PICK

USER REFERENCE MANUAL SUPPLEMENT

1. PC-AT
2. WIZARD

PICK™ SYSTEMS

PICK PC-AT SYSTEM

Installation and Upgrade Guide

PICK PC-AT SYSTEM UPGRADES

Upgrades should be treated like new installs. The first step is to do a full FILE-SAVE of your old system or do ACCOUNT-SAVE's of all your applications accounts. The next step is to delete the Pick partition.

Assuming that your current version of Pick on the hard disk is up and running, you can delete Pick using the 'K' option when booting from the #1 system diskette.

Once the Pick partition has been deleted you should follow the directions for a new installation (below) to install your new Pick release. When you've completed the installation procedure you will want to do ACCOUNT-RESTORES to restore your accounts and data files from the FILE-SAVE or the ACCOUNT-SAVE's you made earlier. Note: to restore your system do not re-boot the system and do a full 'F' option file restore because this would destroy the new release's SYSPROG account and its files.

NEW PICK PC-AT SYSTEM INSTALLATIONS

Allocation of Space

NOTE: If there is a Pick operating system on your hard disk now, you will have to delete it before you proceed. See the section, above, called 'Pick PC-AT System Upgrades.'

If there are NO operating systems on your disk, you can proceed directly to the 'Pick Installations Steps' section — otherwise continue here.

When the Pick operating system is installed it must locate a group of free and contiguous cylinders to claim for its partition space. If the other operating systems on the disk have already allocated the entire disk then they will have to relinquish space before a Pick partition can be created. In this case the other operating system/s will have to be backed up, deleted, and then reinstalled into smaller partitions so that space for Pick can be freed. Each operating system has its own utilities for installing itself, backing itself up, and deleting itself.

Since Pick will install itself on all the remaining available hard disk space, if other operating systems are to co-reside with Pick, Pick must be installed last.

A minimum amount of free and contiguous disk space is required before Pick will install itself. The required space is measured in cylinders. The number of cylinders required is a function of the number of heads the hard disk drive has. The following table give the MINIMUM number of cylinders necessary for different number of heads: IBM standard 20 MB hard disk drives have four heads.

# of heads on disk	# of cyl 3 user	# of cyl additional user
2	150	12
3	100	8
4	75	6
5	60	5
6	50	4
7	43	4
8	38	3
9	34	3
10	30	3
11	28	3

Pick Installation Steps (Virgin Install)

1. Load the PICK PC-AT SYSTEM #1 diskette into the floppy drive and 'boot' the system (press CTRL-ALT-DEL). The system will print to the terminal:

boot Virgin Install
PICK System's IBM PC-AT Ver n .....
Copyright (C) Pick Systems .....
%%%%
Initializing Hard Disk drive 0
Initializing Hard Disk drive 1 (if 2 drives are present)
load PICK PC-AT system floppy #2 then type 'C' to continue

2. Now insert the #2 System diskette into the floppy drive and press 'C'. When this floppy has been read the system will print to the terminal:

load PICK PC-AT system floppy #3 then type 'C' to continue

3. Now insert #3 System diskette into the floppy drive and press 'C'. When this floppy has been read the system will print to the terminal:

FILE RESTORE device:
H)igh density floppy, S)tandard density floppy, Q)uarter inch SCT =

4. Since the system data files are supplied on a high density floppy you should now press 'H'. The system will now print to the terminal:

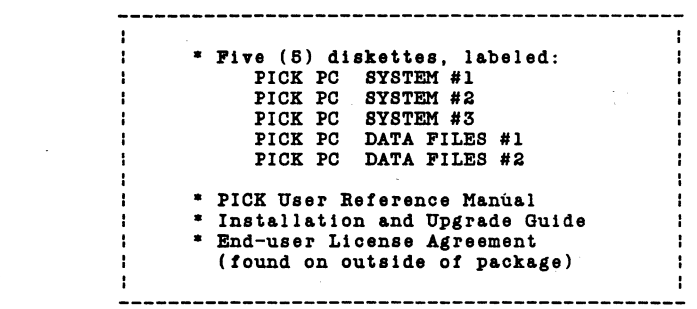
load PICK PC-AT DATA FILE #1 then type 'C' to continue

At this point,the system will start loading the system data files. When it is completed, the system will ask for the date and time and you will eventually be placed at the 'LOGON' prompt. At this point the PICK System is completely installed.

PICK™
SYSTEMS

1.1 PICK SYSTEMS IBM PC-XT PACKAGE

Enclosed in the PC-XT package are:



1.2 THE PICK OPERATING SYSTEM REQUIREMENTS

* IBM PC-XT or IBM PC with IBM expansion chassis.

* A minimum of 256K RAM memory.

* Either Monochrome or Color Graphics monitor.

* Optionally, one or two additional terminals may be connected to IBM asynchronous communication adapters.

* Optionally, IBM printers may be connected to a parallel port or IBM asynchronous communication adapters.

* Allocation of space for the PICK PC-XT System on the IBM hard disk must be one block of contiguous cylinders. Three hundred (300) tracks of the total tracks available must be allocated for the PICK PC-XT System. Additional space must be allocated for user data space. Each additional track allocated provides 8704 bytes of user data space.

  Hard disk space is allocated by cylinders. On a standard IBM 10mb drive each cylinder has four (4) tracks. If each track has 8704 bytes, then an IBM cylinder has 34816 bytes. PICK's space requirements are expressed on a track basis because the PICK PC System can run on a variety of hard disks which have different numbers of tracks per cylinder.

NOTE: ON-LINE DOCUMENTATION

Documentation Addenda are provided as part of the operating system. It may be reviewed by typing ADDENDA <CR> at TCL on the SYSPROG account.

 Copyright (c) 1985 PICK SYSTEMS

1.3 DAILY PROCEDURES

1.3.1 BOOTING

If the PICK Operating System was marked as active (SEE: FDISK VERB) at the time the system was last shut off, PICK will boot from the hard disk when the system is powered up. When the boot process finishes, control is transferred to the COLDSTART procedure.

1.3.2 RESTORING THE SYSTEM

Restoring the system means replacing the software and/or data on the hard disk from a backup media such as floppy diskettes.

Typically, software/data is restored when the running copy is suspected to to be damaged or when a new copy of the system is available.

To restore the Pick environment on the PC-XT, place PICK PC SYSTEM #1 diskette into the floppy drive and boot the system (CTRL-ALT-DEL). Following the system sign-on message the screen will display:

OPTIONS (A,F,K)

The 'K' option is used to delete the PICK partition and is discussed in the next section.

The 'A' and 'F' options are used for restoring PICK.

The 'A' option will restore the PICK Operating System (sometimes refered to as the Monitor and ABS). Once you have entered an 'A' the following will occur:

1. The system will read the #1 diskette's contents and then prompt you to load the PICK PC SYSTEM #2 diskette.

2. The system will read the #2 diskette's contents and then will prompt you to load the PICK PC SYSTEM #3 diskette.

3. The system will read the #3 diskette's contents and then go directly to the COLDSTART PROC just as if you had done a system boot. At this point the PICK Operating System has been restored. The accounts and data files, however, will not have been altered.

 Copyright (c) 1985 PICK SYSTEMS

THE PICK PC-AT SYSTEM

USER INFORMATION

PROPRIETARY INFORMATION

This document contains information which is proprietary to and considered a trade secret of PICK SYSTEMS.. It is expressly agreed that it shall not be reproduced in whole or part, disclosed, divulged, or otherwise made availble to any third party either directly or indirectly. Reproduction of this document for any purpose is prohibited without the prior express written authorization of PICK SYSTEMS. All rights reserved.

NOTICE

The information contained in this document is subject to change without notice.

copyright 1985 by PICK SYSTEMS

AST is a trademark of AST Research, Inc.
PC-AT is a trademark of International Business Machines Corp.
IBM is a registered trademark of International Business Machines Corp.
PICK SYSTEMS is a registered trademark of PICK SYSTEMS.

PRINTING HISTORY

New editions of this manual will incorporate all material since the previous edition. Update packages may be used between editions and contain replacement and additional pages to be merged into the manual by the user.

The manual printing date indicates its current edition. The printing date changes when a new edition is printed. (Minor corrections and updates which are incorporated at reprint do not cause the date to change.

First Edition - August 1985

Second Edition - October 1985

PICK SYSTEMS
1691 BROWNING
IRVINE, CA 92714
(714) 261-7425

Chapter 1

PC-AT

THE PC-AT PACKAGE

PROPRIETARY INFORMATION

This document contains information which is proprietary to and considered a trade secret of PICK SYSTEMS. It is expressly agreed that it shall not be reproduced in whole or part, disclosed, divulged, or otherwise made availble to any third party either directly or indirectly. Reproduction of this document for any purpose is prohibited without the prior express written authorization of PICK SYSTEMS. All rights reserved.

1.1 PICK SYSTEMS IBM PC-AT PACKAGE

Enclosed in the PC-AT package are:

==========

* *Four (4) diskettes, labeled:*

  PICK PC-AT SYSTEM #1
  PICK PC-AT SYSTEM #2
  PICK PC-AT SYSTEM #3
  PICK PC-AT DATA FILES #1
  (High Density Floppy)

* **PICK User Reference Manual**
* **Installation and Upgrade Guide**
* **End-user License Agreement**
  (found on outside of package)

==========

1.2 THE PICK OPERATING SYSTEM REQUIREMENTS

* IBM PC-AT with minimum 1 20MB hard disk.

* A minimum of 256K RAM memory.

* Either Monochrome or Color Graphics monitor.

* The Memory-mapped monitor and 1 to 5 additional terminals are supported. More than 2 additional terminals requires a serial (4-port) expansion card.

* Optionally, only one parallel printer may be connected to the AT via one SIO card.

  * Allocation of space for the PICK PC-AT System on the IBM hard disk must be one block of contiguous cylinders. Three hundred (300) tracks of the total tracks available must be allocated for the PICK PC-AT System. Additional space must be allocated for user data space. Each additional track allocated provides 8704 bytes of user data space.

    Hard disk space is allocated by cylinders. On a standard IBM 20mb drive each cylinder has four (4) tracks. If each track has 8704 bytes, then an IBM cylinder has 34816 bytes. PICK's space requirements are expressed on a track basis because PICK can run on a variety of hard disks, provided they are supported by DOS in the BIOS tables.

Chapter 2

HARDWARE CONFIGURATION

HARD DISC ALLOCATION

SERIAL I/O CARDS

CABLING SERIAL PORTS

PROPRIETARY INFORMATION

This document contains information which is proprietary to and considered a trade secret of PICK SYSTEMS. It is expressly agreed that it shall not be reproduced in whole or part, disclosed, divulged, or otherwise made availble to any third party either directly or indirectly. Reproduction of this document for any purpose is prohibited without the prior express written authorization of PICK SYSTEMS. All rights reserved.

2.1 PC HARD DISK ALLOCATION

A minimum amount of free and contiguous disk space is required before PICK will install itself.

When the PICK Operating System is installed it must locate a group of free and contiguous cylinders to claim for its partition space. If the other operating systems on the disk have already allocated the entire disk then they will have to relinquish space before a PICK partition can be created. In this case the other operating system(s) will have to be backed up, deleted and then reinstalled into smaller partitions so that space for PICK can be freed. Each operating system has its own utilities for installing itself, backing itself up and deleting itself.

Since PICK will install itself on all the remaining available hard disk space, if other operating systems are to co-reside with PICK, PICK must be installed last.

A minimum amount of free and contiguous disk space is required before PICK will install itself. The required space is measured in cylinders. The number of cylinders required is a function of the number of heads the hard disk drive has.

The following table gives the MINIMUM number of cylinders necessary for different number of heads: IBM standard 20MB hard disk drives have four (4) heads.

# of heads on disk	# of cyl 3 user	# of cyl per additional user
2	150	12
3	100	8
4	75	6
5	60	5
6	50	4
7	43	4
8	38	3
9	34	3
10	30	3
11	28	3

Cylinder requirements.

Copyright 1985 PICK SYSTEMS

2.2 ABS EXTENSION

The size of the ABS area may be increased to accomadate additional assembly level requirements.

NOTE: IGNORE THIS SECTION UNLESS YOU FALL INTO ONE OF THE FOLLOWING CATEGORIES:

1. Your application is comprised of Assembler programs that exceed a total of 100 frames.

2. Your Assembler program development is anticipated to require more than 100 frames.

During the intial virgin boot procedure, a proprietary message is displayed. There is a four (4) second window following this proprietary message. Four per-cent signs are displayed, about one per second. While these per-cent signs are appearing, the character 'A' is entered from the keyboard. The following is displayed:

```
%%%%                        <------- enter 'A' before 4th %

 Enter total ABS frames (4095 >= #ABS >= 511) =
```

The number of ABS frames may be increased in increments of 32 frames.

The ABS area must reside totally on the first hard disk. (4096 ABS frames uses 8MB of disk.) The # of cylinders in the disk allocation table, (shown on previous page), must be adjusted accordingly to reflect any additional ABS space used.

This extension should not be done unless absolutely necessary. Needless ABS extension negates available disc space.

NOTE: When calling for technical support, your first words should be that you have an 'ABS EXTENDED SYSTEM'.

