

INFONET

**REGISTRATION
NUMBER:**

INFONET

Version 2.0

Apple /// Version

Sun Data Software takes pleasure in presenting INFONET Version 2.0. Above is the registration number of your INFONET. This registration number must be the same as the registration number you will find on your INFONET diskettes and the enclosed registration card. If the numbers are not the same, return the entire package to the dealer from whom you purchased it for an exchange. This registration number is your assurance of receiving any corrections or minor revisions to INFONET that may be released. The registration card should be completed and returned to Sun as soon as possible. PLEASE RETURN THE CARD, IT IS IMPORTANT! It is our only method of determining who has purchased this package and distributing corrections and/or revisions. Your registration number should be included in all correspondence with Sun Data Software.

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Part One —

Introduction

Chapter One

1.1 Registration

As soon as you receive your INFONET fill out and mail the registration card. Sun Data Software will limit corrections, revisions and updates to registered owners. In your communications with Sun concerning INFONET always include your name, address, and INFONET registration number. By filling out the registration card the owner makes no written or implied agreement with Sun Data Software. The card is simply the most effective means we have of providing continuing support to our users.

1.2 What is INFONET?

INFONET is a software package which allows the Apple /// to be used as a electronic bulletin board/message center. Assigned users having either a terminal or computer with terminal software (such as Sun Data Software's EASYTERM) and an ASCII compatible modem may access the "host" computer running INFONET. These users may then have access to a bulletin board where general categories of information are available to all. Users may also create responses to these categories for general inspection as well as send mail to and receive mail from other users. Depending on the amount of disk space available, INFONET can accommodate up to 1,000 users.

INFONET requires an Apple /// with 256K, a Profile hard disk system, and a modem with auto answer capabilities (Such as the Apple modem or the Hayes Smartmodem). It would also be helpful to have a clock/calendar chip installed in your system (the clock/calendar is fully supported though not required).

In addition to the hardware requirements mentioned above it is suggested you have a word processor to facilitate the creation of long messages (though INFONET allows direct input through the keyboard, a word processor is helpful for creating and editing the text before placing it in the system).

1.3 The First Step

The first step in getting your bulletin board system up and running is to get the INFONET programs and files to the hard disk. This process is fully explained section 2.1 of this manual (*Transferring INFONET to Your Hard Disk*).

Once the transfer has been made, put the original diskettes away in a safe place. Good data processing practice dictates that the original diskettes should only be used for making a working copy (in this case on the hard disk). Also, frequent backups of the files on the hard disk should be made.

None of the software from Sun Data Software is copy protected. We whole-heartily encourage all our customers to take the precaution of making frequent backups for their personal use. (We experienced a system crash during the development of INFONET 2.0 — had we not had a recent backup of our work it would have required 6 months to duplicate the work which had been done to that point — for that reason we ask everyone to **MAKE THOSE BACKUPS!!**) *INFONET 2.0 is the result of over a years work since the release of INFONET 1.0 — please don't "pirate" or accept a "pirated" copy of INFONET; we think you'll find it well worth the price. (This is, after all, how we make our living.) Thank you.*

1.4 Using the Manual

This manual is designed to be as useful as possible to the user. It has been divided into four parts: an Introduction, a section discussing setting up and maintaining your INFONET system, a section discussing the use of INFONET itself, and an Appendix which contains a glossary of terms particular to computing, bulletin boards, and this manual.

We recommend that the manual be studied in that order. The next section, that designed for the operator of the system, will explain how to get the system up and running, and how to set up and edit user accounts.

The third section describes what the user will encounter as he uses your system. This information will help you in responding to the needs and questions of your users. It is also valuable in helping you understand how to configure each individual user account to give each user only those capabilities he needs and you want him to have.

The last section is provided as a reference tool. It includes information concerning Sun Data Software's support for your INFONET as well as a glossary to help the user new to computers and/or computer communications find his way through the maze of this new language.

Each part of the manual has been designed to closely follow what the user of the system (both the user and the system operator) will see and do as they use the system. INFONET is based on a tree structure. Each branch can be accessed from the trunk, but to get to a specific leaf from the trunk you must first go to the right branch. INFONET then, has a main menu (a trunk), from there the user may enter certain utilities (branches), and from there he may perform specific functions (the leaves). This structure will become obvious as you use the system. It is mentioned here to explain the format of the manual; it is the same as INFONET's. For this reason, the best overview of INFONET's structure and commands will be found in the Table of Contents.

We hope you will find this manual useful in helping you create and maintain a bulletin board which will meet your needs and expectations.

1.5 *Beta Testers*

Sun Data Software would like to take this opportunity to thank those who Beta Tested INFONET 2.0. These people were involved in finding errors, suggesting enhancements and providing criticism during the final testing of INFONET Version 2.0. To thank each of them for their long hours spent to ensure the best product possible, each Beta Test site has received a complimentary copy of the final release of INFONET Version 2.0.

Part Two — Operator's Manual

Chapter Two — Getting Started

2.1 Transferring INFONET to Your Hard Disk

INFONET is supplied on two floppy diskettes, however, it is necessary to run INFONET from your hard disk. It follows that the first thing you must do in order to run INFONET is transfer the INFONET program files to your Profile.

All of the files which must be transferred are contained on the diskette labeled **/INFONET**. The other diskette, labeled **INFONET**, is a boot disk which contains Pascal, the language in which INFONET is written.

To copy the needed program files to the hard disk, run the System Utilities provided with SOS. Once the Utilities main menu is displayed select option F — File Handling Commands. Next select option C — Copy Files. Place the **/INFONET** diskette in the Apple III's internal drive. Respond to the queries *Copy the Files:* with *.d1/=* and *To the Files:* with *.profile/=*. This will set up all the necessary INFONET files under one directory on the hard disk called **INFONET**.

INFONET may now be run by placing the boot diskette, labeled **INFONET**, into the Apple III's internal drive and pressing control-reset. The INFONET operator utilities will be loaded from the hard disk and you will be ready to go.

Please note that the first time you run INFONET you will be asked for the name of the directory which holds the INFONET files. Unless you change the directory name when making the copy the directory's name will be INFONET. Enter the name of the directory when asked, INFONET will record the name and you won't have to enter it again. (Should you wish to transfer the INFONET files to another directory, do so as normal, simply delete the file named **INFOINFO** and you will once again be asked to enter the directory's name.)

For those who use the *Catalyst* system from *Quark Engineering*; the files should be transferred as they were above. Once this has been accomplished run the *Catalyst Edit* program and choose the *Add Entry for Program* option. You should enter a display name which will identify INFONET. The *Interpreter Path* should be given the pathname of your Pascal. The rest of the options should be set to their defaults with the last, *Program Path*, set to the pathname of the INFONET directory followed by a comma followed by *USRUTIL.CODE*. Unless you changed the directory name this line should read *.PROFILE/INFONET,USRUTIL.CODE*. *Catalyst* will now run the operator utilities of INFONET when you select the number you assigned to it. (Note: You may elect to have one path to run *USRUTIL.CODE* which is the operator utilities and another to run *INFONET.CODE* which is the actual INFONET system. This will cause the portion of INFONET which you want to run to be loaded faster.)

2.2 Setting Up Your Modem

The second thing to do in setting up your INFONET system is to set up the modem to handle the incoming calls. Most modems are used to call out, yours will now have to be set to receive calls (although you may still call out on most modems set to this mode).

Following the instructions in your modem manual set your modem to the following specifications:

- 1) Auto-answer should be enabled.
- 2) DTR (Data Terminal Ready) should be enabled.
- 3) Carrier detect should be enabled.
- 4) Echo should be **DIS**abled.

Sun Data Software is of course unable to test out and provide switch settings for every modem on the market. However, we can provide settings for those modems that we use at Sun.

2.2-1 The Hayes Smartmodem

Located behind the front panel of the Smartmodem is a row of eight micro switches. The switches are numbered 1 through 8 from left to right. The switches should be set as follows:

1	2	3	4	5	6	7
Up	Down	Up	Down	Up	Up	Up for home phone Down for business phone

Switch number 8 is unused and may be either up or down. For more information consult your Smartmodem manual.

2.2-2 *The Apple Modem*

On the back of the Apple modem (where the cables connect) you will find three micro switches; all of these switches should be switched to the UP position.

That's all there is to it.

2.2-3 *Other Modems*

As mentioned before we are unable to test and publish switch settings for every modem on the market. However, we would appreciate those users who use other makes of modems to let us know what modems they are using and how to set it up for use with INFONET. This will enable us to help others with the same modem who may experience problems.

Please send any information you have in written form so that we can add it to our files. Also include your name, address and phone number so that we may contact you should our technicians have any questions. (Your name, address and phone number will not be given out — it is only for Sun's personal use should we have any questions.)

Also, users using a different modem may contact Sun if they are having problems getting it working with INFONET. If we have received any information about your modem will be glad to forward it to you.

Chapter Three — Operator's Utilities

Using the Operator Utilities

The next step in getting INFONET up and running, and an important step in maintaining the bulletin board, is the use of the operator utilities. These utilities are provided as the method used by the system operator (The person running the bulletin board - often called the SYSOP) to add and delete user accounts, as well as assign and change user privilege levels.

It is highly recommended that the system operator read this section entirely before starting to set up the user accounts that will be on his system. This will help him determine the privilege levels to be assigned to each user as well as the over-all capabilities of the system as so he will be better prepared to use the system to it fullest potential.

3.1 *The Main Menu*

Run the operator utilities by booting the **INFONET** boot disk or by pressing the assigned number from *Catalyst*.

