USERS GUIDE

TO:

SUPERMAX E-CAD VERSION 3.0

RUNNING UNDER X WINDOWS

This is the user manual on how to use Supermax E-CAD within the X
windows environment.

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1: Preface.

This chapter does not have the intention of describing how the X
windows system works nor how to specify the huge amount of
options provided with the X windowing system. This is very well
described in the X window System User's Guide Vol. Three (3rd
edition from O'Reilly & Associates, Inc).

The rest of this chapter is split into three paragraphs, each
explaining the different window managers Supermax E-CAD can use
on different hardware platforms:

  Motif on the Supermax platform.
  OpenLook on the SUN platforms.
  Uwm on the Sony News and 386/486 Interactive Unix platforms.

2: Using Supermax E-CAD with the Motif window manager.

2.1 Login and start up session.
2.2 Screen outline.
2.3 Main Supermax E-CAD window layout.
2.4 How to look at the text output from Supermax E-CAD.
2.5 Root menus.
2.6 Exiting Motif - logout session.

2.1 Login and start up session.

After turning on your X terminal the system prompts you for your
user name and password. Enter these to start your X windows
session. This will automatically start up several different
programs.

2.2 Screen outline.

After the login session is completed the X session starts and
after some time the following program will appear on the screen:

    A clock in the lower right corner.
    A helpmenu program (iconified).
    A xterm in the lower left corner.
    A icon box collector in the lower right corner.
    And the Supermax E-CAD window at the upper left corner.

All these program are running at the same time. Another one is
running in the background (with no output): it is the Motif
window manager.   This program is the one that controls the screen
or display. Which programs that will be started is described in a
setup file. It is called .xsession and is placed in your home
directory.   For further information read appendix A in vol. three
of the X Window System Guide (3rd edition).

2.3 Main Supermax E-CAD window.

The main Supermax E-CAD window will have the outline as shown
below:
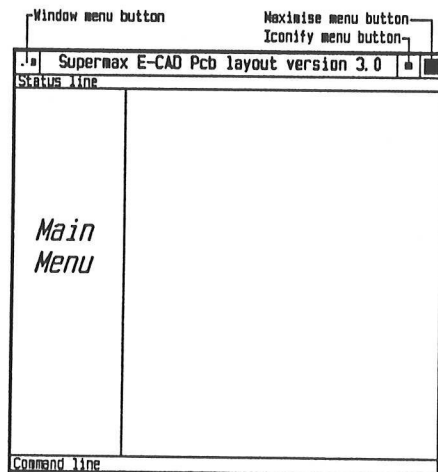
As you can see there is a border or frame around the window. At

the top there is the 'title bar' with three buttons in it. One at
the left and two at the right. The left most button is the *window
menu button.* It is used for manipulating the layout of the
window. The following functions are available: restore, move,
size, minimize, maximize, lower and close. These actions are
displayed and selected by moving the pointer (the mouse) and
press the left pointer button at the 'window menu button'. A menu
will appear and you select the desired item by clicking the first
menu button at the function. To skip the menu just click outside
the menu.

Some of the functions in the 'window menu' have shortcuts:

Moving the window: Point in the 'window title' with the first
pointer button and whilst keeping it pressed move the pointer
and release the button at the desired place.

Resizing the window: At the corners you see little corner
marks. If you move the pointer at one of them, press the first
pointer button and whilst keeping is pressed move the corner to
the desired place and release the button.

Iconify or minimize the window: At the right top side of the
'menu title bar' there is two buttons. If you click at the left
most the window will iconify. That is the window will disappear
on the screen and the icon in the icon box will get a bigger
size. Whatever function the Supermax E-CAD program was execu-
ting will continue, the graphics will not appear until the
window is de-iconified.

De-iconify or restore the window: By double clicking (click
twice with a short time between) on the icon the window will
re-appear again, at the same place and size as before it was
iconified.

For further information read appendix C in vol. three of the X
Window System Guide (3rd edition).

2.4 How to look at the text output from Supermax E-CAD.

All listings and messages will appear in the xterm window in the
lower left corner. Normally you will only see the last 4 lines,
but you could at any time move the pointer in the window and then
you can see 24 lines. If you want to see more than 24 lines, move
the pointer in the scroll bar (the bar at the left in the xterm)
and press the first pointer button and whilst keeping the button
pressed move the pointer up and the text will scroll up.

2.5 Root menus.

Root menus are menus that can be called at any time within the X
window system. The display not covered by a window is where you
can activate the root menu's. If you move the pointer to the root
window and press the first pointer a menu will appear. Whilst
keeping the button pressed you can move the pointer up and down
in the menu fields. By releasing the button you select the action

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in the field. If the menu field have a triangle at the right the
field have a sub menu. To see this sub menu move the pointer to
the field and the sub menu appears. To select a field in a sub
menu move the pointer to the field in the sub menu and release
the pointer.

