

CADDRAFT. Tool Kit



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.
- 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 Modern or Terminal Port for connecting the cable, ALWAYS choose the Modern 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.

0.4

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.

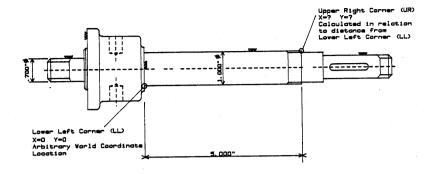
First, select a lower left corner (LL) and an upper right corner (UR) on your drawing. Illustration of two such points are found in the Bearing Shaft drawing below.

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 mils 1.000" = 1000 mils
```

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



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 \boldsymbol{X} axis, such as 0, and then press (Return).

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.

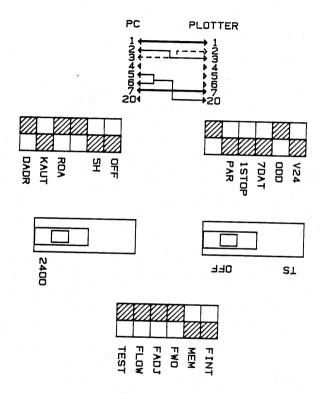
Follow the switch settings and cable configurations on the following pages to set up your plotter. They are included here for your convenience.

Output Devices

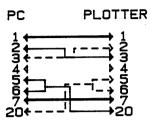
The following plotter interfaces are detailed in this package:

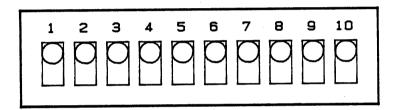
	Size
IBM XY 749	A
IBM XY 750	A,B
Calcomp M84	A
Calcomp M81	A,B
Houston Instruments DMP-29	A,B
Houston Instruments DMP-40	A,B
Houston Instruments DMP-41	C,D
Houston Instruments DMP-42	C,D
Hewlett Packard 7220 Hewlett Packard 7470 Hewlett Packard 7475 Hewlett Packard 7550 Hewlett Packard 7580A Hewlett Packard 7580B Hewlett Packard 7585	A,B A,B A,B,C,D A,B,C,D
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

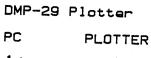
IBM XY750 CALCOMP M81

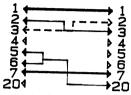


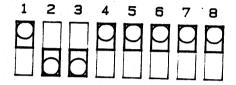
IBM XY749-A CALCOMP M84-A





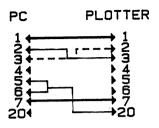






Baud Rate Switch

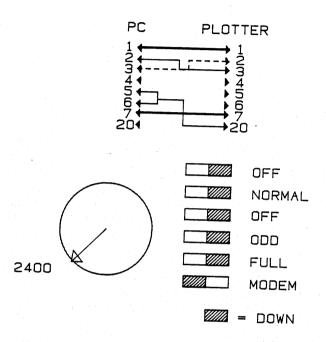
DMP-40 Series

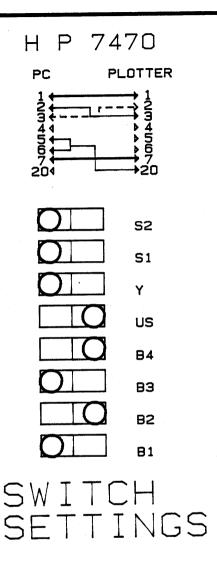


- 1. Enter
- To Select 9600 Baud
- 2.

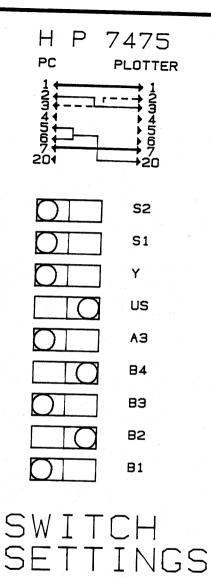
1.40

HP 7220 PLOTTERS

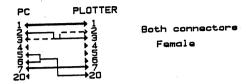


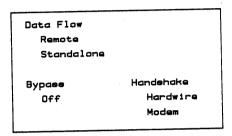


1.40



H P 7550



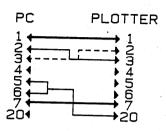


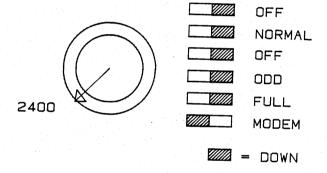
Serial Sublevel

Duplex	Parity
Full	8 bite
	Off
Baud	
9600	
<u> </u>	

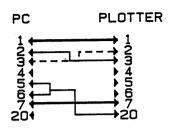
Data Compatibility

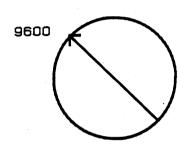
HP 7550

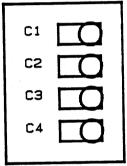




HP 7580A

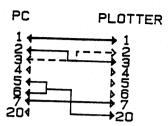


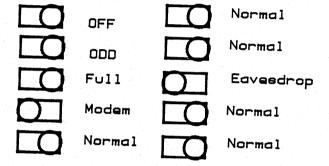


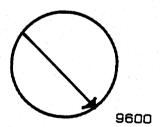


1.40

H P 7580B

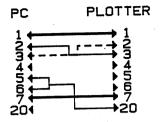






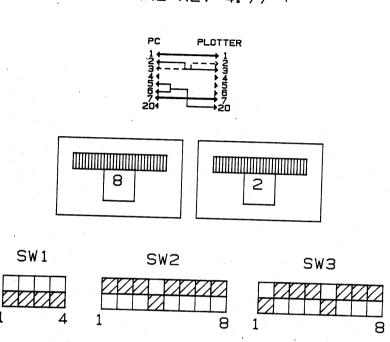
HP 7585 PC PLOTTER Off Normal Ddd Normal Full Eaveedrop Modem Normal Normal Normal 9600

JSC Plotter

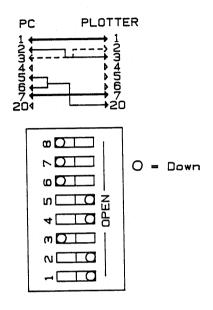


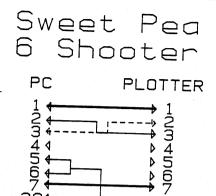


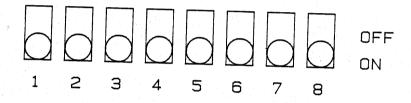
NICOLET ZETA 8,822,836 FAMILY USING OPTION #P63 FIRMWARE REV 4.77 +



ALPHAMERICS PLOTTERS ALPHAPLOT I/II









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:

Ν

-- 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

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:

V

-- 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 tranferring 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	ELEČTRIČAL	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 (+).

