones 0.00    +0.00 (+0.00%)       NASDAQ 0.00    +0.00 (+0.00%)
   Symbol  Price     Change          Div.  High   Low   Volume   52W H/L
   *****************************************************************************
   IBM          0.00 +0.00 (+0.00%)  -     0.00   0.00  0        0.0/0.0















    UTC: 18:57  London: 19:57  Berlin: 20:57  Tel Aviv: 21:57  Tokyo: 03:57
  Error fetching quotes - try again later
    F3=Cancel     F4=Add Stocks    F6=Toggle Auto-refresh F10=News
```

Figure 14-10. The Stock Quotron (Model 2, 24 x 80; capture screens/93-quotron.txt)

The heading shows the time in New York, whether the market is open, and whether automatic refresh is active. **`F4`** displays a screen headed `Add or Edit Stock Symbols`, on which the watch list is edited; **`F6`** turns automatic refresh on and off, **`F10`** displays the news, and **`F3`** returns to the previous screen. Option `F` on the extended menu displays foreign exchange rates in the same manner; **`F3`** or **`ENTER`** returns from that display.

Both displays obtain their prices from a source outside the system. If the system operator has not configured that source, the screens are displayed but all prices are zero, as shown in Figure 14-10.

DSLIST: the Data Set List

To display the data set list, enter `DSLIST` at either menu, or select it from the search menu (option `3`). DSLIST presents the objects the user owns as data sets on volumes: `NOTES`, `BASIC`, `ASMBLR`, `MAILSM`, and `TOPICS`. It shows in one place everything the user has written, and any of it may be opened from the list for editing.

Other Displays

Command	Display
`DBMON`	Database transactions as they occur.
`NEWS`	News headlines, if the system operator has configured a news source.
`SD`	The SDSF activity display, described above.
`M (extended menu)`	The screen saver, started immediately rather than after the idle timeout.

Figure 14-11. Other displays

Chapter 15

The TSO Command Line

This chapter describes the TSO command line and the commands that may be entered on it. Option `X` on the main menu leaves the menus and places the user on a command line in the manner of TSO. The system displays `READY` and waits for a command.

All other functions described in this publication are performed on panels, that is, screens of fields with a function key line at the bottom. The TSO command line is the one exception: here 3270BBS operates as a line-mode terminal. The user enters a command, the system writes its reply below the command, and the dialog scrolls up the screen. The command line is used after the user has left the panels (for example, after finishing work in the editor and in ISPF, or to query the system without invoking an application), and it is the place from which the user logs off.

No information is lost by entering the command line: `MENU` returns to the main menu in the state in which the user left it, and the virtual sessions (see Chapter 4) are not affected.

```
READY
```

Figure 15-1. The TSO command line (Model 2, 24 x 80; capture screens/50-tso.txt)

Enter `HELP` to display the list of commands, which is reproduced in Figure 15-2. Enter `MENU` (or `ISPF`) to return to the main menu, or `LOGOFF` to terminate the session.

```
BCAST     DISPLAY THE SYSTEM BROADCAST MESSAGE
CALC      INTERACTIVE CALCULATOR (LIKE BC). TYPE QUIT TO EXIT
CLEAR     CLEAR THE SCREEN
CLS       CLEAR THE SCREEN (ALIAS FOR CLEAR)
CPU       DISPLAY SYSTEM LOAD INFORMATION
GO        GO BBS://... - FOLLOW A LINK; BARE GO USES THE PF22 BUFFER
HELP      DISPLAY AVAILABLE COMMANDS
ISPF      RETURN TO THE MAIN MENU (ALIAS FOR MENU)
LOGOFF    LOG OFF THE SYSTEM
LOGON     LOG ON AS ANOTHER USER: LOGON  OR  LOGON <USERID>
MENU      RETURN TO THE MAIN MENU
METAR     SHOW AVIATION WEATHER (METAR) FOR AN ICAO AIRPORT CODE
MOTD      CHANGE THE MESSAGE OF THE DAY (ADMINISTRATORS ONLY)
RESET     ADMIN: RESET LOCKOUT <USER>  OR  RESET LOCKOUT IP <IP>
SEND      SEND A SHORT MESSAGE TO A USER IN COMMAND LINE MODE
TIME      DISPLAY CURRENT TIME IN MULTIPLE TIME ZONES
UPTIME    SHOW SYSTEM UPTIME AND START TIME
USER      SHOW STATISTICS FOR A SPECIFIC USER
WEATHER   SHOW WEATHER FOR A CITY OR ZIP CODE (E.G., WEATHER LONDON)
WHO       SHOW USERS LOGGED INTO THE SYSTEM
WIKI      DISPLAY WIKIPEDIA ARTICLE FOR A SUBJECT
READY
```

Figure 15-2. The commands available on the TSO command line (Model 2, 24 x 80; capture screens/51-tso-help.txt)

Command	Function
BCAST	Displays the system broadcast message.
CALC	Invokes an interactive calculator. Enter QUIT to terminate it.
CLEAR, CLS	Clears the screen.
CPU	Displays the load of the system.
GO	Follows a link: GO bbs://... GO without an operand follows the link on the **F22** clipboard. See Chapter 9.
HELP	Lists the commands.
LOGOFF	Logs off the system.
LOGON	Logs on as another user: LOGON or LOGON userid.
MENU, ISPF	Returns to the main menu.
METAR	Displays the aviation weather for an ICAO airport code, for example METAR KPOU.
SEND	Sends a short message to a user without leaving the command line.
TIME	Displays the current time in several time zones.
UPTIME	Displays how long the system has been running.
USER	Displays statistics for one user: USER bcooper.
WEATHER	Displays the weather for a city or a postal code: WEATHER LONDON, WEATHER 10001. The reply is obtained in the background and is displayed shortly afterward.
WHO	Displays the users who are logged on.
WIKI	Displays an encyclopedia article on a subject.

Figure 15-3. Commands on the TSO command line

MOTD and RESET also appear in the list; they are reserved for administrators and are rejected for other users.

Examples

The command line retains the preceding commands and replies, so that the session accumulates on the screen; CLEAR erases it. To issue a command, type it and press **ENTER**.

`WHO` lists every user who is logged on, the time each was last active, and the activity of each:

```
WHO
USERS ACTIVE IN THE SYSTEM:
USERNAME     LAST ACTIVITY TIME    ACTIVITY TYPE
--------     -----------------     -------------
BCOOPER     2026-09-10 14:09:22    TSO
JBROOKS     2026-09-10 13:22:06    CHAT
USERS BY ACTIVITY PERIOD:
USERS ACTIVE IN LAST 5 MINUTES: 1
  BCOOPER
USERS ACTIVE IN LAST 30 MINUTES: 0
  NONE
USERS ACTIVE IN LAST 60 MINUTES: 1
  JBROOKS
SUMMARY:
TOTAL ACTIVE USERS: 2
READY
```

Figure 15-4. The WHO command (Model 2, 24 x 80; capture screens/52-tso-who.txt)

`TIME`, `UPTIME`, and `CPU` report the state of the system. `TIME` displays the time in three zones, `UPTIME` displays how long the system has been running, and `CPU` displays the load, the storage in use, and the number of processes:

```
TIME
UTC: 2026-09-10 19:09:24 UTC
NEW YORK: 2026-09-10 15:09:24 EDT
ROME: 2026-09-10 21:09:24 CEST
UPTIME
SYSTEM UPTIME INFORMATION:
SYSTEM UPTIME: 0 DAYS, 0 HOURS, 43 MINUTES, 22 SECONDS
CPU
SYSTEM LOAD INFORMATION:
CPU USAGE:      16.00%
MEMORY USAGE:   54.54%
PROCESS COUNT:  1190
READY
```

Figure 15-5. The TIME, UPTIME and CPU commands (Model 2, 24 x 80; capture screens/53-tso-time-cpu.txt)

`USER`, followed by a user identifier, reports on one user: the last logon, the time and kind of the last activity, whether the user is logged on, and how much the user has written:

```
USER BCOOPER
USER INFORMATION FOR: BCOOPER
LAST LOGIN: 2026-09-10 14:09:16
LAST ACTIVITY: 2026-09-10 14:09:29
ACTIVITY TYPE: TSO
STATUS: CURRENTLY ACTIVE
POSTS: 3  TOPICS: 2
READY
```

Figure 15-6. The USER command (Model 2, 24 x 80; capture screens/54-tso-user.txt)

`CALC` is a calculator in the manner of `bc`. It controls the command line until the user enters `QUIT`; while it is active, the prompt changes to `CALC>`. It supports the four arithmetic operations, `^` for exponentiation, `%`, and the common functions, and it can add and subtract percentages:

```
CALC
BC CALCULATOR - TYPE EXPRESSIONS, QUIT TO EXIT
SUPPORTS: + - * / ^ % SQRT SIN COS TAN LOG LN ABS EXP PI E
PERCENT: 28+1.5%=28.42  200-10%=180  200*15%=30
------------------------------------------------------------
2^10
1024
(255-15)/8
30
CALC>
```

Figure 15-7. The CALC calculator (Model 2, 24 x 80; capture screens/55-tso-calc.txt)

The following are further examples:

- `WEATHER LONDON` or `WEATHER 10001`. The reply is obtained in the background; consequently, the command completes immediately and the weather is displayed shortly afterward.
- `METAR KPOU`. Displays the aviation weather report for an airport, specified by its four-letter ICAO code.
- `WIKI Poughkeepsie`. Displays an encyclopedia article.
- `SEND jbrooks are you there?`. Sends a short message to another user without leaving the command line.
- `GO bbs://topicMotorbikes41`. Follows a link. `GO` without an operand follows the link on the **`F22`** clipboard.
- `LOGON jbrooks`. Logs on as another user without disconnecting; the system prompts for that user's password.

Commands that require a service outside this system (`WEATHER`, `METAR`, and `WIKI`) operate only if the system operator has configured the connection to that service.

Note
Selecting `X` from the menu does not disconnect the user. Until `LOGOFF` is entered, the user remains logged on, and the session continues to occupy a slot on the system.

Chapter 16

Programming in BASIC

3270BBS includes Timesharing BASIC, an interpreter in the tradition of the timesharing systems of the 1970s. It provides a command line, a full-screen editor, a private file store for each user, and access to some of the live data of the bulletin board. To invoke it, select option `B` from the extended menu, or enter `M;B` at the main menu.

This chapter describes the use of the environment; it does not describe the language. The complete language manual is at

`https://github.com/moshix/3270bbs/blob/main/basic_manual.md`

and the interpreter refers to a short form of it on its opening screen. The information in this chapter assumes that the language manual is available for reference while programs are being written.

```
                        TIMESHARING BASIC/3270BBS V3.0.0
512135 bytes free
TYPE HELP FOR COMMANDS, BYE TO EXIT
LANGUAGE MANUAL: https://tinyurl.com/TIMESHARINGBASIC
READY
>
```

Figure 16-1. The BASIC command line (Model 2, 24 x 80; capture screens/60-basic-ready.txt)

The interpreter identifies itself, displays the amount of free storage, and displays `READY` and a prompt. A line that begins with a number is stored as part of the program; any other line is executed immediately.

Writing and Running a Program

A program may be written in the traditional form, with line numbers:

```
10 REM GREETING FOR THE MANUAL
20 FOR I = 1 TO 3
30 PRINT "HELLO FROM 3270BBS BASIC"; I
40 NEXT I
50 END
```

or without line numbers. In the latter case, the program must begin with the label `START:` and must use labels rather than line numbers as the targets of `GOTO` and `GOSUB`. `LIST` displays the program and `RUN` executes it.

```
                          TIMESHARING BASIC/3270BBS V3.0.0
 512135 bytes free
 TYPE HELP FOR COMMANDS, BYE TO EXIT
 LANGUAGE MANUAL: https://tinyurl.com/TIMESHARINGBASIC
 READY
 10 REM GREETING FOR THE MANUAL
 READY
 20 FOR I = 1 TO 3
 READY
 30 PRINT "HELLO FROM 3270BBS BASIC"; I
 READY
 40 NEXT I
 READY
 50 END
 READY

10 REM GREETING FOR THE MANUAL
20 FOR I = 1 TO 3
30 PRINT "HELLO FROM 3270BBS BASIC"; I
40 NEXT I
50 END

 >
```

Figure 16-2. A program listed with the LIST command (Model 2, 24 x 80; capture screens/61-basic-list.txt)

```
 READY
 20 FOR I = 1 TO 3
 READY
 30 PRINT "HELLO FROM 3270BBS BASIC"; I
 READY
 40 NEXT I
 READY
 50 END
 READY

10 REM GREETING FOR THE MANUAL
20 FOR I = 1 TO 3
30 PRINT "HELLO FROM 3270BBS BASIC"; I
40 NEXT I
50 END

 SAVED hello.bas (5 LINES)

 RUNNING...

 HELLO FROM 3270BBS BASIC1
 HELLO FROM 3270BBS BASIC2
 HELLO FROM 3270BBS BASIC3
 >
```

Figure 16-3. The same program saved and run (Model 2, 24 x 80; capture screens/62-basic-run.txt)

Commands

Command	Function
RUN	Executes the program in storage.
LIST	Lists the program. LIST 10–50 lists a range of lines.
NEW	Clears the program from storage.
RENUM	Renumbers the lines 10, 20, 30, and so on.
DELETE 10–50	Deletes a range of lines.
SAVE "name"	Saves the program as a file.
LOAD "name"	Loads a file. LOAD "user/%file" loads a file that another user has shared.
RENAME old.bas new.bas	Renames a file. Both names must have the suffix .bas.
ERASE "name"	Deletes a file. The name may contain * and ?.
FILES	Lists files. /W lists them in two columns, /U user lists the shared files of another user, and /C lists the community files.
FLIST	Lists only the user's own files.
EDIT	Edits the program in the full-screen editor. EDIT "name" edits the named file.
BROWSE	Selects a file from the file browser.
CHECK	Checks the program without executing it, and produces a listing file.
VIEW name.list	Displays a listing file without affecting the program in storage.
EMAIL name.list	Sends a listing to the user. See Chapter 13.
VARS	Displays the variables and their values.
CLEAR	Clears the screen.
HELP	Displays the command summary.
BYE	Terminates BASIC. EXIT and QUIT have the same effect.

Figure 16-4. Commands of the BASIC interpreter

Keys at the BASIC Command Line

Key	Function
ENTER	Executes the line, or supplies the reply to an INPUT statement.
PA1, PA2	Stop a running program.
CLEAR	Clears the screen and displays a new READY.
F12	Retrieves the previous commands, one at a time.
F11	Steps forward through the retrieved commands.

Figure 16-5. Keys at the BASIC command line

Your Files

Each user has a private file store. The first character of a file name indicates who may use the file, as follows:

Name	Meaning
name.bas	Private. Only the owner can read it.
%name.bas	Shared. Other users may read it with LOAD "you/%name.bas" and list it with FILES /U you; only the owner may change it.
_name.bas	Community. The file may be read by all users and is maintained by the system operator; users cannot erase it.

Figure 16-6. What the first character of a file name means

```
 50 END
 READY

10 REM GREETING FOR THE MANUAL
20 FOR I = 1 TO 3
30 PRINT "HELLO FROM 3270BBS BASIC"; I
40 NEXT I
50 END

 SAVED hello.bas (5 LINES)

 RUNNING...

 HELLO FROM 3270BBS BASIC1
 HELLO FROM 3270BBS BASIC2
 HELLO FROM 3270BBS BASIC3

 YOUR FILES:
   hello.bas              105 bytes  10 Sep 2026 10:08

 COMMUNITY FILES (read-only):
   (none)

 >
```

Figure 16-7. Listing your files with FILES (Model 2, 24 x 80; capture screens/63-basic-files.txt)

Worked Examples

`VARS`, entered after a program has run, displays every variable and its final value. This is the most direct means of determining why a program produced an incorrect result. In the following example, the loop counter `I` has the value 4, one greater than the final value of a loop that was executed three times:

```
 LOADED hello.bas (5 LINES)

 RUNNING...

 HELLO FROM 3270BBS BASIC1
 HELLO FROM 3270BBS BASIC2
 HELLO FROM 3270BBS BASIC3
 VARIABLES:
   I = 4
 >
```

Figure 16-8. LOAD, RUN and VARS (Model 2, 24 x 80; capture screens/67-basic-vars.txt)

`CHECK` compiles the program without executing it. It reports the errors it detects and writes a listing file that has the name of the program and the suffix `.list`:

```
 CHECKING PROGRAM...
 NO ERRORS OR WARNINGS FOUND
LISTING SAVED TO hello.list
USE VIEW hello.list TO SEE FULL LISTING
 >
```

Figure 16-9. The CHECK command (Model 2, 24 x 80; capture screens/68-basic-check.txt)

`VIEW` displays that listing without affecting the program in storage. The listing has the form of the output of a mainframe compiler: a heading with the compiler options, the source with statement numbers and nesting levels, and then the diagnostics, the cross-reference, and the statistics. **`F7`** and **`F8`** scroll through the listing, and `CANCEL` terminates the display:

```
 VIEW: hello.list (READ-ONLY)                 Pos 1     Lines in file: 68
 Command: _                    SAVE/CANCEL/FIND  F1=HELP!  F7=Up F8=Down
BASIC/3270BBS OPTIMIZING COMPILER v3.0.0 DATE: 10 SEP 2026 11:10:32
 SOURCE: HELLO.bas
NOOBJECT,NODECK,A(FULL),AG,LIST,OPTIMIZE(TIME),NEST,XREF,ESD,MAP;

                  SOURCE  LISTING
  LINE  STMT  NT  SOURCE TEXT
    10     1   0  REM GREETING FOR THE MANUAL
    20     2   0  FOR I = 1 TO 3
    30     3   1  PRINT "HELLO FROM 3270BBS BASIC"; I
    40     4   0  NEXT I
    50     5   0  END

COMPILER DIAGNOSTIC MESSAGES

  ERRORS:
  LINE   MESSAGE
  ----   -------
  (NO ERRORS)

  WARNINGS:
  LINE   MESSAGE
  ----   -------
```

Figure 16-10. VIEW of the listing produced by CHECK (Model 2, 24 x 80; capture screens/69-basic-view.txt)

`EMAIL` sends a listing, as a PDF document in landscape format on green-bar paper, to the address in the user's profile. If the preference `Print to Held` is `Y`, the listing is written to the user's held output instead, and the interpreter displays `PRINTING TO HELD OUTPUT...` and `LISTING SENT TO HELD OUTPUT`. If the system operator has not configured outgoing mail, the command replies as shown in Figure 16-11; in this case, use `PRINT` in the editor, or display the listing with `VIEW`.