The following actions are available with the first button:

Root Menu		Title.
Shuffle up		Rotate the window stack one op.
Shuffle down		Rotate the window stack one down.
Refresh		Send refresh event to all windows.
New Window	>	New Window sub menu.
Clients	>	Clients sub menu.
b/w xterm		Start a black and white xterm.
Restart...		Restart the Motif window manager.
Exit		Exit the X session.

As you can see the fields 'New Window' and 'Clients' has sub
menus. Selecting a field in the 'New Window' sub menu will all
create a xterm some in different colors. The 'Client' sub menu
also appear when the middle button is pressed in the root
window.

The following actions are available in the 'Clients' menu:

E-CAD clients	Title.
Supermax E-CAD	Start Supermax E-CAD.
Helpmenu	Start Helpmenu.
Workview	Start Workview, if installed.
b/w xterm	Start a black and white xterm.

These menus are defined in the Motif setup file .mwmrc and is
placed in your home directory.

2.6 Exiting Motif - logout session.

Point in the root window and press the first pointer button and
whilst keeping it pressed toggle down to *exit* and release the
button. Then move the pointer to the *OK* field and click a pointer
button and all your windows will be stopped and a login session
is ready to start.

3. Using the OpenLook window manager.

   3.1 Login and start up session.
   3.2 Screen outline.
   3.3 Main Supermax E-CAD window layout.
   3.4 How to look at the text output from Supermax E-CAD.
   3.5 Workspace menus.
   3.6 Exiting OpenLook - logout session.

3.1 Login and start up session.

After turning on your Workstation and entering your user name and password, you should enter start and return. Now the X window system OpenWindows is started and will use the OpenLook window manager.

3.2 Screen outline.
After the login session and start up of the X window system the following program will appear on the screen:

   A clock in the lower right corner.
   A xterm in the lower left corner.
   A cmdtool running a shell (acting as the console) in the lower right corner.
   And the Supermax E-CAD window at the upper left corner.

All these program are running at the same time. Another one is running in the background (with no output): it is the OpenLook window manager. This program is the one that controls the screen or display. Which programs that will be started is described in a setup file. It is called .openwin-init and is placed in your home directory.
For further information read or skim OpenWindows Version 2 User's Guide, X11/NeWS Version 2 Server Guide and DeskSet Environment Reference Guide.

3.3 Main Supermax E-CAD window layout.
The main Supermax E-CAD window will have the outline as shown below:
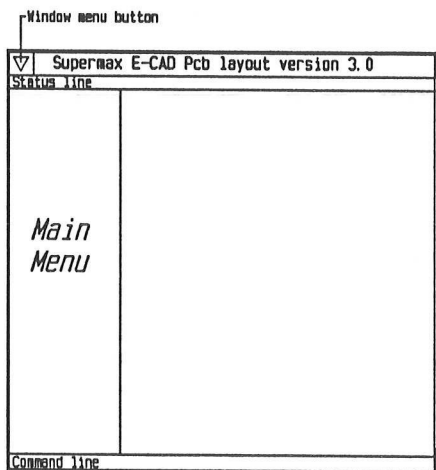
As you can see there is a border or frame around the window. At

the top there is the 'title bar' with one button in it, this is
called the *window menu button*. It is used for manipulating the
layout of the window. The following functions are available:
Close, Full Size, Back, Refresh and Quit. To select one of these
actions move the pointer to the title bar and press the *menu*
pointer button (that is the right most button) and a popup with
the mentioned actions is displayed. A action is selected by
moving the pointer to the field and clicking the *select* pointer
button (that is the left most button). To skip the menu just
click outside the menu.

Some of the functions in the 'window menu' have shortcuts:

   Moving the window: Point any where at the window border and
   press the *select* pointer button and whilst keeping it pressed
   move the pointer and release the button at the desired place.

   Resizing the window: At the corners you see little corner
   marks. If you move the pointer at one of them, press the *select*
   pointer button and whilst keeping is pressed move the corner to
   the desired place and release the button.

   Iconify or minimize the window: At the left top side of the
   'menu title bar' there is a button. If you click at this button
   with the *select* pointer button the window will be iconified.
   That is the window will disappear from the screen, but the icon
   window will appear on the workspace. Whatever function the
   Supermax E-CAD program was executing will continue only will
   the graphics not appear until the window is de-iconified.

   De-iconify or restore the window: By double clicking, that is
   click two times with a small time between, on the icon the
   window will re-appear again, at the same place and size as
   before it was iconified.

