NETWORK USER'S GUIDE

The Network Director

North Ridge Software, Inc.

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Introduction

The Network Director's *Network User's Guide* is intended to be read and utilized by the individual using a network that will be controlled and directed by **The Network Director**. This manual is also intended for use as a reference document for the application programmer or designer that will need to make use of The Network Director's Network System Interface. This manual's intent is to describe the facilities provided by The Network Director to the terminal operator, as well as detailed descriptions of how to utilize the facilities.

Wherever possible, this manual has avoided the specific use of technical terms and acronyms. This has been done to improve the readability of the manual in general. Generic terms have been used when they would suffice (*terminal* instead of *logical unit*). It is hoped that this generalization has not sacrificed the content of this manual for the more technically oriented reader.

The Manual Set

This manual is one of a set related to The Network Director. The set consists of:

Number	Manual Title
TND-0201	General Information Manual
TND-0202	Network User's Guide
TND-0203	Network Administrator's Guide
TND-0204	Quick Reference Guide
TND-0205	Internals
TND-0206	Messages and Codes
TND-0210	Network Operator's Guide
TND-0219	Installation Guide
TND-0220	Single System Image
TND-0226	SecureNet Key Interface Reference
TND-0420	Version 4.2 Release Guide

Figure 1.   The Manual Set

Each Network Director installation is provided with a complete set of base documentation for The Network Director. The base set consists of the *General Information Manual, Network User's Guide, Network Administrator's Guide, Quick Reference Guide, Internals, Messages and Codes, the Network Operator's Guide, Single System Image,* and the *Installation Guide*. Additional documentation is available, as requested.

Manual Overview

The Network Director offers various facilities to the terminal operator. These facilities are described in detail in the following sections of this manual.

"Selection Facilities" on page 7 describes the various methods with which to utilize The Network Director's Application Selection Panel.

"Information Facilities" on page 41 identifies methods for obtaining assistance in the use of The Network Director's facilities or about information that may have been provided at your specific installation. "Message Facilities" on page 55 describes the manner in which the terminal operator may manipulate The Network Director's Message component.

"Network System Interface" on page 89 discusses the various characteristics of the application program interface to The Network Director. It also discusses how an application program can invoke the NSI.

The "Glossary" on page 99 briefly lists specific terms and acronyms that are in use within the manual.

Finally, the index has been included to aid the reader in the use of this manual.

Functional Overview

The Network Director is a generalized software product that provides a simple manner in which you, the terminal user, can make use of the computing facility. The Network Director also offers generalized services to the systems maintenance and support staff for managing the terminal network, but its primary purpose is to simplify your method of interface to the system.

The Network Director offers three basic facilities that are intended to provide you with the "simpler" interface. These facilities have been designated:

Selection	a menu of available applications (the Application Selection Panel)
Information	a general purpose information file (bulletin board)
Message	a generalized message switching mechanism

Figure 2.   Network Director Basic Facilities

These facilities are provided within The Network Director and are tailored to your installation or your individual use by the Network Administrator (an individual assigned to do network management and configuration).

As an overall description, The Network Director is a standard VTAM based *application* system with the singular purpose of improving access to the computing facility. It will be executing in your mainframe CPU as an independent task within the operating system.

Once The Network Director has initialized, each terminal allocated to it will receive a either a prompt panel (for User Id) or an Application Selection Panel. The Application Selection Panel is used for multiple purposes. Its major use is to inform the terminal user that the system is active and which other functions within the computing facility are available for use at this terminal.

Once your terminal has the Application Selection Panel on it, you may elect to *logically connect* your terminal to one of your selections. A selection is an entry on the Application Selection Panel. The Application Selection Panel may contain multiple entries for the various types of work that you and/or your terminal are involved in. Entries for one or more CICS, TSO, IMS, etc. systems are common.

You will also be able to request information about how to use The Network Director or other items of general interest as determined by your network support staff. This *Network Information File* is a collection point for generalized computer center information and is often used as a bulletin board type facility for your network.

The Network Director also provides you with the ability to send and receive messages to and from other terminals and/or users of the terminal network through the Message facility.

You may also have the need to communicate with The Network Director from a traditional batch program in addition to the terminal. The facility provided to accomplish this is named the Network System Interface.

The later portions of this manual should provide you with the knowledge necessary to utilize these Network Director facilities.

Panels

The Network Director provides you with multiple terminal oriented facilities. These facilities can be roughly grouped as Selection, Information, and Message oriented. Each of these provided facilities has at least one associated **panel** or presentation menu.

The term *panel* will be used to simply describe the terminal's logical content when interacting with The Network Director.

Panel Mode

When The Network Director is configured for your use, the Network Administrator will determine if you will be operating in **CUA mode** or **non CUA mode**. You will need to know which mode your device is in to determine which portion of this manual's Application Selection Panel discussion is applicable to you.

CUA is the acronym for "Common User Access", which is a portion of SAA (Systems Application Architecture). This emerging standard determines how a panel from a computer should "look and feel" when being used by a terminal user.

All Network Director internal applications use the CUA panel standard, therefore the entire discussion about Information and Messages facilities apply to all Network Director users. The Application Selection Panel differs for CUA mode devices and non CUA mode devices. Thus, Selection processing is the only area where you will encounter differences.

Selection Facilities

One of The Network Director's primary functions is to provide you, the terminal user, with a simple manner with which to select what you would like to do within the computing facility. The Network Director's **Application Selection Panel** is the primary vehicle used to accomplish this.

The Application Selection Panel will be tailored for your use based upon who you are and the terminal you are using. Thus, it should have on it only those items (referred to as *Selections*) that are of interest to you. This section of the manual will discuss in detail the mechanism that you may use to make requests of The Network Director for purposes of logically connecting your terminal to the Selection that you wish.

If you are using the CUA mode of interaction on the Application Selection Panel, you should reference "CUA Mode" for a discussion of the panels and procedures for using them. Non CUA mode users should reference "Non CUA Mode" on page 24 for additional information. If you are uncertain of your "mode", look at the top of your Application Selection Panel. If the first thing you see in the upper left hand corner of the panel is the word **Options**, then you are in CUA mode. Otherwise, you should assume you are in non-CUA mode.

CUA Mode

When The Network Director interacts with a device in CUA mode, it uses the Common User Access (CUA) principles contained within IBM's System Application Architecture (SAA). This is intended to give the terminal user a similar "look and feel" across all applications.

The following topics introduce CUA principles and explain how The Network Director has chosen to implement CUA to make your use of the computing facility easier.

Panel Processing

Common User Access is based upon the principle that all interaction with a computer system should be done in a similar manner. As a result, your individual productivity should be higher because you have a "familiarity" with all applications that does not require special training. This familiarity is a result of CUA's definitions for certain areas of the panels, certain standard actions, etc.

An example of a basic Network Director Application Selection Panel is:
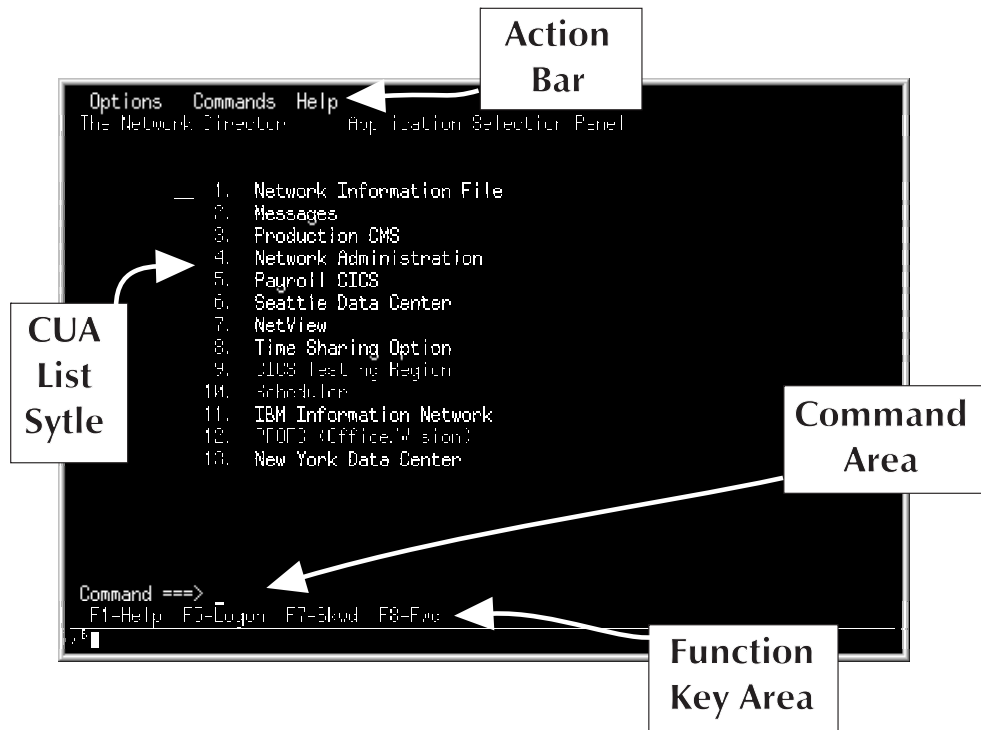
Figure 3. CUA Panel Elements

The Application Selection Panel is made up of multiple elements. The individual elements on the panel are identified as:

Action bar
the top line of the panel that contains the primary Actions that are available to the user

Command area
the Command line enables the ability to issue text instructions to The Network Director (the Command area always starts with the literal `"Command ===>")`

Entry field
the input field immediately before the first choice where the terminal operator can enter the numeric value of the choice

Function key area
the bottom line of the panel that displays the current function key assignments

Panel title
the second line of the panel briefly describing the contents of the panel ("Application Selection Panel" is the panel title)

Selection number
the unique numeric value associated with each selection that is presented on the Application Selection Panel

Selection title
the descriptive information identifying a VTAM subsystem that may be selected by the user

Making A Selection

You can indicate to The Network Director that you would like to use a specific application by any of the following methods.

1. Typing the Selection number into the Entry field and pressing Enter

2. Typing the selection's "name" into the Command area and pressing Enter

3. Typing the Selection number into the Command area and pressing Enter

4. Pressing a light pen (or CrSel key) on the selection title

5. Moving the cursor to the same line on the device as the selection and pressing Enter

Application Status

The **Status** of a particular Network Director choice (whether it is available for selection or not) is reflected to the terminal user on the Application Selection Panel.

The selection is marked available by having its title displayed in bright or high intensity mode. Dark or low intensity list items are not available for selection.

```
 Options   Commands  Help
 The Network Director      Application Selection Pane

      ___   1   Network Information File
            2   Messages
            3   Production CMS
            4   Network Administration
            5   Payroll CICS
            6   Seattle Data Center
            7   NetView
            8   Time Sharing Option
            9   CICS Testing Region
           10   Scheduler
           11   IBM Information Network
           12   PROFS (Office/Vision)
           13   New York Data Center




 Command ===> _____
   F1=Help  F5=Logon  F7=Bkwd  F8=Fwd
```

Bright titles indicate that the item is available

Figure 4.   Status or Availability Indications

You will have to have a device capable of interpreting and properly displaying either
colors or intensity levels to determine availability.

When The Network Director detects that one or more of the application choices on your
panel has changed status, it will automatically update your Application Selection Panel
to reflect the correct status. This **dynamic status update** does not require that you
press any keys or take another action.

Windows

Within The Network Director's CUA implementation, the most recent output to the device is the "active" window or panel (the cursor will always be in the active window when the terminal write operation completes). The next action you take at the device will apply to the active window (pressing F12, etc.).

Windows within The Network Director are scrollable via use of the F7 and F8 functions when the "More" indicator is present (a plus sign indicates there is more information in a "Fwd" direction, a minus sign indicates there is additional information in a "Bkwd" direction). The Network Director's pop up or pull down windows also conform to CUA's requirements for a title, function key area, and window borders.

A sample window with all the parts and the More indicator is:
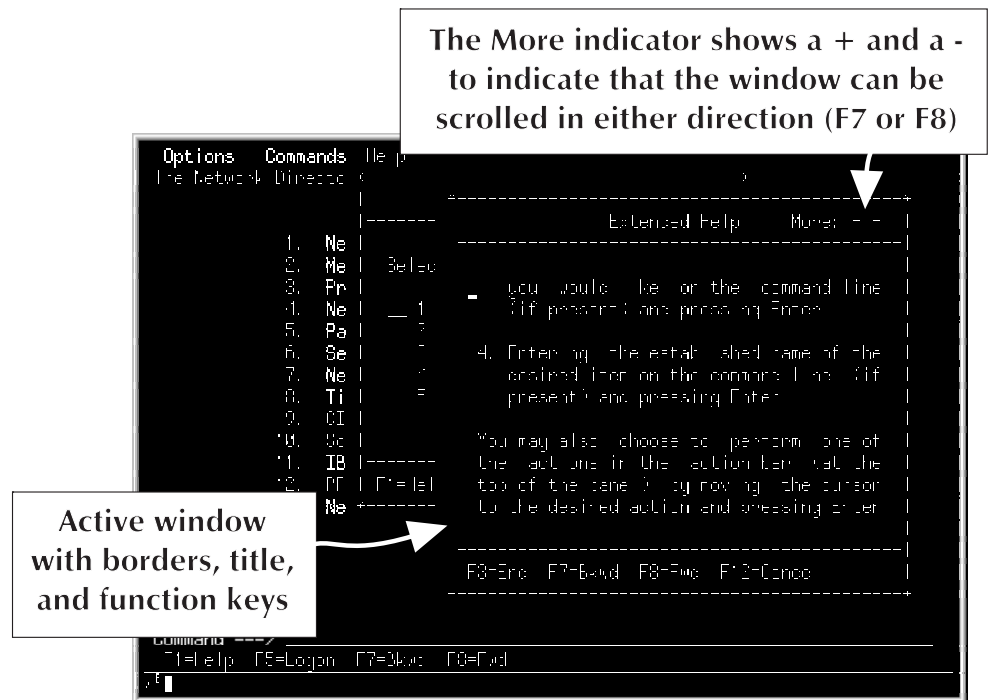
Figure 5. CUA Window Elements

The function key area shows the active functions and their assigned keys. In addition to pressing the identified function key, you can also select a function by moving the cursor to the function key area, placing it on the desired function, and pressing Enter.

Note: The function key area shows "assigned" keys and does not necessarily imply that the keys are operational (e.g. the F8 key will always appear, but will only operate correctly when the More indicator displays a plus sign).

Message Area

Network Director generated messages in response to a terminal operator are presented back to the terminal user in the message area or in a pop up window.

When a pull down or pop up window is on the screen, messages will appear in another pop up window "layered" on top of the first one. When no window is active, messages display in the messages area immediately before the Command line.
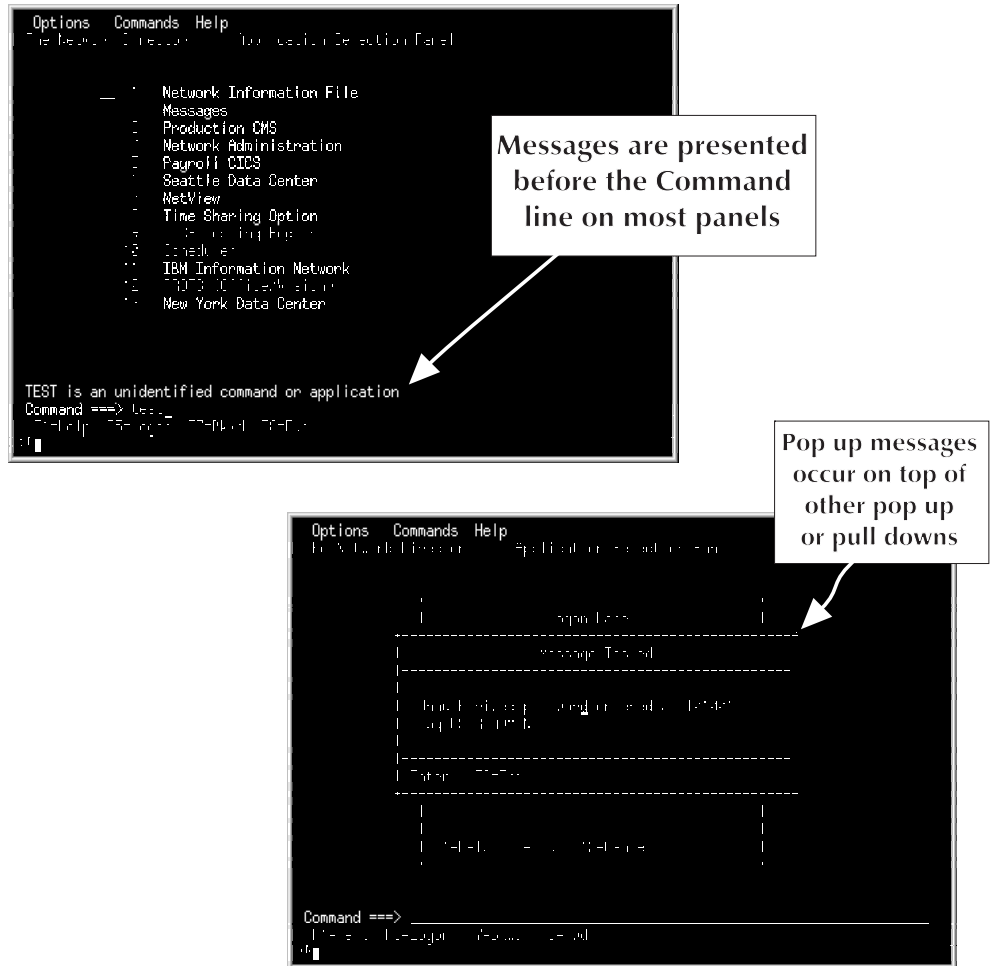
Figure 6. CUA Messages

When a pop up window containing a message appears, pressing F3 (End) or F12 (Cancel) will clear the message window and return to the prior window or panel.

Actions

The Action bar at the top of the panel identifies the **actions** that perform overall session control. An Action is selected by moving the cursor to the location on the panel that contains the action name (the action bar) and pressing Enter. Actions can also be tabbed to using the 3270 tab key and related functions.

The currently defined actions are:

Commands provides a list of the available Commands that can be used by the terminal operator

Help presents information of general assistance to the terminal user in making use of The Network Director in CUA mode

Options allows the terminal operator to modify certain operational characteristics associated with the session between the device and The Network Director

Each Network Director Action is discussed in greater detail in the following pages.

Commands

The **Commands** action presents a pull down window that contains a list of the commands that can be invoked from the terminal device. A pull down might look similar to this:
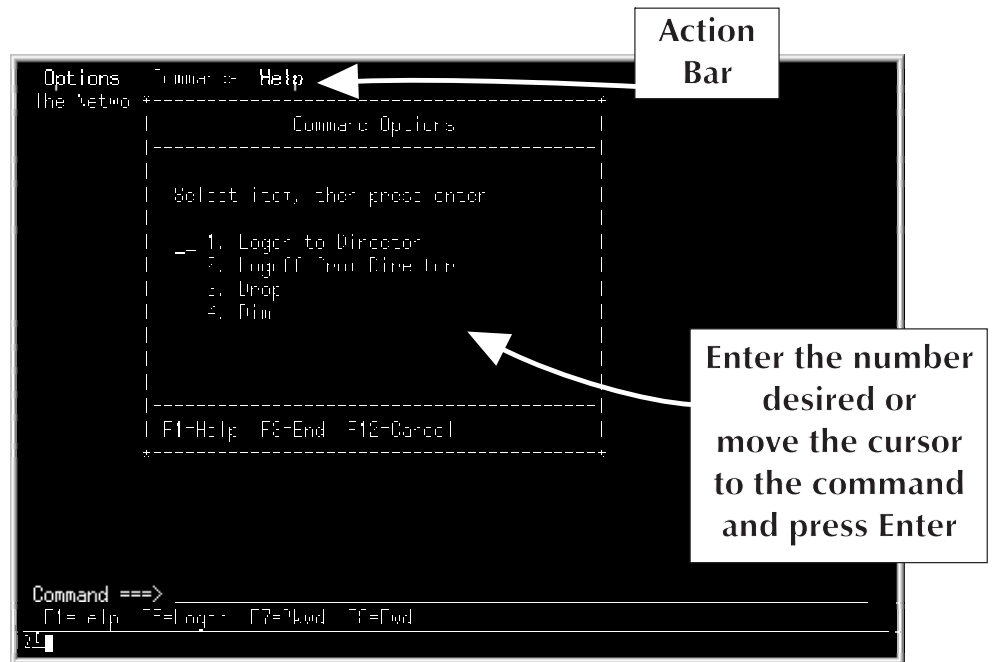
Figure 7.   Commands Pull Down

The listed commands are those documented under "Command Line Commands" on page 37, does not include any optional synonyms, and may be controlled via the COMMANDS= operand of certain configuration parameters.

Help

The **Help** action provides a mechanism for the terminal user to request additional information about the system, a function, or extended information about how to use a function.

The initial Help pull down will appear similar to:
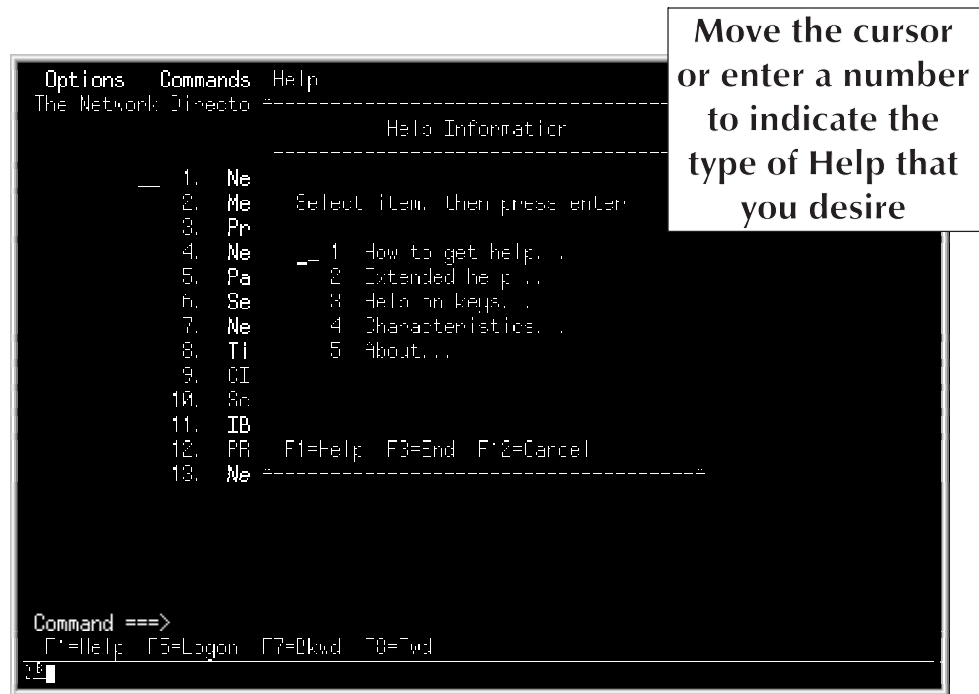
Figure 8.   Help Pull Down

You can use the proper function key (F3 or F12) to return to the prior panel. Additional Help information is available by entering the number associated with the choice you would like or by moving the cursor to the line with the choice and pressing Enter.

