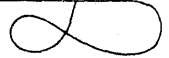


TOOLS FOR  
MODERN

**DESIGN™**



**CADDRAFT™**

Tool Kit

**p-cad**  
PERSONAL CAD SYSTEMS INC.

---

# Digitizers

This section describes the digitizer connections and gives walk-through instructions for the CADDRAFT interface to your digitizer.

Digitizers allow you to draw in two ways.

The first method is called *relative input*. This means the cursor is in direct relation to the screen, bound by its borders, and working exactly like a mouse device.

The second method is called *absolute input*. This allows you to input directly from the tablet, literally copying an existing drawing into the computer. In this mode, there is no direct relationship between the cursor position on the tablet and the cursor position on the screen.

---

## Hardware Setup

The two most important things to do in setting up your digitizer are:

1. Make sure the interface cable between your computer and digitizer is configured like the example in the CADDRAFT manual. Configured cables are also available from Personal CAD Systems, Inc.
2. Set the switches on your digitizer like the example in the CADDRAFT manual.

Ninety percent of all digitizer problems are related directly to one of the above items.

The digitizer cable must plug into communications port #1 as does a mouse (except the Microsoft mouse). If you have a mouse connected to port #1, disconnect it in favor of the digitizer.

**NOTE:** Many digitizers have two or more ports on them. If choosing between the Modem or Terminal Port for connecting the cable, ALWAYS choose the Modem port.

After the hardware is installed, use the instructions that follow to align the drawing, position the menu, and select a scale.

---

## Software Setup

The following instructions step you through the software setup.

### PROCEDURE:

1. Choose INFO from the main menu commands.
2. Select parameter #6 to establish the Database Units you wish to work with. Consult the Commands Chapter, Section 17 in your CADDRAFT Users Manual for more information on setting DBUs.
3. Next determine the grids you will most likely need for the drawing. Ten possible grid sizes can be set in INFO parameters 21-30 for later recall.
4. Select #13, Input Device. This gives you a screen of input device choices. For now, it is best to use the cursor control arrow keys on the keyboard to make your choice from the following selections:

MOUS1 GTCO HIPAD KURTA TIGER MOUS2

Use the right arrow key to move to the name of the digitizer you will be using.

Press X to confirm.

5. Next you see the question:

ARE YOU SURE? NO YES

Make your selection by moving the cursor to YES. Then confirm by pressing X on the keyboard.

6. Now you will see this message:

Do you want to scale your tablet? NO YES

If you select NO, the digitizer works like a mouse (relative input) and is limited by the boundaries of the screen.

Now you may use the puck instead of the keyboard for selections that do not require typing.

If you select YES, you will see a screen with X and Y values at the top and further instructions.

The X and Y values on the screen should change rapidly as you move the digitizer puck, since the tablet is very sensitive to puck movements. If the values do not change, there is a communication problem between the computer and the digitizer. Check the cable configuration and switch settings and be sure the cable is plugged into communications port #1 in back of the computer. If the X and Y values change when moving the puck across the digitizer, proceed to alignment.

---

## Alignment

In order to position your drawing on the digitizer, follow the instructions on the screen or the steps below.

### **PROCEDURE:**

1. Place your drawing on the tablet.
2. Choose either a horizontal or vertical line on your drawing. If you choose a vertical line, position the drawing so that the X values at the top of the screen do not vary by more than 10 numbers as you line up the crosshair on the puck at both ends of the line. If you select a horizontal line, position the drawing so the Y values do not vary by more than 10 numbers as you line up the crosshair on the puck at both ends of the line.

These numbers are for alignment purposes only and have no relationship to the measurement of your drawing.

3. Once this alignment is accomplished, secure it in place and press (Return) to confirm.
- 

## Menu Positioning on a Digitizer

You need to select a rectangular area on the tablet to function as a representation of the CADDRAFT menu screen. This rectangle is like an invisible box representing the menu screen. When drawing, use this area to access menu selections with the puck.

---

The corners of the menu area must be set. A series of prompts are displayed one at a time and remain on the screen until the sequence is complete. The first two prompts refer to the MENU ONLY. They are:

Select lower left corner of MENU area  
Select upper right corner of MENU area

Before responding to these two prompts, pick a corner or area that is out of the way of your drawing. The following steps detail for you the procedure for menu area selection.

**PROCEDURE:**

1. The first message

Select lower left corner of MENU area

prompts you to locate a point on the digitizer outside your drawing area to represent the lower left corner of the menu area. Use button #1 on the puck to select. If this point is located in an acceptable area of the tablet, the confirmation

Location Accepted

validates the position.

An unacceptable position produces a message saying INVALID POINT. Continue to reposition the puck until you receive the message, LOCATION ACCEPTED.

2. Next, you see this prompt:

Select upper right corner of MENU area

Locate a point on the tablet to serve as the upper right corner of the menu area. Press button #1 on the puck to select this corner point.

---

This establishes the menu area on the tablet and you are ready for the next part of the software setup.

**NOTE:** If the drawing takes up all of the tablet, you will have to complete three-fourths of the drawing and then relocate the menu to another part of the tablet to finish the remaining one-fourth of the drawing that was occupied by the menu itself.

---

## Scaling the Drawing Itself

To understand the digitizer scaling process, let's take an example.

First, select a lower left corner (LL) and an upper right corner (UR) on your drawing. Illustration of two such points are found in the Bearing Shaft drawing below.

Selection of the coordinates for the LL corner is arbitrary. Calculation of the UR coordinates will depend on their relative distance from the LL coordinates.

In this example, 1 DBU equals 1 mil. Thus,

$$5.000'' = 5000 \text{ mils}$$

$$1.000'' = 1000 \text{ mils}$$

The equation given here exemplifies how to calculate the UR coordinates:

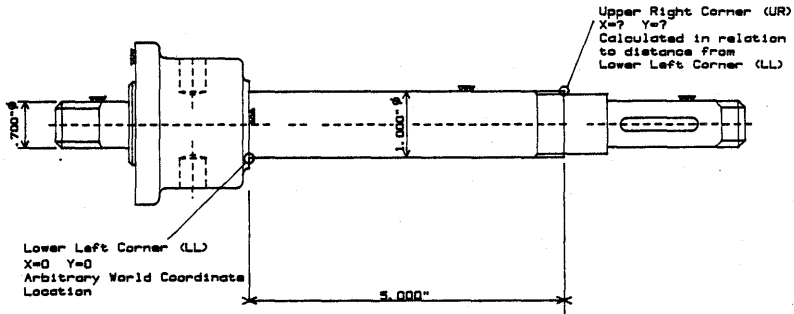
$$\text{LL (X coordinate)} + \text{Distance in DBUs} = \text{UR (X coordinate)}$$

$$0 \quad + \quad 5000 \quad = \quad 5000$$

and

$$\text{LL (Y coordinate)} + \text{Distance in DBUs} = \text{UR (Y coordinate)}$$

$$0 \quad + \quad 1000 \quad = \quad 1000$$



### Bearing Shaft

If you opt to establish the LL corner at world coordinates (0,0), then the X coordinate of the UR corner would be equal to 0 plus 5000. The Y coordinate of the UR corner would be equal to 0 plus 1000.

As an equation, the X coordinate of the UR corner (URx) equals LLx plus the distance in DBUs. Similarly, the Y coordinate of the UR corner (URy) equals LLy plus the distance in DBUs.

In planning a drawing, you want to consider where the LL corner should be for future additions and enhancements. If you plan to add more details or expand the drawing into a full design, you may want the LL corner in a location other than (0,0).

In other words, the value you choose for the LL should relate to the amount of the "world" taken up by the drawing and the position of the point on the drawing. For example, if the point is at the lower left of the drawing and the drawing will take up most of the "world," you should give the coordinate value of -32,000 for both the X and Y coordinates. However, if the point is near the middle of the drawing, you should enter a value of 0.

---

When these positions and calculations are established, you are ready to proceed with the scaling.

**PROCEDURE:**

1. The first message in this sequence asks you to

Select lower left corner of drawing area

Position the crosshair of the puck on the lower left point of the drawing on the tablet. Then, select this point by pressing button #1.

2. Respond to the next message

Enter X value (-32K to +32K)

by typing a coordinate for the X axis, such as 0, and then press (Return).

3. After entering this value, you will then see this prompt:

Enter Y value (-32K to +32K)

Use the same logic on this value as described above. Again, 0 is often a reasonable choice unless the drawing you are digitizing is extremely large or detailed. Press (Return) to confirm your coordinate.

4. The next message is:

Select upper right corner of drawing area



---

Now it is time to use the calculations in Database Units for the distance of the UR corner from the LL corner. The distance in DBUs from the lower left point to this upper right point are to be typed in as coordinates for the two following prompts:

Enter X value (-32K to +32K)

5. Type the X coordinate value for the upper right corner and press (Return).

Enter Y value (-32K to +32K)

6. Type the Y coordinate value for the upper right corner and press (Return).

Now the drawing is scaled. The INFO page returns to the screen.

---

# Plotter Interfaces

---

## Introduction

This guide provides essential hardware connections and settings for the optional plotters that work with CADDRAFT. If you have only one communication port, you will have to disconnect your input device when you are ready to plot. Screen prompts will advise you when to do this. Otherwise use communication port #2 for the plotter connection.

**NOTE:** If choosing between Modem or Terminal Port for cable connection to plotter, ALWAYS choose the Modem port.

For further details consult your plotter manual.

Follow the switch settings and cable configurations on the following pages to set up your plotter. They are included here for your convenience.

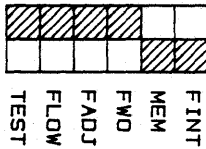
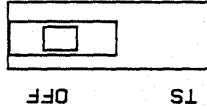
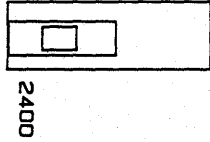
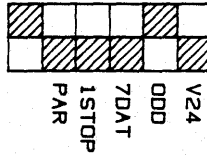
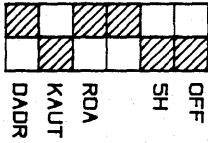
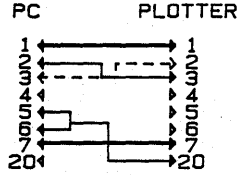
---

## Output Devices

The following plotter interfaces are detailed in this package:

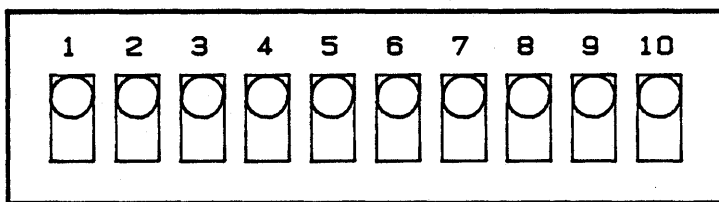
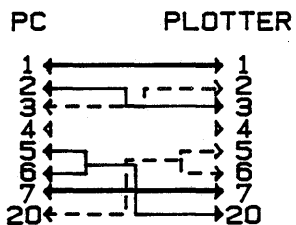
	Size
IBM XY 749	A
IBM XY 750	A,B
Calcomp M84	A
Calcomp M81	A,B
Houston Instruments DMP-29	A,B
Houston Instruments DMP-40	A,B
Houston Instruments DMP-41	C,D
Houston Instruments DMP-42	C,D
Hewlett Packard 7220	A,B
Hewlett Packard 7470	A
Hewlett Packard 7475	A,B
Hewlett Packard 7550	A,B
Hewlett Packard 7580A	A,B,C,D
Hewlett Packard 7580B	A,B,C,D
Hewlett Packard 7585	E
Gould Colorwriter DS-10	A,B
JSC	A
Nicolet Zeta 8	A,B
822	A,B,C,D
836	A,B,C,D,E
AlphaMerics	A,B,C,D
Sweet P "6 Shooter"	A,B

# IBM XY750 CALCOMP M81



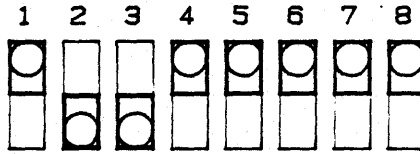
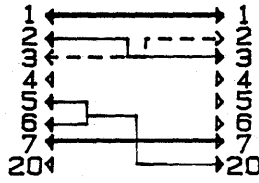
---

IBM XY749-A  
CALCOMP M84-A



### DMP-29 Plotter

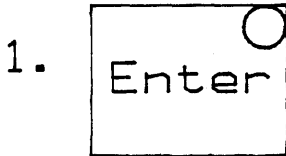
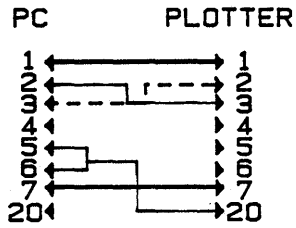
PC                      PLOTTER



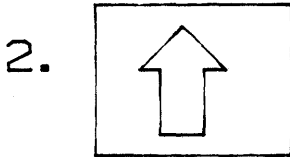
Baud Rate Switch

---

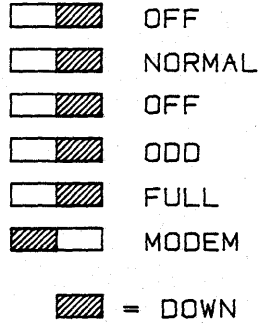
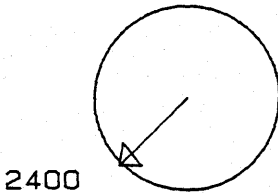
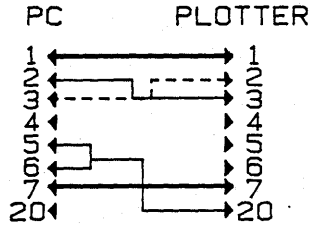
# DMP-40 Series



To Select  
9600 Baud



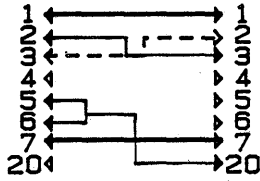
# HP 7220 PLOTTERS





# H P 7470

PC PLOTTER



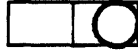
S2



S1



Y



US



B4



B3



B2

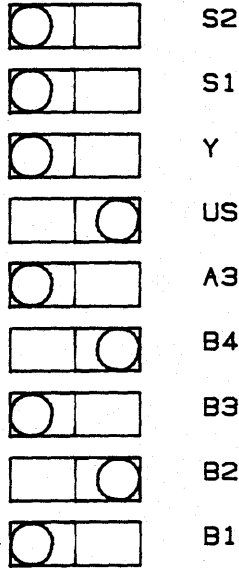
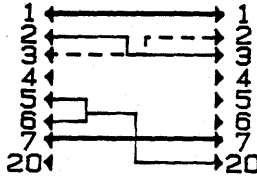


B1

## SWITCH SETTINGS

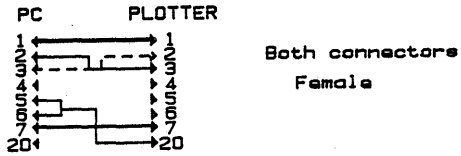
# H P 7475

PC PLOTTER



## SWITCH SETTINGS

# H P 7550



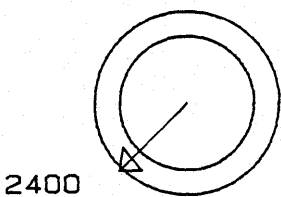
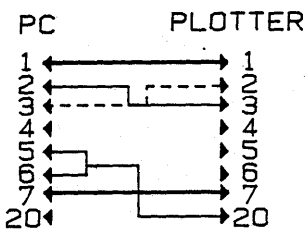
Data Flow	
Remote	
Standalone	
Bypass	Handshake
Off	Hardwire
	Modem

## Serial Sublevel

Duplex	Parity
Full	8 bits
	Off
Baud	
9600	

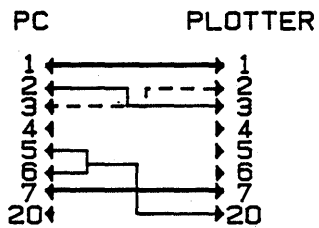
## Data Compatibility

# HP 7550

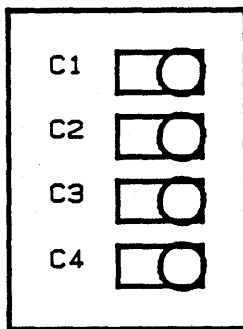
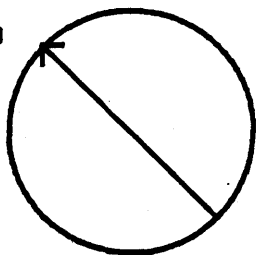


- OFF
- NORMAL
- OFF
- ODD
- FULL
- MODEM
- = DOWN

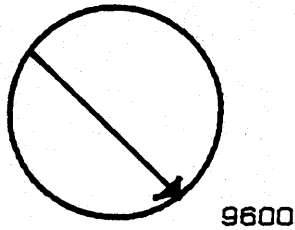
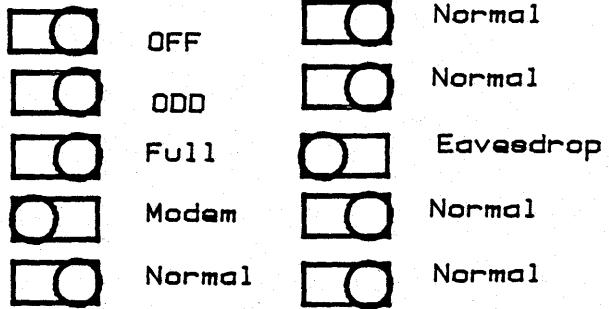
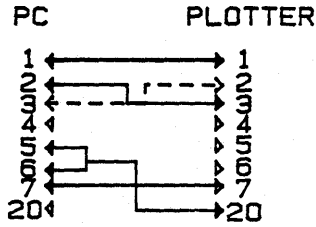
# HP 7580A



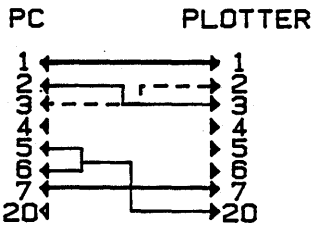
9600



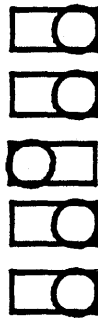
# H P 7580B



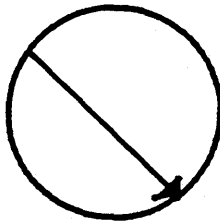
# HP 7585



Off  
 Odd  
 Full  
 Modem  
 Normal



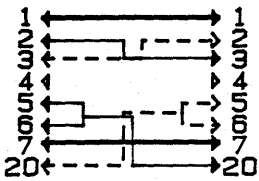
Normal  
 Normal  
 Eavesdrop  
 Normal  
 Normal



9600

Gould Colorwriter

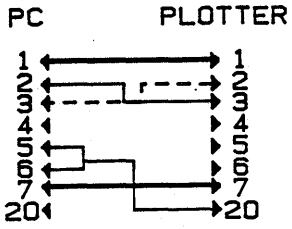
PC PLOTTER



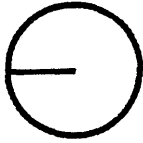


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# JSC Plotter

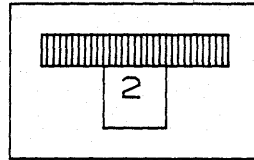
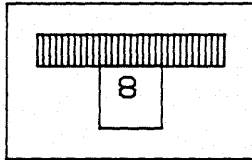
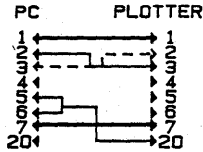


0

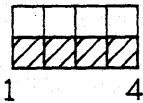


Baud Rate  
Switch

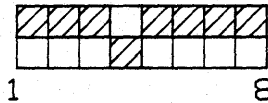
NICOLET ZETA 8, 822, 836 FAMILY  
 USING OPTION #P63  
 FIRMWARE REV 4.77 +



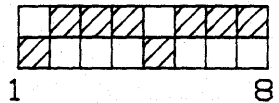
SW1



SW2

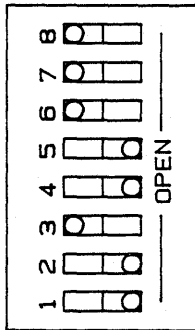
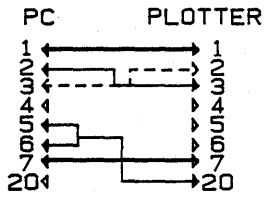


SW3



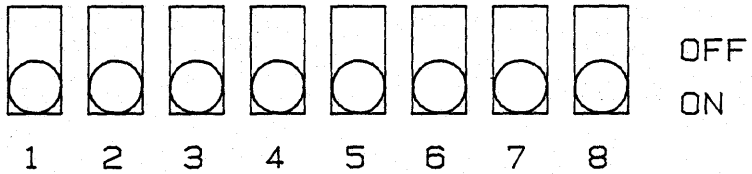
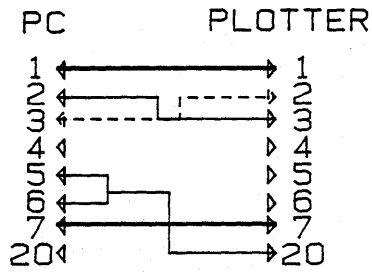
# ALPHAMERIC PLOTTERS

## ALPHAPLOT I/II



O = Down

# Sweet Pea 6 Shooter



# ARCHITECTURAL SYMBOL LIBRARY

## **SYMBOL TRANSFER PROGRAM**

This utility program is used to quickly transfer symbols individually or in groups from one layer to another.