Once the utilities have been loaded, the main menu will be displayed. All of the utilities used to create and maintain your system can be accessed from this menu. This chapter will explain the use of each of these utilities. The utilities main menu is shown below for your reference.

Infonet 2.0 Operator Utilities
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- A: Add an account
- E: Edit an existing account
- D: Delete an account
- C: Change "operator only" mail name
- M: Change master password
- R: Run Infonet
- P: Print user information file
- Q: Quit program

Enter your choice →

3.2 Adding and Editing Accounts

An account on a bulletin board such as INFONET is similar to a bank account. Each account belongs to a particular person or organization. A bank offers different types of accounts to its customers (checking, savings, IRA, money market, etc.), depending on their needs. Each of these types of accounts serves a particular service. INFONET operates in much the same way. Each of your users has different needs, and different types of accounts are provided to meet these needs.

Two sections are provided in the operators utilities to set up and maintain user accounts. They are: *Add an account* and *Edit an existing account*.

Pressing [A] at the main menu will allow you to add a new account to the system. This will be needed when you first set up your system and as you add new users after the system is up and running. New accounts can be set up using this utility at any time. (Note that this manual uses the [] groupings to denote a single key on the keyboard. Thus [A] indicates the A key, [RETURN] indicates the return key, and so on. This convention will be used through-out the manual.)

Pressing [E] at the utilities main menu will allow you to edit (that is change the privilege level or other attributes of) an existing account.

These two features (adding and editing accounts) are covered together because they deal with the same parameters and are presented in the same manner on the display.

Pressing [A] will immediately display the account parameter menu with the cursor located on the first parameter field (*Username:*). All parameters will be blank or set to the system default (the most common setting). The initial display is shown below.

Username:	blank
Password: NOPASSWORD	default
User's Full Name:	blank
User is operator: NO	default
Can use mail: YES	default
Mail allocation: 10	default
Can mail only to operator: NO	default
Can list system users: NO	default
Can use classifieds: YES	default
Can create topics: NO	default
Can add to classifieds: YES	default
Can add to restricted classifieds: NO	default
Can delete classifieds: NO	default
User is expert: NO	default
Nulls sent after <CR> : 0	default
<LF> sent after <CR> : YES	default
Terminal is uppercase: NO	default

To edit a user's account press [E] at the utilities main menu. The following will be displayed.

Infonet 2.0 Operator Utilities Edit User Account Parameters

Enter the name of the user you want to edit *

At this point you should enter the username (explained in section 3.3-1) of the account you wish to edit. Once entered, the account parameter menu will appear just as it does when you add a user account, however the parameter settings displayed will be those currently held by the user you've designated to edit. For example, we have an account named SYLVIA on our system which needs some changes made to it. After pressing [E] at the utilities main menu we entered SYLVIA when asked for the username of the account to be edited. The following appeared on our screen.

```

Username: SYLVIA
Password: NOPASSWORD
User's full name: Sylvia Schwartzberg
User is operator: NO
Can use mail: YES
Mail allocation: 10
Can mail only to operator: NO
Can list system users: NO
Can use classifieds: YES
Can create topics: NO
Can add to classifieds: YES
Can add to restricted classifieds: NO
Can delete classifieds: NO
User is expert: NO
Nulls sent after <CR> : 0
<LF> sent after <CR> : YES
Terminal is uppercase: NO

```

3.3 Account Parameters

It should be noted that each of the following account parameters apply only to the individual account to which they are assigned. Therefore setting the *Terminal is Uppercase* option to YES for one account, sets it to YES for that account only and other users will be unaffected by the setting.

Also, when adding or editing account parameters, pressing [CTRL][B] will return you to the previous field. Pressing [CTRL][B] while in the *Password* field will move you to the *Username* field. This may be done any number of times during the adding/editing session.

Once you have pressed [RETURN] on the last field (*Terminal is Uppercase*) you will be asked if everything is correct. If not press [N] and you will be returned to the first field of the account parameters in the edit mode. If the fields have been entered correctly, press [Y]. When adding an account you will be asked if you wish to add another; respond either [Y] or [N]. Y will return you to the account parameter menu with all fields blank or set to default. N will return you to the main operator utilities menu.

3.3-1 Username:

blank default

The first prompt of the account parameter menu calls for a username. The username is the name used to identify the account, and a distinct username must be given to each account. The username operates like the account number of a checking or savings account - a different number for each account. If two accounts have the same account number you are going to have problems!! (Luckily INFONET will tell you if you attempt to add a username that already exists and let you make the necessary changes.)

The username is assigned by the SYSOP, though he may ask the individual users for the username they would prefer. The name is limited to any combination of displayable characters between 1 and 16 characters long (this may include letters, numbers, and the special characters available on the keyboard). All alphabetic characters are converted to uppercase. Some systems work best by using usernames that correspond directly to the user. For example: *TERRY* for user *Terry Porter*, *LAMAR* for *Lamar Nielsen*, or *KELLYS* for *Kelly's American Tire Service*. Other situations require a coding scheme to allow for numerous users or different departments or divisions. For example: *SALES12* for account number 12 of the sales division (an account for each salesperson?), *AR8* for the eighth account in accounts receivable, *DIST13/S3* for the third school in district 13. Of course any method which meets your individual needs may be used.

When adding a new account you will be prompted with the cursor in the *Username* field. The field will be blank — just enter the username to be assigned to the account. The back-arrow key will backspace one character (holding it down will cause it to repeat), and [CTRL][X] will erase the entire entry and allow you to start over. Once the username has been entered press [RETURN] to record the name and continue to the next prompt. (Note: [CTRL] stands for the key marked CONTROL on the keyboard. This key is always used with another key, just like the SHIFT key, so [CTRL][X] means to press the X key while holding down the CONTROL key.)

When editing an account you will be prompted with *Username:* followed by the user's current username, followed by the cursor. If you don't want to change this parameter simply type [RETURN]. If you do want to make a change use [back-arrow] to backspace

or [CTRL][X] to erase the line and start over. Make the needed changes and press [RETURN] to move on to the next parameter.

3.3-2 Password: default: NOPASSWORD

All systems which allow people to access an information bank of any kind require some form of security to insure that only those authorized may access the data. In computers and, more particularly, in computer bulletin boards, passwords are used. A password is a sequence of characters that can be sent to the computer by the person accessing it to insure the person attempting to use the system has the right to do so.

INFONET allows passwords of up to 16 characters. These may be any displayable characters including letters, numbers, and/or special characters (lower case letters are converted to uppercase). When someone calls to use your system they are first asked to enter their username; this identifies which account is being accessed. Next, they are asked for the password which corresponds to that account. If the account entered doesn't exist or if the password entered doesn't match the account then the person calling the system is denied access to the account. Realizing that people make mistakes — like making a typing mistake or entering the password to a different account owned by the same user — INFONET allows the caller four attempts at matching the right account with the right password. If the caller can't do it in four tries INFONET assumes someone unauthorized is attempting to access the system and simply hangs up on them.

Each account on your INFONET system requires a password. These must be assigned by the SYSOP, though he is always free to ask the user what password he would like. (Many people use several different bulletin boards and life is a lot easier when your username and password are the same on all the systems you use.)

When adding a new account the password field will contain the password *NOPASSWORD*. **THIS IS AN ACTUAL PASSWORD**; if left as *NOPASSWORD* the user assigned to this account will have to enter *NOPASSWORD* on their keyboard to gain access to the system. This default is provided to the systems operator as a convenience. When a user logs on the system (gains access to the system by entering a valid username and password) with the password *NOPASSWORD*, the system will ask him to input a new password. This allows the operator to simply have the user set his own password while still providing password protection.

If you need to assign a password when adding a new user simply press [CTRL][X] and *NOPASSWORD* will disappear and you may then enter a new password for the account. (Note that [back-arrow] and [CTRL][X] function the same here as they did for entering the username - [back-arrow] to backspace, [CTRL][X] to start over.) When you have entered the password as it should appear press [RETURN].

When editing an account, the current password of the account will appear in the password field. If changes are to be made, make them just as you would in the username field and press [RETURN].

Please note the following about passwords:

- 1) Unlike usernames, two user accounts may have the same password. As passwords are known only to the user and the system operator this causes no real threat to either of the accounts - no one (but the SYSOP) knows their passwords are identical. Also, if the user is allowed to chose his own password, chances are less likely to produce duplicates.

- 2) A null password may be assigned to an account, that is, a password without any characters in it. This may be done from either the add or the edit mode by pressing [CTRL][X] followed immediately by [RETURN]. If an account has a null password, once the caller has entered the username of that account **HE IS NOT ASKED** to enter a password but is simply logged on to that account **WITHOUT** a password check.

This feature is handy for providing access to your system to several users on one account. For example anyone can call our system at Sun Data Software ((801) 752-7632 from 6:00 p.m. MST to 8:00 a.m. MST) and log on with the username *DEMO*. Because this account has a very limited privilege level those who log on to this account can only read the classified section (described in section 3.3-9) or send mail to the operator. This allows us to demonstrate the capabilities of the system to all who want to see it but keeps them from changing anything or causing any damage.

This feature is also very dangerous in that no password checking is performed. We highly suggest that anyone using it use it only with accounts with very limited access privileges.

- 3) Only the system operator can assign a null password. The user has no way of changing his password to null. (This protects both the user owning the account and everyone else on the system.)

3.3-3 User's Full Name:

blank default

This field is provided to help eliminate some of the ambiguity of the username and contains the full name of the owner of the account. This helps both the SYSOP and those with the appropriate access privilege when they list the system users by giving them both the username and their full name. For example, an account may have the username *FREDDYS* but the user's full name field could contain *Freddy's All Nite Donut Shop*. This field allows up to 40 characters.