How to get help...:   provides you with basic information about how to use the Help mechanism itself.

The "active" panel contains instructions about how to make use of the Help Action
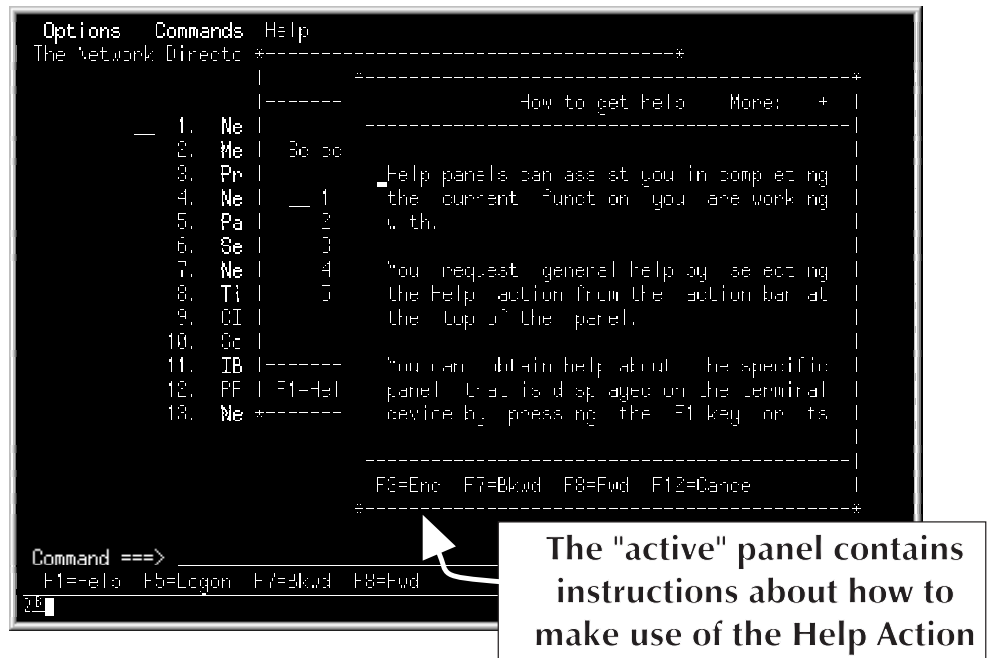
Figure 9.   How to get help...

This explanation is an overview of the types of information that you can obtain from the Help action.

Extended help...: provides additional information about how to make use of the panel that is currently displayed.
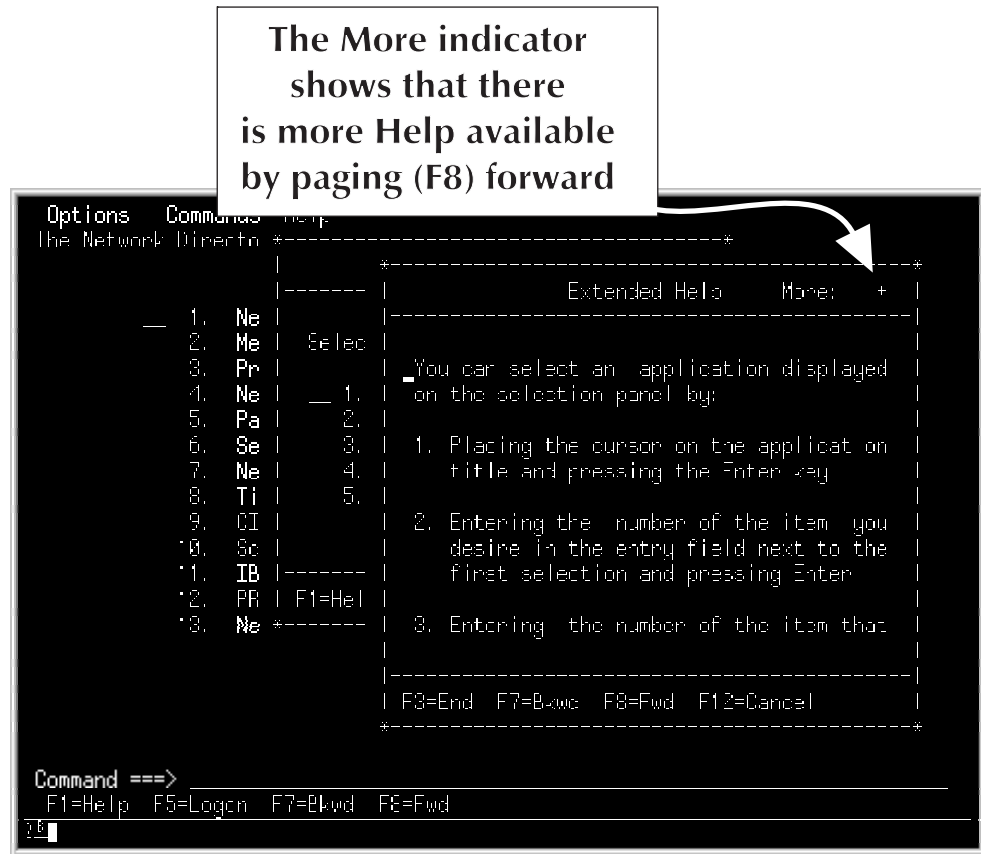
Figure 10.   Extended help...

This result is identical to the F1=Help function key that is displayed in the function key area. Extended help from the Help action is simply an alternative method to obtain the information.

Help on keys...: provides the terminal user with additional information about the function keys that are currently active. A brief description of what each of the active keys will do is displayed, as below.
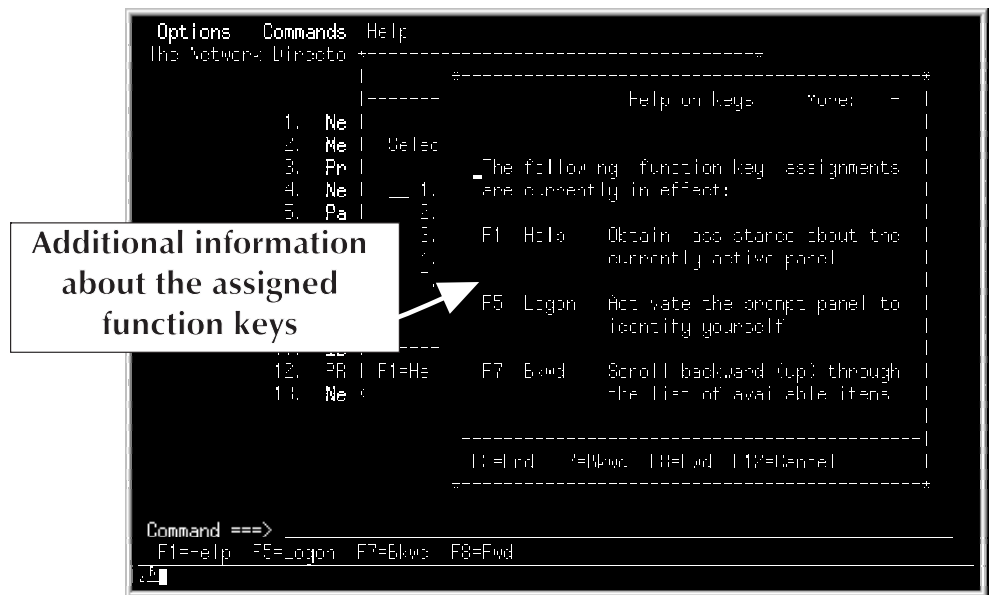
Figure 11.   Help on keys...

The windows containing Help on keys is scrollable to obtain additional information about the remaining active keys. F12 (Cancel) terminates this window and returns to the Help pull down.

Characteristics...: provides dynamically obtained information about the current session and the user at the device. An example of the response is:

```
 Options   Commands  Help
 The Network Directo *-----------------------------------*
                     |           *--------------------------------------------*
                     |-------    |            Characteristics Help            |
       __  1.  Ne |          |   |                                            |
           2.  Me |   Selec  |   |                                            |
           3.  Pr |          |   | _The following  characteristics  apply to  |
           4.  Ne |   __ 1.  |   |  your current connection to KIRKLAND       |
           5.  Pa |      2.  |   |                                            |
           6.  Se |      3.  |   |  Luname  : T01001      Subarea : 1         |
           7.  Ne |      4.  |   |  Userid  : TEST        Netid   : NR3       |
           8.  Ti |      5.  |   |  Group   : SYSTEMS     Time    : 13:46:33  |
           9.  CI |          |   |  Logmode : N3X32702    Date    : 10/07/97  |
          '0.  Sc |          |   |                                            |
          '1.  IB |-------   |   |  Name    : Test User Name                  |
          '2.  PR | F1=Hel   |   |  Phone   : 425/814-3000                    |
          '3.  Ne *-------   |   |  Account :                                 |
                             |   |                                            |
                             |   |--------------------------------------------|
                             |   | F3=End  F7=Bwd  F8=Fwd  F12=Cancel         |
                             |   *                                            *

 Command ===> _____
   F1=Help  F5=Logon  F7=Bkwd  F8=Fwd
 ?B
```

Figure 12. Characteristics...

Some of this information (Luname, Subarea, Netid, etc.) will be of benefit to your Help desk personnel when (if) you should every have a requirement to contact them for assistance.

About...: provides Network Director product related information, the NRS Copyright, and the NRS mailing address.
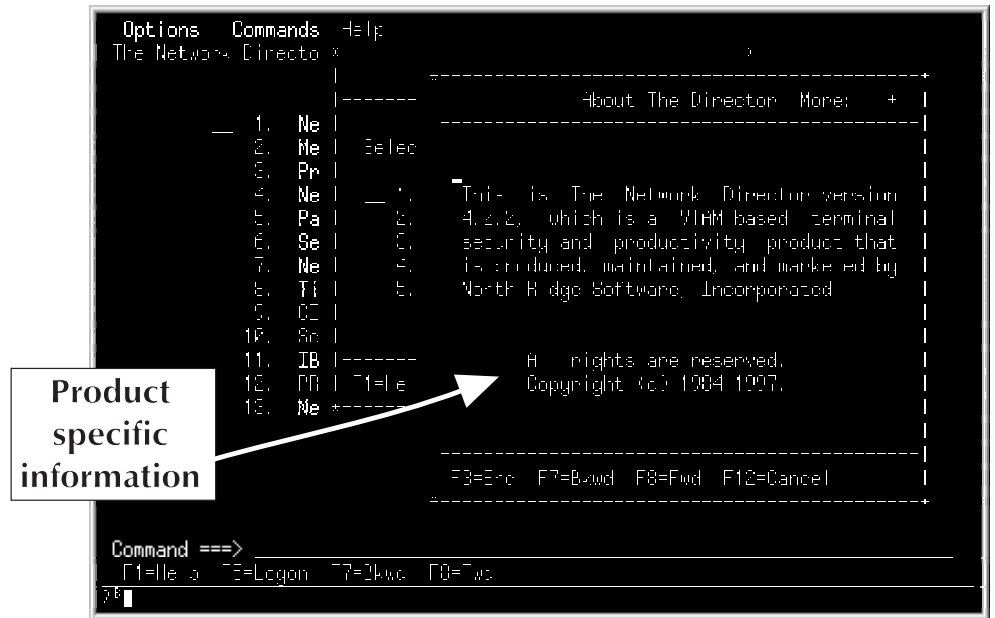
Figure 13.   About...

The window is scrollable and contains environment specific information (CPUID, CPU Model, etc.). This Help choice can be very useful when attempting to establish the VTAM version that is operating, etc.

Options

There are several **Options** that can be set to control the look and feel of your Application Selection Panel. You control these items via the Options pull down.

An example of the Options pull down is:
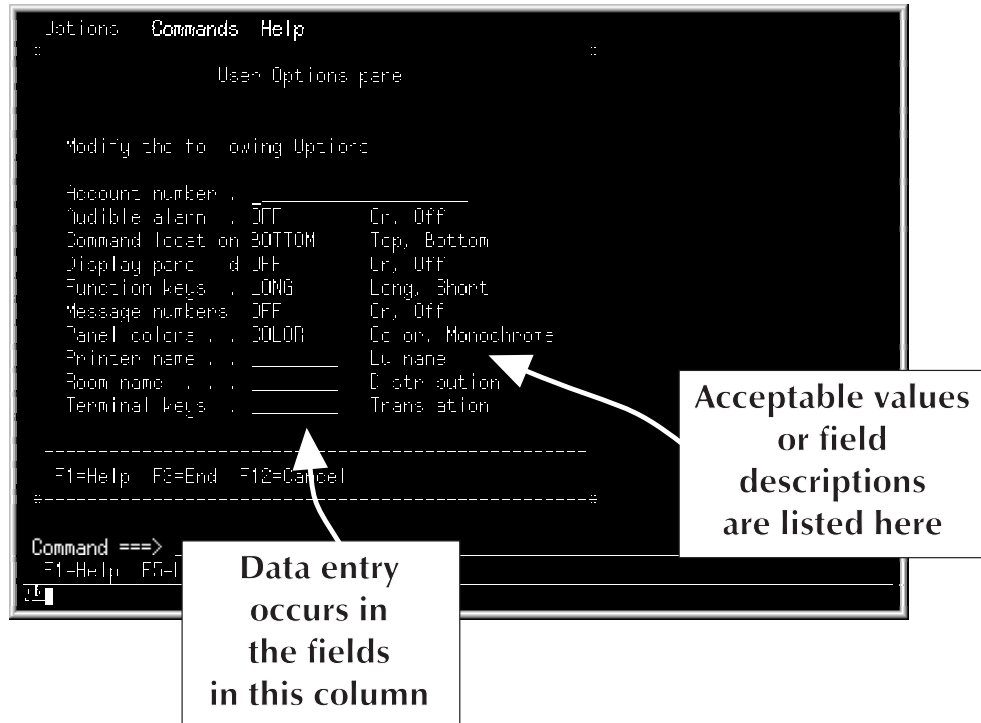
Figure 14.   Options Pull Down

where:

Account number   is the local system account code assigned to your use of the system

Audible alarm   controls whether The Network Director will sound the device's audible alarm when the panel is interactively updated

Command location controls whether the `Command ===>` line is at the top or bottom of the various panels

Display panel id   manages whether the specific panel id will be included in the panel display or not

Function keys   indicates the form of the function key list that is desired

Message numbers causes The Network Director internal message identifiers to be included with the message text, if desired

Panel colors   indicates the desired type of 3270 output data streams desired by the terminal operator (full extended color or not)

Printer name   identifies the VTAM device name that will receive any Network Director initiated Print operations

Room name   a descriptive identifier that will be used in the "distribution" information for any message that is printed on the "Printer name"d device

Terminal keys   establishes the KEYS definition that should be used for LU1 key translation

Some of these Options will not be applicable to all users of The Network Director, dependent upon the types of use made of The Network Director's facilities.

Functions

The program function keys (historically referenced as PFKEYs) are identified within The Network Director as **Function** keys that are related to specific activities. These activities are requested by pressing the function key assigned to the function or by moving the cursor to the location in the function key area that displays the function and pressing Enter.

The function key area will contain the most commonly used functions and their current assignments, dependent upon the panel and the function key area format currently in effect (LONG or SHORT). The functions are available and may be activated by the associated function key without regard for the display in the function key area.[1] Additionally, the function key assignment in the function key area may display function keys that will not operate based on the current display condition of the panel (e.g. F7=Bkwd or F8=Fwd will only operate correctly if the More indicator is present, even though they are displayed in the function key area).

Bkwd

The **Bkwd** function causes the current panel contents to be "paged" backward one panel's worth of information (provided that the More indicator of a minus sign is present).

This function operates on all Network Director panels (including the Application Selection Panel) when the information in the active window has exceeded the size of the window or panel.

Fwd

The **Fwd** function causes the current panel contents to be "paged" forward one panel's worth of information (provided that the More indicator of a plus sign is present).

All windows and panels that exceed the size of the current active area use Fwd to advance the display.

---

[1] The absence of a function key assignment in the function key area **does not** prohibit the function key from being utilized.

Help

The Application Selection Panel's Help function invokes the "Extended help..." choice from the Help action pull down. Essentially, it is a short hand way to request Extended help (as an alternative to the Action bar).

Logon

When you would like to identify yourself to the system (logon), simply press the Logon function key (F5) to receive a prompt window similar to this:
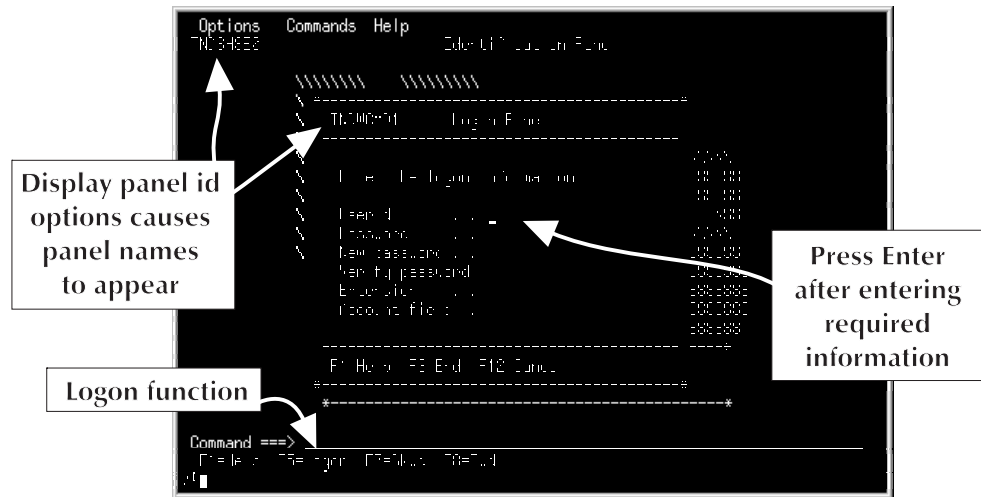
Figure 15.   Logon Prompt Window

Enter the necessary information to identify yourself to the system (userid, password, etc.). This information is passed, as appropriate, to your installation security system for validation. Additional steps to logon may be required, dependent upon your installation's configuration.

Identifying Yourself

You can identify yourself to the system by correctly filling in the Logon prompt panel using the following fields, as established by your Network Administrator.

Userid

The Userid field in the Logon prompt is used to enter the id that you have been assigned. The Userid must have already been defined to (or allowed by) the system. The Network Director will insure that only a single terminal in the entire network will be signed on with a given Userid (depending upon the MAXIMUM allowed by the Network Administrator).

Whenever this manual discusses userids, you should recognize this as a reference to the contents of the Userid field in the Logon prompt window.

Password

The Password field is a display inhibited input field that can be utilized to enter the password associated with your Userid. The password will be validated by The Network Director according to rules set up by the Network Administrator. If your installation has a standard security system installed (ACF2, TOP-SECRET, RACF, VMSECURE, etc.) and the Network Administrator has activated The Network Director's interface, you will have to provide a password that is recognizable to the security system.

New password

You can also use the New Password field to enter your new password, provided that your Network Administrator and security system allow it. You should note that any errors associated with typing any of the password fields will require you to completely retype all the password fields again.

If your attempt to set a new password is rejected by the security system, The Network Director will require you to enter it again **in addition to** the Password field.

Verify password

You may be required to utilize this field whenever you set a new password by typing in the New Password field. The Verify field is provided to guarantee that the new password you entered in the New Password field was what you thought you typed. In essence, the Verify field is provided for you to "verify" that the New Password is right. This attempts to eliminate an accidental setting of your new password to a value that you do not know.

Account

Your installation may have chosen to implement a generalized Accounting code for billing purposes. The field named Account in the Logon prompt will accept the value of the account code. It may be assigned a default value by the Network Administrator or you may be required to enter it.

The account code will be available for forwarding by The Network Director to the target subsystems you select. It can also be utilized to keep track of resources that you utilize while in The Network Director and will be present in any external accounting records produced by The Network Director.

Extension

It is also possible that your installation has decided to further subdivide and identify the network users beyond that of the Id field. The Extension field in the Logon prompt is for this purpose. You may enter any code in this field that has been assigned by the Network Administrator to further identify your usage characteristics.

The Userid, Password, Account, and Extension fields are optional fields within The Network Director. The Network Administrator at your site may have instituted rules that will require one or more of these identification fields. Your specific installation's rules should be made available to you through the Network Administrator.

Non CUA Mode

The Network Director may be configured to interact with your device using a set of Network Director principles that are identified as **non CUA mode**. The following topics cover utilization of a Network Director from a device that is using non CUA mode on the Application Selection Panel.

Panel Areas

The Network Director utilizes several generalized terms for the basic areas of the panel. The areas are described as:

- The **Title Area** is the space at the top of most of The Network Director's selection and menu panels. It contains the installation defined identifying information for the system your terminal is connected to (the LOGO). It is usually a simple graphic portrayal of symbolic letters for your system. On panels that do not contain the LOGO, it will consist of a single line basically describing the panel's function (the "panel title").

- The **Identification Area** is the space at the bottom of the panel that contains identifying information about your terminal. The terminal id, current date, and time is displayed in this area. Your User Id, Password, Extension and Account codes may also be entered in this area.

  The Identification Area's specific format can also be controlled by your installation's Network Administrator. The Account: and Extension: fields may not be present and you may have a New Password: field or other variation. Regardless of the exact format, the Identification Area is always used to identify the terminal (LU name) and who is at it (if it is logged on).