**Note:** It does not duplicate symbols--it only moves them.

### **GETTING STARTED (HARD DISK SYSTEM)**

COPY all of the Symbol Library diskettes onto drive C, (See the DOS Primer Chapter of your manual for instructions).

### **GETTING STARTED (TWO DRIVE SYSTEM)**

COPY the file CPSYMTRN.EXE onto the diskette you plan to have in drive B.

### **RUNNING THE PROGRAM**

To use the layer transfer program, at the DOS prompt (usually A> or C>) type:

#### **CPSYMTRN**

-- and press (Return).

You will see a brief description of the program at the top of the screen, and this prompt:

```
Auto Mode (y/n) ?:
```

At the bottom of the screen, are two options:

```
{Esc}-Break {Ctrl}-C to Quit
```

The ESC key has two functions:

- 1) Allows you to stop transferring symbols between layers without leaving the program.
- 2) Allows you to start over at the first prompt.

Ctrl C stops the work in progress, and returns you to DOS. If used during a symbol transfer, the transfer will be completed before the program quits.

## TRANSFERRING ONE SYMBOL

You can transfer one symbol at a time, displaying the layer information about that symbol. To try this, at the prompt:

```
Auto Mode (y/n) ?:
```

Type:

**N**

-- and press (Return).

You will see this prompt:

```
Symbol Name ?:
```

Type in the symbol name, an example might be:

**A1TREE**

-- and press (Return).

Your symbol name will be confirmed on the lower left of your screen, and on the right of the screen you will see a message similar to this:

```
Data is currently  
on layers...  
2  
7
```

You will see this prompt:

```
From Layer ?:
```

Type the layer number you wish to transfer the symbol data from, (only one layer can be transferred at a time). An example of this would be:

**2**

-- and press (Return).

You will see this prompt:

To Layer ?:

Type the layer number you wish to transfer the symbol data to. An example would be:

**4**

-- and press (Return).

Your symbol will now take a few seconds to transfer, when completed you will see this message:

Transfer Complete

You may transfer another symbol or use the Auto Mode to transfer multiple symbols.

### **TRANSFERRING GROUPS OF SYMBOLS**

You can transfer more than one symbol at a time. At the prompt:

Auto Mode (y/n) ?:

Type:

**Y**

-- and press (Return).

You will see this prompt:

Confirm (y/n) ?:

If you answer Yes to this question, you will be asked to confirm the transfer of each symbol, before the symbol can be transferred.



If you answer No the system will automatically transfer all specified symbols. Type:

**Y or N**

-- and press (Return).

You will see this prompt:

Drive (ABCDE) ?:

Type the letter of the drive on which the symbols reside, (usually A, B or C), and press (Return).

You will see this prompt:

Prefix ?:

This allows you to select a group of symbols beginning with the same letters. To select all symbols beginning with A1, type:

**A1**

-- and press (Return).

Or to select a more specific set of symbols, A1TREE1, A1TREE2, and A1TREE3. Type:

**A1TREE**

-- and press (Return).

You will see this prompt:

From Layer ?:

Type the layer number you wish to transfer the symbol data from, (only one layer can be transferred at a time). An example of this would be:

**2**

-- and press (Return).

You will see this prompt:

To Layer ?:

Type the layer number you wish to transfer the symbol data to.  
An example would be:

**4**

-- and press (Return).

Your symbols will take a few seconds to transfer, as each symbol is completed you will see this message:

Transfer Complete

If the system can not transfer a symbol you will see this message:

Unable to Transfer

Two situations will block transfer, either there is no data on the layer to transfer from or data already exists on the layer to transfer to.

If you asked for confirmation, you will be asked to verify whether the symbol name on screen is to be moved. Answer Yes or No by typing:

**Y or N**

-- and press (Return).

When all the symbols have been transferred you will see this message:

ALL DONE!

You can continue transferring symbols, or exit by pressing the CTRL and the C key at the same time.

**Note:** If you aren't sure what layer a specific symbol is on, select N (NO) at the Auto Mode prompt.

## **PRINTING A LIST OF SYMBOLS**

You may want to print out the directory of symbols, to do this, exit CPSYMTRN, make sure your printer is on, and at the DOS prompt type:

**CTRL** and **P** (at the same time)

Then type DIR and the drive letter on which your symbols reside, (usually A, B or C), followed by \*.SYM (this specifies only those files ending with SYM, which means all SYMbol files). An example of this would be:

**DIR B:\*.SYM**

-- and press (Return).

Then to turn off the printer type:

**CTRL** and **P** (at the same time)

## ARCHITECTURAL SYMBOL LIBRARY

The architectural symbol library is a comprehensive set of symbols for site, plan and elevation drawings. Industry standard symbols have been used, whenever possible, and careful attention has been given to detail, size and scale.

Each menu has a prefix (A1-A6) which is used for menu identification and directory display from CADPLAN. The prefix numbering system is consistent with standard overlay conventions recommended by the California AIA (American Institute of Architects).

The symbol menus were created on the following layers:

Prefix	Library	Layer
A1	SITE PLAN	
	Trees & Cars	3
	Parking Lot Lights	4
A2	GENERAL PLANS	
	Labeling	6
	Plumbing Fixtures	7
	Doors	5
	Windows	5
A3	ELEVATION	
	Tree, Car, People	3
	Door - 30" wide	5
	Door - 36" wide	5
A4	DETAILED FLOOR PLAN	
	Residential Furniture	6
	Office Furniture	6
A5	ELEVATION	
	Plumbing Fixtures	7
A6	CEILING PLANS	
	Lighting	4
E3	ELECTRICAL	4

If you wish to change the symbol layers you may do so by loading a symbol for edit in CADPLAN or you may use CPSYMTRN, a layer conversion program. This is a separate CADPLAN program which enables you to change the layers of single symbols or entire menus of symbols. For further information about CPSYMTRN, see the Symbol Transfer Program section.

All Symbols were created in 1/4" database units.

Symbol origins will typically be in the lower left corner of rectangular objects (doors, desks, etc.), and in the center of circular objects (round tables, bushes, etc.). Origins of the Symbols are displayed on the menu charts with a (-) or a (+).

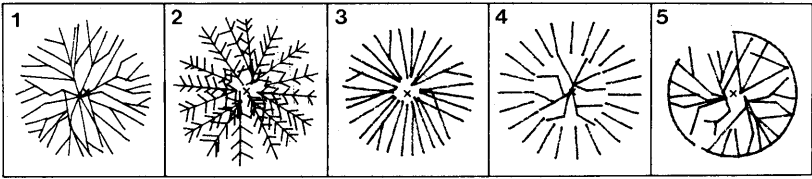
For display purposes, the symbols on the menu charts will not appear in relative scale to each other.

## TREES AND CARS - PLAN

#	Name	Description	Size
1	A1TREE1	TREE	11'- 9" DIAMETER
2	A1TREE2	TREE	12'-10" DIAMETER
3	A1TREE3	TREE	7'- 7" DIAMETER
4	A1TREE4	TREE	8'- 6" DIAMETER
5	A1TREE5	TREE	7'- 6" DIAMETER
6	A1TREE6	TREE	11'-11" DIAMETER
7	A1TREE7	TREE	10'- 6" DIAMETER
8	A1TREE8	TREE	11'- 4" DIAMETER
9	A1TREE9	TREE	10'- 6" DIAMETER
10	A1TREE10	TREE	6'- 8" DIAMETER
11	A1TREE11	TREE	10'-11" DIAMETER
12	A1TREE12	TREE	10'- 4" DIAMETER
13	A1TREE13	TREE	10'- 6" DIAMETER
14	A1TREE14	TREE	10'- 3" DIAMETER
15	A1TREE15	TREE	10'- 1" DIAMETER
16	A1BUSH1	BUSH	4'- 5" DIAMETER
17	A1BUSH2	BUSH	3'- 8" DIAMETER
18	A1BUSH3	BUSH	2'- 1" DIAMETER
19	A1BUSH4	BUSH	1'-10" DIAMETER
20	A1BUSH5	BUSH	1'-10" DIAMETER
21	A1BUSH6	BUSH	2'-11" DIAMETER
22	A1BUSH7	BUSH	2'- 5" DIAMETER
23	A1BUSH8	BUSH	1'-11" DIAMETER
24	A1BUSH9	BUSH	1'-11" DIAMETER
25	A1BUSH10	BUSH	1'- 9" DIAMETER
26	A1BRONCO	BRONCO TRUCK	6'- 3" WIDE 14'-10" LONG
27	A1GRNDPX	GRAND PRIX CAR	5'-11" WIDE 15'- 0" LONG
28	A1PICKUP	PICKUP TRUCK	5'- 2" WIDE 14'- 1" LONG
29	A1WAGON	STATION WAGON CAR	6'-11" WIDE 17'- 0" LONG
30	A1CADLAC	CADILLAC CAR	6'- 9" WIDE 18'-10" LONG

**TREES & CARS — PLAN**

MENU PREFIX: A1  
LAYER #: 3



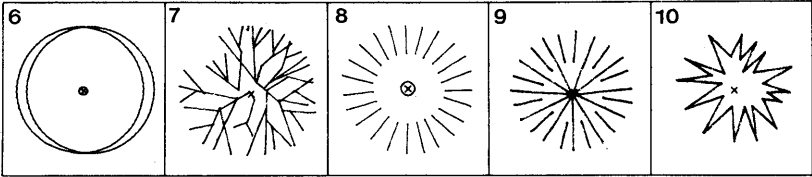
**A1TREE1**

**A1TREE2**

**A1TREE3**

**A1TREE4**

**A1TREE5**



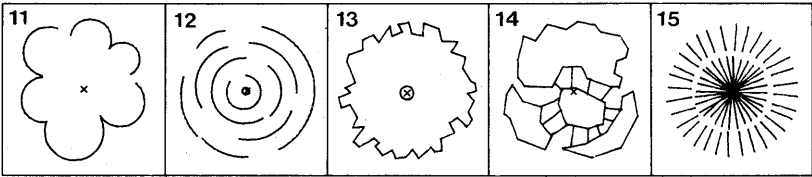
**A1TREE6**

**A1TREE7**

**A1TREE8**

**A1TREE9**

**A1TREE10**



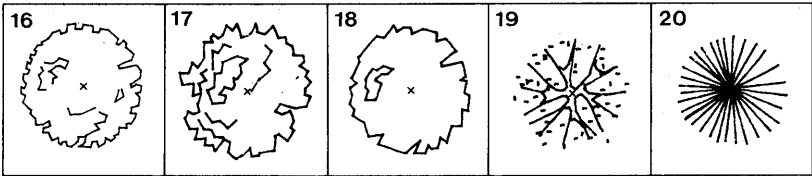
**A1TREE11**

**A1TREE12**

**A1TREE13**

**A1TREE14**

**A1TREE15**



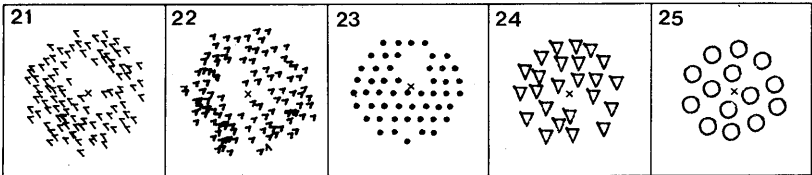
**AIBUSHI**

**A1BUSH2**

**A1BUSH3**

**A1BUSH4**

**A1BUSH5**



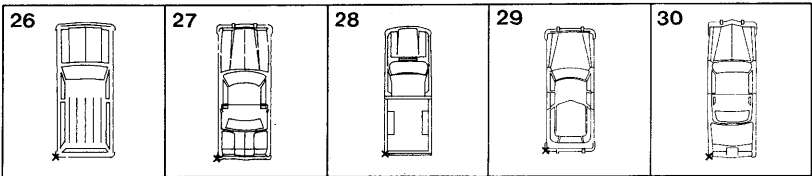
**A1BUSH6**

**A1BUSH7**

**A1BUSH8**

**A1BUSH9**

**A1BUSH10**



**A1BRONCO**

**A1GRNDPX**

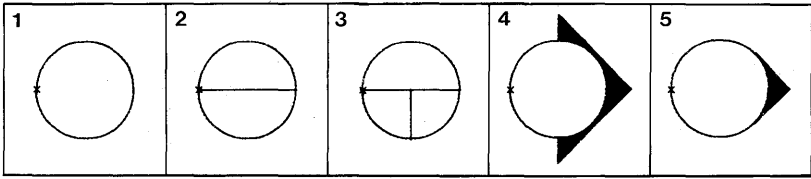
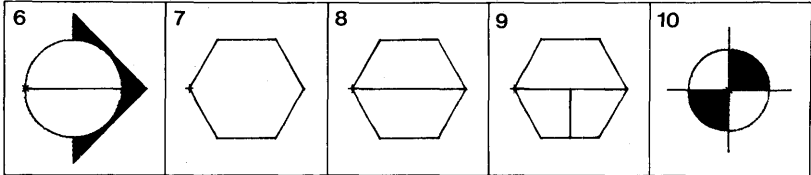
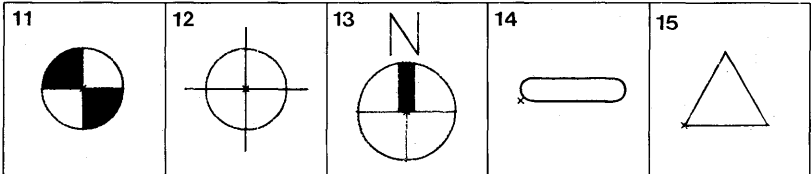
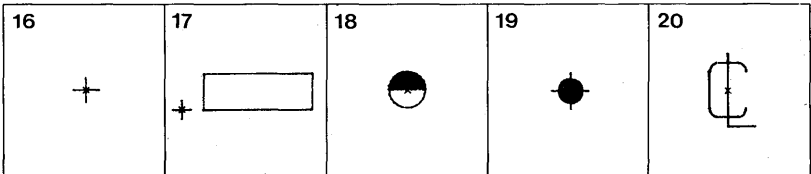
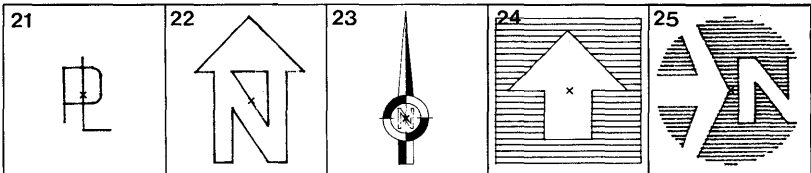
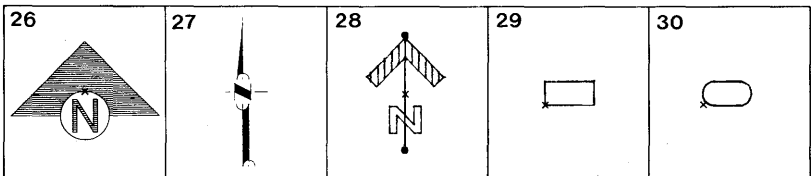
**A1PICKUP**

**A1WAGON**

**A1CADLAC**

## LABELING

#	Name	Description
1	A2DTAIL1	DETAIL BUBBLE
2	A2DTAIL2	DETAIL BUBBLE
3	A2DTAIL3	DETAIL BUBBLE
4	A2SECTN1	SECTION BUBBLE
5	A2SECTN2	SECTION BUBBLE
6	A2SECTN3	SECTION BUBBLE
7	A2HEX1	HEXAGON
8	A2HEX2	HEXAGON
9	A2HEX3	HEXAGON
10	A2SIGHT1	BOMB SIGHT
11	A2SIGHT2	BOMB SIGHT
12	A2SIGHT3	BOMB SIGHT
13	A2NRTHPT	NORTH POINT
14	A2BUBBLE	BUBBLE
15	A2REV	REVISION TRIANGLE
16	A2ELVPT1	ELEVATION POINT
17	A2ELVPT2	ELEVATION POINT WITH COORDINATE BOX
18	A2MTCHLN	MATCH LINE
19	A2TEST	TEST BORING
20	A2CNTRLN	CENTER LINE LABEL
21	A2PROPLN	PROPERTY LINE LABEL
22	A2NORTH1	NORTH ARROW
23	A2NORTH2	NORTH ARROW
24	A2NORTH3	NORTH ARROW
25	A2NORTH4	NORTH ARROW
26	A2NORTH5	NORTH ARROW
27	A2NORTH6	NORTH ARROW
28	A2NORTH7	NORTH ARROW
29	A2ROOMNO	ROOM OR SPACE NUMBER
30	A2EQUIPNO	EQUIPMENT NUMBER

**LABELING**MENU PREFIX: A2  
LAYER #: 6**A2DTAIL1****A2DTAIL2****A2DTAIL3****A2SECTN1****A2SECTN2****A2SECTN3****A2HEX1****A2HEX2****A2HEX3****A2SIGHT1****A2SIGHT2****A2SIGHT3****A2NRTHPT****A2BUBBLE****A2REV****A2ELVPT1****A2ELVPT2****A2MCHLN****A2TEST****A2CNTRLN****A2PROPLN****A2NORTH1****A2NORTH2****A2NORTH3****A2NORTH4****A2NORTH5****A2NORTH6****A2NORTH7****A2ROOMNO****A2EQUPTNO**

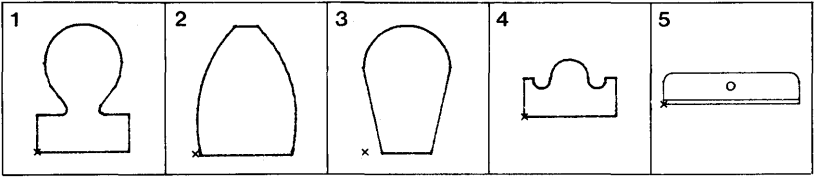


## PLUMBING FIXTURES - PLAN

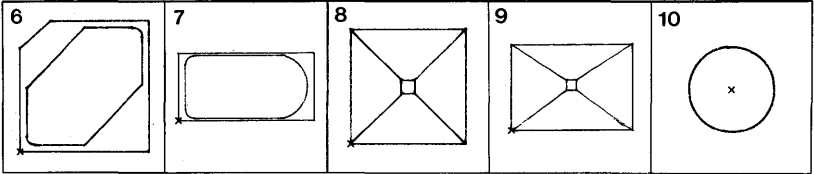
#	Name	Description	Size
1	A2CADET	WATER CLOSET-CADET	19" WIDE 27" LONG
2	A2MADERA	WATER CLOSET-MADERA	21" WIDE 27" LONG
3	A2LUXOR	WATER CLOSET-LUXOR	18" WIDE 27" LONG
4	A2URINL1	URINAL-WALL MOUNTED	19" WIDE 12" LONG
5	A2URINL2	URINAL-THROUGH	60" WIDE 14" LONG
6	A2TUB1	BATHTUB	38" WIDE 39" LONG
7	A2TUB2	BATHTUB	60" WIDE 30" LONG
8	A2SHWR1	SHOWER	34" WIDE 34" LONG
9	A2SHWR2	SHOWER	48" WIDE 34" LONG
10	A2LAV1	LAVATORY	18" DIAMETER
11	A2LAV2	LAVATORY	19" WIDE 16" LONG
12	A2LAV3	LAVATORY	17" WIDE 21" LONG
13	A2LAV4	LAVATORY	18" WIDE 20" LONG
14	A2LAV5	LAVATORY	18" WIDE 16" LONG
15	A2LAV6	LAVATORY	24" WIDE 18" LONG
16	A2LAV7	LAVATORY	17" WIDE 17" LONG
17	A2LAV8	LAVATORY	20" WIDE 27" LONG
18	A2SNKBAR	BAR SINK	12" WIDE 15" LONG
19	A2SNKSIN	SINGLE SINK	24" WIDE 21" LONG
20	A2SNKDBL	DOUBLE SINK	32" WIDE 22" LONG
21	A2DRNKFT	DRINKING FOUNTAIN	14" WIDE 11" LONG
22	A2HRAIL1	HANDRAIL	31" WIDE 4" LONG
23	A2HRAIL2	HANDRAIL	43" WIDE 4" LONG
24	A2HRAIL3	HANDRAIL	60" WIDE 4" LONG
25	A2PEDSTL	PEDESTAL URINAL	14" WIDE 23" LONG
26	A2SNKDBD	SINGLE SINK W/DRAINBOARD	30" WIDE 18" LONG
27	A2CRCWSH	CIRCULAR WASH SINK	34" DIAMETER
28	A2DSHWSH	DISHWASHER	24" WIDE 24" LONG
29	A2WTRCLR	WATER COOLER-WALL HUNG	12" WIDE 12" LONG
30	A2WALCAB	WALL CABINET	21" WIDE 3" LONG

