



**RELEASE BULLETIN**  
**819-095000-328**

GraphPlan

Model No.: APC-S29

**1.0 INTRODUCTION:**

GraphPlan is an integrated software package that includes an electronic spreadsheet, graphics, and database management capabilities. Data is entered into a table either one value at a time or by an entire row or column. The user can edit data, perform mathematical and statistical computations, do "what-if" analysis, and perform numerical ranking of data and alphabetic sorting of rows and columns. A versatile report formatter is provided to generate printed tables.

By using the graphing commands, data from the table is transposed into charts. Charts can be displayed on the APC screen, printed to a dot matrix printer, or output to a multi-pen plotter. The user can select from eight colors (color APC only), six shading patterns, and six symbols. The various types of charts include:

- o Column chart (vertical)
- o Bar chart (horizontal)
- o Segmented bars (vertical and horizontal)
- o Clustered bars (vertical and horizontal)
- o Pie chart
- o Line chart
- o Bar/Line combination
- o Scattergrams

Tables and charts can be saved to disk(ette) so they can be retrieved, altered, or used for printing at a later time. An on-screen menu and the HELP command provide fast and easy reference to all the GraphPlan commands. GraphPlan is fully compatible with MicroPlan. Tables can be interchanged directly between GraphPlan and MicroPlan.

**2.0 CONTENTS OF THE RELEASE:**

**2.1 Distribution Media**

PART NO.	DESCRIPTION
819-076029-0100	GraphPlan Diskette

**2.2 Documentation**

PART NO.	DESCRIPTION
819-095000-328	GraphPlan Release Bulletin

819-000105-3001  
158-020000-153

GraphPlan User's Guide  
GraphPlan Template

### 3.0 HARDWARE/SOFTWARE REQUIREMENTS:

#### 3.1 Minimum Hardware Requirements

APC-H01 - Monochrome APC with single FDD  
Graphics Subsystem Board  
Total 256K RAM Memory

#### 3.2 Minimum Software Requirements

APC-S01 - CP/M-86 Operating System  
Version 1.1 (1.107:015;A) or greater

### 4.0 INSTALLATION PROCEDURE:

REPLACE Chapter 1 of the GraphPlan User's Guide, with the following installation procedure. Before using the GraphPlan (distribution) diskette, carefully follow these procedures to make a working copy of the GraphPlan diskette. To do this, you need the CP/M-86 Operating System [version 1.1 (1.107:015;A) or greater], the GraphPlan diskette, and a blank diskette.

#### PLEASE NOTE:

The following terms are interpreted as:

"Type" means to input the information as described.

"Enter" is a two-step process of typing the response and pressing the <RETURN> key.

#### Floppy Diskette-Based:

##### 1. Formatting Diskettes

- a) Boot the CP/M-86 operating system diskette from drive A.
- b) Enter **FORMAT**. When the utility is loaded, this prompt appears:

```
***VOLUME INITIALIZER V1.1 (CP/M)***  
INITIALIZE DEVICE [A,B,C,D]:
```

- c) Remove the CP/M-86 operating system diskette from drive A. Insert a blank diskette into drive A. Type **A**. This prompt will appear:

```
MEDIA TYPE FD-2D  
READY? [R:READY A:ABORT]:
```

- d) **WARNING** - The **FORMAT** utility destroys all existing information on the diskette. Before proceeding, make sure that the diskette in drive A is the one you want to format. Type **R** to start the formatting process.

- e) If a damaged cylinder is detected, a prompt will be displayed. Abort the procedure, use another blank diskette, and start the FORMAT utility again. When all cylinders on a diskette are successfully formatted, the following prompt appears:

\*NORMAL END  
[A:AGAIN E:END]:

- f) Remove the formatted diskette from drive A. Type **B** to end. The "A>" prompt appears.
- g) Refer to the CP/M-86 User's Guide for further information on the FORMAT utility.

