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**PEGASUS, ELECTRONIC BULLETIN BOARD  
SYSTEM USER'S GUIDE**

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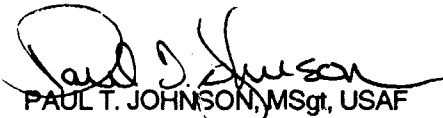
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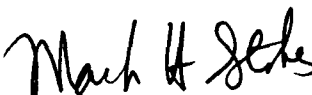
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# CONTENTS

	<b>Page</b>
INTRODUCTION . . . . .	1
GENERAL INSTRUCTIONS TO USERS . . . . .	2
Conventions Used in this Technical Report . . . . .	2
User Account Activation . . . . .	2
USER QUESTIONNAIRE . . . . .	3
MAIN MENU . . . . .	7
MESSAGE MENU . . . . .	12
FILES MENU . . . . .	18
MESSAGE EDITOR . . . . .	22
Line Editor . . . . .	23
Full-Screen Editor . . . . .	23
MESSAGE COMMANDS . . . . .	23
BULLETIN BOARD ETIQUETTE . . . . .	25
Appendix	
A TomCat Off-Line Message Door . . . . .	27
B Internal File Transfer Protocols . . . . .	33
C PEGASUS, Full-Screen Editor Command Reference Guide . .	37
GLOSSARY . . . . .	41

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## FIGURES

<b>Figure No.</b>		<b>Page</b>
1	Bad Graphics . . . . .	4
2	Initial Welcoming Screen . . . . .	5
3	Initial Logon Screen - View 1 . . . . .	6
4	Initial Logon Screen - View 2 . . . . .	7
5	User's Main Menu . . . . .	8
6	Your Settings Screen . . . . .	11
7	Message Menu . . . . .	13
8	Message Function . . . . .	15
9	Search Function . . . . .	16
10	Update Conference Scan/Read Display . . . . .	18
11	Files Menu . . . . .	18
12	Text Search . . . . .	21
13	File Upload Function . . . . .	22
14	Message Commands . . . . .	24
A-1	TomCat Main Menu . . . . .	29
A-2	TomCat Configuration Menu . . . . .	30
A-3	TomCat Conference Menu . . . . .	31
A-4	TomCat Conference Options . . . . .	31

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We greatly appreciate the technical support provided by Mustang! Software personnel, as well as the support/comments by HQ AFMOA/SGPA and several of our bulletin board users. Many of the upgrades were made possible by these people.

A special note of thanks to our conference hosts Lieutenant Colonels Williams and Zwart, Majors Mitro and Riddle, Capt Toney, TSgt Paulsen, and SSgt Beamon. These people donate their time mediating conference dialogues, providing assistance to our users and assisting system operators in making the bulletin board a useful and effective tool for communication and consultation worldwide.

System Operator (SYSOP) responsibilities are a primary function of AL/OEMO personnel: Maj Fisher, Capt Meyer, MSgt Johnson, TSgt Hansen, SSgt Long, and SSgt Boleware.

# PEGASUS, ELECTRONIC BULLETIN BOARD SYSTEM USER'S GUIDE

## INTRODUCTION

The **PEGASUS electronic Bulletin Board System (BBS)**, taking its first call in November 1992, is a service provided by the Armstrong Laboratory, Occupational and Environmental Health Directorate (AL/OE), to further the cooperative and consultative efforts of Armstrong Laboratory and other Department of Defense (DOD) agencies worldwide. Benefits include forums for discussing activities related to Aerospace Medicine, including programming efforts/software libraries, reference libraries, general assistance, career information, latest updates in Occupational Medicine, and worldwide listings of personnel available for consultation. Occupational and Environmental Medicine personnel (Aerospace Medicine) are invited to use the system. However, users **MUST complete the initial log-on questionnaire as discussed on page 3 of this technical report to be considered fully active.** There are absolutely no charges levied for PEGASUS use.

PEGASUS offers significant improvements to our users over the previous Electronic Information Exchange System (EIES). One such improvement is the help provided by our conference hosts in maintaining special interest groups called CONFERENCES. These hosts are empowered to facilitate conferences helping their particular group members get assistance when needed. Users wishing to participate in this endeavor, whether physically located at Brooks Air Force Base (AFB) or not, are encouraged to contact the system operators for more detailed information.

System operators or SYSOPs are available Monday through Friday 0730 - 1615, Central Time for assistance by voice, DSN: 240-2064 or commercial: (210) 536-2064. In addition, messages can be left on the bulletin board for the SYSOP or page an operator by using the [P]age SYSOP option from the Main Menu. **NOTE: Systems operators' ability to respond to the page is dependent upon other duties being performed.**

Modulator-Demodulator (modem) parameters for your telecommunication software must be set to 8 start bits, no parity, 1 stop bit or 8,N,1. Presently, the PEGASUS phone lines are connected to 2400 BAUD modems. (Slower BAUD rates are also accommodated.) Upgrades to higher speed modems will be announced on the BBS when obtained. We strongly recommend that users read the software manual for their telecommunications program prior to accessing PEGASUS.

The PEGASUS software is officially licensed by Mustang! Software Inc., Bakersfield, California. It is presently running on an MS-DOS based i80486 EISA platform with a 330 Mb harddrive. The system is located in Room 74, Bldg 140, Brooks AFB, Texas. The bulletin board is run under DesqView

version 2.3 (a multitasking software package, Quarterdeck Office Systems, Santa Monica, California), thus allowing multiple user access.

PEGASUS is the property of the United States Government. Unauthorized access to it is a federal offense. Misuse of the system resources violates the public trust placed in military and civilian government employees, can publicly embarrass the Air Force, and may cause additional costs by denying the resources to authorized users. Violations may result in prosecution of military members under the Uniformed Code of Military Justice (UCMJ), article 92, and appropriate disciplinary action for civilian employees without regard to criminal liability.

## **GENERAL INSTRUCTIONS TO USERS**

### **Conventions Used in this Technical Report**

Readers are often directed to select an option or type a letter and [Enter] appears in brackets. For example, "Reset your color setting by typing Y [Enter] from the MAIN MENU prompt." This option means press the Y key and then the enter key. Another way you may see this written is " ... use the [Y]our settings option from the MAIN MENU to access..." The Y in this example is in brackets indicating the key stroke that will access a submenu. If you have enabled the hotkey option, it is not necessary to press the [Enter] key. *Special notations, warnings, and caution statements are identified by italics.*

### **User Account Activation**

Until an account is fully activated, users can only send E-Mail to the SYSOPs. Account activation gives a user limited system privileges. There are many more menu options than were seen on the former AL electronic bulletin board system (the EIES), and we strongly encourage each user to experiment until a level of proficiency is obtained. We also suggest reading this technical report thoroughly before attempting to navigate the system.

All users will establish and maintain their own accounts on the system. Failure to complete the initial sign-up questionnaire will result in account deactivation.

PEGASUS can be accessed 24 hours a day, 7 days a week, 365 days a year except during scheduled maintenance. Scheduled down time for maintenance and system backup will be each Monday at 0730 (Central Time). This event will take place on Tuesday if Monday is a holiday. Current BBS telephone numbers are (800) 582-0365, (210) 536-3784 (DSN: 240-3784 if allowed by your base). In addition, access can be obtained through the Defense Data

Network or TelNet using the Internet Address Protocol: [140.140.022.005] or the alias [PEGASUS.BROOKS.AF.MIL]. Please contact your base network personnel to assist you in accessing PEGASUS via TelNet. Those individuals having direct access to the Armstrong Laboratory mainframe can access their personal mainframe account and type TELNET PEGASUS [Enter] to gain access.

During your first session, you will be prompted for your first name, last name, and user password. (**NOTE: This is your personal name, not your organization or base name.**) Requests for special generic accounts will be evaluated on a case-by-case basis. Naturally, the program will not find an active account for you. You will be prompted again to verify in case you've mistyped it. **DO NOT** use a password that is too obvious. For example, if you are a Bioenvironmental Engineer, don't use BEE as a password. The use of 6 or more characters in your password is strongly recommended to further protect it from unauthorized users. **NEVER** write your password down and leave it next to the computer or include it in a script file in your communications program for anyone to see unless your computer is secure.