**PLUMBING FIXTURES — PLAN**

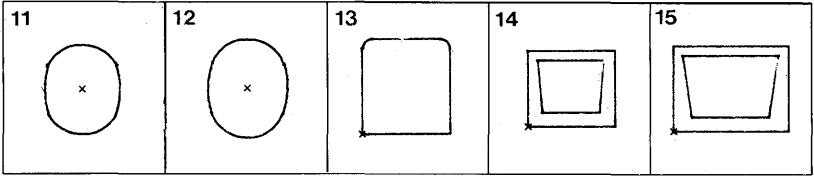
MENU PREFIX: A2  
LAYER #: 7



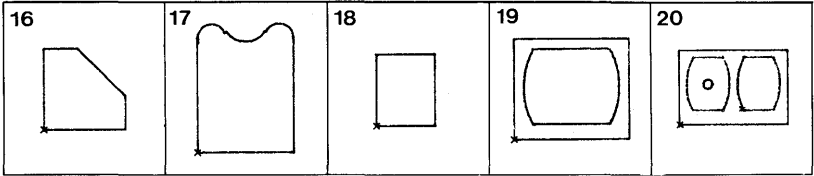
**A2CADET    A2MADERA    A2LUXOR    A2URINL1    A2URINL2**



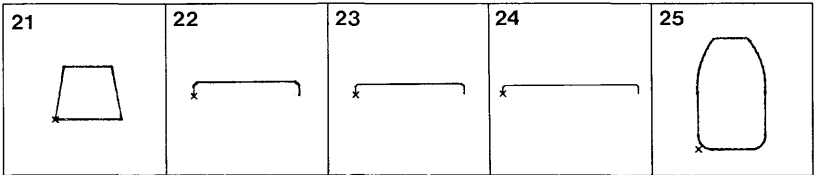
**A2TUB1    A2TUB2    A2SHWR1    A2SHWR2    A2LAV1**



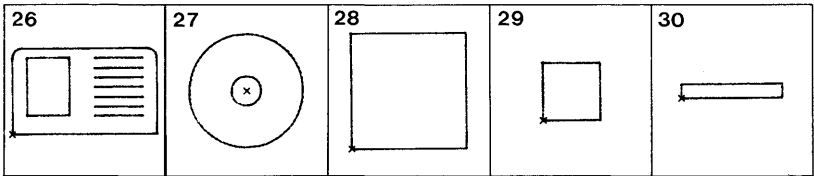
**A2LAV2    A2LAV3    A2LAV4    A2LAV5    A2LAV6**



**A2LAV7    A2LAV8    A2SNKBAR    A2SNKSIN    A2SNKDBL**



**A2DRNKFT    A2HRAIL1    A2HRAIL2    A2HRAIL3    A2PEDSTL**



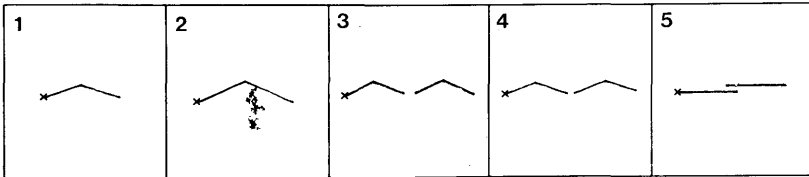
**A2SNKDBD    A2CRCWSH    A2DSHWSH    A2WTRCLR    A2WALCAB**

**DOORS - PLAN**

#	Name	Description	Size
1	A2DRBF30	BI-FOLD DOOR	30" WIDE
2	A2DRBF36	BI-FOLD DOOR	36" WIDE
3	A2DRBF72	BI-FOLD DOOR	72" WIDE
4	A2DRBF96	BI-FOLD DOOR	96" WIDE
5	A2DRSL60	SLIDING DOOR	60" WIDE
6	A2DRSL72	SLIDING DOOR	72" WIDE
7	A2DRSL96	SLIDING DOOR	96" WIDE
8	A2DRDB58	DOUBLE DOOR	58" WIDE
9	A2DRDB60	DOUBLE DOOR	60" WIDE
10	A2DRDB64	DOUBLE DOOR	64" WIDE
11	A2DRDB72	DOUBLE DOOR	72" WIDE
12	A2DROP58	DOUBLE DOOR- OPPOSITE SWING	58" WIDE
13	A2DROP60	DOUBLE DOOR- OPPOSITE SWING	60" WIDE
14	A2DROP64	DOUBLE DOOR- OPPOSITE SWING	64" WIDE
15	A2DROP72	DOUBLE DOOR- OPPOSITE SWING	72" WIDE
16	A2DRLF24	DOOR - HINGE LEFT	24" WIDE
17	A2DRLF30	DOOR - HINGE LEFT	30" WIDE
18	A2DRLF36	DOOR - HINGE LEFT	36" WIDE
19	A2DRRT24	DOOR - HINGE RIGHT	24" WIDE
20	A2DRRT30	DOOR - HINGE RIGHT	30" WIDE
21	A2DRRT36	DOOR - HINGE RIGHT	36" WIDE

**DOORS — PLAN**

MENU PREFIX: A2  
LAYER #: 5



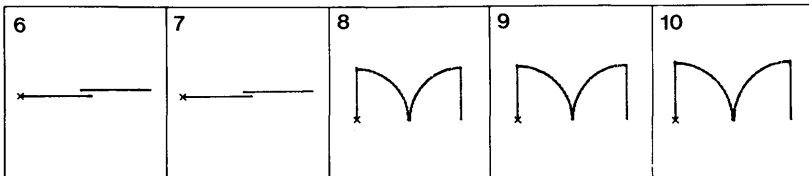
**A2DRBF30**

**A2DRBF36**

**A2DRBF72**

**A2DRBF96**

**A2DRSL60**



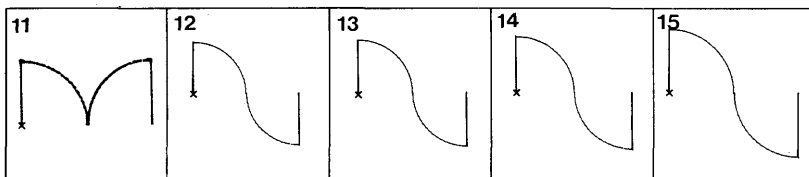
**A2DRSL72**

**A2DRSL96**

**A2DRDB58**

**A2DRDB60**

**A2DRDB64**



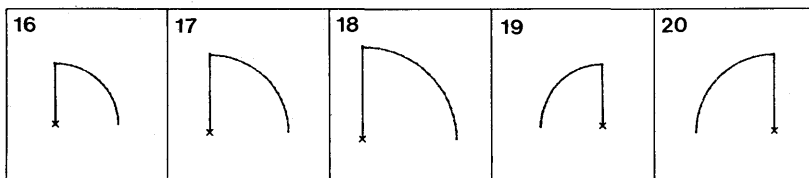
**A2DRDB72**

**A2DROP58**

**A2DROP60**

**A2DROP64**

**A2DROP72**



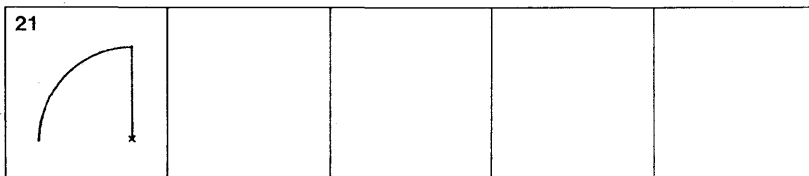
**A2DRLF24**

**A2DRLF30**

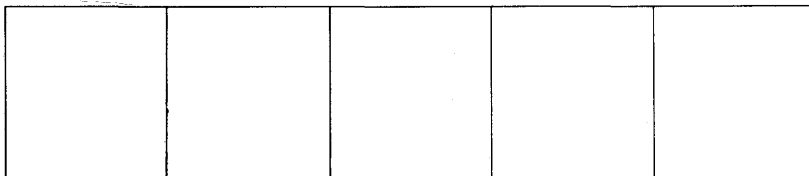
**A2DRLF36**

**A2DRRT24**

**A2DRRT30**

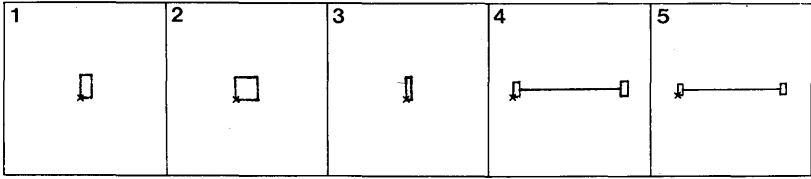
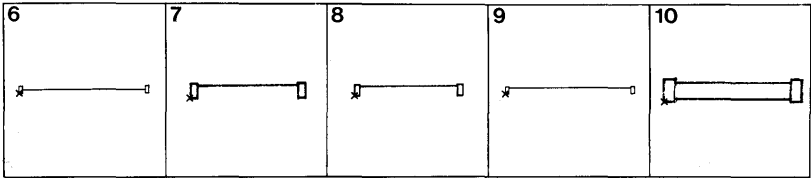
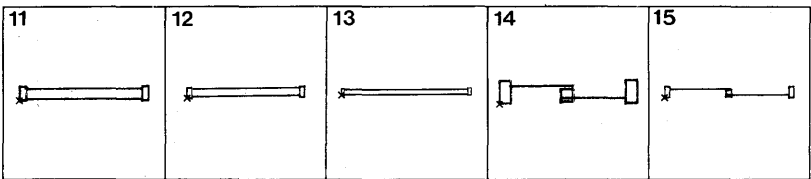
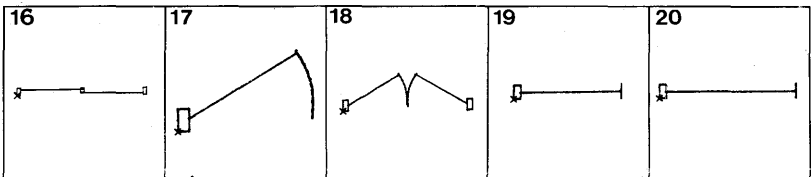
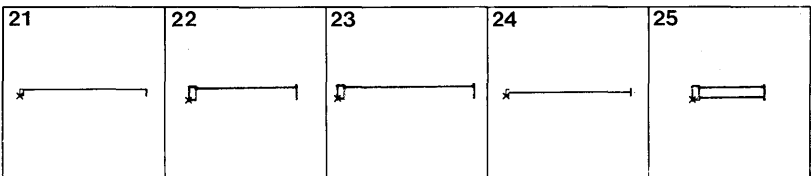
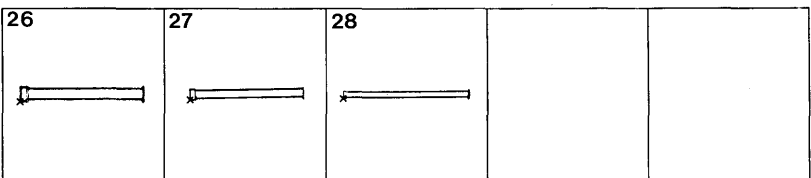


**A2DRRT36**



**WINDOWS - PLAN**

#	Name	Description	Size
1	A2JAMB2	WINDOW JAMB	2" WIDE 4" LONG
2	A2JAMB4	WINDOW JAMB	4" WIDE 4" LONG
3	A2MULLN	WINDOW MULLION	1" WIDE 4" LONG
4	A2SIN32J	SINGLE HUNG WINDOW W/JAMBS	32" WIDE
5	A2SIN40J	SINGLE HUNG WINDOW W/JAMBS	40" WIDE
6	A2SIN72J	SINGLE HUNG WINDOW W/JAMBS	72" WIDE
7	A2OFF32J	SINGLE HUNG OFFSET WINDOW	32" WIDE
8	A2OFF40J	SINGLE HUNG OFFSET WINDOW	40" WIDE
9	A2OFF72J	SINGLE HUNG OFFSET WINDOW	72" WIDE
10	A2DBL24J	DOUBLE HUNG WINDOW W/JAMBS	24" WIDE
11	A2DBL36J	DOUBLE HUNG WINDOW W/JAMBS	36" WIDE
12	A2DBL44J	DOUBLE HUNG WINDOW W/JAMBS	44" WIDE
13	A2DBL72J	DOUBLE HUNG WINDOW W/JAMBS	72" WIDE
14	A2SLD24J	SLIDING WINDOW W/JAMBS	24" WIDE
15	A2SLD48J	SLIDING WINDOW W/JAMBS	48" WIDE
16	A2SLD72J	SLIDING WINDOW W/JAMBS	72" WIDE
17	A2CSMT24	CASEMENT WINDOW	24" WIDE
18	A2CSMT48	CASEMENT WINDOW	48" WIDE
19	A2SINM30	SINGLE HUNG MULTI- WINDOW	30" WIDE
20	A2SINM38	SINGLE HUNG MULTI- WINDOW	38" WIDE
21	A2SINM70	SINGLE HUNG MULTI- WINDOW	70" WIDE
22	A2OFFM30	OFFSET MULTI-WINDOW	30" WIDE
23	A2OFFM38	OFFSET MULTI-WINDOW	38" WIDE
24	A2OFFM70	OFFSET MULTI-WINDOW	70" WIDE
25	A2DBLM20	DOUBLE HUNG MULTI- WINDOW	20" WIDE
26	A2DBLM34	DOUBLE HUNG MULTI- WINDOW	34" WIDE
27	A2DBLM42	DOUBLE HUNG MULTI- WINDOW	42" WIDE
28	A2DBLM70	DOUBLE HUNG MULTI- WINDOW	70" WIDE

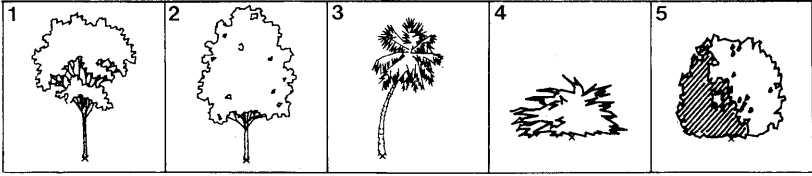
**WINDOWS — PLAN**MENU PREFIX: A2  
LAYER #: 5**A2JAMB2****A2JAMB4****A2MULLN****A2SIN32J****A2SIN40J****A2SIN72J****A2OFF32J****A2OFF40J****A2OFF72J****A2DBL24J****A2DBL36J****A2DBL44J****A2DBL72J****A2SLD24J****A2SLD48J****A2SLD72J****A2CSMT24****A2CSMT48****A2SINM30****A2SINM38****A2SINM70****A2OFFM30****A2OFFM38****A2OFFM70****A2DBLM20****A2DBLM34****A2DBLM42****A2DBLM70**

## TREE, CAR AND PEOPLE ELEVATIONS

#	Name	Description	Size
1	A3TREE1	TREE	25' 3" HIGH 17' 9" WIDE
2	A3TREE2	TREE	26'11" HIGH 17' 6" WIDE
3	A3TREE3	TREE	31'11" HIGH 16' 9" WIDE
4	A3TREE4	TREE	5' 8" HIGH 10' 1" WIDE
5	A3TREE5	TREE	10' 1" HIGH 9' 9" WIDE
6	A3TREE6	TREE	9' 3" HIGH 8' 9" WIDE
7	A3TREE7	TREE	22' 1" HIGH 3' 7" WIDE
8	A3TREE8	TREE	15' 3" HIGH 7' 8" WIDE
9	A3TREE9	TREE	7' 3" HIGH 8' 7" WIDE
10	A3TREE10	TREE	20' 7" HIGH 11' 6" WIDE
11	A3TREE11	TREE	24' 0" HIGH 26'10" WIDE
12	A3TREE12	TREE	15' 5" HIGH 4' 9" WIDE
13	A3TREE13	TREE	17' 1" HIGH 14' 7" WIDE
14	A3TREE14	TREE	15' 4" HIGH 13' 6" WIDE
15	A3TREE15	TREE	15'10" HIGH 15' 3" WIDE
16	A3MAN1	MAN	6' 1"
17	A3MAN2	MAN	6' 0"
18	A3MAN3	MAN	6' 6"
19	A3MAN4	MAN SITTING	4' 1"
20	A3WOMAN1	WOMAN	5' 8"
21	A3WOMAN2	WOMAN	4'11"
22	A3MANGRL	MAN AND GIRL	MAN 6' 8" GIRL 2' 9"
23	A3GIRL1	GIRL	3' 8"
24	A3COUPLE	MAN AND WOMAN	MAN 6' 3" WOMAN 5' 3"
25	A3MEN	2 MEN	MAN1 6' 5" MAN2 6' 1"
26	A3WAGON	STATION WAGON	4' 5" HIGH 16' 5" LONG
27	A3PICKUP	PICKUP TRUCK	4'10" HIGH 14' 2" LONG
28	A3BRONCO	BRONCO TRUCK	6' 0" HIGH 14' 6" LONG
29	A3CADLAC	CADILLAC AUTO	4' 0" HIGH 18' 4" LONG
30	A3GRNDPX	GRAND PRIX AUTOMOBILE	3' 9" HIGH 14'10" LONG