When adding a new account this field is blank. Simply enter the name as you entered the username. When editing an existing account, this field has the full name as it currently exists in the system. Changes are made as in the username and password fields.

3.3-4 User is Operator:

default: NO

INFONET allows several accounts to have the same privilege level as the operator. This permits those most closely related to the operation of the system to use operator privileges from their own account eliminating the need to log on to the *OPERATOR'S* account.

One of the privileges given to an account with the operator privilege is the ability to save mail to another file on the host computer's hard disk or down-load files from the host computer's hard disk.

Because of its power, it is highly recommended that the operator privilege be given only to those users who are directly responsible for running the system. Most systems will only have one person with the operator privilege - the SYSOP.

When adding a new account this field is set to *NO*, when editing an existing account it is

set to whatever privilege has been assigned to the account. Setting this feature for the first time is the same as editing it. If the display shows *YES* and it should be set to *NO* press [N] - the display will automatically be updated to show *NO*. If *NO* is displayed press [Y] to change it to *YES*. This may be done any number of times before going on to the next field. To move on (and accept the setting currently displayed) press [RETURN].

3.3-5 Can Use Mail:

default: YES

An important part of an electronic bulletin board system is the ability to send private messages between users of the system. However, there are times when a certain account should be denied this privilege (for example if you have a *DEMO* account to demonstrate your system - those using that account would normally have no need to send or receive mail). This field toggles this feature. If *YES* the user may send and receive mail, if *NO* he can't.

Press [RETURN] to accept the displayed setting, [Y] or [N] to change it.

3.3-6 Mail Allocation:

default: 10

The mail allocation parameter sets the number of letters a user can have in his electronic mail box. Each time someone sends another user mail through the mail facility in INFONET it is stored on the systems hard disk to be read at some future time by the receiver. The receiver does not remove that file simply by reading the mail, the file remains on the disk until he decides to delete it. (See Section 5.3 on using the mail utility, section 5.3-12 on deleting mail.) This allows those who receive mail to read and re-read the mail until they are finished with it (giving them time to use the information they were sent, create a response, or whatever).

To limit the disk space used by any one user, and to ensure that users delete old mail from their accounts, INFONET provides the mail allocation parameter. If a user tries to send mail to another whose allocation has been reached he is told, *Not enough room in user's file to hold message.*, and the message is not sent.

It is the individual user's responsibility to delete old mail to ensure that he may continue to receive messages from others.

The allocation may be set by the operator so those users who need to be able to receive more (or less) than 10 messages may do so. For example, on most systems the operators account should be able to receive more mail than the other users of the system, simply because he needs to be able to communicate with every user on the system. On the other hand, a user who doesn't have the mail privilege has no need of a mail allocation since he can't receive mail anyway. Such an account should have the mail allocation set to 0.

To set the allocation, edit the field as you did the password field. When the number reads as it should (or to leave it as is) press [RETURN].

Mail allocation may be anywhere between 0 and 255 files.

3.3-7 Can Mail Only to Operator: default: NO

This feature has been provided to allow those users who normally wouldn't be able to send mail to be able to send messages to the systems operator. When a user who has the *Can Mail Only to Operator* parameter set to *YES* enters the mail utility of INFONET, he is provided with the option to *Send a Message to the Operator*, and not the normal *Send a Message to a User* option. Then when the user sends mail it is automatically sent to an account designated by the system operator (see section 3.5 for further information on this subject.)

Note: Even though an account with this parameter set to *YES* can only send mail to the operator, the account parameter *Can Use Mail* must be set to *YES* to use this feature. To keep the user from receiving mail, set his mail allocation to 0.

Press [RETURN] to accept the displayed setting, [Y] or [N] to change it.

3.3-8 Can List System Users: default: NO

If *YES* this parameter allows the user to list all users of the system by *Username* and *User's Full Name*. This feature is accessed through the mail utility and therefore can only be used if the *Can Use Mail* option is set to *YES*. If a user does not have the mail privilege this feature is practically useless, as a user without mail privilege has virtually no contact with the other users of the system.

Press [RETURN] to accept the displayed setting, [Y] or [N] to change it.

3.3-9 Can Use Classifieds: default: YES

INFONET provides a general bulletin board for use by those who use the system. This section is divided into topics, subjects (actually sub-topics of the main topics), and replies to the subjects. For example one topic could be *SALES REPORTS* with several sub-topics each covering a different sales week, another could be *PASCAL PROGRAMMING TRICKS* with sub-topics created by users who have found new and interesting things to do in Pascal. The possibilities are endless, and of course you will have certain specific needs for your individual system. The classifieds simply provide an organized way to get information of general interest to each of your users.

There may however be cases when a certain user has no need to use the classifieds or the operator wants to keep him from using them for some reason. This parameter is provided for such cases. If *YES* the user may read the contents of the classified section. Usually all users will be authorized to read the classifieds, however the SYSOP has the option to limit the use of the classifieds depending on the needs of his system and users.

It should be noted that every user who can use the classifieds also has the privilege to write replies to the classified subjects even if he does not have the privilege to create new topics or subjects.

Press [RETURN] to accept the displayed setting, [Y] or [N] to change it.

3.3-10 Can Create Topics: default: NO

If YES, this user may create new topics in the classified section. The classifieds are seen by nearly every user of your system (if not every user); it is therefore a good idea to keep this privilege limited to those users who will make good use of the classifieds by providing sections of interest and importance to the users. Generally this privilege is given to the few who are responsible for running the system.

Press [RETURN] to accept the displayed setting, or press [Y] or [N] to change the setting.

3.3-11 Can Add to Classifieds: default: YES

This privilege allows the user to add to the classifieds. That is, he may add subjects to the topics created by those with the *Create Topics* privilege. For example if a topic of CARS has been entered with the subjects *FORD, CHEVROLET, DATSUN, CHRYSLER,* and *VOLKSWAGON* the user may add another section for *RENAULT* and the text that goes with it.

Press [RETURN] to accept the displayed setting, [Y] or [N] to change it.

3.3-12 Can Add to Restricted Classifieds: default: NO

This feature adds an extra level of privilege to the use of the classifieds. When a classified topic is created, the option is given to make the topic "restricted." This means that those with the ability to add subjects to classifieds can't add to this one unless they have the privilege to add to restricted classified. This allows the system to maintain certain classifieds which cannot be changed or added to by everyone. One use of such a section would be a classified used to explain the purpose and proposed use of the system. This type of information would rarely, if ever, change.

Press [RETURN] to accept the displayed setting, [Y] or [N] to change it.

3.3-13 Can Delete Classifieds: default: NO

This is an extremely POWERFUL FEATURE, and therefore, extremely **DANGEROUS!!** An unwanted file created by someone with the proper privilege level can always be deleted from the system. But a wanted file deleted by someone with the proper authority **CAN NOT BE RECOVERED!!!** This privilege should be given to very few users other than the operator. (In fact, on most systems only the operator will have this privilege.)

Press [RETURN] to accept the displayed setting, [Y] or [N] to change it.

3.3-14 User is Expert: default: NO

INFONET is menu driven, every thing done by the user is in response to a menu of choices. This menu is displayed in full each time that menu section is entered. After that, and while the user is still on that command level, only a command line with a letter value representing each choice is displayed. It takes time to display these menus, and users familiar with the system often tire of seeing these menus (or paying for long distance

phone calls to see information they already know). If the *User is Expert* parameter is set to *YES*, menus are not displayed, only the command lines are shown to allow the user to make his choice. Of course the user may display the current menu at any time by pressing [?] at the command line.

Press [RETURN] to accept the displayed setting, [Y] or [N] to change it.

3.3-15 Nulls Sent After <CR>: default: 0

Many of the older terminals, especially hard copy terminals, cannot perform a carriage return quickly enough to catch the next character sent by the host computer. Consequently, on such terminals characters are dropped or missed.

This feature allows the sending of a specified number (between 0 and 9) of null characters after each carriage return thus avoiding this problem for those few users who may encounter it. The default for this feature is 0 and it is suggested that it be left as is until a user experiences a problem, at which point this number may be augmented according to that users needs.

Change this field just as the password field is changed, or press [RETURN] to accept the displayed value.

3.3-16 <LF> Sent After <CR>: default: YES

Some terminals supply a line feed <LF> for each carriage return <CR> they receive, others (most, in fact) do not. This field lets you set this feature according to the requirements of the user's terminal. If a user complains that the system prints a blank line between every line sent, this parameter should be change to *NO*. If a user complains that all lines received from the host are printed one on top of the other, this parameter should be set to *YES*. Most terminals will require a setting of *YES* in this field.

Press [RETURN] to accept the displayed setting, [Y] or [N] to change it.

3.3-17 Terminal is Uppercase: default: NO

Again, many of the older terminals and computers display only uppercase. If set to *YES* *this parameter changes all lower case characters to uppercase before sending them to the user's terminal. If set to NO* all characters, upper- and lower case, are sent unchanged to the users terminal.

Press [RETURN] to accept the displayed setting, [Y] or [N] to change it.

3.4 Delete an Account

To delete a user's account from the system press [D] at the operator utilities main menu. You will then be prompted for the username of the account you wish to remove from the system. Enter the username and press [RETURN]. INFONET will then delete the account from the index of user accounts.

NOTE: Once an account has been deleted it CANNOT BE RECOVERED!!!

Also, all mail filed in the user's account must be deleted before it can be deleted. To do this simply log on to the users account and use the K option (*Delete All Mail*) in the mail utility, then return to the operator utilities and delete the account.