2.3 PC-AT USER MODES

The PICK Operating System is currently using the following frames above frame 399:

400-403, 405, 407, 418-419, 422, 468-469

Pickware COM uses frames 470-486.

All other frames are currently free. PICK Systems reserves the right to use any of these in the future.

Copyright 1985 PICK SYSTEMS

2.4 SYSTEM CONFIGURATION

The PICK system for the PC-AT will support up to 6 users.

The PICK System for the PC-AT is configured for 3 or 6 users. The Memory-mapped monitor runs on the first port. From 2 to 5 additional serial ports are supported by serial I/O cards. There are two basic types of serial I/O cards, serial/parallel cards and 4-port asynchronous cards. The only serial/parallel card supported is the :

IBM PC-AT Serial/Parallel Adapter Card

Supported 4-port asynchronous cards include :

1) FOUR PORT-AT from AST Research, Inc.

2) COM4 QUAD RS-232 MODULE from ARNET CONTROLS, INC.

.3) EXTEND COM-8 from DIGIGRAPHIC SYSTEMS CORPORATION

Up to 2 IBM cards or 1 IBM card and any supported 4-port may be installed in the PC-AT System. The following table illustrates different user configurations with appropriate interrupt channnel requirements.

USERS	1st CARD	2nd CARD
1	empty	empty
2	IBM on IRQ4	empty
3	IBM on IRQ4	IBM on IRQ3
5	4-port card on IRQ4	empty
6	IBM on IRQ4	4-port card on IRQ3

2.5 CABLING DIAGRAMS

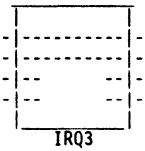
Since each serial I/O card requires it's own unique connector wiring configuration, it is suggested that the following procedure be followed. Each serial I/O card documented, has an associated adapter cable diagram. Following the suggested diagrams allows fabrication of one generic serial terminal cable, and/or custom printer cable, both interchangeable with any port on any serial I/O card.

Copyright 1985 PICK SYSTEMS

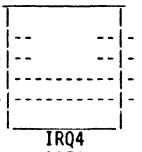
2.6 IBM PC-AT SERIAL/PARALLEL ADAPTER CARD

The IBM serial/parallel adapter card has 1 serial port and 1 parallel port on a single card. The PICK operating system will support up to 2 of these IBM cards. When using 2 cards, they must be configured to be at different addresses and to use different IRQ channels. If only one IBM card is used, it should be configured to as the first card, otherwise the system will not recognize the parallel port.

The IBM card configuration is determined by the jumper blocks at locations J1 and J2. The jumper blocks may be removed, inverted and re-installed to change the port addresses and IRQ channels. The following jumper block diagrams illustrate the orientation and resultant port addresses and IRQ channels.



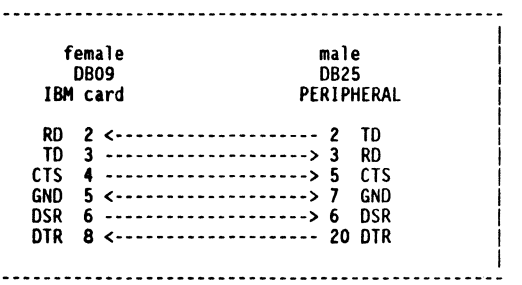
IRQ3
03F8



IRQ4
02F8

(See: IBM SERIAL/PARALLEL ADAPTER MANUAL)

The serial port on the IBM serial/parallel card requires a male DB09 connector. In order to maintain system configuration flexibility, as mentioned previously, the following short adapter cable is suggested.



Note that no jumpering takes place on this adapter cable. Signals are run straight through to allow different jumper combinations to take place in the peripheral's extension cable. The CRT cable and the printer cable diagrammed later in this section, will interchangeably work with this cable adapter.

Copyright 1985 PICK SYSTEMS

2.7 AST FOUR PORT-AT CARD

The AST Four Port-AT asynchronous communication card provides 4 serial ports for the PC System.

Before installing an AST card, it must be configured for the proper interrupt channel and port addresses. This accomplished by adjusting DIP switches, located on the card. The card configuration is determined by the DIP switch S1, located immediately above the edge connector.

In order for the AST Four Port-AT to be able to address four ports, it must be set to 'noncompatible mode'. This is done by placing DIP switch S1-1 to 'OFF'.

To use the AST card with an IBM serial/parallel card, the IBM card is set for IRQ4, and the AST card would be configured for IRQ3 by setting DIP S1 as follows :

S1-1	S1-2	S1-3	S1-4	S1-5	S1-6	S1-7	S1-8
OFF	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**

If only an AST card is to be used, DIP S1 should be set for IRQ4 using the following setting :

S1-1	S1-2	S1-3	S1-4	S1-5	S1-6	S1-7	S1-8
OFF	**OFF**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	**ON**

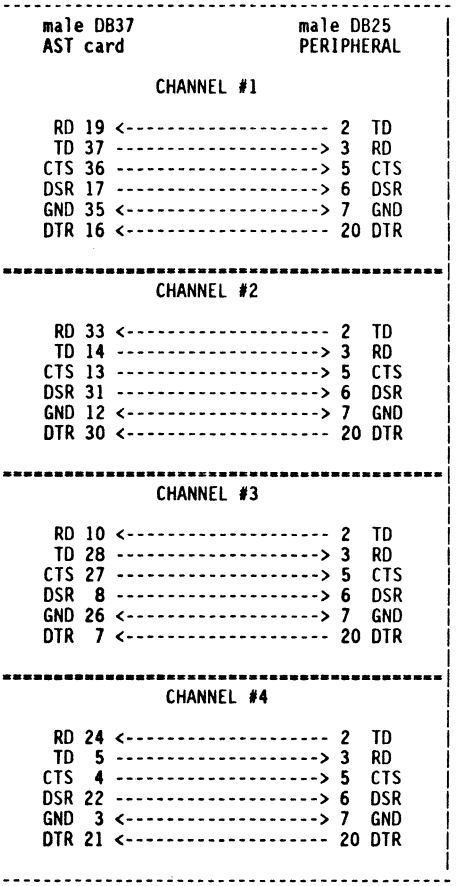
(See: AST USER'S MANUAL)

The AST card provides four ports through a single DB37 connector. A special adapter cable is needed to separate the signals from the DB37 connector on the card, into four DB25 connectors. This adapter cable does not automatically come with your card. It must be purchased separately from AST or, it may be built from the following information. The signals are sent straight through, so that all jumpering may be done with each individual serial device extension cable.

Copyright 1985 PICK SYSTEMS

2.7.1 AST FOUR PORT-AT ASYNC ADAPTER CABLE

The following cable schematic can be used to make an adapter cable for 4 serial devices to be used with the AST Four Port-AT card. This adapter cable allows interchanging of any serial terminal cable and/or custom serial printer cable, both of which are also diagrammed later in this section.



AST Four-Port adapter cabling.

Copyright 1985 PICK SYSTEMS

2.8 SERIAL PORT DEFAULT

The following port characteristics are set up at BOOT time:

Baud rate = 9600 baud

Parity = none

Stop bits = 1 bit

Word length = 8 bits

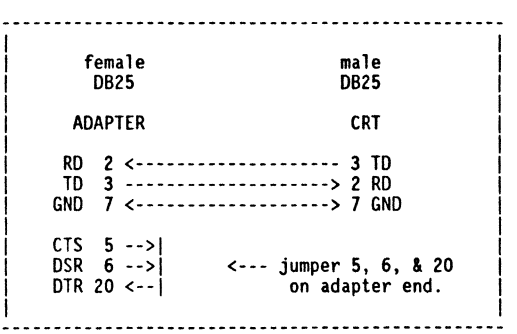
Baud rates may be changed with the SET-BAUD verb.

The other port characteristics are not modifiable.

2.9 SERIAL TERMINAL CABLING

The suggested cabling diagrams have been chosen for system configuration flexibility. The following cable diagram, allows a serial terminal to be connected to any of the supported serial I/O adapter cables previously diagrammed. The serial I/O card adapter cables should be made as short as feasible. The CRT cables should be the length necessary to reach the user's work area.

This diagram assumes a female DB25 (RS232) connector on the CRT itself, necessitating a male DB25 (RS232), on the CRT end of the cable.



Serial Terminal cabling.

Copyright 1985 PICK SYSTEMS

2.9.1 SERIAL PRINTER CABLING

Serial printer cabling information allows printer-busy to control the IBM PC-AT.

Up to five (5) serial printers may be connected to the PC-AT via the asynchronous communication ports. Each printer, however, will cost one serial terminal user.

Serial printers can be driven at baud rates higher than their effective printing rates so most serial printers have on-board buffers to capture the incoming data until they can print it. When a buffer becomes full, the printer must be able to tell the sending computer that it cannot accept any more data for a moment. This is called busy/not busy handshaking. This handshaking is typically accomplished in one or two ways:

1) By RS-232C control line signaling
2) By ASCII character signaling

In RS-232C signaling, the printer signals it is busy by raising the voltage on one of its RS-232C plug pins (typically, but not always, pin 11). If this pin is routed through to the computer it will recognize that the printer has a full buffer, or is "busy". Later, when the printer lowers the signal voltage, the computer will resume transmission. In ASCII character signaling, a character (typically DC1/XON) is sent by the printer when its buffer is full. Later, when it catches up, it sends a second character (typically DC3/XOFF) to inform the computer it can accept more data.

PICK can accomodate both forms of printer "busy" signaling. ASCII busy signaling printers require no special cabling. They can be connected using the cable described previously for connecting CRTs.

To cable an RS-232C busy signaling printer to a PICK PC-AT a similar cable to the standard CRT cable is used. The only difference is that where the standard cable has pins 5, 6 and 20 jumpered together on the PC-AT end, only 5 and 20 are jumpered together. Pin 6 is connected to whichever printer pin the printer is using to signal busy. Pin 6 is the pin that PICK watches to determine if the printer is "busy" or not.

Copyright 1985 PICK SYSTEMS

Chapter 3

DAILY PROCEDURES

VIRGIN INSTALL

BOOTING

RESTORING

POWER OFF VERB

REBOOT VERB

PROPRIETARY INFORMATION

This document contains information which is proprietary to and considered a trade secret of PICK SYSTEMS. It is expressly agreed that it shall not be reproduced in whole or part, disclosed, divulged, or otherwise made availble to any third party either directly or indirectly. Reproduction of this document for any purpose is prohibited without the prior express written authorization of PICK SYSTEMS. All rights reserved.

3.1 INSTALLING THE SYSTEM FOR THE FIRST TIME (Virgin Install)

When the system is installed on the hard disk for the first time, it is refered to as 'Virgin Install'. It essentially requires that you load the floppy labeled PICK PC-AT system floppy #1 into the diskette drive and boot the system (press CTRL-ALT-DEL keys simultaneously). The PC-AT will load the Pick system onto the hard disk starting with the #1 system floppy and ending with the DATA FILE #1 floppy. Each of the supplied system diskettes are called for in turn on the crt screen. For a detailed description of the process, please refer to the PICK PC-AT SYSTEM Installation and upgrade guide. This card is supplied separately from this manual.

3.2 BOOTING FROM HARD DISK

If the PICK Operating System was marked as active (SEE: FDISK VERB) at the time the system was last shut off, PICK will boot from the hard disk when the system is powered up. When the boot process finishes, control is transferred to the COLDSTART procedure.

3.3 RESTORING THE SYSTEM

Restoring the system means replacing the software and/or data on the hard disk from a backup media such as floppy diskettes.

Typically, software/data is restored when the running copy is suspected to be damaged or when a new copy of the system is available.

To restore the Pick environment on the PC-AT, place PICK PC SYSTEM #1 diskette into the floppy drive and boot the system (CTRL-ALT-DEL). Following the system sign-on message the screen will display:

OPTIONS: K)ill, A)BS only, F)ile & ABS, Q)uick file & ABS =

The 'K' option is used to delete the PICK partition. The 'A', 'F' and 'Q' options are used for restoring PICK.

3.3.1 OPTION 'A'

The 'A' option will restore the PICK Operating System (sometimes referred to as the Monitor and ABS). Once you have entered an 'A' the following will occur:

1. The system will read the #1 diskette's contents and then prompt you to load #2 diskette:

   load PICK PC-AT system floppy #2 then type 'C' to continue

Copyright 1985 PICK SYSTEMS

2. The system will read the #2 diskette's contents and then will prompt you to load the #3 diskette:

   load PICK PC-AT system floppy #3 then type 'C' to continue

3. The system will read the #3 diskette's contents and then go directly to the COLDSTART PROC just as if you had done a system boot. At this point the PICK Operating System has been restored. The accounts and data files, however, will not have been altered.