**TREE, CAR, & PEOPLE ELEVATIONS**

MENU PREFIX: A3  
LAYER #: 3



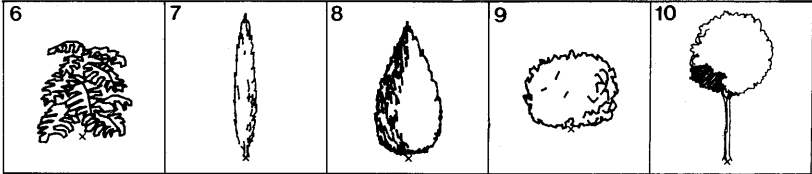
**A3TREE1**

**A3TREE2**

**A3TREE3**

**A3TREE4**

**A3TREE5**



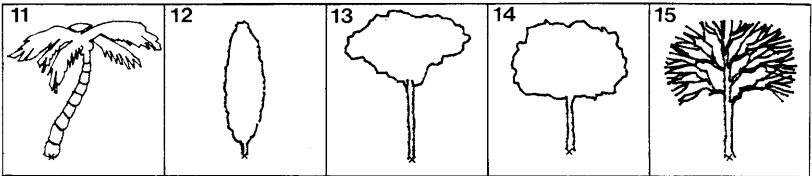
**A3TREE6**

**A3TREE7**

**A3TREE8**

**A3TREE9**

**A3TREE10**



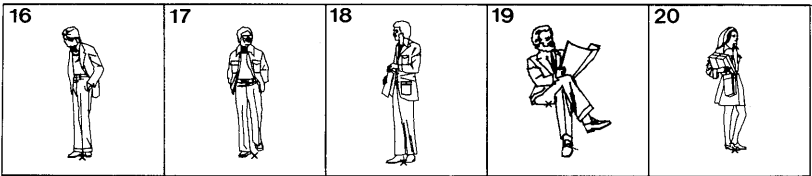
**A3TREE11**

**A3TREE12**

**A3TREE13**

**A3TREE14**

**A3TREE15**



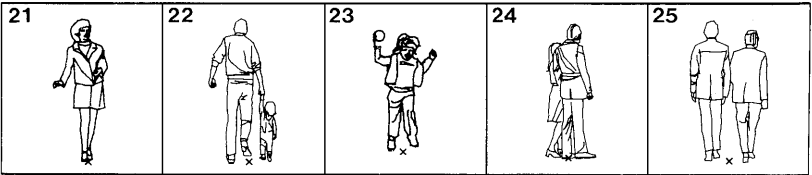
**A3MAN1**

**A3MAN2**

**A3MAN3**

**A3MAN4**

**A3WOMAN1**



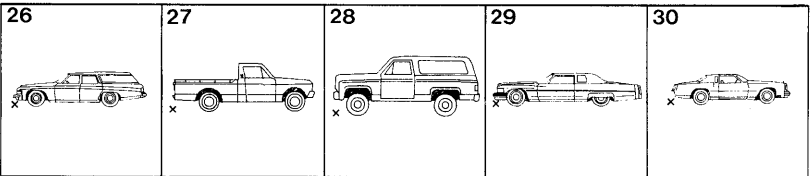
**A3WOMAN2**

**A3MANGRL**

**A3GIRL1**

**A3COUPLE**

**A3MEN**



**A3WAGON**

**A3PICKUP**

**A3BRONCO**

**A3CADLAC**

**A3GRNDPX**

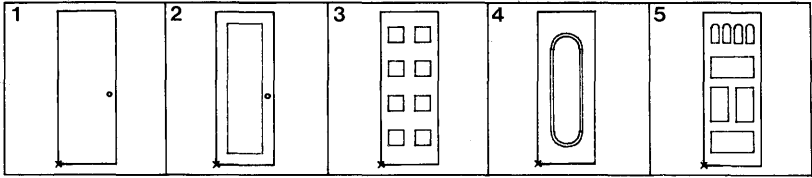


**DOOR ELEVATIONS - 30" WIDTH**

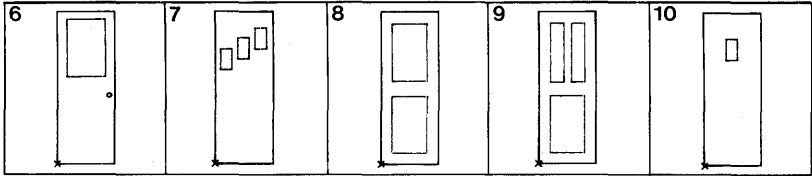
#	Name	Description	Size
1	A3DOOR1	DOOR ELEVATION	30" X 80"
2	A3DOOR2	DOOR ELEVATION	30" X 80"
3	A3DOOR3	DOOR ELEVATION	30" X 80"
4	A3DOOR4	DOOR ELEVATION	30" X 80"
5	A3DOOR5	DOOR ELEVATION	30" X 80"
6	A3DOOR6	DOOR ELEVATION	30" X 80"
7	A3DOOR7	DOOR ELEVATION	30" X 80"
8	A3DOOR8	DOOR ELEVATION	30" X 80"
9	A3DOOR9	DOOR ELEVATION	30" X 80"
10	A3DOOR10	DOOR ELEVATION	30" X 80"
11	A3DOOR11	DOOR ELEVATION	30" X 80"
12	A3DOOR12	DOOR ELEVATION	30" X 80"
13	A3DOOR13	DOOR ELEVATION	30" X 80"
14	A3DOOR14	DOOR ELEVATION	30" X 80"
15	A3DOOR15	DOOR ELEVATION	30" X 80"
16	A3DOOR16	DOOR ELEVATION	30" X 80"
17	A3DOOR17	DOOR ELEVATION	30" X 80"
18	A3DOOR18	DOOR ELEVATION	30" X 80"
19	A3DOOR19	DOOR ELEVATION	30" X 80"
20	A3DOOR20	DOOR ELEVATION	30" X 80"
21	A3DOOR21	DOOR ELEVATION	30" X 80"
22	A3DOOR22	DOOR ELEVATION	30" X 80"
23	A3DOOR23	DOOR ELEVATION	30" X 80"
24	A3DOOR24	DOOR ELEVATION	30" X 80"
25	A3DOOR25	DOOR ELEVATION	30" X 80"
26	A3DOOR26	DOOR ELEVATION	30" X 80"
27	A3DOOR27	DOOR ELEVATION	30" X 80"
28	A3DOOR28	DOOR ELEVATION	60" X 80"
29	A3DOOR29	DOOR ELEVATION	60" X 80"
30	A3DOOR30	DOOR ELEVATION	60" X 80"

**DOOR ELEVATIONS — 30" WIDTH**

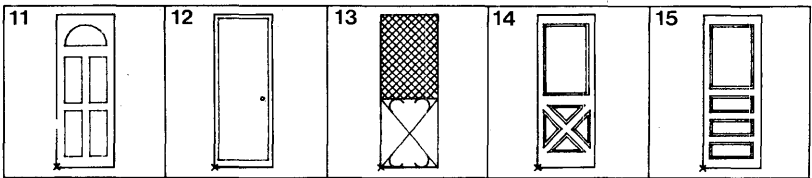
**MENU PREFIX: A3  
LAYER #: 5**



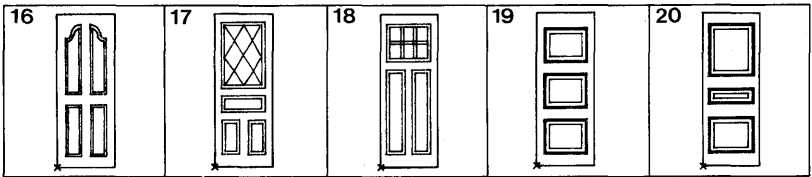
**A3DOOR1    A3DOOR2    A3DOOR3    A3DOOR4    A3DOOR5**



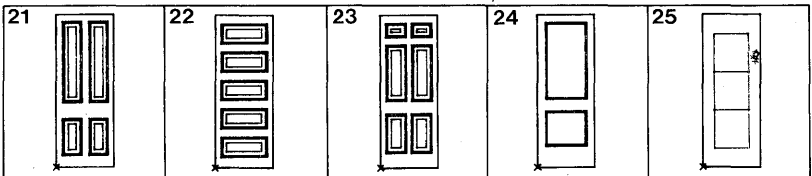
**A3DOOR6    A3DOOR7    A3DOOR8    A3DOOR9    A3DOOR10**



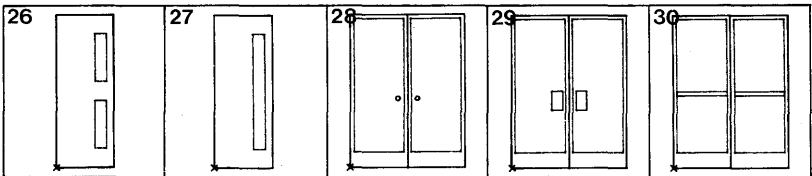
**A3DOOR11    A3DOOR12    A3DOOR13    A3DOOR14    A3DOOR15**



**A3DOOR16    A3DOOR17    A3DOOR18    A3DOOR19    A3DOOR20**



**A3DOOR21    A3DOOR22    A3DOOR23    A3DOOR24    A3DOOR25**



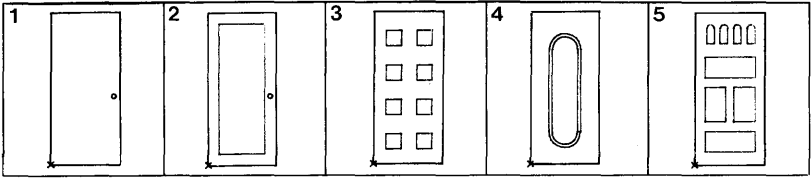
**A3DOOR26    A3DOOR27    A3DOOR28    A3DOOR29    A3DOOR30**

**DOOR ELEVATIONS - 36" WIDTH**

#	Name	Description	Size
1	A3DR3F1	DOOR ELEVATION	36" X 80"
2	A3DR3F2	DOOR ELEVATION	36" X 80"
3	A3DR3F3	DOOR ELEVATION	36" X 80"
4	A3DR3F4	DOOR ELEVATION	36" X 80"
5	A3DR3F5	DOOR ELEVATION	36" X 80"
6	A3DR3F6	DOOR ELEVATION	36" X 80"
7	A3DR3F7	DOOR ELEVATION	36" X 80"
8	A3DR3F8	DOOR ELEVATION	36" X 80"
9	A3DR3F9	DOOR ELEVATION	36" X 80"
10	A3DR3F10	DOOR ELEVATION	36" X 80"
11	A3DR3F11	DOOR ELEVATION	36" X 80"
12	A3DR3F12	DOOR ELEVATION	36" X 80"
13	A3DR3F13	DOOR ELEVATION	36" X 80"
14	A3DR3F14	DOOR ELEVATION	36" X 80"
15	A3DR3F15	DOOR ELEVATION	36" X 80"
16	A3DR3F16	DOOR ELEVATION	36" X 80"
17	A3DR3F17	DOOR ELEVATION	36" X 80"
18	A3DR3F18	DOOR ELEVATION	36" X 80"
19	A3DR3F19	DOOR ELEVATION	36" X 80"
20	A3DR3F20	DOOR ELEVATION	36" X 80"
21	A3DR3F21	DOOR ELEVATION	36" X 80"
22	A3DR3F22	DOOR ELEVATION	36" X 80"
23	A3DR3F23	DOOR ELEVATION	36" X 80"
24	A3DR3F24	DOOR ELEVATION	36" X 80"
25	A3DR3F25	DOOR ELEVATION	36" X 80"
26	A3DR3F26	DOOR ELEVATION	36" X 80"
27	A3DR3F27	DOOR ELEVATION	36" X 80"
28	A3DR3F28	DOOR ELEVATION	72" X 80"
29	A3DR3F29	DOOR ELEVATION	72" X 80"
30	A3DR3F36	DOOR ELEVATION	72" X 80"

**DOOR ELEVATIONS — 36" WIDTH**

**MENU PREFIX: A3  
LAYER #: 5**



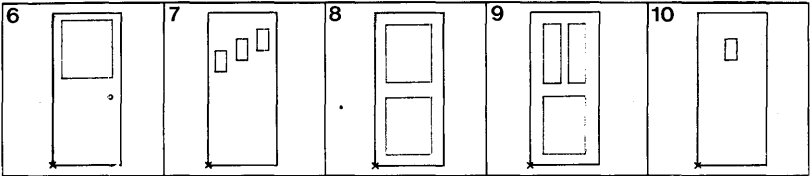
**A3DR3F1**

**A3DR3F2**

**A3DR3F3**

**A3DR3F4**

**A3DR3F5**



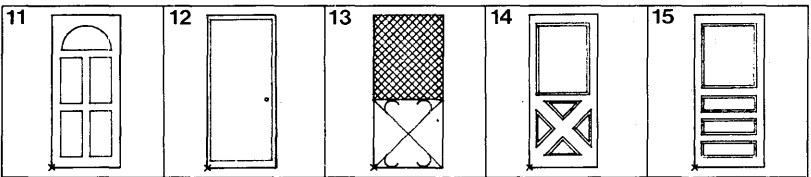
**A3DR3F6**

**A3DR3F7**

**A3DR3F8**

**A3DR3F9**

**A3DR3F10**



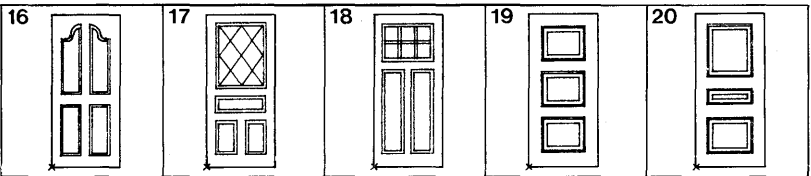
**A3DR3F11**

**A3DR3F12**

**A3DR3F13**

**A3DR3F14**

**A3DR3F15**



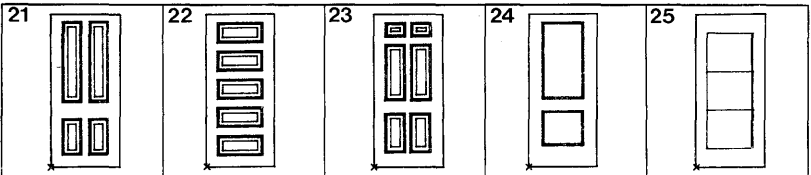
**A3DR3F16**

**A3DR3F17**

**A3DR3F18**

**A3DR3F19**

**A3DR3F20**



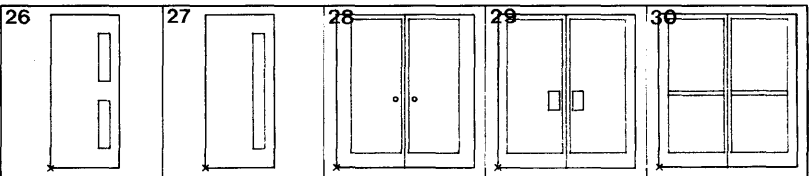
**A3DR3F21**

**A3DR3F22**

**A3DR3F23**

**A3DR3F24**

**A3DR3F25**



**A3DR3F26**

**A3DR3F27**

**A3DR6F28**

**A3DR6F29**

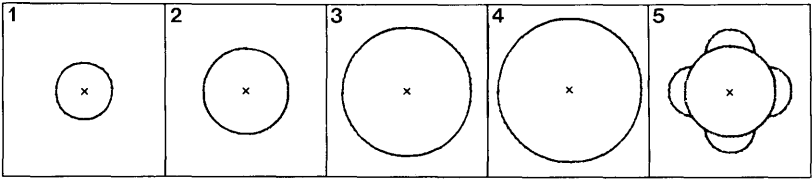
**A3DR6F30**

**RESIDENTIAL FURNITURE - PLAN**

#	Name	Description	Size
1	A4TBL16	ROUND TABLE	16" DIAMETER
2	A4TBL24	ROUND TABLE	24" DIAMETER
3	A4TBL36	ROUND TABLE	36" DIAMETER
4	A4TBL40	ROUND TABLE	40" DIAMETER
5	A4TBLCHR	ROUND TABLE W/4 CHAIRS	40" DIAMETER TABLE
6	A4OVAL1	OVAL TABLE	48" LONG 36" WIDE
7	A4OVAL2	OVAL TABLE	60" LONG 36" WIDE
8	A4OVAL3	OVAL TABLE W/4 CHAIRS	48" LONG 36" WIDE
9	A4OVAL4	OVAL TABLE W/6 CHAIRS	60" LONG 36" WIDE
10	A4SQTBL1	SQUARE TABLE	36" LONG 36" WIDE
11	A4SQTBL2	SQUARE TABLE	60" LONG 36" WIDE
12	A4SQTBL3	SQUARE TABLE	72" LONG 36" WIDE
13	A4SDCHR	SIDE CHAIR	20" LONG 22" WIDE
14	A4ARMCHR	ARM CHAIR	23" LONG 23" WIDE
15	A4LNGCHR	LOUNGE CHAIR	29" LONG 30" WIDE
16	A4SOFA1	SOFA	62" LONG 29" WIDE
17	A4SOFA2	SOFA	82" LONG 32" WIDE
18	A4TWINBD	TWIN BED	80" LONG 40" WIDE
19	A4FULLBD	FULL BED	80" LONG 54" WIDE
20	A4KINGBD	KING BED	80" LONG 76" WIDE
21	A4PLNT1	PLANT	11" DIAMETER
22	A4PLNT2	PLANT	24" DIAMETER
23	A4GPIANO	GRAND PIANO	57" LONG 54" WIDE
24	A4PIANO	SPINET PIANO	25" LONG 58" WIDE
25	A4RANGE	RANGE	24" LONG 30" WIDE
26	A4REFRDG	REFRIDGERATOR	26" LONG 32" WIDE
27	A4WSHDY	WASH & DRY	26" LONG 30" WIDE
28	A4SNKDBL	DOUBLE SINK	22" LONG 32" WIDE
29	A4SNKBAR	BAR SINK	15" LONG 12" WIDE
30	A4HEXTBL	HEXAGON TABLE	48" DIAMETER

**RESIDENTIAL FURNITURE — PLAN**

MENU PREFIX: A4  
LAYER #: 6



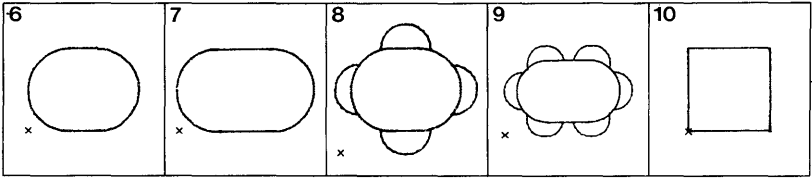
**A4TBL16**

**A4TBL24**

**A4TBL36**

**A4TBL40**

**A4TBLCHR**



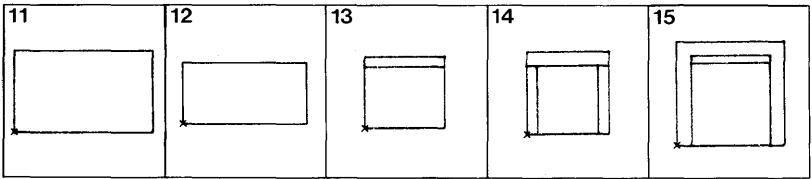
**A4OVAL1**

**A4OVAL2**

**A4OVAL3**

**A4OVAL4**

**A4SQTBL1**



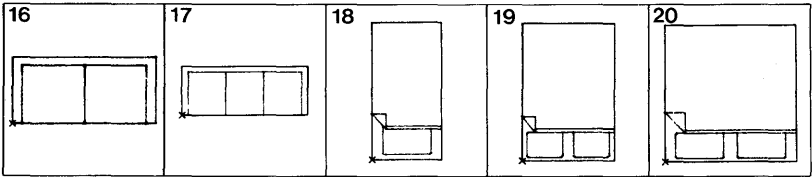
**A4SQTBL2**

**A4SQTBL3**

**A4SDCHR**

**A4ARMCHR**

**A4LNGCHR**



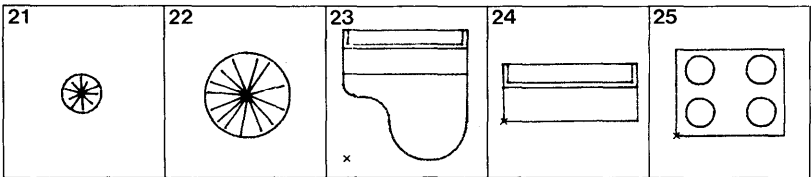
**A4SOFA1**

**A4SOFA2**

**A4TWINBD**

**A4FULLBD**

**A4KINGBD**



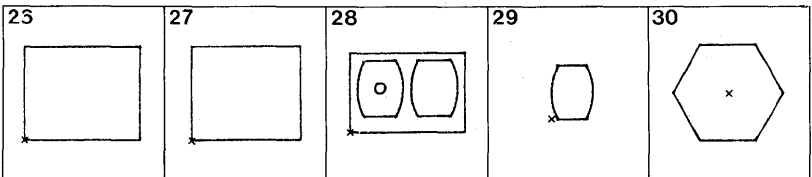
**A4PLNT1**

**A4PLNT2**

**A4GPIANO**

**A4PIANO**

**A4RANGE**



**A4REFRDRG**

**A4WSHDRY**

**A4SNKDBL**

**A4SNKBAR**

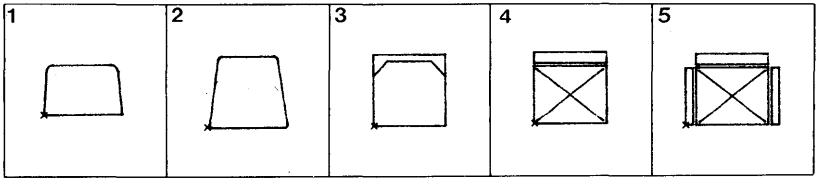
**A4HEXTBL**

## OFFICE FURNITURE - PLAN

#	Name	Description	Size
1	A4CHAIR1	CHAIR	22" WIDE 14" LONG
2	A4CHAIR2	CHAIR	22" WIDE 20" LONG
3	A4CHAIR3	CHAIR	20" WIDE 20" LONG
4	A4CHAIR4	CHAIR	20" WIDE 20" LONG
5	A4CHAIR5	CHAIR	26" WIDE 20" LONG
6	A4CHAIR6	CHAIR	32" WIDE 24" LONG
7	A4DESK	DESK	72" WIDE 38" LONG
8	A4DSKSHF	DESK SHELF UNIT	48" WIDE 15" LONG
9	A4DSKCHR	DESK WITH CHAIR	60" WIDE 30" LONG
10	A4DSKLFT	DESK W/LEFT RETURN	WORK AREA 60" WIDE 60" LONG
11	A4DSKRHT	DESK W/RIGHT RETURN	WORK AREA 60" WIDE 66" LONG
12	A4RTBL18	ROUND TABLE	18" DIAMETER
13	A4RTBL48	ROUND TABLE	48" DIAMETER
14	A4RTBL72	ROUND TABLE	72" DIAMETER
15	A4RTBL96	ROUND TABLE	96" DIAMETER
16	A4TBL1	TABLE	66" WIDE 30" LONG
17	A4TBL2	TABLE	84" WIDE 42" LONG
18	A4TBL3	TABLE	108" WIDE 48" LONG
19	A4TBL4	TABLE W/4 CHAIRS	TABLE: 66" X 30"
20	A4TBL5	TABLE W/6 CHAIRS	TABLE: 84" X 42"
21	A4TBL6	TABLE W/10 CHAIRS	TABLE: 108" X 48"
22	A4BTBL1	BOAT TABLE	84" WIDE 36" LONG
23	A4BTBL2	BOAT TABLE	120" WIDE 48" LONG
24	A4BTBL3	BOAT TABLE	TABLE: 14'0" X 60"
25	A4BTBL4	BOAT TABLE WITH 6 CHAIRS	TABLE: 84" X 36"
26	A4BTBL5	BOAT TABLE WITH 10 CHAIRS	TABLE: 120" X 48"
27	A4BTBL6	BOAT TABLE WITH 14 CHAIRS	TABLE: 14'0" X 60"
28	A4CLSTR1	FURNITURE CLUSTER-4 TABLES & 4 CHAIRS	120" WIDE 120" LONG
29	A4CLSTR2	FURNITURE CLUSTER-4 OFFICES	AREA: 124" X 124"
30	A4CLSTR3	FURNITURE CLUSTER-2 OFFICES	AREA: 8'10" X 14'8"