- The **Function Key Area** resides in the same area as the Identification area (the bottom of the panel) and is present on all panels except the identification and Application Selection Panels. The Function Key area contains the program function keys (PFKEYs) that are valid from the current panel (assuming you are using the standard Network Director PROFILE).

- The **Broadcast Area** (sometimes referenced as the Message Area) is an area immediately before the Command line that will be reserved for broadcast messages and other Network Director generated informational items.

- The **Display Area** is the space left after allocating the Identification, Broadcast, and Title areas. The Display Area will be further subdivided depending upon the panel and the options defined for your terminal or user id.

The following diagram demonstrates the logical areas in use on a terminal screen by The Network Director.
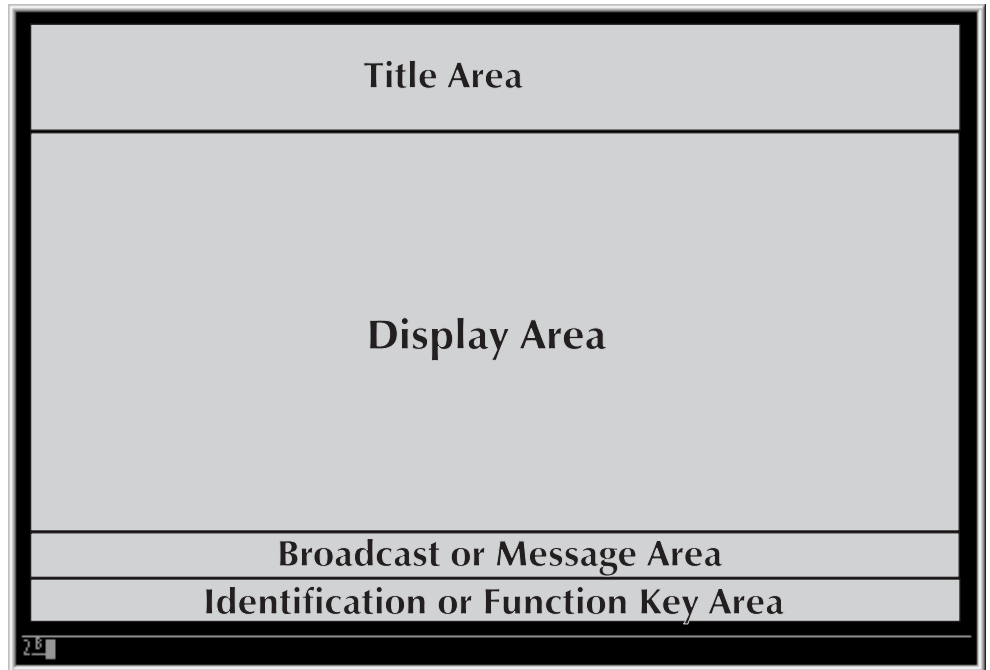
Figure 16.   Basic Panel Areas

All the panels presented pictorially in this manual are approximations of a standard 3277 type device (24 rows and 80 columns). The Network Director supports all other device types in the same logical manner. If your device has 32 or 43 lines available, The Network Director will utilize the entire screen (thereby increasing the size of the display area).

Panel Processing

The Application Selection Panel is made up of the four major *areas* (Title, Broadcast, Identification, and Display). A sample Application Selection Panel with five selections might take on an appearance similar to this figure:

Figure 17.   A Basic Application Selection Panel

The Display Area can be also split into multiple Selection Columns (Figure 17 has a single Selection Column). The Selection Column is further broken down into individual selections, which is then made up of three segments. They are the *Selection Character*, *Selection Title*, and the *Selection Status*.

The **Selection Character** is typically a single underscore character ("_") that is a location in front of the Selection Title that can be used to indicate a preference for a particular Selection. You may indicate your choice by moving the cursor anywhere between the Selection Character and the right most parenthesis in the Selection Status Area and striking the ENTER key.

You may also make a choice by entering any character over the Selection Character. Your installation may also have decided to implement *action characters* to place meaning on the Selection Character's value. Typically, a question mark (**?**) or the letter **H** could indicate that you are interested in obtaining schedule or related information about the specific selection you have placed the *action character* next to. Contact your Network Administrator for information about the action characters implemented at your installation.

The **Selection Title** is the descriptive character string that has been assigned by your installation to represent a particular application. The title should provide enough information about the choice so that you can recognize the function it represents. *Program Development* is an example of a Selection Title.

The **Selection Status** is the portion of the Selection Column that indicates whether the specific Selection is available for use or not. It will typically contain an assigned Program Function key (PFKEY) that you may press to indicate your selection to The Network Director. The presence of a PFKEY value indicates that the Selection is available. Another informational word will be present when the Selection is not available.

The Selection Status fields present on your Application Selection Panel will be automatically updated by The Network Director whenever one of the Selections changes status. To further identify the selection that just changed status, The Network Director will also place an asterisk "*" into the Selection Character's location. This is intended to assist you in locating which selection has changed status since the last time you cleared the screen. Additionally, Time: and Date: in the lower right hand corner will also be updated when a status is updated. Thus, you can look at the Time: and Date: to determine when the selection changed status.

Each Selection Column contains a series of Selections. The Network Director attempts to optimize its usage of the physical screen and will allocate multiple Selection Columns when it is necessary.
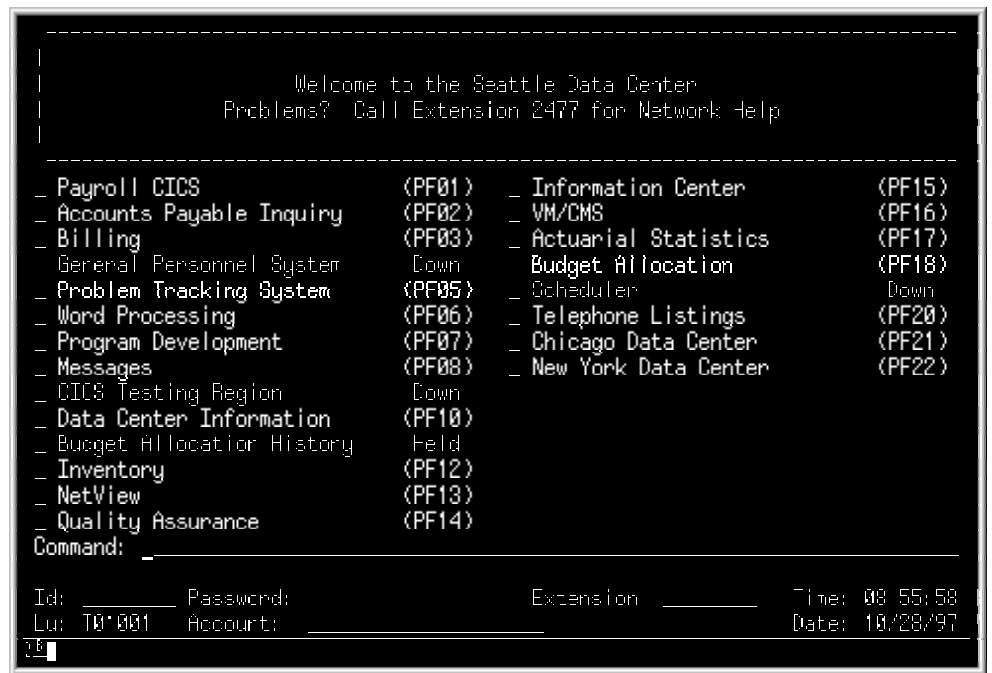
Figure 18. Multiple Selection Columns

This Application Selection Panel has two Selection Columns on it and a total of 22 Selections. Three of the Selections are not currently available (Accounts Payable, Personnel, and the New York Data Center), one of the Selections is in a temporary hold situation (Budget Allocation), and the Information Center is just starting.

The Network Director will attempt to place all your selections into a single column, double spaced. If they will not fit, The Network Director will then attempt to single space the selections. And finally, The Director will utilize the double column technique portrayed in the previous figure.

If you still have more selections available than can be displayed using this double column technique, The Network Director will *page* the selections for you. Simply strike

the ENTER key to page to the next set of selections. To continue paging, simply continue striking ENTER. When you have seen the last page of selections, striking ENTER will return you to the first page of selections. Striking CLEAR at any point will return you to the first page of selections.

The Selection Status will consist of a PFKEY value, which indicates that the Selection is available, or one of the following values:

Status	Meaning
Held	The central installation has issued commands to The Network Director instructing it to prohibit any terminal user requests for this Selection.
Down	The Selection associated with this Status is not currently accepting any sessions with terminal users. This is typically the condition of a subsystem when it is not executing. This is the status that will be reflected for any cross domain selections if the link between the CPUs is not available.
Wait	The Selection is currently executing, but has indicated to VTAM that it does not currently want any new terminal sessions. This is usually indicative of a subsystem just initializing or of a subsystem under stress and trying to hold off more incoming work.
Active	This is the same as having a PFKEY value present. However, all PFKEYs are currently assigned or the Network Administrator has indicated that no PFKEY value should be assigned. You may select this application using any other selection method.

Figure 19.   Selection Status Meanings

The exact format of your Application Selection Panel and the Selections available to you is defined by your computing facility Network Administrator. The Network Director provides facilities for the Network Administrator to define Application Selection Panels for individual Users, Terminals, or combinations of the two.

Making a Selection

The Network Director honors four basic and two optional methods that you may use to indicate which selection on the Application Selection Panel you would like to associate your terminal with. The methods are:

1. Cursor Placement

2. Modified Field

3. Program Function Key

4. Light pen

5. Simulated PFKEY

6. Directed logon request

The above techniques will only operate correctly on currently active selections.

Cursor Placement: To make a selection from your Application Selection Panel, simply move the cursor to a location on the panel between the Selection Character and the last character in the Selection Status Area (the right parenthesis) and strike the ENTER key.

Think of the 3270's cursor as a pointer (a mouse) that you would have on a micro (PC). If you are running a 3270 Connectivity product on a properly equipped workstation, you may be able to utilize the mouse to activate the displayed PFKEYs in a window. Consult your connectivity software manual for information about this function.

Modified Field: Alternatively, move the cursor to the Selection Character in front of the desired Selection and type any character on the keyboard and then strike ENTER.

If the character you enter has been defined as an Action Character, entering it will cause an alternative action predefined by the Network Administrator to occur. Contact the Network Administrator for more information about this.

Program Function Key: You may also strike the PFKEY on your keyboard that is associated with the Selection and whose value is displayed in the Selection Status area.

Light Pen Selection If your terminal is equipped with a light pen and if the Network Administrator has specified the APPLICATIONs properly, you may use the light pen to express your selection by pressing the light pen anywhere on the Selection Title. If your device is equipped with a "cursor select" (CrSel) key, it will also act as a light pen by moving the cursor to an appropriate field and then pressing CrSel.

Simulated PFKEY: If your Application Selection Panel has a Command Line present immediately before the Broadcast Area, you may enter a numeric value equivalent to the PFKEY value associated with the selection. It may also be prefixed with the letters **PF**, **1**, **01**, **PF1**, and **PF01** will all select the General Payroll system in Figure 18 on page 27.

You may also type the *name* of the PFKEY value on the Command line (ONE, TWO, THREE, etc. up to and including THIRTEEN).

Directed Logon Requests The Network Director offers an additional extended facility with which you can make a selection if the Command Line is present. It is called a Directed Logon Request and can be issued from the Command Line.**:** You can utilize this Command line to enter specific names of the selections that you have been authorized for. The Network Administrator will have assigned specific values to each selection and should have provided the necessary information to you to utilize the Command line. Thus, the operator with the Application Selection Panel represented by Figure 18 on page 27 could select the General Payroll selection by entering PAYROLL on the Command line and striking ENTER.

If your installation has chosen to utilize The Network Director's Single System Image, you may also add data to the Command line that is intended to control the selection's operation. Entering the text *PAYROLL 86039* on the Command line could be interpreted as a request for the Payroll records for the individual with the assigned payroll number of 86039.

This is often used by the programming staff to pass additional commands to TSO (like the RECONNECT or alternate SIZE parameter). Thus, *TSO RECON* will cause you to select the application named TSO, automatically sign you on and pass the RECON parameter to the TSO LOGON process.

Before this automated method can be utilized, your installation will have had to instruct The Network Director how to handle any data that may be entered. Additionally, the specific application subsystem (PAYROLL and TSO in our example) must have been coded and designed to respond to the initial data that will be passed by The Network Director. Check with the Network Administrator for specific instructions for your installation.

Selection Method Order

The Network Director checks for selection method in the following order:

1. Directed Logon Request

2. Command: Line Commands

3. Simulated PFKEYs

4. Program Function Keys

5. Modified Field

6. Light Pen Methods

7. Cursor Placement

This sequence should remove the majority of ambiguities that can arise through the intermixing of methods. If you should mark more than one Selection Character when utilizing the Modified Field approach, The Network Director will respond with an error message and present you with the Application Selection Panel again.

Regardless of the manner in which you make your selection, The Network Director will connect your terminal to the intended subsystem (if it is still *active*). When your session with the Selection is complete and you terminate the connection with the target subsystem, your terminal will return to The Network Director and the Application Selection Panel will be restored.

Identifying Yourself

When you approach a terminal, it may already have a Application Selection Panel on it. You can look at the Identification Area (if it is present) to identify if anyone is logged on or has attempted to logon to the terminal. If the Id field is empty, no one has logged on and the Selections present on the terminal are the terminal defaults. If you would like to identify yourself, simply enter your Id and optional Password. This identifies you to The Network Director and you will be presented with your Application Selection Panel.

You can force a logoff or reset of the attempted logon by simply *blanking out* the Id: field and striking the ENTER key.

Your installation may decide to require all network users to identify themselves prior to using the system. In this case, you must identify yourself to The Network Director before you will be presented with an Application Selection Panel. The Network Director will place a panel image similar to this:

```
****+****+****+****+****+****+****+****+****+****+****+****+****+****+****+****+****+****+
**                                                                                    **
**                          Corporate Data Center                                     **
**                          --------------------                                      **
**                                                                                    **
****+****+****+****+****+****+****+****+****+****+****+****+****+****+****+****+****+****+




                          Please identify yourself by entering


                             your User Id and Password.








  Id:  _____  Password:                      Extension: _____     Time:  08:59:51
  Lu:  T0100'   Account:      _____                     Date:  10/28/97
```

Figure 20.   User Identification Panel

This panel contains the standard Identification Area, which should be used to identify yourself.[2]

Id

The Id field in the Identification Area is used to enter the id that you have been assigned. The Id must be a Network Director User Id. The Network Director will insure that only a single terminal in the entire network will be signed on with a given User Id (depending upon the MAXIMUM allowed by the Network Administrator).

Whenever this manual discusses User Ids, you should recognize this as a reference to the contents of the Id field in the Identification Area.

Password

The Password field is a display inhibited input field that can be utilized to enter the password associated with your Id. The password will be validated by The Network Director according to rules set up by the Network Administrator. If your installation has a standard security system installed (ACF2, TOP-SECRET, RACF, VMSECURE, etc.) and the Network Administrator has activated The Network Director's interface, you will have to provide a password that is recognizable to the security system.

For installations using a security system, you can specify a new password by entering a slash "/" immediately after the current password and then entering a new one.

----

[2]   If your terminal is a *line at a time* type device (LU1, NTO, or protocol convertor based device like a PC), you can use the LOGON command to identify yourself.   Enter LOGON userid,password/new password/verify,extension,account where each operand is positionally dependent and the commas and slashes are required delimiters

Password: old/new (where *old* represents the old password and *new* represents the new one) is an example of how this can be accomplished.

New Password

If present, you can also use the New Password field to enter your new password. You should note that any errors associated with typing any of the password fields will require you to completely retype all the password fields again. If your attempt to set a new password is rejected by the security system, The Network Director will require you to enter it again **in addition to** the Password field.

Verify

If present, you must utilize this field whenever you set a new password by typing in the New Password field. The Verify field is provided to guarantee that the new password you entered in the New Password field was what you thought you typed. In essence, the Verify field is provided for you to "verify" that the New Password is right. This attempts to eliminate an accidental setting of your new password to a value that you do not know.

Extension

It is also possible that your installation has decided to further subdivide and identify the network users beyond that of the Id field. The Extension field in the Identification Area is for this purpose. You may enter any code in this field that has been assigned by the Network Administrator to further identify your usage characteristics.

The Id, Password, Account, and Extension fields are optional fields within The Network Director. The Network Administrator at your site may have instituted rules that will require one or more of these identification fields. Your specific installation's rules should be made available to you through the Network Administrator.

Account

Your installation may have chosen to implement a generalized Accounting code for billing purposes. The field named Account in the Identification Area will contain the value of the account code. It may be assigned a default value by the Network Administrator or you may be required to enter it.

This account code will be available for forwarding by The Network Director to the target subsystems you select. It will also be utilized to keep track of resources that you utilize while in The Network Director and will be present in any external accounting records produced by The Network Director.

Terminating a Session

The Network Director considers any panel on a terminal that has a User session in progress an authorized panel. You may reset the session and return to the terminal's default by blanking out the Id field and striking ENTER. You may also return to the terminal's default by entering one of the logoff commands from the command line.

Profile Mechanism

The Network Director contains multiple operational options that can be controlled by the individual terminal operator. These options are contained in an individual **Profile** for each user and terminal. This section of the manual describes how to manipulate the contents of the Profile and what each of the entries in the Profile mean.

In general, The Network Director places control of the network into the Network Administrator's hands. However, any items that are specific to an individual's use of The Network Director are optionally under the control of the individual using the network.

Accessing the Profile

The Profile panel is generally reached by entering the PROFILE command when your terminal is connected to a Network Director facility. You may also access it by pressing a PF of PA KEY assigned to the PROFILE command (default PA1). You leave the Profile panel and return to the previous panel by simply striking the CLEAR key or issuing the Primary Commands END or QUIT (default PF03 and PF04).

The Network Administrator will have set up defaults for you through The Network Director's Configuration Parameters. He will also assign your Profile Attribute, which controls whether you can view or change your Profile. If you are not authorized to view the Profile, an attempt to do so will cause The Network Director to issue a error message and restore the last panel it had on your terminal.

If you are not authorized to modify your profile, The Network Director will present you with the Profile, but all the 3270 fields will be protected from data entry.

When you are authorized for Profile update, The Network Director will present the Profile on a formatted panel similar to the following diagram. You may modify the Profile's content by simply moving the 3270 cursor to the proper location and overtyping the value. Pressing the ENTER key will make the new Profile effective immediately. If you press any other key, the Profile's values will retain their original values.

It is important to note that The Network Director will remember the values you enter until you change them again. You can reset the entire Profile back to the original Network Administrator set values by entering the Profile Primary Command RESET in the command line on the Profile panel.

The Profile Panel

Figure 21. The Profile Panel

The Profile panel is divided into logical segments. Each segment applies to a different area of usage within The Network Director. The following discussion generally identifies each segment and the individual fields within the segment.

PFKEY Values

This portion of the Profile is dedicated to the default values for the Pfkeys in all portions of The Network Director. The PFKEYs may be used as a response to any panel with a Primary Command line on it. You may literally type the command on the Primary Command line or press one of the PFKEYs assigned the value of the command that you would like to execute. While in the Selection process, the command associated with the PFKEY will be executed only if the PFKEY is not currently assigned to a selection.

Each Program Function Key has assigned command values. You can reset your defaults by simply overtyping the appropriate location with your own assignments.

All values are translated to upper case and any value is valid. Each command will be parsed and interpreted by the internal processor active at the terminal at the time you press the key. Thus, it is valid (as far as the PROFILE is concerned) to set the PFKEYs to invalid values for one portion of The Network Director (it could be valid for another portion).

When resetting your pfkeys, you should keep in mind that many of the facilities and panel activities within The Network Director make use of the Fwd, Bkwd, End, and Quit commands. You are advised to keep at least one PFKEY assigned to these commands.

Characteristics

The Characteristics section of the Profile panel contains information related to your Id. This section on the panel is dedicated to items that are global in nature (within The Network Director).

Account: This is the default accounting code that will be used by The Network Director to charge your processing time to after your successful logon (for userid based profiles). It will also be available to the target subsystems that you logically connect your terminal to.

Alarm: This indicator controls whether The Network Director will activate the alarm on your terminal during Selection status changes or for initial broadcast messages. Naturally, this parameter has no actual effect on 3270 devices that are not equipped with an alarm. Enter YES to indicate that you do want the alarm activated and NO to indicate that you do not want the alarm activated.

Identifier: This is the "name" that The Network Director recognizes the displayed profile by. It is normally your userid or terminal name.

Printer: This is the default location within the network that will be the target for all Printed messages when using the Message facility.

Room: This value will be used as a distribution code on all messages that are Printed. It may be used to describe the Room number that the printed message should be routed to.

Keys: This field sets the *name* of the key definitions that will be used by The Network Director to interpret keyboard keys for LU1 type sessions (line oriented devices).

Optional Parameters

Your profile also has 10 slots that you can assign variable information to for use in other portions of The Network Director. These can be used for your name, telephone number, or another piece of information to be passed to a subsystem when you select it. Your Network Administrator will inform you if any of these parm fields should be modified or will have preset them for you.

Command Line Commands

The Command line, when present, can be used for specific activities associated with your session with The Network Director. Because of the manner in which The Network Director parses the Command line, you are only required to enter the number of characters required to identify a command. Thus, the single letter O is sufficient to identify the OFF command, L for LOGOFF, etc. Valid commands are:

Command	Function
BYE	Same as LOGOFF
COLOR	Turn on or off COLOR mode. Do **not** turn color mode on unless your device is capable of extended colors and attributes.
CSSF	Same as LOGOFF
DONE	Same as LOGOFF
DISC	Break the session between your terminal and The Network Director.
DROP	Generate a LOGOFF request and immediately follow that by disconnecting the terminal from The Network Director (See the DISC command).
GROUP	Change the Network Director GROUP connection for the current network element
ID	Activate or deactivate the Identification Area on your screen. If it is present, the ID command will eliminate it. If it is not present, the ID command will cause it to be displayed.
LOGMODE	Specify an alternate LOGMODE to be used by the next selection you make. The LOGMODE value that will be utilized is specified as an operand of the LOGMODE command. (e.g. LOGMODE SNA3278 requests the LOGMODE of SNA3278 to be used for the next selection). Specify LOGMODE OFF or LOGMODE NONE to reset the current setting to the null value (the ACF/VTAM default).
LOGOFF	Reset your terminal to its default condition. LOGOFF and its aliases cause The Network Director to break the association between your User Id and the device.
LOGON	Identify yourself to The Network Director by entering a Command line command instead of using the Identification Area (most useful for line oriented devices).