3.5 Change Operator Only Mail Name

As described in the *Add/Edit an Account* section, an account may be restricted to sending mail only to the operator (see section 3.3-7). Pressing [C] from the utilities main menu gives you the ability to change the account to which messages sent in this mode are assigned. Using this option it is then possible to change the operator's name to something other than *OPERATOR* (perhaps the company's username or your own username, depending on your situation). Another possibility is to have someone other than the SYSOP responsible for responding to such mail. Using this option, the mail could be routed directly to his account. (His mail allocation would, of course, have to be increased accordingly.)

To change the operator mail name, press [C] at the main menu. At this point the computer should display:

Enter operator name for "operator only" mail →

Followed by the current username used to receive the mail. This username may then be changed to the new name. Pressing [CTRL][X] will delete the name entirely and allow you to enter a new username; pressing [back-arrow] will backspace one character. Once the screen displays the username of the account that is to be used, press [RETURN]. The new name will then be used for all "operator only" mail from then on and you will be returned to the utilities main menu.

3.6 Change Master Password

Users with the operator privilege, have the possibility to log on to other accounts. This can be useful in helping to solve problems or in deleting that account. However, even though a user may be assigned the operators privilege he must still know a master password to be able to log on to someone else's account. The master password is set from the operators utilities.

To set this password, press [M] at the main menu. The screen will display:

Enter master password →

Followed by the current master password. Change the password as you have other fields in the system using the keyboard, [back-arrow] and [CTRL][X]. Once the password appears as it should, press [RETURN] to accept the new password and return to the operators utilities main menu.

3.7 *Run INFONET*

INFONET itself (the actual bulletin board) may be run from the operator utilities by pressing [R] from the main menu.

INFONET first checks to see if any changes, additions or deletions have been made to the system using the operator utilities which have not yet been recorded. If changes do exist, it then stores those changes to the appropriate files out on disk before proceeding to run the bulletin board portion of INFONET.

The bulletin board portion of INFONET begins by asking the operator:

Activate modem? →

INFONET is looking for a *yes* or *no* response. Responding with [Y] tells the system you would like to set INFONET up to receive phone calls from other users. You are then asked if you have an Apple modem; respond either [Y] or [N]. INFONET will then prepare the modem to receive the calls and wait patiently to answer the phone. Pressing [RETURN] any time there after will exit INFONET.

NOTE: ALWAYS exit the bulletin board portion of INFONET by pressing [RETURN]. This allows INFONET to close any open files, and do any "house-keeping" that must be performed before shutting down. **If any other method is used, DAMAGE could result to your bulletin board system and/or any other files contained on the hard disk.**

Responding [N] to the the *Activate Modem* query tells INFONET to use the Apple ///'s keyboard and screen as the terminal accessing the system. This allows the operator to log on to the system from the system itself without having to call from a remote terminal. This is extremely useful in setting up and maintaining the system, as well as reading and responding to messages sent by others. In this mode the Apple /// acts just as a remote terminal accessing the system would.

3.8 *Print User Information File*

The user information file contains the usernames, passwords, and full names of the all the user in the system. With this menu command (P) the operator can list this file. After pressing [P] he is asked if he wishes to print the file to the printer. Respond [Y] or [N]. If Y, the list will be printed in alphabetical order by username to the printer, if N the list will be sent to the screen.

3.9 *Quit Program*

Pressing [Q] (for Quit) will exit the operators utilities (without running INFONET itself), after first saving any changes made to the system.

IT IS IMPORTANT to exit the utilities program in this manner (pressing [Q] to quit) or by pressing [R] to run INFONET. Any other method (such as resetting the computer) would fail to save the changed, added, or deleted information. Much, perhaps unrecoverable, DAMAGE to the bulletin board and other disk files could result.

Part Three — User's Manual

Chapter Four — The SYSOP and His User

4.1 Communications

An important part of running your INFONET system is effective communication with each of your users (those who access your system). Although this section is entitled *User's Manual* it is intended for the operator of the system. In a system such as this it is impractical to require each user to have access to a manual in order to use the system. For that reason INFONET is 100 % menu driven. That means the new user can use the system to its fullest from the very first time he logs on. This section then is intended for the system operator and is provided to give him a complete knowledge of his system as well as to give him an idea of the questions and problems some of his users may have.

This first chapter of part three (chapter 4 of the manual) discusses the things which should be done for the user before he accesses your system.

4.2 Hardware Requirements

One of the first things which must be discussed in order to have the user be able to connect and log on to your system is the hardware requirements. Any one with an ASCII compatible terminal or computer and a Bell 102-compatible modem has the capability to communicate with INFONET. This includes virtually all the equipment currently on the microcomputer market.

Of course data must be sent and received in the same way to be able to be understood. INFONET is set up to send and receive seven data bits and one stop bit, parity is NOT checked and it uses a standard XON/XOFF protocol.

INFONET is designed to handle either 300 or 1200 baud. However this ability depends on your hardware. If the host system has a 1200 baud modem, INFONET will handle either 300 or 1200 baud call automatically (assuming of course that the modem and drivers are set to 1200 baud). If the host system has a 300 baud modem, only 300 baud calls can be taken.

New users of your system should be informed of the above information in order to configure their communication packages to "talk" with your system.

4.3 Other Information Needed by the New User

- 1) The phone number(s) that they may use to access the system.
- 2) The times during the day that the system is used for the bulletin board.
- 3) The phone number(s) that may be used to contact the system operator personally (by voice).
- 4) The username assigned to their account by the system operator.
- 5) The password assigned to their account by the system operator. If this password has been left as *NOPASSWORD*, they should be told that their temporary password is *NOPASSWORD* and that they will be prompted to enter a new password.
- 6) Your username (as the operator) so they can contact you through the mail utility. Even if your username is *OPERATOR* they should be informed as to how they may contact you.
- 7) A brief overview of the system. Even though INFONET is menu-driven this will be important as they learn to use the system.

Chapter Five — Using the System

5.1 This Chapter

This chapter deals with the actual use of INFONET, logging on, using the classifieds, the mail utility and other features of the system. INFONET is menu-driven and offers each option to the user based on the current command level. For example, if the user has entered the mail utility only those commands having to do with that level are available to the user. He may of course return to the previous level or proceed to another level if necessary. The approach then, that will be taken by this chapter will be to take each option available at each level (beginning with the first level - the *Command Line*) and explain its functions and sub-levels fully before moving on to the next option. This approach emulates most closely the activities of someone accessing the system — they see every thing one command and one level at a time.

5.2 Logging On

To log on to the system the user must call the host system's phone number using his modem. To do this he should follow the instructions included with his modem and terminal or terminal software package. Once he receives a connect signal (usually indicated by a light on the modem or a message on the screen) he should press the RETURN or ENTER key of his terminal/computer once. INFONET uses this to detect the baud rate the caller is using.

Note: If the caller presses any other key the baud rate will be set to the baud rate opposite that which he is using and he will get nothing but garbage from the host system.

Once INFONET has established a baud rate, a greeting message may be displayed (see section 5.3-4 on Hello Files). To avoid seeing this file displayed the user may press [CTRL][C], this interrupts the sending of the current file and proceeds directly to the next input line.

After the greeting file has been displayed the user will be prompted:

USER NAME:

Followed by the cursor. At this point the user should enter the username of his account followed by [RETURN].

Next he is prompted:

PASSWORD:

and should enter his password. The characters entered for the password will not be echoed (displayed or printed) to the user's terminal. Once the password has been entered it should be followed by [RETURN]. INFONET now checks to see if the username entered corresponds to an account and if the password entered is the correct password for that account. If either of these tests fail the message *INVALID USERNAME OR PASSWORD* will be displayed and once again the user will be prompted for his username and password. The user is allowed 4 attempts to enter the correct username and password after which INFONET will hang up on him. At that point the user should call the system operator to verify his username and password.

NOTE: If a null password has been assigned to the username that the user enters he will NOT be asked to enter his password, rather he will automatically be logged on to the system.

Also, if the user has been assigned the default password *NOPASSWORD* and he has correctly entered his username and the password *NOPASSWORD* he will be prompted:

You do not have a password.

Enter new password:

followed by a cursor. He should enter the password he would like to have assigned to his account, followed by [RETURN]. Because password characters are not displayed as they are typed (to avoid having someone watching over your shoulder see them) he will then be asked:

Re-enter new password:

He should retype the same password he just entered (again followed by [RETURN]). If the two passwords do not match

Password mis-match

will be displayed and the process will be repeated until two consecutive passwords entered match.

Once the user has entered his username and has passed the password test he is considered to be "logged on" to the system. Once he has successfully logged on a hello message may be displayed followed by the main menu. Again, the user may avoid the displaying of this file by pressing [CTRL][C], which will take him directly to the main menu command line.

5.3 The Main Menu

Every action performed by INFONET is performed in response to a menu, and each menu corresponds to a command level within INFONET. Each menu is displayed each

time the user accesses that feature. While the user is at that command level the menu is not re-displayed; only the command line which follows the menu will be displayed. The user may request the current menu be displayed by entering [?] ([?] is equivalent to [SHIFT][/) at the command line. Note that if the *User is Expert* account parameter is set to YES the menus will not be displayed at all unless asked for by the user (see section 3.3-14).

The main menu is the menu from which all the features and utilities of INFONET are accessed, and it is here that the user returns when finished with each of the individual function of INFONET. The main menu as it is displayed when the user first logs on to the system is shown below.