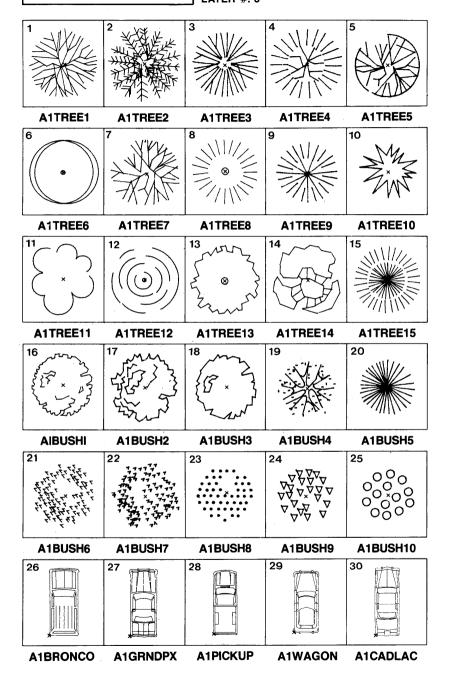
For display purposes, the symbols on the menu charts will not appear in relative scale to each other.

TREES AND CARS - PLAN

#	Name	Description	Size
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 20 21 22 23 24 25	A1TREE8	TREE TREE TREE TREE TREE TREE TREE TREE	11'- 9" DIAMETER 12'-10" DIAMETER 7'- 7" DIAMETER 8'- 6" DIAMETER 11'- 6" DIAMETER 11'- 4" DIAMETER 10'- 6" DIAMETER 10'- 6" DIAMETER 10'- 6" DIAMETER 10'- 1" DIAMETER 10'- 4" DIAMETER 10'- 4" DIAMETER 10'- 3" DIAMETER 10'- 3" DIAMETER 10'- 1" DIAMETER 10'- 1" DIAMETER 10'- 1" DIAMETER 1'-10" DIAMETER 1'-10" DIAMETER 1'-10" DIAMETER 1'-11" DIAMETER
27	A1GRNDPX	GRAND PRIX CAR	5'-11" WIDE
28	A1PICKUP	PICKUP TRUCK	15'- 0'' LONG 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

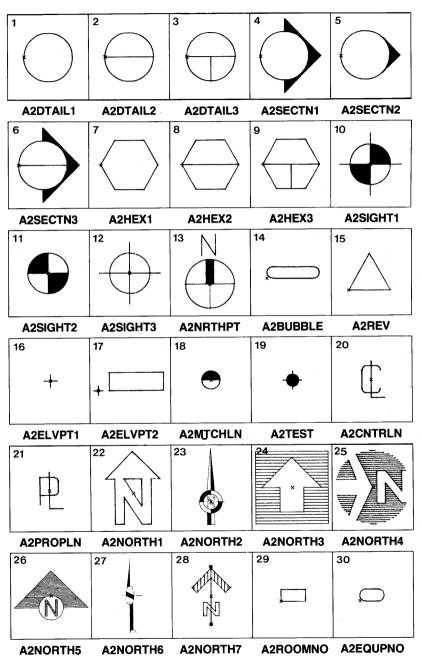
MENU PREFIX: A1 LAYER #: 3



LABELING

#	Name	Description
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	A2DTAIL1 A2DTAIL2 A2DTAIL3 A2SECTN1 A2SECTN2 A2SECTN3 A2HEX1 A2HEX2 A2HEX3 A2SIGHT1 A2SIGHT2 A2SIGHT2 A2SIGHT3 A2NRTHPT A2BUBBLE A2REV A2ELVPT1 A2ELVPT2	SECTION BUBBLE HEXAGON HEXAGON HEXAGON BOMB SIGHT BOMB SIGHT BOMB SIGHT NORTH POINT BUBBLE REVISION TRIANGLE ELEVATION POINT
19 20 21 22 23 24 25 26 27 28 29	A2MTCHLN A2TEST A2CNTRLN A2PROPLN A2NORTH1 A2NORTH2 A2NORTH3 A2NORTH4 A2NORTH5 A2NORTH6 A2NORTH6 A2NORTH7 A2ROOMNO A2EQUPNO	COORDINATE BOX MATCH LINE TEST BORING CENTER LINE LABEL PROPERTY LINE LABEL NORTH ARROW ROOM OR SPACE NUMBER EQUIPMENT NUMBER





PLUMBING FIXTURES - PLAN

#	Name	Description	Size
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	Name A2CADET A2MADERA A2LUXOR A2URINL1 A2URINL2 A2TUB1 A2TUB2 A2SHWR1 A2SHWR2 A2LAV1 A2LAV2 A2LAV3 A2LAV4 A2LAV5 A2LAV6 A2LAV7 A2LAV8 A2SNKBAR A2SNKBAR A2SNKBAR A2SNKBAR A2SNKDBL A2DRNKFT A2HRAIL1 A2HRAIL2 A2HRAIL3 A2PEDSTL A2SNKDBD A2CRCWSH	WATER CLOSET-CADET WATER CLOSET-MADERA WATER CLOSET-LUXOR URINAL-WALL MOUNTED URINAL-THROUGH BATHTUB BATHTUB SHOWER SHOWER LAVATORY LAVATORY LAVATORY LAVATORY LAVATORY LAVATORY LAVATORY LAVATORY BAR SINK SINGLE SINK DOUBLE SINK DRINKING FOUNTAIN HANDRAIL HANDRAIL	19" WIDE 27" LONG 21" WIDE 27" LONG 18" WIDE 27" LONG 19" WIDE 12" LONG 60" WIDE 14" LONG 38" WIDE 39" LONG 34" WIDE 34" LONG 48" WIDE 34" LONG 18" DIAMETER 19" WIDE 16" LONG 17" WIDE 21" LONG 18" WIDE 16" LONG 24" WIDE 18" LONG 17" WIDE 17" LONG 24" WIDE 15" LONG 12" WIDE 27" LONG 12" WIDE 21" LONG 32" WIDE 21" LONG 33" WIDE 4" LONG 43" WIDE 4" LONG 33" WIDE 4" LONG 34" WIDE 4" WIDE 4" LONG 34" WIDE