Copyright 1985 PICK SYSTEMS

3.3.2 OPTION 'F' & 'Q'

The options 'F' and 'Q' initiate identical restore procedures. However, the 'F' option will reformat the PICK hard disk partition before starting the restore. The 'Q' option skips the hard disk reformatting, hence 'Quick file & ABS'. When you have entered an 'F' or a 'Q' the following will occur:

1. PICK hard disk partition reinitialization. (F option only !)

2. The system will read the #1 diskette's contents and then prompt you to load the #2 diskette:

   load PICK PC-AT system floppy #2 then type 'C' to continue

3. The system will read the #2 diskette's contents and then prompt you to load the #3 diskette:

   load PICK PC-AT system floppy #3 then type 'C' to continue

4. After reading the #3 diskette, the system allows a choice of the media type before restoration of any DATA FILES. The following prompt is displayed:

   File Restore device H)igh density floppy, S)tandard density floppy, Q)uarter Inch SCT =

5. After entering the appropriate media type, the system is ready to load the DATA FILE portion of the system. The following prompt is displayed:

   load PICK PC-AT DATA FILES #1 then type 'C' to continue

   At this point you will do one of the following things:

   a. You will load your #1 FILE-SAVE diskette, if you want to restore the accounts and data files as they exist on your last FILE-SAVE.

   b. You will load the PICK PC-AT DATA #1 high density diskette if you want to restore the accounts and data files as they were when you first installed the Pick system.

   If your current FILE-SAVE exists on more than one floppy diskette, you will be prompted to load diskettes as necessary by the following:

load PICK PC DATA FILES #2 then type 'C' to continue
LABEL dd mmm yyyy acct.name PICK PC-AT rel.rev #

Copyright 1985 PICK SYSTEMS

At this point mount the next diskette in the drive and type C to continue.

6. When the system has read the last diskette it will go directly to the COLDSTART PROC just as if you had done a system boot. At this point the PICK Operating System will have been restored, a full file-restore accomplished and you will be in the PICK environment.

3.3.3 THE K OPTION

The 'K' option will delete, or Kill, the PICK partition on the hard disk(s). When you have entered a 'K', the following prompt will be displayed:

Are you sure (Y or N)

If the operating system is to be deleted, key in 'Y'.

(WARNING --- THIS DELETES ALL DATA FROM THE PICK PARTITION!!)

If you don't want the operating system deleted, key in 'N'. The system will re-display the OPTIONS (K, A, F, Q) prompt.

Copyright 1985 PICK SYSTEMS

3.4 POWER-OFF: CONTROLLED SHUT-DOWN

This verb prior to system power-down ensures that all write-required frames are flushed from memory to disk.

FORMAT:

>POWER-OFF

The operating system automatically flushes memory buffers to disk whenever the system has been quiescent for two (2) seconds. If this automatic flush has already taken place, the system can be powered down without having to type POWER-OFF.

POWER-OFF will disable all users, flush memory to disk, and put the machine into a HALTed state from which powering off and then back on is the only recovery.

Using the POWER-OFF verb is a recommended procedure.

This verb only works on Line 0.

3.4.1 REBOOT

REBOOT will allow the PICK System to re-load the operating system without doing normal BOOTing procedures.

FORMAT:

>REBOOT

The verb REBOOT exists in the Master Dictionary of the SYSPROG account. REBOOT will disable all users, flush memory to disk, and cause the system to boot, just as if (ALT-CTRL-DEL) had been pressed.

This verb only works on line zero (0).

Chapter 4

PERIPHERALS

MEMORY MAPPED MONITOR

TERMINAL SUPPORT SOFTWARE

PROPRIETARY INFORMATION

This document contains information which is proprietary to and considered a trade secret of PICK SYSTEMS. It is expressly agreed that it shall not be reproduced in whole or part, disclosed, divulged, or otherwise made availble to any third party either directly or indirectly. Reproduction of this document for any purpose is prohibited without the prior express written authorization of PICK SYSTEMS. All rights reserved.

4.1 COLOR AND MONO VERBS : MEMORY-MAPPED MONITOR

Two verbs, COLOR and MONO, have been provided to support the use of IBM's memory-mapped monitors. In addition, PICK/BASIC and PROC now support IBM's memory-mapped monitors. (See: PRINT@)

FORMAT:

COLOR {foreground color}{,background color}{switches}

The supported colors for background and foreground are:
Black, Blue, Green, Cyan, Red, Magenta, Brown and White

The supported switches are:

/B or /BLINK	Activate character blinking
/NB or /NOBLINK	De-activate character blinking
/F or /FULL	Full intensity foreground
/H or /HALF	Half intensity foreground
/R or /REVERSE	Activate reverse video
/NR or /NOREVERSE	De-activate reverse video

STATEMENT	EXPLANATION
COLOR RED	Set foreground to red.
COLOR ,BLUE	Set background color to blue.
COLOR /B	Activate character blinking.
COLOR /NB/R	Deactivate character blinking, activate reverse video.
COLOR BROWN/F	Set foreground to brown - full intensity
COLOR ,RED/H	Set background to red, set foreground to half-intensity.
COLOR GREEN,CYAN/HALF	Set foreground to half intensity green, background cyan.

Sample usage of the COLOR verb.

FORMAT:

MONO {switches}

The supported switches are identical to the COLOR verb switches, with the addition of the following:

/U or /UNDERLINE	Activate character underlining
/NU or /NOUNDERLINE	Deactivate character underlining

Copyright 1985 PICK SYSTEMS

4.2 LINE 0: TERM TYPE "I"

| A term type "I", has been added to the list of supported term types. |

The term type 'I', was created to support the IBM memory-mapped monitors; monochrome and color/graphics.

If the cursor addressing is incorrect on either of the memory-mapped monitors, then type "TERM I" to invoke the new term type. This can also be done automatically each time you log into an account if the account's login PROC calls a BASIC program called TERM-TYPE. Edit the item SYSPROG, in SYSPROG's MD for an example.

A	ADDS 580
B	AMPEX 210
C	CITOH VT52
D	DATAMEDIA
F	TELEVIDEO 910
I	IBM PC-AT (port 0)
L	LEAR SIEGLER ADM-11
M	AMPEX 80
P	PERTEC 701
R	ADDS REGENT
T	TELEVIDEO 925/950
V	ADDS VIEWPOINT
W	WYSE 50

PC-AT Term Types

CRTs which can emulate other CRTs can be used if they emulate any of the CRTs listed above.

Copyright 1985 PICK SYSTEMS

4.3 IBM PC-AT KEYBOARD DIFFERENCES

Certain capabilities of the IBM System keyboard are disabled under the PICK Operating System to make the keyboard appear to be a standard CRT keyboard.

The following is a list of keyboard changes under PICK:

- Keypad area now generates numerics only.
- Backtabs cannot be generated from the keyboard.
- Print screen functions disabled.
- The ALT key recognition is disabled except in these cases: the CTL-ALT-DEL keyboard reset sequence, the ALT nnn special ASCII character generation sequence, and the ALT key in combination with user-defined function key.

IBM PC-AT Keyboard differences.

Copyright 1985 PICK SYSTEMS

4.4 SET-KBRD PROGRAM

| The SET-KBRD program allows line 0's keyboard to be redefined. |

FORMAT:

>SET-KBRD <filename> <itemname>

Where <filename> is the name of the file which holds the keyboard definition item <itemname>.

Several keyboard definition items are included with the system. These may be found in the file KEYBOARDS in the account SYSPROG. These include:

FRENCH
GERMAN
SPANISH
ITALIAN
ENGLISH
USA

The system 'boots-up' using the USA keyboard.

You may want to create your own keyboard definition items. An explanation of how to create such definitions is found in a file called DOC on the SYSPROG account.

Copyright 1985 PICK SYSTEMS

4.5 SET-FUNC Program

| The SET-FUNC program allows the line 0 function keys to be redefined. |

FORMAT:

>SET-FUNC <filename> <itemname>

Where <filename> is the name of the file which holds the function key definition item <itemname>.

Some example function key definition items are included with the system. These may be found in the file FUNCKEYS on the SYSPROG account.

The system 'boots-up' with the function keys undefined. If you want to create your own set of function key definitions, there is an explanation of how to do so in a file called DOC on the SYSPROG account.

Copyright 1985 PICK SYSTEMS

4.6 SET-BAUD VERB : SETTING BAUD-RATE (Ports 1 through 5)

The SET-BAUD verb allows ports 1 through 5 to be set to various baud rates.

FORMAT:

>SET-BAUD line#,baud-rate

The SET-BAUD verb only effects ports 1 through 5. Therefore, all line# parameters other than 1 through 5 are ignored.

Meaningful baud-rates are listed below.

50	forced to 110
75	forced to 110
110	
134.5	forced to 150
150	
300	
600	
1200	
1800	forced to 2400
2000	forced to 2400
2400	
3600	forced to 4800
4800	
7200	forced to 9600
9600	

Meaningful Baud Rates.

STATEMENT	EXPLANATION
SET-BAUD 1,4800	Sets port 1 to 4800 baud.
SET-BAUD 5,1800	Sets port 5 to 2400 baud. (see table above.)

Sample usage of the SET-BAUD verb.

Copyright 1985 PICK SYSTEMS

Chapter 5

STORAGE MEDIA

FLOPPY

HARD DISK

1/4 " SCT

PROPRIETARY INFORMATION

This document contains information which is proprietary to considered a trade secret of PICK SYSTEMS. It is expressly agreed that it shall not be reproduced in whole or part, disclosed, divulged, or otherwise made availble to any third party either directly or indirectly. Reproduction of this document for any purpose is prohibited without the prior express written authorization of PICK SYSTEMS. All rights reserved.

5.1 FORMAT: FORMATTING FLOPPY DISKETTES

| This program formats floppy diskettes under the PICK Operating System. |

FORMAT:

>FORMAT **(from SYSPROG account)**

A program is included in the SYSPROG BP file called FORMAT. The program formats standard 360K diskettes in 9 sectored, double-sided format. This is consistant with IBM's current standard. These diskettes, however, are NOT usable under PC or MS DOS, because PICK's formatter program does not build the necessary DOS File Allocation Tables (FAT).

To be usable by PICK, diskettes must format "perfectly". No bad sectors are allowed. The PICK formatter will display an error message when a bad diskette is encountered.

Copyright 1985 PICK SYSTEMS

5.2 FDISK VERB : FIXED DISK PARTITIONING

The verb FDISK, has been provided to support the use of IBM's Fixed Disk Partitioning concept.

FORMAT:

>FDISK (from SYSPROG account)

IBM's Fixed Disk Partitioning concept allows up to four (4) different operating systems to co-reside on one or two drives. They each "live" on the hard disk within their own range of contiguous cylinders.

The FDISK verb or command, as implemented under PC DOS and PICK, allows the user control over which operating system is currently executing. FDISK allows a user to mark one of the co-resident operating systems as "active". When the system is booted, the operating system marked as "active" assumes control of the machine. Therefore, to move from operating system "A" to operating system "B", FDISK is invoked, "B" is marked "active" and when the system is booted system "B" will be active.

The PICK implementation of its FDISK verb closely resembles IBM's PC DOS FDISK command in both presentation and capabilities.

For users familiar with PC DOS' FDISK, PICKs' FDISK differs in two ways:

1. The create a partition option is non-functional under PICK because partition creation is handled automatically at system installation time.

2. The delete partition option will refuse to delete the PICK partition unless another partition is first made "active". In the case where PICK is the only operating system this does not apply.

   Deleting the PICK partition from drive C will also delete PICK from drive D, if it exists. With FDISK, the user may view but not modify the partitions on drive D.

Copyright 1985 PICK SYSTEMS

5.3 *OFF-LINE STORAGE : FLOPPY AND TAPE*

The SET-SCT and SET-FLOPPY verbs are used to set up the peripheral storage devices.

The PC-AT can use either the floppy diskette drive or a supported 1/4" streaming cartridge tape (SCT) as a peripheral storage device. The desired device is assigned to your line with a SET-FLOPPY or a SET-SCT command.

Streaming Cartridge Tape (SCT)

FORMAT:

SET-SCT (BLK-SIZE)

This command sets the peripheral storage device to SCT 1/4" tape. The SET-SCT command also does an automatic tape attach (T-ATT) of the SCT to your line. The BLK-SIZE is set to 16384 as the default size or it can be re-specified to values from 2048 to 16384.

Setting Controller Board Switches

In order for the SCT to work properly for the Pick AT System, jumpers and switches on the controller board for the tape unit must be physically set so that it conforms to the following configuration:

DMA channel = 3
Interrupt level = 5 (IRQ5)
Base Port Address = 338

(Refer to the documentation for the SCT to accomplish this task.) It should be noted that this configuration is different than the default settings normally delivered with DOS. DOS can be made to conform to these new settings through the use of the DOS Tape Configuration menu. The following proceedure is recommended to get the SCT running under Pick.

1. Set the SCT controller board switches as specified above.
2. Re-conform DOS to accommodate new SCT controller configuration.
3. Confirm that the SCT works properly under DOS.
4. Finally, check that the SCT works properly under Pick (if the tape functions correctly under DOS it should also run under Pick.)

Copyright 1985 PICK SYSTEMS

Additional SCT commands

FORMAT:

T-RETEN

This command re-tensions the SCT by first forward and then backspacing the tape its entire length (no data is destroyed). It is recommended that tapes be re-tensioned before they are used to reduce the occurance of parity errors.

T-ERASE

This command also re-tensions the SCT by first forward and then backspacing the tape its entire length. In this case, however, the entire tape is erased.

T-STATUS

This command returns with drive and type information of the currently assigned peripheral storage device.

T-REW

This command rewinds the tape to the beginning from its current position. It is important to do a T-REW after write operations such as T-DUMPS before the tape is removed from the drive. This is because the T-REW writes a terminating EOF mark before rewinding the tape.

Floppy Diskette

FORMAT:

SET-FLOPPY ((density,drive)

This command sets the tape device to a floppy drive.
If no options are specified, High density - Drive A is the default.