Main menu commands:

M : Use mail utility
I : List classified file index
C : Use classifieds
H : Make "hello" file
S : Change system parameters
L : Logout
? : Repeat these commands

Command (M, I, C, H, S, L, ?) →

This is the main menu command level. The command line displayed above — Command (M,I,C,H,S,L,?) -> — will be referred to throughout the manual as the *Command Line* and each level will have a distinct name.

Here INFONET simply waits for a command to be entered to tell it to perform a specific task. It should be noted that if no key is pressed for approximately 2 minutes INFONET displays a closing message and hangs up on the user making the system available to other users (see section 5.3-6 — *Logout*).

It should be noted that not every user will see every feature of every menu. Only those functions accessible to the user will be displayed. So, if the user does not have the operator level of privilege the H option — *Make "Hello" Files* — will not be displayed. This way the user is not hindered by the display of functions he can't use. This manual will display all functions possible and note the circumstances under which each feature is or is not available. To select a certain function from a menu command line simply press the letter corresponding to the desired function (it should NOT be followed by [RETURN]). For example, to use the mail utility one would simply press [M] from the *Command Line*. INFONET would then present the choices related to the mail utility.

5.3-1 M: Use Mail Utility

The mail utility is the command level provided for the sending of private messages between users of the system. All the features of the mail utility are accessed from the *Mail Line* (the command line corresponding to the mail menu level). When the user presses [M] from the main menu he will be shown a list of each message currently in his file. Each will be preceded by a file number after which the date and time the message was sent will appear followed by the user who sent the message and the subject of the message.

An asterisk will appear next to the username of the sender if the message has not yet been read by the receiver. After all this information has been displayed the mail menu will be displayed followed by the Mail Line. An example:

1	04/04/84 21:09:34	*FRANK	Friday's party
2	04/03/84 07:04:17	JOHN	Program bug
3	04/03/84 06:56:46	LIZ	Package from ABC Systems

Mail Menu commands:

R : Read a message
A : Read ALL messages
D : Delete a message
K : Kill ALL messages
I : List index
U : List users
F : File mail
S : Send a message to a user
Q : Quit to main menu
? : Repeat these commands

Mail (R, A, D, K, I, F, U, S, Q, ?) +

The list of the files in your account is always presented with the most recent message on top, this makes it easier to find messages and is especially helpful in identifying new mail.

The mail utility is only accessible to users who have the account parameter *Can Use Mail* (section 3.3-5) set to YES therefore all the functions accessed from the mail menu are only available to such users.

5.3-10 R: Read a Message

Pressing [R] from the *Mail Line* will allow the user to to read one of the messages in his mail file (mail box?). After the [R] is pressed INFONET will ask:

Which number do you want to read? +

Enter the file number (the number proceeding each message) of the message you wish to read. The message will then be displayed proceeded by the username of the sender, the subject, and the date and time the message was sent.

This option is available to all users with the *Can Use Mail* privilege. However it is only displayed in the mail menu and *Mail Line* if there is mail in the mail file.

Once the message has been read you will be returned to the *Mail Line*.

5.3-11 A: Read ALL Messages

The A option of the mail utility will display all the messages in the mail file, one after another. using the same format used for the R option. Once all the messages have been displayed you will be returned to the *Mail Line*.

This feature is available to all users with the *Can Use Mail* privilege, however it is not available if there is no mail in the file.

5.3-12 **D: Delete a Message**

As each account allows only a specified number of messages to be stored in its mail file, it is important to clear the mail file of messages no longer wanted or needed. However, INFONET does not automatically remove the messages when they are read. This permits the user to respond to the message or use the information sent at a latter date knowing the message will still be on the system when he is ready to look at it again. It thus becomes the duty of the user to delete the messages he no longer wants to insure space in his mail file for future messages. If the file is full, he will not be able to receive new messages.

To delete a message the user should press [D] from the *Mail Line*. He will then be asked:

Which message do you want to delete? →

The file number of the message to be deleted should be entered followed by [RETURN]. The message will be deleted and you will be returned to the *Mail Line*.

NOTE: Once mail has been deleted there is NO way of recovering it. The user should be sure he no longer needs it before deleting it.

This features is only available when there is mail in the mail file, and is available to all users with the *Can Use Mail* privilege.

5.3-13 **K: Kill ALL Messages**

There are times when a user wants to delete all the files contained in his mail file. Rather than entering the delete command several times the *Kill ALL Messages* option is provided. To delete all the mail in his mail file the user should press [K] at the *Mail Line*. The following will be displayed:

WARNING: If you kill all your mail, you will not be able to get any of it back.

Are you sure you want to kill all your mail?

INFONET is looking for a yes or no answer. The user should reply [N] if he does not want to delete all of his mail, [Y] if he does. Answering [N] will leave the messages in the file untouched and return the user to the *Mail Line*. [Y] will delete all the mail in his file before returning to the *Mail Line*.

NOTE: Once mail has been deleted there is NO way of recovering it. The user should make sure he no longer needs it before deleting it.

This feature is only available when there is mail in the mail file, and is available to all users with the *Can Use Mail* privilege.

5.3-14 **I: List Index**

Listing the index displays an index of the messages currently stored in the mail file. These are presented with a file number, the date and time the message was sent, an asterisk (*) if the file has not yet been read, the username of the sender, and the subject of

the message. The messages are also sorted by date and time sent with the most recently sent message as number 1.

This index of messages may be displayed by pressing [I] from the *Mail Line*. It is good practice to display the index before reading a file and certainly before deleting a file as the file numbers of the messages are changed each time a new message is received by the account as well as each time a message is deleted.

This feature is only available when there are messages in the mail file and is available to all users with the *Can Use Mail privilege*.

5.3-15 U: List Users

Keeping usernames straight, especially on large systems, can sometimes be a chore. The U option of the mail utility allows the user to list all the users of the system. This list is presented in alphabetical order by username. Each username is followed by the full name of that user.

This feature is only available to users who have the account parameter *Can List System Users* (discussed in section 3.3-8) as well as *Can Use Mail* set to YES. If the *Can List System Users* parameter is set to NO this option will not be displayed.

5.3-16 F: File Mail

The *File Mail* feature is restricted to those users having the operator privilege (account parameter *User is Operator* set to YES — see section 3.3-4). This feature allows you to store messages sent to you to a disk file (or the printer) to be used in some other application. (Text sent from another user could be stored in a disk file to be used later in a word processor for preparing a document.)

Pressing [F] at the *Mail Line* will return

Which note do you want to file? *

Enter the file number of the message you wish to be filed followed by [RETURN]. INFONET will then ask for the pathname of the destination file. Enter the pathname of the file (to send it to the host system's printer enter .PRINTER or the name of the driver associated with the printer) followed by [RETURN]. The message will then be copied into that file and you will be returned to the *Mail Line*.

This is an extremely useful feature but is also extremely dangerous. With it the user may overwrite files on the hard disk or other drives on the host system. For this reason it is best if this privilege be given only to those who know the files on the host system and have been assigned pathnames to use which will not conflict with other files on the disk.

This feature is available only to those accounts with account parameters *User is Operator* and *Can Use Mail* set to YES.

5.3-17 Send a Message to a User

To send a message to another user of the system press [S] at the *Mail Line*. INFONET will respond with:

and return the sender to the *Mail Line*. Pressing [CTRL][Y] will terminate the input, throw away the entered text without sending the message, and return the sender to the *Mail Line*.

The *Send a Message to a User* feature is available to all users with the *Can Use Mail* parameter set to YES.

If the user has both the *Can Use Mail* and the *Can Mail Only to Operator* (section 3.3-7) parameters set to YES this feature will operate exactly the same bypassing the *To:* query and sending the message directly to the operator specified in the operator utilities (see section 3.5).

5.3-18 Q: Quit to Main Menu

Pressing [Q] at the *Mail Line* will return you to the main menu *Command Line* (as it does from each of the utilities).

5.3-19 ?: Repeat These Commands

Pressing [SHIFT][/] (or [?]) at the Mail Line, or at any of INFONET's command lines will cause the current menu (here the mail menu) to be displayed.

5.3-2 I: List Classified File Index

The classified section of INFONET is a collection of *Topics*, *Subjects* (sub-topics), and *Replies* (sub-sub-topics) along with their related text. The information stored in each of these classified levels may be displayed by the user, who may, with the appropriate privilege level, create replies to subjects, add more subjects to topics, or add more topics to the classifieds.

The I command (accessed from the *Command Line*) displays a listing of the current *Topics* in the classified section along with their related *Subjects* and *Replies*. *Topics* (the first level) will be displayed flush to the left of the screen. *Subjects* (the second level - all of which are related to a *Topic*) are displayed under their *Topic* and indented one space. *Replies* (the third and last level - all related to a *Subject*) are displayed under their *Subject* and again indented an additional space. The result is something like the display following:

03/15/84	10:00:54	Reports	JODY
03/15/84	16:34:03	Targ system status report	TIM
03/15/84	15:05:20	February Sales	JODY
03/16/84	09:15:19	Projected Sales	JACKIE
03/16/84	09:05:54	Actual Sales	GREG
03/15/84	14:32:49	Projected Sales: April	ALLEN
02/10/84	18:27:20	New Accounting System	PAUL
02/10/84	18:45:30	Instructions for using it	PAUL
02/10/84	18:59:50	Questions about posting	WAYNE

To:

Asking for the username to which the message should be sent. Enter the username followed by [RETURN]. It is possible to send the same message to several users in one step by entering their usernames separated by commas (for example; *TED,JERRI,TOM-,KODY* [RETURN]) would send a copy of the message to each of these users). Next you will be prompted

Subject:

Asking for the subject heading to be printed in the index of the receivers mail file as well as in the heading printed when he reads the message. It should be noted that although this field is 80 characters wide only 35 characters will be displayed when the receiver lists his mail file index, the full 80 characters are displayed when he actually reads the message.