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 LAYER #: 7 1 2 3 4 5 **A2URINL2 A2CADET A2MADERA A2LUXOR** A2URINL1 8 9 10 6 A2TUB1 A2TUB2 A2SHWR1 A2SHWR2 A2LAV1 15 11 12 13 14 A2LAV2 A2LAV3 A2LAV5 A2LAV6 A2LAV4 19 17 18 20 16 A2LAV8 **A2SNKBAR A2SNKSIN A2SNKDBL** A2LAV7 22 23 24 25 21 **A2DRNKFT** A2HRAIL1 **A2HRAIL2 A2HRAIL3 A2PEDSTL** 28 29 26 27 30 \odot

MENU PREFIX: A2

A2DSHWSH

A2WTRCLR A2WALCAB

A2CRCWSH

A2SNKDBD

DOORS - PLAN

#	Name	Description	Size
1 2 3 4 5 6 7	A2DRBF30 A2DRBF36 A2DRBF72 A2DRBF96 A2DRSL60 A2DRSL72 A2DRSL96	BI-FOLD DOOR BI-FOLD DOOR BI-FOLD DOOR BI-FOLD DOOR SLIDING DOOR SLIDING DOOR SLIDING DOOR	30" WIDE 36" WIDE 72" WIDE 96" WIDE 60" WIDE 72" WIDE
8	A2DRDB58	DOUBLE DOOR	96" WIDE 58" WIDE
9 10	A2DRDB60 A2DRDB64	DOUBLE DOOR DOUBLE DOOR	60" WIDE 64" WIDE
11	A2DRDB72 A2DROP58	DOUBLE DOOR	72" WIDE
12	AZDROP38	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
	A2DRLF24	DOOR - HINGE LEFT	24" WIDE
17 18	A2DRLF30 A2DRLF36	DOOR - HINGE LEFT DOOR - HINGE LEFT	30" WIDE 36" WIDE
19	A2DRET30 A2DRRT24	DOOR - HINGE LEFT DOOR - HINGE RIGHT	24" WIDE
20 21	A2DRRT30 A2DRRT36	DOOR - HINGE RIGHT DOOR - HINGE RIGHT	30" WIDE 36" WIDE

DOORS — PLAN MENU PREFIX: A2 5 3 4 2 1 A2DRBF96 A2DRSL60 A2DRBF30 A2DRBF36 A2DRBF72 9 7 8 10 6 A2DRDB58 A2DRSL72 A2DRSL96 A2DRDB60 A2DRDB64 14 15 12 11 13 A2DROP72 A2DRDB72 A2DROP58 A2DROP60 A2DROP64 16 18 20 17 19 A2DRLF36 A2DRRT24 A2DRRT30 A2DRLF24 A2DRLF30 21 A2DRRT36

WINDOWS - PLAN

#	Name	Description	Size	
	A2JAMB2	WINDOW JAMB WINDOW JAMB	2" WIDE 4" WIDE	4" LONG
	A2JAMB4	WINDOW JAMB	4" WIDE	4" LONG
_	A2MULLN	WINDOW MULLION SINGLE HUNG WINDOW	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	72" WIDE	
7	A2OFF32J	W/JAMBS SINGLE HUNG OFFSET	32" WIDE	
		WINDOW		
8	A2OFF40J	SINGLE HUNG OFFSET WINDOW	40" WIDE	
9	A2OFF72J	SINGLE HUNG OFFSET WINDOW	72" WIDE	
10	A2DBL24J	DOUBLE HUNG WINDOW	24" WIDE	
	40DDI 00 I	W/JAMBS	00" 14"DE	
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	
1/	A2SLD24J	SLIDING WINDOW W/JAMBS	24" WIDE	
	A2SLD48J			
	A2SLD403	SLIDING WINDOW W/JAMBS	72" WIDE	
	A2CSMT24	CASEMENT WINDOW	24" WIDE	
	A2CSMT48	CASEMENT WINDOW	48" WIDE	
	A2CSW146 A2SINM30	SINGLE HUNG MULTI-		
19	AZSIIVIVISU	WINDOW	30" WIDE	
20	A2SINM38	SINGLE HUNG MULTI-	38" WIDE	
	A2SINM70	SINGLE HUNG MULTI- SINGLE HUNG MULTI-	70" WIDE	
	712011111111	WINDOW	30" WIDE	
22	A2OFFM30	OFFSET MULTI-WINDOW	38" WIDE	
	A2OFFM38	OFFSET MULTI-WINDOW	70" WIDE	
	A2OFFM70	OFFSET MULTI-WINDOW	70 WIDE	
			001114/105	
25	A2DBLM20	DOUBLE HUNG MULTI- WINDOW	20" WIDE	
26	A2DBLM34	DOUBLE HUNG MULTI- WINDOW	34" WIDE	
27	A2DBLM42	DOUBLE HUNG MULTI-	42" WIDE	
28	A2DBLM70	WINDOW DOUBLE HUNG MULTI- WINDOW	70" WIDE	