```
LOADED hello.bas (5 LINES)
VIEWING: hello.list
?EMAIL FUNCTIONALITY NOT CONFIGURED
>
```

Figure 16-11. EMAIL on a system with no outgoing mail configured (Model 2, 24 x 80; capture screens/69b-basic-email.txt)

The File Browser

`BROWSE` at the BASIC command line, or **`F2`** in the editor, displays the file browser. The file browser is used by both BASIC and the assembler.

```
FILE BROWSER - USER FILES - Sort: NAME - Page 1/1
Command ===>                        Sort: U=User C=Community N=Name D=Date
S Filename           Size Date          S Filename           Size Date
  hello.bas            105 10Sep

F3=Return  F7=Up  F8=Down  Any char=Select  D=Delete
```

Figure 16-12. The file browser (Model 2, 24 x 80; capture screens/64-basic-browse.txt)

Key or letter	Function
F7, F8	Display the previous and the next page.
U	Displays the user's own files.
C	Displays the community files.
N	Sorts the list by name.
D	Sorts the list by date.
any character in the selector	Opens the file.
D in the selector	Deletes the file.
F3	Terminates the browser.

Figure 16-13. The file browser

The Full-Screen Editor

EDIT invokes the ISPF-style editor. This editor is used for BASIC and assembler source, for the listings produced by CHECK, and for files opened from DSLIST. It is not the content editor described in Chapter 6; the two editors have different commands and different keys, and this editor provides the line commands that are familiar to users of ISPF.

```
EDIT  hello.bas                                    Columns 00001 00071        1
Command ===>                                             Scroll ===> CSR
****** **************************** Top of Data ******************************
'''''' 10 REM GREETING FOR THE MANUAL
'''''' 20 FOR I = 1 TO 3
'''''' 30 PRINT "HELLO FROM 3270BBS BASIC"; I
'''''' 40 NEXT I
'''''' 50 END
****** *************************** Bottom of Data ***************************
```

Figure 16-14. The ISPF-style editor (Model 2, 24 x 80; capture screens/65-ispf-editor.txt)

The heading shows the name of the file and the columns displayed. The `Command ===>` field accepts primary commands, and the `Scroll ===>` field specifies the scroll amount of **F7** and **F8**. The prefix area, six characters wide, occupies the left side of the screen; line commands are entered there. Figure 16-15 shows the panel displayed by **F1**.

```
EDIT  hello.bas                                   Columns 00001 00071        1
Command ===>                                           Scroll ===> CSR
****** *                                                          ********
'''''' 1   Function Keys:
'''''' 2     F1 = Help overlay     F7/F8 = Scroll up/down
'''''' 3     F2 = File browser     F9 = Cycle open files (1-9)
'''''' 4     F3 = Exit             F10/F11 = Scroll left/right
'''''' 5     F4 = Help buffer      F12 = Save and exit
****** *     F5 = ReFind                                          ********
           Commands:
             COLS = Column ruler   FIND txt      = Search for text
             RFIND = Repeat find   CHANGE old new (ALL)
             TOP/BOTTOM            LOCATE n      = Go to line n
             SAVE/CANCEL           RESET         = Clear all
             EDIT = File browser   CHECK         = Run BASIC check
             PRINT = Print to HELD output (SDSF)
             HI BASIC/ASM/OFF      NUMBER ON/OFF = Line numbers
             UNDO = Undo last line command
           Line Commands:
             D n = Delete n lines      C     = Copy (CC block)
             I n = Insert n lines      M     = Move (MM block)
             X   = Exclude (XX block)  Press any key to close.
```

Figure 16-15. The editor function key and command panel (Model 2, 24 x 80; capture screens/66-ispf-help.txt)

Function Keys

Key	Function
F1	Displays the panel of keys and commands.
F2	Displays the file browser.
F3	Terminates the editor. If the file has been changed, a panel requests confirmation; **F9** discards the changes.
F4	Opens the help text in a separate edit buffer.
F5	Repeats the last FIND.
F7, F8	Scroll up and down.
F9	Cycles through the open files. Up to nine files may be open at one time.
F10, F11	Scroll left and right eight columns.
F12	Saves the file and terminates the editor.
F23, F24	Ignored. The user must leave the editor to use the virtual session keys.

Figure 16-16. Function keys in the ISPF-style editor

Primary Commands

Command	Function
`SAVE [name]`	Saves the file, optionally under another name. The suffix `.bas` or `.asm` is supplied automatically.
`CANCEL`	Discards the changes.
`FIND text`	Finds the specified text.
`RFIND`	Finds the next occurrence.
`CHANGE old new [ALL]`	Changes text, once or at every occurrence. The reply is `Changed n` or `Not found`.
`LOCATE n`	Positions the display at line *n*. `L` is an abbreviation.
`TOP, BOTTOM`	Position the display at the top or the bottom.
`COLS`	Displays a column ruler.
`NUMBER ON | OFF`	Displays or hides line numbers.
`HI BASIC | ASM | OFF`	Starts or stops syntax coloring for the specified language.
`CHECK`	Checks the BASIC program and opens the listing.
`PRINT`	Writes the file to the user's held output. See Chapter 13.
`RESET`	Clears highlighting, exclusions, and the column ruler.
`UNDO`	Reverses the last line command.
`EDIT`	Displays the file browser.

Figure 16-17. Primary commands in the ISPF-style editor

Line Commands

Line commands are entered in the prefix area at the left of a line and are processed when **`ENTER`** is pressed. A number following the letter specifies a repetition factor: `D3` deletes three lines, and `I5` inserts five. A doubled letter entered on two lines marks a block, and the command applies to all lines between them.

Command	Block form	Function
D	DD	Delete.
I		Insert blank lines below.
R		Repeat the line.
C	CC	Copy. The destination is then specified with A, B, or O.
M	MM	Move. The destination is specified in the same way.
A		Place the copied or moved lines after this line.
B		Place the lines before this line.
O		Overlay this line with the lines.
U	UU	Change to uppercase.
L	LL	Change to lowercase.
X	XX	Exclude from the display.
)	))	Shift right.
(	((	Shift left.

Figure 16-18. Line commands in the ISPF-style editor

The Language

A summary of the language is given here. The complete description is in the language manual at `https://github.com/moshix/3270bbs/blob/main/basic_manual.md`, which is also named by the `HELP` command.

- **Statements**: `PRINT` (with `COLOR`, `BLINK`, and `REVERSEVIDEO`), `LET`, `INPUT`, `IF ... THEN ... ELSE` in single-line and block forms, `GOTO`, `GOSUB`, and `RETURN`, `ON ... GOTO`, `FOR ... NEXT` with `STEP`, `WHILE ... WEND`, `SELECT CASE`, `DIM`, `OPTION BASE`, `DEF FN`, `REM`, `END`, `STOP`, `CLS`, and `COMMON` with `CHAIN`, which passes control from one program to another.
- **Files**: `OPEN` for `INPUT`, `OUTPUT`, `APPEND`, or `INDEXED`, `PRINT #`, `INPUT #`, `CLOSE`, `EOF`, and, for indexed files, `PUT`, `GET`, `DELETE`, `RESET`, `FOUND`, and `DELETED`. Up to eight files may be open at one time, `#1` through `#8`.
- **Functions**: the common arithmetic and trigonometric functions; the string functions `LEN`, `LEFT$`, `RIGHT$`, `MID$`, `CHR$`, `ASC`, `STR$`, `VAL`, `UCASE$`, `LCASE$`, `TRIM$`, `INSTR`, and `REPLACE$`; the box and graphic characters `BOXCHAR$` and `CP310$`; and the time functions `TIME$`, `DATE$`, `TIMER`, and `SLEEP`.
- **Live data from the bulletin board** (read-only): `$ChatMessage(n)`, `$Mail(n)`, `$UserInfo`, `$TermInfo`, `$Topic(n)`, and `$Post(topic,n)`. A program can read the current activity of the system; it cannot post, send mail, or chat.

Limits

Item	Limit
Length of a source line	`255 characters`
Size of a program	`256 KB`
Size of a data file	`256 KB`
Files open at one time	`8`
Running time	`15 seconds, not counting SLEEP`
Loop iterations	`55,000,000`
Active GOSUB calls	`1024`
Lines of screen output retained	`1,000`

Figure 16-19. Limits of the BASIC interpreter

These limits prevent the program of one user from degrading the system for other users. A program that exceeds a limit is terminated with a message that identifies the limit.

Chapter 17

Programming in Assembler

This chapter describes the assembler environment: its commands, how a program is assembled, run, checked, and listed, the simulated machine, the macros provided, and the limits that apply. The environment is invoked by selecting option `A` from the extended menu.

The assembler environment simulates a System/360: sixteen general registers, a program status word, one megabyte of storage, a subset of the instruction set, the ASSIST input and output macros, and enough of the MVS linkage macros to write a program in the conventional form.

As with BASIC, this chapter describes the environment and not the language. The complete assembler manual (the instruction set, the directives, the macros, and worked examples) is at

`https://github.com/moshix/3270bbs/blob/main/assembler_manual.md`

and the assembler names a short form of it on its opening screen.

