

**DISCRETE DEVICE
COMPONENTS LIBRARY**

Packaged Parts

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p-cad[®]
PERSONAL CAD SYSTEMS INC.

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DISCRETE COMPONENTS LIBRARY

PACKAGED PARTS

This manual and the Discrete Library Parts Diskette comprise the P-CAD Discrete Parts Library.

This manual includes information on how to use the library; general information about the library; component lists by sequence and function; and component plots.

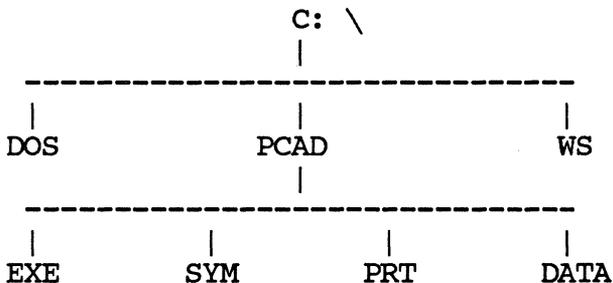
The library diskette contains the component files, a layer structure file, and standard size sheet files.

HOW TO USE THIS LIBRARY

This section describes a recommended directory structure and steps in creating a design.

DIRECTORY STRUCTURE

In order to conserve space on your hard disk, and increase performance, it is recommended that you store library components within a directory structure. This structure should be tailored to your particular applications and design methodologies. The following example illustrates how this is done.



In this case symbols are stored in the SYM directory. Parts are stored in the PRT directory.

CREATING A DESIGN

To use the library in a design, load PC-CARDS. After the menu is displayed, load the correct layer structure. You can load the layer structure supplied with the library, (MULTI.PCB) or you can load one of the drawing sheets on the diskette (A, B, C, D, or E size).

How to Use This Library

Then you can create the design by entering components, wires, text, instance, and net names.

For each PC-CAPS Symbol, there is a corresponding PC-CARDS Part. These are supplied on separate libraries. Both Symbols and Parts contain the electrical "intelligence" required for creating schematics, extracting data, and laying-out printed circuit boards.

Although P-CAD has gone to great effort to carefully verify the integrity of this information, P-CAD is not responsible for the usage of this library, or damages resulting from any technical inaccuracies. P-CAD may make improvements and/or changes in this product at any time and without prior notice.

This library has been developed at the request of our users, and we welcome any suggestions regarding improvements, or other libraries that are desired.

GENERAL INFORMATION

The Component parts 2PIN.PRT through 50PIN.PRT are graphically identical to PIN2A.PRT through PIN50A.PRT. However, parts 2PIN.PRT through 50PIN.PRT were packaged to reflect the corresponding DIP type symbol. Parts PIN2A.PRT through PIN50A.PRT were packaged to reflect the single pin connector symbol.

The plots show numbers where the pins normally are displayed. These numbers reflect the type of padstack (through the Special Symbol file, MULTI.SSF) that is used at these pin locations. One (1) is a square pin, whereas Two (2) is a standard round pin.

The following layer structure, MULTI.PCB, is included on the Discrete Parts Library diskette. MULTI.PCB is a version of the standard P-CAD layer structure (LAYS.PCB) that has been edited and used in creating the Discrete Component Library Parts.

| <u>LAYER</u> | <u>NAME</u> | <u>PEN #</u> | <u>STATUS</u> | <u>USE</u> |
|--------------|-------------|--------------|---------------|---------------------------|
| 1 | PADCOM | 7 | ON | Graphic Component Pads |
| 2 | FLCOMP | 7 | OFF | Flash Component Pads |
| 3 | PADSLD | 8 | OFF | Graphic Solder Pads |
| 4 | FLSOLD | 8 | OFF | Flash Solder Pads |