MENU PREFIX: A2 WINDOWS — PLAN LAYER #: 5 2 3 4 5 1 1 A2JAMB2 A2JAMB4 **A2MULLN** A2SIN32J A2SIN40J 8 9 10 6 -0 A2SIN72J A2OFF32J A2OFF40J A2OFF72J A2DBL24J 15 12 13 14 11 A2DBL36J A2DBL44J A2DBL72J A2SLD24J A2SLD48J 18 19 20 16 17 A2CSMT24 A2CSMT48 A2SINM30 A2SINM38 A2SLD72J 25 22 24 21 23 二二 A2SINM70 A2OFFM30 A2OFFM38 A2OFFM70 A2DBLM20 26 27 28

A2DBLM42

A2DBLM34

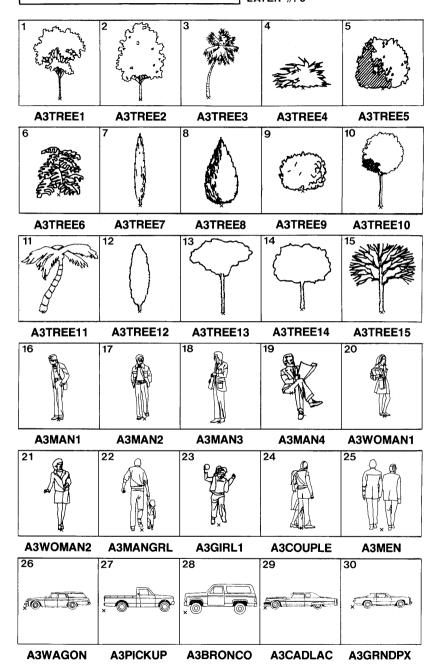
A2DBLM70

TREE, CAR AND PEOPLE ELEVATIONS

#	Name	Description	Size
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	A3TREE1 A3TREE2 A3TREE3 A3TREE4 A3TREE5 A3TREE6 A3TREE7 A3TREE8 A3TREE9 A3TREE10	TREE TREE TREE TREE TREE TREE TREE TREE	25' 3" HIGH 17' 9" WIDE 26'11" HIGH 17' 6" WIDE 31'11" HIGH 16' 9" WIDE 5' 8" HIGH 10' 1" WIDE 10' 1" HIGH 9' 9" WIDE 9' 3" HIGH 8' 9" WIDE 22' 1" HIGH 3' 7" WIDE 15' 3" HIGH 8' 7" WIDE 20' 7" HIGH 11' 6" WIDE 20' 7" HIGH 11' 6" WIDE 24' 0" HIGH 26'10" WIDE 15' 5" HIGH 4' 9" WIDE 15' 5" HIGH 14' 7" WIDE 15' 4" HIGH 13' 6" WIDE 15' 4" HIGH 13' 6" WIDE 15' 4" HIGH 15' 3" WIDE 6' 1" 6' 0" 6' 6" 4' 1" 5' 8" 4'11" MAN 6' 8" GIRL 2' 9" 3' 8" MAN 6' 3" WOMAN 5' 3" MAN 6' 5" WOMAN 5' 3" MAN 6' 5"
27 28 29	A3WAGON A3PICKUP A3BRONCO A3CADLAC A3GRNDPX	STATION WAGON PICKUP TRUCK BRONCO TRUCK CADILLAC AUTO GRAND PRIX AUTOMOBILE	MAN2 6' 1" 4' 5" HIGH 16' 5" LONG 4'10" HIGH 14' 2" LONG 6' 0" HIGH 14' 6" LONG 4' 0" HIGH 18' 4" LONG 3' 9" HIGH 14'10" LONG

TREE, CAR, & PEOPLE ELEVATIONS

MENU PREFIX: A3 LAYER #: 3



DOOR ELEVATIONS - 30" WIDTH

#	Name	Description	Size
# 12345678910112131456178921223242562728	Name A3DOOR1 A3DOOR2 A3DOOR3 A3DOOR5 A3DOOR6 A3DOOR6 A3DOOR7 A3DOOR10 A3DOOR10 A3DOOR11 A3DOOR12 A3DOOR15 A3DOOR15 A3DOOR16 A3DOOR15 A3DOOR16 A3DOOR17 A3DOOR18 A3DOOR17 A3DOOR18 A3DOOR19 A3DOOR20 A3DOOR20 A3DOOR21 A3DOOR22 A3DOOR22 A3DOOR23 A3DOOR25 A3DOOR26 A3DOOR27 A3DOOR27	Description DOOR ELEVATION	Size 30" X 80"
29 30	A3DOOR29 A3DOOR30	DOOR ELEVATION DOOR ELEVATION	60" X.80" 60" X 80"

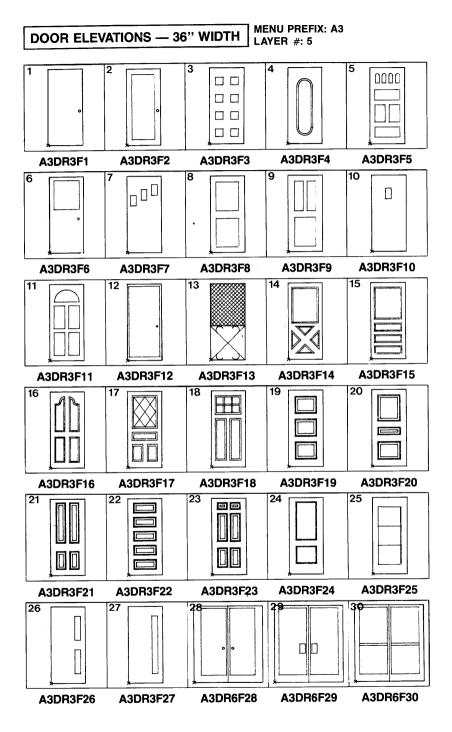
LAYER #: 5 nnnn A3DOOR1 A3DOOR2 A3DOOR3 A3DOOR4 A3DOOR5 10 8 9 6 1₀00 A3DOOR6 A3DOOR8 A3DOOR9 A3DOOR10 A3DOOR7 12 11 13 14 15 A3DOOR14 A3DOOR15 A3DOOR11 A3DOOR12 A3DOOR13 20 19 16 17 18 A3DOOR16 A3DOOR17 **A3DOOR18** A3DOOR19 A3DOOR20 25 22 23 24 21 **2 8** A3DOOR25 A3DOOR21 A3DOOR22 **A3DOOR23** A3DOOR24 26 27 28 30 **A3DOOR29** A3DOOR30 A3DOOR26 A3DOOR27 A3DOOR28

DOOR ELEVATIONS — 30" WIDTH

MENU PREFIX: A3

DOOR ELEVATIONS - 36" WIDTH

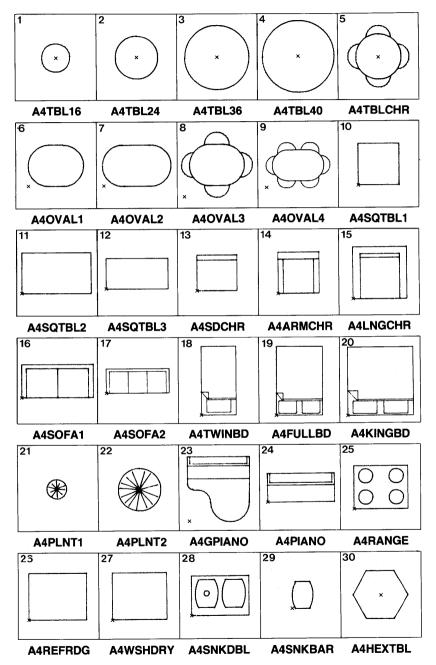