For further information read OpenWindows Version 2 User's Guide.

3.4 How to look at the text output from Supermax E-CAD.

All listings and messages will appear in the xterm window in the
lower left corner. Normally you will only see the last 4 lines,
but you could at any time move the pointer to the Supermax E-CAD
border and press the *menu* pointer button, toggle down to the
field *back* and select it. This will get the underlaying xterm in
the front and you can now see 24 lines. If you want to see more
than 24 lines, move the pointer in the scroll bar (the bar at the
left in the xterm) and press the *adjust* pointer button and whilst
keeping the button pressed move the pointer up and the text will
scroll up. To get the xterm in the back, move the pointer to the
xterm border and press the menu pointer button and select the
back field.

3.5 Workspace menus.

Workspace menus are menus that can be called at any time within
the X window system. The display not covered by a window is where

you can activate the workspace menu's. If you move the pointer to
the workspace and press the *menu* pointer button a menu will
appear. Whilst keeping the button pressed you can move the
pointer up and down in the menu fields. If the field have a
triangle at the right a sub menu exist to that field. By relea-
sing the button you select the action in the field.
The following actions are available with the first button:

```
┌───────────────────────┐
│ Workspace             │   Title.
│                       │
│ E-CAD utilities   >   │   Submenu for Supermax E-CAD Utilities.
│ Programs          >   │   Program submenu.
│ Utilities         >   │   Utilities submenu.
│ Properties...         │   Properties.
│ Exit...               │   Exit the OpenWindows system.
└───────────────────────┘
```

As you can see the fields 'E-CAD Utilities', 'Programs' and
'Utilities' all have sub menus.

The following actions are available in the 'E-CAD Utilities'
menu:

```
┌───────────────────────┐
│ E-CAD Utilities       │   Title.
│                       │
│ Helpmenu              │   Start the helpmenu.
│ Supermax E-CAD        │   Start Supermax E-CAD.
│ Command tool...       │   Start a command tool (shell).
└───────────────────────┘
```

These menus are defined in the OpenLook setup file .initwin-menu
placed in your home directory.

3.6 Exiting OpenLook - logout session.

Point in the workspace and press the *menu* button and the 'work-
space menu' will appear. Whilst keeping the menu button pressed
move the pointer down to the *Exit* field and release the menu
button. Then move the pointer to the *yes* field of the 'confirm
popup menu' and click the menu button on it and the OpenLook will
exit shutting all programs down. Your are now in the login shell
and must enter logout and return to exit this login shell.

4. Using the Uwm window manager.

    4.1 Login and start up session.
    4.2 Screen outline.
    4.3 How to look at the text output from E-CAD.
    4.4 Root menus.
    4.5 Exiting Motif - logout session.

4.1 Login and start up session.

After turning on your Workstation and entering your user name and password, you should enter xinit and return. Now the X window system is started and will use the Uwm window manager.

4.2 Screen outline.

After a successful login and starting the X window system the following programs will appear on the screen:

    A xterm at the lower left corner.
    And the Supermax E-CAD window at the upper left corner.

The two programs are running at the same time. Another one is running in the background: it is the Uwm window manager. This program is the one that controls the display or screen. Which programs that will be started is described in a setup file. It is called .xinitrc and is placed in your home directory. For further information read appendix B in vol. three of the X Window System Guide (3rd edition).

4.3 How to look at the text output from Supermax E-CAD.

All listings and messages will appear in the xterm window in the lower left corner. Normally you will only see the last 4 lines, but you could at any time move the pointer in the window and raise the xterm window (see 4.4 for the raise action) and then you can see 24 lines. If you wan to see more than 24 lines, move the pointer in the scroll bar (the bar at the left in the xterm) and press the first pointer button and whilst keeping the button pressed move the pointer up and the text will scroll up. Returning to the Supermax E-CAD window either lower the xterm or raise the Supermax E-CAD window.

4.4 Root menus.

Root menus are menus that can be called at any time within the X window system. If you press the 'alt' key and the first button at the pointer the 'WINDOW OPS' will appear. Whilst keeping the buttons pressed you can move the pointer up and down in the menu fields. By releasing the buttons you select the action in the field.

The following actions are available with the first button:

WINDOW OPS	Title.
(De)Iconify	Iconify window.
Move	Move window.
Resize	Resize window.
Lower	Lower window.
Raise	Raise window.

If you press the middle pointer button instead of the first one the 'E-CAD clients' menu appears and the following actions are available :

E-CAD clients	Title.
Helpmenu	Start Helpmenu.
Create Window	Start xterm window.

These menus are defined in the Uwm setup file .uwmrc and is placed in your home directory.