| <u>LAYER</u> | <u>NAME</u> | <u>PEN #</u> | <u>STATUS</u> | <u>USE</u> |
|--------------|-------------|--------------|---------------|--|
| 5 | PADINT | 9 | OFF | Graphic Internal Pads |
| 6 | FLINT | 9 | OFF | Flash Internal Pads |
| 7 | GNDCON | 10 | OFF | Graphic Internal Ground Connection |
| 8 | FLGCON | 10 | OFF | Flash Internal Ground Connection |
| 9 | CLEAR | 12 | OFF | Graphic Universal Clearance |
| 10 | FLCLER | 12 | OFF | Flash Universal Clearance |
| 11 | PWRCON | 13 | OFF | Graphic Internal Power Connections |
| 12 | FLPCON | 13 | OFF | Flash Internal Power connections |
| 13 | SLDMSK | 14 | OFF | Graphic Solder Mask Relief |
| 14 | FLSMSK | 14 | OFF | Flash Solder Mask |

| <u>LAYER</u> | <u>NAME</u> | <u>PEN #</u> | <u>STATUS</u> | <u>USE</u> |
|--------------|-------------|--------------|---------------|----------------------------|
| 15 | DRILL | 15 | OFF | Graphic Drill Template |
| 16 | FLDRLL | 15 | OFF | Flash Drill Template |
| 17 | PIN | 4 | ON | Pin Color |
| 18 | BRDOUT | 4 | ON | Board Outline |
| 19 | FLTARG | 4 | OFF | Flash Alignment Targets |
| 20 | SLKSCR | 6 | ON | Silkscreen Paint |
| 21 | DEVICE | 5 | ON | Device Names |
| 22 | ATTR | 6 | OFF | Attributes |
| 23 | REFDES | 6 | OFF | Reference Designators |
| 24 | COMP | 1 | ABL A | Component Traces |
| 25 | SOLDER | 2 | ABL | Solder Side Traces |
| 26 | INT1 | 3 | OFF | Internal Traces |

COMPONENT LIST BY SEQUENCE

| NUMBER | PART PAGE# | PART DISK# |
|--------|---------------|---------------|
| BRDG | 1 | 1 |
| CASE-A | 1 | 1 |
| CASE-B | 1 | 1 |
| CASE-C | 1 | 1 |
| CASE-D | 1 | 1 |
| CK06 | 1 | 1 |
| CK62 | 1 | 1 |
| CM04 | 1 | 1 |
| CM05 | 1 | 1 |
| CM06 | 1 | 1 |
| CON40 | 2 | 1 |
| CON50 | 2 | 1 |
| CRX | 1 | 1 |
| DB25 | 2 | 1 |
| DIP-2 | 2 | 1 |
| DIP-4 | 2 | 1 |
| DIP-6 | 2 | 1 |
| DIP-8 | 2 | 1 |
| DIP-10 | 2 | 1 |
| D07 | 1 | 1 |
| FET | 1 | 1 |
| FUSE | 1 | 1 |
| 156X3 | 2 | 1 |
| 156X6 | 2 | 1 |
| 156X10 | 2 | 1 |
| 2PIN | 2 | 1 |
| 3PIN | 2 | 1 |
| 4PIN | 2 | 1 |
| 6PIN | 2 | 1 |
| 9PIN | 2 | 1 |
| 15PIN | 2 | 1 |
| 24PIN | 2 | 1 |
| 34PIN | 2 | 1 |
| 40PIN | 2 | 1 |
| 50PIN | 2 | 1 |