### USER QUESTIONNAIRE

The next step is to complete the identification questionnaire. **The questionnaire is mandatory (i.e., your account won't be activated without it)** and takes just a few minutes of your time. It allows system operators to keep track of the many users we have on the system. Note that once the account has been activated users can change demographical information from the [Y]our settings option in the MAIN MENU, so don't worry if you misspell something. To complete the questionnaire, you will be prompted:

Continue? (Your account cannot be activated without valid ID)?[Y]

Then complete the questionnaire as follows:

What is your duty status? (Multiple choice answers will be displayed)

What branch of service or Government office? (Multiple choice question)

What is your Rank?

What is your First MI and Last Name?

What is your office function? (Multiple choice)

What is your current address? Please input the first line of your duty address, e.g., USAF Hosp/SG



Alias you wish to use?

Alias names can be fun and sometimes lend themselves to conference interaction via user anonymity. Some conferences ONLY use ALIAS names in their communication and others only valid user names. Examples of an ALIAS would be HIGHFLYER, or ACE, etc. None of the public access conferences use ALIAS names at the present time; however, users should choose an alias for future implementation.

**NOTE:** *Vulgar and/or offensive aliases aren't permitted.*

Title, comments or special talents?

[ ]

Line 2 of 2

[ ]

The user will be presented with an Initial Welcoming Screen with two options as shown in Figure 2.

**Note:** *Menus and options MAY DIFFER slightly from the menus shown in this text dependent upon your security profile, type of telecommunications software and system hardware, and your personal setting.*

---

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This system is the property of the United States Government. Unauthorized access to PEGASUS is a federal offense. Misuse of system resources violates the public trust placed on military and civilian government employees and may cause additional costs by denying the resources to authorized users and can publicly embarrass the Air Force. Violations may result in prosecution of military members under the Uniformed Code of Military Justice (UCMJ), article 92, and appropriate disciplinary action for civilian employees without regard to criminal liability.

[C]omments

[G]oodbye (hang-up)

"Serving the Occupational & Environmental Medicine Community"

MAIN MENU Command

---

**Figure 2. Initial Welcoming Screen.**

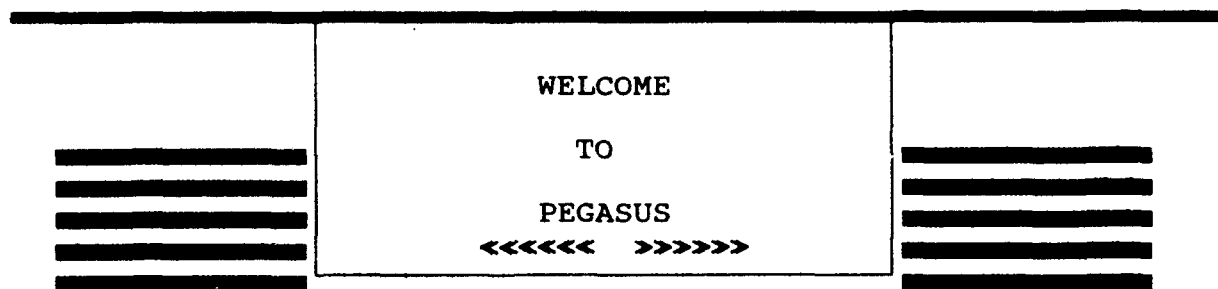
[C]omment. User can leave a message for the System Operators.

We encourage users to leave a message telling us they just logged on the first time. Users should include any additional information they wish to send. Information such as previous job experience, talents, titles, etc., help us assign security profiles and use that information to pass on to other users during consults. It will also give us a "heads up" and speed the validation process.

[G]oodbye. Allows the user to exit the system.

Once proper identification has been established, a security profile will be assigned based on the user's need. The next time a user logs-on the system, the main menu, Figure 5, will be presented.

Once an account has been activated, the initial logon screens, Figures 3 and 4, will be presented each time a caller logs on.



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-Pause- [C]ontinue, [N]onstop, [S]top? [ ]

**Figure 3. Initial Logon Screen - View 1**

By pressing the [C], and the [Enter] key, Figure 4 will be presented with the user's personal account statistics. For example, number of logons, total downloads and uploads, when the account was established and the last time the user logged onto the system. In addition, bulletin board statistics are listed.

---

```
== PEGASUS ==
Total Calls.....: 4989
# Users .....: 330
# Messages .....: 783
# Files .....: 302
Previous Caller .: Armstrong Laboratory
Node Number .....: 3
```

---

**Personal user statistics for Maj Phoebe Fisher  
from Brooks AFB, Armstrong Lab/OEMO**

---

```
Account established .....: 11/06/92
Last login .....: 03/02/93
Total downloads .....: 12
Total uploads .....: 25
Phone number .....: 240-2063
Phoebe, you have called PEGASUS 237 times and have
88 minutes remaining today. Please update your
personal information from the MAIN MENU ([Y]our settings)
option.
-Pause- [C]continue, [N]onstop, [S]top? [ ]
```

---

**Figure 4. Initial Logon Screen - View 2.**

### MAIN MENU

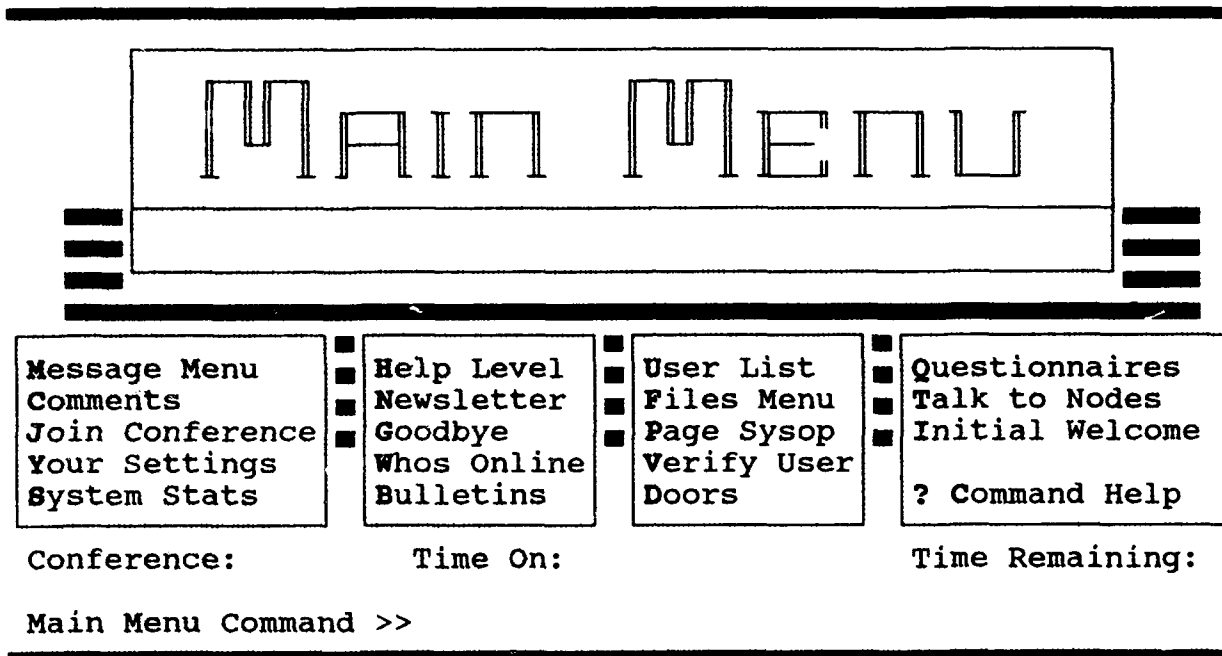
The MAIN MENU, Figure 5, is one of three menus accessible to all PEGASUS users.

**[B] Bulletin Menu.** When the "B" option is selected, the bulletin submenu is displayed. This is a submenu, in that it presents the user with a listing of available bulletins. A user can read a bulletin by selecting its corresponding number from the list, can refresh the submenu, or simply return to the MAIN menu. If bulletins have been updated since the user's last logon, the user is presented a listing with those bulletins by number, and given an opportunity to read only new ones. In addition, the bulletin list will be presented each time a user accesses PEGASUS.

**[C] Comment to the SYSOP.** This option allows users to enter a private message to the SYSTEM operators.

**[D] Doors.** If a door has been enabled by the system operators and a user's security profile is high enough, a submenu will present itself. PEGASUS operators plan to use doors for access to databases and other Aerospace

Medicine applications in the future. When this occurs, the DOOR option will be appropriately advertised.