Command	Function
LOGOUT	Same as LOGOFF
MSGS	Activates or deactivates The Network Director providing its internal message numbers for messages issued to the device.
OFF	Same as LOGOFF
OUT	Same as LOGOFF
OWNER	Requests information about the contact point for a specific application (provided as the first operand value of the OWNER command)
PROFILE	Requests the Profile process, which provides access to the contents of your Network Director profile
QUIT	Same as LOGOFF
RESET	In VM environments, cause your device to be logged off of The Network Director and returned to CP (the VM logo).
RETURN	Terminate your connection with the current Network Director and transfer control of the device to the Network Director that was managing your device previously.
SETMODE	Specify an alternate LOGMODE to be used by subsequent selections you make. The SETMODE value that will be utilized is specified as an operand of the SETMODE command. (e.g. SETMODE(SNA3278) requests the LOGMODE of SNA3278 to be used for all the subsequent selections you make). Specify LOGMODE OFF or LOGMODE NONE to reset the current setting to the null value (the ACF/VTAM default).
SIGNOFF	Same as LOGOFF
Z	Same as LOGOFF
*C	Instructs The Network Director to operate in *compress mode* on a LU1 type device. Each output transmission will contain a completely refreshed terminal image (like "screen mode"), except completely blank lines will not be transmitted. This causes the resulting output image to take up less space on "paper" LU1 type devices.
*L	Instructs The Network Director to operate in *line mode* on LU1 type devices. Line mode reduces the amount of time required to rewrite the device.
*S	Instructs The Network Director to operate in *screen mode* on a LU1 type device. Each output transmission will contain a completely refreshed terminal screen image.
*ULOG	Same as LOGOFF
/RCL	Same as LOGOFF

Figure 22.   Command Line Commands

Note that some of these commands require special privileges that you may not be authorized for. Contact the Network Administrator if you have questions about which commands are available to you.

In addition, these commands may be subject to a command character (COMMAND-CHAR) specification. This means that to get The Network Director to recognize your command, you will have to precede it with a special character (e.g. #LOGOFF would be required if the character # was the command character in effect at your installation). Again, contact the Network Administrator for details if the commands do not operate as you expect.

Error Procedures and Recovery

The Network Director controls your terminal whenever it is not connected to another VTAM subsystem. For this reason, it will be managing your terminal when you turn if off or utilize the keylock (if your terminal is so equipped). Depending upon the type of terminal, The Network Director may or may not be aware of the activity that you have done. In all cases, The Network Director will always attempt to reactivate your terminal when you attempt to use it again.

To help The Network Director recognize that you have powered on your terminal or turned the keylock on again, you may have to press the RESET and CLEAR key (non-SNA terminals) or press the ATTN key (SNA terminals). These actions should send notification to The Network Director that your terminal is now ready for more activity. If you do not receive a reply (a Network Director panel) from The Network Director as a result of your action, you should then contact the Network Administrator or your general assistance desk for aid in getting your terminal functional again.

If you find it necessary to contact the HELP desk or the Network Administrator, it will be helpful to them to know:

1. The terminal name (LU: value normally in the lower left hand corner of the panel)

2. Your userid (Id: value)

3. The last activity done at your terminal

Summary

As this discussion indicates, your installation will have made multiple choices about how The Network Director is to deal with your Terminal(s) and Id(s). It is important that you are familiar with the manner in which the installation expects you to utilize the facility. The Network Administrator should provide you with this information.

Conversely, your installation needs to be aware of which facilities (Selections) that you need to accomplish your tasks. You should indicate to the Network Administrator any additional Selections that you require if they are not already on your Application Selection Panel.

Information Facilities

The Network Director's primary intent is to improve your ability to utilize the computing facility. To further this intent, The Network Director provides a generalized **Information Facility** intended to provide a quick manner in which you, the terminal user, may query about topics related to your use of The Network Director or the computing facility.

INFO will be available to you whenever you have a Selection on the Application Selection Panel Screen representing it. It is typically titled the *Network Information File* or something similar. To obtain information from The Network Director, simply select INFO as you would any other Selection. You may also issue the INFO or HELP command by pressing a PFKEY associated with the INFO or HELP command (default PF1) when you are using any facility internal to The Network Director.

The Network Director is delivered to your site with general information available in the use of The Network Director and its facilities. This has been done to aid you during your early involvement with The Network Director. As you become more familiar with the mechanisms in use within The Network Director, it is likely that you will utilize the INFO facility less often for basic Network Director assistance.

Your installation may also elect to place additional information under control of The Network Director's Information Facility. This will normally be done to aid you with further explanation of your installation specific Selections or any other information of general interest to the network users. Any information your installation chooses to make available will be handled in exactly the same manner as any Network Director INFO information. Because the Network Information File is all handled the same, the discussion in this section will apply to any information handled by The Network Director's INFO facility.

Panel Areas

Before we discuss the details of using the INFO facility, we should briefly discuss the general INFO panel. The following Figure represents the general layout of the INFO panel. The INFO facility labels certain panel areas in addition to other Network Director defined areas.
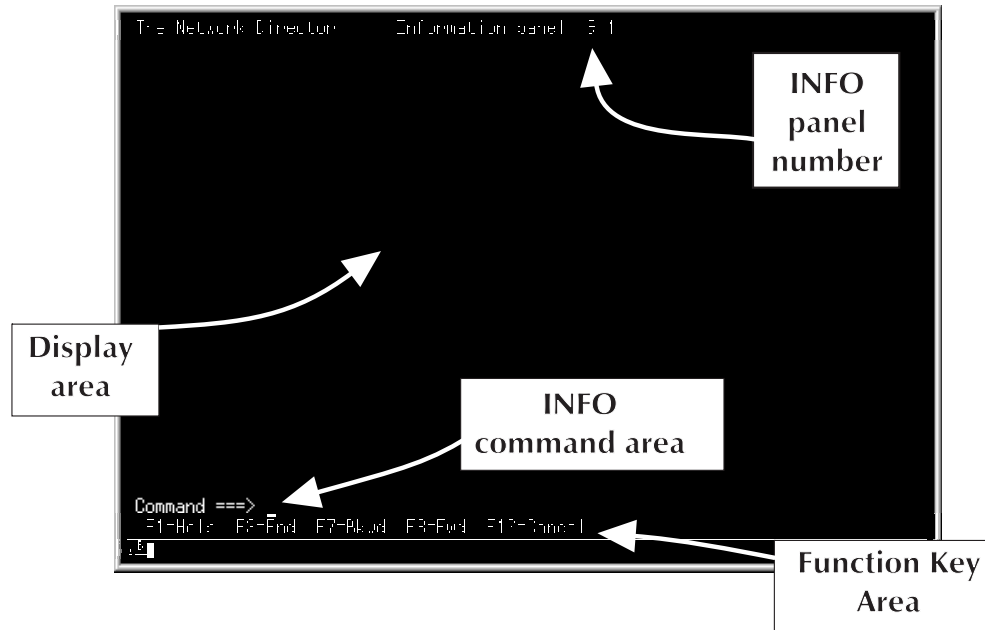

Figure 23.   INFO Panel Areas

The INFO Command Area at the top of the Display Area will contain the INFO text words that represent the information you are currently viewing. It is also the area that you will overtype with other text words or commands that will make up a request for other INFO information or Network Director activity.

The Panel Number contained in the Title Area provides the unique Network Director assigned Display number for the information currently on the panel. This number may be used in *Display Direct* requests (discussed later in this section of the manual).

The Display Area is the area on the panel that is available for the display of the INFO text itself. It is generally freely formatted and will be a combination of words, charts, and additional Display Menus. The lines of periods outline the boundaries of the Display Area.

The last areas on the INFO panel are the standard Network Director Function Key and Message Areas. These are maintained while in the INFO Facility to provide a frame of reference for the terminal user as well as continue to allow The Network Director to display any broadcast messages that may be Sent.

The INFO Menu System

The Network Director's INFO Facility is a menu driven system. This implies that you will be responding to a series of prompts from the various panels that should allow you to get to the information you are looking for.

All the INFO panels will have an implied relation to the others. This relationship is best expressed with their respective Panel Numbers. The INFO Facility is a hierarchical system with the highest level within the system represented by the number before the first period (.) in the Panel Number. Thus, Panel Number 3.3.2 is a *lower* level Panel to Panel 3.3, which is driven from Panel Number 3. A pictorial representation for this might appear as:
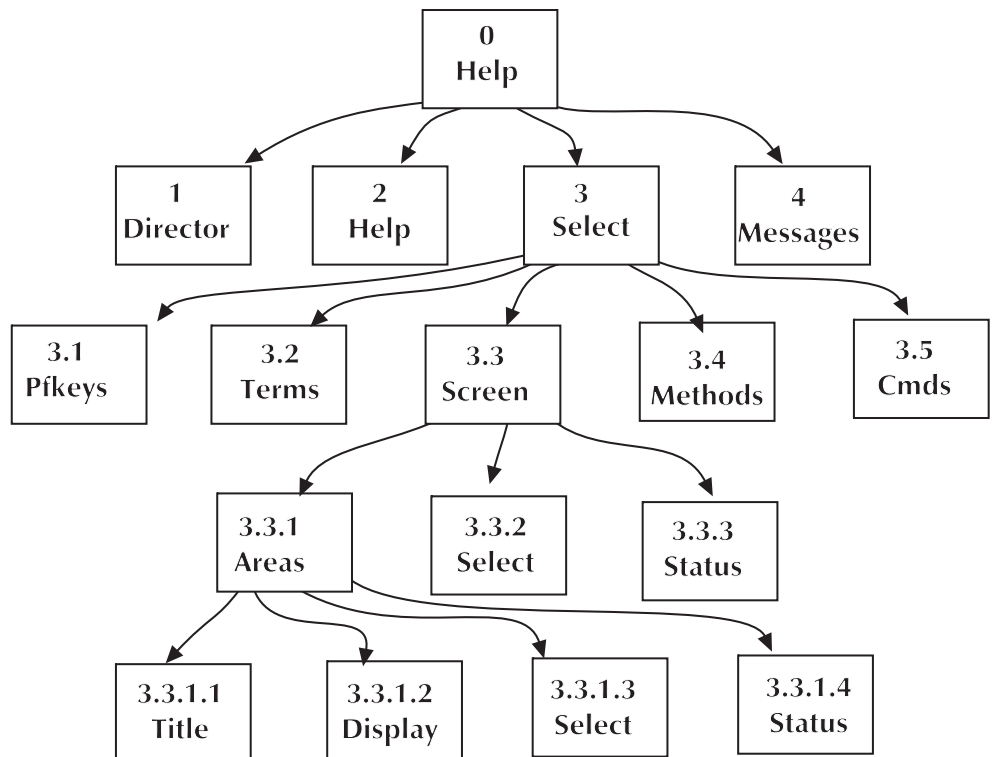
Figure 24. INFO Display Hierarchy

This Hierarchy can be extended to five levels in order to interrelate the proper series of display panels. The concept of the hierarchy should allow you to easily navigate through the various INFO display panels to locate the information you are interested in.

Each INFO Display also has associated with it an INFO Character String that uniquely identifies the information contained on the panel. The use of this character string will be further discussed under Text Commands later in this section.

Command Types

There are four command types you can use to navigate through the INFO Displays. The command types are named Prompt, Text, Display Direct, and Implied. These INFO Commands may be used at any time while you are in The Network Director's INFO Facility.

Prompt Command

Whenever the INFO Display Area you are viewing has a series of further selections (a Prompt List), you may select the next one you would like to view by entering the selection number in the INFO Command Area. The prompt items will be portrayed as white characters (on full color devices) or high intensity, bright characters (on non color devices).

Text Command
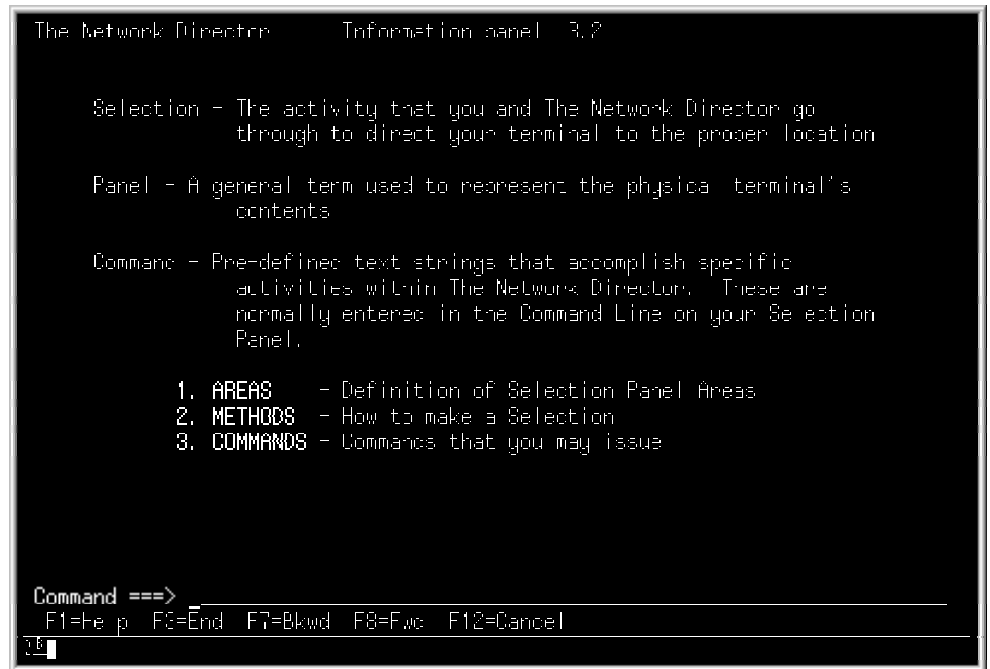
On all the INFO Panels, the Command Area may be used to simply type a language command to the INFO facility. The INFO Character String mentioned earlier is used to construct the Text string.

Assume that Panel 0 is assigned the string HELP (The Network Director's default), Panel 4 is assigned the string SELECT and Panel 4.3 is assigned the string PFKEYS. The Text Command HELP SELECT PFKEYS will result in The Network Director displaying Panel 4.3.

Display Direct

You may also enter the actual INFO Panel number in the Command Area prefixed with a equal sign (=) to specify a Display Direct Command. The next displayed panel will be the panel whose Panel Number you typed.

=3.2 is an example of a Display Direct request for the following panel:

The Network Director   Information panel 3.2

      Selection - The activity that you and The Network Director go
                  through to direct your terminal to the proper location

      Panel - A general term used to represent the physical terminal's
                  contents

      Command - Pre-defined text strings that accomplish specific
                  activities within The Network Director. These are
                  normally entered in the Command Line on your Selection
                  Panel.

          1. AREAS   - Definition of Selection Panel Areas
          2. METHODS - How to make a Selection
          3. COMMANDS - Commands that you may issue

Command ===>
 F1=Help F3=End F7=Bkwd F8=Fwd F12=Cancel

Figure 25.   A Sample Information Panel

The intermediate periods are optional (E.G. **=1324** is equivalent to **=1.3.2.4**).

Implied Command

As a general rule, the Implied Command is intended to provide a logical flow through the entire INFO discussion for a particular topic. You issue the Implied Command by simply striking the ENTER key, which is an implied Fwd Primary Command.

Suppose you are currently viewing INFO Panel 4.3.2. Issuing successive Implied Commands will display Panels 4.3.2.0, 4.3.2.1, 4.3.2, etc. in that order.

The INFO facility checks for the Prompt, Display Direct, Text, and Implied commands in the order listed here.

INFO Primary Commands

The INFO Facility also offers several generalized Text Commands that may be used to aid in the navigation through the INFO Hierarchy. These commands exist to provide a mechanism with which to override the standard Implied order of INFO.

Bkwd or End

The Bkwd Command (default PF07) or END Command (default PF03) implies to The Network Director that the terminal should return backwards in the hierarchy one panel, if your display is currently at the TOP of the current INFO panel. This backwards progression will occur in total at each level of the hierarchy, but will not progress down a previous branch.

If you are currently viewing Panel No. 4.3.2, a Bkwd command will result in the display of Panel No. 4.3.1. A second Bkwd command will cause Panel No. 4.3 to be displayed. A third Bkwd command will display Panel No. 4.2.

Fwd

The Fwd Command (default PF08) will take you down and across the INFO Hierarchy in an generally ascending order. The Fwd command will browse sequentially through all the INFO information and eventually wind its way back to the initial INFO panel.

The Fwd command will traverse to the fullest extent possible each INFO panel and each branch in the hierarchy. This differs from the Bkwd command. Thus, Fwd is appropriate to utilize when you are trying to obtain a full explanation or full details of a particular topic. Bkwd is more useful when attempting to locate a general area that is previous to your current location.

QUIT

The QUIT Command (default PF04) can be issued at any point to immediately exit the entire INFO hierarchy and return to the point at which INFO was entered. Issuing the END command at the highest level (Panel Number 0) is equivalent to QUIT at the same level. The CLEAR key is equated to the QUIT command by the INFO facility.

Primary INFO Panel

The following INFO Panel is The Network Director's primary INFO panel. It is the panel you will receive if your installation has made no modifications or insertions into the INFO facility.
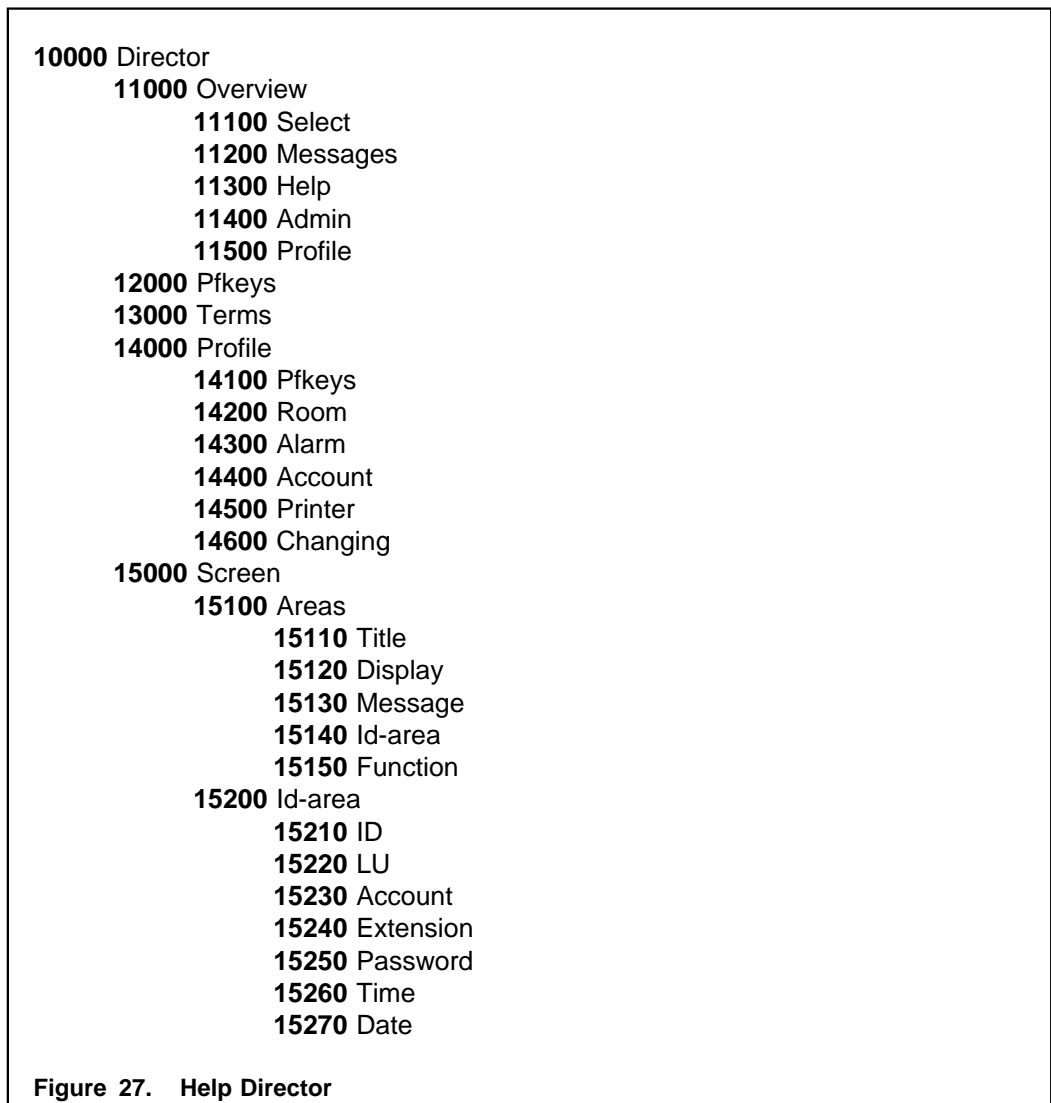

Figure 26.   INFO Panel

As you display the various INFO panels, the INFO facility will display the proper Panel Number in the Title Area. This should assist you in becoming more familiar with the various INFO panels and how to navigate through them.

Standard Text Strings

When The Network Director is delivered to your site it contains multiple INFO panels intended to help you with The Network Director's facilities. The following figures portray the hierarchy as it exists upon initial installation.

Each entry in the figures is made up of its actual INFO Panel Number and its associated Text string.