**OFFICE FURNITURE — PLAN**

MENU PREFIX: A4  
LAYER #: 6



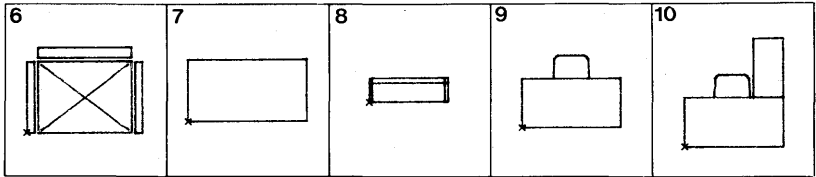
**A4CHAIR1**

**A4CHAIR2**

**A4CHAIR3**

**A4CHAIR4**

**A4CHAIR5**



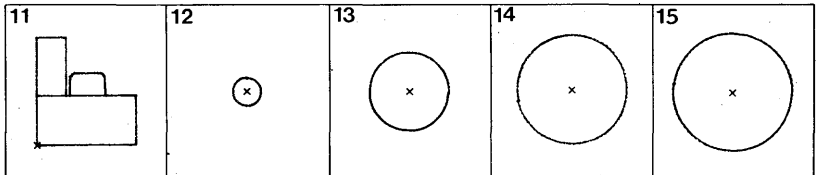
**A4CHAIR6**

**A4DESK**

**A4DSKSHF**

**A4DSKCHR**

**A4DSKLFT**



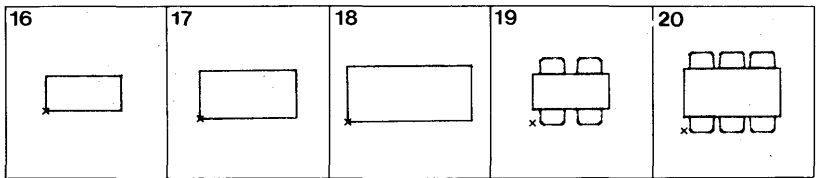
**A4DSKRHT**

**A4RTBL18**

**A4RTBL48**

**A4RTBL72**

**A4RTBL96**



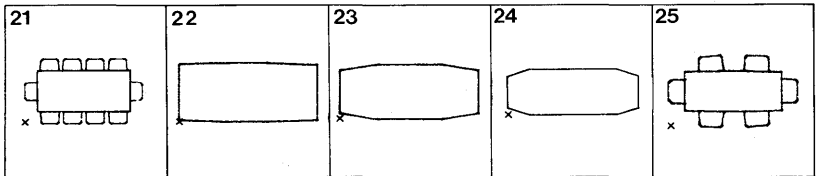
**A4TBL1**

**A4TBL2**

**A4TBL3**

**A4TBL4**

**A4TBL5**



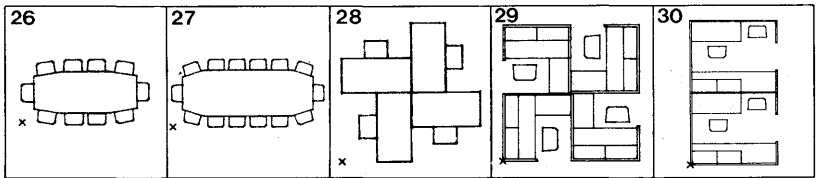
**A4TBL6**

**A4BTBL1**

**A4BTBL2**

**A4BTBL3**

**A4BTBL4**



**A4BTBL5**

**A4BTBL6**

**A4CLSTR1**

**A4CLSTR2**

**A4CLSTR3**

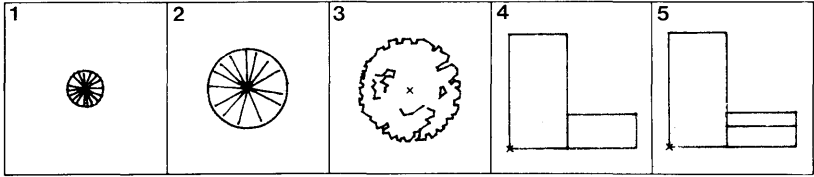


## OFFICE FURNITURE - PLAN

#	Name	Description	Size
1	A4PLANT1	PLANT	11" DIAMETER
2	A4PLANT2	PLANT	24" DIAMETER
3	A4PLANT3	PLANT	52" DIAMETER
4	A4TYPRET	TABLE W/TYPING RETURN	WORK AREA 66" WIDE 60" LONG
5	A4RETSHF	TABLE W/TYPING RETURN & SHELF	WORK AREA 66" WIDE 60" LONG
6	A4FILCAB	FILING CABINET	36" WIDE 18" LONG
7	A4MODCRV	MODULAR CURVED SEATING	22" WIDE
8	A4MODRCT	MODULAR REC- TANGULAR SEATING	22" WIDE 22" LONG
9	A4MODSQR	MODULAR SQUARE SEATING	22" WIDE 22" LONG
10	A4MODTBL	MODULAR TABLE	22" WIDE 22" LONG
11	A4ARANG1	FURNITURE ARRANGEMENT	AREA IS 5'- 6" WIDE 4'- 8" LONG
12	A4ARANG2	FURNITURE ARRANGEMENT	AREA IS 9'- 2" WIDE 7'-4" LONG
13	A4ARANG3	FURNITURE ARRANGEMENT	AREA IS 5'- 6" WIDE 7'-4" LONG
14	A4SHELF	SHELF	30" WIDE 13" LONG
15	A4PANEL1	PANEL	1'- 0" LONG 2" WIDE
16	A4PANEL2	PANEL	2'- 0" LONG 2" WIDE
17	A4PANEL3	PANEL	3'- 0" LONG 2" WIDE
18	A4PANEL4	PANEL	4'- 0" LONG 2" WIDE
19	A4PANEL5	PANEL	5'- 0" LONG 2" WIDE
20	A4RHTPNL	RIGHT CORNER PANEL	24" OUTSIDE RADIUS
21	A4LFTPNL	LEFT CORNER PANEL	24" OUTSIDE RADIUS
22	A4PNLACL	ACSS PNL W/LEFT DOOR SWING	3' 0" LONG 2" WIDE-30"
23	A4PNLACR	ACSS PNL W/RIGHT DOOR SWING	3' 0" LONG 2" WIDE-30"
24	A4CCP2	COUNTER CAP	24" LONG 15" WIDE
25	A4CCP3	COUNTER CAP	3' 0" LONG 15" WIDE
26	A4CCP4	COUNTER CAP	4' 0" LONG 15" WIDE
27	A4CCP5	COUNTER CAP	5' 0" LONG 15" WIDE
28	A4CCCPA	COUNTER CAP CORNER-SQR TYPE	24" WIDE 24" LONG
29	A4CCCPB	COUNTER CAP CORNER-RAD TYPE	24" OUT RAD 15" IN RAD
30	A4DFTTBL	DRAFT TABLE (HUMAN AIDED DESIGN)	60" WIDE 36" LONG

**OFFICE FURNITURE — PLAN**

MENU PREFIX: A4  
LAYER #: 6



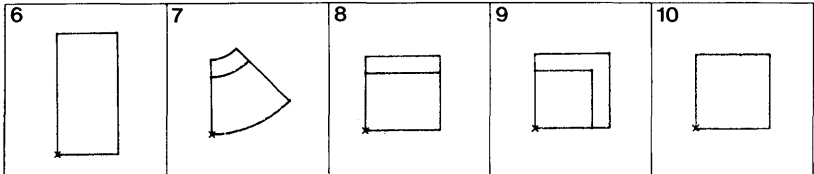
A4PLANT1

A4PLANT2

A4PLANT3

A4TYPRET

A4RETSHF



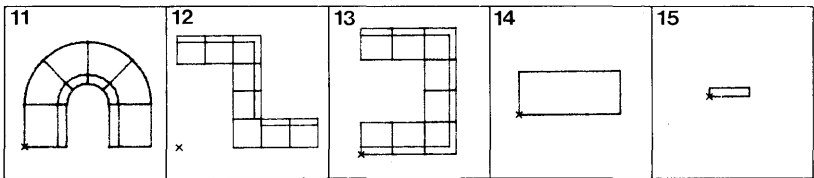
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A4MODCRV

A4MODRCT

A4MODSQR

A4MODTBL



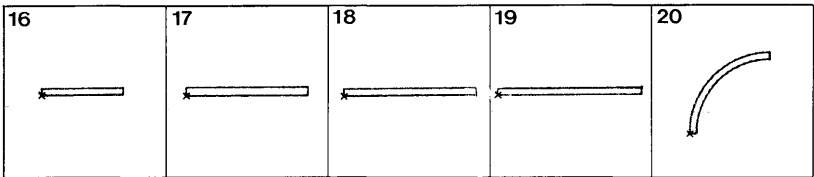
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A4ARANG2

A4ARANG3

A4SHELF

A4PANEL1



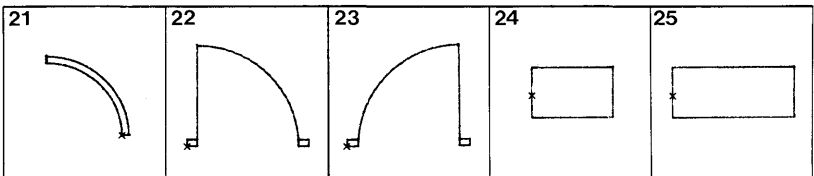
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A4PANEL3

A4PANEL4

A4PANEL5

A4RHTPNL



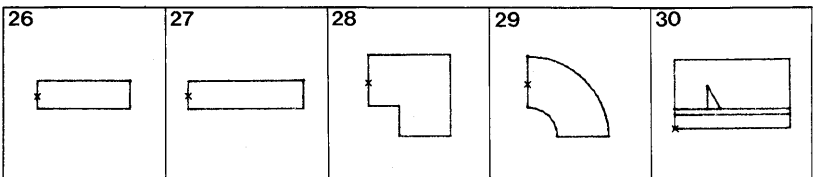
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A4PNLACL

A4PNLACR

A4CCP2

A4CCP3



A4CCP4

A4CCP5

A4CCCPA

A4CCCPB

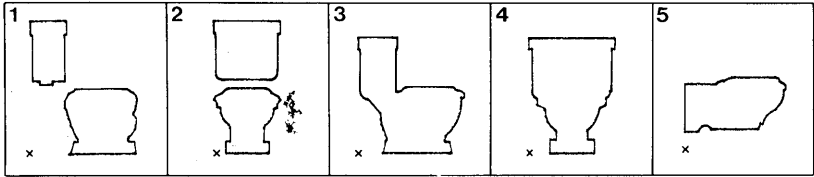
A4DFTTBL

## PLUMBING FIXTURE ELEVATIONS

#	Name	Description	Size
1	A5LWC1	LOW TANK WATERCLOSET (SIDE VIEW)	30" WIDE 36" HIGH
2	A5LWC2	LOW TANK WATER CLOSET (FRONT VIEW)	18" WIDE 6" HIGH
3	A5ATWC1	ATTACHED TANK WATER CLOSET (SIDE VIEW)	30" WIDE 32" HIGH
4	A5ATWC2	ATTACHED TANK WATER CLOSET (FRONT VIEW)	24" WIDE 32" HIGH
5	A5WFWC1	WALL FLSH VALV WTR CLOSET (SIDE VIEW)	28" WIDE 18" HIGH
6	A5WFWC2	WALL FLSH VALV WTR CLOSET (FRONT VIEW)	17" WIDE 18" HIGH
7	A5SINK1	LAVATORY (SIDE VIEW)	21" WIDE 32" HIGH
8	A5SINK2	LAVATORY (FRONT VIEW)	26" WIDE 32" HIGH
9	A5SINK3	LAVATORY (SIDE VIEW)	20" WIDE 36" HIGH
10	A5SINK4	LAVATORY (FRONT VIEW)	20" WIDE 36" HIGH
11	A5SINK5	LAVATORY (SIDE VIEW)	17" WIDE 36" HIGH
12	A5SINK6	LAVATORY (SIDE VIEW)	13" WIDE 37" HIGH
13	A5SINK7	LAVATORY (FRONT VIEW)	21" WIDE 37" HIGH
14	A5PED1	PEDESTAL (SIDE VIEW)	23" WIDE 32" HIGH
15	A5PED2	PEDESTAL (FRONT VIEW)	15" WIDE 32" HIGH
16	A5WLHNG1	WALL HUNG URINAL (SIDE VIEW)	16" WIDE 36" HIGH
17	A5WLHNG2	WALL HUNG URINAL (FRONT VIEW)	16" WIDE 36" HIGH
18	A5URINL1	URINAL (SIDE VIEW)	20" WIDE 40" HIGH
19	A5URINL2	URINAL (FRONT VIEW)	16" WIDE 40" HIGH
20	A5URINL3	THROUGH URINAL (SIDE VIEW)	14" WIDE 25" HIGH
21	A5URINL4	THROUGH URINAL (FRONT VIEW)	64" WIDE 25" HIGH
22	A5STALL1	URINAL STALL (SIDE VIEW)	16" WIDE 39" HIGH
23	A5STALL2	URINAL STALL (FRONT VIEW)	20" WIDE 39" HIGH
24	A5STALL3	URINAL STALL (FRONT VIEW)	21" WIDE 39" HIGH
25	A5TANK1	OVERHEAD TANK (SIDE VIEW)	16" WIDE 48" HIGH
26	A5TANK2	OVERHEAD TANK (FRONT VIEW)	19" WIDE 48" HIGH
27	A5TANK3	TANK (FRONT VIEW)	13" WIDE 35" HIGH
28	A5DRINK1	DRINKING FOUNTAIN (SIDE VIEW)	14" WIDE 36" HIGH
29	A5DRINK2	DRINKING FOUNTAIN (FRONT VIEW)	14" WIDE 36" HIGH
30	A5CABSEC	CABINET (SIDE VIEW)	6" WIDE 27" HIGH

**PLUMBING FIXTURE ELEVATIONS**

MENU PREFIX: A5  
LAYER #: 7



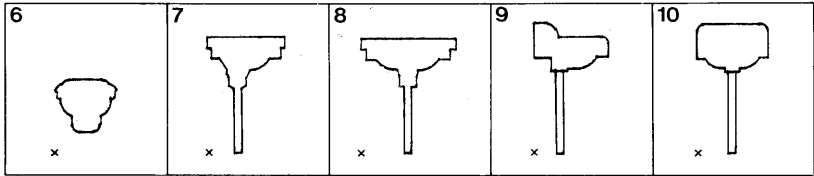
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**A5LTWC2**

**A5ATWC1**

**A5ATWC2**

**A5WFWC1**



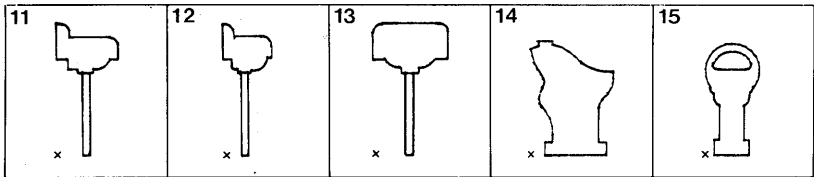
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**A5SINK1**

**A5SINK2**

**A5SINK3**

**A5SINK4**



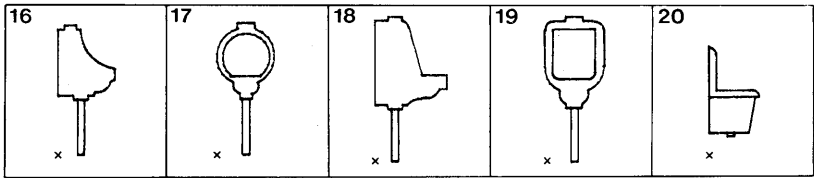
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**A5SINK6**

**A5SINK7**

**A5PED1**

**A5PED2**



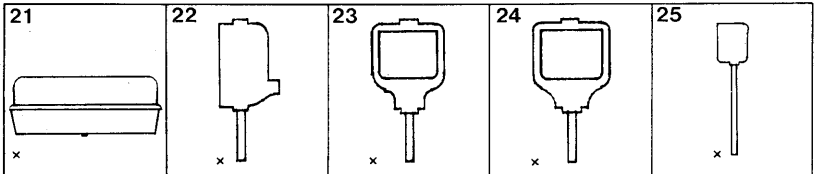
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**A5WLHNG2**

**A5URINL1**

**A5URINL2**

**A5URINL3**



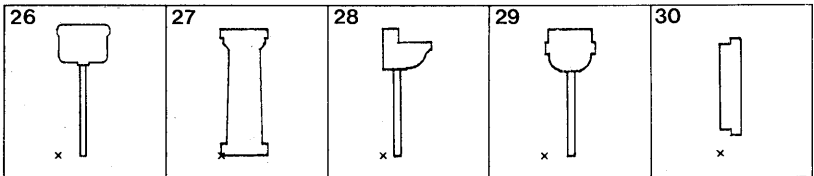
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**A5STALL1**

**A5STALL2**

**A5STALL3**

**A5TANK1**



**A5TANK2**

**A5TANK3**

**A5DRINK1**

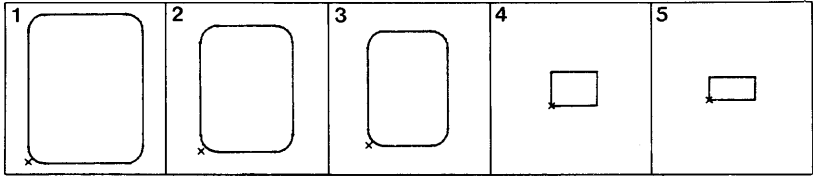
**A5DRINK2**

**A5CABSEC**

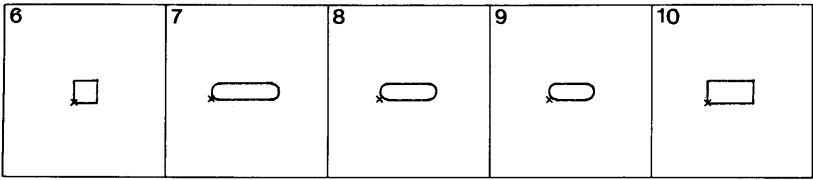
## PLUMBING FIXTURE ELEVATIONS

#	Name	Description	Size
1	A5CAB1	MED CABINET (FRONT VIEW)	20" WIDE 26" HIGH
2	A5CAB2	MED CABINET (FRONT VIEW)	16" WIDE 22" HIGH
3	A5CAB3	MED CABINET (FRONT VIEW)	14" WIDE 20" HIGH
4	A5SOAP1	SOAP RECEPTACLE	8" WIDE 6" HIGH
5	A5SOAP2	SOAP RECEPTACLE	8" WIDE 4" HIGH
6	A5SOAP3	SOAP RECEPTACLE	4" WIDE 4" HIGH
7	A5GBAR1	GRAB BAR	12" LONG
8	A5GBAR2	GRAB BAR	10" LONG
9	A5GBAR3	GRAB BAR	8" LONG
10	A5PLUG1	PLUG OR SWITCH OUTLET	8" WIDE 4" HIGH
11	A5PLUG2	PLUG OR SWITCH OUTLET	4" WIDE 4" HIGH
12	A5PLUG3	PLUG OR SWITCH OUTLET	4" WIDE 2" HIGH
13	A5TBAR1	TOWEL BAR	18" LONG
14	A5TBAR2	TOWEL BAR	24" LONG
15	A5TBAR3	TOWEL BAR	30" LONG
16	A5TBAR4	TOWEL BAR	36" LONG
17	A5TUB	BATHTUB (SIDE VIEW)	64" WIDE 18" HIGH
18	A5TUBSEC	BATHTUB (FRONT VIEW)	34" WIDE 18" HIGH
19	A5DSPOSL	GARBG DISPOSAL (FRONT VIEW)	22" WIDE 27" HIGH
20	A5KSINK1	KITCHEN SINK (FRONT VIEW)	21" WIDE 36" HIGH
21	A5KSINK2	KITCHEN SINK (SIDE VIEW)	16" WIDE 36" HIGH
22	A5KSINK3	KITCHEN SINK (FRONT VIEW)	20" WIDE 36" HIGH
23	A5KSINK4	KITCHEN SINK (FRONT VIEW)	27" WIDE 36" HIGH
24	A5KSINK5	KITCHEN SINK (SIDE VIEW)	26" WIDE 48" HIGH
25	A5KSINK6	KITCHEN SINK (SIDE VIEW)	34" WIDE 36" HIGH
26	A5TRAY1	WASH TRAY (SIDE VIEW)	32" WIDE 42" HIGH
27	A5TRAY2	WASH TRAY (FRONT VIEW)	30" WIDE 34" HIGH
28	A5TRAY3	WASH TRAY (SIDE VIEW)	28" WIDE 44" HIGH
29	A5TRAY4	WASH TRAY (FRONT VIEW)	27" WIDE 35" HIGH
30	A5PAN	SHOWER PAN (SIDE VIEW)	40" WIDE 10" HIGH