**Figure 5. User's Main Menu.**

[F] File Menu. Displays the file menu discussed later.

[G] Goodbye & Log off. If a user's help level is set to NOVICE, choosing this option is followed by a verification prompt "Are you sure?". If the user responds with a Y, then normal log-off procedures are initiated. Otherwise, PEGASUS assumes the command was entered in error, and returns the individual to the current menu. Once a user changes help levels to REGULAR or EXPERT, this extra prompt is no longer displayed. The [G] Goodbye option is presented in ALL three major menus and performs exactly the same in each one.

[?] Help with Commands. There is a help screen associated with each major menu in PEGASUS fully explaining the options available. You can select this option as a "refresher" after you have toggled your expert level to REGULAR or EXPERT (see [H]elp Level para. II.G. for more detail).

[H] Help Level

Use of this option can significantly speed up your access to menus and options on the system and lessen your time on-line; however, it may be difficult to master at first. There are three levels of menu prompts: Novice, Regular, and Expert. [N]ovice is the default value for new users. At this level the user is presented with full dynamic menus with a command line prompt containing the name of the current menu area and the first character for a particular option in the current menu. [R]egular is the second level. At this level only the command line is shown along with the name of the current area. No menus are displayed at this level. [E]xpert is the highest level. No menus or letter designators appear. **Caution:** *Ensure you're proficient prior to using expert. To reset your help level to Novice, simply type H and select a new level from options.*

[I] Initial Welcome Screen. The initial logon screen welcoming each user.

[J] Join Conference. The join conference option allows a caller to change the active message area to any other accessible conference. It is not necessary to change to each conference in order to read messages since the Read command allows automatic reading across conference boundaries. This command is active on all menus. Submenus will appear to list all conferences available to each user dependent upon their security profile.

[M] Message Menu. The Message Menu will be displayed with this option.

[N] Newsletter. Displays the contents of bulletin board newsletters. It should not be mistaken for the Armstrong Laboratory or the BSC newsletters. Normally, these newsletters will be announcements of upcoming events and/or things happening in certain conferences.

[P] Page the SYSOP. This option allows users to page the system operator(s). Response to this page is dependent upon several variables, such as SYSOPs' duty hours, SYSOP availability, and the security profile of the user. (Users should contact a member of the Occupational Health Branch (AL/OEMO) staff by voice at DSN: 240-2064 or commercial (210) 536-2064 if page is unanswered.) The user is offered the option to immediately enter the message editor and leave a message to the SYSOP and/or conference operator(s).

[Q] Questionnaire.

Presents a screen menu similar to the bulletin menu and presents the caller with questionnaire(s) to answer. New questionnaires will be advertised; however, we ask that you respond to any that are posted. They will be used to collect statistics on a variety of subjects which could affect Aeromedical Service programs.

Conference operators and/or the SYSOPs may require that a questionnaire be completed by each member having access to a conference area.

[S] System Statistics. This choice contains statistical information about the PEGASUS electronic bulletin board system. These statistics include, but may not be limited to, system start date, number of callers, number of users, node efficiency and high traffic times and days of the week. These are METRICs for PEGASUS and they are updated weekly.

[T] Talk to Other Nodes. PEGASUS is a multi-line (multi-node) system. This choice allows users to enter into private and group chat with other lines or nodes. Submenus are presented to help each user navigate through the options. To exit the Chat mode type /quit [Enter]. *NOTE: You must type the "/" character without the " " and quit to exit.*

[U] Userlog Listing. The caller is presented with a current system user list, displayed in alphabetical order, along with their rank, date last called, and their duty location. This listing is updated immediately as information is changed by the user.

[V] Verify User. A search can be made on any portion of any user name on the system. Pressing "V", without the quotation marks, brings up a subprompt to enter a name or partial name. At the subprompt, enter all (or portion of) a user's first or last name. The more information provided at this prompt, the more detailed the resulting search. For example, a search of "Jim" would find every user named Jim (but not James) on the system, along with their location and the date of their last call. The search is not "case sensitive," meaning the user can type upper or lower case letters to begin the search.

[W] Who's On-line. This option presents the caller with a list of users currently using the other nodes or incoming lines.

[Y] Your Settings. A user is allowed to make changes to certain information in the user database, depending upon security profiles. When [Y] is selected, the screen shown in Figure 6 is presented.

From this submenu, a user may alter the items in the left column. In an alias conference an additional choice for alias name appears at the bottom of the list. If you are unable to change a certain option and you feel it necessary, please call the system operators.

[ 1] Password. You will be prompted to type in the new password and asked to type it again to verify. The next time you access PEGASUS you must use the new password. We recommend changing your password quarterly to prevent unauthorized users from gaining access to your account.

[ 2] Rank. Type your rank as Capt or TSgt, not O-3 or E-4.

---

Present setting for: Gary Meyer

[ 1] Password	: *****	Security Level	: Fulluser
[ 2] Rank	: Capt	No. of calls	: 1900
[ 3] Phone Number	: 210 536-2064	High Message	: 1117
[ 4] Birth Date	: Not Revealed	User Since	: 10/07/92
[ 5] Screen Length	: 24	Last Call	: 10/25/92
[ 6] Color Menus	: YES	Last New Files	: 10/25/92
[ 7] Erase Prompt	: YES	Downloads	: 62 Files
[ 8] Hot Keys	: YES	Uploads	: 12 Files
[ 9] Quote On Reply	: NO	Msgs Written	: 800
[10] Msg Clear Screen	: YES	Exp Date	: 10/07/94
[11] Default Editor	: Full Screen	Title	: V.P. Ops
[12] File Disp Mode	: Double Line		
[13] Default protocol	: All		
[14] Calling from	: AL OEMO		
[15] Chat Status	: Unavailable		

Setting to change [1..15], [H]elp ? [ ]

---

### Figure 6. Your Settings Screen.

[ 3] Phone Number. Use your DSN number if available; otherwise, type in the commercial number (For example, (210) 536-2064).

[ 4] Birth date. This is optional; however, if used, type in the MM/DD/YY format.

[ 5] Screen Length. Most screens have 25 lines. PEGASUS is defaulted to 24 lines, but, you can change that depending on how your screen looks to you.

[ 6] Color Menus. If your screen is capable of displaying color or ANSI graphics, type Y for yes. If not, type N for no. If you're seeing "garbage" letters on the screen where menus should be, change this setting from Y to N.

[ 7] Erase Prompt. If toggled to Y the pause prompt at the end of a screen, -pause-[C]ontinue,[S]top,[N]onstop, is erased using the backspace character when a response is made. If set to N the prompt will remain on

screen and a new line will begin. This feature is present for callers whose systems cannot handle the backspace key.

[ 8] Hot keys. When the Hot keys option is enabled (Yes), users do not have to press the enter key when choosing a menu option. Simply pressing the option letter will execute the function.

[ 9] Quote on Reply. This option, when enabled, will automatically pull the original message into a user's reply to that message. For example, Capt Smith sends a message to Sgt Jones. Sgt Jones has enabled the quote on reply option; therefore, if he replies to Capt Smith, the original message appears in its entirety with his reply. The quote can be edited from within the reply. The original message or quote can be identified by the -> sign preceding each line.

[10] Msg Clear Screen. Determines whether each message clears the screen prior to display.

[11] Default Editor. Users can switch between the full-screen editor and the line editor. The full-screen editor should not be used on remote systems not supporting ANSI graphics.

[12] File Disp Mode. Will change the number of lines of files description shown on the screen.

[13] Default protocol. A user can set this to any supportable download protocol. (See Appendix B for more information.) The system will automatically default to user settings during uploads and downloads. If set to All, the user will be prompted each time to choose a protocol.

[14] Calling from. Resets users location. This is originally set by the system operator to ensure uniformity; however, users who have changed locations should change it in this option. NOTE: This field is displayed in the [U]sers database option on the MAIN MENU. Keep it current so others will know where you're located.

[15] Chat status. This option tells PEGASUS you're available for paging by another on-line party. If set to unavailable, when you're paged by the other party, they will receive a message to that effect.

## MESSAGE MENU

Another menu (Figure 7) is available to all users. A user must be in this menu to Read or compose messages other than those sent to the SYSOP.