| | | |
|---------|---|---|
| PIN2A | 3 | 1 |
| PIN3A | 3 | 1 |
| PIN4A | 3 | 1 |
| PIN6A | 3 | 1 |
| PIN9A | 3 | 1 |
| PIN15A | 3 | 1 |
| PIN24A | 3 | 1 |
| PIN25A | 3 | 1 |
| PIN34A | 3 | 1 |
| PIN40A | 3 | 1 |
| PIN50A | 3 | 1 |
| RC07 | 1 | 1 |
| RC32 | 1 | 1 |
| RC42 | 1 | 1 |
| RECT | 1 | 1 |
| RN20 | 1 | 1 |
| RT10 | 1 | 1 |
| RT11 | 1 | 1 |
| RT24 | 1 | 1 |
| RT24X | 1 | 1 |
| SIP6 | 2 | 1 |
| SIP8 | 2 | 1 |
| SIP10 | 2 | 1 |
| TO3 | 1 | 1 |
| TO5 | 1 | 1 |
| TO18 | 1 | 1 |
| TO33 | 1 | 1 |
| TO39 | 1 | 1 |
| TO66 | 1 | 1 |
| TO92 | 1 | 1 |
| XFORMER | 1 | 1 |
| XTAL | 1 | 1 |

COMPONENT LIST BY FUNCTION

| <u>Component</u> | <u>Description</u> |
|------------------|---------------------|
| RESISTORS | |
| RT10 | Variable Resistor |
| RT11 | Variable Resistor |
| RT24 | Variable Resistor |
| RT24X | Variable Resistor |
| RECT | Variable Resistor |
| RC07 | Standard Resistor |
| RC32 | Standard Resistor |
| RC42 | Standard Resistor |
| RN20 | Standard Resistor |
| CAPACITORS | |
| CM04 | Polarized Capacitor |
| CM05 | Polarized Capacitor |
| CM06 | Polarized Capacitor |
| CK06 | Polarized Capacitor |
| CK62 | Polarized Capacitor |
| CASE-A | Polarized Capacitor |
| CASE-B | Polarized Capacitor |
| CASE-C | Polarized Capacitor |
| CASE-D | Polarized Capacitor |
| DIODES | |
| D07 | Standard Diode |
| CRX | Standard Diode |
| BRDG | Diode Bridge |

TRANSISTORS

| | |
|------|-------------------------|
| TO3 | Standard PNP Transistor |
| TO5 | Standard PNP Transistor |
| TO66 | Standard PNP Transistor |
| TO92 | Standard PNP Transistor |
| FET | Field Effect Transistor |
| TO33 | Darlington Pair |

RECTIFIERS

| | |
|------|---------------------------|
| TO18 | Silicon Control Rectifier |
| TO39 | Silicon Control Rectifier |

CRYSTAL

| | |
|------|--------------------|
| XTAL | Crystal Oscillator |
|------|--------------------|

SWITCHES

| | |
|--------|-----------------------|
| DIP-2 | Two Position Switch |
| DIP-4 | Four Position Switch |
| DIP-6 | Six Position Switch |
| DIP-8 | Eight Position Switch |
| DIP-10 | Ten Position Switch |

SINGLE INLINE PACKAGE

| | |
|-------|-------------------|
| SIP6 | Six Pin Package |
| SIP8 | Eight Pin Package |
| SIP10 | Ten Pin Package |

CONNECTORS

| | |
|--------|--------------------------|
| 2PIN | 2 Pin Board Connector |
| 3PIN | 3 Pin Board Connector |
| 4PIN | 4 Pin Board Connector |
| 6PIN | 6 Pin Board Connector |
| 9PIN | 9 Pin "D" Type Connector |
| 15PIN | 15 Pin "D" Type Cnnektor |
| 24PIN | 24 Pin Board Connector |
| 34PIN | 34 Pin Board Connector |
| 40PIN | 40 Pin Board Connector |
| 50PIN | 50 Pin Board Connector |
| 156X3 | 3 Pin Board Connector |
| 156X6 | 6 Pin Board Connector |
| 156X10 | 10 Pin Board Connector |
| PIN2A | 2 Pin Board Connector |
| PIN3A | 3 Pin Board Connector |
| PIN4A | 4 Pin Board Connector |
| PIN6A | 6 Pin Board Connector |
| PIN9A | 9 Pin "D" Type Connector |
| PIN15A | 15 Pin "D" Type Cnnektor |
| PIN24A | 24 Pin Board Connector |
| PIN25A | 25 Pin Edge Connector |
| PIN34A | 34 Pin Board Connector |
| PIN40A | 40 Pin Board Connector |
| PIN50A | 50 Pin Board Connector |
| DB25 | 25 Pin Edge Connector |
| CON40 | 40 Pin Edge Connector |
| CON50 | 50 Pin Edge Connector |