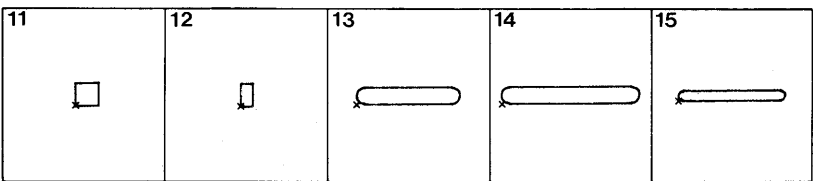
**PLUMBING FIXTURE ELEVATIONS** MENU PREFIX: A5  
LAYER #: 7



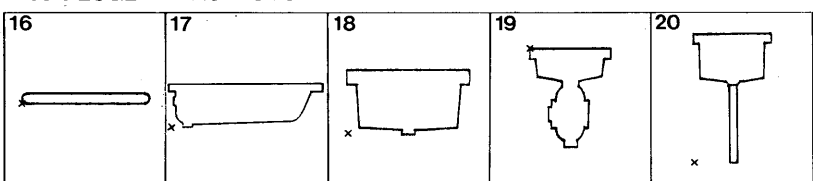
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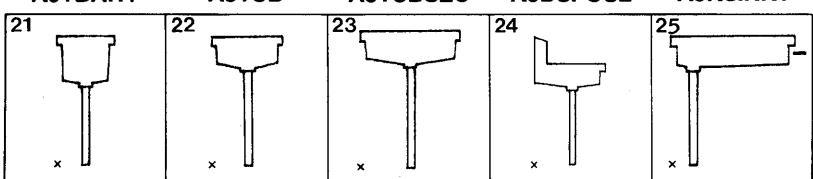
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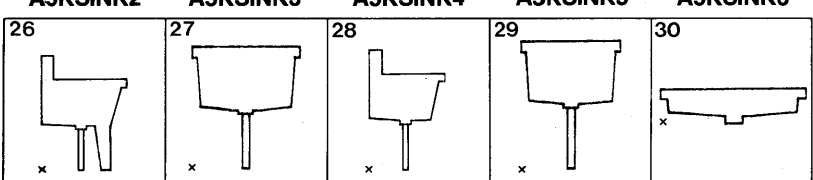
**A5PLUG2      A5PLUG3      A5TBARI      A5TBAR2      A5TBAR3**



**A5TBAR4      A5TUB      A5TUBSEC      A5DSPOSL      A5KSINK1**



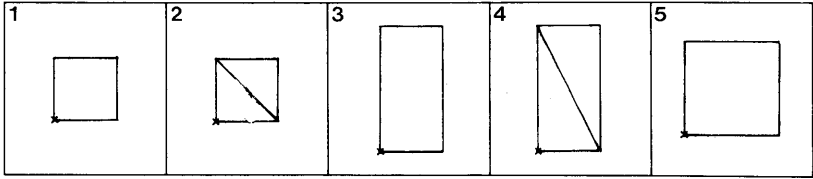
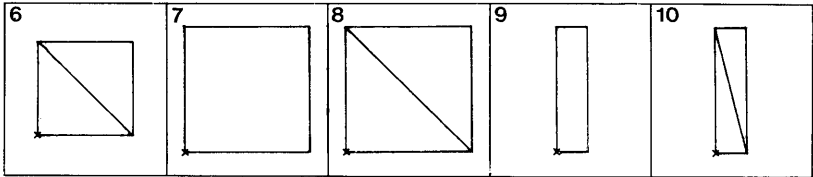
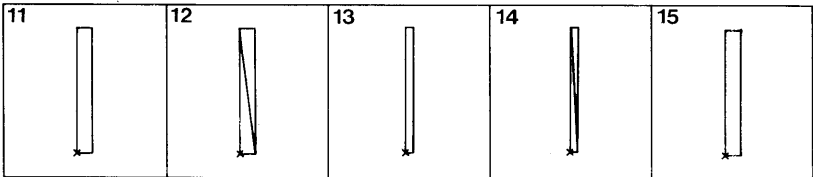
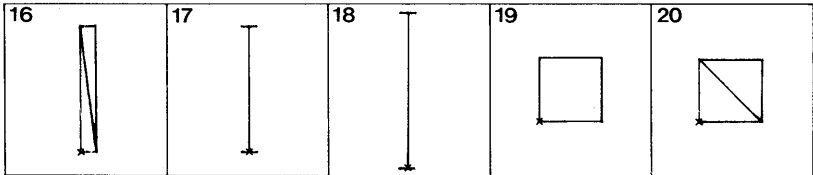
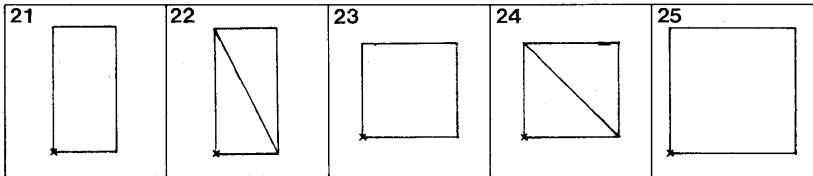
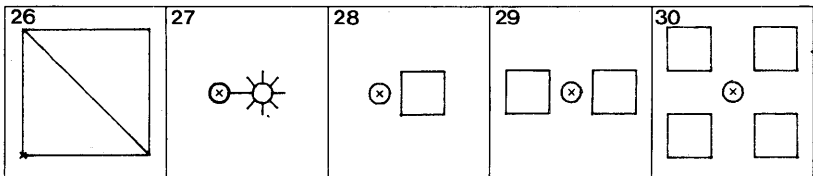
**A5KSINK2      A5KSINK3      A5KSINK4      A5KSINK5      A5KSINK6**



**A5TRAY1      A5TRAY2      A5TRAY3      A5TRAY4      A5PAN**

**LIGHTING**

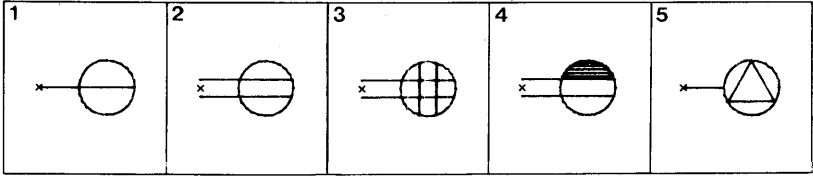
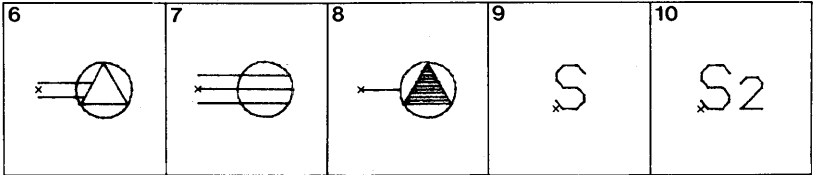
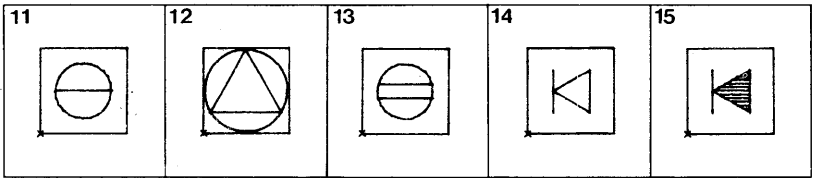
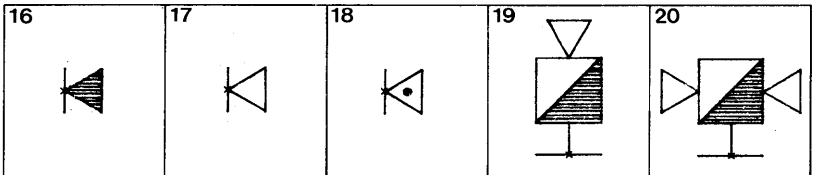
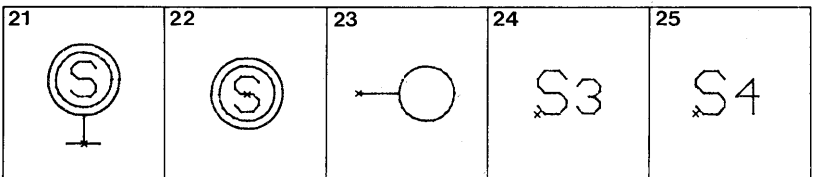
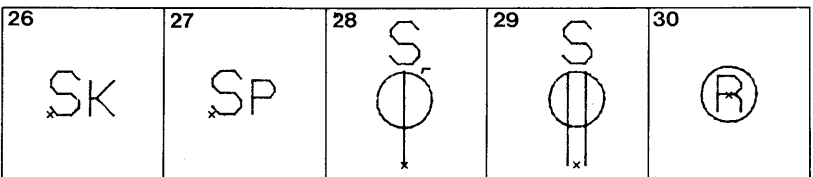
#	Name	Description	Size
1	A6FL2X2	FLUORESCENT LIGHT	24" WIDE 24" LONG
2	A6FLS2X2	SPECIAL FLUORESCENT LIGHT	24" WIDE 24" LONG
3	A6FL2X4	FLUORESCENT LIGHT	24" WIDE 48" LONG
4	A6FLS2X4	SPECIAL FLUORESCENT LIGHT	24" WIDE 48" LONG
5	A6FL3X3	FLUORESCENT LIGHT	36" WIDE 36" LONG
6	A6FLS3X3	SPECIAL FLUORESCENT LIGHT	36" WIDE 36" LONG
7	A6FL4X4	FLUORESCENT LIGHT	48" WIDE 48" LONG
8	A6FLS4X4	SPECIAL FLUORESCENT LIGHT	48" WIDE 48" LONG
9	A6FL1X4	FLUORESCENT LIGHT	12" WIDE 48" LONG
10	A6FLS1X4	SPECIAL FLUORESCENT LIGHT	12" WIDE 48" LONG
11	A6FL1X8	FLUORESCENT LIGHT	12" WIDE 96" LONG
12	A6FLS1X8	SPECIAL FLUORESCENT LIGHT	12" WIDE 96" LONG
13	A6FL6X8	FLUORESCENT LIGHT	6" WIDE 96" LONG
14	A6FS6X8	SPECIAL FLUORESCENT LIGHT	6" WIDE 96" LONG
15	A6FL6X4	FLUORESCENT LIGHT	6" WIDE 48" LONG
16	A6FS6X4	SPECIAL FLUORESCENT LIGHT	6" WIDE 48" LONG
17	A6STRIP4	BARE LAMP FLUORESCENT STRP	48" LONG
18	A6STRIP8	BARE LAMP FLUORESCENT STRP	96" LONG
19	A6TB2X2	T-BAR FLUORESCENT LIGHT	24" WIDE 24" LONG
20	A6TBS2X2	SPECIAL T-BAR FLUORESCENT	24" WIDE 24" LONG
21	A6TB2X4	T-BAR FLUORESCENT LIGHT	24" WIDE 48" LONG
22	A6TBS2X4	SPECIAL T-BAR FLUORESCENT LIGHT	24" WIDE 48" LONG
23	A6TB3X3	T-BAR FLUORESCENT LIGHT	36" WIDE 36" LONG
24	A6TBS3X3	SPECIAL T-BAR FLUORESCENT LIGHT	36" WIDE 36" LONG
25	A6TB4X4	T-BAR FLUORESCENT LIGHT	48" WIDE 48" LONG
26	A6TBS4X4	SPECIAL T-BAR FLUORESCENT LIGHT	48" WIDE 48" LONG
27	A1POLELT	STREET POLE LIGHT	6" DIAMETER
28	A1LOTLT1	PARKING LOT LIGHT	6" WIDE 6" LONG
29	A1LOTLT2	PARKING LOT LIGHT	6" WIDE 6" LONG
30	A1LOTLT4	PARKING LOT LIGHT	6" WIDE 6" LONG

**LIGHTING**MENU PREFIX: A6, A1  
LAYER #: 4**A6FL2X2****A6FLS2X2****A6FL2X4****A6FLS2X4****A6FL3X3****A6FLS3X3****A6FL4X4****A6FLS4X4****A6FL1X4****A6FLS1X4****A6FL1X8****A6FLS1X8****A6FL6X8****A6FS6X8****A6FL6X4****A6FS6X4****A6STRIP4****A6STRIP8****A6TB2X2****A6TBS2X2****A6TB2X4****A6TBS2X4****A6TB3X3****A6TBS3X3****A6TB4X4****A6TBS4X4****A1POLELT****A1LOTLT1****A1LOTLT2****A1LOTLT4**



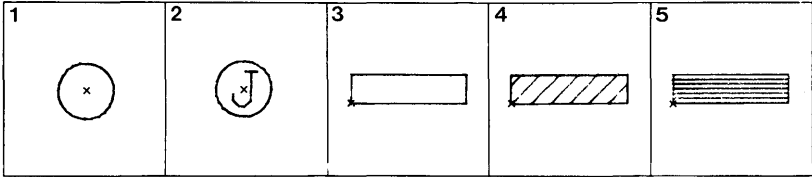
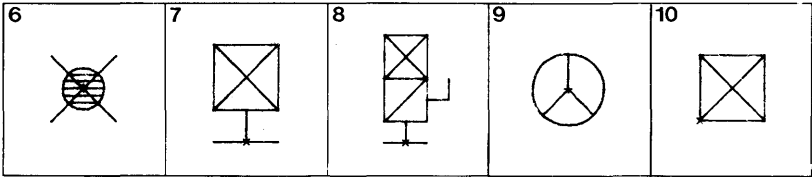
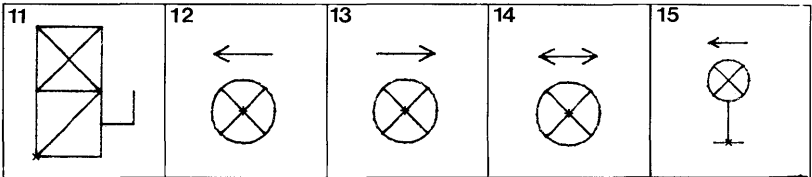
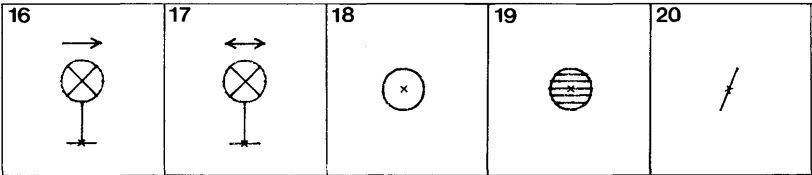
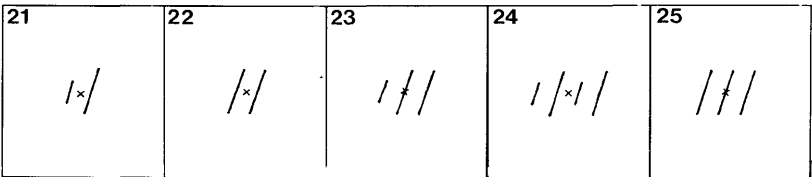
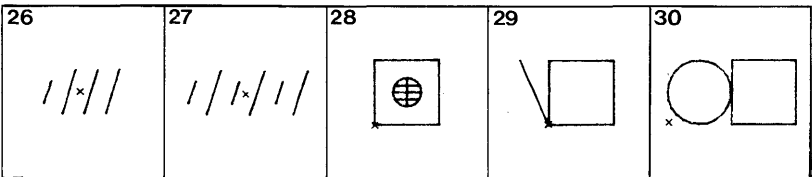
**ELECTRICAL**

#	Name	Description
1	E3SINGL	SINGLE RECEPTACLE OUTLET
2	E3DUPLX	DUPLEX RECEPTACLE OUTLET
3	E3QUAD	QUADRAPLEX RECEPTACLE OUTLET
4	E3SPLTWR	DUPLEX RECEPTACLE OUTLET-SPLIT WIRED
5	E3SINGLS	SINGLE SPECIAL-PURPOSE RECEPTACLE OUTLET
6	E3DUPLXS	DUPLEX SPECIAL-PURPOSE RECEPTACLE OUTLET
7	E3RANGE	RANGE OUTLET
8	E3GNPURP	GENERAL PURPOSE OUTLET
9	E3SP	SINGLE-POLE SWITCH
10	E3DP	DOUBLE-POLE SWITCH
11	E3SINGLF	FLOOR SINGLE RECEPTACLE OUTLET
12	E3FLSPCL	FLOOR SPECIAL-PURPOSE OUTLET
13	E3DUPLXF	FLOOR DUPLEX RECEPTACLE OUTLET
14	E3FLRPRI	FLOOR TELEPHONE OUTLET-PRIVATE
15	E3FLRPUB	FLOOR TELEPHONE OUTLET-PUBLIC
16	E3PHONE	TELEPHONE WALL OUTLET
17	E3INTRCM	INTERCOM WALL OUTLET
18	E3INTRWM	INTERCOM HANDSET-WALL MOUNTED
19	E3FALRMS	FIRE ALARM-SINGLE HORN
20	E3FALRMD	FIRE ALARM-DOUBLE HORN
21	E3SPKRWM	EXTERIOR SPEAKER-WALL MOUNTED
22	E3SPKR	EXTERIOR SPEAKER
23	E3HANGER	HANGER RECEPTACLE
24	E33WAY	3 WAY SWITCH
25	E3RWAY	4 WAY SWITCH
26	E3KEYOP	KEY OPERATED SWITCH
27	E3PLTLM	SWITCH & PILOT LAMP
28	E3SWSNGL	SWITCH & SINGLE RECEPTACLE
29	E3SWDPLX	SWITCH W/DUPLEX RECEPTACLE
30	E3RCSLMP	RECESSED INCANDESCENT LAMP OUTLET

**ELECTRICAL**MENU PREFIX: E3  
LAYER #: 4**E3SINGL****E3DUPLX****E3QUAD****E3SPLTWR****E3SINGLS****E3DUPLXS****E3RANGE****E3GNPURP****E3SP****E3DP****E3SINGLF****E3FLSPCL****E3DUPLXF****E3FLRPRI****E3FLRPUB****E3PHONE****E3INTRCM****E3INTRWM****E3FALRMS****E3FALRMD****E3SPKRWM****E3SPKR****E3HANGER****E33WAY****E34WAY****E3KEYOP****E3PLTLMP****E3SWSNGL****E3SWDPLX****E3RCSLMP**

**ELECTRICAL**

#	Name	Description
1	E3SRFLMP	SURFACE OR PENDANT INCANDESCENT LAMP OUTLET
2	E3JUNCBX	JUNCTION BOX
3	E3TRMCAB	TERMINAL CABINET
4	E3EQPCAB	EQUIPMENT CABINET
5	E3PNLBRD	PANEL BOARD
6	E3GROUND	GROUND ROD
7	E3MOTOR1	MAGNETIC MOTOR STARTER-WALL MOUNTED
8	E3MOTOR2	MAGNETIC MOTOR STARTER-WALL MOUNTED
9	E3MOTOR3	MOTOR WITH DISCONNECT
10	E3MOTOR4	MAGNETIC MOTOR STARTER-CEILING MOUNTED
11	E3MOTOR5	MAGNETIC MOTOR STARTER-WITH DISCONNECT
12	E3EXIT1	EXIT LIGHT
13	E3EXIT2	EXIT LIGHT
14	E3EXIT3	EXIT LIGHT
15	E3EXIT4	EXIT LIGHT - WALL MOUNTED
16	E3EXIT5	EXIT LIGHT - WALL MOUNTED
17	E3EXIT6	EXIT LIGHT - WALL MOUNTED
18	E3RSRUP	CONDUIT RISER-UP
19	E3RSRDWN	CONDUIT RISER-DOWN
20	E3SIN	SINGLE CONDUCTOR
21	E3SIN1N	SINGLE CONDUCTOR-1 NEUTRAL
22	E3DBL	DOUBLE CONDUCTOR
23	E3DBL1N	DOUBLE CONDUCTOR-1 NEUTRAL
24	E3DBL2N	DOUBLE CONDUCTOR-2 NEUTRAL
25	E3TRPL	TRIPLE CONDUCTOR
26	E3TRP1N	TRIPLE CONDUCTOR-1 NEUTRAL
27	E3TRPL3N	TRIPLE CONDUCTOR-3 NEUTRAL
28	E3PSHBUT	PUSHBUTTON
29	E3BUZZER	BUZZER
30	E3BELL	BELL

**ELECTRICAL**MENU PREFIX: E3  
LAYER #: 4**E3SRFLMP****E3JUNCBX****E3TRMCAB****E3EQPCAB****E3PNLBRD****E3GROUND****E3MOTOR1****E3MOTOR2****E3MOTOR3****E3MOTOR4****E3MOTOR5****E3EXIT1****E3EXIT2****E3EXIT3****E3EXIT4****E3EXIT5****E3EXIT6****E3RSRUP****E3RSRDWN****E3SIN****E3SIN1N****E3DBL****E3DBL1N****E3DBL2N****E3TRPL****E3TRPL1N****E3TRPL3N****E3PSHBUT****E3BUZZER****E3BELL**

# HEATING, VENTILATION & AIR CONDITIONING SYMBOL LIBRARY

## **SYMBOL TRANSFER PROGRAM**

This utility program is used to quickly transfer symbols individually or in groups from one layer to another.