[T] TomCat Off-Line Msg Door. This option is a special menu choice enabling the TomCat Off-Line message reader. If used, it allows PEGASUS

to transfer control to another program to download messages. This feature can significantly decrease your on-line time by allowing you to view messages on your Personal Computer (PC) later at your convenience. The user can answer them and upload them back to PEGASUS during the next on-line session. (See Appendix A for instructions.)

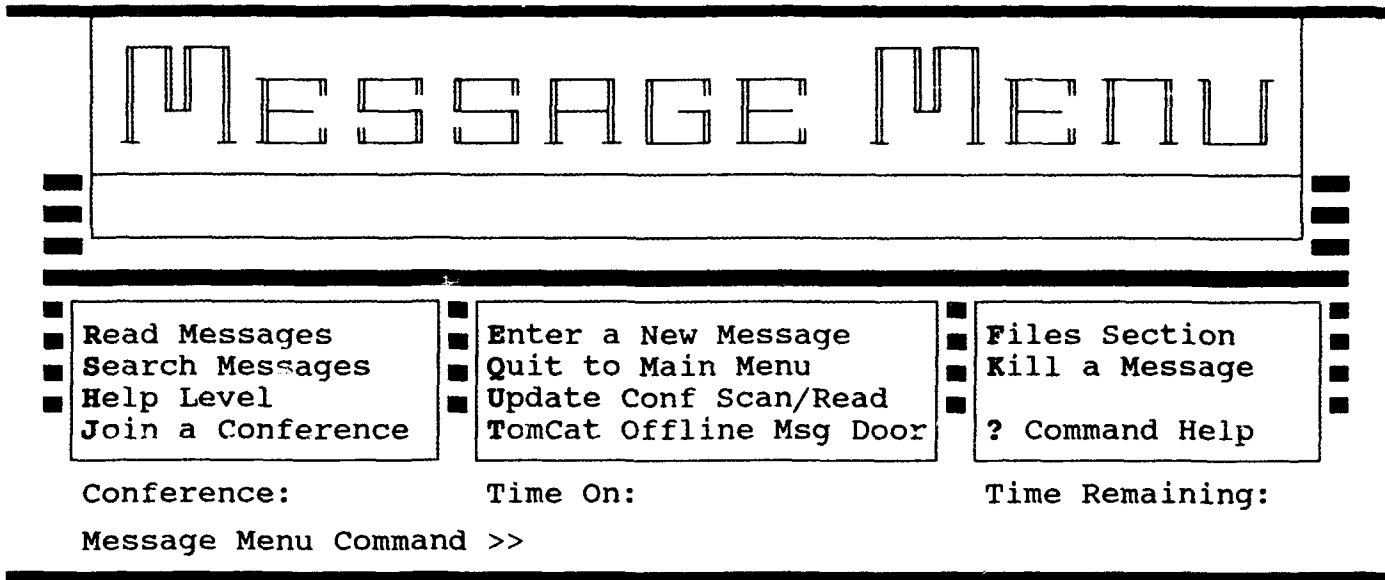


Figure 7. Message Menu.

[E] Enter Message.

Messages can be entered and saved into any conference accessible to a user; however, the current conference will be the default if another is not selected. *(Note: the option to change the conference area in which the message will be saved will present itself before entering the text editor.)*

Enter conference. [L]ist, or [Enter] = "00-Private E-Mail" [ ]

The user is then presented with the prompt:

To ([Enter] = All)? [ ]

At this point a user name may be entered and PEGASUS will check the user database. If the Username is not found in the database, you will not be permitted to leave a message. In addition, messages to ALL are not allowed in the Private E-Mail conference.

After entering a name, the system prompts for a message subject of up to 40 characters. Note that the user can abort the message at this point if desired.

Subject ([Enter] = Abort)? [ ]

If a specific user name was entered in lieu of "ALL", the system then prompts the caller as to whether the message should be Private. **NOTE:** *The default is public. Private E-Mail is ONLY seen by the sender and the recipient.* PEGASUS will then ask if the caller wishes to confirm delivery via a return receipt. If desired, a note is generated to let the caller know the message was received by the party intended.

If the caller has selected a default editor, either the full-screen or the line editor, it is immediately invoked and the message composition can begin. If no default editor has been selected, the caller is prompted:

Full-Screen Editor? [Y]

**SPECIAL NOTE:** *Users accessing PEGASUS with a non ANSI supported system should be aware that the full screen editor MAY NOT operate properly. The line editor should be used in such cases.*

After message entry is completed and corrections are made using the appropriate editor, the caller has several options. If additional recipients are desired, the Carbon Copy prompt can be selected by depressing the "r" key. There is no limit to the number of carbon copies that can be sent if the security profile of the user allows carbons.

**[F]** Files Menu. Presents the caller with the files menu. This choice is available from both the Main Menu and the Message Menu.

**[G]** Goodbye & Log off. As described previously, this option presents itself in each of the major menus and allows the user to exit the system properly.

**[?]** Command Help. Presents a menu help screen to the user.

**[H]** Help Level. Allows user to change level from Novice to Regular or Expert.

**[K]** Kill a Message. This option is a routine for erasing old messages from the Message database. It requires that the message to be deleted is either to or from the user attempting to erase it, and the message number must already be known. Messages can also be deleted interactively while reading them in the message area.

**[Q]** Quit to Main Menu. Exits the current menu and returns the user to the main menu.

**[R]** Read Messages. Read Messages allows users to select which messages they want to read. Reading can be done using a number of options, or may be as simple as using a single command to always read ALL new messages in all conferences available to the user. Users are encouraged to use an off-line reader when reviewing large quantities of mail. (See Appendix A for use of TomCat.) This allows someone else to use PEGASUS. A submenu (Figure 8) is displayed with the following choices:

---

```
Starting from [22-1845]. [H]elp, [N]ew mail, [S]earch, [U]nread personal,  
or [Enter] to quit? [ ]
```

---

**Figure 8. Message Function.**

**[22-1845]** This option shows users the message range available. Entering a number begins reading at that message and continues in a forward direction, reading newer messages in chronological order. Users are prompted whether they want to read messages in [C]urrent, [S]elected, or [A]ll conferences after selecting a number to begin with. The default when reading messages by number is the [C]urrent conference or the one they're presently working in.

**[N]ew mail.** This option allows the caller to read all messages that have been entered since the last time mail was read in the conference. A high message number mark or the last message read is maintained for each user account, and all new messages can be read with the new mail command. Callers are prompted as to whether they want to read messages in [C]urrent, [S]elected, or [A]ll conferences after selecting a number to begin with. The default when reading messages by number is the [C]urrent conference or the one they're presently working in.

**[U]nread personal.** This option allows reading all messages addressed **TO** the caller which have not been previously read. Callers are then prompted as to whether they want to read messages in [C]urrent, [S]elected, or [A]ll conferences. If "A" is selected, ALL conferences will be scanned; even those

not included in the user's default conferences using the Update Conference command on the message menu.

**[S]earch.** Brings up a submenu allowing you to search for messages based on a number of criteria. You may search based on text in the FROM field, TO field, SUBJECT and MESSAGE BODY text. Users can also start at any message number and search either forward or backward directions. The search command submenu appears in Figure 9.

---

```
[F]rom      : <ALL>
[T]o        : <ALL>
S[u]bject   : <ALL>
Msg [B]ody  : <ALL>
[N]umber    : <ALL>
[D]irection : Forward

Search command [F T U B N D],[H]elp,[S]tart,[Enter] to Quit [ ]
```

---

**Figure 9. Search Function.**

Messages found using the search function are displayed with the full message text. The scan command on the message menu supports the same search criteria, but displays only header information, allowing the user to MARK messages for later reading. The default search criteria encompasses all messages and can be narrowed by altering the individual fields. The fastest searches make use of the FROM, TO, and SUBJECT fields, since they are indexed. Searches for specific Msg [B]ody text takes much longer and should be further narrowed if possible.

**[M]arked.** Reads all messages that have been marked for reading. This function is used to read mail that the user has marked while using the scan command in the MESSAGE MENU. It ONLY appears as a menu choice if messages have been marked.

Several other commands may be entered on the command line when reading messages. They are:

**A** or **ALL** command may be added to a command to extend reading to ALL conferences in the user's security profile. Entering 3 A requests the system to read mail starting at message number 3 in ALL conferences. Another example of this command concatenation is N A to read new mail in all conferences.