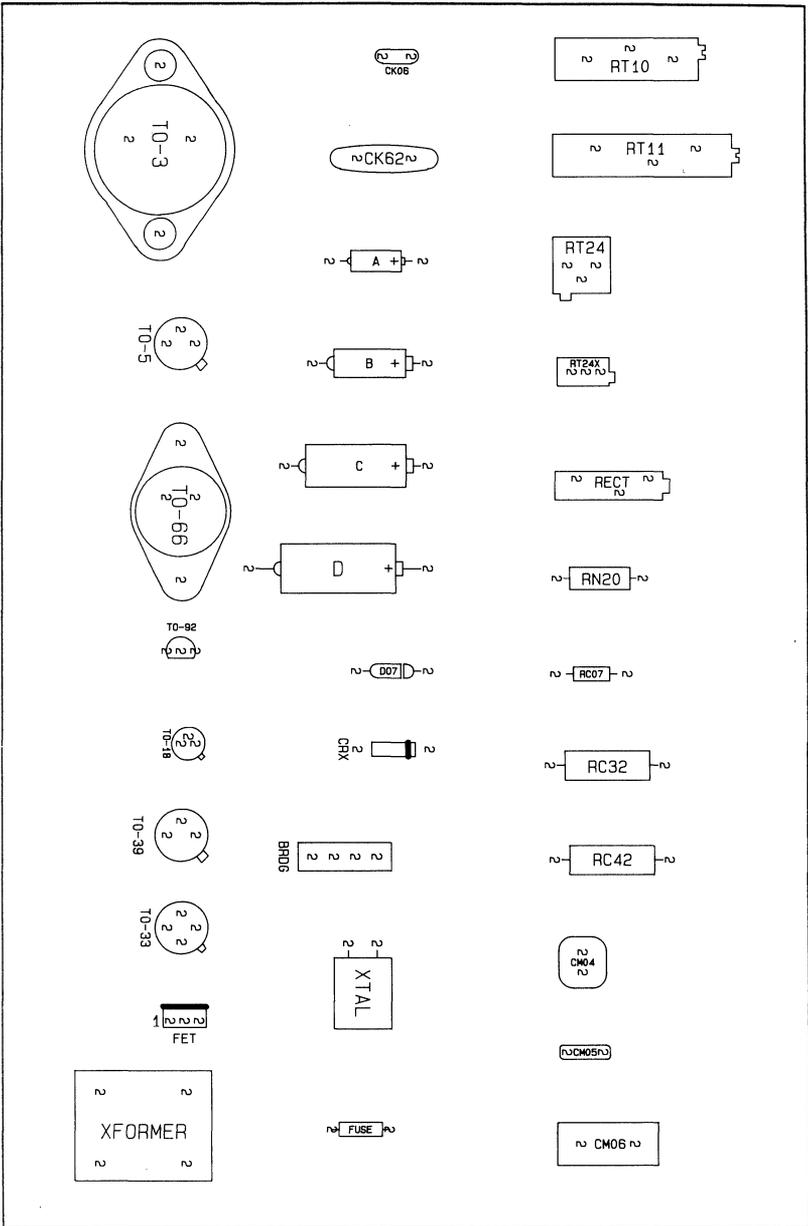
FUSE

| | |
|------|---------------|
| FUSE | Standard Fuse |
|------|---------------|

TRANSFORMER

| | |
|---------|---------------------|
| XFORMER | Trigate Transformer |
|---------|---------------------|

COMPONENT PLOTS



Component Plots