4.5 Exiting Uwm - logout session.

To exit the X window system either to logout or to go to the login shell you have to exit the main Supermax E-CAD program. This is done by selecting the menu field 'EXIT ipl' or 'EXIT schema' in the Supermax E-CAD IOmenu. This will return to the login shell. To end the login session type logout and return and a new login session can begin.

5. General comments.

   5.1 Entering composed characters.
   5.2 Clearing and redrawing of windows.

5.1 Entering composed characters.

To be able to enter composed characters, as ø and ÿ, the applica-
tions font must be a 8 bit font. The default fonts specified in
the released .Xdefaults file are 8 bit fonts.
To enter a æ use the following key strokes:
  ctrl-a and a and e or the compose key and a and e.

5.2 Clearing and redrawing of windows.

Clearing and redrawing is only implemented on the main E-CAD
application. Clearing the main E-CAD window - pcb part, use the
home key. Redrawing the main E-CAD window - hole window, use the
shift home key.

Appendix A: Setup files for the Motif window manager.

All files should be placed in your home directory.

.Xdefaults   setup file for colors,borders,icons, ...
.Xkeyboard   setup file for the keyboard.
.mwmrc   setup file for root menus and key bindings.
.xsession   setup file for start up session after login.

Appendix B: Setup files for the OpenLook window manager.

All files should be placed in your home directory.

.xinitrc   setup file for X windows start up session.
.openwin-init setup file for X windows start up session.
.openwin-menu setup file for workspace menus.
.Xdefaults   setup file for colors,borders,icons, ...

Appendix C: Setup files for the Uwm window manager.

All files should be placed in your home directory.

.Xdefaults   setup file for colors,borders,icons, ...
.uwmrc   setup file for root menus.
.xinitrc   setup file for start up session after login.

Appendix D: Command line options for Supermax E-CAD X window
            programs.

IPL, main Supermax E-CAD program:

  -c install_colormap, do_not_install_colormap
     Intsall the specified colors in a private colormap, this
     will give correct colors for crossing tracks, but will also
     give color flashing when moving the pointer outside the main
     ipl window.
  -g[eometry] x-size * y-size[+-xoffset+-yoffset]
     -geo 80x24
     -geo 80x24-0+0 (upper left corner)
  -t X[386-uwm], Xm[otif], Xo[penlook]

Default values for the following items are read from the
.Xdefaults file:

iplprog.geo   - format as above.
iplprog.helpfont   - font name, as sysparm xwhelpfont.
iplprog.statusfont - font name, as sysparm xwstatusfont.
iplprog.iplmenufont - font name, as sysparm xwiplmenufont.

Fonts are specified by the appropriate sysparms.
Colors are specified by the color setup files placed in
/usr/ipl/commands and called from the initipl command file.
The bitmap used when the program is in the iconified state is
placed in /usr/ipl/bitmaps/pcb_layout.
The bitmap used for the 'busy' cursor is placed in the file
/usr/ipl/bitmap/busy_cursor.

The bitmap used for the 'text' cursor is placed in the file !
/usr/ipl/bitmap/text_cursor.

xhelpmenu, front end to all pre and post processing programs: !
                                                                !
                                                                !
  -icon[ify] with the bitmap /usr/ipl/bitmaps/helpmenu   !
  -font 9x15   !
  -geo[metry] x-size * y-size[+-xoffset+-yoffset]   !
    -geo 80x24   !
    -geo 80x24-0+0 (upper left corner)   !
                                                                !
Default values for the following items are read from the !
.Xdefaults file: !
                                                                !
helpmenu.geo   - format as above.   !
helpmenu.font   - font name.   !
helpmenu.textcolor - text color name.   !
helpmenu.menucolor - menu color name.   !
                                                                !
The bitmap used when the program is in the iconified state is !
placed in /usr/ipl/bitmaps/helpmenu.   !
                                                                !
xmakepost, front end for generation of photo, drill, profiling !
and plotter data: !
                                                                !
  -icon[ify] with the bitmap /usr/ipl/bitmaps/makepost   !
  -font 9x15   !
  -geo[metry] x-size * y-size[+-xoffset+-yoffset]   !
    -geo 80x24   !
    -geo 80x24-0+0 (upper left corner)   !
                                                                !
Default values for the following items are read from the !
.Xdefaults file: !
                                                                !
makepost.geo   - format as above.   !
makepost.font   - font name.   !
makepost.textcolor - text color name.   !
makepost.menucolor - menu color name.   !
                                                                !
The bitmap used when the program is in the iconified state is !
placed in /usr/ipl/bitmaps/makepost.   !
                                                                !
End of chapter.   !