**Note:** It does not duplicate symbols--it only moves them.

### **GETTING STARTED (HARD DISK SYSTEM)**

COPY all of the Symbol Library diskettes onto drive C, (See the DOS Primer Chapter of your manual for instructions).

### **GETTING STARTED (TWO DRIVE SYSTEM)**

COPY the file CPSYMTRN.EXE onto the diskette you plan to have in drive B.

### **RUNNING THE PROGRAM**

To use the layer transfer program, at the DOS prompt (usually A> or C>) type:

#### **CPSYMTRN**

-- and press (Return).

You will see a brief description of the program at the top of the screen, and this prompt:

Auto Mode (y/n) ?:

At the bottom of the screen, are two options:

{Esc}-Break {Ctrl}-C to Quit

The ESC key has two functions:

- 1) Allows you to stop transferring symbols between layers without leaving the program.
- 2) Allows you to start over at the first prompt.

Ctrl C stops the work in progress, and returns you to DOS. If used during a symbol transfer, the transfer will be completed before the program quits.

## TRANSFERRING ONE SYMBOL

You can transfer one symbol at a time, displaying the layer information about that symbol. To try this, at the prompt:

```
Auto Mode (y/n) ?:
```

Type:

**N**

-- and press (Return).

You will see this prompt:

```
Symbol Name ?:
```

Type in the symbol name, an example might be:

**A1TREE**

-- and press (Return).

Your symbol name will be confirmed on the lower left of your screen, and on the right of the screen you will see a message similar to this:

```
Data is currently  
on layers...  
2  
7
```

You will see this prompt:

```
From Layer ?:
```

Type the layer number you wish to transfer the symbol data from, (only one layer can be transferred at a time). An example of this would be:

**2**

-- and press (Return).

You will see this prompt:

To Layer ?:

Type the layer number you wish to transfer the symbol data to. An example would be:

**4**

-- and press (Return).

Your symbol will now take a few seconds to transfer, when completed you will see this message:

Transfer Complete

You may transfer another symbol or use the Auto Mode to transfer multiple symbols.

## **TRANSFERRING GROUPS OF SYMBOLS**

You can transfer more than one symbol at a time. At the prompt:

Auto Mode (y/n) ?:

Type:

**Y**

-- and press (Return).

You will see this prompt:

Confirm (y/n) ?:

If you answer Yes to this question, you will be asked to confirm the transfer of each symbol, before the symbol can be transferred.



If you answer No the system will automatically transfer all specified symbols. Type:

**Y or N**

-- and press (Return).

You will see this prompt:

Drive (ABCDE) ?:

Type the letter of the drive on which the symbols reside, (usually A, B or C), and press (Return).

You will see this prompt:

Prefix ?:

This allows you to select a group of symbols beginning with the same letters. To select all symbols beginning with A1, type:

**A1**

-- and press (Return).

Or to select a more specific set of symbols, A1TREE1, A1TREE2, and A1TREE3. Type:

**A1TREE**

-- and press (Return).

You will see this prompt:

From Layer ?:

Type the layer number you wish to transfer the symbol data from, (only one layer can be transferred at a time). An example of this would be:

**2**

-- and press (Return).

You will see this prompt:

To Layer ?:

Type the layer number you wish to transfer the symbol data to.  
An example would be:

**4**

-- and press (Return).

Your symbols will take a few seconds to transfer, as each symbol is completed you will see this message:

Transfer Complete

If the system can not transfer a symbol you will see this message:

Unable to Transfer

Two situations will block transfer, either there is no data on the layer to transfer from or data already exists on the layer to transfer to.

If you asked for confirmation, you will be asked to verify whether the symbol name on screen is to be moved. Answer Yes or No by typing:

**Y or N**

-- and press (Return).

When all the symbols have been transferred you will see this message:

ALL DONE!

You can continue transferring symbols, or exit by pressing the CTRL and the C key at the same time.

**Note:** If you aren't sure what layer a specific symbol is on, select N (NO) at the Auto Mode prompt.

## PRINTING A LIST OF SYMBOLS

You may want to print out the directory of symbols, to do this, exit CPSYMTRN, make sure your printer is on, and at the DOS prompt type:

**CTRL** and **P** (at the same time)

Then type DIR and the drive letter on which your symbols reside, (usually A, B or C), followed by \*.SYM (this specifies only those files ending with SYM, which means all SYMbol files). An example of this would be:

**DIR B:\*.SYM**

-- and press (Return)

Then to turn off the printer type:

**CTRL** and **P** (at the same time)

## **HEATING, VENTILATION & AIR CONDITIONING SYMBOL LIBRARY**

The HVAC symbols were created in layer 1 with 1/4" database units.

If you wish to change the symbol layers you may do so by loading a symbol for edit in CADPLAN or you may use CPSYMTRN, a layer conversion program. This is a separate CADPLAN program which enables you to change the layers of single symbols or entire menus of symbols. For further information about CPSYMTRN, see the Symbol Transfer Program section.

All text contained in Symbols will be Text #3 - Size 20.

Symbol origins will typically be in the lower left corner unless otherwise specified.

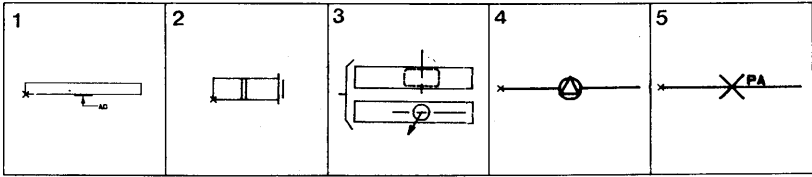
For display purposes, the symbols on the menu charts will not appear in relative scale to each other.

**HVAC**

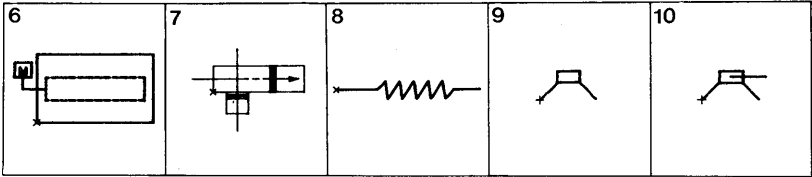
#	Name	Description
1	M2ACSDOR	ACCESS DOOR
2	M2ADJBLK	ADJUSTABLE BLANK OFF
3	M2ADJPLA	ADJUSTABLE PLAQUE
4	M2AIRELM	AIR ELIMINATOR
5	M2ANCHOR	ANCHOR
6	M2ATODMP	AUTOMATIC DAMPERS
7	M2CANVCO	CANVAS CONNECTIONS
8	M2CAPTUB	CAPILLARY TUBE
9	M2CMPBLT	COMPRESSOR, OPEN CRANKCASE, RECIPROCATING, BELTED
10	M2CMPDIR	COMPRESSOR, OPEN CRANKCASE, RECIPROCATING, DIRECT DRIVE
11	M2CMPENC	COMPRESSOR, ENCLOSED, CRANKCASE, ROTARY, BELTED
12	M2COLTOW	COOLING TOWER
13	M2COMPRS	COMPRESSOR
14	M2CONAIR	CONDENSING UNIT, AIR COOLED
15	M2CONCON	CONDENSER, WATER COOLED, CONCENTRIC TUBE IN A TUBE
16	M2CONFIN	CONDENSER, AIR COOLED, FINNED, STATIC
17	M2CONFOR	CONDENSER, AIR COOLED, FINNED, FORCED AIR
18	M2CONSHL	CONDENSER, WATER COOL- ED, SHELL AND COIL
19	M2CONTUB	CONDENSER, WATER COOL- ED, SHELL AND TUBE
20	M2CONWAT	CONDENSING UNIT, WATER COOLED
21	M2DCTRET	DUCT SECTION (EXHAUST OR RETURN)
22	M2DCTSUP	DUCT SECTION (SUPPLY)
23	M2DEFDMP	DEFLECTING DAMPER
24	M2DRYER	DRYER
25	M2DUCT	DUCT

**HVAC SYMBOL**

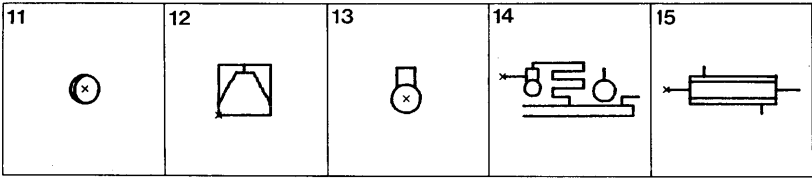
**MENU PREFIX: M2  
LAYER #: 1**



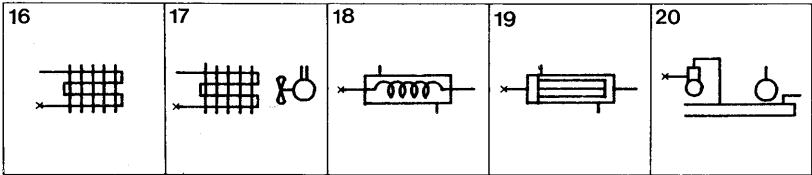
**M2ACSDOR M2ADJBLK M2ADJPLA M2AIRELM M2ANCHOR**



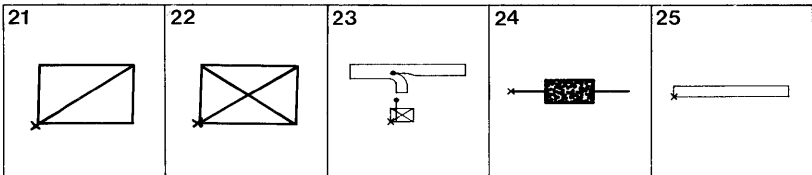
**M2ATODMP M2CANVCO M2CAPTUB M2CMPBLT M2CMPDIR**



**M2CMPENC M2COLTOW M2COMPRS M2CONAIR M2CONCON**



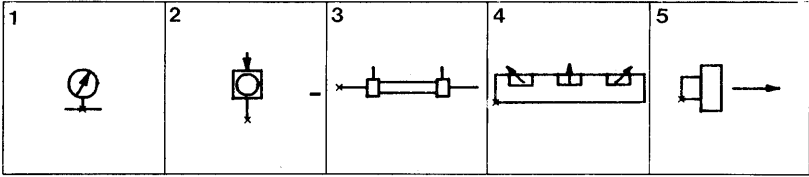
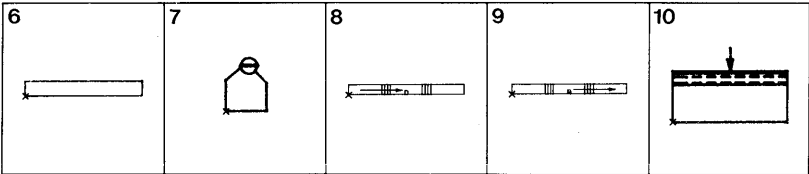
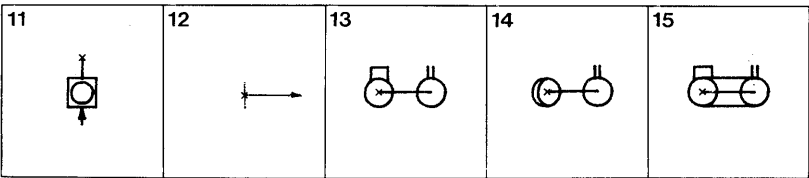
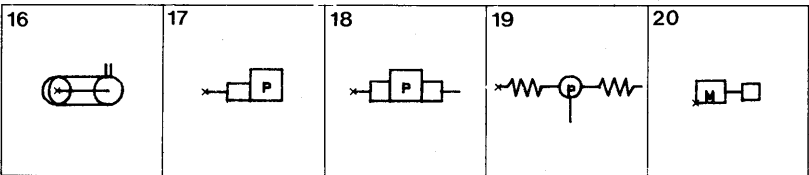
**M2CONFIN M2CONFOR M2CONSHL M2CONTUB M2CONWAT**



**M2DCTRET M2DCTSUP M2DEFDMP M2DRYER M2DUCT**

**HVAC**

#	Name	Description
1	M2GAUGE	GAUGE
2	M2HIFLOT	HIGH SIDE FLOAT
3	M2HTEXCH	HEAT EXCHANGER
4	M2HTRCEN	UNIT HEATER (CENTRIFUGAL FAN)
5	M2HTRPRO	UNIT HEATER (PROPELLER), PLAN
6	M2HTTRAN	HEAT TRANSFER SURFACE, PLAN
7	M2IMMCOOL	IMMERSION COOLING UNIT
8	M2INCDRP	INCLINED DROP IN RESPECT TO AIR FLOW
9	M2INCRIS	INCLINED RISE IN RESPECT TO AIR FLOW
10	M2INLOUV	INTAKE LOUVERS ON SCREEN
11	M2LOFLOT	LOW SIDE FLOAT
12	M2LOUVOP	LOUVER OPENING
13	M2MOCOM1	MOTOR-COMPRESSOR, ENCLOSED CRANKCASE, RECIPROCATING, DIRECT CONNECTED
14	M2MOCOM2	MOTOR-COMPRESSOR, ENCLOSED CRANKCASE, ROTARY, DIRECT CONNECTED
15	M2MOCOM3	MOTOR-COMPRESSOR, SEALED CRANKCASED, RECIPROCATING
16	M2MOCOM4	MOTOR-COMPRESSOR, SEALED CRANKCASE, ROTARY
17	M2PRESW1	PRESSURE SWITCH
18	M2PRESW2	PRESSURE SWITCH WITH HIGH PRESSURE CUT-OUT
19	M2PRETAT	PRESSURESTAT
20	M2PUMP	PUMP

**HVAC SYMBOL**MENU PREFIX: M2  
LAYER #: 1**M2GAUGE****M2HIFLOT****M2HTEXCH****M2HTRCEN****M2HTRPRO****M2HTTRAN****M2IMMCOL****M2INCDRP****M2INCRIS****M2INLOUV****M2LOFLOT****M2LOUVOP****M2MOCOM1****M2MOCOM2****M2MOCOM3****M2MOCOM4****M2PRESW1****M2PRESW2****M2PRETAT****M2PUMP**

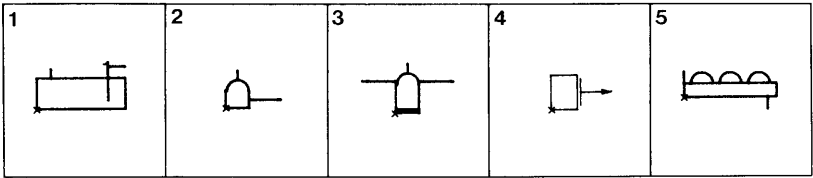


**HVAC**

#	Name	Description
1	M2RECHOR	RECEIVER, HORIZONTAL
2	M2RECVER	RECEIVER, VERTICAL
3	M2SCLTRP	SCALE TRAP
4	M2SPOUTW	SUPPLY OUTLET WALL
5	M2SPRPND	SPRAY POND
6	M2STRNR	STRAINER
7	M2SUPOUT	SUPPLY OUTLET CEILING
8	M2SUPPT	HANGER OR SUPPORT
9	M2TANK	TANK (DESIGNATE TYPE)
10	M2THMSTT	THERMOSTAT
11	M2THMTR	THERMOMETER
12	M2THRBLB	THERMAL BULB
13	M2THRMST	THERMOSTAT (REMOTE BULB)
14	M2TRAP1	TRAP (BOILER RETURN)
15	M2TRAP2	TRAP (BLAST THERMOSTATIC)
16	M2TRAP3	TRAP (FLOAT)
17	M2TRAP4	TRAP (FLOAT AND THERMOSTATIC)
18	M2TRAP5	TRAP (THERMOSTATIC)
19	M2VALVE1	VALVE (CHECK)
20	M2VALVE2	VALVE (DIAPHRAGM)
21	M2VALVE3	VALVE (GATE)
22	M2VALVE4	VALVE (GLOBE)
23	M2VALVE5	VALVE (LOCK AND SHIELD)
24	M2VALVE6	VALVE (MOTOR OPERATED)
25	M2VALVE7	VALVE (REDUCING PRESSURE)
26	M2VALVE8	VALVE (RELIEF EITHER PRESSURE OR VACUUM)
27	M2VALVE9	VALVE (AUTOMATIC EXPANSION)
28	M2VALV10	VALVE (COMPRESSOR SUCTION PRESSURE LIMIT, THROTLNG TYPE)
29	M2VALV11	VALVE (CONSTANT PRESSURE, SUCTION)
30	M2VALV12	VALVE (EVAPORATOR PRESSURE REGULATING, SNAP ACTION)

# HVAC SYMBOL

MENU PREFIX: M2  
LAYER #: 1



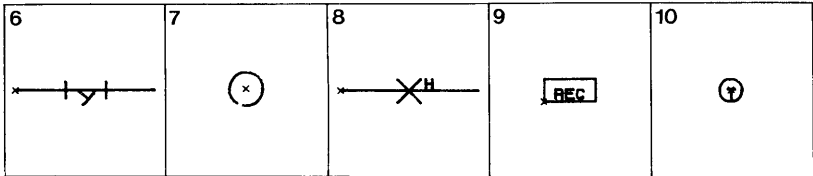
**M2RECHOR**

**MZRECVER**

**M2SCLTRP**

**M2SPOUTW**

**M2SPRPND**



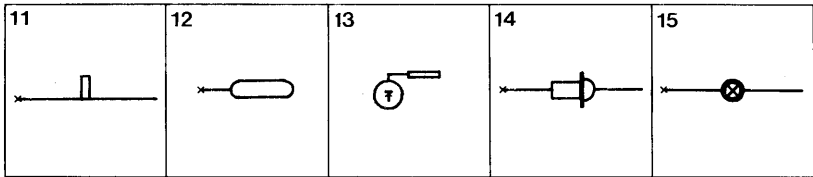
**M2STRNR**

**M2SUPOUT**

**M2SUPPT**

**M2TANK**

**M2THMSTT**



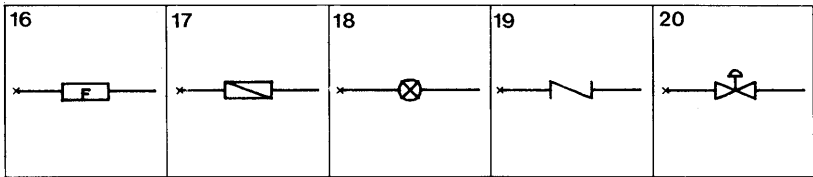
**M2THMTR**

**M2THRBLB**

**M2THRMST**

**M2TRAP1**

**M2TRAP2**



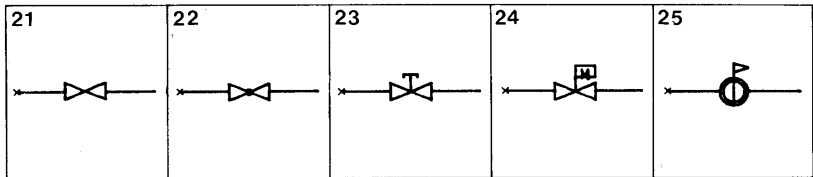
**M2TRAP3**

**M2TRAP4**

**M2TRAP5**

**M2VALVE1**

**M2VALVE2**



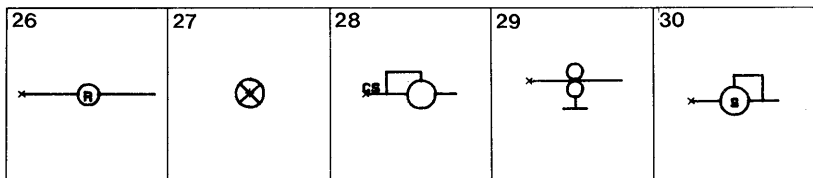
**M2VALVE3**

**M2VALVE4**

**M2VALVE5**

**M2VALVE6**

**M2VALVE7**



**M2VALVE8**

**M2VALVE9**

**M2VALV10**

**M2VALV11**






**M2VALV12**

**HVAC**

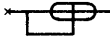
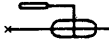



#	Name	Description
1	M2VALV13	EVAPORATIVE PRESSURE REGULATOR VALVE, THERMSTAT, THROTTLE TYPE
2	M2VALV14	VALVE (EVAPORATOR PRESSURE REGULATING, THROTTLE TYPE EVAP SIDE)
3	M2VALV14	VALVE (HAND EXPANSION)
4	M2VALV14	VALVE (MAGNETIC STOP)
5	M2VALV14	VALVE (SNAP ACTION)
6	M2VALV14	VALVE (SUCTION VAPOR REGULATING)
7	M2VALV14	VALVE (THERMOSTATIC SUCTION)
8	M2VALV14	VALVE (THERMOSTATIC EXPANSION)
9	M2VALV14	VALVE (WATER)
10	M2VANE1	VANE
11	M2VANE2	VANE
12	M2VENTLR	UNIV VENTILATOR, PLAN
13	M2VIBABS	VIBRATION ABSORBER, LINE
14	M2VNTPNT	VENT POINT
15	M2VOLDMP	VOLUME DAMPER

**HVAC SYMBOL**


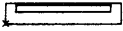

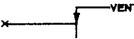
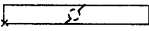
MENU PREFIX: M2  
LAYER #: 1

1	2	3	4	5
				

M2VALVE13 M2VALVE14 M2VALVE15 M2VALVE16 M2VALVE17

6	7	8	9	10
				

M2VALVE18 M2VALV19 M2VALV20 M2VALV21 M2VANE1

11	12	13	14	15
				

M2VANE2 M2VENTLR M2VIBABS M2VNTPT M2VOLDMP

--	--	--	--	--

--	--	--	--	--

--	--	--	--	--

ELECTRONIC  
SYMBOL LIBRARY

## SYMBOL TRANSFER PROGRAM

This utility program is used to quickly transfer symbols individually or in groups from one layer to another.