## 2. Making a Working Copy

A utility called COPYDISK is supplied on the CP/M-86 operating system diskette, which will be used to copy all information from one diskette to another. Use this utility to make a working copy of GraphPlan. Then store the original diskette in a safe place in case the working copy is damaged. Also, use COPYDISK periodically to make backup copies of often used diskettes. Refer to the CP/M-86 User's Guide for further information on the COPYDISK utility.

- a) Insert the CP/M-86 operating system diskette into drive A.
- b) Enter **COPYDISK**. When the utility is loaded, this prompt appears:

Full Disk Copy/Verify Utility V1.1  
Copy or Verify or Copy & Verify (C,V,B)?

- c) Remove the CP/M-86 operating system diskette from drive A. Insert the original GraphPlan diskette into drive A. Type **B** to copy & verify.
- d) Type **A** to respond to the prompt: Source Disk Drive (A-D)?
- e) This prompt appears: Destination Disk Drive (A-D)?
  - o If you have a dual-drive APC, insert the formatted diskette into drive B, type **B**.
  - o If you have a single-drive APC, type **A**.
- f) The following prompt names both the source and destination drives to allow you to review your entries.

Copying Disk A: To Disk B:  
Is This What You Want To Do (Y/N)?

- g) WARNING - The COPYDISK utility replaces all existing information on the diskette. Before proceeding, review the entries and make sure the source diskette is in the proper drive. Type Y to start the disk-copying process.
- h) What happens next, depends on the type of APC you have.
  - o If you have a dual-drive APC, the contents of the diskette in drive A will be copied and then verified to the diskette in drive A.
  - o If you have a single-drive APC, the utility reads a portion of the source diskette, then prompts you to remove the source diskette and insert the destination diskette. The utility then writes to the destination diskette and prompts you to reinsert the source diskette. This procedure is repeated until the entire source diskette is copied and verified.
- i) When verification is completed, the following prompt appears:

Copy/Verify Another Disk (Y/N)?

Remove the diskette(s) from the drive(s). Type N.

- j) At the "A>" prompt, store the original GraphPlan diskette in a safe place. You will be using your GraphPlan working copy diskette from now on. Label the GraphPlan working copy diskette.

### 3. PIP-ing files to the GraphPlan Working Copy Diskette

Before you can use the working copy diskette of GraphPlan, you must copy several files from the CP/M-86 operating system diskette to it. Refer to the CP/M-86 User's Guide on how to use the Peripheral Interchange Program (PIP or PIP1). If you have a dual-drive APC, use PIP; if you have a single-drive APC, use PIP1.

- a) The following files must be copied from the CP/M-86 operating system diskette to the GraphPlan working copy diskette:
  - o CPM.SYS
  - o SUBMIT.CMD
  - o KEY.CMD
  - o SETCOM.CMD
  - o CRTDUMP.CMD
  - o GRAPHICS.CMD

- o DDNECAPC.SYS
- o DDOKID.SYS
- o DD7470.SYS
- o Any other DDxxxxx.SYS files that apply to your printer/plotter configuration

- b) If you have a dual-drive APC, insert the CP/M-86 operating system diskette into drive A. Insert the GraphPlan working copy diskette into drive B. Press the <CTRL> and <C> keys simultaneously. At the "A>" prompt, enter the following command, substituting the individual filenames listed above:

**PIP B:=filename**

If you have a single-drive APC, insert the CP/M-86 operating system diskette into drive A. At the "A>" prompt, enter the following command, substituting the individual filenames listed above:

**PIPl filename=filename**

The system will prompt you to swap the source (CP/M-86 operating system diskette) and the destination diskette (GraphPlan working copy diskette) back and forth in drive A. Follow the directions on the display screen.

#### 4. Putting the Loader on the GraphPlan Working Copy Diskette

The CP/M-86 operating system diskette includes a utility called LDCOPY which moves the system loader routine to other diskettes. If you put the system loader routine on the GraphPlan working copy diskette, it will automatically load CP/M-86 into the APC whenever you turn on the power and insert the GraphPlan working copy diskette into drive A.