Options for the density parameter are as follows:

H - High Density

S - Standard Density

L - Low Density

Options for the drive parameter are as follows:

A - Floppy Drive A

B - Floppy Drive B

 Copyright 1985 PICK SYSTEMS

SET-SCT	Set tape device to 1/4" tape.
SET-FLOPPY (SB	Set tape device to floppy drive B, standard density.
SET-FLOPPY (HA	Set tape device to floppy drive A, high density.
SET-FLOPPY	Set tape device to floppy drive A, high density.

Sample usage of SET-SCT and SET-FLOPPY commands.

Note: Tapes written with Pick data must first be erased prior to being used with DOS.

Copyright 1985 PICK SYSTEMS

Chapter 6

SYSTEM UTILITIES

UTILITY VERBS

PICK/DOS BRIDGE

PROPRIETARY INFORMATION

This document contains information which is proprietary to considered a trade secret of PICK SYSTEMS. It is expressly agreed that it shall not be reproduced in whole or part, disclosed, divulged, or otherwise made availble to any third party either directly or indirectly. Reproduction of this document for any purpose is prohibited without the prior express written authorization of PICK SYSTEMS. All rights reserved.

6.1 EUROPEAN DATE FORMAT

| The European date format is supported on the PC-AT. |

FORMAT:

>SET-DATE-EUR

Sets the system to use European date format

>SET-DATE-STD

Sets the system back to non-European date format.

This can be tested by keying in and using the following PICK/BASIC program:

```
001 PRINT DATE() 'D/'
002 END
```

```
| EXAMPLE:                                          |
|     >SET-DATE EUR                                 |
|     >SET-DATE              Enter date as:  DD/MM/YY |
|                                                   |
|     >SET-DATE-STD                                 |
|     >SET-DATE              Enter date as:  MM/DD/YY |
```


Copyright 1985 PICK SYSTEMS

6.2 DOS TO PICK BRIDGE : COPYDOS

The COPYDOS verb allows data contained in the DOS partition to be transferred into the PICK partition.

FORMAT:

```
>COPYDOS dospath ((options)
TO:(filename (itemname)
```

The syntax for the dospath parameter is as follows:

```
drive:\subdirectory1\subdirectory2\dosfilename
                or
drive:\dosfilename
```

OPTIONS	MEANING
0	Overwrite existing PICK item.
S	DOS data is in sequential file mode. (default)
R	DOS data is in random file mode.
T	Translate characters. System prompts for specifics.
F	Flag characters. System prompts for specifics.
M	Make Multiple items. System prompts for specifics.

If neither S nor R is specified in the options, the S(equential) option is assumed.

If neither the T nor F option is specified, the COPYDOS process will translate the DOS string hex'0D0A' to hex'FE'. This causes every DOS line to become a PICK attribute.

The T, F and M options are explained further in the following section.

Note that the system displays the open parenthesis and is not input by the user. If the optional PICK itemname is not input, following the ' TO:(' prompt, the DOS filename (from the dospath parameter) is used as the PICK itemname.

Note also, that if the DOS file is too large to reasonably fit into a PICK item, and the M option has not been specified, the COPYDOS process will automatically split the file into PICK items and assign the names itemname0, itemname1, etc.

Copyright 1985 PICK SYSTEMS

6.2.1 THE M OPTION - MULTIPLE PICK ITEMS

The M option allows for regulation of the size of the targeted PICK items. This flexibilty can be very useful in aligning DOS data with PICK attributes. After entering a response to the ' TO:(' prompt the system displays:

ENTER LENGTH OF RECORD (OR Dn):

The user may elect to enter a numeric response indicating how many bytes each data portion of the PICK item will be, or a 'D' followed by a number to indicate how many PICK attributes (lines) each PICK item will be. Using the 'Dn' response assumes that the default translate of carriage return/line feed to attribute marks will be performed.

The PICK item-ids are generated by concatenating the itemname used in the ' TO:(' specification with 0 , 1 , 2 , etc. No new PICK item with just the itemname alone will be created.

Entering a <CR> after the appropriate response causes the COPYDOS process to begin or, if an F or T option is in effect, further prompting as noted below.

6.2.2 THE T OPTION - TRANSLATING CHARACTERS

The 'T' option is available to translate up to 16 different hex bytes. Upon entering a response to the ' TO:(' prompt, the system will display:

REPLACE:

After entering the hex character to replace, the system displays:

WITH:

Entering identical hex strings in response to both REPLACE: and WITH:, causes that character to be deleted from the file.

After entering a response to the WITH: prompt, the system will again display:

REPLACE:

Entering a <CR> after the REPLACE: prompt, terminates further hex character prompting, and the system displays:

OKAY(Y/N):

An 'N' response allows the user to re-enter all of the Translate specifications. A 'Y' response causes the COPYDOS process to begin.

Copyright 1985 PICK SYSTEMS

6.2.3 THE F OPTION - FLAG CHARACTERS

The 'F' option is available to Flag up to 16 different hex bytes by placing a hex'00' in front of the Flagged hex character.

Entering in different hex bytes in response to the prompts, results in a Translation, with the resultant PICK byte preceded with hex'00'.

Entering in the same hex byte in response to both prompts, results in passing that byte and preceding it with hex'00'. Note that this is in contrast with the T option, specifying the same character, deletes that character.

If an 'F' option is in effect, upon entering the ' TO:(' response the system will display:

REPLACE:

After entering the hex character to translate or pass, the system displays:

WITH FLAGGED:

Upon entry of the same character or a replacing character, the system will re-prompt for up to 15 additional hex characters to Flag. The system will prompt for additional Flagging, until a <CR> is entered at the FLAG: prompt. A <CR> causes the system to display:

OKAY(Y/N):

An 'N' response allows re-entry of the FLAG: specifications.

Copyright 1985 PICK SYSTEMS

In the following example session, note that whenever multiple items are produced, (even without the M option), that an item with the actual PICK itemname used in the specification does not exist. The first item is the specified itemname with a zero appended. This feature should help alert users when they unknowingly transfer large DOS files.

```
>COPYDOS C:\SUB1\SUB2\DOSFILE (SMT

 TO:(  PROCLIB PICK.SIDE


ENTER LENGTH OF RECORD (OR Dn):  D5

    REPLACE:  0D                WITH:  FE
    REPLACE:  0A                WITH:  0A
    REPLACE:  2C                WITH:  2A
    REPLACE:  <CR>

    OKAY(Y/N):  Y

                READING DIRECTORY
                       SUB1
                       SUB2
                       DOSFILE
                WRITING ITEM
                       PICK.SIDE0
                       PICK.SIDE1
                       PICK.SIDE2
                       PICK.SIDE3
                END OF FILE
```

Sample usage of the COPYDOS utility with the S, M and T option.

Copyright 1985 PICK SYSTEMS

6.3 PICK TO DOS BRIDGE : COPYPICK

The COPYPICK utility allows data contained in the PICK partition to be transferred into the DOS partition.

Since a PICK to DOS transfer is done from a DOS partition, the DOS diskette (available from your PC dealer) which contains this utility will have to be loaded with the command:

copy a:*.* C:

This loads two files into the DOS directory, named:

BRIDGE.EXE **BASRUN.EXE**

FORMAT:

c> COPYPICK

Upon entering a <cr> the system will prompt for additional input, in the following order:

Enter PICK account name:

Enter PICK filename (or dict,dataname):

Enter PICK itemname or <cr> for all:

Enter DOS receive filename:

A successful transfer ends with the following message:

n item(s), n records/attributes transferred

If an invalid name is entered at any time during the prompt sequence, an appropriate error message, such as the following, is displayed:

File nnn in account nnn not found

After a successful transfer, the user will be re-prompted for another PICK filename. A <cr> response causes a re-prompt for a different PICK account name. A <cr> at the account prompt exits the COPYPICK utility. PICK attribute marks (h'FE') are replaced with a carriage return (h'0D') and line-feed (h'0A'). This effectively makes each PICK attribute value, a DOS record in the DOS receive file.

```
c> COPYPICK

   Enter PICK account name: SYSPROG
   Enter PICK filename (or dict,dataname): PK.FILE
   Enter PICK itemname or <cr> for all: <cr>
   Enter DOS receive filename: DOS-RECV
      4 item(s),   37 records/attributes transferred

   Enter PICK filename (or dict,dataname): PK.FILE,MULTI
   Enter PICK itemname or <cr> for all: JUST1
   Enter DOS receive filename: DOS-RECV
      1 item(s),   12 records/attributes transferred

   Enter PICK filename (or dict,dataname): <cr>

   Enter PICK account name: <cr>

c>
```

Sample COPYPICK transfer session.

Note: When a set of Serial Input Output (SIO) boards are added to the PC-AT that changes the number of ports on the system, it is necessary to do a 'virgin' installation of the Pick System in order for the COPYPICK utility to work properly!

Copyright 1985 PICK SYSTEMS

6.4 OKIDATA PRINTER SET-UP PROGRAM

An Okidata printer set-up program called OKIDATA is included in the SYSPROG account's BP file.

This program allows the user to change the printer parameters to 10, 12 or 17 characters per inch, 6 or 8 lines per inch, correspondence or data quality print, expanded character print and paper length settings.

This program was developed by PICK programmers for their own use. PICK Systems makes no claims for it, nor do we intend to support it. It has, however, worked well for its developers and therefore is included.

```
OKIDATA - Pick Systems

   1. Set 10 CPI          2. Set 12 CPI          3. Set 17 CPI
   4. Set 6 LPI           5. Set 8 LPI           6. Set expanded
   7. Set Corr qual       8. Set Data qual
   9. 8.5" wide paper    10. 14 in wide paper

Enter choices separated by spaces or enter <CR> for default setup.

-
```

OKIDATA Program Menu

Copyright 1985 PICK SYSTEMS

Chapter 7

PICK/BASIC EXTENSIONS

PRINT@ FUNCTIONS

EXECUTE

PROPRIETARY INFORMATION

This document contains information which is proprietary to considered a trade secret of PICK SYSTEMS. It is expressly agreed that it shall not be reproduced in whole or part, disclosed, divulged, or otherwise made availble to any third party either directly or indirectly. Reproduction of this document for any purpose is prohibited without the prior express written authorization of PICK SYSTEMS. All rights reserved.

7.1 PRINT@ FUNCTIONS

New functions have been added to the PICK/BASIC "PRINT@" statement and the PROC "T" command to support IBM's memory-mapped monitors.

The "PRINT @" statement and the PROC "T" command formerly allowed negative integers in the range -1 to -10 as arguments. For the PICK PC-AT implementation the argument range has been extended from -1 to -127.

(See: COLOR and MONO)

For all PICK machines the ranges break down as follo	
-1 TO -32	Functions which affect all machines
-33 to -127	Functions which are implementation spec
More specifically:	
(across all future PICK implementations)	
-1 to -10	Remain as defined in the PICK User Manua
-11 to -16	Are defined on next page.
-17 to -32	Are reserved for future expansion
(for the IBM PC/AT implementation)	
-33 to -40	Define background colors
-41 to -48	Define full intensity foreground colors
-49 to -56	Are reserved for future expansion
-57 to -64	Define half intensity foreground colors
-65 to -88	Are reserved for future expansion
-89 to -94	Define IBM memory-mapped monitor modes
-95 to -127	Are reserved for future expansion

Copyright 1985 PICK SYSTEMS

in detail :

-11 Screen protect on
-12 Screen protect off
-13 Reverse video on
-14 Reverse video off
-15 Underlining on
-16 Underlining off

-33 Set background = white
-34 Set background = brown
-35 Set background = magenta
-36 Set background = red
-37 Set background = cyan
-38 Set background = green
-39 Set background = blue
-40 Set background = black

-41 Set full intensity foreground = white
-42 Set full intensity foreground = brown
-43 Set full intensity foreground = magenta
-44 Set full intensity foreground = red
-45 Set full intensity foreground = cyan
-46 Set full intensity foreground = green
-47 Set full intensity foreground = blue
-48 Set full intensity foreground = black

-57 Set half intensity foreground = white
-58 Set half intensity foreground = brown
-59 Set half intensity foreground = magenta
-60 Set half intensity foreground = red
-61 Set half intensity foreground = cyan
-62 Set half intensity foreground = green
-63 Set half intensity foreground = blue
-64 Set half intensity foreground = black

-89 Activate Monochrome monitor to 80 x 25 b/w mode
-90 Reserved for future expansion
-91 Reserved for future expansion
-92 Reserved for future expansion
-93 Activate Color/Graphics monitor to 80 x 25 color mode
-94 Activate Color/Graphics monitor to 80 x 25 b/w mode

Copyright 1985 PICK SYSTEMS

```
PICK/BASIC Examples:

* Clear screen and home the cursor
PRINT @(-1)
* Color mode, foreground = blue, background = white
PRINT @(-93) : @(-63) : @(-49)



* Clear screen and home the cursor (same, but more readable)
CLEAR.SCREEN = @(-1)
COLOR.MODE = @(-93)
F.BLUE = @(-63)
B.WHITE = @(-49)

PRINT CLEAR.SCREEN
PRINT COLOR.MODE : F.BLUE : B.WHITE
```

```
PROC Examples:

PQ
C Clear the screen and home the cursor
T (-1)

PQ
C Activate Color/Graphics, foreground = blue, background =
white
T (-93),(-63),(-49)
```

NOTE: In the SYSPROG account, in the file SYSPROG-PL, is a program called DEMO which demonstrates the extended support for memory-mapped monitors under PICK/BASIC.