#	Name	Description	Size
1 2	Name A3DR3F1 A3DR3F2 A3DR3F3 A3DR3F4 A3DR3F6 A3DR3F6 A3DR3F7 A3DR3F8 A3DR3F10 A3DR3F11 A3DR3F12 A3DR3F12 A3DR3F15 A3DR3F14 A3DR3F15 A3DR3F16 A3DR3F17 A3DR3F18 A3DR3F19 A3DR3F20 A3DR3F21 A3DR3F20 A3DR3F21 A3DR3F22 A3DR3F22 A3DR3F23 A3DR3F24 A3DR3F25 A3DR3F26 A3DR3F26 A3DR3F26 A3DR3F26 A3DR3F27	Description DOOR ELEVATION	Size 36" X 80"
28 29 30	A3DR3F28 A3DR3F29 A3DR3F36	DOOR ELEVATION DOOR ELEVATION DOOR ELEVATION DOOR ELEVATION	72" X 80" 72" X 80" 72" X 80"
- 0	5251 00	DOON ELE WINDIN	, 2 , 100



RESIDENTIAL FURNITURE - PLAN

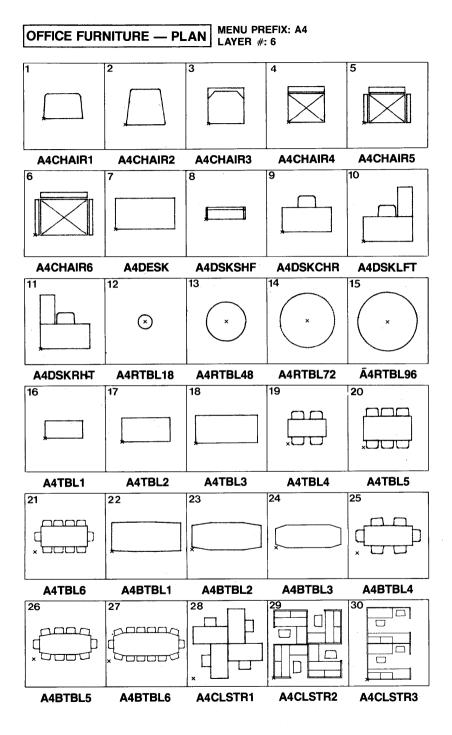
#	Name	Description	Size
,,		•	
	A4TBL16	ROUND TABLE ROUND TABLE ROUND TABLE ROUND TABLE	16" DIAMETER
	A4TBL24	ROUND TABLE	24" DIAMETER
	A4TBL36	ROUND TABLE	36" DIAMETER
	A4TBL40	ROUND TABLE	40" DIAMETER
	A4TBLCHR	ROUND TABLE W/4 CHAIRS	
	A4OVAL1 A4OVAL2	OVAL TABLE	48" LONG 36" WIDE
	A4OVAL2 A4OVAL3		60" LONG 36" WIDE 48" LONG 36" WIDE
	A4OVAL3 A4OVAL4		
	A4SQTBL1	SOLIARE TARLE	36" LONG 36" WIDE
	A4SQTBL2		60" LONG 36" WIDE
	A4SQTBL3	SQUARE TABLE	72" LONG 36" WIDE
	A4SDCHR	SIDE CHAIR	20" LONG 22" WIDE
14	A4ARMCHR	ARM CHAIR	23" LONG 23" WIDE
15	A4LNGCHR	LOUNGE CHAIR	29" LONG 30" WIDE
	A4SOFA1	SOFA	62" LONG 29" WIDE
	A4SOFA2	SOFA	82" LONG 32" WIDE
		TWIN BED	80" LONG 40" WIDE
	A4FULLBD	FULL BED	80" LONG 54" WIDE
	A4KINGBD	KING BED	80" LONG 76" WIDE
	A4PLNT1	PLANT	11" DIAMETER
	A4PLNT2	PLANT	24" DIAMETER
	A4GPIANO	GRAND PIANO	57" LONG 54" WIDE
	A4PIANO	SPINET PIANO	25" LONG 58" WIDE
	A4RANGE A4REFRDG	RANGE	24" LONG 30" WIDE
	A4WSHDRY	MACH & DDV	26" LONG 32" WIDE
	A4WSHDR1 A4SNKDBL		26" LONG 30" WIDE 22" LONG 32" WIDE
	A4SNKBAR	RAR SINK	15" LONG 12" WIDE
		HEXAGON TABLE	48" DIAMETER

RESIDENTIAL FURNITURE — PLAN MENU PREFIX: A4 LAYER #: 6



OFFICE FURNITURE - PLAN

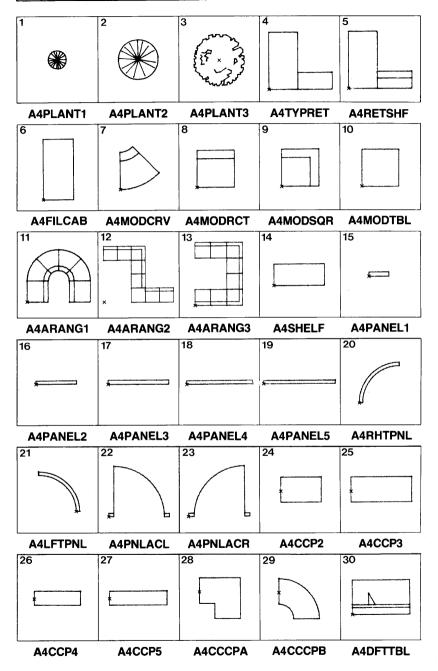
#	Name	Description	Size
2 3 4 5 6 7 8 9	A4CHAIR1 A4CHAIR2 A4CHAIR3 A4CHAIR4 A4CHAIR5 A4CHAIR6 A4DESK A4DSKSHF A4DSKCHR A4DSKLFT	CHAIR CHAIR CHAIR DESK DESK SHELF UNIT	WORK AREA
11	A4DSKRHT	DESK W/RIGHT RETURN	60" WIDE 60" LONG WORK AREA 60" WIDE 66" LONG
13 14 15 16 17 18 19 20 21 22 23 24	A4RTBL18 A4RTBL48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



OFFICE FURNITURE - PLAN

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

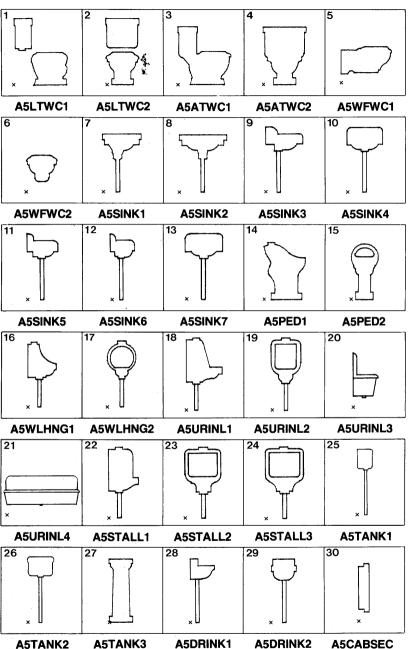
OFFICE FURNITURE — PLAN MENU PREFIX: A4



PLUMBING FIXTURE ELEVATIONS

		· · · · · · · · · · · · · · · · · · ·	
#	Name	Description	Size
1	A5LTWC1	LOW TANK WATERCLOSET (SIDE VIEW)	30" WIDE 36" HIGH
2	A5LTWC2	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	28" WIDE 18" HIGH
6	A5WFWC2	CLOSET (SIDE VIEW) WALL FLSH VALV WTR CLOSET (FRONT VIEW)	17" WIDE 18" HIGH