**+/-.** The read command always assumes reading is to be in a forward direction unless told to do otherwise. Appending the - command indicates that the user wants to read in a reversed direction.

**###.** After reading a message, a user may branch to another message by typing the number and tapping the [Enter] key.

**[E]dit.** The ability to edit a message after reading is offered ONLY to the sender and those with high security profiles. Selecting the edit mode clears the screen and redisplay the message with the same prompts as encountered when message composition has been completed as described previously. For example, the user may delete lines, insert lines, edit specific lines, change the subject, list the message and save a revised copy. A special help file is available with the edit function. When the edit is complete, the revised message is saved with an updated date and time stamp.

**[F]orward.** This choice sends a copy of the message to any other user on the system. It creates a message to the new recipient with a note indicating it was originally addressed to another person and forwarded. Forwarding to ALL is a valid response and creates a public message to ALL users having access to the conference.

**[R]eply.** A reply generates a message FROM the caller addressed TO the sender of the original message. It also allows for a SUBJECT change if desired. The decision to keep or alter the subject is important since the message THREADING is based on the subject.

**[K]ill.** The ability to kill or delete a message is offered to the author and receiver. We strongly encourage deleting messages when no longer needed.

**[N]onstop.** Used to capture messages to a file for reading off-line, or to quickly move forward in the message base. Non-stop reading can be terminated by tapping the [Spacebar] on the user's keyboard. NOTE that nonstop reading while reading across multiple conferences will not stop between conferences.

**[S] Scan Messages.** Scanning allows a user to search for and display message headers and mark selected messages for later reading using the Read [M]arked command. Selecting [S]can presents the submenu shown in Figure 8.

**[U] Update Conference Scan/Read.** A subprompt Figure 10 is displayed which allows a user to include or exclude conferences for searches. The presence of an "\*" indicates a conference is selected for the search. If the "\*" is not present, the conference will not be included in mail reading, searches, etc.

- 
- |                          |                     |
|--------------------------|---------------------|
| 0) * Private E-mail ONLY | 1) * PEGASUS Help   |
| 2) * Public Messages     | 3) * MPH conference |
| 4) * BES conference      | 5) * PES conference |
| 5) * Software exchange   |                     |

-pause- [#-#], [D]eselect All, [S]elect All, [Q]uit? [ ]

---

**Figure 10. Update Conference Scan/Read Display.**

### FILES MENU

Another menu of importance to PEGASUS users is shown in figure 11 below:

---

# FILES MENU

---

■ Quit to Main ■ Upload a File ■ Message Menu ■ Read a Text File ■ Info on a File ■ Edit Marked List	■ List Available Files ■ New Files Since [N] ■ Search for Files ■ Personal Statistics ■ Join a Conference ■ File Transfer Info	■ Download a File ■ View a Zip File ■ Goodbye & Logoff ■ Help Level  ? Command Help
---	---	--

Conference:                      Time On:                      Time Remaining:

Files Menu Command >>

---

**Figure 11. Files Menu.**

[D] Download File(s).

This selection allows users to transfer a file or files from PEGASUS BBS to their own system using a variety of file transfer protocols. This system

supports batch downloading or transfers of up to 99 files. When used, PEGASUS asks the caller to enter a filename and validates the name in the files database. If the file is available to the user, the request is accepted and a second filename is requested. The process is repeated until the caller taps the [Enter] key leaving the filename area blank.

The caller is then asked if auto-logoff after completion of the transfer is desired. If selected, a 10-second countdown is started immediately after the transfer is completed, allowing the user to abort the automatic logoff.

After inputting the filenames, the user is prompted for the file transfer protocol to be used to send the files. Choices available are displayed. Immediately after the protocol selection, the transfer begins. (See Appendix B for File Transfer Protocols Information.)

**[E] Edit Marked List.** When viewing a list of files available using the [L]ist or [T]ext search commands, a caller is able to mark files for downloading by number avoiding the necessity of entering the filenames later. The list of marked files can be edited when the download is requested, or directly from the menu using this option. Selecting this menu choice displays a submenu allowing adding to the list, removal from the list, and clearing the entire list. If no files have been marked previously, the list is empty, but files can still be added to the list using the [A]dd file choice. This function has its own help file detailing the full operation of removing items from the list, clearing the entire list and adding files.

**[F] File Transfer Information.** This option presents the user with a more detailed discussion of the many differences in upload and download protocols and procedures. Users should also consult their own telecommunications software manual for more information.

**[G] Goodbye & Log off.** As described previously, this option presents itself in each of the major menus and allows the user to exit the system properly.

**[?] Command Help.** Help file for menu command prompts.

**[H] Help Level.** Resets user menus to [N]ovice, [R]egular or [E]xpert.

**[I] Information on a File.** Results in a subprompt requesting a filename, and presents the user with detailed information about the file if available.

**[L] List Available Files.** Presents a subprompt asking which file areas should be listed. File areas may be selected whether alone or in groups. For example, typing 2 4 5-7 will list files available in areas 2, 4, & 5 through 7. Spaces or semicolons may be used as a delimiter in the subprompt. The user default list format may be overridden by adding the letters S, D or F to the

request to force Single line, Double line or Full list formats. Files are then displayed in order by file area and in alphabetical order within each area.

**[M]** Message Menu. Presents the message menu, without having to branch back to the main menu.

**[N]** New Files Since [N]. This option displays a subprompt requesting the date to use as a basis for the search. The default date is the last time the caller used this particular option, not the last log on. A user can log on frequently for weeks, even months, and providing the N option is not selected during a particular logon, the default date will not be changed. A user may manually enter any date from which to start a new files search, allowing a display of all files added since the desired date.

After entering a date, the caller is asked to select which file areas should be scanned. The prompt for this is the same as the one listed previously for the [L]ist files command.

**[Q]** Quit to the Main Menu. Exits the File menu and returns to the Main menu.

**[R]** Read a Text File. A subprompt requests the name of any ASCII file listed in the file database. The selected text file is displayed with appropriate screen pauses. Filenames with extensions which are obviously not ASCII text, such as, .COM, .EXE, .ARC, etc., are accepted at the subprompt, but a warning is issued that they may not be readable when displayed. This option is useful in previewing text files prior to downloading.

**[S]** Statistics on Files. Extensive statistics on files are presented to the caller. Statistics include a summary of file activities such as downloads and uploads.

**[T]** Text Search. This choice, as shown in Figure 12, is used to search for files by name, keyword, entire descriptive text, or the name of the person who uploaded the file. When this choice is selected, the user is presented with the submenu in Figure 12.

This menu provides four search criteria: File Name, File Keyword, File Description, and Uploader. Files must match ALL criteria in order to be listed in the subsequent display of matching files.

**[N]**ame lets the user locate files with a file mask using standard DOS wildcards, e.g., \*, and ?. Selecting this choice allows the user to change the standard file mask \*.\* indicating all files to one such as \*.asc, all files with the extension ".asc". This field is indexed to provide a fairly quick search.

---

```
[N]ame      :  *.*
[K]eyword   :  <ALL>
[D]escription :  <ALL>
[U]ploaded by :  <ALL>
[L]isting method :  Single Line
```

```
Search command [N K D U L], [H]elp, [Q]uit, [S]tart search? [S]
```

---

**Figure 12. Text Search.**

**[K]eyword.** Allows the user to locate files based on the 6 keywords associated with each file. These keywords were input by the user uploading the file or input by PEGASUS based on the file description. The key to a successful search is brevity. For example, if a user is looking for a particular WINDOWS file, the user should shorten it to WIN. PEGASUS will produce a match for every key word that matches or is LONGER.

**[D]escription.** Permits the user to find files by searching the entire description of the file, including an extended message description. Users are cautioned that this option adds significant time to the search process; therefore, it should be limited to specific file areas and/or combined with wildcard masks as previously explained in [N]ame or [K]eyword searches.

Once items have been set, tap the S key at the command prompt to begin the search. Matching files are displayed just as they are in the file listing command. In addition, the user can mark and download files if desired.

#### **[U] Upload Files.**

Allows users to transfer files into the PEGASUS system. Users are cautioned that no commercial software is allowed on the system. Public Domain, Freeware, DOD Site Licensed, privately authored software, and text files can be uploaded. The SYSOP and/or Conference Operators will evaluate ALL files loaded and make them available for download if appropriate. If DOD Site Licensed, please provide system operators with a point of contact for the license.