Help Director

```
10000 Director
        11000 Overview
                11100 Select
                11200 Messages
                11300 Help
                11400 Admin
                11500 Profile
        12000 Pfkeys
        13000 Terms
        14000 Profile
                14100 Pfkeys
                14200 Room
                14300 Alarm
                14400 Account
                14500 Printer
                14600 Changing
        15000 Screen
                15100 Areas
                        15110 Title
                        15120 Display
                        15130 Message
                        15140 Id-area
                        15150 Function
                15200 Id-area
                        15210 ID
                        15220 LU
                        15230 Account
                        15240 Extension
                        15250 Password
                        15260 Time
                        15270 Date
```

Figure 27.   Help Director

Help Director Admin

```
16000 Admin
       16100 LOG
              16110 Prefix
              16120 Locate
              16130 All
       16200 Display
              16210 Abbrev
              16220 Specific
              16230 Combined
       16300 PO
       16400 Changes
              16410 Network
              16420 DMT
       16500 Operator
              16510 Broadcst
              16520 Cancel
              16530 Hold
              16540 Open
              16550 Release
              16560 Simlogon
              16570 Stop
              16580 Close
              16590 Disc
       16600 Parms
              16610 Appl
              16620 Default
              16630 Globals
              16640 Group
              16650 Profile
              16660 Terminal
              16670 User
              16680 Delete
              16680 Directory
       16700 Monitor
       16800 Dump
       16900 Show
```

Figure 28.   Help Director Admin

Help Info

```
2000  Info
        21000 Pfkeys
        22000 Terms
        23000 Screen
                23100 Number
                23200 Areas
                        23210 Title
                        23220 Command
                        23230 Display
                        23240 Broadcst
                        23250 Function
        24000 Commands
                24100 Prompt
                24200 Text
                24300 Direct
                24400 Implied
                24500 Primary
                        24510 End
                        24520 Quit
                        24530 Up
                        24540 Down
        25000 Edit
                25100 HIX
                25200 Prompt
                        25210 List
                        25220 Start
                        25230 End
                        25240 Text
                25300 Text
```

Figure 29.   Help Info

Help Select

```
30000 Select
       31000 Pfkeys
       32000 Terms
       33000 Screen
              33100 Areas
                     33110 Title
                     33120 Display
                     33130 Select
                            33131 Title
                            33132 Status
                            33133 Column
              33200 Status
                     33210 Down
                     33220 Active
                     33230 Held
                     33240 Wait
       34000 Methods
              34100 Cursor
              34200 Modified
              34300 Pfkey
              34400 Directed
              34500 Pen
              34600 Sequence
       35000 Commands
              35100 Logoff
              35200 Disc
              35300 Edit
              35400 Id
              35500 Pfkey
              35600 Dim
              35700 Drop
              35800 Msgs
              35900 Logon
```

Figure 30.   Help Select

Help Messages

```
40000 Messages
        41000 Pfkeys
        42000 Terms
                42100 Memo
                42200 Note
                42300 Broadcst
                42400 Origin
                42500 Dest
                42600 Name
                42700 Site
        43000 Menu
                43100 Column
                43300 Commands
                        43310 Up
                        43320 Down
                        43330 End
                        43340 Create
                        43350 Direct
                        43360 List
        44000 Actions
                44100 View
                44200 Delete
                44300 Edit
                44400 Print
                44500 Send
                44600 Extend
                44700 Redirect
```

Figure 31. Help Messages

Help Messages Editor

```
45000 Editor
      45100 Screen
            45110 Prefix
            45120 Primary
            45130 Text
      45200 Pfkeys
      45300 Prefix
            45310 Synonyms
            45320 A
            45330 B
            45340 C
            45350 CC
            45360 D
            45370 DD
            45380 I
            45390 M
            45410 MM
            45420 P
            45430 R
      45500 Primary
            45510 Synonyms
            45520 Bottom
            45530 Change
            45540 Copy
            45550 Down
            45560 Up
            45570 End
            45580 Format
            45590 Help
      45600 Primary2
            45610 Key
            45620 Locate
            45630 Prefix
            45640 Profile
            45650 Quit
            45660 Reset
            45670 Ruler
            45680 Split
            45690 Top
```

Figure 32.   Help Message Editor

Other INFO hierarchy assignments that may have been made at your installation should be provided to you by the Network Administrator. Contact the Network Administrator for additional information.

Message Text

The INFO facility also contains a single INFO panel for each Network Director message that can be issued. Issuing the INFO TNDxxxx primary command will cause The Network Director to retrieve the INFO panel for message number xxxx and display it at the terminal. The information contained in the INFO file associated with the messages is generally equivalent to the contents of The Network Director's *Messages and Codes* manual.

Message Facilities

The Network Director provides a generalized **Message Facility** to enable you to communicate with other individuals, terminals, and/or groups within the terminal network. This facility is intended to improve interoffice communication and take advantage of the widespread terminal networks.

The Message Facility will be available to you when you have a selection on your Application Selection Panel which represents the Message mechanism. This selection will typically be called Messages or something similar.

The Network Director will always queue your messages and will deliver them when requested by the receiving terminal and/or user. The queue used will be either main storage, an external system file/data set, or a combination (as specified by your Network Administrator).

General Message Facility Characteristics

The Message Facility is designed to replace the traditional "in basket" that is present in many of today's office environments. The Message Facility is not intended to provide full word processing functions, but it can be utilized for simple word processing tasks.

To provide this scratch pad operation, The Network Director has introduced the following additional general characteristics and restrictions.

Message Size Limitation

Any single Message within the Message Facility may not exceed 500 formatted text lines. This will normally allow up to twenty standard 3270 type panels. This limitation provides a basic restriction on the size of the individual Message that you may originate.

Additionally, an individual Message may not exceed the VSAM Control Interval size associated with the External File (approximately 4000 characters by default). The internal format consists of variable length text strings with multiple blanks reduced to a single character and trailing blanks deleted for each line. Lines specified without formatting have only their trailing blanks deleted.

Message Maximum

Each user within the network will have no more than 50 messages of each type available from the primary message menu at a time. Messages beyond 50 will be stored and manipulated normally, but will not appear on the Primary Messages Menu. They will appear as one or more of the 50 that are displayed are deleted or expire.

Automatic Expiration

You should also be aware that The Network Director will be automatically deleting your messages once a Network Administrator specified time interval has expired. The defaults for this automatic expiration is 3 days for Notes and 5 days for Memos. Contact the Network Administrator for more information.

Message Attributes

Each Message within The Network Director has four attributes. The attributes give the message its characteristics and provide The Network Director with implied Message usage. The attributes are:

Attribute	Use
Message Type	Identifies the type of message (Note, Memo, or Broadcast)
Origin	The Terminal or User that initiated the message
Destination	The Terminal, User, Group, or Application receiving the message
Name	An 8 byte descriptive id for the message
Site	An 8 byte descriptive name for the computer installation where the destination is located

Figure 33.   Message Attributes

Message Types

The Network Director's Message Facility recognizes three types of messages. They are Notes, Memos, and Broadcasts. All the message types are manipulated in exactly the same manner.   Each message type has certain unique characteristics within The Network Director and can take on various restart attributes based upon the Network Administrator's decisions.

As an example, it is possible for the Network Administrator to have designated Note and Broadcast messages for main storage queueing and Memo messages for disk queueing techniques.   The difference is whether the message will be available across system restarts or not.

Memo

The term **Memo** is used to describe the traditional interoffice correspondence. The Network Director considers a Memo as a document that should be dealt with independently of other messages and assumes that it can contain multiple paragraphs containing related information. A Memo can contain multiple *pages* and may require multiple panels to display it once the receiving terminal has begun to View it.

Note

A **Note** is essentially a small Memo. The Network Director considers a Note to be of a brief nature (usually a quick paragraph or two) and can typically be displayed in its entirety upon a single panel.

Broadcast

Broadcast messages are specialized in that they will be displayed in the Broadcast Area on the various Network Director panels. Broadcast Messages larger than the Broadcast Area will be truncated by The Network Director. Broadcast abilities are typically limited to the Network Administrator and some of the computing facility's operations staff. Only the most recent (newest) broadcast displays in the Broadcast Area.

When you **send** a message to a destination, The Network Director also automatically generates a broadcast message informing the destination that a message has been sent. You manipulate this automatically generated message in exactly the same manner as any other message.

Origin and Destination

These attributes simply describe the individual, group, or terminal that either initiated the message or is scheduled to receive it. The Origin is always a single entity (one User or Terminal). The Destination may be single or multiple Terminals, Users, Applications, or Groups. If you send a message to an Application, any network element (terminal or user) authorized for the Application will be capable of viewing the message.

Site

A message may also be targeted at a particular installation within a multiple CPU configuration. Each node or installation within the network of CPUs is called a *Site* by The Network Director. These Sites must be predefined to The Network Director and you may send a message to an individual at these Sites. The Site attribute simply describes where a message originated or was sent in a distributed network of CPUs.

Message Name

Each message within The Network Director has an eight byte (or less) descriptive id associated with it. This Name allows the Origin and Destination individuals a quick method with which to identify a message. The Network Director requires that the combination of all the Message Attributes be unique. Thus, communications between the same two individuals, groups, etc. typically rely upon the Message Name to guarantee uniqueness.

Action Codes

The terminal operator utilizes Message *Action Codes* to indicate to The Network Director the types of activities that should be performed upon Messages. These Action Codes are one byte commands and are identified as the functions **V** (View), **D** (Delete), **E** (Edit), **P** (Print), **R** (Redirect), **S** (Send), and **T** (Extend).

The Action Codes are used on the Primary Messages Menu to manipulate specific Messages.

Primary Messages Menu

The Primary Messages Menu is the panel that will be displayed immediately after you have selected the Message facility from your Application Selection Panel. It is this panel that you will use to accomplish all Message Facility related tasks.

The Title Area, Broadcast Area, and Function Key Area are the standard Network Director Screen Areas. The remainder of the panel is devoted to Message Facility information.

The following diagram identifies the various portions of the Primary Messages Menu.

Title Area

Message Menu Area
1 line per message

Broadcast or Message Area
Command line
Function Key Area
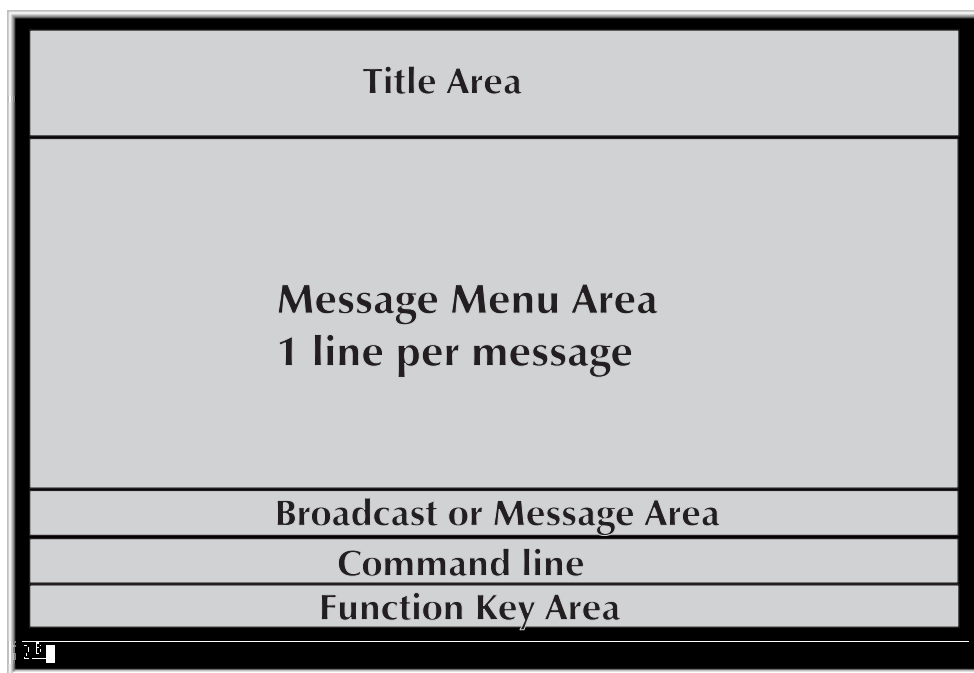
Figure 34. The Messages Menu Areas

The Message Facility displays a single line per message for each message that you currently have in your message queue. This includes messages that you have initiated or messages that you have received. Each message has several characteristics associated with it, which are displayed across the Message Menu Area on the applicable message line.

The individual Message Selections will be ordered by The Network Director into LIFO stacks. The oldest message will be displayed at the end of the Message Column, the newest at the top. This is done to allow you to quickly see messages that have just been sent to you or messages that you have recently been working on.

The following is an example of a Primary Message Menu:

Figure 35.   The Primary Messages Menu

The columns present on the menu have the following meanings:

Name   Identifies the 1 to 8 character identity of the message (this value is **UPPER and lower case** sensitive)

Status   represents the current state of the message.

        blank   the message has not been sent to a destination yet (this is a "in process" message and is still being created).

        Received another network user sent you the message

        Sent   you have transmitted this message to the identified destination

To/From Identifies where you sent the message to or who sent you the message (dependent upon the Status field value). Enter the desired destination here for messages you are initiating.

Type   establishes the class or "category" of the message. It can be a "Memo", "Note", or "Broadcast". It will be set at the default of Note, if you do not enter a type value.

Site   Identifies the 1 to 8 character identity of the network processor that is the "original location" for the destination or origin user identified in the To/From column.

Expires indicates the date and time that the message will expire (if it has been Sent). You can extend this expiration via use of the **Extend** action code "T".

Viewed   indicates the date and time that a specific message was last looked at via the Message Editor by an individual identified as the destination.

Using the Primary Messages Menu

When you have more messages that can be displayed on a single panel, issue the Primary Commands Fwd or Bkwd (default PF07 and PF08) to manipulate which *page* of Message Selections you would like to see.

Once you have located the Message you would like to manipulate, move the cursor to the location immediately preceding the Message you would like to manipulate and enter a valid Message Action Code and strike ENTER. You must enter an Action code or The Network Director will not recognize that you are attempting to operate on the message (simply typing on top of the other input fields in the Messages menu is not sufficient).

If the Message you want to work with is a new one and does not appear anywhere on the Primary Messages Menu, issue the ADD or CREATE primary command (default PF9). This will generate a "blank" entry in your Message Menu that you can then Edit (providing the message name and destination at the same time).

When you are finished with the Message Facility, simply strike the CLEAR key to return to The Network Director's Application Selection Panel. You may also enter the Primary Commands End (PF03), Quit (PF04), or Cancel (PF12).

Action Codes

As a terminal operator utilizing The Network Director's Message Facility you have multiple Action Codes available for your use. This discussion has made brief reference to several of them from a general standpoint. The rest of this Section lists the details of the individual Message Action Codes, how they work, and what their effect is.

Remember that these Action Codes can be used on any Message Facility Menu where a single character input field precedes a Message Name. The Action Codes are: **D** (Delete),**E** (Edit), **P** (Print), **R** (Redirect), **S** (Send), **T** (Extend), and **V** (View).

Delete

Entering a **D** Action Code will cause The Network Director to remove the message from the Message Facility. The Message will no longer be available for any further Action.

You may Delete any message that you are the Destination for, that you have In Process, or that you were the Origin of. Care should be taken when Deleting a message that you originated. It is possible that you will Delete a message before the Destination has read it. Generally, it is a good policy to allow only the Destination to Delete messages that was Sent to it.

You may not Delete any message that you did not originate or that is present on your Messages Menu because you are a portion of a Group that has been sent a Message.

Remember that messages will be automatically deleted by The Network Director when they reach their expiration date and time, which is controlled by the Network Administrator.

Edit

The **E** Action Code is the action code that causes The Network Director's Message Editor to be invoked. The Message Editor provides facilities to create and modify the contents of a message. The Message Editor is discussed in detail later in this Section of the manual. You may enter the E action code in the Message Header or associated with any In Process message.

Extend

Entering a **T** Action Code requests that The Network Director add to the expiration date of the indicated message another expiration interval (as set by the Network Administrator). Extend allows you to retain a message beyond the date and time that it would have normally expired.

You may use the Extend action multiple times to extend the life of a specific message, if so desired.

Print

Entering a **P** Action Code indicates your desire to produce a hardcopy image of the message on a online printer. The printer that will receive the message is defined in your Profile by the Network Administrator and will receive all messages that you Print.

Redirect

Entering a **R** Action Code indicates your desire to change the destination for a message that you have started to create, but not yet sent. After entering the R action, simply tab to the To and Site fields of the message's menu line and enter the new values desired.

You can also think of this as a "rename" function, which is what The Network Director is basically doing. It is renaming the message you started to new key values within the system.

Send

To initiate the transmission of a completed message, you simply enter the **S** Action Code. This action code will cause The Network Director to place the message onto the Primary Messages Menu for the users and terminals associated with the Destination you have selected.

The Send Action Code will cause In Process messages to be modified to the Destination Indicators status for display on your Primary Messages Menu.

The Destination for the Message is on the Primary Messages Menu. If the Destination you are sending the message to is logged on within the network, the destination will be informed via an automatically generated broadcast message that he has received a message from you.
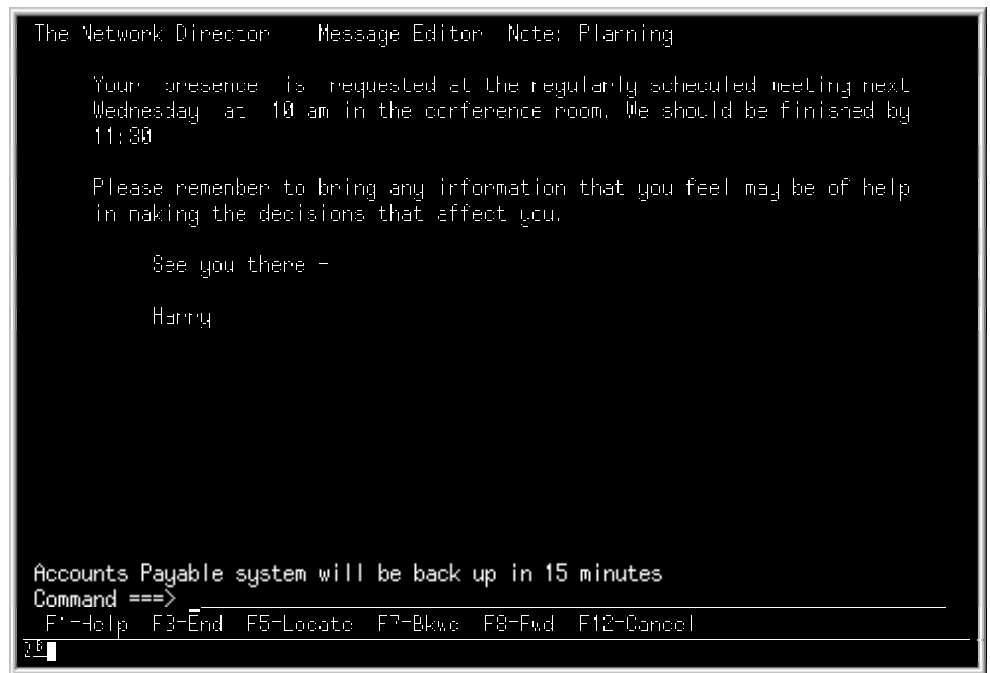
If you have specified a site that is defined within the network and is not your own, The Network Director will transmit your message across the link between the CPUs to The Network Director operating at the other Site. The destination user(s) or terminal(s) at

that site will be informed about the delivery of the message exactly as if the message had originated there.

When you send a message, The Network Director will automatically generate a broadcast message informing the destination that you have sent the message. This informational message can be viewed, deleted, etc. exactly as any other message in the message facility.

View

The **V** Action Code is the primary Message Facility command to display a message that has been Sent to you. View will retrieve the message you have selected and will display the contents of the message.

Figure 36.   A Sample View Panel

You can View any message that is present on your Primary Messages Menu, regardless of Origin or Destination.

The Message Editor

The Network Director's Message Facility provides a full screen Message Editor intended for use as a tool to construct and maintain messages with. Its characteristics are not unlike other typical full screen editors within the data processing industry, but its emphasis is placed on ease of use and is oriented towards The Network Director's requirements.

Many of the commands (primary and prefix commands) have identical names or aliases similar to those that are present in the ISPF editor and CMS XEDIT. This is intentional and intended to provide users of the Message Editor with concepts and function similar to the IBM editors.

Thus, if you have utilized one of the popular IBM editors, it is likely that you can begin utilizing The Network Director's Message Editor with a minimum of reading.

The following figure is a sample panel from the Message Editor panel prior to any editing operations being done.

Figure 37.   Message Editor Panel

This figure is a presentation of the standard Network Director Message Editor panel (presuming all default parameters).

1.   The first line on the panel shows the message being edited.

2.   The second line and its duplicate at the bottom of the panel are called the Ruler Lines.

3.   the bottom of the panel contains the standard Command area and function key area

4.   Other lines on the panel are dedicated to Message Text lines. Each Message Text line has a Prefix of four equal signs (**=**) where Prefix Commands may be entered.

The Message Editor has multiple parameters to control its operation. These parameters and their values for your Network Director session are maintained in The Network Director Profile for you.

The Message Editor has a primary goal of producing Network Director Messages that can be used to improve interoffice communications. To further this goal, the Message Editor automatically FORMATs all messages. You should be aware of this characteristic and learn how to control the formatter to produce the results that you desire.

Message Editor Concepts

The Message Editor uses a Current Line philosophy for many of its Primary Commands. This means that the Primary Command will typically operate on the current line, which is the top line of the Editor panel. Several of the Primary Commands will affect the current line value, but the current line will always be displayed as the top line on the Editor panel.

When the first line of the message is the current line and you issue a command that deletes the first line, the new current line will be the new first line of the message.

The Network Director's Message Editor is a virtual storage Editor. This implies that the message you are editing has been completely read into main storage and will not be placed back onto external media (disk) until you SAVE it or enter the END command.

The logical order of processing for the Message Editor is:

---

1. Accept any modifications of the text area

2. Process any Prefix Commands

3. Honor any PFKEY implied command

4. Accept and process any commands on the Primary Command Line

Figure 38.   Editor Processing Order

Primary Commands

The following list of Primary Commands may be used to manipulate the message being Edited. Each Primary Command may be abbreviated to the minimum letters that will allow it to be uniquely identified by the Message Editor (each command's minimum abbreviation is in UPPER CASE letters). Optional operands are enclosed by and '.

Several of the Commands have *synonyms* or other text commands that can be used in place of the primary text value. These synonyms are identified within the explanation of each command. You should be aware that these synonyms are completely interchangeable with the primary command.

Bkwd

The current line pointer is moved back in the Message being edited by a numeric value number of lines, optionally specified as a first operand. If no numeric value is entered, the current line value is decremented by the number of lines available on the panel.