Copyright 1985 PICK SYSTEMS

7.2 EXECUTE STATEMENT : EXECUTING TCL COMMANDS FROM PICK/BASIC

The EXECUTE statement is used to execute any TCL command and use the results of that command in later processing.

FORMAT:

>EXECUTE expression (RETURNING var1) (CAPTURING var2)

The 'expression' parameter may be a complete TCL statement, a PROC, or a cataloged PICK/BASIC program. After execution, 'var1' will contain error message numbers. Any output from the executed command is captured in 'var2'.

The RETURNING and CAPTURING clauses are both optional.

After execution of the 'expression', the data stack is reset and the PICK/BASIC program continues with the next statement.

Using function ' SYSTEM(16) ' determines the current nested level of EXECUTE statements in progress.

7.2.1 INPUT - EXECUTE STATEMENT

Input is passed to the EXECUTE statement using the DATA statement, just like it is used with the CHAIN statement. The data stack is reset after the EXECUTE statement is completed.

(See: DATA and CHAIN)

7.2.2 OUTPUT - CAPTURING CLAUSE

Output from the executed command is captured by the calling program in the variable used with the CAPTURING clause (var2). When output is being re-directed to a variable in the calling program, carriage-return/line feed pairs are converted to attribute marks, and clear-screen sequences (to the terminal) are deleted.

7.2.3 OUTPUT - RETURNING CLAUSE

Output of error message numbers may be examined in two ways. Using the optional RETURNING clause, allows error message numbers to be assigned to a variable (var1). Each error message number is separated by a blank. Alternatively, SYSTEM(17) will return the error message number string, with each number separated by an attribute mark.

Copyright 1985 PICK SYSTEMS

7.2.4 SELECT LISTS - EXECUTE STATEMENT

If a selected list is active when the EXECUTE statement is executed, that list is passed to the TCL command executed. A selected list may be passed back from the executed command to the PICK/BASIC program, if one is generated. The select list will be assigned to the default select variable for the next READNEXT statement, or to any variable by:

SELECT TO variable

Therefore it is possible to EXECUTE the SELECT verb, test for select list active, and then EXECUTE the SAVE-LIST verb. It is also possible to issue a SELECT verb from TCL, RUN a PICK/BASIC program which EXECUTEs a LIST verb, and then have the initial select list passed to the LIST verb. In order to pass a select list to the executed TCL command, it is necessary that the select list not be referenced by a READNEXT or SELECT statement.

7.2.5 WORK ENVIRONMENT CHANGES

Extra care should be taken when using the following commands with the EXECUTE statement. The original environment will NOT be restored after they are EXECUTEd. The PICK/BASIC program will resume with the next line of code, under the newly changed parameters.

A) TERM
B) SP-ASSIGN, SP-OPEN, SP-CLOSE, etc.
C) P (output suppression)
D) CHARGES - work performed with EXECUTE not reflected.
E) T-ATT, T-DET (record size, etc.)

There are two verbs which upon EXECUTion, do not return to the PICK/BASIC program.

A) OFF
B) LOGTO

7.2.6 EXECUTE WORKSPACE

The EXECUTE process requires it's own dedicated workspace. These workspace frames are automatically taken from overflow, and maintained in a special EXECUTE workspace table. The very first time an EXECUTE statement is performed, the process may be delayed up to 30 seconds. Subsequent EXECUTE statements will proceed without delay.

Copyright 1985 PICK SYSTEMS

INDEX

Copyright 1985 PICK SYSTEMS

I N S T A N T W I Z A R D

THE PICK SYSTEM

USER MANUAL

PROPRIETARY INFORMATION

This chapter contains information which is proprietary to and considered a trade secret of AUTOMATIC PROGRAMMING. It is expressly agreed that it shall not be reproduced in whole or part, disclosed, divulged, or otherwise made available to any third party either directly or indirectly. Reproduction of this document for any purpose is prohibited without the prior express written authorization of AUTOMATIC PROGRAMMING. All rights reserved.

TABLE OF CONTENTS

To use WIZARD with different kinds of terminals, see the UTILITIES section.

Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

W E L C O M E T O W I Z A R D I I

WIZARD II is the name given to three powerful application generation tools: INSTANT WIZARD, CUSTOM WIZARD, and ADVANCED WIZARD. PICK Systems has selected INSTANT WIZARD to be distributed with each PICK PC system, as an introduction to the WIZARD II series of products. CUSTOM WIZARD and ADVANCED WIZARD are available from your dealer or from Automatic Programming at (714) 786-1111.

Fundamental Concepts of Business Data Processing

If you already know about computers and the PICK operating system, you may skip down to the section on 'WHAT WILL WIZARD DO FOR ME?'.

If you don't understand everything in this introduction, don't worry. The WIZARD tutorials will make it very easy to get started. The tutorials demonstrate exactly how WIZARD works by stepping you through some simple examples.

COMPUTER PROGRAMS

The main idea of business data processing is to put information into the computer and get information out of the computer. A computer needs lists of instructions to tell it exactly how to handle the information. These lists of instructions are called 'PROGRAMS'.

WIZARD asks you questions about the program that you want to create. WIZARD then uses the answers to these questions to automatically create the program for you. You don't have to know a thing about programming.

With WIZARD, you can create three kinds of programs: 'SCREENS', 'REPORTS', and 'MENUS'.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

SCREENS

Information is typically 'entered' into the computer by typing the information on a 'keyboard' and viewing the information on a television 'screen'. This keyboard and screen combination may be part of the computer or may be in a separate unit called a 'terminal'. A program that allows you to enter information is called a 'SCREEN' program (or sometimes just 'SCREEN') because the information is displayed on a screen.

With a WIZARD SCREEN, you can enter many different types of information. For example, you could enter names, numbers, dates and amounts of money. Once you have told WIZARD what types of information you want to enter, WIZARD will automatically check the information that you enter to make sure it is the right type.

With WIZARD, unlike many systems, you can add to or change a SCREEN even after you have used it to enter information into the computer.

REPORTS

Information from the computer is typically sorted into a particular order and 'displayed' on a terminal screen or 'printed' by a computer printer. This information is usually called a 'report'. The program that displays or prints the information is also called a 'REPORT'. A typical report could contain customer information sorted by the customers' names.

INSTANT WIZARD can produce FORMS-TYPE REPORTS such as invoices and checks. When viewing a WIZARD REPORT on your terminal, you may browse (scan) forward, backward, left, or right through the REPORT.

MENUS

A 'MENU' is like a table of contents. It allows you to select a particular SCREEN or REPORT from a list of SCREEN names and REPORT names.

A WIZARD MENU displays a numbered list of SCREEN names and REPORT names. You can select a particular SCREEN or REPORT simply by typing its number.

You can use a WIZARD MENU to group together several SCREENS and REPORTS which perform a particular task (such as inventory control or customer tracking). Such a group of programs is referred to as an 'APPLICATION'. Because WIZARD makes it so easy to develop applications, we call it an APPLICATION DEVELOPMENT SYSTEM.

COMPUTER DATA

Data in a computer is organized into electronic 'FILES'. Every file has a unique name. Every file is divided into 'RECORDS'. Every record is divided into 'FIELDS'. In some kinds of computer files, every record has a name. We refer to these names as 'KEYS'.

PICK SYSTEM TERMINOLOGY

Certain concepts have different names on the PICK operating system:

A RECORD is called an 'ITEM'.
A FIELD is called an 'ATTRIBUTE'.
Every ITEM must have a unique KEY, which is called an 'ITEM-ID'.

WHAT WILL WIZARD DO FOR ME?

WIZARD II is an APPLICATION DEVELOPMENT SYSTEM. It can save you tremendous amounts of time and money in developing, documenting, and maintaining business applications.

The first step in developing an application is to reserve some space in the computer for your data. This space must also be given a name. This process of naming and reserving space is known as 'creating a file'. To create your file you specify the file name you have selected and the approximate amount of data you plan to store.

To design a WIZARD SCREEN PROGRAM, you enter the PROGRAM NAME, the FILE NAME of the file that holds (or will hold) your data, and some 'FIELD DEFINITIONS'. EACH FIELD DEFINITION TELLS WIZARD HOW TO HANDLE THE DATA FOR ONE ATTRIBUTE.

To design a WIZARD FORMS-TYPE REPORT, you enter the name of a WIZARD SCREEN and the name that you want to call the FORMS-TYPE REPORT. WIZARD automatically uses the WIZARD SCREEN to create the FORMS-TYPE REPORT.

To design a WIZARD MENU PROGRAM, you enter the MENU PROGRAM NAME and the list of other program names that you want to appear on the MENU.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

THE WIZARD II MAIN MENU

Selection 1 - How to get started.

You are now reading selection 1 of the WIZARD II MAIN MENU. All the WIZARD II documentation is available from your terminal.

If you type a '?' while you are designing a program, WIZARD will display the portion of the documentation that explains the section of WIZARD you are using. If you type '??', you will get the WIZARD Master Help Menu. This menu allows you to access ALL the WIZARD II documentation.

Selection 2 - Tutorials.

This selection actually DEMONSTRATES how WIZARD II is used by guiding you through a number of simple examples. Try the tutorials after you read the rest of this introduction.

Selection 3 - Instant Screens and Reports.

This selection allows you to design simple SCREENS and REPORTS. It is very easy to use but only has a few of the features of 'CUSTOM WIZARD'.

Selection 4 - Custom Screens and Reports.

This is 'CUSTOM WIZARD'. 'CUSTOM WIZARD' allows you to customize a SCREEN or REPORT that you have previously designed with 'Instant Screens and Reports'.

CUSTOM WIZARD is available from your dealer, or from Automatic Programming at (714) 786-1111.

Selection 5 - Design your Menu.

This selection allows you to design and generate simple MENUS.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

Selection 6 - Generate your documentation.

This selection allows you to:
1. Display or print a User Manual about your entire application.
2. Display or print Designer Documentation about your SCREENS or REPORTS.
3. Display or print Summary Designer Documentation about your SCREENS or REPORTS sorted by program name.
4. Display or print Summary Designer Documentation about your SCREENS or REPORTS sorted by file and by attribute.

Selection 7 - Run your program.

This selection allows you to run your SCREENS, REPORTS, or MENUS without leaving the 'MAIN MENU'. While you are running a WIZARD SCREEN, you can enter '?' to get help with a particular field, or '??' to get an explanation of the available commands. While you are running a WIZARD REPORT, you can enter '?' to get an explanation of how to 'browse' the REPORT.

Selection 8 - Browse a Report.

This selection allows you to browse forward, backward, left, or right through a previously created REPORT.

Selection 9 - Create and maintain files.

This selection allows you to very easily display a list of your data file names, or create a new data file.
You can also reserve attributes (fields) that you don't want WIZARD to use. This is very useful if you are using WIZARD and non-WIZARD programs to access the same files.

Selection 10 - Maintain program definitions.

This selection allows you to:
1. Display a sorted list of all your program definitions.
2. Duplicate a program definition on this account or from one account to another.
3. Delete your program definition as well as the generated program.
4. Add or modify data-types.
5. List all the data-types.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

TO START LEARNING 'INSTANT' WIZARD:

1. Complete the ten tutorials.

2. 'Run' (use) the 'CUSTOMER' application that has been included as an example. To do this, select #7 from the 'MAIN MENU' (Run your program). Then enter the name 'DEMO-MENU'.

   DEMO-MENU is a menu with 2 selections. Selection 1 allows you to enter typical customer information. Selection 2 allows you to display the customer information in forms-type format. Notice that DEMO-MENU is the application that you created in the first few tutorials.

```
**************************************************************************
* WHILE YOU ARE RUNNING A WIZARD DATA ENTRY PROGRAM, YOU CAN ENTER *
* '?' TO GET HELP WITH A PARTICULAR FIELD, OR '??' TO GET AN       *
* EXPLANATION OF THE AVAILABLE COMMANDS. WHILE YOU ARE RUNNING A   *
* WIZARD REPORT, YOU CAN ENTER '?' TO GET AN EXPLANATION OF HOW TO *
* 'BROWSE' THE REPORT.                                             *
**************************************************************************
```

   The two programs selected by DEMO-MENU are EE-CUST and FF-CUST. Notice that you can also run these programs individually from selection #7 of the 'MAIN MENU'.

3. Modify the example screen 'EE-CUST' with the 'INSTANT SCREENS' formatter. To do this, select #3 from the 'MAIN MENU' (Instant Screens and Reports). Then select #1 (Create a simple data entry SCREEN).

```
**************************************************************************
* WHILE YOU ARE DESIGNING WIZARD SCREENS, REPORTS, OR MENUS        *
* (SELECTIONS 3, 4, AND 5 ON THE 'MAIN MENU') YOU CAN ALWAYS ENTER *
* '?' OR '??'. IF YOU ENTER '?', YOU WILL GET AN EXPLANATION OF    *
* THE SECTION OF WIZARD YOU ARE USING. IF YOU ENTER '??', YOU      *
* WILL GET THE 'MASTER HELP MENU'. THIS MENU ALLOWS YOU TO         *
* ACCESS ALL THE WIZARD II DOCUMENTATION.                          *
**************************************************************************
```

4. To start using WIZARD to develop an application:

   1. Create a file to hold your data by using selection 9.2: (Create a new data file). In other words, select #9 from the 'MAIN MENU' and then select #2.