- a) Insert the CP/M-86 operating system diskette into drive A.
- b) Enter LDCOPY. When the utility is loaded, this prompt appears:

LDCOPY VERS 1.0  
Source Drive Name

- c) Enter A.
- d) This prompt appears:

Source on A, Then Type Return

Press <RETURN>. The loader routine is read from drive A.

e) This prompt appears:

Function Complete  
Destination Drive Name (Or Return To Reboot)

f) Remove the CP/M-86 operating system diskette from drive A. Insert the GraphPlan working copy diskette into drive A. Enter A as the destination drive.

g) This prompt appears:

Destination On A, Then Type Return

h) Press <RETURN>. The loader routine is read to drive A.

i) This prompt appears:

Function Complete  
Destination Drive Name (Or Return To Reboot)

j) Press <RETURN> to end the utility. The "A>" prompt appears.

## 5. Installing the Function Key (Soft Key) Table

You must perform one more step before you can use the GraphPlan working copy diskette. This step updates the function key table in the CPM.SYS file with specific GraphPlan commands.

a) Insert the GraphPlan working copy diskette into drive A. Press the <CTRL> and <C> keys simultaneously.

b) Enter **KEY**.

c) This prompt appears: UPDATE OR LOAD (U,L)?  
Type **U** for update.

d) The system will ask for the input file. Enter **GP.KEY**.

e) The system will ask for the output file. Enter **CPM.SYS**.

f) This prompt appears: Start? (Y/N). Type **Y**.

g) At the menu, enter **L** to load.

h) This prompt appears: SOFT KEY TABLE HAS BEEN LOADED.  
Enter **E** to end.

i) The system will ask to update the CPM.SYS file; type **Y** for yes.

j) This prompt appears: YOUR A:CPM.SYS HAS BEEN CONFIGURED. The "A>" prompt appears. You are now ready to run GraphPlan, using the function keys.

## 6. Loading the GraphPlan Diskette

To load the GraphPlan diskette, turn on the APC and insert the GraphPlan working copy diskette into drive A. Place the function key template on the keyboard. The following appears as the autostart routine begins:

```
NEC Advanced Personal Computer CP/M-86
  Version 1.1
Copyright (C), Digital Research, Inc.
A>SUBMIT AUTSTRT
A>SETCOM 600,8,N,2
A>CRTDUMP
CRTDUMP now loaded.
A>GRAPHICS
```

```
-----
GSX-86 Graphics System Extension 09 Feb 83 V1.0
Serial No. 5006-0661-654321 All Rights Reserved
Copyright (c) 1983 Digital Research, Inc.
-----
```

```
GSX-86 installed; GIOS is nnnnn bytes long at nnnn:nnnn
A>GPLAN
```

The initial GraphPlan display screen then appears.

### Hard Disk-Based:

Complete the following steps if the execution programs are to reside on the hard disk.

1. Follow steps 1 through 3 as outlined in the Floppy Diskette-based section.
2. Use the PIP utility to copy the complete contents of the GraphPlan working copy diskette to the selected hard disk drive (disk drive E:). Then, all the GraphPlan execution files will reside on the hard disk.
3. Follow steps 4 through 5 as outlined in the Floppy Diskette-based section.
4. Alter the file AUTSTRT.SUB on your GraphPlan working copy diskette using the ED.COMD file. You need to change GraphPlan's default drive, so that the hard disk is used automatically. Insert a new first line to the AUTSTRT.SUB file. The first line should read "E:" (the default hard disk drive). Refer to the CP/M-86 User's Guide for further information regarding the ED utility.

5. To load GraphPlan, follow step 6 as outlined in the Floppy Diskette-based section. Even though all your GraphPlan files, tables, and charts are on the hard disk, you still need to boot from drive A.

