

overlay

*This syntax is specific to...
workstations running X Windows/DECwindows*

keys:	rgb	<n1>, <n2>, <n3>	specify colour values in percentage terms
options:	black/red/green/blue/cyan/ magenta/yellow/white		specify colour for overlay plane
	on/off		specify overlay visible/invisible

The **overlay** command allows you to specify the colour displayed where the overlay is present.

Examples

```
overlay -red
```

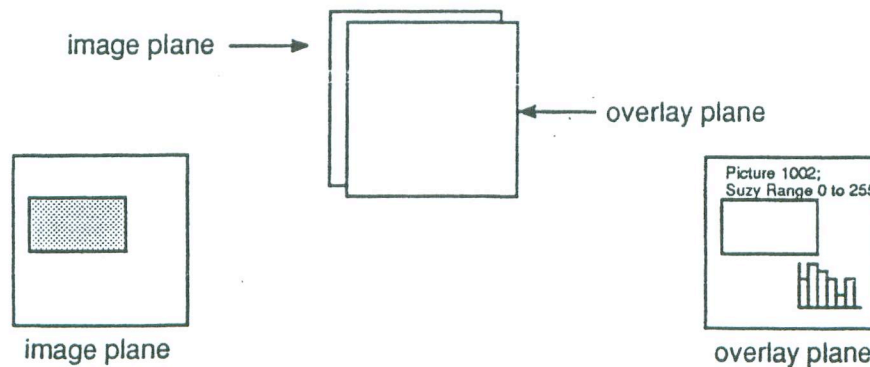
This command makes the overlay appear red (with maximum intensity).

```
overlay rgb 80,20,10
```

This command shows the overlay in a colour generated from 80% of maximum red, 20% of maximum green and 10% of maximum blue intensity.

Description

The display server must be a 6-plane (64 colour) or 8-plane (256 colour) workstation. Note that several of the possible colour values are reserved for the window manager desk top but that Semper uses the majority of the remaining colours. In 6-bit visual systems, two colours are reserved for the menu window and 40 for the image display. In 8-bit visual systems, eight colours are reserved for the menu window and 232 for the image display. Both systems also reserve one colour for the overlay. The overlay colour is used for all annotation and graphical output, for example, titles, borders, histograms, ymodulus plots, as illustrated below.



Installation Specific Commands

overlay

You can specify a colour for an overlay plane in two ways:

- use the **rgb** key to specify a colour composed of red, green and blue components. For example, the command **rgb 10, 60, 35** defines a colour composed of 10% of maximum red, 60% of maximum green and 30% of maximum blue intensity.
- use the options **black/red/green/blue/cyan/magenta/yellow/white** to define a specific colour.

You can also specify whether the overlay is visible or invisible (irrespective of the overlay colour) using the options **on** and **off**. This is achieved by rewriting the entire display image, and so may take a noticeable amount of time on slower workstations.

Note that as Semper maintains a separate copy of the image contents, the overlay does not over-write the image and so the display can be used as an image source.

Notes

see also: **x11**

Defaults and Ranges

keys/options	defaults	range
rgb	<i>none</i>	real number expressing a percentage

overlay

*This syntax is specific to...
Silicon Graphics workstations and workstations running X*

keys:	[number] <number>	overlay number
	rgb <n1>, <n2>, <n3>	red, green and blue percentages of overlay colour
	hsv <n1>, <n2>, <n3>	hue (0 to 360), saturation (percentage) and brightness (percentage) defining overlay colour
options:	black/red/green/blue/cyan/magenta/yellow/white	overlay colour
	on/off	make the overlay visible/transparent
	graphics/rubberband/cursor	make the overlay the current graphics, rubberband or cursor overlay
	erase	clear the overlay
	show	list the current overlay settings

You use the **overlay** command to control the colour and visibility of the display window's eight overlays. Display annotation or graphics is directed to the current graphics overlay, rubberband lines are displayed in the rubberband overlay and the cursor is displayed in the cursor overlay. Overlays can be turned on or off without affecting the data stored in the overlay bitplanes. Where overlay information is overlapped, the highest numbered overlay is displayed.

Examples

```
overlay show
```

This command lists the current overlay settings.

```
overlay cyan
```

This command sets the colour of overlay 1 to cyan.

```
overlay 3 hsv 60,50,100 cursor
```

This command sets the colour of overlay 3 to a desaturated yellow and makes this the cursor overlay.

```
overlay 2 off
```

This command turns off overlay 2.

overlay

```
overlay 5 erase
```

This command clears overlay 5.

Description

The display window has eight overlay bit-planes numbered from 1 to 8. You use the **number** key to specify the overlay number. Note that the **number** key always defaults to 1.

The **show** option causes all the current overlay settings to be listed on the console.

When the display window is created, overlays 1, 7 and 8 are selected as the graphics, rubberband and cursor overlays, all overlays are turned on and cleared and the colours for overlays 1 to 8 are respectively set to white, red, green, blue, cyan, magenta, yellow and red.

The **overlay** command only changes the overlay settings specified in the command. The remaining overlay settings are left unchanged.

The overlay colour can be specified in one of three ways. If you need to specify the colour exactly, you can specify the RGB components of the colour as percentages with the **rgb** key, or the hue, saturation and brightness of the colour with the **hsv** key. The saturation and brightness values must also be specified as percentages. If the colour you want is one of the eight primary or secondary colours, you can use the corresponding colour option as a convenient alternative. You may not specify more than one of the colour options **black**, **white**, **red**, **green**, **blue**, **cyan**, **magenta** and **yellow** and the **rgb** and **hsv** keys in the same command.