   2. Create a simple SCREEN by using selection 3.1: (Create a simple data entry SCREEN). Run the SCREEN by using selection 7: (Run your program).

   3. Create a 'forms-type' REPORT by using selection 3.2: (Create a simple FORMS-TYPE REPORT). Run the REPORT by using selection 7.

   4. Create a MENU that allows you to select the SCREEN or one of the REPORTS by using selection 5: (Design your Menu). Run the MENU by using selection 7.

   5. Document your application by using selection 6.1: (Application Documentation).

```
**************************************************************************
* IF YOU HAVE ANY QUESTIONS THAT ARE NOT ANSWERED BY THE TUTORIALS,      *
*   THE DOCUMENTATION, OR YOUR DEALER, PLEASE CALL 714-786-1111.         *
**************************************************************************
```

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

TUTORIALS

Selection 2 of the WIZARD II MAIN MENU (Tutorials) DEMONSTRATES how WIZARD II is used. The tutorials guide you through a number of simple examples. They give you a feeling for how WIZARD II works.

All you need to do is keep pressing the 'space' bar on the keyboard, and you will get a 'guided tour' of many of the WIZARD II features.

The 10 INSTANT WIZARD tutorials are divided into 4 groups:

Tutorial 1.1

Tutorial 1.1 - shows you how to create a file.

Tutorials 2.1 through 2.6

Tutorial 2.1 - shows you how to create a simple SCREEN.
Tutorial 2.2 - shows you how to run a SCREEN.
Tutorial 2.3 - shows you how to create a simple forms-type REPORT.
Tutorial 2.4 - shows you how to browse through a forms-type REPORT.

Tutorials 3.1 and 3.2

Tutorial 3.1 - shows you how to create a MENU.
Tutorial 3.2 is not actually a tutorial. It allows you to use the MENU, SCREEN, and forms-type REPORT that you were shown how to create and run in the previous tutorials.

Tutorials 4.1 through 4.3

Tutorials 4.1 through 4.3 - show you how to enhance the simple SCREEN you created in tutorial 2.1.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

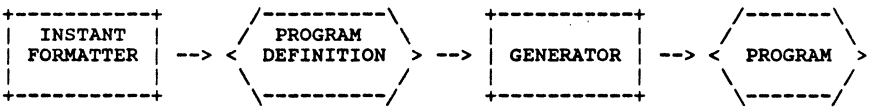
INSTANT SCREENS

To create an 'INSTANT SCREEN', you tell WIZARD the information it needs to generate your SCREEN. This information is called a 'SCREEN DEFINITION'. Once you have created your SCREEN definition, WIZARD will generate your SCREEN.

You design (format) your instant SCREEN with the 'INSTANT SCREENS' formatter. The 'INSTANT SCREENS' formatter is very simple to use because it has very few commands. Mainly, all you have to do is answer some simple fill-in-the-blank questions.

An INSTANT SCREEN DEFINITION is made up of Field Definitions. Each Field Definition tells WIZARD how to handle the data for one attribute. You design an INSTANT SCREEN DEFINITION by using the INSTANT SCREENS formatting commands to add, change, or delete Field Definitions. Try tutorial #2.1 to see how the design process works.

The following chart illustates the process of program development:



You can always type ? to get help with the current question.

You can always type ?? to get the WIZARD Master Help Menu.

The 'CUSTOM WIZARD' formatter is much more powerful than the 'INSTANT SCREENS' formatter but requires more knowledge to use it. After you have created an instant SCREEN, you can customize your SCREEN with the 'CUSTOM WIZARD' formatter.

CUSTOM WIZARD is available from your dealer, or from Automatic Programming at (714) 786-1111.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

INSTANT SCREENS - The Screen Name

WIZARD BEGINS BY DISPLAYING THE MESSAGE:

Enter the SCREEN name:

YOU ENTER:

The SCREEN name.

If you are creating a new SCREEN, enter the name that you wish to use to execute (run) your SCREEN.
If you are modifying a SCREEN that already exists, enter the name that you gave the SCREEN when you created it.

If you don't remember the Screen Name, you can get a sorted list of all the program names by selecting #10 from the 'MAIN MENU' (Maintain program definitions) and then selecting #1.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

INSTANT SCREENS - The File Name

WIZARD DISPLAYS THE MESSAGE:

Enter the File Name:

YOU ENTER:

The name of a file that already exists.

An instant SCREEN accepts data that you enter from your keyboard and then stores it in an electronic file.

You can create a file by selecting #9 from the MAIN MENU and then selecting #2 (Create a new data file).

Instant SCREENs only store and retrieve data from one file. However, an instant SCREEN can be CUSTOMIZED with 'CUSTOM WIZARD' to handle more than one file.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

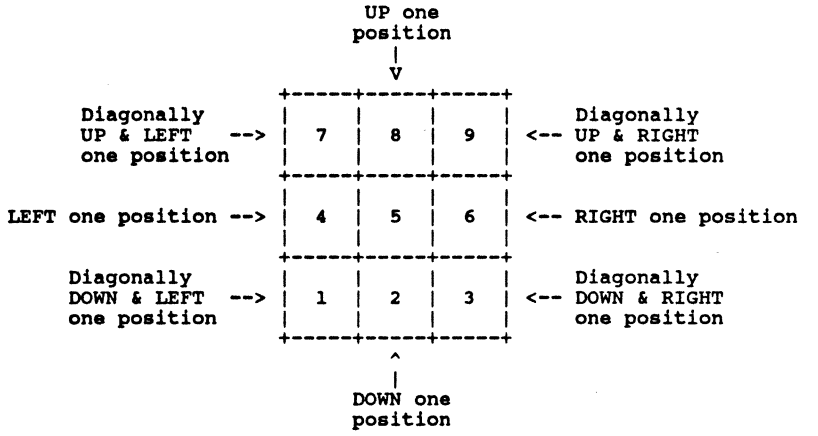
INSTANT WIZARD - Using the Numeric Pad to position the Cursor

Most WIZARD formatting commands will ask you to move the 'CURSOR'. The 'cursor' is the spot on the screen that shows you where the next character will be displayed on the terminal screen.

You tell INSTANT WIZARD where to add a new Field Definition by moving the cursor to that position on the screen.

If a field already exists, you may want to change it. You tell INSTANT WIZARD which field you want to work with by positioning the cursor on top of that field.

You are able to move the cursor to any position on the screen by using the Numeric Pad on your keyboard. The following diagram illustrates the movements:



RAPID CURSOR POSITIONING

The "0" (zero) key moves the cursor 10 spaces in the same direction as the last numeric key. For example, typing '6' followed by typing '0' three times moves the cursor 31 spaces to the right.

The "5" key moves the cursor 5 spaces in the same direction as the last numeric key. For example, typing '6' followed by typing '5' three times moves the cursor 16 spaces to the right.

CURSOR POSITION INDICATOR

In the bottom left corner of the formatting screen you will see the Cursor Position Indicator. The left-hand number is the horizontal position, usually called the column. The right-hand number is the vertical position, usually called the row. This indicator will always show you where you are.

WIZARD data entry SCREENs can only be as wide and as deep as your terminal.

CUSTOM WIZARD allows you to create COLUMNAR and FORMS-TYPE REPORT designs that are up to 66 rows deep and 240 columns wide.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

THE 'A' COMMAND - Add one or more Field Definitions

The 'A' command allows you to Add one or more new Field Definitions to your Screen Definition. (Sometimes, Field Definitions are just called 'fields'.)

FIELD DEFINITIONS

Each Field Definition tells WIZARD how to handle data for one attribute (field). Usually, the first Field Definition in a SCREEN is used to enter the item-id (key).

DATA LABELS AND DATA PICTURES

The main idea here is to specify Field Definitions by entering a Data Label and a Data Picture for each Field Definition. The Data Label is the field description that is displayed on the screen. The Data Picture shows where the data will be displayed as well as what kind of data will be displayed.

WIZARD DISPLAYS THE MESSAGE:
Enter 'A' to add a field, 'C' to change a field, 'D' to delete a field, ESC to exit, or '?' to get help:

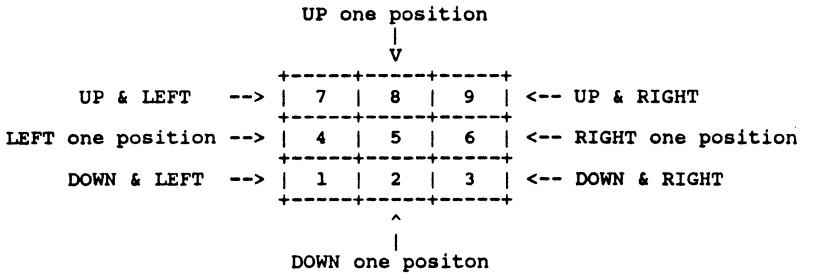
YOU ENTER:
'A' and then press the RETURN key.
Now you are in the 'Add' command.

WIZARD DISPLAYS THE MESSAGE:
Move the cursor to the Data Label location by using the numeric pad. Then press the RETURN KEY.

YOU DO ONE OF THE FOLLOWING:
1. If you want to put the Data Label at the CURRENT cursor position, just press the RETURN key.
2. If you want to put the Data Label at SOME OTHER position, use the keys of the numeric pad to move the cursor to another position (see diagram below) and then press the RETURN key.
3. If you want to leave the 'Add' command, press the ESC key.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

The following diagram shows how the numeric keys move the cursor:



Pressing the '5' key moves the cursor 5 spaces IN THE SAME DIRECTION as the last move.

Pressing the '0' key moves the cursor 10 spaces IN THE SAME DIRECTION as the last move.

WIZARD DISPLAYS THE MESSAGE:
Enter the Data Label and then press the RETURN key.

YOU ENTER ONE OF THE FOLLOWING:

1. The Data Label (description) that you want to appear on the screen followed by the RETURN key.

   For example, '## Customer Code'

   The number signs (##) tell WIZARD to number this field. The number signs will be replaced with the field number when the program is generated. If you don't want the field to be numbered, don't use the number signs.

2. If you don't want this field to have a Data Label, just press the RETURN key.

WIZARD DISPLAYS THE MESSAGE:

Move the cursor to the Data Picture location by using the numeric pa
Then press the RETURN KEY.

YOU DO ONE OF THE FOLLOWING:

1. If you want to put the Data Picture at the CURRENT cursor position, just press the RETURN key.
2. If you want to put the Data Picture at SOME OTHER position, use the keys of the numeric pad to move the cursor to another position (see diagram above) and then press the RETURN key.
3. If you want to leave the 'Add' command, press the ESC key.

WIZARD DISPLAYS THE MESSAGE:
Data-Types include 'N' for Numeric, 'A' for Alphabetic, 'X' for any characters. Enter Data-Type (or '?'):

YOU ENTER ONE OF THE FOLLOWING:

1. A Data-type. For example:
   If the data can only be Numeric, enter an 'N'.
   If the data can only be Alphabetic, enter an 'A'.
   If the data can be any character, enter an 'X'.
2. '?' to get information on the many other Data-types.

WIZARD DISPLAYS THE MESSAGE:
Enter the number of characters in this field:

YOU ENTER THE FOLLOWING:
A number that specifies the maximum number of characters that can be entered into this field. Sometimes we call this number the FIELD LENGTH. Note - some Data-types have a fixed field length. If you enter a Data-type with a fixed field length, then you won't be asked this question at all.

YOU HAVE NOW COMPLETED A FIELD DEFINITION!!

You are now ready to proceed with the next field in the same manner. You will notice, after entering the first field on the screen, that WIZARD will automatically align the Cursor for you. Of course, you may move the Cursor to a different location if you desire.

IMPORTANT NOTE: Whenever you enter an 'A' command, WIZARD will remain in the 'A' command until you enter an ESC to leave the command.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, Ca.

THE 'C' COMMAND - Change the Data Label of a Field Definition

The 'C' command allows you to Change a Field Definition.
(Sometimes, Field Definitions are just called 'fields'.)

WIZARD DISPLAYS THE MESSAGE:
Enter 'A' to add a field, 'C' to change a field, 'D' to delete a field,
ESC to exit, or '?' to get help:

YOU ENTER:
'C' and then press the RETURN key.
Now you are in the 'Change' command.

WIZARD DISPLAYS THE MESSAGE:
Move the cursor to the desired field by using the numeric pad.
Then press the RETURN key.

YOU DO THE FOLLOWING:
1. Use the numeric pad to move the cursor to the Data Label you wish to change, or delete. The Data Label is the field description that is displayed on the screen.
2. Press RETURN.

WIZARD DISPLAYS THE MESSAGE:
Enter the new label desired. (Just RETURN leaves the existing label, a space deletes the label.)

YOU ENTER ONE OF THE FOLLOWING:
1. A new Label to replace the old Label.
   The new Label can include any characters (upper or lower case) as well as embedded blanks.
2. RETURN to leave the old Label unchanged.
3. A 'space' (press the space bar) to delete the label.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

THE 'C' COMMAND - Change other details of a Field Definition

The 'C' command allows you to Change a Field Definition.
(Sometimes, Field Definitions are just called 'fields'.)