	A5SINK1	LAVATORY (SIDE VIEW)	21" WIDE 32" HIGH
	A5SINK2	LAVATORY (FRONT VIEW)	26" WIDE 32" HIGH
	A5SINK3	LAVATORY (SIDE VIEW)	20" WIDE 36" HIGH
	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
	A5PED1	PEDESTAL (SIDE VIEW)	23" WIDE 32" HIGH
	A5PED2	PEDESTAL (FRONT VIEW)	15" WIDE 32" HIGH
	A5WLHNG1	WALL HUNG URINAL	16" WIDE 36" HIGH
10	ASWLINGI		16 WIDE 36 HIGH
47	A E \ A ((SIDE VIEW)	10" MUDE 00" LUQU
17	A5WLHNG2	WALL HUNG URINAL	16" WIDE 36" HIGH
		(FRONT VIEW)	
	A5URINL1	URINAL (SIDE VIEW)	20" WIDE 40" HIGH
	A5URINL2	URINAL (FRONT VIEW)	16" WIDE 40" HIGH
20	A5URINL3	THROUGH URINAL	14" WIDE 25" HIGH
		(SIDE VIEW)	
21	A5URINL4	THROUGH URINAL	64" WIDE 25" HIGH
		(FRONT VIEW)	
22	A5STALL1	URINAL STALL (SIDE VIEW)	16" WIDE 39" HIGH
	A5STALL2	URINAL STALL (FRONT	20" WIDE 39" HIGH
	7 100 17 1222	VIEW)	ZO WIDE 05 THAIT
24	A5STALL3	URINAL STALL (FRONT	01" WIDE 20" LIIOLI
24	ASSIALLS		21" WIDE 39" HIGH
0.5	A = TA A	VIEW)	10" 14"55 10" 1 "011
25	A5TANK1	OVERHEAD TANK (SIDE	16" WIDE 48" HIGH
	A = TA A 11 / 0	VIEW)	
26	A5TANK2	OVERHEAD TANK (FRONT	19" WIDE 48" HIGH
		VIEW)	
27	A5TANK3	TANK (FRONT VIEW)	13" WIDE 35" HIGH
28	A5DRINK1	DRINKING FOUNTAIN	14" WIDE 36" HIGH
		(SIDE VIEW)	,
29	A5DRINK2	DRINKING FOUNTAIN	14" WIDE 36" HIGH
	, JODI III VII (E	(FRONT VIEW)	THE VALUE OF THAT
30	A5CABSEC		G" MIDE OZ" LIIOU
		CABINET (SIDE VIEW)	6" WIDE 27" HIGH
SYMB	OL LIBRARIES	ARCH-24	1.40

PLUMBING FIXTURE ELEVATIONS MENU PREFIX: A5 LAYER #: 7



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

2 3 A5CAB1 A5SOAP1 A5SOAP2 A5CAB2 A5CAB3 6 8 9 10 A5SOAP3 A5GBAR1 A5GBAR2 A5GBAR3 A5PLUG1 11 12 13 15 14 A5PLUG3 A5PLUG2 A5TBARI A5TBAR2 A5TBAR3 16 17 18 19 20 **A5TUB** A5KSINK1 A5TBAR4 **A5TUBSEC A5DSPOSL** 21 22 24 25 A5KSINK2 A5KSINK3 A5KSINK4 **A5KSINK5** A5KSINK6 26 27 28 29 30

PLUMBING FIXTURE ELEVATIONS

MENU PREFIX: A5

LAYER #: 7

A5TRAY3

A5TRAY1

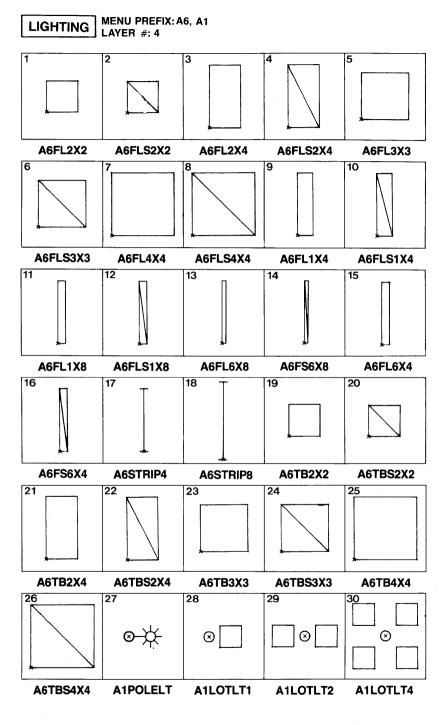
A5TRAY2

A5TRAY4

A5PAN

LIGHTING

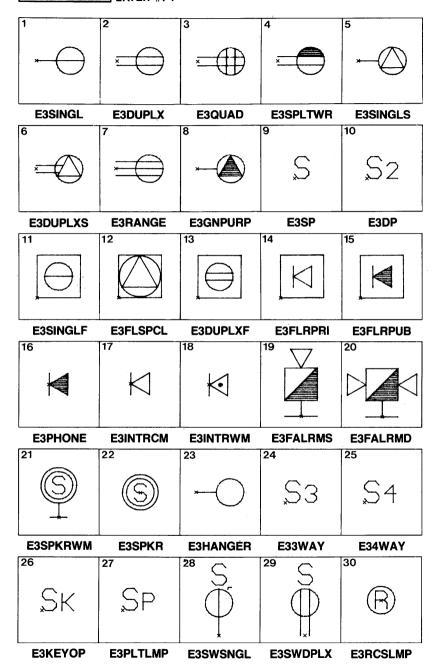
#	Name	Description	Size
	A6FL2X2 A6FLS2X2	FLUORESCENT LIGHT SPECIAL FLUORESCENT LIGHT	24" WIDE 24" LONG 24" WIDE 24" LONG
_	A6FL2X4 A6FLS2X4	FLUORESCENT LIGHT SPECIAL FLUORESCENT LIGHT	24" WIDE 48" LONG 24" WIDE 48" LONG
	A6FL3X3 A6FLS3X3	FLUORESCENT LIGHT SPECIAL FLUORESCENT LIGHT	36" WIDE 36" LONG 36" WIDE 36" LONG
	A6FL4X4 A6FLS4X4	FLUORESCENT LIGHT SPECIAL FLUORESCENT LIGHT	48" WIDE 48" LONG 48" WIDE 48" LONG
	A6FL1X4 A6FLS1X4	FLUORESCENT LIGHT SPECIAL FLUORESCENT LIGHT	12" WIDE 48" LONG 12" WIDE 48" LONG
	A6FL1X8 A6FLS1X8	FLUORESCENT LIGHT SPECIAL FLUORESCENT LIGHT	12" WIDE 96" LONG 12" WIDE 96" LONG