```
                    TIMESHARING ASSEMBLER V1.7.0
64396 BYTES MEMORY
TYPE HELP FOR COMMANDS, BYE TO EXIT
MANUAL: https://tinyurl.com/timesharingassembler
READY
>
```

Figure 17-1. The assembler command line (Model 2, 24 x 80; capture screens/70-asm-ready.txt)

Commands

Command	Function
`NEW`	Clears the program, the registers, and storage.
`LOAD name`	Loads a program.
`SAVE name`	Saves the program.
`EDIT [name]`	Invokes the full-screen editor described in Chapter 16.
`LIST`	Lists the source.
`RUN`	Assembles and executes the program.
`CHECK`	Assembles the program only, and produces a listing file.
`RESET`	Resets the registers, the program status word, and storage. The source is kept.
`REGS`	Displays the registers.
`DUMP addr len`	Displays storage in hexadecimal and character form. The address is specified in hexadecimal, the length in decimal.
`SYMBOLS`	Displays the symbol table.
`FILES, FLIST, BROWSE, ERASE, VIEW, EMAIL`	Function as in BASIC; see Chapter 16.
`BYE`	Terminates the assembler.

Figure 17-2. Commands of the assembler

```
                    TIMESHARING ASSEMBLER V1.7.0
64396 BYTES MEMORY
TYPE HELP FOR COMMANDS, BYE TO EXIT
MANUAL: https://tinyurl.com/timesharingassembler
READY
FILES /C


COMMUNITY PROGRAMS (read-only):
  _gameoflife.asm      21083 bytes
  _helloworld.asm       3856 bytes
  _nqueens.asm          8734 bytes
  _test.asm             1825 bytes
  _time.asm             5315 bytes
  _wto.asm               812 bytes

READY
>
```

Figure 17-3. The community programs, listed with FILES /C (Model 2, 24 x 80; capture screens/71-asm-files.txt)

The following community programs are provided as examples, and should be read before writing a new program: `_helloworld.asm`, `_wto.asm`, `_time.asm`, `_nqueens.asm`, and `_gameoflife.asm`. To examine one, load it (for example, with `LOAD _wto.asm`) and list it.

```
                    TIMESHARING ASSEMBLER V1.7.0
64396 BYTES MEMORY
TYPE HELP FOR COMMANDS, BYE TO EXIT
MANUAL: https://tinyurl.com/timesharingassembler
READY
LOAD _wto.asm
LOADED: _wto.asm (36 LINES)
ASSEMBLED: 156 BYTES, 21 SYMBOLS
READY
LIST
   1           PRINT GEN
   2  TESTWTO  CSECT
   3           SAVE   (14,12)
   4           BASR   R12,0
   5           USING  *,R12
   6           ST     R13,SAVEA+4
   7           LA     R13,SAVEA
   8           LA     R5,23               ARBITRARY VALUE FOR R5 OF 10
   9           CVD    R5,NUMDEC
  10           UNPK   UNDEC,NUMDEC+1
  11           MVC    WTOLIST+20(8),UNDEC  WTO MACRO EXPANDS TO 24 BYTES
ENTER=more PF3=stop
>
```

Figure 17-4. A community program loaded and listed (Model 2, 24 x 80; capture screens/72-asm-list.txt)

Assembling and Running

The `RUN` command assembles the program and executes it. The assembly reports the size of the program and the number of symbols; execution then produces whatever output the program writes, and ends with a count of the instructions and macros executed. The `REGS` command, entered afterwards, displays the final contents of the registers.

```
RUN
ASSEMBLING...
ASSEMBLY COMPLETE
PROGRAM SIZE: 156 BYTES
SYMBOLS: 21

EXECUTING...

WTO: REG R5 VLUE 23

EXECUTION COMPLETE - 8 INSTRUCTIONS, 3 MACROS
READY
REGS
CPU REGISTERS:

R00=00000000  R01=00000000  R02=00000000  R03=00000000
R04=00000000  R05=00000000  R06=00000000  R07=00000000
R08=00000000  R09=00000000  R10=00000000  R11=00000000
R12=00000006  R13=000FFF00  R14=000000A0  R15=00000000

PSW: 00000000 00000042
     CC=0  MASK=0  ADDR=000042
READY
>
```

Figure 17-5. A program run, and the registers displayed afterwards (Model 2, 24 x 80; capture screens/74-asm-regs.txt)

Long output is displayed one page at a time. Press **ENTER** to display the next page, or **F3** to stop. **PA1** and **PA2** interrupt a running program and produce a register dump; **CLEAR** clears the screen and stops the program.

Checking and Listing a Program

The `CHECK` command assembles the program without executing it, and writes the assembly listing to a file with the suffix `.list`:

```
                    TIMESHARING ASSEMBLER V1.7.0
64396 BYTES MEMORY
TYPE HELP FOR COMMANDS, BYE TO EXIT
MANUAL: https://tinyurl.com/timesharingassembler
READY
LOAD _wto.asm
LOADED: _wto.asm (36 LINES)
ASSEMBLED: 156 BYTES, 21 SYMBOLS
READY
CHECK
CHECKING...
ASSEMBLY SUCCESSFUL

LISTING SAVED: wto.list
READY
>
```

Figure 17-6. The CHECK command (Model 2, 24 x 80; capture screens/75-asm-check.txt)

The listing may then be displayed with `VIEW _wto.list`. It contains the location counter, the object code, the operand addresses, the statement numbers, and the source, followed by the diagnostics, the symbol table, and the cross-reference (that is, the listing that assemblers have produced since the nineteen-sixties).

`EMAIL _wto.list` sends the listing, as a green-bar PDF document, to the address recorded in the user's profile. The command observes the `Print to Held` preference in the same way as in BASIC. If the system operator has not configured outgoing mail, the command responds as follows:

```
                    TIMESHARING ASSEMBLER V1.7.0
64396 BYTES MEMORY
TYPE HELP FOR COMMANDS, BYE TO EXIT
MANUAL: https://tinyurl.com/timesharingassembler
READY
LOAD _wto.asm
LOADED: _wto.asm (36 LINES)
ASSEMBLED: 156 BYTES, 21 SYMBOLS
READY
CHECK
CHECKING...
ASSEMBLY SUCCESSFUL

LISTING SAVED: wto.list
READY
EMAIL _wto.list
?EMAIL FUNCTIONALITY NOT CONFIGURED
READY
>
```

Figure 17-7. EMAIL on a system with no outgoing mail configured (Model 2, 24 x 80; capture screens/76-asm-email.txt)

The Machine

Element	Provided
General registers	`R0 – R15`
Storage	`1 MB`
Program status word	Condition code, program mask, and instruction address
Instructions	RR, RX, RS, SI, and SS formats, including the packed decimal instructions and `ED`, plus the extended branch mnemonics
Not provided	Floating point, input/output instructions, and the privileged instructions

Figure 17-8. The simulated machine

Macros

Input and output are performed by the ASSIST macros: `XREAD`, `XPRNT`, `XDECI`, `XDECO`, `XHEXI`, `XHEXO`, `XDUMP`, and the aliases `XGET`, `XPUT`, and `XPNCH`. `WTO` writes a line as a system message, in either the inline form (`WTO 'text'`) or the execute form. `SAVE` and `RETURN` provide the standard linkage, and `YREGS` defines the names `R0` through `R15`.

Source statements are coded in the conventional card-image format: columns 1 through 71 contain the statement, column 72 is the continuation column, and columns 73 through 80 contain sequence numbers, which are ignored.

Limits

Item	Limit
Instructions executed	`40,000,000`
Running time	`40 seconds`
Storage	`1 MB`

Figure 17-9. Limits of the assembler

A program that waits for input or produces output is allowed somewhat more of both, because the time spent waiting is attributable to the terminal and not to the program.

Chapter 18

Games

This chapter describes the games provided with 3270BBS. The games are selected from the extended menu, except for checkers, which is invoked by entering `CHECKERS` at either menu. All of the games accept **`F23`** and **`F24`**; thus, a game may be left in one virtual session and resumed later.

Balloon

Option 2. The player steers a hot air balloon down a shaft, avoiding the barriers and collecting the items that drift past. An additional life is granted at every third level.

```
                          Hot Air Balloon Challenge
------------------------------------------------------------
                                          /===/
           OO              OO            /====/              HIGH SCORES
                                            /======/
                         O                 /===/



                     Game starts in: 4
                                O
                        Get ready!