WIZARD DISPLAYS THE MESSAGE:
Enter 'A' to add a field, 'C' to change a field, 'D' to delete a field,
ESC to exit, or '?' to get help:

YOU ENTER:
'C' and then press the RETURN key.
Now you are in the 'Change' command.

WIZARD DISPLAYS THE MESSAGE:
Move the cursor to the desired field by using the numeric pad.
Then press the RETURN key.

YOU DO THE FOLLOWING:
1. Use the numeric pad to move the cursor to the Data Picture that you wish to change. The Data Picture shows where the data will be displayed as well as what kind of data will be displayed.
2. Press RETURN.

WIZARD DISPLAYS THE MESSAGE:
Enter Data-type, or press RETURN
to leave the Data-type unchanged:

YOU ENTER ONE OF THE FOLLOWING:
1. A Data-type. For example:
   If the data can only be Numeric, enter an 'N'.
   If the data can only be Alphabetic, enter an 'A'.
   If the data can be any character, enter an 'X'.
2. '?' to get information on the many other Data-types.
3. RETURN to leave the Data-type unchanged.
   This is only allowed for variable length Data-types
   such as 'N','A', or 'X'.

If the Data-type is a variable length Data-type, then
WIZARD DISPLAYS THE MESSAGE:
Enter the number of characters in this field:

YOU ENTER:
The number of characters (length) of the field.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

THE 'D' COMMAND - Delete a Field, or a Data Label

You may use the 'D' command to delete an entire field, or delete only the data label.

WIZARD DISPLAYS THE MESSAGE:
Enter 'A' to add a field, 'C' to change a field, 'D' to delete a field,
ESC to exit, or '?' to get help:

YOU ENTER:
'D' and then press the RETURN key.
Now you are in the 'Delete' command.

WIZARD DISPLAYS THE MESSAGE:
Move the cursor to the desired field by using the numeric pad.
Then press the RETURN key.

YOU DO THE FOLLOWING:
1. Use the numeric pad to move the cursor to the Data Label or the Data Picture of the field that you wish to delete.
2. Press RETURN.

WIZARD DISPLAYS THE MESSAGE:
Enter 'L' to delete just the LABEL, 'F' to delete the entire FIELD, or
press the RETURN key if you don't want to delete anything:

YOU ENTER ONE OF THE FOLLOWING:
1. 'L' to delete just the data LABEL.
   It doesn't make any difference if the cursor is on the Data Label or the Data Picture.
2. 'F' to delete the entire FIELD definition.
   It doesn't make any difference if the cursor is on the Data Label or the Data Picture.
3. RETURN to return to the command message without deleting anything.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

THE 'ESCAPE' COMMAND - Undoing what you did

The ESCAPE command is always available. You ESCAPE by pressing the key marked 'ESC' on your keyboard, and it usually must be followed by pressing the RETURN key.

ESCAPE always takes you back to a previous command message. The changes you made since that command will NOT be saved in most cases.

You can 'ESCAPE' (exit) from INSTANT SCREENS entirely by doing the following:

WIZARD DISPLAYS THE MESSAGE:
Enter 'A' to add a field, 'C' to change a field, 'D' to delete a field,
ESC to exit, or '?' to get help:

YOU ENTER:
'ESC' followed by RETURN.

WIZARD ASKS:
Do you want to save what you've done? (Y/N):

YOU ENTER ONE OF THE FOLLOWING:
1. 'Y' (or 'YES') to tell WIZARD you want to save any changes you've made since you entered INSTANT SCREENS.
2. 'N' (or 'NO') to tell WIZARD you don't want to save any changes you've made since you entered INSTANT SCREENS.

THE '?' AND '??' COMMANDS - Getting 'HELP'

As you are designing Screens, Reports, and Menus, you can get 'Help' to explain what you should do next.

ALWAYS REMEMBER THIS:

You can always type ? to get help with the current question.

You can always type ?? to get the WIZARD Help Menu.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

INSTANT FORMS-TYPE REPORTS

To create an 'instant forms-type report', you reuse a screen definition that you have already created. This makes it possible to design a forms-type report in a few seconds. Try tutorial #2.3 to see how the design process works.

After you have created a forms-type report, you can customize your report with the 'custom formatter'.

WIZARD ASKS:

Which screen would you like to reuse?
Enter the program name (or ESC):

YOU ENTER:

The name of an existing screen. The screen may have been created with the 'Instant Screens' formatter or the 'Custom' formatter.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

INSTANT FORMS-TYPE REPORTS - The Report Name

WIZARD ASKS:

What would you like to call the new report?
Enter the program name (or ESC):

YOU ENTER:

The name of the new report you are about to create.
This will be the name you use to execute (run) your report.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

INSTANT FORMS-TYPE REPORTS - Generating the Report

WIZARD ASKS:

Do you want to generate the program? (Y or N):

YOU ENTER ONE OF THE FOLLOWING:

1. 'Y' (or 'YES') to tell WIZARD you want to generate the report.
2. 'N' (or 'NO') to tell WIZARD you don't want to generate the report.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

THE MENU FORMATTER

You design (format) a Menu with the Menu Formatter. All you have to do is fill in all the required fields.

THE MENU NAME

The Menu Name is the Item-id of the Menu program you are creating or modifying. It is also the name you use to execute ('run') the Menu.

THE MENU TITLE

The Menu Title is optional. It is a description of the Menu which will appear as the top of the Menu when the menu is executed ('run').

If you enter a Menu Title, WIZARD will automatically center the Menu Title. If there is room on the screen after you have created the entire Menu, WIZARD will leave a blank line after the Menu Title.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

THE MENU FORMATTER - Text Display Lines

The Text Display Lines are optional.

The menu formatting screen offers 3 lines on which Text can be entered. The Text Display lines provide room for comments or explanations. The Text Display lines can also be used to create a more elaborate Menu 'title', if desired.

WIZARD will automatically center any Text Display lines that are used. For example, if you enter the following 3 lines:

```
==================================
THIS IS A SAMPLE MENU TITLE
==================================
```

then your Menu would display the following 3 lines:

```
==================================
    THIS IS A SAMPLE MENU TITLE
==================================
```

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

THE MENU FORMATTER - Columns, Numbering Columns, and Line Spacing

THE NUMBER OF COLUMNS

You may arrange the Menu Selections on your Menu in either 1 or 2 columns. WIZARD will center the columns after determining the longest line in a column. Pressing the RETURN key specifies '1' column. If you specify '1' column, the 'Numbering' of columns question will be skipped.

THE NUMBERING OF COLUMNS

'Experts' generally agree that more than 8 selections on a single Menu detracts from the reader's speed and comprehension. However, if you do have a number of selections and are dividing them into 2 columns, you may have WIZARD number the columns Down or Across.

SPACING THE COLUMNS - Single or Double Spacing between lines.

You may specify that the Menu Selections are either Single or Double spaced. Double spacing is nice, if you have the room to do so. The AVAILABLE LINES field will display the amount of remaining room. Pressing the RETURN key specifies Double spacing.

AVAILABLE LINES

The Available Lines field, in the bottom right-hand corner of the Menu formatting screen, continuously displays the number of lines still available to you. If you are running short of room, you can increase this number by:

1. Adjusting from Double Spacing to Single Spacing.

2. Adjusting from 1 Column to 2 Columns.

3. Deleting one or more Text Display Lines.

The maximum number of Menu Selection Descriptions that can be formatted on a Menu is 42. This is attained by using 2 Columns, Single spaced, and no Text Display lines.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

THE MENU FORMATTER - The Menu Selections

A Menu displays a number of 'Menu Selections' so that the application user may select one. Each Menu Selection causes a particular program to be 'run' (used). You specify a Menu Selection by filling in three fields: Menu Selection Description, Program Type, and Program Name.

After you have specified one or more Menu Selections (explained in detail later), you press the RETURN key when you are positioned at the 'Menu Selection Description' field. WIZARD will display the 'acceptance prompt':

Enter RETURN if ok, 'FD' to delete, ESC to exit, Field#, '?', or '??':

If you press the RETURN key again, WIZARD will display the message:

Do you want to generate this program? (Y OR N):

Enter 'Y' to generate the Menu.

HOW TO CHANGE MENU SPECIFICATIONS

When the cursor is positioned at the acceptance prompt, enter a field number. The cursor will be positioned to that field so that you can change it. After you change it, or press the RETURN key to leave it alone, the cursor will be positioned back to the acceptance prompt.

THE 'MENU#' FIELD

The 'Menu#' field allows you to select a particular Menu Selection sc that you can change it. When the cursor is positioned at the acceptance prompt, enter '9'. This positions the cursor to the 'Menu#' field.

Then enter the line number of the Menu Selection that you want to change. You can press the RETURN key to leave any field alone. You can enter '/D' to delete an entire Menu Selection. You can enter '/E' to enter a new Menu Selection before any other Menu Selection.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

THE MENU FORMATTER - The Menu Selection Description

The Menu Selection Description specifies the description that will be displayed on the terminal when your Menu is 'run' (used).

Before generating a Menu program, WIZARD examines all of the Menu Selection Descriptions and determines the length of the longest Description. This allows WIZARD to center the longest line, and align all other Menu Selection Descriptions to the same left margin.

WIZARD divides the screen into two 40 column sections to accomodate 2 columns. If you have chosen to have 2 columns of Menu Selection Descriptions, then the Descriptions must be shorter than 40 characters in length.

If you type in a description that is too long for a 2 column format, WIZARD will tell you by how many characters too long it is.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

THE MENU FORMATTER - The Program Type, and The Program Name

THE PROGRAM TYPE

There are 3 program types: WIZARD programs, Basic programs, and Procs.

If your program or menu has been generated by WIZARD, then enter a 'W'.
If your program is written in Basic, enter a 'B'.
If your program is a Proc, enter a 'P'.

For the technically minded:- WIZARD menus are generated in Proc. All other WIZARD programs are generated in Basic. However, all WIZARD generated programs are driven by a Proc in the Master Dictionary.

THE PROGRAM NAME

Enter the same program (or menu) name that you used when you created the program (or menu).

If you don't remember the name of a WIZARD program or menu, you can get a sorted list of all your WIZARD programs and menus by selecting #10 from the 'MAIN MENU' (Maintain program definitions) and then selecting #1.

For the technically minded:- use the program name as it appears in the Master Dictionary.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

How to obtain WIZARD II documentation

Selection 6 of the WIZARD II MAIN MENU is entitled 'Generate your documentation'. From this menu you may choose to:

1. Print Applications Documentation.

   This selection prints user manuals. If you enter the name of a WIZARD program, WIZARD prints a user manual for that program. If you enter the name of a WIZARD menu, WIZARD prints a user manual that includes all the WIZARD programs and menus associated with the menu you selected.

   WIZARD user manuals include the 'program' and 'field' descriptions that have been added with 'custom' WIZARD.

2. Print Designer Documentation.

   For a given WIZARD II program, the Designer Documentation displays the program layout, all parameters for each field, and all code segments.

3. Print Summary Designer Documentation.

   For a given WIZARD II program, or for all WIZARD II programs, the Summary Designer Documentation displays the most important parameters for each field. If a WIZARD program isn't doing what you expect it to do, this documentation can help you figure out why.

4. Print File Documentation.

   For a given file, or for all files in an account, the File Report displays the most important parameters for each field (sorted by file and by attribute).

Any documentation that you generate may be printed on the screen, on the computer line printer, or on a slave printer.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

How to use a WIZARD generated Screen

Try the tutorial on how to enter data with a WIZARD generated screen before you read this section.

You can use ('run') a WIZARD generated Screen by doing the following:

1. Choose selection 7 from the MAIN MENU.
2. WIZARD displays the message 'ENTER THE PROGRAM NAME:'
3. Enter the same PROGRAM NAME that you used when you designed the Screen.
   If you don't remember the PROGRAM NAME, you can get a sorted list of all the program names by choosing selection 10 from the MAIN MENU (Maintain program definitions) and then choosing selection 1.
4. The screen's Data Labels are displayed.
5. The screen's Data Pictures are displayed (if the appropriate 'feature' was selected).
6. The cursor is positioned to the item-id (record key) field.
7. Enter the item-id.
8. If the item you selected does not exist, then for each field you enter a data value and press RETURN until the Screen is complete (filled in). If you make a mistake you can back up to a previous field with the '/' command. When the Screen has been completed, you get another opportunity to change any fields that you wish. How you change fields depends on the 'acceptance prompt' feature.
9. If the item you selected exists, the item will be displayed. Then you can change any fields that you wish. How you change fields depends on the 'acceptance prompt' feature.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

USING A WIZARD SCREEN WITH THE 'ACCEPTANCE PROMPT' FEATURE

If your Screen has been generated with the 'acceptance prompt' feature, then, after the Screen has been completed, the 'acceptance prompt' is displayed. The standard acceptance prompt is:

```
------------------------------------------------------------------------
 Enter RETURN if ok, 'FD' to delete, ESC to exit, Field#, '?', or '??':
------------------------------------------------------------------------
```

When the cursor is positioned at the 'acceptance prompt', you can enter any of the 'acceptance prompt' commands (explained below). When the cursor is positioned at a field, you can enter any of the 'field' commands (explained below).