Synonyms: BAckward, Up

Bottom

The current line pointer will be set so that the last line of the message will appear immediately before the ruler line at the bottom of the panel.

Synonyms: Last, ++

Change

An *old-text-string* can be changed to a *new-text-string* with the syntax:

```
Change [/old-text-string/new-text-string/] [ALL]
```

The current line is scanned for the first occurrence of *old-text-string* and replaced with *new-text-string*. Specification of ALL will cause all occurrences of *old-text-string* in the rest of the file (from current line to end of file) to be replaced with *new-text-string*.

If the Change command is issued with no operands the last successful Change is issued again.

COpy

The first operand of the COPY command identifies a message to be copied into the current Message after the current line with the following syntax:

```
COpy [ message name ]
```

If no operands are specified, COPY will copy the last specified Message again. If there was not a last successfully identified Message, then COPY will issue a message indicating the condition and will do nothing.

Synonyms: Merge, Get

Directory

The DIRECTORY command allows you to receive a complete list of The Network Director's System Directory, which contains information useful for identifying the specific individuals that utilize The Network Director. See Figure 39 on page 73 for an example of the output result.

The System Directory is useful with attempting to correlate a specific user's name with the userid that is used by the individual when accessing the system. The Directory typically contains the individual's full name, phone number and/or extension, etc.

Synonyms: SHow

End

The current Edit session is finished and the current Message will be filed for later usage. This command is the same as Save.

Synonyms: FILe, Save

Format

The Message currently being Edited should be formatted according to the Message Editor's Format rules. See the following sample session for the rules that are used by the Message Editor. The FORMAT command is always implied by END or SAVE.

Synonyms: Reformat, TF

Fwd

The current line pointer is incremented forward in the current Message by a numeric value number of lines (the first operand). If there is no numeric value specified, the current line pointer will be incremented by the number of lines on the terminal panel.

Synonyms: FOrward, Down

Help

This is a request for entry into the INFO Facility. If a text string is entered, it will be passed to the INFO facility. Otherwise, the basic EDIT INFO panel will be presented.

Synonyms: ?, INFO

Key

This will set the command string that is associated with a particular program function key (PFKEY) on your terminal using the syntax KEY numeric value=text. Any command may be assigned to any function key. The values you set will be stored in your Network Director Profile.

The Network Director provided defaults are:

```
PF1/13  - Help          PF7/19  - Bkwd
PF2/14  - Split         PF8/20  - Fwd
PF3/15  - End           PF9/21  - Format
PF4/16  - Quit          PF10/22 - Prefix
PF5/17  - Locate        PF11/23 - Ruler
PF6/18  - Change        PF12/24 - Cancel
PA1     - Profile       PA2     - End
PA3     - End
```

KEY PF10=INFO is an example of how you would set program function key 10 to the command string INFO.

List

You can also create a logical grouping of userid or terminal names that can be referenced as a single entity (for purposes of setting a Message Destination). This logical grouping is called a **Network Distribution List** and is managed and created by an individual user via the LIST command of the Primary Message Menu or Message editor.

Simply enter LISTS and press ENTER. The Network Director will respond with a menu of existing Distribution Lists or will allow you to create a new one. See Figure 42 on page 76 for additional information about creating or managing a Network Distribution List.

Locate

This command causes the Message Editor to scan forward from the current line looking for *text-string*, with the syntax:

```
locate [/text-string/]
```

When the character string is located, the Message Editor will set the current line equal to the line containing the text-string and redisplay the edit panel.

If there is no text string specified, the Message Editor will repeat the last Locate command again. The *text string* may not exceed 70 characters worth of information.

Synonyms: Find, SEarch

PRefix

This command allows you the ability to control whether you want to see the Prefix Area on your Editor panel or not. The command format is:

```
PRefix [ON|OFF]
```

The first operand specifies your request. ON specifies that you do and OFF specifies that you do not.

Entering PREFIX with no operands will reverse the current setting. Turning off the prefix area is useful when you would like to see what the Message will look like when the Destination Views it.

Profile

The contents of the current edit Profile is displayed. This displays the settings for the PFKEYs and other changeable parameters.

Strike the CLEAR key or issue the END or QUIT command to return to the Editor panel.

Quit

Terminate the Message Editor session without preserving the contents of the Message that was being built. The updated Message will not be available for Sending or any other Action once this command has executed. This will also cause the Message Editor to return your terminal to the Primary Messages Menu.

Synonyms: CAncel, QQ

REset

Move the cursor to the Primary Command line. This is typically useful when assigned to a program function key and is simply an aid to using the editing features of the 3270.

Ruler

This command controls whether the Ruler lines are displayed or not. ON requests the Ruler lines and OFF dictates that they should not be displayed. This (like PREFIX) is useful when you are interested in simulating the Viewing of your message.

Synonyms: SCale, COLs

SPlit

Divide the line that contains the cursor into two lines at the cursor position. This provides a facility to separate existing text lines and to make space available for inserting more message text.

Top

The current line pointer is set to the first line in the message.

Synonyms: FIRst, --

Prefix Commands

Prefix Commands are brief 1 and 2 character commands that may be entered into any Prefix on a Message Text line to affect the next Editor panel. The Prefix Commands are used to manipulate individual lines in the message. Like the Primary Commands, the Prefix Commands may have synonyms that can be used in place of the the basic prefix character.

A - After

The target for a Move or Copy operation is After this line. This marks the line that will immediately precede the block operation (once it's complete).

Synonyms: F - Following

B - Before

The target for a Move or Copy operation is Before this line. The B Prefix command marks the line that will immediately follow the block operation (once it's complete).

C - Copy

Produce a duplicate copy of this line where the target Prefix command is (B or A).

CC - Mark Copy Range

Indicate the boundaries of a **block** Copy operation. Each boundary of the Copy range will be marked with a double C. When both boundaries are marked and the target Prefix command is present (A or B), the Range Copy will complete.

D - Delete

Remove the line marked with the D command from the Message being Edited.

DD - Mark Delete Range

Mark the boundaries of a range of lines that should be deleted from the current Message. When both the beginning and ending Delete range is marked the lines with the DD Prefix commands and all lines in between will be deleted.

I - Insert Lines

Immediately following the line with this Prefix command, insert a new line. The new line then may be modified to become a portion of the Message.

Synonyms: >

M - Move

Take the line marked with this Prefix command and place it in the Message at the target location (A or B Prefix command).

MM - Mark Move Range

This marks the beginning and ending ranges of a block of lines that should be moved as a group to a new location (indicated by the target Prefix commands A or B).

P - Point

Make the line containing this Prefix Command the new *current line*.

Synonyms: /

R - Replicate

Duplicate the line that contains the R Prefix command immediately following itself.

Synonyms: " (double quote) or ' (single quote)

Repetition Specification

The single byte Prefix Commands (I, D, and R) and their synonyms may be prefixed or suffixed with a numeric value to indicate a repetitive operation. As an example, I5 requests that five lines be inserted after the line containing the Prefix Command. D3 will delete the current line and the following two lines. 7R will make seven duplicates of the line containing the R Prefix Command.

DIRECTORY

The **System Directory** is created by The Network Director in virtual storage as terminal users logon to The Network Director during execution. This information is then stored into the External File for usage by you when you need access to information about other users of the system

The System Directory can be accessed from the Message Facility by entering the primary command **DIRECTORY** or **SHOW** (either on the Primary Messages Menu or the Message Editor).

In either case, The Network Director will respond with the contents of the first portion of the System Directory in a format similar to the following figure:[3]
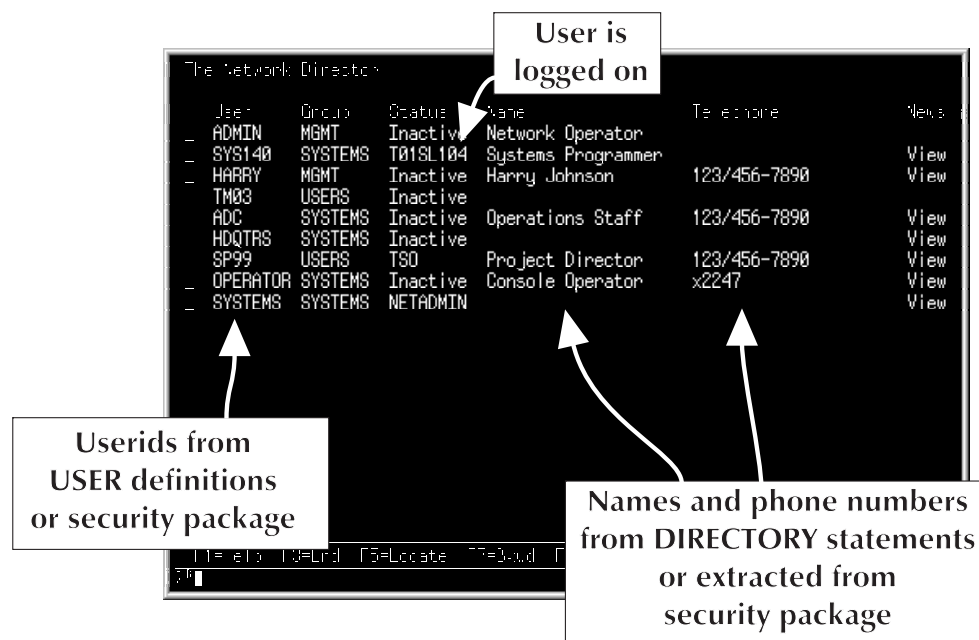
Figure 39. System Directory Menu

The "Status" field of each entry will indicate **Inactive** if the user associated with the entry is not currently logged on, the **Luname** if the Directory's Logon time is greater than the Logoff time, or the **Application** name if the "Appl chosen at" time is greater than the Logoff time.

You can manipulate the System Directory via primary or prefix commands, exactly as with other SHOW list panels.

---

[3] The Network Administrator at your installation may have caused The Network Director to display the System Directory in a different format. The figures in this publication represent the default definitions shipped with The Network Director.

Entering a **S** for "select" will cause the detail panel for the individual Directory entry to be displayed, as follows:

```
 The Network Director        Show Directory    SYS140

    Identifier . . . SYS140

    Application. . : NETADMIN
    Appl chosen at : 10:30:24  10/28/97
    Department . . . SUPPORT
    Group . . . . . SYSTEMS
    Information. . . Floor 5, Room 6
    Logged off . . : 10:30:20  10/28/97
    Logged on. . . : 10:30:22  10/28/97
    Logon at . . . : T01001
    Name . . . . . . Systems Programmer
    News . . . . . : Viewed
    Phone  . . . . . 123/456-7890









 Command ===>
  F1=Help  F3=End  F7=Bkwd  F8=Fwd  F12=Cancel
```

Figure 40. Individual Directory Panel

The Application, Appl chosen at, Logged off, Logged on, Logon at, and News fields are dynamically maintained by The Network Director as a result of an action taken by the individual associated with the Directory entry. The Identifier, Department, Group, Information, Name, and Phone fields are derived from the active Security Package (ACF2, RACF, etc.) or The Network Director's DIRECTORY statement.

The "News" field will be blank for a Directory entry, whose user has not received the News or **Viewed** if the News has been sent. If your installation is not making usage of the News facility within The Network Director, the Directory's News field will always be blank.

The END (F3) or CANCEL (F12) action will return your device to the prior panel.

Distribution Lists

The Message Facility user can create a logical grouping of userid or terminal names that can be referenced as a single entity (for purposes of setting a Message Destination). This logical grouping is called a **Network Distribution List** and is managed and created by an individual user via the LIST command of the Primary Message Menu or Message editor.

Simply enter LISTS and press ENTER. The Network Director will respond with a menu of existing Distribution Lists or will allow you to create a new one.

The LIST command is based upon The Network Director's SHOW processor and the existing SHOW prefix commands are useful when creating or editing a Distribution List. The CREATE or ADD primary command allows you to generate a new list. The Edit (E) action allows you to process an existing list and Delete (D) action erases an existing List from the system.

A Network Director Distribution List is automatically stored in the External File for each individual user that creates one. The Distribution list is a "private" list and is **not shared** with other message facility users. lists and cannot be shared amongst multiple users.

Creating a Distribution List

Assume that you would like to create a new Distribution List. First, issue the LISTS command from the Primary Messages Menu:
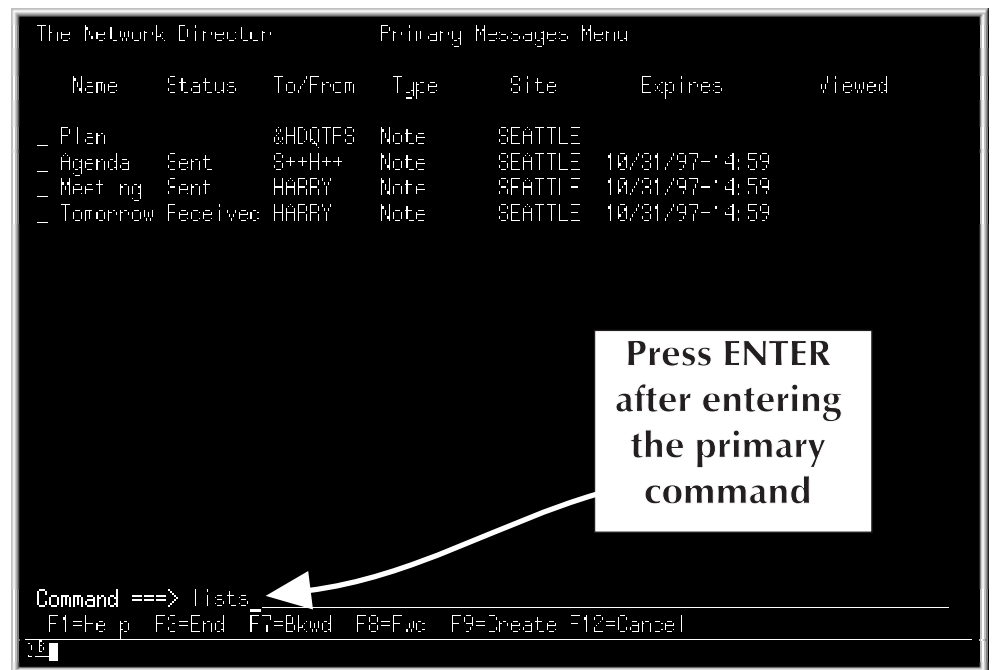
Figure 41.   Issuing the LIST(S) Command

The Network Director will "load" all defined LISTS for you into storage from the External File.

A list of defined Distribution Lists is then presented, as below:
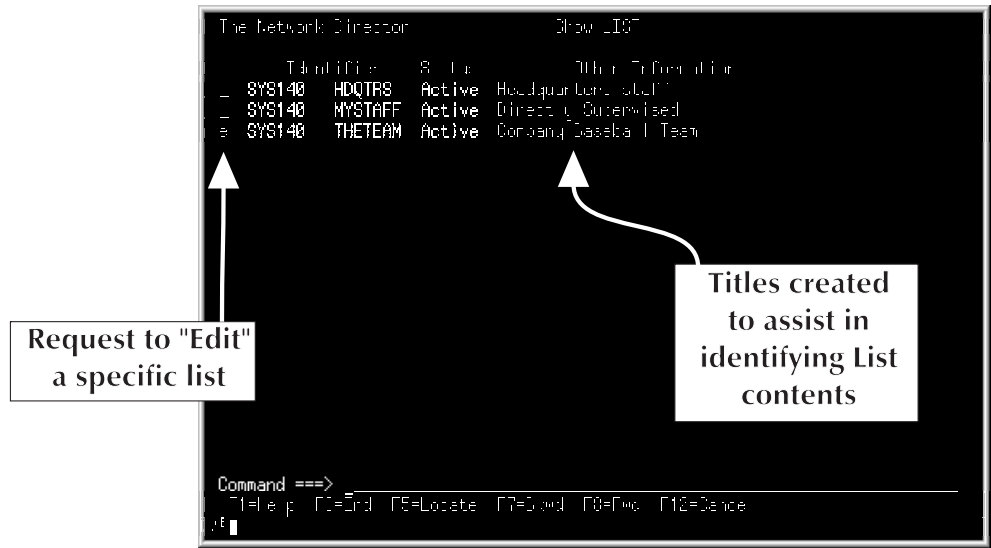
Figure 42. List of Distribution Lists

The terminal operator can move the cursor to operate on an existing list by entering the **E** (Edit) action.

A new LIST entry can be created by entering ADD or CREATE (F9), as follows:
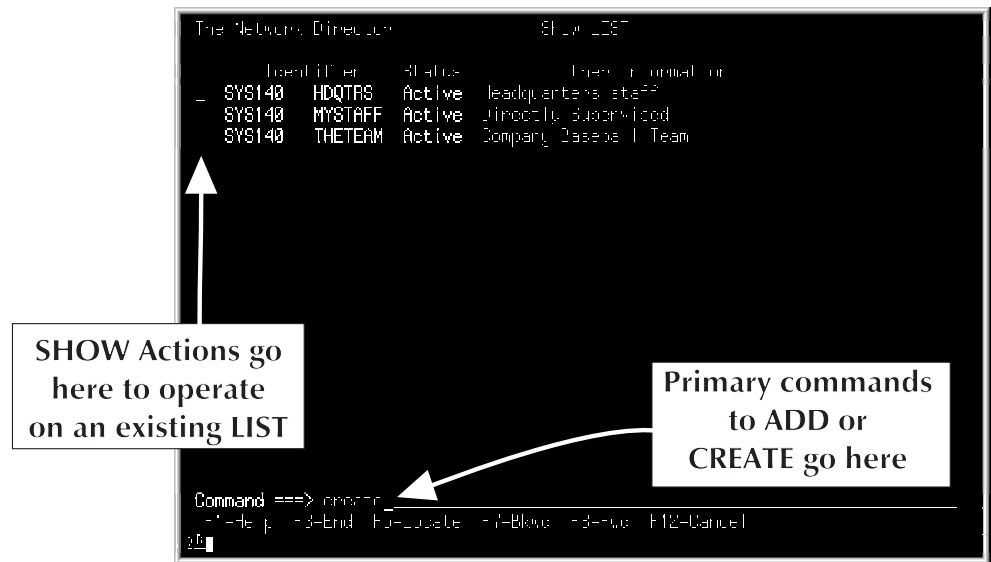
Figure 43. Creating a New Distribution List

The Network Director will then present you with a Distribution List panel that should be completed, as appropriate.

The following panel has had the applicable fields filled in and the Elements field selected (to begin entry of the specific members of the Distribution grouping).
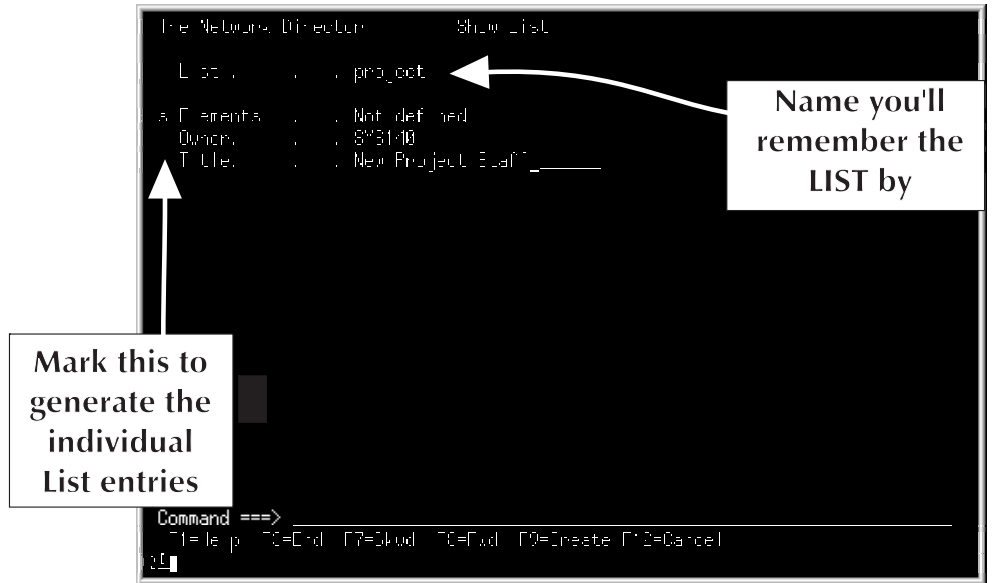
Figure 44.   New Distribution List Panel

Pressing the ENTER key will cause The Network Director to remember the basic Distribution List information and then present you with a panel ready to receive the Distribution List member names.

The following figure illustrates the panel with 6 entries in it.
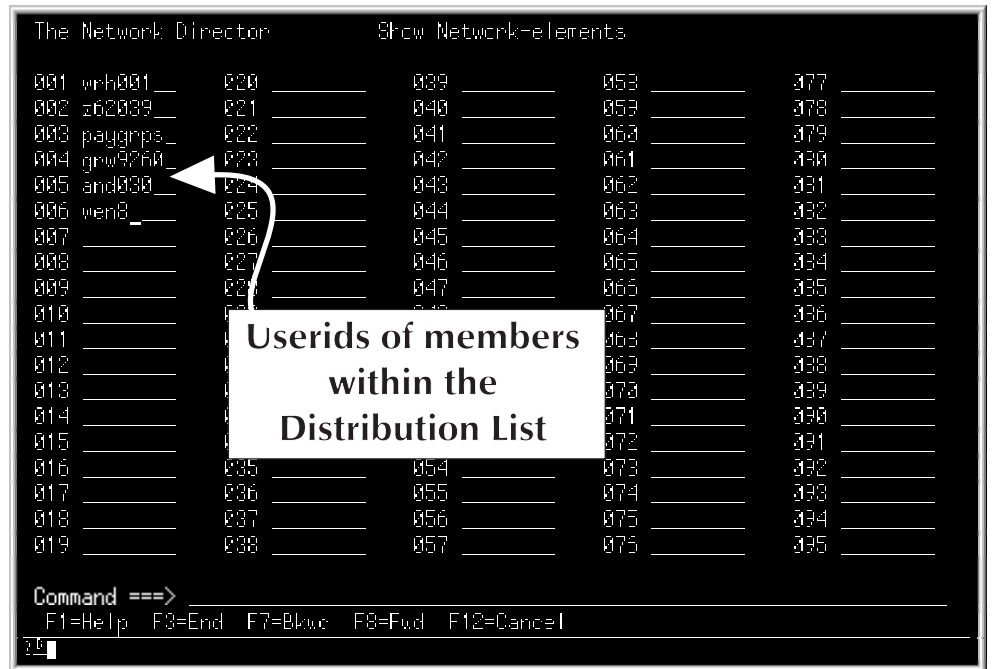
Figure 45.   Distribution List Members

Enter the userids or terminal names for the member of your list, press Enter to commit the items you have entered, and then issue the END (F3) command to save the member specification.