Copy this from a file? *

Will then be asked if the user has the operator privilege. This question is asking if the message to be sent has already been created and saved to a disk file. Either [Y] or [N] should be pressed. If [Y] was pressed INFONET will ask:

Enter file to copy *

Here INFONET is looking for the pathname of the file to be used; enter the complete pathname followed by [RETURN]. INFONET will send the message to the user(s) specified directly from the disk file after which the sender will be returned to the Mail Line.

If the user answers N to the *Copy This From a File* query or if the user does not have the operator privilege he will be asked

Dump from a file? (Y/N) *

This question is not a repeat of the one above but rather is asking if the user has prepared a document to be sent on his own (remote) computer and would like to use it as his message. This allows the user to bypass INFONET's text buffer (limited to 16,383 characters) so the text may be virtually any length (the actual limit is the limit of free disk space on the hard disk). Once [Y] is pressed in response to this question INFONET will prompt the user when he may start his transmission. The user should follow the instructions in his communications package on dumping a file from disk to send the file. Once the file has been sent the user must type a [CTRL][C] to close the file and return to the Mail Line.

NOTE: A [CTRL][C] imbedded in the text file will cause INFONET to close the files and return to the *Mail Line*, ignoring the remainder of the file.

If the user chooses neither to copy a file from the host system's hard disk or to download a file from his own system he will be allowed to input his text directly using INFONET's built-in buffer. In this mode, the user may use his keyboard just like a typewriter (INFONET's text input lacks the superior features of a word processor and acts more like an old fashioned electronic typewriter). The user may use the backspace key to delete the previous character (any number of times), if the backspace causes the cursor to move to the previous line, that line will be reprinted with the cursor positioned at the end. Pressing [CTRL][C] will terminate the input, cause it to be sent to the receiver's mail file,

This example has two *Topics*, *Reports* created by user *JODY* and *New Accounting System* created by user *PAUL*. The *Subjects* for these two notes are indented one space and the *Replies* to the *Subjects* are indented again. (For more information concerning these three categories see section 5.3-3)

The *I* command is handy for getting a good overview of the *Topics* covered on the system, their *Subjects* and *Replies*, as well as providing a way to quickly check to see if a new topic has been added since the last time a user has logged on.

This feature is only available to those accounts having the *Can Use Classifieds* option set to *YES* (see section 3.39).

5.3-3 C: Use Classifieds

The classified section is available to all users with the privilege *Can Use Classifieds* (section 3.3-9). To be able to use any of the features within this section a user must have that level of privilege. Where addition levels are required they will be noted.

The classified section of *INFONET* is itself broken down into three additional levels. These three levels function virtually identically. The reasoning behind the three levels is to provide a tree-like structure ensuring an orderly classified section.

The three sections; *Topics*, *Subjects* and *Replies* are diagramed below.

```
Topic I
  Subject I-1
    Reply I-1-A
    Reply I-A-1
  Subject I-2
    Reply I-2-A
    Reply I-2-B
    Reply I-2-C
  Subject I-3
  Subject I-4

Topic II
  Subject II-1
  Subject II-2
  Subject II-3
    Reply II-3-A
```

It should be obvious that all of the *Replies* under *Subject I-2* relate to that *Subject*, and further that all *Subjects* under *Topic II* relate to that *Topic*.

It should be noted that in order to get to *Reply I-2-C*, the user must first enter *Topic I*, then *Subject 2* within *Topic one*, and finally *Reply C* of *Subject 2*. It is not necessary to read every *Subject* and *Reply* under the *Topic* in order to reach the desired *Reply*. The user may simply enter *Topic II*, then *Subject 3* within *Topic II*, and then *Reply A* within *Subject 3* bypassing *Subjects 1* and *2*.

Also to be noted is that any *Topic* may contain as many *Subjects* as desired and needed, and the same is true with *Subjects* in regards to *Replies*. And, it is not necessary to have a *Reply* under a *Subject*. At least one *Subject* is required for each *Topic* as *Topics* contain no text. (See section 5.3-33.)

Classified Levels

Topics: This level of the Classifieds differs from the other two in that it has no related text. A *Topic* is just that, a *Topic* to which *Subjects*, and later *Replies* may be added. A *Topic* then has only a title and related *Subjects*. New *Topics* may only be added by those users with the *Can Create Topics* privilege (see section 3.3-10).

Subjects: *Subjects* exist under *Topics*. They however have not only a title but also related text. These *Subjects* are created by users with the privilege *Can Add to Classifieds* (see section 3.3-11), and contain text related to the main *Topic* under the sub-topic assigned to the *Subject*.

Replies: *Replies* are also created by users with the *Can Add to Classifieds* privilege. They also have a title and related text and exist under the corresponding *Subject*.

The menu, and therefore the functions, of these three levels are identical (the one exception being that *Topics* have no textual part). They will therefore be handled together and the user should remember that what applies to one level applies to all three.

On entering a specific level the titles for each note at that level will be displayed, followed by the menu for that level, followed by the command line for that level. So, when first entering the classifieds, a list of the *Topics* available will be displayed, then the menu, and the *Topic Line*. When entering a specific *Topic*, a list of the *Subjects* under that *Topic* will be displayed, followed by the *Subject Line*, and when entering the *Reply* level a list of the *Replies* available will be displayed followed by the *Reply Line*.

The menus displayed for the three levels are shown below.

Q : Quit, go back to last menu
R : Select a subject area
I : List index
A : Add a new topic
D : Delete a topic
? : Repeat these commands
Topic (Q, R, I, A, D, ?) →

Q : Quit, go back to last menu
R : Select a note and read it
I : List index
A : Add a new subject to this topic
D : Delete a subject
? : Repeat these commands
Subject (Q, R, I, A, D, ?) →

Q : Quit, go back to last menu
R : Select a reply and read it
I : List index
A : Add a new reply to this subject
D : Delete a reply
? : Repeat these commands
Reply (Q, R, I, A, D, ?) →

Please note that each level does have a different command line so the user can see exactly which level he is at at all times. These command lines will be called the *Topic Line*, *Subject Line*, and *Reply Line* respectively.

5.3-30 Q: Quit, Go Back to Last Menu

From the *Reply Line* this command returns you to the *Subject Line* within the current topic, from the *Subject Line* it returns you to the *Topic Line*, and from the *Topic Line* you are returned to the *Command Line*.

5.3-31 R: Select a Subject [Note, or Reply and Read it]

From each of the levels you are asked for the file number (the number displayed in front of the topic when the index is listed) of the *Topic*, *Subject* or *Reply* you would like to see.

If you enter [R] from the *Topic Line*, enter the file number of the *Topic* you would like to see. The *Subjects* under that *Topic* will be displayed, and as there is no textual part to a *Topic*, the *Subject Line* will appear ready for your next command.

Entering [R] from the *Subject Line* followed by the file number of the *Subject* you would like to read will cause the text for that *Subject* to be displayed, after which you will be asked if you would like to read any replies to this note (*Subject*). If you respond with [Y] the *Reply* index will be displayed followed by the *Reply Line*, if you respond with [N] you will be returned to the *Subject Line*.

Entering [R] from the *Reply Line* followed by the file number of the *Reply* you would like to read will cause the text for that *Reply* to be displayed, after which you will be returned to the *Reply Line*.

The R command for all three levels is available to all users with the *Can Use Classifieds* parameter set to YES (see section 3.3-9).

5.3-32 I: List Index

Pressing [I] at any of the three levels will cause the current index to be displayed. At the *Topic Line* all *Topics* on the system will be displayed, from the *Subject Line* all *Subjects* under the current *Topic* will be displayed, and from the *Reply Line* all *Replies* under the current *Subject* will be displayed.

This command is available to all users with the *Can Use Classifieds* privilege.

5.3-33 A: Add a New Topic [Subject or Reply]

This command allows the user to add selections to the current level.

From the *Subject* and *Reply Lines* the user will be asked for name or title to be assigned to the text which will be displayed in that levels index. After the title has been entered the user will be given the *Copy This From a File* and/or *Dump From a File* options discussed in the *Send Mail* section (section 5.3-17). These features work exactly the same here as they did there and the user is referred to that section for an explanation of these options. The user may also enter text directly from his keyboard using INFONET's buffer.

The same restrictions apply here as did in the *Send Mail* section.

Once the text has been entered it is sent to the *Subject* or *Reply* file and becomes a part of the classifieds.

Pressing [A] from the *Topic Line* allows the user to create a new *Topic* heading to be displayed in the *Topic* index. No text is created for *Topics*. To add text the *Topic* should be selected with the R command and a new *Subject* (which contains text) added.

Note that creating new *Topics* is restricted to those with the *Can Create Topics* privilege and adding new *Subjects* and *Replies* is restricted to those with the *Can Add to Classifieds* privilege.

5.3-34 D: Delete a Topic [Subject or Reply]

After pressing [D], you will be asked for the index number of the text you want to delete. Once the number is entered the text and its entry in the index are deleted from the file.

In order to delete a *Subject* all *Replies* under that *Subject* must first be deleted. When deleting a *Topic* all *Subjects* under that *Topic* must be removed first.

The D command is available only to those users with the *Can Delete Classifieds* privilege (section 3.3-13).

Note: Once text has been deleted it **CAN NOT** be recovered.

5.3-35 ?: Repeat These Commands

As usual pressing [?] will cause the menu of the current level to be displayed. This becomes useful to help remind the user of the level he is at as well as the small differences between the three levels.