USING A WIZARD SCREEN WITHOUT THE 'ACCEPTANCE PROMPT' FEATURE

If your Screen has been generated without the 'acceptance prompt' feature turned on, then only the 'field' commands are available.

ACCEPTANCE PROMPT COMMANDS

These commands are available from a WIZARD screen when the cursor is positioned at the 'acceptance' prompt:

[RETURN]:	Files the current item. Positions the cursor to field 1.
[FD]:	Deletes the current item. Positions the cursor to field 1.
[ESC]:	Positions the cursor to field 1 without filing the current item *** ESC from field 1 exits the screen ***.
[number]:	Entering a number positions the cursor to the field 'number' that you specify so that you can update (change) the field. The cursor is then positioned back to the acceptance prompt.
[$string]:	Entering a '$' followed by 'string' (any characters) positions the cursor to the first field with a label that starts with 'string'. String positioning makes field numbers unnecessary.
[R]:	Redisplays the screen labels and data.
[Unumber]:	Entering a 'U' followed by a field number positions the cursor to the field that you specify. Then you can update fields by using the RETURN and '/' commands to position the cursor to the desired field. You position the cursor back to the acceptance prompt by entering ESC or by 'falling into' the acceptance prompt from the last field.
[U$string]:	Same as 'Unumber' command but positions the cursor to the first field with a label that starts with 'string'.
[?]:	Asks the question: 'WIth which field would you like help?' Displays 'help' information for the field that you specify.
[??]:	Displays this 'help' screen.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

FIELD COMMANDS

These commands are available from a WIZARD screen when the cursor is positioned at a field (rather than the 'acceptance' prompt):

[RETURN]:	Positions the cursor to the next field.
[ESC]:	If entered at field 1, exits the Screen, otherwise, positions the cursor to field 1.
[/]:	Backs up to the previous field.
[/number]:	Positions the cursor to field 'number'.
[/D]:	Deletes the current line-item.
[/E]:	Enters a blank line-item.
[/EX]:	Same as [ESC].
[/FD]:	Deletes the current item. If entered at field 1, exits the Screen, otherwise, positions the cursor to field 1.
[/FI]:	Files the current item. If entered at field 1, exits the Screen, otherwise, positions the cursor to field 1.
[/R]:	Redisplays the screen labels and data.
[ ]:	A space replaces the current value with null.
[#]:	If entered at an item-id field (usually field 1), selects the next sequential number. (the sequential number is stored in the dictionary of the 'main' file with the id SEQUENTIAL.ID)
[$]:	If entered at an item-id field (usually field 1), selects the next item-id from the current SELECT (or SSELECT) list.
[.]:	If entered at a single value field, selects the value from the previous item, current field. If entered at a multi-value field, selects the value from the current item, current field, previous value.
[...]:	Duplicates the entire previous item.
[?]:	Displays 'help' information for the current field.
[??]:	Displays this 'help' screen.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

How to use a WIZARD generated Report

Try the tutorial on how to browse a WIZARD generated Report before you read this section.

You can use ('run') a WIZARD generated Report by doing the following:

1. Choose selection 7 from the MAIN MENU.
2. WIZARD displays the message 'ENTER THE PROGRAM NAME:'
3. Enter the same PROGRAM NAME that you used when you designed the Report. If you don't remember the PROGRAM NAME, you can get a sorted list of all the program names by choosing selection 10 from the MAIN MENU (Maintain program definitions) and then choosing selection 1.
4. WIZARD displays the message:
   'To the (T)erminal, (P)rinter, or (S)lave printer?'
5. Enter a 'T' if you want to display the report on your terminal.
   Enter a 'P' if you want to print the report on the line printer.
   Enter a 'S' if you want to print the report on your slave printer.
   (a slave printer is a printer that is attached to your terminal)

REPORT BROWSING

If you entered a 'T', and if the report was generated with the 'report browsing' feature turned on, you will be able to 'browse' (scan) through the report from your terminal.

You may browse forward or backward, left or right, regardless of the report length or width.

WIZARD displays two numbers in the lower left corner of the report. The first number is the number of the last line browsed. The second number is the current line of the report (the Line Pointer).

At the bottom of each page of the report, WIZARD displays the message:

Browsing Commands are: PR PL T B G RETURN / ?

At this point you can enter any of the 'report browsing' commands (explained below).

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

REPORT BROWSING COMMANDS

RETURN - Displays the next page of a report.

/ - Displays the previous page of a report.

ESC - Causes a complete exit from the report.

T - Displays the Top (first) page of the report.

B - Displays the Bottom (last) page of the report. (the last page printed so far.)

G'n' - Sets the Line Pointer to the line number stated by 'n'.

PR - Page Right. Displays a page of the report 40 columns to the right of the previous page.

PL - Page Left. Displays a page of the report 40 columns to the left of the previous page.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

How to use a WIZARD generated Menu

Try the tutorial on how to use ('run') a WIZARD generated Menu
before you read this section.

You can use ('run') a WIZARD generated Menu by doing the following:

1. Choose selection 7 from the MAIN MENU.
2. WIZARD displays the message 'ENTER THE PROGRAM NAME:'
3. Enter the same MENU NAME that you used when you designed the Menu.
4. WIZARD displays the Menu, and the message:
   'Select one of the above, or ESC, or 'OFF' :'
5. If you want to 'select one of the above', enter the selection number.
   If you want to return to the previous menu, (or to 'TCL' if there is
   no previous menu) enter ESC.
   If you want to log off, enter 'OFF'.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

How to use 'Report Browsing' for WIZARD II Reports

Selection 8 of the WIZARD II MAIN MENU (Browse a Report) allows you to 'Browse' the last report you created.

WIZARD II's Browsing capability is a unique function that allows you to examine a report from top to bottom; go back and look at previous pages; or page a wide report from left to right regardless of the width of the report.

A report that has been displayed on a terminal is saved in a file named 'BROWSEport number' (where 'port number' is the number of the port to which you are presently logged on.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

How to create and maintain files for WIZARD II

Selection 9 of the WIZARD II MAIN MENU (Create and Maintain Files) selects a WIZARD II menu entitled, 'Create and Maintain Your Files'.

From this WIZARD II menu you may choose to:

1. List your data files.
2. Create a new file.
3. Reserve specific attributes.
4. Restore reserved attributes.
5. Cleanup-recover unused attributes.

---

1. LIST YOUR DATA FILES

This feature will produce a sorted list of your data file names that you can browse through from your terminal or print on your line printer.

2. CREATE A NEW FILE

You may use this feature to create a new data file. WIZARD will ask you for the name of the file, the approximate number of items (records) that will be stored in the file, and for the approximate number of characters in each item.

WIZARD will then use this information to create a new data file.

ATTRIBUTE ALLOCATION

We refer to an attribute (or field) number as an AMC (attribute mark count).

When you are creating a data entry screen, WIZARD allows you to specify the 'AMC' for each field. If you do not specify an AMC, then WIZARD will automatically assign the next available AMC. For each file, WIZARD keeps track of all AMC's specified by you or assigned by WIZARD.

Three programs are available from the MAINTAIN YOUR FILES menu that will allow you and WIZARD to control the allocation of attributes:

3. Reserve Specific Attributes.
4. Restore Reserved Attributes.
5. Cleanup-recover Unused Attributes.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

3. RESERVE SPECIFIC ATTRIBUTES

If you write a non-WIZARD program and use previously unused attributes, keep a list of the AMC's. When you are finished writing your program, select the 'Reserve Specific Attributes' menu choice. Then enter the File Name, and the AMC's you have used. By doing this, you will prevent WIZARD from automatically assigning the same AMC's in WIZARD programs.

4. RESTORE RESERVED ATTRIBUTES

If you have 'reserved' specific attributes, as discussed above, and you then re-write, or delete, your non-WIZARD program, you will want to restore the attributes that you are no longer using. From the menu, select the 'Restore Reserved Attributes' choice and enter the file name and the AMC's. The previously reserved attributes will be removed from the 'reserved' list.

5. CLEANUP-RECOVER UNUSED ATTRIBUTES

When you delete a WIZARD program, or restore 'reserved' attributes, WIZARD does not automatically put the AMC's back on their 'available' AMC lists. This is done to insure that no AMC is made available when it is actually being used.

When you run this menu selection, WIZARD will examine ALL your WIZARD programs and ALL your 'reserved-AMC' lists to recreate ALL your 'available-AMC' lists (one 'available-AMC' list per file).

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

How to maintain WIZARD II Program Definitions

Selection 10 of the WIZARD II MAIN MENU is entitled 'Maintain your program definitions'. From this menu you may choose to:

1. Obtain a list of your Program Definitions; that is, a list of the programs that you have created using WIZARD II.

2. Duplicate a Program Definition on this account, or from one account to another.

3. Delete a WIZARD program.

4. Add, modify, or delete a 'Data-type' specification. A Data-type specifies what kind of information will be stored in a field.

5. Obtain a listing of the 'Data-types' and their specifications.

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

U T I L I T I E S

USING WIZARD ON ANOTHER ACCOUNT

To use WIZARD on another account (other than the WIZARD account), do the following:

1. Get to 'TCL' (ESCAPE from the Main Menu).
2. LOGTO the new account.
3. Type: SET-FILE WIZARD WUTIL
4. Type: RUN QFILE COPYWIZARD

RUNNING A WIZARD APPLICATION ON ANOTHER ACCOUNT

To set up an account so that when you 'logon' to that account, a WIZARD menu (of your choice) is automatically run, do the following:

1. If your account is called 'FRED', then
   Type: ED MD FRED
   Type: I
   Type: PQ
   Type: HWIZ.LOGON
   Type: P
   Type: (return)
   Type: FI

2. If your menu is called 'MENU.NAME', then
   Type: ED MD W
   Type: I
   Type: PQ
   Type: (MD MENU.NAME
   Type: (return)
   Type: FI

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

USING WIZARD WITH DIFFERENT KINDS OF TERMINALS

Every terminal has a 'terminal type'. This terminal type tells WIZARD how to display data on the terminal. Also, if there is a 'slave printer' attached to the terminal, the terminal type tells WIZARD how to control the slave printer.

If there is a problem with terminal display, the terminal type can be changed by doing the following:

```
Get to 'TCL' (ESCAPE from Main Menu).
Type 'INITPORT'.
Select a terminal type (eg. 'AD').
Answer 'N' to the half-intensity question.
Type 'WIZARD' to return to main menu.
```

You can also use the 'INITPORTS' (plural) program to set all the terminal types from one terminal. It works nearly the same as 'INITPORT'. The only difference is that it first asks for a 'DEFAULT TERMINAL TYPE'. The 'default terminal type' is used by WIZARD whenever you press the RETURN key (instead of entering a terminal type).

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.

DEFINING NEW TERMINAL TYPES (OR CHANGING OLD ONES)

If no existing terminal type works with your terminal, then you can creat a new terminal type with the 'ENTER-WTERM' screen, which looks like this:

```
 1 TERMINAL TYPE                          __
 2 ERASE TO END OF SCREEN (IN HEX)        ____________________
 3 ERASE TO END OF LINE (IN HEX)          ____________________
 4 CLEAR SCREEN (IN HEX)                  ____________________________________
 5 HALF INTENSITY ON (IN HEX)             ____________________
 6 HALF INTENSITY OFF (IN HEX)            ____________________
 7 TERMINAL TYPE
 8 TERMINAL WIDTH (USUALLY 80)            ####
 9 TERMINAL DEPTH (USUALLY 24)            ####
10 SLAVE PRINTER ON (IN HEX)              ____________________
11 SLAVE PRINTER OFF (IN HEX)             ____________________
12 SLAVE PRINTER LINE FEED DELAY          ####

EXAMPLES: 'ESCAPE' IN HEX IS '1B'
          '1'     IN HEX IS '31'
          'A'     IN HEX IS '41'
```

To use the 'ENTER-WTERM' screen, you need to find out which control codes are used by your terminal to perform various screen functions (see list below). Then you enter the codes in hexadecimal. This is not for novices. Call Automatic Programming if you need help.

1 TERMINAL TYPE: Enter a two character code that you choose, e.g. 'AD'
2 ERASE TO END OF SCREEN (IN HEX): Enter the terminal control code in hexadecimal; e.g. '1B6B' means 'escape k'
3 ERASE TO END OF LINE (IN HEX): Enter the terminal control code in hex
4 CLEAR SCREEN (IN HEX): Enter the terminal control code in hex
5 HALF INTENSITY ON (IN HEX): Enter the terminal control code in hex
6 HALF INTENSITY OFF (IN HEX): Enter the terminal control code in hex
7 TERMINAL TYPE: Enter the PICK system terminal type, e.g. 'R'
8 TERMINAL WIDTH (USUALLY 80): Enter the width in number of characters
9 TERMINAL DEPTH (USUALLY 24): Enter the depth in number of rows
10 SLAVE PRINTER ON (IN HEX): Enter the terminal control code in hex
11 SLAVE PRINTER OFF (IN HEX): Enter the terminal control code in hex
12 SLAVE PRINTER LINE FEED DELAY: Enter the line feed delay that is necessary to allow your slave printer to print correctly, e.g. '50'

 Copyright (C) 1985 AUTOMATIC PROGRAMMING, INC., IRVINE, CA.