                           (O)
                            |
                           XXX



------------------------------------------------------------
  Score: 0        Lives: 3    Level: 1
  F1=Left  F2=Fix  F12=Right  F3=Exit  F4=Pause  F5=AI  F9=Restart
```

Figure 18-1. The Hot Air Balloon Challenge (Model 2, 24 x 80; capture screens/80-balloon.txt)

Key	Function
F1	Moves left.
F2	Holds the balloon still.
F3	Terminates the game.
F4	Pauses the game.
F5	Lets the machine play.
F9	Starts the game again.
F12	Moves right.

Figure 18-2. Balloon controls

Blackjack

Option 3. The player begins with a stake of 100. The bet is adjusted with **F4**, **F5**, **F6**, and **F7**, and **F2** deals; thereafter, **F2** draws another card and **F4** stands. **F10** displays the high scores, and **F3** terminates the game. A player who loses everything is given a new stake by the house once, and once only.

```
                            BLACKJACK                      Money: 100

  Dealer:
  +-----+ +-----+
  | XX  | | 7   |
  | XX  | |  H  |
  | XX  | |     |
  +-----+ +-----+
             7

  Player:           Score: 16
  +-----+ +-----+
  | 6   | | K   |
  |  H  | |  D  |
  |     | |     |
  +-----+ +-----+
     6      K

  SUITS LEGEND: S=Spades  H=Hearts  D=Diamonds  C=Clubs
  Games: 1 | Won: 0 | Tied: 0 | Lost: 0

  Current bet: 10

 F3=Exit  F2=Hit  F4=Stand F10=High Scores
```

Figure 18-3. Blackjack (Model 2, 24 x 80; capture screens/81-blackjack.txt)

Space Invaders

Option 5. The player must shoot down the descending ranks before they reach the bottom of the screen. **F1** moves left, **F3** moves right, **F2** fires, **F10** pauses, **F5** lets the machine play, and **F12** terminates the game.

```
                                SPACE INVADERS

        <M> <M> <M> <M> <M> <M> <M> <M> <M> <M> <M>
                                                                HIGH SCORES
        (A) (A) (A) (A) (A) (A) (A) (A) (A) (A) (A)

        (A) (A) (A) (A) (A) (A) (A) (A) (A) (A) (A)

        /X\ /X\ /X\ /X\ /X\ /X\ /X\ /X\ /X\ /X\ /X\

        /X\ /X\ /X\ /X\ /X\ /X\ /X\ /X\ /X\ /X\ /X\
                   WAVE 1 - GET READY: 2




       #####        #####        #####        #####
       #####        #####        #####        #####
                              |
                             /#\
 ------------------------------------------------------------
   Score: 0       Lives: 3   Wave: 1
   F1=Left F3=Right F2=Fire F5=AI ON/OFF F10=Pause F12=Exit
```

Figure 18-4. Space Invaders (Model 2, 24 x 80; capture screens/82-space-invaders.txt)

Flappy Bird

Option `6`. Each press of **`ENTER`** makes the bird flap; the player must keep it between the obstacles. **`F10`** pauses, **`F5`** lets the machine play, and **`F12`** terminates the game.

```
CPU  17 FPS 20 FLAPPY 3270 SCORE    0  BEST     0  LVL 1  LIVES 3




                                GET READY
                           Press ENTER to flap and start
                       F5 = AI autopilot (score not saved)
    \o>                                                          -.-

                                                                            -.-


 -----                                                            ---
 :::::-----------        ---                 ----                 :::
 ::::::::::::::::        :::  ----           ::::             ----:::
 ::::::::::::::::     ---:::  ::::--         ::::---  --     :::::::   -.-----
 ::::::::::::::::-----::::::--::::::---------:::::::--::-----:::::::-----:::::
 ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::

 ====+====+====+====+====+====+====+====+====+====+====+====+====+====+====+==
 TOP5 (no scores yet - be the first)
 ENTER=Flap  F5=AI  F10=Pause  F12=Exit  F23/F24=Session
```

Figure 18-5. Flappy Bird (Model 2, 24 x 80; capture screens/83-flappy.txt)

Wordle

Option `W`. The player must guess a five-letter word in six attempts. The colors indicate which letters are correct and which are in the wrong position. **`F10`** displays the player's statistics, **`F5`** requests help from the machine, **`F12`** changes the language (English, German, or Italian), and **`F3`** terminates the game.

```
                        WORDLE in English!
                    Guess the 5-letter word!

     Enter your guess:

                        Your Guesses:





     Remaining attempts: 6

                          Q W E R T Y U I O P
                           A S D F G H J K L
                             Z X C V B N M

  Color Legend:
  Green=Correct  Yellow=Wrong Position  Red=Not in Word  White=Unused


  F3=Extended Menu  F5=AI  F10=Statistics  F12=German  Enter=Submit Guess
```

Figure 18-6. Wordle, ready for the first guess (Model 2, 24 x 80; capture screens/84-wordle.txt)

```
                        WORDLE in English!
                    Guess the 5-letter word!

     Enter your guess:

                        Your Guesses:
                        C R A N E





     Remaining attempts: 5

                          Q W E R T Y U I O P
                           A S D F G H J K L
                             Z X C V B N M

  Color Legend:
  Green=Correct  Yellow=Wrong Position  Red=Not in Word  White=Unused


  F3=Extended Menu  F5=AI  F10=Statistics  F12=German  Enter=Submit Guess
```

Figure 18-7. Wordle, after a guess has been entered (Model 2, 24 x 80; capture screens/84b-wordle-guess.txt)

Checkers

Checkers is invoked by entering `CHECKERS` at either menu. A move is made either by placing the cursor on a piece and pressing **`ENTER`**, or by entering coordinates such as `A3` and `B4`. **`F10`** suggests a move, **`F5`** starts a new game, and **`F3`** terminates the game.

Note
A score obtained while the machine is playing is displayed, but is never entered in the high score table.

Chapter 19

The Marketplace

This chapter describes the marketplace, which holds the classified advertisements of the community. The marketplace is selected with option 7 on the extended menu.

```
                               Marketplace
Showing All items                                            Page 1 of 1
Type D to delete or E to edit your own items

S  Type     Title                                  Price     User     Posted
******************************************************************************
   Wanting  Wanted: 3174 keyboard cable            offers    jbrooks  06Sep26
   Selling  IBM 3179G colour terminal              250 EUR   mmartin  04Sep26











 Filter by: A=All  S=Selling  W=Wanted  B=Buying       Total items: 2
 Command:

 F3=Main Menu  F5=Post Item  F7=Prev Page  F8=Next Page
```

Figure 19-1. The marketplace (Model 2, 24 x 80; capture screens/85-marketplace.txt)

Each line shows the kind of advertisement, the title, the price, the user who posted it, and the date. To display an item in full, type any character next to its line and press **ENTER**.

```
                              Marketplace Item View

                  Selling Item #1

   Title:          IBM 3179G colour terminal
   Posted by:      mmartin
   Price:          250 EUR
   Posted:         09-04-26

   Description:
   Working, minor screen burn. Collection only.









  F3=Back  F4=Contact Poster  F7=Up  F8=Down
```

Figure 19-2. One marketplace item (Model 2, 24 x 80; capture screens/85b-marketplace-item.txt)

Key	Where	Function
F3	Either	Returns.
F4	An item	Sends a message to the user who posted the item.
F5	The list	Posts an item.
F7, F8	The list	Pages up and down.
F7, F8	An item	Scrolls the description.
F22	An item	Follows a `bbs://` link in the description, or copies a link to this item. See Chapter 9.
D	Selector	Deletes an item the user posted; **F9** confirms.
E	Selector	Edits an item the user posted.

Figure 19-3. The marketplace

Posting an Item

1. Press **F5**.
2. Indicate whether the item is for sale, sought for purchase, or wanted, and specify a title and a price.
3. Press **ENTER**. The content editor is invoked for the description; enter it as described in Chapter 6 and save it.

The system responds with `Item posted successfully`. Other users reply with **`F4`**, which sends an ordinary message to the poster; consequently, no user needs to publish an address. An advertisement should be deleted when the matter is settled.

Chapter 20

Doors to Other Systems

This chapter describes doors, and how to return from them. A door is a connection from this system to another one: a community mainframe running MVS or VM, another 3270BBS, or any host that supports the 3270 protocol. Doors are selected with option 4 on the extended menu.

```
                      Remote Host Selection
Option ===>

Select a remote host to connect to:

 1  MVS3.8          MVS 3.8 TK5 community mainframe
 2  PUBVM           VM/SP rel5 with PROFS at PUBVM









   Press PA3 key from remote host to return here. Wait about 6 seconds.