	A6FL6X8 A6FS6X8	FLUORESCENT LIGHT SPECIAL FLUORESCENT LIGHT	6" WIDE 96" LONG 6" WIDE 96" LONG
	A6FL6X4 A6FS6X4	FLUORESCENT LIGHT SPECIAL FLUORESCENT LIGHT	6" WIDE 48" LONG 6" WIDE 48" LONG
17	A6STRIP4	BARE LAMP FLUORESCENT STRP	48" LONG
18	A6STRIP8	BARE LAMP FLUORESCENT STRP	96" LONG
	A6TB2X2 A6TBS2X2	T-BAR FLUORESCENT LIGHT SPECIAL T-BAR FLUORESCENT	24" WIDE 24" LONG 24" WIDE 24" LONG
	A6TB2X4 A6TBS2X4	T-BAR FLUORESCENT LIGHT SPECIAL T-BAR FLUORES- CENT LIGHT	24" WIDE 48" LONG 24" WIDE 48" LONG
	A6TB3X3 A6TBS3X3	T-BAR FLUORESCENT LIGHT SPECIAL T-BAR FLUORES- CENT LIGHT	36" WIDE 36" LONG 36" WIDE 36" LONG
_	A6TB4X4 A6TBS4X4	T-BAR FLUORESCENT LIGHT SPECIAL T-BAR FLUORES- CENT LIGHT	48" WIDE 48" LONG 48" WIDE 48" LONG
28 29	A1POLELT A1LOTLT1 A1LOTLT2 A1LOTLT4	STREET POLE LIGHT PARKING LOT LIGHT PARKING LOT LIGHT PARKING LOT LIGHT	6" DIAMETER 6" WIDE 6" LONG 6" WIDE 6" LONG 6" WIDE 6" LONG



ELECTRICAL

#	Name	Description
1	E3SINGL	SINGLE RECEPTACLE
2	E3DUPLX	OUTLET DUPLEX RECEPTACLE
3	E3QUAD	OUTLET QUADRAPLEX RECEPTACLE OUTLET
4	E3SPLTWR	DUPLEX RECEPTACLE OUTLET-SPLIT WIRED
5	E3SINGLS	SINGLE SPECIAL-PURPOSE RECEPTACLE OUTLET
6	E3DUPLXS	DUPLEX SPECIAL-PURPOSE RECEPTACLE OUTLET
	E3RANGE E3GNPURP	RANGE OUTLET GENERAL PURPOSE OUTLET
10	E3SP E3DP E3SINGLF	SINGLE-POLE SWITCH DOUBLE-POLE SWITCH FLOOR SINGLE
12	E3FLSPCL	RECEPTACLE OUTLET FLOOR SPECIAL-PURPOSE
13	E3DUPLXF	OUTLET FLOOR DUPLEX
14	E3FLRPRI	RECEPTACLE OUTLET FLOOR TELEPHONE
15	E3FL'RPUB	OUTLET-PRIVATE FLOOR TELEPHONE OUTLET-PUBLIC
17	E3PHONE E3INTRCM E3INTRWM	TELEPHONE WALL OUTLET INTERCOM WALL OUTLET INTERCOM HANDSET-WALL MOUNTED
20	E3FALRMS E3FALRMD E3SPKRWM	FIRE ALARM-SINGLE HORN FIRE ALARM-DOUBLE HORN EXTERIOR SPEAKER-WALL MOUNTED
23 24 25	E3SPKR E3HANGER E33WAY E3RWAY	EXTERIOR SPEAKER HANGER RECEPTACLE 3 WAY SWITCH 4 WAY SWITCH
27	E3KEYOP E3PLTLMP E3SWSNGL	KEY OPERATED SWITCH SWITCH & PILOT LAMP SWITCH & SINGLE
29	E3SWDPLX	RECEPTACLE SWITCH W/DUPLEX
30	E3RCSLMP	RECEPTACLE RECESSED INCANDESCENT LAMP OUTLET
O) (4 4)	201 1 100 4 0100	4 D O L L O O

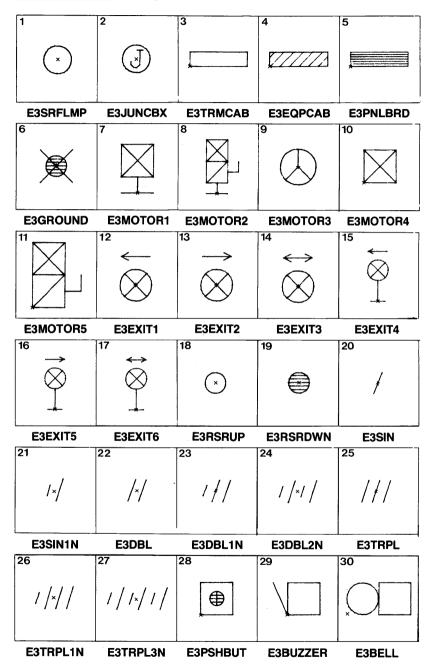
ELECTRICAL MENU PREFIX: E3



ELECTRICAL

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







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:

Ν

-- 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

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).

SYMBOL LIBRARIES

SYM-2

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:

Υ

-- 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 tranferring 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.