**Note:** It does not duplicate symbols--it only moves them.

### GETTING STARTED (HARD DISK SYSTEM)

COPY all of the Symbol Library diskettes onto drive C, (See the DOS Primer Chapter of your manual for instructions).

### GETTING STARTED (TWO DRIVE SYSTEM)

COPY the file CPSYMTRN.EXE onto the diskette you plan to have in drive B.

### RUNNING THE PROGRAM

To use the layer transfer program, at the DOS prompt (usually A> or C>) type:

#### CPSYMTRN

-- and press (Return).

You will see a brief description of the program at the top of the screen, and this prompt:

```
Auto Mode (y/n) ?:
```

At the bottom of the screen, are two options:

```
{Esc}-Break {Ctrl}-C to Quit
```

The ESC key has two functions:

- 1) Allows you to stop transferring symbols between layers without leaving the program.
- 2) Allows you to start over at the first prompt.

Ctrl C stops the work in progress, and returns you to DOS. If used during a symbol transfer, the transfer will be completed before the program quits.

## TRANSFERRING ONE SYMBOL

You can transfer one symbol at a time, displaying the layer information about that symbol. To try this, at the prompt:

```
Auto Mode (y/n) ?:
```

Type:

**N**

-- and press (Return).

You will see this prompt:

```
Symbol Name ?:
```

Type in the symbol name, an example might be:

**A1TREE**

-- and press (Return).

Your symbol name will be confirmed on the lower left of your screen, and on the right of the screen you will see a message similar to this:

```
Data is currently  
on layers...
```

```
2
```

```
7
```

You will see this prompt:

```
From Layer ?:
```

Type the layer number you wish to transfer the symbol data from, (only one layer can be transferred at a time). An example of this would be:

**2**

-- and press (Return).

You will see this prompt:

To Layer ?:

Type the layer number you wish to transfer the symbol data to. An example would be:

**4**

-- and press (Return).

Your symbol will now take a few seconds to transfer, when completed you will see this message:

Transfer Complete

You may transfer another symbol or use the Auto Mode to transfer multiple symbols.

## **TRANSFERRING GROUPS OF SYMBOLS**

You can transfer more than one symbol at a time. At the prompt:

Auto Mode (y/n) ?:

Type:

**Y**

-- and press (Return).

You will see this prompt:

Confirm (y/n) ?:

If you answer Yes to this question, you will be asked to confirm the transfer of each symbol, before the symbol can be transferred.



If you answer No the system will automatically transfer all specified symbols. Type:

**Y or N**

-- and press (Return).

You will see this prompt:

Drive (ABCDE) ?:

Type the letter of the drive on which the symbols reside, (usually A, B or C), and press (Return).

You will see this prompt:

Prefix ?:

This allows you to select a group of symbols beginning with the same letters. To select all symbols beginning with A1, type:

**A1**

-- and press (Return).

Or to select a more specific set of symbols, A1TREE1, A1TREE2, and A1TREE3. Type:

**A1TREE**

-- and press (Return).

You will see this prompt:

From Layer ?:

Type the layer number you wish to transfer the symbol data from, (only one layer can be transferred at a time). An example of this would be:

**2**

-- and press (Return).

You will see this prompt:

To Layer ?:

Type the layer number you wish to transfer the symbol data to.  
An example would be:

**4**

-- and press (Return).

Your symbols will take a few seconds to transfer, as each symbol is completed you will see this message:

Transfer Complete

If the system can not transfer a symbol you will see this message:

Unable to Transfer

Two situations will block transfer, either there is no data on the layer to transfer from or data already exists on the layer to transfer to.

If you asked for confirmation, you will be asked to verify whether the symbol name on screen is to be moved. Answer Yes or No by typing:

**Y or N**

-- and press (Return).

When all the symbols have been transferred you will see this message:

ALL DONE!

You can continue transferring symbols, or exit by pressing the CTRL and the C key at the same time.

**Note:** If you aren't sure what layer a specific symbol is on, select N (NO) at the Auto Mode prompt.

## PRINTING A LIST OF SYMBOLS

You may want to print out the directory of symbols, to do this, exit CPSYMTRN, make sure your printer is on, and at the DOS prompt type:

**CTRL** and **P** (at the same time)

Then type DIR and the drive letter on which your symbols reside, (usually A, B or C), followed by \*.SYM (this specifies only those files ending with SYM, which means all SYMbol files). An example of this would be:

**DIR B:\*.SYM**

-- and press (Return).

Then to turn off the printer type:

**CTRL** and **P** (at the same time)

## **ELECTRONIC SYMBOL LIBRARY**

The electronic symbols were created on layer 1 with the database unit equal to 1 mil.

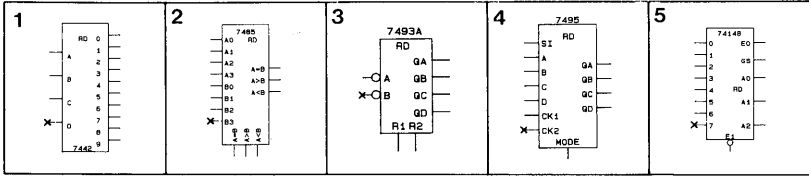
If you wish to change the symbol layers you may do so by loading a symbol for edit in CADPLAN or you may use CPSYMTRN, a layer conversion program. This is a separate CADPLAN program which enables you to change the layers of single symbols or entire menus of symbols. For further information about CPSYMTRN, see the Symbol Transfer Program section.

All text contained in Symbols will be Text #9 - Size 162.

Symbol origins will typically be in the lower left corner unless otherwise specified.

For display purposes, the symbols on the menu charts will not appear in relative scale to each other.

# ELECTRONICS



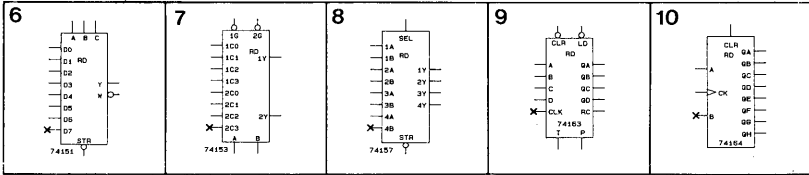
**7442**

**7485**

**7493A**

**7495**

**74148**



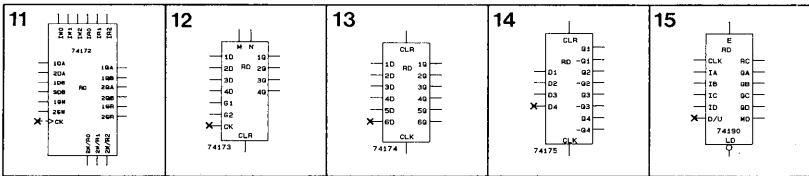
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**74153**

**74157**

**74163**

**74164**



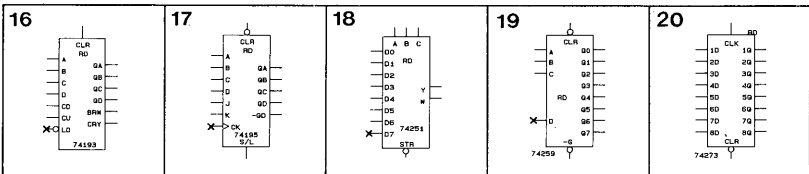
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**74173**

**74174**

**74175**

**74190**



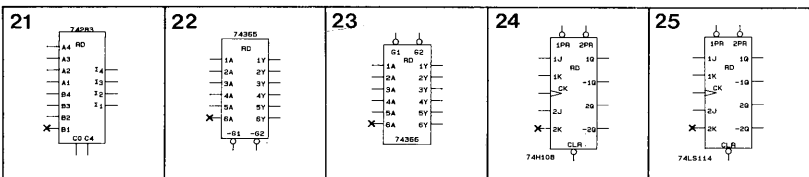
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**74195**

**74251**

**74259**

**74273**



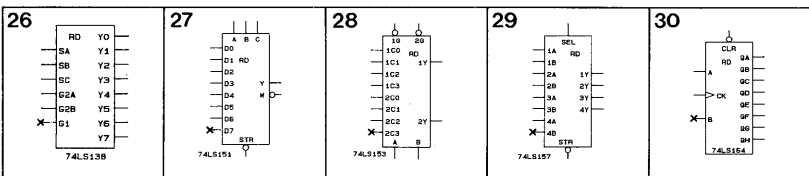
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**74365**

**74366**

**74H108**

**74LS114**



**74LS138**

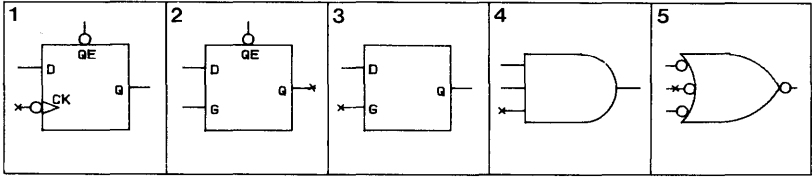
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**74LS153**

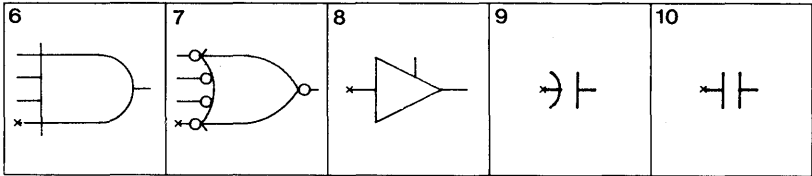
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**74LS164**

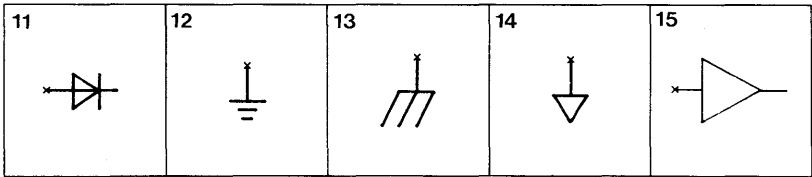
**ELECTRONICS**



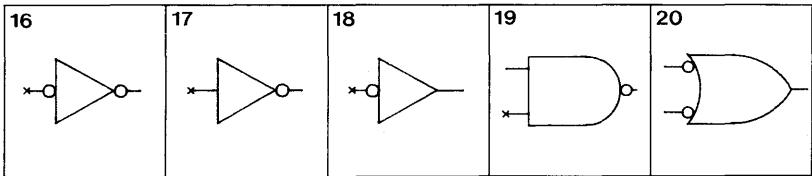
**DFFD      LATCH      LATCH2      AND3      AND3N**



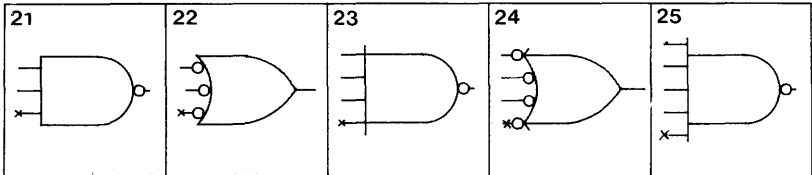
**AND4      AND4N      BUS1      CAPD      CAPD2**



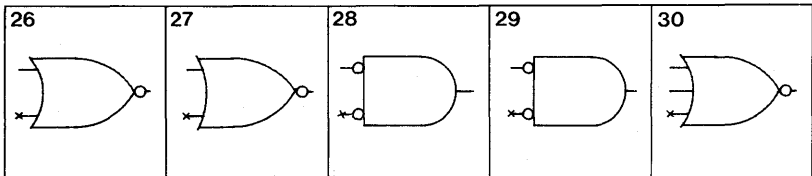
**CRR      GND      GND1      GND2      HYBUF**



**HYBUFN      NAND1      NAND1N      NAND2      NAND2N**

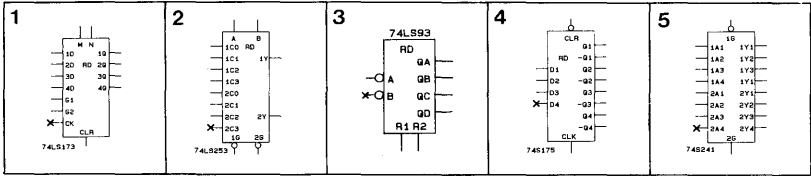


**NAND3      NAND3N      NAND4      NAND4N      NAND5**

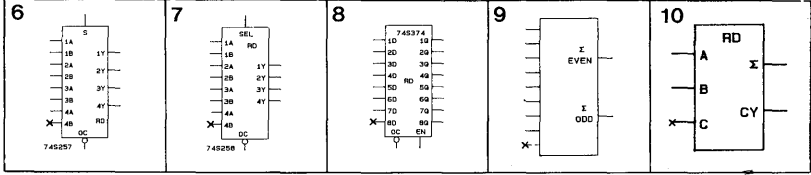


**NOR2      NOR2B      NOR2BN      NOR2N      NOR3**

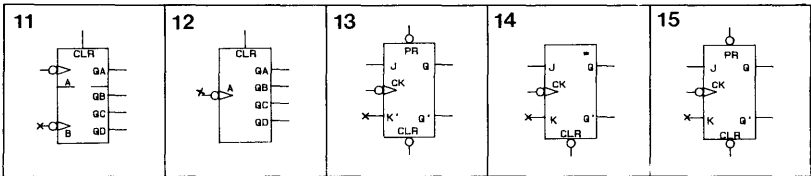
**ELECTRONICS**



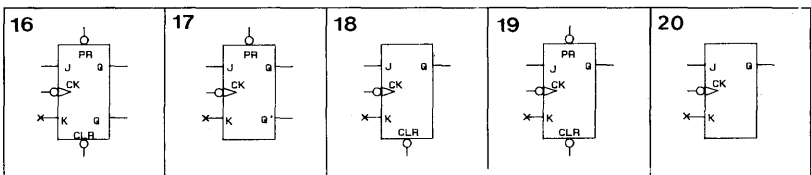
**74LS173      74LS253      74LS93      74S175      74S241**



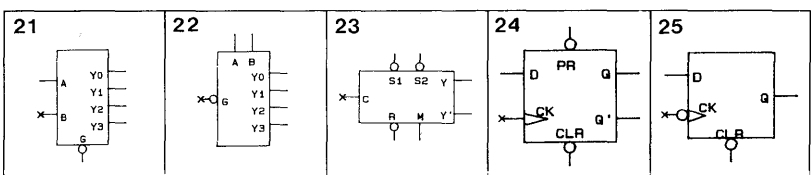
**74S257      74S258      74S374      PARGEN      ADD**



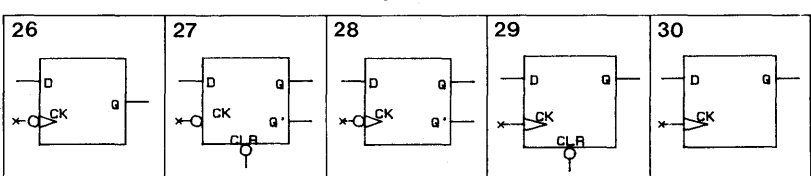
**COUNT10      COUNT16      JKFF      JKFFC      JKFFE**



**JKFFD      JKFFF      JKFFL      JKFFQ      JKFFQ2**

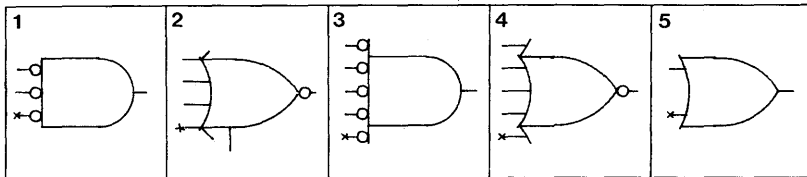


**MUX2      MUX2N      SYNC      DFF      DFFA**



**DFFA2      DFFB      DFFB2      DFFC      DFFC2**

**ELECTRONICS**



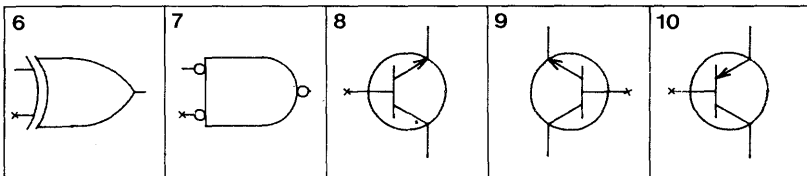
**NOR3N**

**NOR4**

**NOR5N**

**NOR5P**

**OR2**



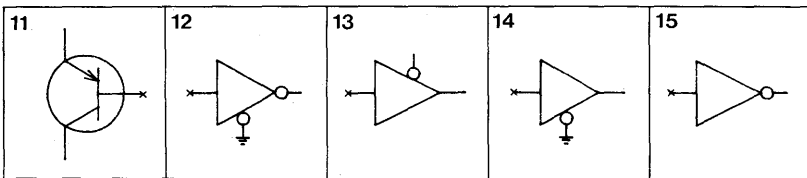
**XOR2**

**OR2N**

**NPNL**

**NPNR**

**PNPL**



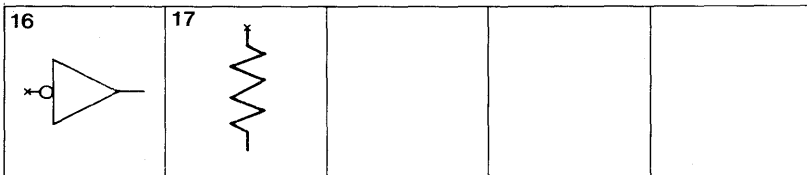
**PNPR**

**NBUF1**

**NBUS1**

**PBUF1**

**SMIT1**



**SMIT1N**

**RES**