5.3-4 H: Make "Hello" files

There are three "hello" files available to INFONET. These are files which are displayed when someone connects with the bulletin board, when someone logs on to the bulletin board, and when someone logs off the system.

The first message is generally used to let people know that they have reached the bulletin board and whose bulletin board it is. The second is generally used to call the users attention to certain things, upcoming events, new classified sections, information needed by the SYSOP, or whatever. The last message is also used often to remind people of upcoming events or things they need to do. These messages are not required by INFONET but can be useful in maintaining a clean system and in providing better communication between the system operator and the users of his system.

To create or replace these messages press [H] from the *Command Line*. You will be asked if you would like to create a new hello file. This is to confirm the command. Press [Y] if you like to create or replace any one of the three files.

After pressing [Y] to the above question the *Copy This From a File* and *Dump From a File* options will be presented just as in the *Send Mail* section (see section 5.3-17 for documentation regarding these features). Of course you can enter the text directly using INFONETS built-in buffer (also described in section 5.3-17).

Once the text has been entered the option will be given:

Which file is this:

- A: The file which prints as the user connects to INFONET
- B: The file which prints after the user logs on to INFONET
- C: The file which prints when the user is disconnected

Which? (A, B, C or Q to Quit) →

Enter the letter corresponding to the correct file. The file will be written and you will be returned to the *Command Line*. Pressing [Q] will return you to the *Command Line* without writing the new file — the hello file is not created or replaced.

This utility is available only to those users with the operator privilege (see section 3.3-4).

5.3-5 S: Change System Parameters

Certain of the user's account parameters and system parameters can be changed directly by the user. To enter the system parameter utilities of INFONET he should press [S] from the *Command Line*. The following menu will be displayed:

- P : Change Password
- S : Save UPCASE, LF, MENU, and NULL parameters to user file
- C : Change username
- M : Change menu parameter
- U : Change uppercase only parameter
- L : Change line feed parameter
- N : Set nulls after CR parameter
- Q : Quit, return to command menu
- ? : Repeat these commands

Parameters (P, S, C, M, U, L, N, Q, ?) →

5.3-50 P: Change Password

The user may change the password used to access his account at any time. He must simply enter the system parameters utility and enter [P]. He will then be asked to enter his current password. If he fails this test he is returned to the *Parameters Line*. If he enters his current password correctly he will be asked to enter his new password twice. If he enters the same password both times the password becomes his new password and he is returned to the *Parameters Line*. If he fails to enter the same password twice (a typing mistake) he is again asked to enter his new password twice. Once the new password has been entered twice correctly that becomes the user's password and must be used to log on to his account, the old password will no longer work.

5.3-51 S: Save UPCASE, LF, MENU, and NULL Parameters to User File

Temporary changes to the uppercase only, line feed after carriage return, display menus, and the number of nulls sent after carriage return parameters may be made by the user. This allows the user to access INFONET from a terminal other than his own, and to change the parameters to meet the needs of that terminal. These changes (made from the System Parameters level) are not normally stored permanently in the user's account file, but exist only for that session. If the user wishes to change one or more of these parameters permanently he must expressly tell INFONET using this command. Pressing [S] at the Parameters command line will cause each of the mentioned parameters to be changed permanently on the users file (until he changes it again). This feature will normally be used only if the user gets a new terminal or the parameters were not configured correctly at the start.

5.3-52 C: Change Username

INFONET allows users with the operator privilege to log on to another user's account through this command. The command does not change your account's username, but rather logs you on to another account; the account identified by the username you enter. This is useful in finding problems experienced by users and when removing an account from the bulletin board as all mail must be deleted from an account before it can be removed, and the only way to delete mail is from within that account's mail utility.

After pressing [C] from the *Command Line* you will be asked to:

Enter master password:

This is the system master password assigned by the system operator (see section 3.6). If the password is entered correctly you will be asked:

Enter the new username:

Here you should enter the username of the account you wish to use. Once you have entered the username the *Parameter Line* will again be displayed but you will be on the new user's account. You may now use INFONET as you normally would if you were that user.

When you want to return to your own account return to the *Parameters Line* and display the menu. ✓ will have been changed to *Change to Operator Name*. Press [C] and you will be returned to your own account.

This function is only available to users with the *User is Operator* parameter (section 3.3-4) set to *YES*. Even with this privilege level they must know the master password to use this feature.

5.3-53 M: Change Menu Parameter

INFONET allows experienced users to avoid having the menus displayed each time a new level is entered as well as allowing users less familiar with the system to have these menus displayed. This feature is controlled with this command.

After entering [M] from the *Parameters Line*, the user will be asked

Display menus? (Y/N) +

The user should enter [Y] if he wishes to see the menus displayed, or [N] if he does not.

It should be noted that changing this parameter in this way only changes it for the current session. The next time the user logs on the menu parameter will be set as it was before. To make the change permanent the S command must be selected AFTER the menu parameter has been set. (see section 5.3-51.)

See also section 3.3-14 — *User is Expert*.

5.3-54 U: Change Uppercase Only Parameter

INFONET will translate all lower case characters to uppercase for those users with terminals that display only uppercase. This function may be turned on and off by pressing [U] from the *Parameters Line*. INFONET will ask if the user's terminal is uppercase. If the user responds with [Y] then lowercase characters will be translated, otherwise they will be sent unchanged.

Note: Changing this parameter does not change the user's account file. To change the setting permanently, first set the parameter then select the S command. (see section 5.3-51.)

See also section 3.3-17 — *Terminal is Uppercase*.

5.3-55 L: Change Linefeed Parameter

Most terminals require a line feed character be sent immediately after a carriage return in order to move the cursor to the next line. There are however terminals which automatically produce a line feed following a carriage return. INFONET provided a system parameter to turn on or off the sending of the line feed following a carriage return. To change this parameter press [L] from the *Parameters Line*. INFONET will ask if your terminal requires a line feed or not. [Y] will send such a line feed, [N] will suppress its sending.

Note: Changing this parameter does not change the user's account file. To change the setting permanently, first set the parameter then select the S command. (see section 5.3-51)

See also section 3.3-16 — <LF> Sent After <CR>.

5.3-56 N: Set Nulls After CR Parameter

Some terminals (particularly hard copy terminals) do not perform a carriage return quickly enough to catch the next character (or next few characters). To avoid this problem INFONET provides that a number of null characters be sent to such terminals immediately following a carriage return to allow the terminal time to perform the task before any pertinent data is transferred. This option allows the setting of the number of nulls to be sent. Simply select this command and enter the number of nulls to be sent (between 0 and 9). Most terminals will not require this wait and will perform well with this parameter set to 0.

Note: Changing this parameter does not change the user's account file. To change the setting permanently, first set the parameter then select the S command. (see section 5.3-51.)

See also section 3.3-15 — Nulls sent After <CR>.

5.3-57 Q: Quit, Return to Command Menu

Entered from the *Parameters Line*, this command will return the user to the *Command Line*.

5.3-58 ?: Repeat These Commands

Entering [?] will cause the Parameters menu to be displayed followed by the *Parameters Line*.

5.3-6 L: Logout

When the users has finished using INFONET he may log off the system by pressing [L] from the *Command Line*. This will cause a good-bye message to be displayed after which INFONET will hang up the phone and patiently wait for the next caller.

5.3-7 ?: Repeat These Commands

Pressed from the *Command Line*, this command causes the main menu to be displayed followed again by the *Command Line*.

Part Four —

Appendices

Appendix A — Sun Data Software

A.1 *Contacting Sun*

We at Sun Data Software want to provide the best possible support to those who use our software. To help with that goal we would like to introduce a few suggestions for those of our users who may have questions or problems.

A.2 *First — The Registration Card*

By filling out and returning your registration card you provide us with a means of identifying the owners and users of INFONET. This allows us to contact users concerning problems which may have gone undetected during the debugging phase of development but have since been found. The registration card is important as it is our only way of identifying the end-users of INFONET.

A.3 *Updates, Enhancements, and New Versions*

Information concerning any updates (including corrections), enhancements, or new versions of INFONET will be sent first to all registered owners.

Updates and/or corrections to the original INFONET will be available to all registered owners for a minimal fee (generally about \$10) to cover documenting, postage, and handling costs. No, we know of no corrections or changes that need to be made, but as in all software there is always something that goes undetected. We honestly hope that such updates will not be necessary. This policy exists only as a precaution.

News of enhancements to INFONET, if any, will also be sent to registered owners. The term enhancements is used to refer to any "extras" which may be developed. Such enhancements would be totally optional, offering an added function or feature, and would not be required modifications to INFONET.

Should a new version of INFONET be released registered owners would be able to purchase the new version at a considerable discount. A new version of a product is more than an enhancement or an update, but is a major rewrite and redesign of the package. No new versions of INFONET are foreseen at this time. Version 2.0 seems to meet the requirements and demands our users have expressed since the introduction of Version 1.0. However, as Version 2.0 was unforeseen at that time, we announce the upgrade policy here.

A.4 *Questions and Problems*

We of course want to answer and resolve any questions or problems that may arise. May we make a few suggestions for contacting Sun Data Software with questions and/or problems.

Minor questions and problems can generally be handled over the phone. However, there are times when someone will have to return your call as not all of our personnel are knowledgeable about every product. We will do our best to handle your call, but should we be required to return your call we will make every effort to do so as quickly as possible.