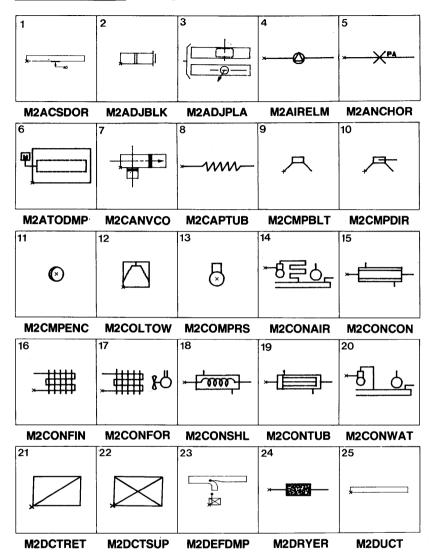
Symbol origins will typically be in the lower left corner unless otherwise specified.

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

HVAC

#	Name	Description
1 2 3 4 5 6 7 8 9	M2CAPTUB	ACCESS DOOR ADJUSTABLE BLANK OFF ADJUSTABLE PLAQUE AIR ELIMINATOR ANCHOR AUTOMATIC DAMPERS CANVAS CONNECTIONS CAPILLARY TUBE COMPRESSOR, OPEN CRANKCASE,
10	M2CMPDIR	RECIPROCATING, BELTED COMPRESSOR, OPEN CRANKCASE, RECIPROCATING, DIRECT DRIVE
11	M2CMPENC	COMPRESSOR, ENCLOSED, CRANKCASE, ROTÄRY, BELTED
12 13 14		COOLING TOWER COMPRESSOR CONDENSING UNIT, AIR COOLED
15	M2CONCON	COOLED 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-
19	M2CONTUB	ED, SHELL AND COIL CONDENSER, WATER COOL-
20	M2CONWAT	ED, SHELL AND TUBE CONDENSING UNIT, WATER COOLED
21	M2DCTRET	DUCT SECTION (EXHAUST OR RETURN)
22 23 24 25	M2DEFDMP	DUCT SECTION (SUPPLY) DEFLECTING DAMPER DRYER DUCT

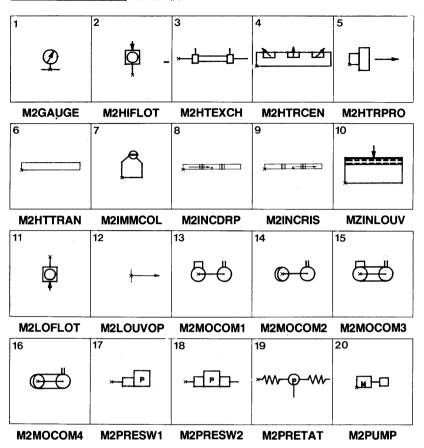
HVAC SYMBOL MENU PREFIX: M2



HVAC

#	Name	Description
1 2 3 4	M2GAUGE M2HIFLOT M2HTEXCH M2HTRCEN	GAUGE HIGH SIDE FLOAT HEAT EXCHANGER UNIT HEATER (CENTRIFUGAL
5	M2HTRPRO	FAN) UNIT HEATER (PROPELLER), PLAN
6	M2HTTRAN	HEAT TRANSFER SURFACE, PLAN
7 8	M2IMMCOL M2INCDRP	IMMERSION COOLING UNIT INCLINED DROP IN RESPECT TO AIR FLOW
9	M2INCRIS	INCLINED RISE IN RESPECT TO AIR FLOW
10	M2INLOUV	INTAKE LOUVERS ON SCREEN
	M2LOFLOT M2LOUVOP M2MOCOM1	LOW SIDE FLOAT LOUVER OPENING MOTOR-COMPRESSOR, ENCLOSED CRANKCASE, RECIPROCATING, DIRECT
14	M2MOCOM2	CONNECTED MOTOR-COMPRESSOR, ENCLOSED CRANKCASE, ROTARY,
15	м2мосом3	DIRECT CONNECTED MOTOR-COMPRESSOR, SEALED CRANKCASED, RECIPROCATING
16	M2MOCOM4	
	M2PRESW1 M2PRESW2	PRESSURE SWITCH PRESSURE SWITCH WITH HIGH PRESSURE CUT-OUT
19 20	M2PRETAT M2PUMP	PRESSURESTAT PUMP

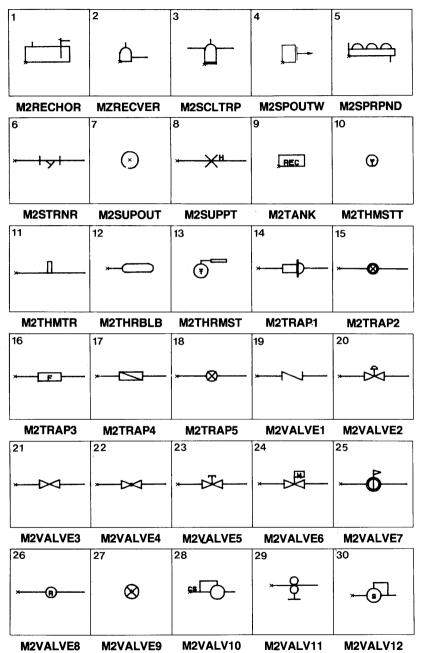
HVAC SYMBOL | MENU PREFIX: M2



HVAC

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

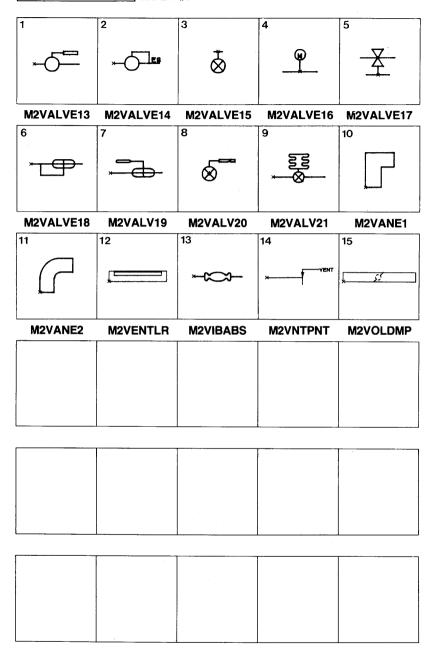
HVAC SYMBOL MENU PREFIX: M2 LAYER #: 1



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





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:

Ν

-- and press (Return).

You will see this prompt:

Symbol Name ?:

Type in the symbol name, an example might be:

A1TREE

7

-- 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...

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:

Υ

-- 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 tranferring 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 datebase 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.