When an upload is requested, PEGASUS begins asking for the file transfer protocol to be used unless the user has already set a default transfer protocol. After selection, the caller is presented with a menu (Figure 13) and prompted to enter the filename for each file being sent. The caller is asked if the file should be password-protected. If selected, the caller can enter a password which will be required to download or view the file. A password also prevents the file from being listed with the [L]ist files command.

The caller is then prompted for a description of the file of up to 60 characters. Afterwards, the caller can enter a detailed description in message format, up to fifteen lines long. Detailed descriptions are viewed using the "[I]nformation on a file" command at the file menu or at any file-listing prompt. If keyword entry is not automatically generated by PEGASUS, the caller will be prompted to enter keywords to be used in search criteria.

Finally just prior to uploading the file, the caller is asked if automatic logoff is desired after completing the upload. The submenu (Figure 13) appears as follows:

---

```
Enter name for file : [          ]
Do you wish to password protect this file? [N]
Description? [          ]
Leave a detailed description of this file? [N]
Automatically log-off after upload is completed? [N]
```

---

**Figure 13. File Upload Function.**

Users are encouraged to read the technical information in their telecommunications software manual for successful completion of uploads and downloads.

[V] View a Compressed File. This selection is designed to allow viewing of a compressed file saved in a number of formats with extensions such as: ARC, .PAK, .ZIP or .ZOO.

*Note: Compression software should be used by the uploader when attempting to place large files on the system. Some of these compression programs, also called "packers," are available for download from PEGASUS. This software lessens the download and on-line time allowing others access to the bulletin board.*

## MESSAGE EDITOR

PEGASUS contains two distinctly different editors: the line editor and the full-screen editor. Any caller can use the line editor; however, the full-screen

editor requires ANSI terminal emulation capability in the user's communications program for proper operation. Either can be selected as a user's default to be used each time a message is entered or the choice can be made prior to message composition.

### **Line Editor**

The line editor allows entering text on a single line at a time. Allowing backspacing on that line only to make corrections. Once the [Enter] key is pressed to end a line or word-wrap moves the cursor to the next line, the previously entered line(s) cannot be reedited by the same method.

After a line is completed, it can only be edited using the [E]dit command. The message line editor is probably one of the most difficult line editors to use and understand because of the syntax necessary to change the text. You must first tell PEGASUS which text is bad and what text will be used instead. The syntax used to implement this is OLDTEXT;NEWTEXT (with a semicolon between the two words). OLDTEXT represents the text that is bad, and NEWTEXT is the text to replace it.

After the edit, the user is presented with the newly modified message and allowed to make more corrections if needed. Pressing the [Enter] key on a blank line terminates the editing process.

### **Full-Screen Editor**

This editor allows callers to move about the text area freely using standard cursor keys such as [PgDn], [PgUp], [Home], [End], and some Wordstar cursor movement commands. For example, [Ctrl] and the C key depressed simultaneously will move a page down, [Ctrl] and the X key will move a line down in the editing area. Since most communications programs have provisions to make use of the ANSI terminal mode, almost any caller can use this feature (see Appendix C for a listing of cursor movements for the full-screen editor mode).

### **MESSAGE COMMANDS**

After entering text in the editor tap the [Esc] key. The message editing status line (Figure 14) appears at the end of the text, near the bottom of the screen.

This prompt is the same for both the full-screen editor and the line editor and even allows switching from one editor to the other after message entry.

---

[A]bort, [C]ontinue, [I]nsert, [L]ist, [E]dit, Ca[r]bon  
[Q]uote, [F]ull Screen, [D]elete, [S]ave, [H]elp, At[t]ach? [ ]

---

**Figure 14. Message Commands.**

**[A]bort.** Allows the user to abort the procedure without saving the message. The user is given a second chance by the prompt "Are you sure you want to abort?". Responding with a Y returns the user to the message menu, or to reading messages if the abort was to a reply to another user's message.

**[C]ontinue.** Returns to the message editor at the next available line.

**[I]nsert.** This option is only used for the line editor and allows the caller to insert a line between existing lines. The user is prompted for the line number where new lines need to be inserted. The selected line number moves down and the new line will be inserted. Any number of new lines can be inserted as a word-wrap feature creates them. In the full-screen editor, tapping the [Enter] key creates a new line, as does [Ctrl] and the M key.

**[L]ist.** This command redisplay the full message body. The screen will pause appropriately when the message is displayed.

**[E]dit.** This option is only needed by the line editor since the full-screen editor can edit lines freely using the cursor keys.

**Ca[r]bon.** Depressing the "r" key prompts the user to enter names of recipients. Each one will receive a copy of the message with the notation "cc: User Name" appended to the bottom. This option should not be used until desired editing is completed as it saves the message and sends it.

**[Q]uote.** This option only appears when replying to another message. It allows placing all or part of the original message in the reply for clarity. When quote is selected, the entire text of the original message is displayed and the user is prompted for a beginning and ending line to quote from the message. The quoted lines are added to the bottom of the message in progress.

Each user can also quote during a reply as an automatic part of the reply process. Auto-quoting can be turned on in any individual user record using the MAIN menu command [Y]our settings. Coupled with the power of the full-screen editor, auto-quoting ensures a clear response.

**[F]**ull screen. Use this key to reenter the full-screen editor rather than **[C]**ontinue, which continues editing at the end of the last line of the message.

**[D]**elete. This option is intended only to be used by the line editor. It prompts for the first line to delete and then the last. Before performing the deletion, the message will be displayed for confirmation. Deleted lines are removed and higher numbered lines move up.

**[S]**ave. After editing is completed, this option will update the message database. **NOTE:** The message will not be sent if you do not save it.

**[H]**elp. Presents a caller with context sensitive information similar to these instructions.

**At[t]**ach. Allows attaching a file to the message. Its use is limited by conference access. When selected, the caller is prompted whether to attach a file to the message since this choice is often not fully understood. If the reply is Y, the caller is asked which file is to be attached:

The name of the file to attach may be anything but must not include the path. After entering the filename, the user is prompted for the file transfer protocol to be used for the upload. At completion of the upload, the caller is returned to the message entry prompt and may add additional text before saving the message, if desired. A message with an attachment contains an additional line at the end which was generated by PEGASUS.

When a message with a file attachment is read, the user is presented with an additional choice to **[D]**ownload the file. Users are cautioned that **Ca[r]**bon copies of messages with attached files will generate as many files as there are carbon copies of the messages. Care should be taken to lessen the space required to save large numbers of files.

## **BULLETIN BOARD ETIQUETTE**

Users **MUST** provide complete demographic information by completing the questionnaire when logging on the first time. Each individual must update his or her personal information whenever necessary. Most information can be updated from the **[Y]**our settings option on the MAIN MENU; consequently, don't worry about minor spelling errors when completing the initial sign-up questionnaire.

Users **WILL NOT** knowingly upload illegal software or computer viruses onto the BBS.

Users **WILL** be courteous and respect the rights of others on the system. This etiquette includes using military titles and ranks as appropriate. In the past, incidents have occurred which have humiliated, embarrassed, or even

threatened other users. This type of action **WILL NOT** be tolerated; therefore, any such actions will be referred to the individual's supervisor, the Air Force Office of Special Investigations (AFOSI), and/or the Social Actions Office at the place of origin for investigation depending on the severity of the incident.

Users needing higher security access to accommodate an unaccessible conference should justify their request to the conference operator who will in-turn notify the SYSOPs of the final decision.

All software developed by our users and adapted for AF-wide use and catalogued on PEGASUS will include an acknowledgment to the author(s). Authors should be prepared to provide technical support for their software.

The SYSOPs **ARE NOT** responsible for providing replies to functional questions. It is their task to ensure the information is relayed to the appropriate agency, if at all possible. System operators are not messengers and should not be used as such. This system is open to ALL who have an interest in Occupational and Environmental Health matters. Person(s) or agencies not active on PEGASUS should be encouraged to establish an account with us.

The bulletin board software automatically deletes a user account for nonuse after 6 months from your initial sign up.

System operators do not read other user's private mail. We do, however, reserve the right to inspect private mail if we have reason to believe illegal or unethical acts are being committed.