 F3=Return
```

Figure 20-1. The remote host selection screen (Model 2, 24 x 80; capture screens/87-doors.txt)

To connect, type the number of a system and press **ENTER**. From that point, the display station is connected to the other system, and the screens displayed and the keys pressed belong to that system, not to 3270BBS. The user must log on as that system requires.

Coming Back: the PA3 Key

One key is *not* passed to the remote system. **PA3** terminates the connection and returns the user to 3270BBS, from any point on the other system. The remote host selection screen states this in the line `Press PA3 key from remote host to return here. Wait about 6 seconds.`

- The return takes about six seconds, because the connection must be closed and the local screen redisplayed. It is normal for the display to remain unchanged during this time.
- **PA3** terminates the session abruptly, as if the terminal had been disconnected. Where possible, the user should log off from the other system first, and use **PA3** only when the other system does not permit a logoff, has stopped responding, or when the user simply wishes to leave.
- On most emulators, **PA3** is **Alt**+**3**; in x3270 and c3270 it is the `PA(3)` action. The user should determine the key before it is needed, because no function key line on the other system describes it.

The user is also returned to 3270BBS on logging off the other system, or when the connection is terminated by the other system.

The list of systems is the one configured by the system operator. If no list is configured, or if the proxy is not running, the extended menu displays a message and no connection is made. Note that the other system is a different community, with its own rules and its own operator.

Chapter 21

Guide for Moderators

A moderator is a user who has two additional options on the main menu, and the responsibility that accompanies them. The rest of this publication applies to moderators in the same way as to other users. This chapter describes the functions that are added for moderators.

The Moderator's Options

Option	Name	Function
7	Mod Topics	Provides topic management: deletes, edits, views, and colors topics.
8	Mod Posts	Provides post management: deletes, edits, and views any post.
F10	on the conference list	Provides conference administration, including the list of users banned from a conference.

Figure 21-1. What a moderator has that a user does not

An administrator sees the same two options under the names `Admin Topics` and `Admin Posts`, in addition to others. The authority of a moderator is limited to the conferences that the moderator may use; the authority of an administrator is not.

Managing Topics

Option 7 lists the topics, each with a selector field. The instruction line reads `D=delete, E=edit, V=view topic. Topic Colors= G, R, Y, B, W`.

Letter	Effect
`D`	Deletes the topic. A confirmation screen follows. All the contents of the topic are deleted with it.
`E`	Edits the topic: its title, the conference to which it belongs (this is how a topic is *moved*), and, through the editor, the text of its first post.
`V`	Displays the topic as a reader sees it.
`G R Y B W`	Displays the title in green, red, yellow, blue, or white in the topic list. This should be used sparingly, for announcements and for topics that must be found quickly.

Figure 21-2. Actions on the topic management screen

The following function keys are valid on this screen: **`F1`** (help), **`F3`** (menu), **`F5`** (refresh), **`F7`** and **`F8`** (page), and **`ENTER`**, which performs the actions marked.

Managing Posts

Option `8` lists posts with the instruction line `D=delete E=edit V=view post T=view topic`. A moderator may delete or edit the post of any user. Because editing the words of another user is a serious action, a moderator should prefer to delete a post and state the reason, or to ask the author to change it.

Conferences

`F10` on the conference list invokes conference administration. From there, a moderator may create a conference (**`F5`** also creates one from within the topic-creation procedure), edit its name and description, and maintain its list of banned users. A banned user cannot see or post in that conference. A ban applies to one conference only: there is no general means of silencing a user, and only an administrator can remove an account.

Chat

A moderator may set the topic of a chat room with `/topic`, and may clear it by entering `/topic` alone. Ordinary users cannot do so. This is the only moderator function available in chat: there is no facility for removing a user from a room. If a word with a user is required, mail or a summons should be used instead.

Practice

- State the action taken. A topic that disappears without explanation costs more goodwill than the post that caused its removal.
- Prefer the smallest action that is effective: first a word to the author, then moving a topic to the correct conference, then deleting a post, and finally a ban.
- Moderate the conferences in which you participate, and leave the others to their own moderators.
- The moderator's name appears in the rolodex with the moderator flag against it. A moderator should write a `PUBLIC` note that identifies the moderator and names the conferences for which the moderator is responsible.

Appendix A

Summary of Function Keys

This appendix summarizes the function keys of every screen described in this publication. Where a key is not listed for a screen, that screen does not use it. In all cases, the function key line at the foot of each screen is the final authority.

Everywhere

Key	Function
F1	Displays help for the current screen.
F3	Cancels, or returns to the previous screen.
F7, F8	Scrolls up, scrolls down.
F23	Displays the Virtual Sessions screen, which lists the sessions and switches to one by number.
F24	Switches to the next virtual session, and starts it if it is not yet in use.

Figure A-1. Keys that work on nearly every screen

The Menus

The extended menu accepts fewer keys than the main menu. Only the following are valid: **F2**, **F3**, **F5**, **F6**, **F10**, **F11**, **F12**, and the virtual session keys.

Key	Function
F1	Displays help. Main menu only.
F2	Displays what is new since the last logon.
F4	Summons a user who is logged on. Main menu only.
F5	Displays the virtual session overlay.
F6	Displays the system information overlay.
F10, F11	Moves the calendar back, forward.
F12	Retrieves the last command typed at the `Option ===>` prompt of either menu, without running it. See "Typed Commands".
F13	Selects the next color scheme (main menu).

Figure A-2. Keys on the main and extended menus

Conferences, Topics and Posts

Key	Conference list	Topic list	Reading a topic
F2			Oldest post first
F4			Reply
F5	Subscriptions	Add a topic	I like this topic
F6	Preview topics		
F9			Last post / first post
F10	Administration	Sort by created or by activity	Save to notes
F11	Point and sort	Point and sort	
F12			Newest post first
F13			PUBLIC note of the user at the cursor
F14, F15			Half-page scroll up, down
F20			Print the topic
F22	Copy link	Copy link	Copy or follow link

Figure A-3. Keys in the conferences

The Content Editor

Key	Function
F1	Key panel
F2	Spell check of the screen or the selection (AI correction if configured; UNDO restores)
F3	Abandon (F9 confirms)
F4	Delete line
F5	Insert line below
F6	Insert line above
F7, F8	Scroll up, scroll down
F9	Select text (start, end; again to remove)
F10	Center line
F11	Centered box
F12	Save and exit
F13	Centered box to next blank line
F14	First line of text
F15	Left-aligned box
F16	Copy line
F17	Paste above the cursor
F18	Paste below the cursor
F19	Find next
F21	Insert signature
F22	Paste bbs:// link

Figure A-4. Keys in the content editor

The ISPF-Style Editor

Key	Function
F2	Invokes the file browser.
F4	Displays help text in an edit buffer.
F5	Repeats the last find.
F9	Cycles through the open files.
F10, F11	Scrolls left, scrolls right.
F12	Saves and exits.
F23, F24	Ignored.

Figure A-5. Keys in the ISPF-style editor

Mail, Notes and the Rest

Key	Mail list	Reading mail	Notes list	Profile
F4		Reply		Set time zone
F5	New message	Sender's About Me	New note	Change password
F6	Spam list			
F9	Purge read mail	Delete		Close account
F10		Save to notes		Edit About Me
F11	Received or sent			
F12		Opt out of notifications		
F20		Print		

Figure A-6. Keys in mail, notes and the profile

Games and Displays

Screen	Keys
Balloon	F1 left, F12 right, F2 hold, F4 pause, F5 machine plays, F9 restart, F3 leave
Blackjack	F2 deal or draw, F4 stand, F4/F5/F6/F7 adjust bet, F10 high scores, F3 leave
Space Invaders	F1 left, F3 right, F2 fire, F10 pause, F5 machine plays, F12 leave
Flappy Bird	ENTER flap, F10 pause, F5 machine plays, F12 leave
Wordle	ENTER guess, F5 help, F10 statistics, F12 language, F3 leave
Checkers	ENTER move, F5 new game, F10 hint, F3 leave
SDSF	F2 held output, F6 automatic refresh, F3 return
Held output	S select, P purge, O mail as PDF, F7/F8 scroll, F3 return
Held output viewer	F7/F8 scroll, F10/F11 scroll sideways, F3 return
DELTAMON	F4 color, F5 average, F9/F10 refresh rate, F11 DBMON, F12 user CPU, F3 return
Chat	F2 spell check (AI correction if configured), F4 complete word, F5 about, F7/F8 scroll, F9 recall, F10 screen shot, F3 leave

Figure A-7. Keys in the games and the system displays

Appendix B

Summary of Color Tags

This appendix summarizes the color tags. Color tags may be entered anywhere in the text of a post, a reply, or a mail message. They are described in "Color Tags" in Chapter 6.

Tag	Effect	Suggested use
`<<green>>`	Green	Ordinary text. Because green is the default, the tag is required only to return to it.
`<<yellow>>`	Yellow	Headings within a post.
`<<white>>`	White	Emphasis.
`<<turquoise>>`	Turquoise	Quoted text. The system also uses this color for `bbs://` links.
`<<blue>>`	Blue	Labels and incidental notes.
`<<pink>>`	Pink	Warnings. The system itself uses pink for material that is new to the user.
`<<red>>`	Red	Errors and matters of importance. It should be used rarely.
`<<reverse>>`	Reverse video on	A line that must not be missed.
`<</reverse>>`	Reverse video off	Setting any color also ends reverse video.

Figure B-1. Color tags

The following rules apply:

- A tag takes effect where it appears, and remains in effect until the next tag or the end of the text.
- A tag that the system does not recognize is removed and has no effect. No warning is given for a misspelled tag.
- Tags do not carry over from one post to the next.
- The note viewer displays tags as they were entered; posts and mail interpret them.
- A printed PDF reproduces the colors; text printed to held output has the tags removed.

Appendix C

Messages

This appendix lists the messages that the user is most likely to receive, with the meaning of each and the action to be taken. Messages are displayed on the message line near the foot of the screen, often in reverse video. The messages are grouped by the function that issues them.

Logging On

Message	Meaning and action
`Invalid username or password. Please try again.`	Either the user identifier or the password is incorrect; the system does not indicate which. After repeated failures, the address is locked out for a few minutes.
`WARNING! Your terminal size is too small!`	Set the emulator to a Model 2, Model 3, or Model 4 screen, and connect again.
`Please complete your profile information for password recovery`	Enter the city and country on the profile screen. These values are required to recover the password later.

Figure C-1. Messages when logging on

Writing and Posting

Message	Meaning and action
`Unknown command`	The command field of the editor accepts only `SAVE`, `CANCEL`, `FIND`, `RFIND`, `TOP`, and `BOTTOM`, and, if AI support is configured, `IMPROVE`, `TRANSLATE`, and `UNDO`.
`FIND requires text`	Specify the text to be found after the command.
`No previous find`	There is no previous search for `RFIND` to repeat.
`Found n misspelled words`	Indicates the result of **F2**. The lines that contain the misspelled words are displayed in yellow. Nothing is changed.
`No spelling errors`	**F2** found no unknown words on the screen.
`Selection started. Move cursor and press F9 again`	The start of a selection is marked. Place the cursor on the last character and press **F9**.
`n characters selected`	The selection is complete (`n lines, m characters selected` when it spans lines).
`Selection removed`	**F9** has removed the selection.
`Selection is off screen; scroll to it to unselect`	The selection is not on the screen, so **F9** has not removed it. Scroll until part of it is displayed and press **F9**.
`Put the cursor in the text, then press F9`	**F9** was pressed with the cursor outside the lines of text.
`Found n misspelled words in the selection`	As `Found n misspelled words`, for the selected text only (`No spelling errors in the selection` if none).
`You already have a PUBLIC note; edit it instead`	Only one note is permitted for each reserved subject. Edit the existing note.
`Please select only one note at a time`	Mark one line only, and press **ENTER** again.

Figure C-2. Messages while writing

AI Assistance in the Editor

These messages occur only if the 3270BBS operator has configured AI support. They concern **F2**, `IMPROVE`, `TRANSLATE`, and `UNDO` in the content editor.

Message	Meaning and action
`AI corrected n lines. UNDO restores`	**F2** has corrected n lines with AI (the message reads `1 line` for one). Words still unknown to the dictionary are displayed in yellow. The command `UNDO` restores the previous text.
`Improving text, please wait...`	`IMPROVE` is waiting for the AI service. The keyboard is unlocked when the result arrives.
`Text improved by AI. UNDO restores`	The text has been improved. The command `UNDO` restores the previous text.
`IMPROVE found nothing to change`	The AI service returned the text unchanged.
`IMPROVE failed: reason`	The AI service did not answer in time, returned an error, or returned an answer that could not be used safely. The text is not changed. Try again later.
`IMPROVE is not available on this BBS`	The 3270BBS operator has not configured AI support.
`IMPROVE is not available in a read-only view`	The text displayed cannot be changed.
`Text too long for IMPROVE (max 8000 characters)`	Improve the text in smaller parts, or shorten it.
`Nothing to improve`	The text contains no paragraphs that `IMPROVE` can work on.
`Translating...pls wait`	`TRANSLATE` is waiting for the AI service. The keyboard is unlocked when the result arrives.
`Translated n paragraphs to English. UNDO restores`	n paragraphs have been translated (the message reads `1 paragraph` for one). The command `UNDO` restores the previous text.
`TRANSLATE: text is already in English`	The AI service found no text in another language. Nothing is changed.
`TRANSLATE failed: reason`	The AI service did not answer in time, returned an error, or returned an answer that could not be used safely. The text is not changed. Try again later.
`TRANSLATE is not available on this BBS`	The 3270BBS operator has not configured AI support.
`TRANSLATE is not available in a read-only view`	The text displayed cannot be changed.
`Text too long for TRANSLATE (max 8000 characters)`	Translate the text in smaller parts by selecting each part with **F9**.
`Nothing to translate`	The text contains no paragraphs that `TRANSLATE` can work on.
`Undone`	`UNDO` has restored the text as it was before the last AI change.
`Undone in the selection`	`UNDO` has restored the part of the text that the last AI change, made on a selection, had replaced.
`AI corrected the selection (n lines). UNDO restores`	**F2** has corrected the selected text with AI.
`AI improved the selection. UNDO restores`	`IMPROVE` has improved the selected text.
`Translated the selection (n paragraphs). UNDO restores`	`TRANSLATE` has translated the selected text.
`Nothing to undo`	No AI change has been made since the last `UNDO`.

Figure C-3. Messages about AI assistance in the editor

Links

Message	Meaning and action
`Link copied:`	The link named in the message is on the clipboard. It may be pasted in the editor with **F22**.
`Nothing to copy here – put the cursor on an item`	Place the cursor on a topic, post, conference, or item, and press **F22** again.
`That link is not available`	The link refers to something that does not exist, or to something that the user is not permitted to see. The two cases are deliberately not distinguished.
`Link clipboard cleared`	Indicates the result of the `CLEAR` command.

Figure C-4. Messages about links

Printing and Mail

Message	Meaning and action
`Printed to HELD output`	The document has been placed in held output. It may be read from SDSF with **F2**.
`Max daily emails (n) reached`	The daily allowance of outgoing mail has been used. Either set `Print to Held` to `Y` and print locally, or wait until the following day.
`INFO14D GENERAL ERROR`	The account is younger than the waiting period that the operator has set for sending mail out of the system. This is not an error condition. Print to held output instead.
`No email address in your profile`	Enter an address on the profile screen.
`Email functionality not configured`	The operator has not configured outgoing mail. Print to held output instead.
`Purged n job(s)`	Indicates the result of `P` in held output.

Figure C-5. Messages about printing and mail

Programming

Message	Meaning and action
?FILE NOT FOUND	Verify the name with FILES.
?INVALID FILE NAME	The name is not acceptable to the file store. Underscores are removed from a name that the user types, because that prefix is reserved for community files.
?CANNOT ERASE COMMUNITY FILES	Community files (names beginning with an underscore) belong to the operator.
?ONLY SHARED FILES (%) CAN BE LOADED FROM OTHER USERS	A file belonging to another user may be read only if its name begins with a percent sign.
SUBSCRIPT OUT OF RANGE	An array index is outside the bounds specified in DIM.
TYPE MISMATCH	A string was compared with a number, or was assigned to a numeric variable.
OUT OF STACK	More than 1024 GOSUB calls are active; that is, a subroutine is invoking itself without end.
?LOOP IN CODE?	A BASIC program exceeded the iteration limit described in Chapter 16. The usual cause is a loop with no exit.
?EXECUTION TIME LIMIT REACHED	A BASIC program exceeded the time limit described in Chapter 16.
maximum iterations exceeded	The assembler equivalent, with the limit described in Chapter 17 shown in brackets. maximum runtime exceeded indicates the time limit.
?BREAK – PROGRAM INTERRUPTED	The user pressed **PA1** or **PA2**.
Unsaved changes in name	Another file that is open in the editor contains changes. Press **F9** to go to that file, and save or cancel the changes there.

Figure C-6. Messages from BASIC and the assembler

The Console

Message	Meaning and action
`IEE305I command COMMAND INVALID`	The command is not recognized by the console, or it is reserved for an administrator. See Chapter 14.
`IEE163I MODE= RD`	The console is ready to accept a command. No action is required.

Figure C-7. Messages from the console

Appendix D

Glossary

This glossary defines the terms used in this publication and on the screens of 3270BBS. A term in *italics* within a definition is itself defined in this glossary. Chapter references indicate where the full description can be found.

A

administrator. The user who runs the system. The administrator creates and removes accounts, appoints *moderators*, configures the services, and starts and stops them. The administrator is called the SysOp on some screens, and the *operator* in this publication. Administrative functions are not described in this publication.

AID key. Attention identifier key. A key that sends the screen to the system. **`ENTER`**, the function keys, **`CLEAR`**, **`PA1`**, and **`PA2`** are AID keys. The cursor keys and **`TAB`** are not; they move the cursor about the screen without the knowledge of the system.

ASSIST macros. The input and output macros of the assembler environment (`XREAD`, `XPRNT`, `XDECI`, `XDECO`, and others), named after the teaching assembler on which they were modeled. Chapter 17.

auto-refresh. The setting on the system displays that causes the screen to be redisplayed every few seconds. The interval is taken from the user's *profile*. **`F9`** and **`F10`** change the interval, and **`F6`** or the `Auto Update` field turns the function off. Chapter 14.

B

ban. The exclusion of a user from one *conference*, set by a *moderator*. A banned user cannot see or post in that conference. There is no general silencing of a user. Chapter 21.