Issuing another END (F3) command will cause the Distribution List to be saved and it will now become an entry on the Distribution List menu, as follows:

Figure 46.   Updated Distribution Lists

You may now utilize the established Distribution List as a message destination (enter the List name in the To/From field, preceded by an ampersand "&") when creating and sending messages.

Using a Distribution List

A Distribution List name can be utilized as the destination for a message as if it was an actual destination itself. However, there is a significant difference when you send a message to a destination that is a Distribution List, as below:
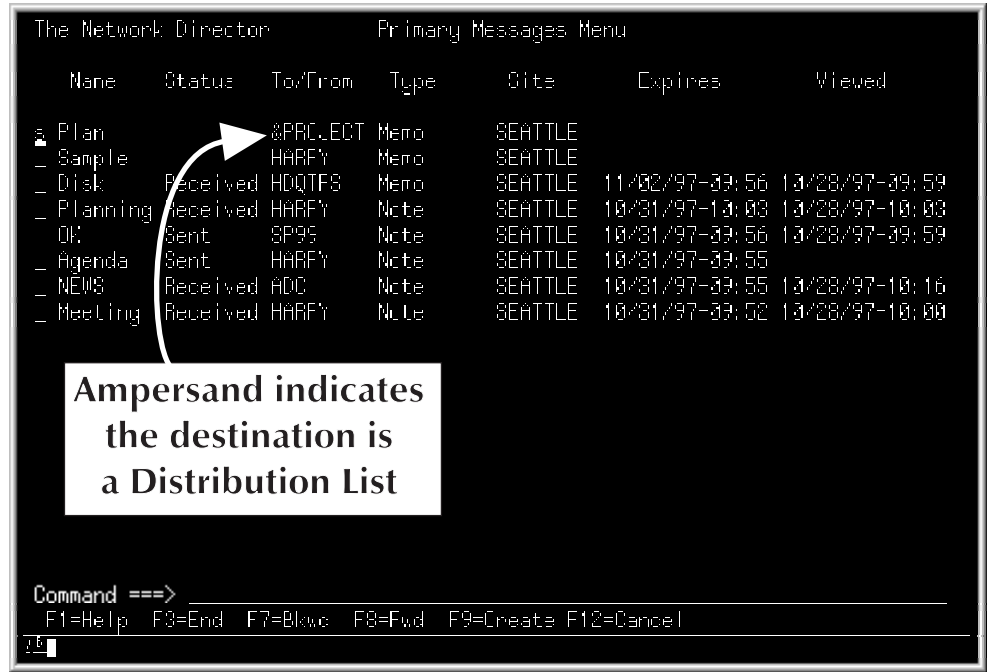
Figure 47. Sending a Message with a Distribution List

The Network Director will detect that you have sent the message to a List of destinations by the presence of the ampersand and **will automatically** replicate the message the number of times that you have entries in the list. This allows the receiving user to delete the copy of the message that was received as desired by the receiver. Additionally, the message initiator will be able to detect when the destination user has actually viewed a specific message.

This has the side effect of generating several entries in the owning user's Message Menu, as below:

Duplicated messages for each member of the List
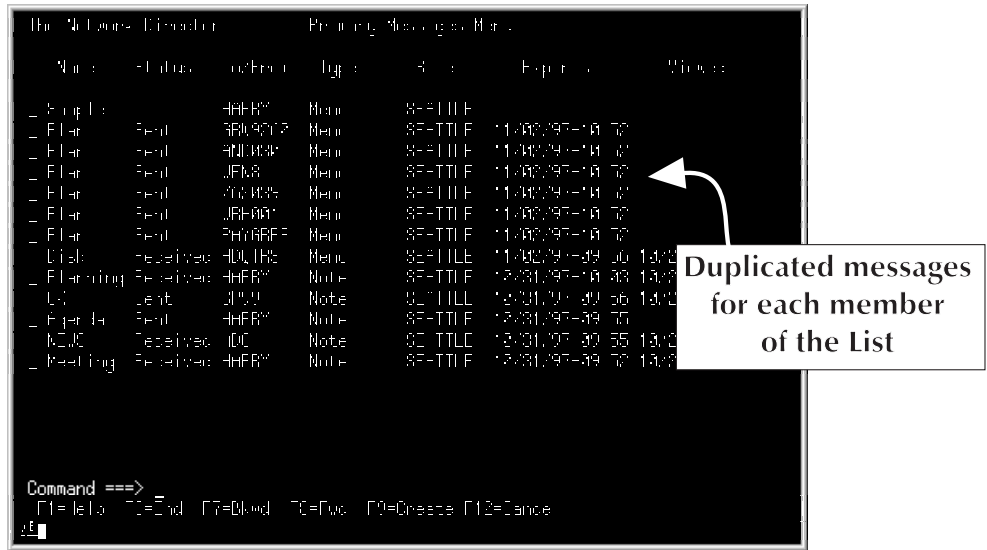
Figure 48.   Messages Menu with Distribution List Generated Entries

The originating user may also delete specific entries from the menu (as desired). Note also that once the message is sent, the original message with a Distribution List as a destination is no longer on the messages menu. This is because the message has been reproduced for each of the List destinations and no longer exists as it did prior to transmission.

A Sample Message Editor Session

The following sequence of panels are intended to give you an idea of how to use the basic Editor commands to create a Message. The sample session should provide you a basic idea of how the Editor's concepts work.

Figure 49.   Sample Edit Panel One

This image of the panel is after the terminal user has finished typing the first screen full. The text itself is simply entered in available Message Text lines in free format. The Editor provided a clear panel for this operator to begin with (like Figure 37 on page 64).

The terminal user then moved the 3270's cursor to the Primary Command line and is about to issue the FORMAT primary command. This causes the Message Editor to redisplay the Message according to the following basic rule.

All lines *framed* by blank lines and with a non blank in position 1 of the line will be considered paragraphs and will automatically be right and left margin justified. If there is a blank in position 1, the FORMAT command will not modify the line in any manner.

The result, after pressing ENTER is:

Figure 50.   Sample Edit Panel Two

The Message Editor considers this example Message as containing two paragraphs. The FORMAT command has caused the Message to be redisplayed with the paragraphs right and left justified. Note that the salutation *Thanx* was not moved by the FORMAT command. This is simply due to the fact that the edit lines containing the salutation begin with a blank character and the FORMAT command will not manipulate these lines.

However, let's assume that this Message does not quite have the physical appearance that the Originator would like. Presume that the first paragraph (To:, From:, Date:) were really supposed to be three separate lines and the second paragraph really was supposed to be two paragraphs.

The terminal user may now use other Message Editor commands to cause the Message to take on the desired form. The following diagram demonstrates the contents of the panel after the operator has made changes to the panel by using standard 3270 hardware facilities to move the cursor around the panel and make appropriate entries on it to command the Message Editor to operate on the Message.
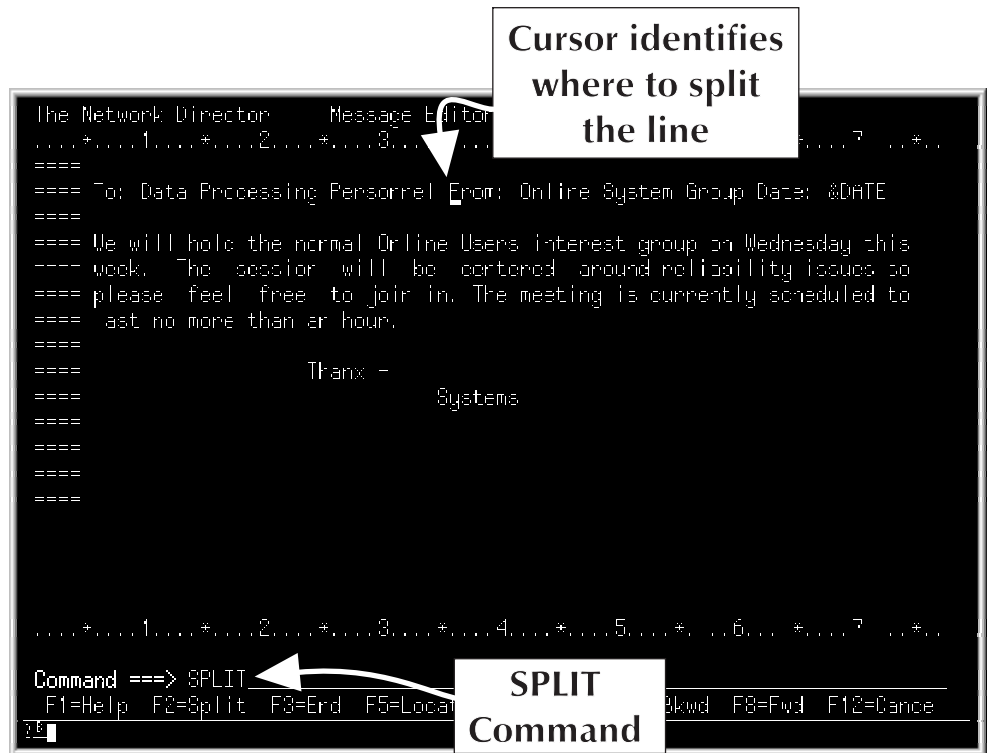
Figure 51. Sample Edit Panel Three

The terminal user is doing a single operation with this last panel, although the Editor will allow the user to do more than a single operation (see the following Figure). The SPLIT command will divide the line with the cursor in it into two lines. This activity will prepare the Message to separate the first paragraph into multiple paragraphs after the next panel operation.

The operator would not have had to enter the SPLIT command on the Primary Command line if the terminal being used is equipped with standard 3270 function keys. The PF2 key could have been used instead.

For this example, presume that the operator has entered the command as portrayed and then simply struck the ENTER key. The following panel represents both the reply from the Editor in response to the ENTER key and the contents of the panel after the terminal user has typed the next set of Editor commands.

Note that Figure 51 on page 83's SPLIT command has placed the From line on its own Message Text line. The Date: line in this example requires another SPLIT operation to separate it onto its own line.
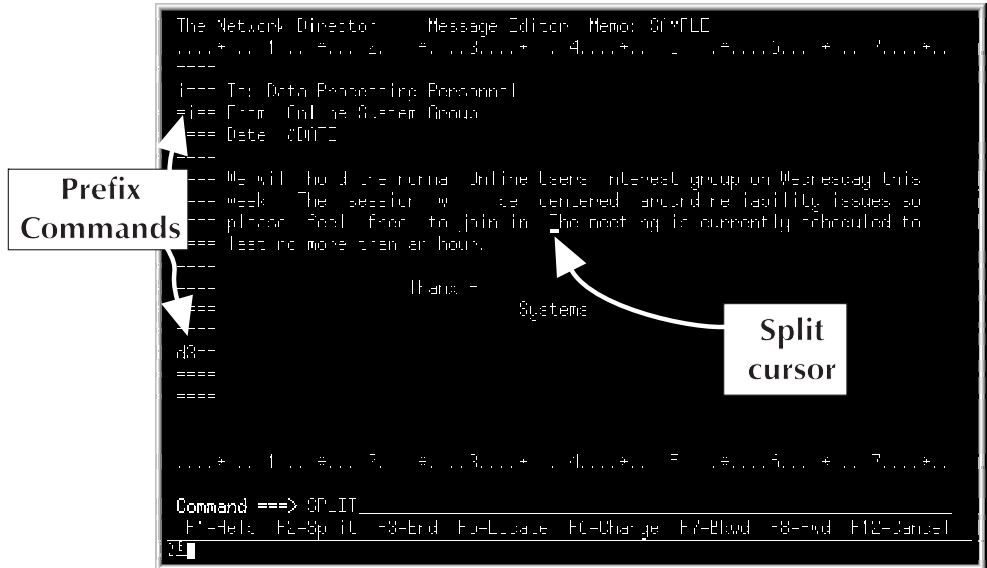
Figure 52.   Sample Edit Panel Four

Once again the terminal user has decided to further SPLIT the Message. This time the cursor is located under the **T** at the start of the last line in the text paragraph.

The terminal user has also entered three Prefix commands to manipulate the rest of the Message. The two Insert commands will cause blank lines to be inserted into the Message after the Message Text lines containing the Prefix Commands. The **D** prefix command will delete the marked line from the message.

Once again, the following figure represent the Message Editor's reply to the last request and contains the terminal user's next set of requests.

Figure 53. Sample Edit Panel Five

Note that there are now blank lines between the lines that used to make up the first paragraph. The salutation is now closer to the bottom of the second paragraph (a result of the D Prefix Command).

The terminal user then decided to Insert more blank lines and to FORMAT the Message again. This request will result in the final Sample Edit panel.

Figure 54. Sample Edit Panel Six

At this point, if we assume the terminal user is happy with the Message appearance and content, the Message may be filed by entering SAVE or END on the Primary Command line (or striking a program function key assigned either of the values).

Once the Message has been Saved, the terminal user can initiate its transmission to the Destination by issuing the Primary Messages Menu Send command. The Message may also be viewed by either the Originator or the Destination.

The following figure is a sample View of the message as it will be portrayed on a *destination* panel.
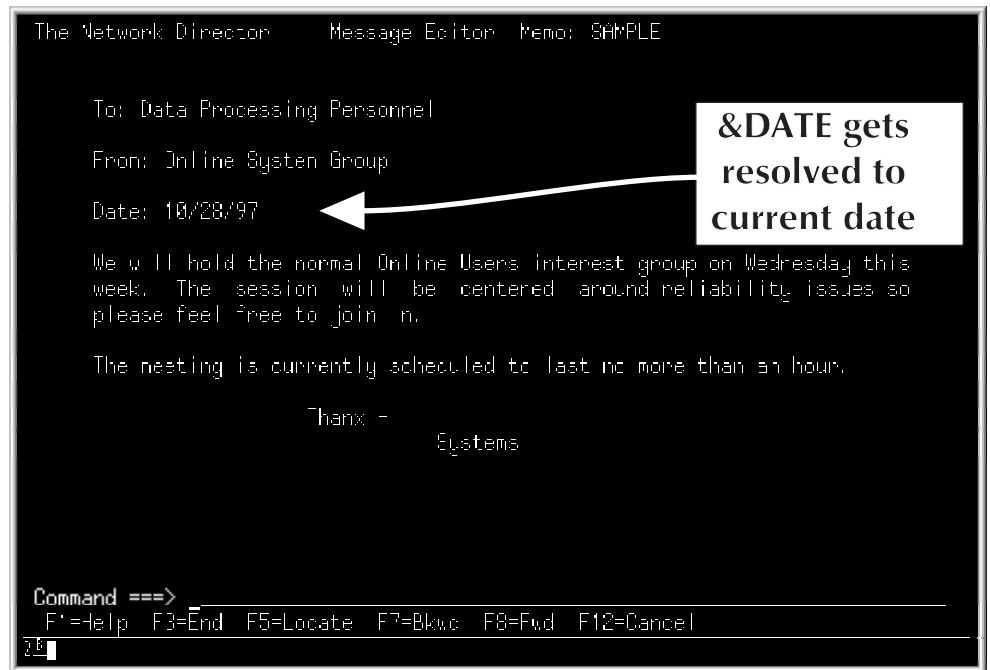
Figure 55.   View of the Sample Edit Message

Summary

You should always be aware that the Message Editor will FORMAT your message when it is Viewed. This formatting will occur even if you do not format it prior to saving it. If you do not want the message formatted (perhaps your message contains a *column* of text), start each edit line you do not want formatted with a blank.

Check with your Network Administrator for the other characteristics (expiration time, etc.) associated with the Message Facility and its use at your installation.

Network System Interface

The **Network System Interface** (NSI) is provided by The Network Director as a vehicle for conventional batch and online programs to establish communications with The Network Director. Communications to The Network Director are provided via a standard program that is included at linkage edit time. The Network Director provides a routine identified as TNDNSI for LU0 type connections, TNDNSI62 for LU 6.2 or APPC type connections, and TNDVSI for VM/CMS APPC connections.

The NSI can be used by the application system designer to coordinate terminal oriented interactive facilities with other normal scheduled processes (like batch job streams, etc.). The NSI is currently supported only from a batch like environment in OS and GCS based systems.

This section of the *Network User's Guide* is intended for the application designer and programmer as a reference to the facilities provided by the NSI.

NSI Facilities

The NSI provides two basic facilities for application programs. They are the Message Facility's Send Message and the general purpose Stack Internal Command. These NSI oriented requests can originate from a calling application program and will cause The Network Director to accomplish the following activities.

Send Message

This NSI request is identical to the Send Action Code, which is normally originated from the Primary Messages Menu. This NSI facility provides a mechanism for a batch program to transmit a message to one or more online terminal users.

Stack Internal Command

This NSI request provides a mechanism for an application program to queue a *command* for a particular terminal within The Network Director. The commands eligible for stacking are anything that is also normally valid from the Application Selection Panel's Command Line. Additional information is available later in this section.

Calling the NSI

The Network System Interface utilizes a standard CALL mechanism to communicate with the application program. Thus, any environment and language that is capable of calling a 370 based ASSEMBLER program can use the NSI.

The calling program must provide two arguments to the NSI. The first is called the Network Control Block (NCB) and the second is the Network Data Area (NDA). The NCB contains control information (NSI request code, NSI response, etc.) as well as the NSI general work area. The NDA is a variable length area that will typically contain the object of the NCB request.

The NCB can be mapped via the ASSEMBLER DSECT produced by the TNDNCB macro in The Network Director's source library. Also included on the distribution tape is a member, file, or book named TNDNCBCB, which is an example of a COBOL COPY book. Other languages or environments can use these two as a model.

NSI expects register 1 to point to a parameter list containing two addresses. The first is the address of the NCB and the second is the address of the NDA. Register 13 must point to a valid save area and register 14 must be the return point to the application program.

Calling the VSI

CMS based application programs may also take advantage of the NSI via direct IUCV based communications to The Network Director in a GCS machine in the same VM/370 system by using the **VM System Interface** (VSI).[4] TNDVSI is a subroutine that communicates as required via IUCV to a operational Network Director to transmit the NCB and NDA to an appropriate Network Director for execution. The calling sequence and NCB/NDA combinations discussed in this section for NSI all apply equally to VSI.

Make use of the VSI by making the TNDVSI TEXT file from The Network Director's distribution tape available at execution time (via the Linkage Editor or other standard CMS facility).

Activation of the interface may require assistance from the VM Systems Programmer. To activate the interface, the following items must be accomplished **prior** to calling TNDVSI:

1. GLOBALS CP-MSGS=YES must be in effect in the GCS Network Director

2. **IUCV ALLOW P M 0** must be in the active Network Director's VM Directory entry

3. **IUCV *IDENT director LOCAL** must also be in the active Network Director's VM Directory entry (where "director" must be the same as the GLOBALS APPLID= value)

NCB functions sent in this manner may be staged to a third location by simply filling in NCBSITE with the name of the target Network Director. If NCBSITE is empty or matches the GLOBALS SITE= value of the local system's Network Director, the VSI based function will be performed by the local system's Network Director.

---

[4] TNDVSI requires VM/SP Release 5 or greater (the APPC interface is mandatory).

The examples on the distribution tape (TNDNSIX1, etc.) can be used to demonstrate this interface by simply changing the "CALL TNDNSI,(NCB,NDA)" to "CALL TNDVSI,(NCB,NDA)".
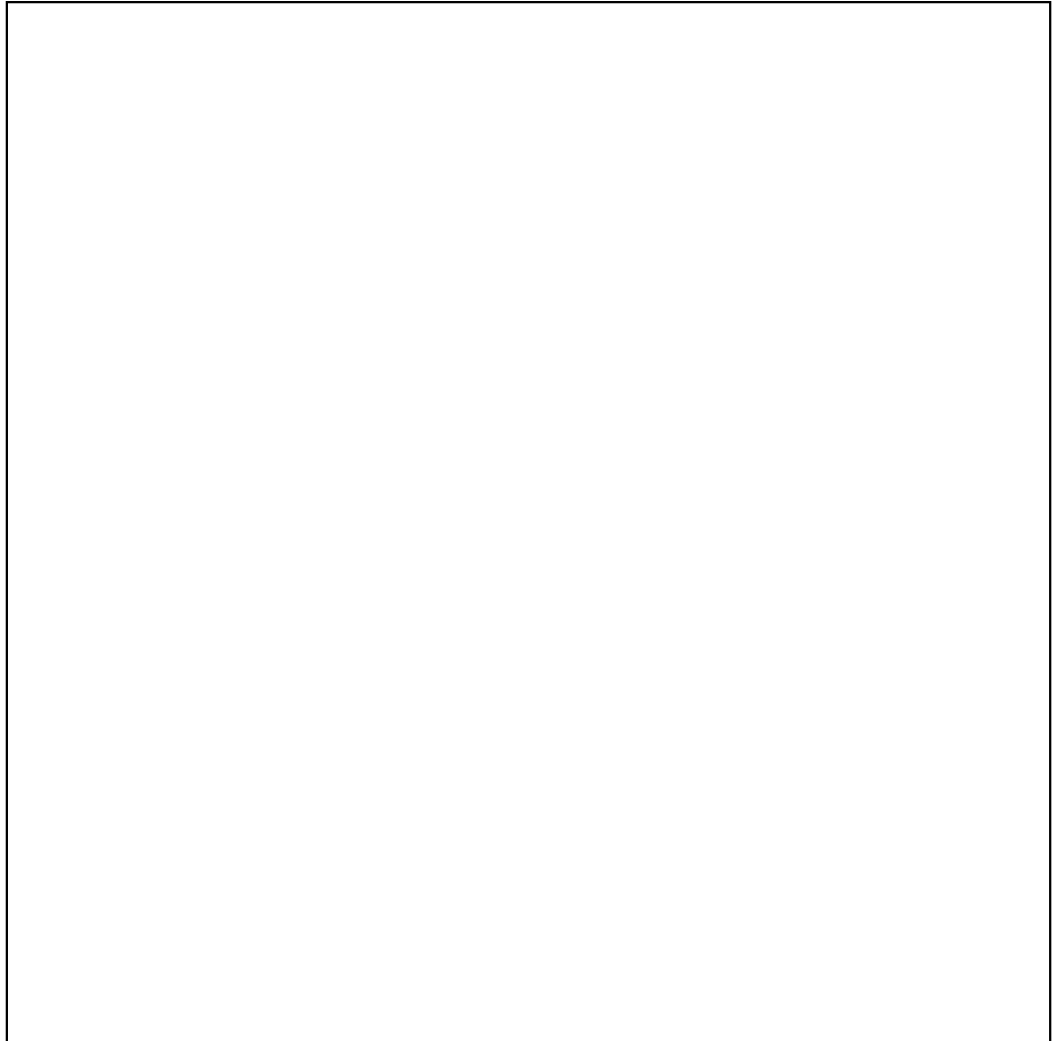
The Network Control Block

The NCB is the area that is used by the calling application and the NSI to communicate with each other. To call the NSI, the application must fill in individual fields within the NCB prior to calling the NSI. NSI will return to the application program with the NCB filled in with a response code.