We strongly recommend that all files downloaded from this system be evaluated and approved by local computer systems personnel. Local policy may preclude use of some files for use on your Automated Data Processing Equipment (ADPE).

Users will perform virus checks on all files uploaded before they are uploaded to PEGASUS. Any virus found in the files will be referred to the individual who has uploaded the file and the computer security personnel. Users finding viruses on their local system **MUST** immediately notify PEGASUS system operators at DSN: 240-2063, if they interact with the bulletin board at all. This notification will enable quick intervention to stop the spread of the virus to others and hopefully lessen any damage to PEGASUS.

**Appendix A**  
**TomCat Off-Line Message Door**

## TOMCAT OFF-LINE MSG DOOR

A mail door allows a user to call into the BBS and request all new messages in selected conferences based on user set parameters. These messages are "packed" or compressed for easier handling and quicker download. All of this activity takes place from a menu choice on the message menu (TOMCAT Off-line Msg Door). Once activated, the following menu (Figure A-1) is displayed to the user.

### Subscreen for TomCat Off-line Msg Door.

---

```
Welcome to... TomCat! 3.52
                The QWK-Compatible Mail Door
                for Wildcat! BBS

Compile Date: 07-27-92

Commands:  [D]ownload QWK packet
            [U]pload REP packet
            [C]onfigure your settings
            [G]oodbye, hang up
            [Q]uit back to PEGASUS

You have been on for 7 minutes, and have 53 minutes left.

TOMCAT MENU [D U C G Q]:
```

---

Figure A-1 TomCat Main Menu.

**Note:** Users should check their time left on the system before using the off-line message door. Line 10 gives the time used and the time remaining. This time is a maximum time remaining for the day; it will be reset each day. Use of the message door does not take very long once mastered; however, users are cautioned that it probably will take more time initially until settings are optimized.

[D]ownload QWK packet. Allows user to download a file which has been packed based on the user's configuration. Even if you don't have an off-line reader capable of packing and unpacking, reading, replying and uploading your replies, you may find that this option can still be of use.

[U]pload REP packer. Once users have downloaded a QWK packet to their system. By using an off-line reader, users can respond to messages or create new ones. The next time PEGASUS is accessed this REP (reply) package can be uploaded using this option.

[C]onfigure your settings. Figure 2 explains the options available to the user when configuring your settings.

[G]oodbye, hang up. Exits the bulletin board.

[Q]uit back to PEGASUS. Returns the user to the Message Menu.

**Configure your settings.** It is most important that the users set their parameters before attempting to download files. By typing C from the main TomCat Menu, the following menu is displayed (Figure A-2).

---

TomCat configuration menu:

	Current setting
[C]onfigure Conferences	(shows when selecting)
[R]eset high message pointers	
[U]pload PEGASUS.PTR file	
[N]ew files Scan	Y
[D]ate for new files	02/02/93
[I]nclude new bulletins	Y
[M]aximum packet sizes	400/100
[A]ttachment size limit	50K/ Your attachments only
[T]ransfer protocol	Zmodem
[P]acker (archiver)	PKZIP
[G]oodbye after upload	Y

[Q]uit back to TomCat main menu

You have been on for 8 minutes, and have 52 minutes left.

CONFIGURE MENU [C R U N D I M A T P G Q]:

---

**Figure A-2. TomCat Configuration Menu.**

[C]onfigure Conferences. By choosing this option, you will be prompted "Scanning conferences, please wait...". A listing of conferences accessible to the user is then displayed with the number of messages in the conference as shown in Figure A-3.

- 
- |                                  |                              |
|----------------------------------|------------------------------|
| 0. *PRIVATE E-MAIL (1097)        | 4. *PHYSICAL EXAM (20)       |
| 1. *GENERAL PUBLIC MESSAGES (40) | 5. *AF MED. INTEL (200)      |
| 2. *MILITARY PUBLIC HEALTH (300) | 6. *FLYREC (35)              |
| 3. *BIOENVIR. ENGR SVC (250)     | 7.-> *PREV SRVS INFO AN.(56) |

"->" means personal mail only

Enter #, [L]ist, [S]ort, List [A]ll, List [O]nly selected,  
[T]oggle menu, or [E]nter to quit?

\* Indicates that the conference has been selected.

---

### Figure A-3. TomCat Conference Menu.

[L]ist. Refreshes the screen (Figure A-3) with updated conference information from the [T]oggle menu option.

[S]ort. The user will be prompted [N]ame for alphabetical listing or [C]onference for a listing sorted by numerical order.

List [A]ll. Lists all available conferences based on user's security profile.

List [O]nly selected. Lists only those conferences selected by user.

[T]oggle menu. Presents the user with a submenu, Figure A-4.

---

Global conference toggle options:

- [1] Deselect all conferences
- [2] Select all conferences for all mail
- [3] Select remaining conferences for personal mail only
- [4] Turn off all "personal mail only" selections

Enter selection, [Enter] to quit?

---

### Figure A-4. TomCat Conference Options.

[R]eset high message pointers. There are four methods of setting your high message pointers; by number, the last (user) specified number of message,

by percentage of total messages in conference, or by date. For example, 1069 gives the user all messages after 1069, -10 gives users the last 10 messages in each conference selected; 10% gives a users the last 10% of total number of messages; whereas, 01/26/93 (mm/dd/yy) gives users a greater than date. This function can be aborted by tapping the [Enter] key.

**[U]**pload PEGASUS.PTR file. Mailpackets created by TomCat contain a pointer file. This file is an image of the high message numbers before and after the last mail packet download. This option is useful for resetting pointers after a failed transfer, or to recover lost messages if a packet is accidentally deleted. After the .PTR file has been uploaded, the caller will see the following: This pointer file is dated 12-20-92 at 07:45. Do you want to reset pointers **[B]**efore or **[A]**fter this pointer file **[B/A]**?

**[N]**ew files Scan. This option requires a Yes or No answer by the user. If enabled (option **[Y]**), it will automatically include all new files since the last message a user has read.

**[D]**ate for new files. Allows manual setting for the new file scan previously explained.

**[I]**nclude new bulletins. Requires a Y for Yes or N for No by the user to enable or disable respectively.

**[M]**aximum packet sizes. Callers can set their own maximum packet size, within the limits set by Armstrong Laboratory system operators. This setting is useful for users who download mail packets to a floppy disk, or who use a mail reader which reads only a limited number of messages per conference (typically 200). The two settings are for maximum messages per conference and per download.

**[A]**ttachment size limit. Gives users a maximum size for all attachments using the same rationale as in **[M]** previously explained.

**[T]**ransfer protocol. Allows the user to select the file transfer protocol or to individually select the protocol each time. Naturally this is limited to protocols available from PEGASUS.

**[P]**acker (archiver). Allows user to select a default packer or allows a choice each time a user downloads a .QWK file.

**[G]**oodby after upload. This option will enable a user to automatically log off PEGASUS after a successful download.

**[Q]**uit back to TomCat main menu. Exits back to the TomCat Main Menu.

**Appendix B**  
**Internal File Transfer Protocols**

## APPENDIX B

### INTERNAL FILE TRANSFER PROTOCOLS

The following is a listing of a few internal file transfer protocols used by PEGASUS. It is recommended that you also consult your telecommunications software manual to learn how to use any of these during your session.

#### ASCII.

This protocol is used primarily for on-line text transfers. It does not support the transferring of binary data such as programs or compressed files.

ASCII does not perform any error checking, which makes it very sensitive to line noise. Bursts of phone line interference will introduce stray characters which are not part of the data being transmitted. For this reason, ASCII transfers are not recommended unless they are used for specific purposes where that protocol is needed. It is advisable to use XON/XOFF software flow control with ASCII. Failure to do so may cause data loss.

**XMODEM.** There are two Xmodem protocols currently in use. The original Xmodem uses a Checksum method to ensure that the data received is the same as that which was sent. Checksum is a very simple error-detection method with an accuracy rate of 99.6%. Xmodem Checksum transmits 128 byte blocks.

**XMODEM CRC.** Xmodem-CRC (Cyclic Redundancy Checking) is similar to Xmodem-checksum, but uses a far more reliable error detection algorithm (99.9969% accuracy).

**RELAXED XMODEM.** This protocol is basically the same as Xmodem-Checksum, but error timing has been relaxed by a factor of 10. In other words, it takes ten times longer for an error condition to be generated. This protocol was designed specifically for CompuServe communications.