BASIC. Timesharing BASIC/3270BBS, the interpreter that is invoked with option `B` on the *extended menu*. Chapter 16.

bbs:// link. A short reference to a *topic*, *post*, *conference*, marketplace item, or user within this system, which a reader follows with **`F22`**. It is written in the form `bbs://topicMotorbikes41`. Chapter 9.

block command. A *line command* whose letter is doubled and entered on two lines, so that the command applies to all lines between them; for example, `CC`, `MM`, and `DD`. Chapter 16.

broadcast message. A line from the *operator* that is displayed to all users when they log on, and again by the `BCAST` command. Chapter 15.

C

chat. Conversation in real time. Two forms are available: *local chat* and *private chat*. A third form, *federated chat*, appears on the extended menu but is disabled in this release. Chapter 11.

clipboard. See *link clipboard*.

color tag. A word between double angle brackets, such as `<<yellow>>`, that sets the color of the text that follows it in a *post* or a message. Appendix B.

community file. A BASIC or assembler file whose name begins with an underscore. A community file is readable by all users, is maintained by the *operator*, and cannot be erased by the user. Chapter 16.

conference. A subject area that contains *topics*. Each topic belongs to exactly one conference. Chapter 5.

content editor. The editor used for *posts*, mail, notes, and marketplace descriptions. It is controlled by function keys and by the commands `SAVE`, `CANCEL`, `FIND`, and `RFIND`. Chapter 6. The content editor is not the *ISPF-style editor*.

D

DBMON. The database transaction monitor, which displays reads, writes, rates, and response times. It is invoked with **`F11`** from *DELTAMON*, or with the command `DBMON`. Chapter 14.

DELTAMON. The performance monitor, option `P` on the *extended menu*. Chapter 14.

display station. The terminal, or the emulator that stands in for one. 3270BBS supports Model 2 (24 x 80), Model 3 (32 x 80), and Model 4 (43 x 80). Chapter 1.

door. A connection from this system to another mainframe, selected from the remote host list. Chapter 20.

DSLIST. The data set list utility, which presents the user's notes, programs, mail, and topics as if they were data sets on volumes. Chapter 14.

E

extended menu. The second menu, invoked with option `M`, which contains the games, the programming environments, the monitors, and the other applications. Chapter 3.

F

federated chat. Chat that is shared with other 3270BBS systems, where the *operator* has joined the federation. Option `R` on the *extended menu*. Chapter 11.

FINGER note. The *note* whose subject is `FINGER`. It is sent in reply to a finger query from outside the system. Chapters 8 and 10.

.FORWARD note. The *note* whose subject is `.FORWARD`. It contains an electronic mail address to which mail arriving from outside the system is forwarded. Chapter 8.

function key line. The last line of a screen, which lists the keys that the screen accepts. It is the final authority on which keys are valid on that screen.

H

held output. The queue in which printed documents, program logs, and chat screen shots are kept until the user reads, mails, or purges them. Held output is reached from *SDSF* with **`F2`**. Chapter 13.

I

ISPF-style editor. The full-screen editor used for BASIC and assembler source and for listing files. It has a `Command ===>` line, a `Scroll ===>` field, and a *prefix area* for *line commands*. Chapter 16.

J

job. One entry in *held output*, with a job name, a job number, and a line count, in the manner of a mainframe spool. Chapter 13.

L

like. A mark of approval recorded against a *topic* with **`F5`** while the topic is being read. Each user may record one like for each topic. Chapter 5.

line command. A letter entered in the *prefix area* of the *ISPF-style editor* to act on that line; for example, `D` (delete), `I` (insert), `C` (copy), and `M` (move). Chapter 16.

link clipboard. The one-entry store that holds the *bbs:// link* most recently copied with **`F22`**. A white asterisk at the right end of the menu title line, to the left of the virtual session number, indicates that the clipboard is not empty. The command `CLEAR` empties it. Chapter 9.

listing file. The file with the suffix **`.`**`list` that is produced by `CHECK` in BASIC or the assembler. It contains the compilation listing, the diagnostics, the cross-reference, and the statistics. Chapters 16 and 17.

local chat. The chat of this system, option `R` on the main menu. Chapter 11.

M

main menu. The first menu displayed after logon, from which all other functions are reached. Chapter 3.

marketplace. The classified advertisements of the community, option `7` on the *extended menu*. Chapter 19.

message line. The line near the foot of a screen on which errors and confirmations are displayed, often in reverse video. Appendix C lists the messages most likely to appear there.

moderator. A user who may delete, edit, move, and color the *topics* and *posts* of the conferences to which the moderator has access, ban a user from a conference, and set a chat topic. Chapter 21.

MVS console. The operator console display, option `O` on the *extended menu*, which displays the messages of the system and accepts display commands. Chapter 14.

N

note. A piece of text belonging to the user, kept by the system under a subject. Four subjects are *reserved subjects* and have meanings to the system. Chapter 8.

O

one-liner. A single line addressed to the whole community, posted on the wall of one-liners. Chapter 10.

operator. See *administrator*.

option prompt. The `Option ===>` field at the top of a menu, in which the user enters a menu option, a shortcut, or a typed command. Chapter 3.

P

PA key. Program attention key. **`PA1`** and **`PA2`** interrupt a running BASIC or assembler program. Chapters 16 and 17.

post. One contribution to a *topic*. The first post of a topic is written by the user who started the topic. Chapter 5.

prefix area. The six columns at the left of the *ISPF-style editor* in which *line commands* are entered. Chapter 16.

print to held. The preference that determines whether printing places a document in the user's *held output* or mails it to the user as a PDF document. Chapters 12 and 13.

private chat. A chat room protected by a password, option `I` on the *extended menu*. Chapter 11.

profile. The screen that contains the user's account information and preferences, option **`0`** on either menu. Chapter 12.

PUBLIC note. The *note* whose subject is `PUBLIC`. It serves as the user's About Me page and is displayed to anyone who looks up the user. Chapter 8.

purge. To delete a *job* from *held output* (`P`), or to delete read mail in bulk (**`F9`** on the mail list). Chapters 7 and 13.

R

reserved subject. One of `PUBLIC`, `FINGER`, `SIGNATURE`, and **`.`**`FORWARD`: a note subject to which the system attaches a meaning. Each user may have one note for each reserved subject. Chapter 8.

rolodex. The directory of users, option `U` on the main menu. Chapter 10.

S

screen saver. The moving display that replaces an idle menu after the number of minutes specified in the user's *profile*. Any key returns to the menu. Chapter 12.

scroll field. The `Scroll ===>` field of the *ISPF-style editor* and of the *held output* viewer. It contains `CSR`, `PAGE`, or `HALF`, and indicates how far **`F7`** and **`F8`** scroll. Chapters 12 and 16.

SDSF. The system activity display, option `S` on the main menu or the command `SD`. It is also the means of access to the user's *held output*. Chapters 13 and 14.

selector field. The one-character field at the left of each line of a list, in which the user marks the line to be selected. Throughout the system, a list is used by marking a line and pressing **`ENTER`**.

shared file. A BASIC or assembler file whose name begins with a percent sign. Other users may read a shared file; only its owner may change it. Chapter 16.

shortcut. A menu selection entered in full; for example, **`=0`** from the *extended menu* for the profile, or `M;7` from the main menu for the marketplace. Chapter 3.

SIGNATURE note. The *note* whose subject is `SIGNATURE`. **`F21`** appends it to the text being written. Chapters 6 and 8.

spam list. The list of addresses outside the system from which the user has blocked mail. It is displayed with **`F6`** on the mail list. Chapter 7.

subscription. A conference that the user follows, so that **`F2`** at the menu reports its new topics. A subscription does not affect what the user may read. Chapter 5.

summon. A short page to a user who is currently logged on, valid for fifteen minutes. It is invoked with **`F4`** on the main menu. Chapter 3.

T

TN3270. The protocol by which a *display station* or an emulator communicates with this system, either in the clear or under TLS. Chapter 1.

topic. One conversation within a *conference*, consisting of a title, an author, and the *posts* that make it up. Chapter 5.

TSO command line. The line-mode command line reached with option `X`, at which the user enters `WHO`, `TIME`, `CALC`, `LOGOFF`, and the other commands. Chapter 15.

typed command. A function that has no line on the menu and is entered at the *option prompt*; for example, `SD`, `DSLIST`, `CHECKERS`, and `COMMANDS`. Chapter 3.

V

virtual session. One of the three independent sessions within the user's connection. **`F24`** both starts and switches virtual sessions: it moves to the next session, starting it at the main menu if it is not yet in use, or otherwise restoring it as the user left it. **`F23`** lists all three sessions and switches to one by number. The menus show the current session number in green at the right end of the title line. Chapter 4.

W

web3270. The browser-based 3270 emulator supplied with 3270BBS. It is a complete *display station* in a web browser, and requires no other software. Chapter 1.

What's New. The report displayed by **`F2`** at either menu, which shows activity in the user's *subscriptions* and on the wall of *one-liners* since the last logon. Chapter 3.

Copyright 2025, 2026 by moshix. All rights reserved.

GC27-3270-04