Additional Information:

1. You may want to alter the AUTSTRT.SUB file to accommodate other settings for SETCOM. Use the line editor provided on the CP/M-86 operating system diskette (ED.CMD). Refer to the CP/M-86 User's Guide for further information regarding the ED utility.
2. The following example of tables and charts are provided on your diskette:

FORECAST, FORTUNE, PIEDEMO and PRODUCT.

You can use these as test examples. Use command 106 (LOAD ALL), enter the table name, and then execute command 61 (DISPLAY CHART). If you have a color APC, use command 63 (CHART OPTIONS), select option 2 (DEFINE CHART OPTIONS) and specify COLOR=Y. Then resave your chart, using command 121 (SAVE CHT).

5.0 ENHANCEMENTS:

None.

6.0 CAUTIONS:

1. It is recommended that no more than one application package reside on any given floppy, because the application packages may require soft key setups.
2. The GraphPlan User's Guide recommends a system containing 64K RAM Memory. Your APC must have a minimum of 256K RAM Memory in order to load CRTDUMP and GRAPHICS.
3. GraphPlan is already configured for the APC. Appendix B of the GraphPlan User's Guide is for reference only.
4. Use the following keys on the APC, in conjunction with these symbols in the GraphPlan User's Guide:

<u>KEY</u>	<u>ACTION/COMMAND</u>
<BREAK/STOP>	<CANCEL>
<BACK/SPACE>	BKSP
<INS>	17 (INSERT)
<DEL>	18 (DELETE)
<PRINT>	5 (print:)
<CLEAR/HOME>	199 (HOME)
	Places row 1, column 1 at the top left of the table.



5. Use the line editor provided on the CP/M-86 operating system diskette (ED.COM) to alter the ASSIGN.SYS file. Only change the device driver files for the printer and plotter. Do not change the device driver (DDNECAPC.SYS) for the screen.
6. The PLOT CHART option has been tested using an HP 7470A plotter. THE PRINT CHART option has not been tested (see caution 10).
7. Use an industry standard null modem to connect the APC to the HP 7470A plotter.
8. GSX does not allow you to escape/cancel from a plot.
9. If you are using a monochrome APC, be sure to select COLOR=N, in the CHART OPTIONS (command 63), DEFINE CHART OPTIONS (2).
10. The PRINT CHART option cannot function with an NEC 8023 dot matrix printer, because there is no device driver; instead, use the CRTDUMP utility. When the chart is displayed on the APC, press the <FNC><PRINT> keys simultaneously. Remember to run CONFIG before using the CRTDUMP utility. Refer to the CP/M-86 Operating System Release Bulletin (Rev 06) for further information on the CONFIG and CRTDUMP utilities.
11. To define a pie, follow these steps:
  - a) Set the row/column range using commands 92 and 93.
  - b) Use command 63 (CHART OPTIONS) and select option 2 (DEFINE CHART OPTIONS), enter:
    - o Main Title
    - o X Axis Title
    - o Graph 1, Type=Pie
    - o Color (Y/N)
  - c) Use command 63 (CHART OPTIONS) and select option 4 (DEFINE PIE OPTIONS). The first segment will correspond to the first non-zero row/column within your row/column range. Enter the shades, colors and explode specification for each segment.
12. The DISPLAY CHART option will show pie shade 6 as crosshatch (dense) and pie shade 7 as crosshatch (vertical/horizontal).
13. To change default drive assignments for loading/saving tables and charts (file extensions .TBL and .CHT), use command 108 (SET DRIVE). The GraphPlan execution programs can reside on a different drive than the user tables and charts. When erasing a table or chart (commands 117 and 122) on a different drive, the file gets deleted; however, the entry in TABLE.DIR or CHART.DIR remains.

14. Do not run GraphPlan from drive B without a formatted floppy diskette in drive A.
15. Pressing the combination <FNC><PF16> keys, performs an action equivalent to command 9 (STOP) and a Yes response, exiting to CP/M-86.

7.0 PROBLEMS FIXED:

None.