**XMODEM 1K.** Xmodem 1K is a modified version of Xmodem CRC, which uses 1024 byte blocks as opposed to Xmodem's 128 byte blocks.

#### YMODEM.

Ymodem or Ymodem batch supports the transfer of multiple files within a single session which does not require user intervention. When using Ymodem, only one filename can be specified at a time. Therefore, to allow multiple file transfers, wildcards must be entered.

True Ymodem and Ymodem/G batch protocols include "Header Records" in the downloaded data. These records contain file-dependent information such as name, size, and data/time stamps. As a result, file names need not be

specified prior to starting batch downloads. As an added benefit, the moving transfer completion graph is updated during batch downloads since file sizes are known.

When the filename is extracted from the header block, it is checked to see if it will create a valid DOS filename. The Ymodem header was designed to be flexible and allow for non MS-DOS file naming conventions.

### **XMODEM-1K/G & YMODEM/G.**

These two protocols are identical to their non-/G counterparts. /G protocols do not perform any error detection and rely on the error-correction features of the modems. Modems equipped with internal protocols such as MNP, LAP-B and X.PC ensure that communications are error-free. Hardware handshaking via CTS/RTS signal lines must be enabled with such modems.

Xmodem-1K/G and Ymodem/G cannot resend bad data blocks. In theory, there should be no bad blocks of data in an error-free connection. If errors occur, they are likely to be caused by an improper setup in either the modem or the telecommunications software itself.

### **ZMODEM.**

This protocol is a very popular streaming protocol put into the public domain by Telenet. Zmodem uses a variable block size to transfer data over even the noisiest phonelines. Zmodem was designed as a batch transfer protocol. As such, it shares the same transfer windows and allocation methods that the Ymodem protocol uses.

Should errors occur, Zmodem can tell the sending end just exactly where to restart. The real bonus to Zmodem is that it doesn't require a high-speed or error-correcting modem (one with MNP, or LAP-B, etc.) to be effective. While it is not as fast as Ymodem/G or Xmodem 1K/G, it does perform well enough to have become a "standard" in the industry.

One of the benefits of Zmodem is *Crash Recovery*. This option allows an aborted file transfer to be restarted at a later time, without having to retransmit the already received portion of the file. A check is made to make sure the partial file has not changed. If it hasn't, then it picks up where it left off. If it has, the file transfer is restarted from the beginning.

**Appendix C**

**PEGASUS, Full-Screen Editor  
Command Reference Guide**

## PEGASUS Full-Screen Editor

### COMMAND REFERENCE GUIDE

#### KEY STROKE \*

#### OPERATION

^A	Cursor moves a word left
^B	Format paragraph
^C	Page down
^D	Cursor moves a character right
^E	Line up
^F	Word right
^G	Delete character under cursor
^H	Destructive backspace
^I	Tab
^J	Join Lines
^L	Redraw screen
^M	Enter (new line)
^N	Split line
^P	Move cursor to end of the line
^R	Page up
^S	Cursor left
^T	Delete word right
^V	Toggle insert mode
^W	Home
^X	Down arrow or down one line
^Y	Delete line
^Z	Display help

\* ^= Control or [Ctrl] key. For example, ^A indicates that the user should depress the [Ctrl] and the A key simultaneously.

## GLOSSARY

<b>Alias</b>	An alternative name, such as " <b>Hawkeye</b> " or " <b>Ace</b> " that can be used to represent an identified person on the electronic bulletin board system.
<b>Account or User ID</b>	The moniker used by an individual for personal identification when accessing a computer system such as PEGASUS.
<b>Archiver</b>	See Packer
<b>ASCII</b>	American Standard Code for Information Interchange. A 7-bit binary code representation of letters, numbers, and special characters. It is universally supported in computer data transfer.
<b>BAUD</b>	A unit of signaling speed representing modulations per second. Technically speaking it is different from bits-per-second (BPS) in some modem protocols, but the term is frequently used interchangeably with BPS.
<b>BBS</b>	Bulletin Board System. A Host system into which callers may dial in to read and send electronic mail, upload and download files, and interact with others.
<b>Bit (Binary Digit)</b>	A single basic computer signal consisting of a value of 0 (zero) or 1 representing off or on respectively.
<b>BPS (Bits Per Second)</b>	The eight data bits of each communicated byte are cradled between the start bit and the stop bit, so there are actually ten bit-times needed to carry one byte of data.
<b>Bulletin</b>	A message written announcing new BBS services, etc. On PEGASUS, bulletins are automatically presented when a user logs on.
<b>Conference</b>	An area of public or private messages on the bulletin board, usually with a particular topic and often a conference host or moderator (conference operator) to guide discussions. Also called a Folder, Special Interest Group (SIG), or Echo.

<b>Conference Operator</b>	An individual who moderates or guides a particular conference on an electronic bulletin board system.
<b>Defense Switched Network (DSN)</b>	Formerly AUTOVON, the Defense voice communication network.
<b>Demographics</b>	A collection of personal information obtained for statistical purposes. Demographical information obtained from PEGASUS also serves as a registration requirement.
<b>Doors</b>	An exit from the normal bulletin board operation into other software execution, the disk operating system, mail gateway for a Local Area (LAN) or Wide Area Network (WAN) or to some executable program.
<b>Download</b>	Receiving a file from a Bulletin Board System, using a terminal program, such as Procomm or QModem, and a transfer protocol like Zmodem, Xmodem, or Kermit.
<b>Electronic Information Exchange System (EIES)</b>	Former electronic bulletin board system operated by Armstrong Laboratory, Occupational and Environmental Health Directorate, Brooks AFB, Texas from Jan 90 - Nov 92.
<b>File Compression</b>	The process of packing or removing unwanted spaces from files, making them smaller for easier transmission and storing. Software such as LHarc, Pkzip, or other such programs are file compressors or "Packers".
<b>Hacker</b>	One who gains unauthorized, usually nonfraudulent access to another's computer system.
<b>Keyword</b>	Words assigned to a file which enable a user to conduct a search more efficiently. Six keywords are assigned to each file uploaded, either by the uploader or automatically by the BBS enabling users to more easily find the file(s) they may need.
<b>Log-On/Off</b>	Connection to or disconnection from a remote computer system such as PEGASUS.
<b>Message Editor</b>	A text editor which allows a user to send messages and attach files to messages which will be sent to another user or users or Conferences.

<b>Modem (Modulator Demodulator)</b>	A communication device which alters data in digital form into wave form suitable for transmission over telephone lines.
<b>MS DOS (MicroSoft Disk Operating System)</b>	A system of software that enables the user to issue logical commands to the computer.
<b>Node</b>	A telephone line or a computer.
<b>Off-Line Reader</b>	See TomCat Off-Line reader
<b>Packer</b>	Software performing file compression operations.
<b>PEGASUS Electronic Bulletin Board System (BBS)</b>	An electronic Bulletin Board System located at Armstrong Laboratory Occupational and Environmental Health Directorate, Brooks AFB, TX. It provides a consultative forum for USAF Aeromedical Services worldwide.
<b>Public Domain</b>	Computer software on which no copyright exists and which may be freely distributed and used.
<b>Script file</b>	A script is a program designed to perform specific and/or repetitive functions much faster and more reliably than with manual methods. Some functions would be automated log on, file transfers, completely automated sessions on the bulletin board unattended.
<b>Security Profile</b>	A set of unique criteria assigned to a user giving or denying access to certain functions or areas of the electronic bulletin board system.
<b>Session</b>	A period of activity on the BBS.
<b>Shareware</b>	Computer software which can be used for a limited amount of time after which a small fee is required for registration.
<b>SYSOP (Systems Operator)</b>	A bulletin board system operator. Indicates the individual or individuals having total control over the PEGASUS bulletin board system.
<b>Telecommunications Program</b>	Program that allows a computer to communicate with another computer through the use of peripherals such as Modems.

**TomCat Off-Line  
Msg Reader**

A specific feature of the PEGASUS bulletin board which allows a user to call a bulletin board, capture new messages, bulletins, etc., in a compressed file, then read and answer them off-line at their convenience.

**Thread**

A group of BBS messages and replies linked and sorted by topic.

**Upload**

Sending a file to a HOST bulletin board using a terminal communication program and a transfer protocol (see also Download).