It is the responsibility of the calling application program to check the response code to insure that the requested function was properly performed.

ASSEMBLER DSECT

The following figure is presented to basically familiarize you with the DSECT that can be used to map the NCB. You should review the DSECT provided with your current Network Director distribution tape (member, file, or book TNDNCB). for any modifications.

```
NCB       DSECT
**********************************************************************
*                                                                    *
*    NCB - NETWORK CONTROL BLOCK                                      *
*                                                                    *
*         USED BY THE NETWORK DIRECTOR'S NETWORK SYSTEM INTERFACE    *
*         FOR COMMUNICATIONS BETWEEN NSI AND THE APPLICATION         *
*         PROGRAM.                                                    *
*                                                                    *
**********************************************************************
NCBID    DS    CL3'NCB'              THE NCB ID
NCBFLAG  DS    XL1'00'              A FLAG BYTE
*
NCBREQ   DS    H                    REQUEST
NCBSMSG  EQU   4                      SEND MESSAGE
NCBSCMD  EQU   8                      STACK INTERNAL COMMAND
NCBOCAST EQU   12                     ONE TIME BROADCAST
*
NCBRSP   DS    H                    RESPONSE
NCBOK    EQU   0                      OPERATION SUCCESSFUL
NCBDOWN  EQU   4                      DIRECTOR ACB IS NOT OPEN
NCBINVRQ EQU   8                      INVALID REQUEST
NCBVIOL  EQU   12                     SECURITY VIOLATION
NCBPARME EQU   16                     PARAMETER ERROR
NCBNSIDN EQU   20                     NSI IS DIS-ALLOWED
NCBVTAM  EQU   24                     A GENERAL VTAM ERROR
NCBNFIND EQU   28                     USER/TOID NOT FOUND
NCBSFAIL EQU   32                     CROSS DOMAIN FAILURE
*
NCBDIRNM DS    CL8'DIRECTOR'        DIRECTOR'S ACB NAME
NCBUSER  DS    CL8                  CALLING ID OR TERMINAL
NCBPASS  DS    CL8                  AND ITS PASSWORD
NCBNDALN DS    H                    SIZE OF NDA
*
NCBTOID  DS    CL8                  SMSG TARGET ID
NCBMTYPE DS    H                    SMSG MESSAGE TYPE
NCBNOTE  EQU   4                      NOTE
NCBMEMO  EQU   8                      MEMO
NCBBCAST EQU   12                     BROADCAST
NCBNSINM DS    CL8'TNDNSI'          NSI'S ACB NAME
NCBNSIPS DS    CL8                  AND PASSWORD
NCBMNAME DS    CL8                  MESSAGE NAME
*
NCBMACRO DS    XL1                  ISSUED VTAM FUNCTION
NCBWHY   DS    XL1                  NSI INTERNAL FAILURE CODE
         DS    H                    UNUSED
NCBFDBK  DS    F                    FDBK
NCBFDBK2 DS    F                    FDBK2
NCBRTNCD DS    F                    RETURN CODE
NCBVERS  DS    CL5                  DIRECTOR VERSION NUMBER
NCBSITE  DS    CL8                  SITE NAME
NCBTRANS EQU   *-NCB                LENGTH TO TRANSMIT
NCBSENSE DS    CL4                  SENSE CODES
NCBERFLG DS    X                    ACB OPER ERROR FLAG
NCBINTVL DS    F                    MESSAGE EXPIRATION INTERVAL
NCBWORK  DS    (255-(*-NCB))XL1     WORK AREA FOR NSI
NCBSIZE  EQU   *-NCB                SIZE OF NCB
```

Figure 56.   NCB ASSEMBLER DSECT

COBOL COPY Book

COBOL programs can use the following as an example of a COPY book that can be placed in WORKING-STORAGE, etc. to establish communications with the NSI. You should also check with the Network Administrator for information about any more current COPY books. This COPY book is provided as the member, file, or book TNDNCBCB.

```
  01  NETWORK-CONTROL-BLOCK.
 *****************************************************************
 *                                                               *
 *   NCB - NETWORK CONTROL BLOCK                                 *
 *                                                               *
 *      USED BY THE NETWORK DIRECTOR'S NETWORK SYSTEM INTERFACE *
 *      FOR COMMUNICATIONS BETWEEN NSI AND THE APPLICATION      *
 *      PROGRAM.                                                 *
 *                                                               *
 *****************************************************************
      05  NCB-ID                    PIC X(4)     VALUE 'NCB '.
      05  NCB-REQUEST               PIC S9(4)    COMP.
          88  NCB-SEND-MESSAGE                   VALUE +4.
          88  NCB-STACK-COMMAND                  VALUE +8.
          88  NCB-SEND-BROADCAST                 VALUE +12.
      05  NCB-RESPONSE              PIC S9(4)    COMP.
          88  NCB-OK                             VALUE ZERO.
          88  NCB-DIRECTOR-DOWN                  VALUE +4.
          88  NCB-INVALID-REQUEST                VALUE +8.
          88  NCB-SECURITY-VIOLATION             VALUE +12.
          88  NCB-PARAMETER-ERROR                VALUE +16.
          88  NCB-NSI-DISALLOWED                 VALUE +20.
          88  NCB-GENERAL-VTAM-ERROR             VALUE +24.
          88  NCB-USERID-NOT-FOUND               VALUE +28.
          88  NCB-CROSS-DOMAIN-FAILURE           VALUE +32.
      05  NCB-DIRECTOR-NAME         PIC X(8).
      05  NCB-USER                  PIC X(8).
      05  NCB-PASSWORD              PIC X(8).
      05  NCB-NDA-LENGTH            PIC S9(4)    COMP.
      05  NCB-TARGET-ID             PIC X(8).
      05  NCB-MESSAGE-TYPE          PIC S9(4)    COMP.
          88  NCB-NOTE                           VALUE +4.
          88  NCB-MEMO                           VALUE +8.
          88  NCB-BROADCAST                      VALUE +12.
      05  NCB-NSI-ACB-NAME          PIC X(8).
      05  NCB-NSI-PASSWORD          PIC X(8).
      05  NCB-MESSAGE-NAME          PIC X(8).
      05  FILLER                    PIC XX.
      05  FILLER                    PIC S9(4)    VALUE +0.
      05  FILLER                    PIC X(12).
      05  NCB-TND-VERSION           PIC X(5).
      05  NCB-SITE                  PIC X(8).
      05  FILLER                    PIC X(7).
      05  NCB-MESSAGE-INTERVAL      PIC S9(8)  COMP.
      05  FILLER                    PIC X(147).
```

Figure 57.   NCB COBOL COPY Book

The following paragraphs describe the manner with which an application program can be coded to invoke the NSI. The only fields discussed here are those that are potentially required for the application program to fill in or inspect, but the application program must provide an area mapped exactly as implied by the NCB DSECT or COPY book.

References to data names are references to those names present in The Network Director provided NCB DSECT or COPY book. The COBOL names are used followed immediately by the ASSEMBLER names in parenthesis.

Required NCB Fields

The following NCB fields are required for every call to the NSI:

NCB Request

The NSI calling application must always fill in the NCB-REQUEST (NCBREQ) field. This instructs the NSI which NSI function it is being requested to perform. Valid requests are NCB-SEND-MESSAGE (NCBSMSG) and NCB-STACK- COMMAND (NCBSCMD). Other values will be rejected by the NSI with an invalid response code.

NCB Director

The NCB-DIRECTOR-NAME (NCBDIRNM) must be filled in with the eight byte VTAM ACB name that identifies The Network Director. Obtain this value from the Network Administrator if it is different from the default of DIRECTOR.

Id

NCB-USER (NCBUSER) should be filled in (for Send Message Requests) with the logical Id of the calling application program. This will be dealt with by The Network Director exactly as the Id field in the Identification Area.

This field should contain the network element name for Stack Command Requests.

Network Data Area Length

NCB-NDA-LENGTH (NCBNDALN) should be filled in with the length of the Network Data Area. This should be set equal to the length of the Command for Stack Command Requests and to the length of the entire message for Send Message Requests.

Optional NCB Fields

The following fields are optional depending upon the function being requested.

Password

NCB-PASSWORD (NCBPASS) should be filled in with the logical Password associated with the Id placed in NCB-USER (NCBUSER). The Network Director will edit that the Id and Password combination are allowed to utilize the network.

This field is not necessary if the function being requested is not normally protected by The Network Director.

Target Id

NCB-TARGET-ID (NCBTOID) must be filled in with the target Id or Terminal name for any Send Message request. It can contain any valid Network Director User Id, Group, Application, or Terminal (The Network Director's Wild Character is valid).

Message Type

NCB-MESSAGE-TYPE (NCBMTYPE) provides The Network Director with the characteristics of the message being sent on Send Message requests. It must be filled in with appropriate values as defined by the DSECT or COPY book.

Message Name

NCB-MESSAGE-NAME (NCBMNAME) should be fill in for Send Message Requests to identify the name of the message begin Sent.

Message Interval

NCB-MESSAGE-INTERVAL(NCBINTVL) can be filled in for Send Message Requests to establish the amount of time (in minutes) that the message should exist prior to expiration.

Checking the NSI Response

When the calling application receives control back from the NSI, it should always check the contents of NCB-RESPONSE (NCBRESP). A zero response code is indicative of successful completion of the request. Any other response indicates a failure at some point of the NSI or The Network Director.

It is the calling application's responsibility to properly check the NSI's response and respond to it accordingly.

The Network Data Area

The Network Data Area contains the actual text associated with the NSI Request. It is a variable length area whose length is stored at NCB-NDA-LENGTH (NCBNDALN).

Stack Internal Command

The NDA may contain any defined Network Director command that is valid from the Command line on the Application Selection Panel. It may be the text LOGOFF or SIGNOFF, which is a request to reset the terminal to its default condition.

The NDA may also contain any *Directed Logon Request* that would be valid for the terminal.

Any command stacked via the NSI in this manner will be queued by The Network Director and will be executed the next time the terminal becomes active within The Network Director and before the terminal operator is presented with any panel.

Place the LU name or userid you would like the command stacked for into the NCBUSER field of the NCB.

Send Message

The Send Message Request duplicates the activity accomplished by the Message Facility's Send command. The NDA contains the text of the message as a unformatted string of characters with each line separated by a EBCDIC new line (NL) character (X'15'). To adequately control the message being sent, remember that The Network Director will automatically FORMAT the message when it is viewed. To totally control the format of the message, immediately follow the X'15' with a blank X'40'. This disables the formatting for that line.

The message need not contain any new line characters, but if it does not, The Network Director will automatically break the message up according to the size of the physical line on the terminal that Views it.

Sample ASSEMBLER Program

The following sample ASSEMBLER skeleton program is intended to provide you with an example of how to call the Network System Interface. This example sends a short note to the User named SYSTEMS. Note that the second line of the transmitted message starts with a blank. This controls the formatting operation that will occur within The Network Director when the target user Views the message.

```
SAMPLE    CSECT
          STM    14,12,12(13)         SAVE INCOMING REGISTERS
          BALR   10,0                 ESTABLISH A BASE
          USING  *,10                 TELL THE ASSEMBLER
          ST     13,SAVEAREA+4        CHAIN THE
          LA     1,SAVEAREA             TWO
          ST     1,8(13)                  SAVEAREAS
          LR     13,1                 POINT AT MINE
          MVC    NCBREQ,=AL2(NCBSMSG)  REQUEST MESSAGE SEND
          MVC    NCBUSER,=CL8'SAMPLE'  SET MY USERID
          MVC    NCBPASS,=CL8'PASSWORD'  AND THE PASSWORD
          MVC    NCBMNAME,=CL8'MYNOTE'    THE MESSAGE NAME
          MVC    NCBDIRNM,=CL8'NRSTND'  SET VTAM'S NAME FOR TND
*
          MVC    NCBNDALN,=AL2(NDASIZE)  THE LENGTH OF THE MESSAGE
          MVC    NCBMTYPE,=AL2(NCBNOTE)  I'M SENDING A NOTE
          MVC    NCBTOID,=CL8'SYSTEMS'    TO "SYSTEMS"
*
          CALL   TNDNSI,(NCB,NDA)     CALL THE NSI
          CLC    NCBRSP,=AL2(NCBOK)   HOW DID WE DO?
          BE     EXIT                 GOOD - IT'S SENT
             .
             .
       error logic
             .
             .
EXIT      DS     0H
          L      13,SAVEAREA+4        FIND CALLER'S SAVE
          LM     14,12,12(R13)        PUT HIS REGISTERS BACK
          XR     15,15                INDICATE GOOD RETURN
          BR     14                   RETURN TO OS
*
NCB       TNDNCB DSECT=NO             COPY THE NCB
*
NDA       DC     C'THIS IS A MESSAGE SENT TO SYSTEMS'
          DC     X'15'
          DC     C' FROM A SAMPLE ASSEMBLER PROGRAM'
NDASIZE   EQU    *-NDA                SIZE OF MESSAGE
*
SAVEAREA DS     18F                  MY SAVE AREA
          LTORG *
          END
```

Figure 58.   Sample ASSEMBLER Program

A machine readable version of this sample is distributed as the member, file, or book TNDNSIX1 in the distribution libraries.

Sample COBOL Program

As with the preceding ASSEMBLER skeleton program, the following COBOL program skeleton is offered to provide you with an example of how to invoke the Network System Interface. This example stacks a LOGOFF command, which will cause the terminal to be reset to its default panel as soon as it returns The Network Director.

```
    IDENTIFICATION DIVISION.
    PROGRAM-ID. SAMPLE.
    ENVIRONMENT DIVISION.
    DATA DIVISION.

    WORKING-STORAGE SECTION.
    COPY TNDNCBCB.

01  NETWORK-DATA-AREA.
    05  FILLER                       PIC X(6) VALUE 'LOGOFF'.

    PROCEDURE DIVISION.
        MOVE +8       TO NCB-REQUEST.
        MOVE 'TM03'   TO NCB-USER.
        MOVE +6       TO NCB-NDA-LENGTH.
        MOVE 'NRSTND' TO NCB-DIRECTOR-NAME.

        CALL 'TNDNSI' USING NETWORK-CONTROL-BLOCK,
                            NETWORK-DATA-AREA.
        IF NCB-OK THEN
           GO TO EXIT
        ELSE
            .
            .
        error logic
            .
            .
    EXIT.
        GOBACK.
```

Figure 59.   Sample COBOL Program

A machine readable version of this sample is distributed as the member, file, or book TNDNSIX2 in the distribution libraries.

Glossary

ACF/VTAM: Advanced Communications Facility - Virtual Telecommunications Access Method. An IBM software subsystem involved with controlling communications between terminals and CPUs.

action character: The single byte character that can be entered in the Selection Character to cause specific predefined processing to take place.

action code: The single byte character that represents an instruction to the Message Facility.

Application Selection Panel: The panel that will contain a list of application selections that you are authorized to make.

broadcast: A type of Message that is immediately sent to its Destination. It will be displayed in the Broadcast Area of the Application Selection Panel.

broadcast area: The space on most of The Network Director's panels that allow the immediate viewing of broadcast messages and other error messages of importance.

CICS: Customer Information Control System. An IBM teleprocessing subsystem which provides an environment for application systems.

Common User Access: CUA is the portion of Systems Application Architecture (SAA) that defines the rules for a dialog between a human and a computer.

computing facility: the combination of hardware, software, and personnel that provide the automated environment for data processing tasks

current line: A term used to describe the target for many of the Message Editor's Primary Commands.

cursor placement: A method for making a Selection from the Application Selection Panel,

where the terminal user simply places the 3270 cursor by the desired Selection.

destination: The name of the user, terminal, or group that will receive a Message when it is Sent.

directed logon request: A term identifying a method for the terminal operator to make a direct request for logical connection from the Command line on the Application Selection Panel.

DISC: The Network Director's command to break the ACF/VTAM session between the LU and The Network Director

display direct: A method for immediately transferring to a specific location within the INFO facilities hierarchy.

display area: Used to describe the majority of the space on The Network Director's panels. Typically used to display variable text and selections.

distribution list: A mechanism within The Network Director to identify a set of users that will have messages individually sent to them by referencing a single logical element (the "list" name).

Function key area: The area at the bottom of a panel that contains active function key assignments.

group: The 1 to 8 byte character string that identifies a particular terminal or a user as belonging to a logical *group* of computing facility users.

Id: The term for the location in the Identification Area used to enter your User Id.

identification area: The portion of a non CUA Application Selection Panel devoted to containing demographic information about the user currently utilizing the terminal.

implied command: The INFO command type that simply proceeds to the next logical panel. Invoked by simply striking the 3270's ENTER key.

IMS: Information Management System. An IBM data base/data communication software subsystem.

INFO command area: The command line is on the second line of the INFO panels and is where INFO Text commands are entered.

INFO command types: The methods that may be used to navigate through the INFO hierarchy. Text, Prompt, Display Direct, and Implied are INFO command types.

INFO facility: The portion of The Network Director committed to providing online assistance to the terminal user.

LIFO: Last In First Out. A technique used to logically order the Messages within the Message Facility.

LOGMODE: a Network Director command that causes the next VTAM session to start with a special set of SNA characteristics

LOGOFF: the process of causing The Network Director to forget where a particular User was active

LOGON: the process of identifying yourself to the system (using The Network Director's Identification Area or LOGON command)

LU: The SNA term used to describe your terminal within the physical network.

memo: a potentially large, and self contained Message for transmission as a single entity to another user, terminal, or group.

menu: a panel that portrays multiple choices that the terminal user can select from.

message: One or more characters that make up a transmission that will communicate one or more pieces of information to another individual.

message editor: The portion of The Network Director's Message Facility that allows the terminal user to create and modify the contents of a Message.

message facility: The component of The Network Director that manipulates and manages the transmission of Messages throughout the logical network of terminals.

modified field: The term used to describe a technique for Selection by which the terminal user types a character into the space provided immediately before a Selection on the Application Selection Panel.

message name: The 1 to 8 byte logical name assigned to a Message by the Originator.

message selections: The individual entries in each Message Selection Column that identifies the presence of a Message associated with your user id, terminal, or groupname.

message text: The individual lines in the Message Editor that actually contain the text of the Message being manipulated.

message type: Identifies the specific class of Message to The Network Director's Message Facility. Types are: Notes, Memos, and Broadcast.

network element: identifies an active user of The Network Director. The network element can be a User or a Terminal within the logical network.

note: A brief Message. One that can be combined with other Notes with the same Origin and Destination.

Network System Interface: The documented batch program interface to The Network Director.

NSI: Same as the Network System Interface.

origin: The user id, terminal, or group that originally created and Sent a Message.

Panel: A particular arrangement of information grouped together for presentation to the terminal operator on a terminal device.

panel number: The unique numeric qualifier used to describe the exact panel within the INFO facility that can be or currently is being viewed on the panel.

password: The 1 to 8 byte text string that is identified with a particular Id and must be used before you may receive the Id's access ability.

pfkey: The 3270 Program Function Keys.

prefix: The 4 character area at the beginning of each Message Text line in the Message Editor where the terminal user may enter Prefix Commands.

prefix commands: A single or double letter Message Editor command entered in the Prefix area.

primary command: The keyword command that is entered on line 2 of The Network Director's panels. It typically has effect upon global characteristics of the specific function of the panel you are viewing.

primary command line: Is on line two of most of The Network Director's panels.   You can issue Primary Commands from it. It is always prefixed with the characters "===>".

prompt: The name used to describe the process of the terminal user being presented with a Menu of multiple items that the user may then select from.

RETURN: a Command line command that causes a device to transfer back to The Network Director that it came from

ruler line: The *scale* line in the Editor that provides a frame of reference when editing on the panel.

selection: An entry in a Selection Column on the Application Selection Panel.   This typically represents a logical function that the terminal is allowed to logically connect the terminal to.

selection character: the location immediately in front of the Selection Title that can be modified to select a particular function.

selection column: The subdivided Display Area on the non CUA Application Selection Panel will contains one or more Selection Columns. Each Selection Column will contain one or more Selections.

selection status: The Application Selection Panel area immediately to the right of the Selection Title, but still within the Selection Column. It will typically contain a PFKEY value that may be used to indicate a selection of the specific item.

selection title: The character string assigned by the Network Administrator to identify the logical application you may connect to.

simulated PFKEY: Identifies the selection technique of entering a numeric value on the Command line indicating your choice of applications.

SITE: is a 1 to 8 character name associated with another computing facility that is related to the computing facility operating The Network Director

terminal id: The 1 to 8 byte VTAM logical unit name assigned to your terminal.

terminal session: A description for a type of Network Director connection where the terminal user does not have to identify himself. The terminal itself is authorized to interact with The Network Director.

text command: A word request that can aid in the navigation through the INFO facility.

title area: The space at the top of many of The Network Director's panels that provide a unique identification of the computing facility the terminal is connected to or a brief description of the activity the terminal is currently involved in.

TSO: Time Sharing Option.   An IBM software subsystem involved with providing interactive use of the computing facility.

user session: The type of Network Director connection where the terminal operator has identified himself as a particular User Id.

user id: The 1 to 8 byte character string that uniquely identifies an individual as an authorized user of The Network Director and associated computing facility systems.

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