Many questions and problems are best handled through the mail (conventional or electronic). This allows us to see to it that the right person sees it and not just who ever happens to be free at the moment. This also permits those looking into the question the time to think about and study it and this in turn provides better, well researched responses. When contacting Sun Data Software by mail be sure to include your name, address, and phone number as well as your registration number. This will allow us to forward the response as well as contact you concerning any questions we may have about your question.

We have set up an account on our INFONET to handle user communications. The system is available daily from 6:00 p.m. to 8:00 a.m. MST at 801-752-7632. INFONET users may log on with the username INFO USER, no password is required. Mail sent to

the operator will be forwarded to the appropriate personnel who will handle your question. Again it is important that you include your name, address, and phone number as well as your registration number. If the phone number of your INFONET is included with a username and password we may use, we will respond to you through your INFONET.

A.5 *Suggestions and Comments*

We do appreciate your suggestions and comments. INFONET Version 2.0 is the result of the suggestions and comments made by users of versions 1.0 through 1.2. Most of the enhancements and improvements made were specifically made by users. We encourage everyone who uses the system to let us know of what they like, don't like, would like to see, would like to see changed, etc. Such suggestions should be made in writing to our postal address or may be sent to the operator of our INFONET. This allows us to have a hard copy of all such suggestions so that they may be collected and studied as a whole. (It also keeps someone given a suggestion on the phone from forgetting.)

Please let us know what you think, it's our only way of improving.

A.6 *Our Address and Phone Number*

***Sun Data Software
851 N. Main St.
Logan, Utah 84321***

Questions and Technical Support (801) 752-7631
Order Phone (non-technical personnel) 1-800-821-3221

Infonet Electronic Communication (801) 752-7632
Available daily 6:00 p.m. to 8:00 a.m. MST. Username: INFO USER

Appendix B — Glossary

- Access** To gain access to an account or system is to log on to the system or account and be able to use the information and files associated with that account or system. A user gains access to an account on INFONET by entering the correct username and password combination. See section 5.2 — Logging On.
- Account** Each authorized user is given an account on the system. The account contains the user's username, full name, password, privilege level, and the parameters necessary for communicating between the host system and the user's system. See section 3.3-1 on Usernames.
- Account Parameters** The individual settings and privilege levels given to each account. These dictate the functions available to the user when he is logged on to INFONET as well as the information needed to effectively communicate between his and the host system. See section 3.3.
- ASCII** Short for American Standard Code for Information Interchange. This is the internal representation of characters (letters, numbers, and symbols) used by most personal computers. The information sent by INFONET over the phone is sent in this format.
- Backup** A backup is a copy made of disk files (programs and data). This is done to ensure the owner of having usable copies in the event something happens to the original files. frequent backups should be made of all computer files.
- Baud Rate** The speed used by the computer and terminal to send data over the phone lines. The baud rate is the number of bits (8 bits per character) sent per second, thus 300 baud sends 300 bits or 37.5 characters per second.
- BBS** Short for Bulletin Board System. An electronic message center.
- Bulletin Board** A place to leave messages for general inspection. An information system. The classified section of INFONET qualifies as an electronic bulletin board system.
- CR or <CR>** Abbreviation for Carriage Return. A carriage return moves the cursor back to the beginning of the line, usually with a line feed. Achieved by pressing [RETURN] or [ENTER] on the terminal's keyboard.
- Classifieds** That section of INFONET which provides a general inspection bulletin board. See section 5.3-3.
- Closing File** The "hello" message which is printed when a user logs off the system.
- Command Level** Each level of INFONET's tree structure is a command level. There is the main menu command level, the mail menu command level, etc.

command line Any of the lines displayed by INFONET in relation to a menu decision. This includes the Command Line, Mail Line, Parameters Line, Topic Line, and Subject Line.

Command Line The command line (input line) associated with INFONET's main menu. See section 5.3.

Connect When someone calls another computer using a modem that computer responds with a connect signal. This tells the caller that the computer has answered the phone and is ready to "talk." Most computers require a [RETURN] be pressed by the caller immediately after the connect to set the baud rate and begin (usually by asking for a username and password).

[CTRL] The control key on the terminal's keyboard. This key works just like a shift key. [CTRL][C] means to press the C key while holding down the control key. Such combinations send special control codes to the host computer to perform specific tasks.

[CTRL][C] The [CTRL][C] combination when used while INFONET is displaying a file (for example the hello messages) will cause INFONET to stop sending that file and go directly to the next command line.

Cursor The symbol displayed on the monitor to indicate the user's current position on the screen. The cursor is usually displayed to indicate an input of some kind is necessary.

Down-Load Receiving data through the phone lines and storing it on your disk.

Expert An expert INFONET user is one who has used the system long enough to know its capabilities. Such a user has no need of seeing the menus displayed each time he enters a new level. The User is Expert parameter (section 3.3-14) is provided to disable the display of the menus. See also section 5.3-53.

File Number The number which precedes the listing of the indices at the mail, Topic, Subject, and Reply levels.

Greeting Message Any one of the Hello Messages, but more particularly that hello message printed when the user first connects with INFONET. See sections 5.2 — Logging On — and 5.3-4 — Make "Hello" Files.

Hello Message Refers to those messages printed when the user connects with INFONET, when he logs on, and then again when he logs off. See section 5.3-4 — Make "Hello" Files.

Host The Host computer is the computer running INFONET, allowing other computers and terminals (users) to tie in and access information.

Level INFONET's tree structure provides different levels of commands. For example from the main command level the user can enter the mail level from which all the mail functions are accessed.

LF or <LF> Abbreviation for Line Feed. A line feed moves the cursor to the next line, usually issued following a carriage return.

Log In or Log On Logging on to INFONET consists of gaining access to the system by entering an account name (username) and its related password. See section 5.2 — Logging On.

Log Off or Log Out When a user has completed his session on INFONET and exits the system by pressing [L] from the Command Line the closing message is printed and INFONET hangs up, this is logging off the system. See section 5.3-6 — Logout.

Mail Line. The command line (input line) associated with the mail utility in INFONET. See section 5.3-1.

Mail Utility That level of INFONET which provides for the sending of private messages between the users of the system. See section 5.3-1.

Modem A device used to connect a computer to the phone lines in order to communicate with other computers and terminals. See section 2.2 — Setting Up Your Modem.

Menu A list of choices offered by INFONET at any given command level. The user may issue commands based on the commands listed in the menu.

Null A null character has the ASCII value of 0 and is not displayed on the screen or printed by the printer. See sections 3.3-15 and 5.3-56 for a discussion of what INFONET uses this code for.

Operator 1) The person who owns and/or runs the electronic information center. He is in charge of creating new accounts as well as maintaining the system. 2) Any user with the operator privilege. See section 3.3-4.

Operator Privilege The privilege level given to those users who run the system. This allows them to access the host system's computer files, log on to other users accounts, and other high level privileges. This privilege is set through the User Is Operator account parameter. See section 3.3-4.

Operator Utilities The program used by the system operator to set up and maintain the entire INFONET system as well as individual accounts on the system. The Operator Utilities are discussed in chapter 3.

Pathname The name of a disk file including the volume and the directories on which the file is stored. See the SOS manual for more information.

Parameters Line The command line (input line) associated with the Change System Parameters utility of INFONET. See section 5.3-5.

Password A 1 to 16 character identifier. Used to determine if the caller has the right to access a particular account. Callers unable to enter the correct password for an account are denied access. See section 3.3-2 — Password.

Pirate 1) (verb) Illegal copying of a computer program, i.e. copying programs for another to use. (Copies made for personal use are both legal and encouraged.) 2) (noun) One who pirates software.

Privilege Levels Each user can be set up to be able to access different features of INFONET. Not all users will be able to use all of INFONET's features. The privilege level of a user refers to the features that user can use. Privilege levels are set by the SYSOP through the system utilities discussed in chapter 3.

Reply The third and lowest level of the classified section. Topics are divided into Subjects which are further broken down into Replies. See sections 5.3-2 and 5.3-3.

Reply Line The command line (input line) associated with the third level of the classified section. See section 5.3-3.

Restricted Classifies Those Topics in the classified section which can only be added to by user having the Can Add to Restricted Classifieds privilege. See section 3.3-12.

SOS The Sophisticated Operating System of the Apple III. This is the set of programs and related files which supervise the operation of the disk drives, keyboard, monitor, printers, and other peripheral devices of the system.

Subject The second level of the Classifieds. Subjects exist under Topics, and are further broken down into Replies. See sections 5.3-2 and 5.3-3.

Subject Line The command line (input line) associated with the second level of the classified section. See section 5.3-3.

SYSOP Short for SYSTEM OPERATOR. The person in charge of running the INFONET system.

System 1) The implementation of INFONET running on the host computer. 2) A computer system, i.e the computer, monitor, disk drives, and printer.

System Operator The person who owns and operates the bulletin board. He is in charge of creating and maintaining accounts and the INFONET system.

System Utilities Program The utilities package supplied with SOS used to maintain the computers operating system. This includes the utilities to transfer files, create sub-directories, etc.

Terminal Software A computer program which allows the computer to use a modem to access another computer. Many such packages allow the user to up- and down-load files to and from their disk systems.

Topic The first and broadest level of the classifieds. Topics are further divided into Subjects. See sections 5.3-2 and 5.3-3.

Topic Line The command line (input line) associated with the first level of the classified section. See section 5.3-3.

Up-Load Sending data stored on your computer's disk to another computer via the phone lines.

User A user is a person (company or group) which has been assigned a username and password to allow him (them) to gain access to the host system running INFONET.

Username The name assigned to an account to distinguish it from all other accounts. A form of I.D. Each account must have a distinct username. The username may be between 1 and 16 characters long. See section 3.3-1.

