

Hewlett-Packard Applications Computer Aided Design program (AppCAD) is a collection of software tools (or modules) which aid in the design of RF and Microwave circuits and systems. AppCAD also includes a part selection guide for Hewlett-Packard RF and Microwave semiconductors.

The following modules are included in the program:

- Transistor Design Data
- Mixer Spurious Search
- Microwave Calculator
- Microwave Path Calculations
- Transmission Lines
- Two-port Circuit Analysis
- Spiral Inductor Design
- Impedance Matching
- PIN Attenuator and Switch Design
- Schottky Detector Calculations
- Transistor Bias Circuits
- NoiseCalc
- Thermal Analysis
- Product Selection Guide
- Literature Request
- Sample Request
- Register for Updates
- For More Information

HARDWARE REQUIREMENTS

AppCAD is designed to work on all Hewlett-Packard Vectras or IBM PC/XT/AT and compatible computers. A hard disk MUST be used to install and run the program. MS-DOS(R) versions 2.0 or higher should be used. The recommended minimum memory size is 512 Kbytes. All printed outputs are directed to parallel port LPT1. Printing graphic screens require an Epson compatible printer.

COPYING AND DISTRIBUTION

AppCAD may be copied and distributed freely as long as no fee is charged. All AppCAD files must be included and not modified. Hewlett-Packard Co., 1990. All rights reserved.

INSTALLATION

A hard disk drive is necessary to install and run AppCAD !

AUTOMATIC installation is possible using the INSTALL program :

Insert Disk 1 into any 5 1/4 drive and type:

A:\install (A drive is for this example, AppCAD can be installed from any other drive.)

The program will ask you what hard disk you wish to load AppCAD on.

For example, if C is your hard disk, type in : C (no colon is needed).

The program will automatically be installed onto drive C directory AppCAD (install will create the directory AppCAD for you).

MANUAL installation without using the INSTALL program is possible. The following should be done only if you are experiencing trouble installing the program using the INSTALL program.

1. On your hard disk create a directory AppCAD using the DOS MKDIR command. Also, create a sub-directory AppCAD\SPARA.
2. Copy from Disk 1 the files README.BAT and PKUNZIP.EXE into the AppCAD directory using the DOS copy command. From the AppCAD directory type:

```
PKUNZIP A:\APPCAD1.ZIP C:\APPCAD
```

Wait until PKUNZIP is finished then insert disk 2 into drive A and type:

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PKUNZIP A:\APPCAD2.ZIP C:\APPCAD
```

Wait until PKUNZIP is finished then insert disk 3 into drive A and type:

```
PKUNZIP A:\SPARA.ZIP C:\APPCAD\SPARA
```

after PKUNZIP is finished AppCAD is installed.

STARTING THE PROGRAM

Type AppCAD

This assumes you are already in the AppCAD directory.

Vectra users can run AppCAD from PAM with the following setup:

Path: C:\AppCAD (Drive C is for this example. Use the drive you loaded AppCAD onto.)

Applic Title: AppCAD

Run Command: AppCAD

PROGRAM STATUS AND ERROR MESSAGES

· Watch for messages on the bottom of the screen (the 25th text line). These messages can help guide you through the program by indicating what data the program expects or which keys are active. Error messages such as : " Value out of range " may appear after a calculation. This indicates that a calculated value is too large to display properly in its designated output field, and is an error with displaying the number not a calculation error.

· Memory resident programs such as DOS shells, and pop-up calendars or spreadsheets may leave too little room for AppCAD to load or function. An error message "program is too big to fit in memory" may indicate such a problem . In this case, run AppCAD without the resident program(s) installed.

HELP SCREENS

On line help screens are available and should be read before using a program module. The help screens contain useful information on each of the program modules.

S-Parameters

S-parameters for Hewlett-Packard's RF and Microwave transistors and monolithic amplifiers are included with AppCAD. These files are in Touchstone text file format and are located in the subdirectory X:\AppCAD\SPARA (X is the drive selected by the user when AppCAD is installed). The s-parameter files can be accessed from both the Transistor Design Data and Two-Port Circuit Analysis modules. Refer to the help screens of these two modules for further details.

The s-parameter files are also located on disk 3 in a non-compressed form .

Some transistor file names are slightly different than their actual part number. As an example:

XTR3615B.S2P corresponds to HXTR3615 and
SMX3131A.S2P corresponds to HSMX3131.

This was done to conform to DOS's limit of eight characters for the filename. The letter subscripts are used to denote different bias conditions.

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