An overlay can be turned on or off (made visible or invisible/transparent) by specifying the option **on** or **off**.

You may use one of the options **graphics**, **rubberband** or **cursor** to make the specified overlay the current graphics, rubberband or cursor overlay. You are not allowed to specify more than one function for a given overlay. For example, the following would not be allowed:

```
overlay 2 graphics; overlay 2 rubberband
```

All display annotation is directed into the current graphics overlay. Note that the **erase overlay** command erases only the current graphics overlay and leaves the other seven overlays unchanged. You can use the **erase** option with the **overlay** command to clear a specified overlay. To clear all the overlays, you should enter the following string of commands:

```
for i=1,8; overlay n erase; loop n
```

The cursor and any rubberband lines or boxes (see the commands **xwires**, **sketch**, **drag** and **pdraw**) are displayed by overwriting and erasing the data in the corresponding overlays. You are recommended to retain the highest numbered overlay for displaying the cursor so that it is not obscured by any of the other overlays. Beware also of turning off the cursor or rubberband overlays.

overlay

Notes

see also: **assign display, drag, erase, mark, sketch, xwires**

Defaults and Ranges

keys/options	defaults	range
[number]	1	integer in range 1 to 8
rgb	<i>none</i>	real numbers expressing a percentage
hsv	<i>none</i>	hue – real number in range 0 to 360 saturation – real number expressing a percentage brightness – real number expressing a percentage

overlay

This command is specific to...
Silicon Graphics IRIS 4D workstation
Sun 3 workstation
DEC VAXstation II GPX
PC + framestore/greystore

This syntax is specific to...
PC + Data Translation DT2861 framestore
PC + Matrox PIP512/PIP1024 framestore
Silicon Graphics IRIS 4D workstation
DEC VAXstation II GPX

keys: **rgb** **<n1>, <n2>, <n3>** specify colour values in percentage terms

options: **black/red/green/blue/cyan/** specify colour for overlay plane
magenta/yellow/white

This syntax is specific to...
PC + Imaging Technology PCVISIONplus framestore

keys: **rgb** **<n1>, <n2>, <n3>** specify colour values in percentage terms

options: **black/red/green/blue/cyan/** specify colour for overlay plane
magenta/yellow/white

on/off make the overlay plane visible/transparent

This syntax is specific to...
PC + MRC500 framestore
PC + Synoptics Synergy framestore
PC + Sun 3 workstation

keys: **rgb** **<n1>, <n2>, <n3>** specify colour values in percentage terms

options: **black/red/green/blue/cyan/** specify colour for overlay plane
magenta/yellow/white

cursor/text specify the cursor or text overlay plane

overlay

This syntax is specific to...
 PC + Synoptics Synapse framestore
 PC + Metrabyte Corporation MV1 framestore

keys:	rgb	<n1>, <n2>, <n3>	specify colour values in percentage terms
options:	black/red/green/blue/cyan/ magenta/yellow/white		specify colour for overlay plane
	on/off		make the overlay plane visible/transparent
	cursor/text		specify the cursor or text overlay plane

This syntax is specific to...
 PC + Quantimet 520 greystore

options:	on/off		make the overlay plane visible/transparent
	cursor/text		specify the cursor or text overlay plane

Use **overlay** to specify the colour displayed for each overlay plane, as some installations have both text and cursor overlays. If neither plane is visible, the image shows through. (Note that if you have a *Quantimet 520 Image Analysis System* the **overlay** command does not affect the display of colours. It can be used, however, to make overlay planes visible or transparent).

Examples

Silicon Graphics IRIS 4D workstation, Sun 3 workstation, DEC VAXstation II GPX,
 PC + framestore (excluding Quantimet 520)

```
overlay red
```

This command makes both overlays appear red (with maximum intensity).

```
overlay rgb 80,20,10
```

This command gives both overlays a colour generated from 80% of maximum red, 20% of maximum green and 10% of maximum blue intensity.

overlay

PC + Imaging Technology PCVISIONplus framestore only

overlay off

This command makes the overlay transparent.

PC + MRC500 and Synergy framestores/ Sun 3 workstation only

overlay cursor green

This command makes the cursor overlay appear green but does not affect the text overlay.

PC + Synoptics Synapse and Metrabyte Corporation MV1 framestores only

overlay cursor on

This command makes the cursor overlay visible.

PC + Quantimet 520 greystore

overlay off

This command makes both overlays (cursor and text) transparent.

overlay cursor on

This command makes the cursor overlay visible.

overlay

Description

Note that the following description is relevant for all installations except *Quantimet 520 Image Analysis Systems* (see the separate description given overleaf).

You can specify a colour for an overlay plane in two ways:

- use the **rgb** key to specify a colour composed of red, green and blue components. For example, the command **rgb 10, 60, 35** defines a colour composed of 10% of maximum red, 60% of maximum green and 30% of maximum blue intensity.
- use the options **black/red/green/blue/cyan/magenta/white** to define a specific colour.

The following installations have a single overlay plane, using one bit of annotation per image pixel:

- PC + *Data Translation* DT2861 framestore
- PC + *Imaging Technology* PCVISIONplus framestore
- PC + *Matrox* PIP512/PIP1024 framestore
- *Silicon Graphics* IRIS 4D workstation
- *DEC* VAXstationII GPX display + UIS window manager

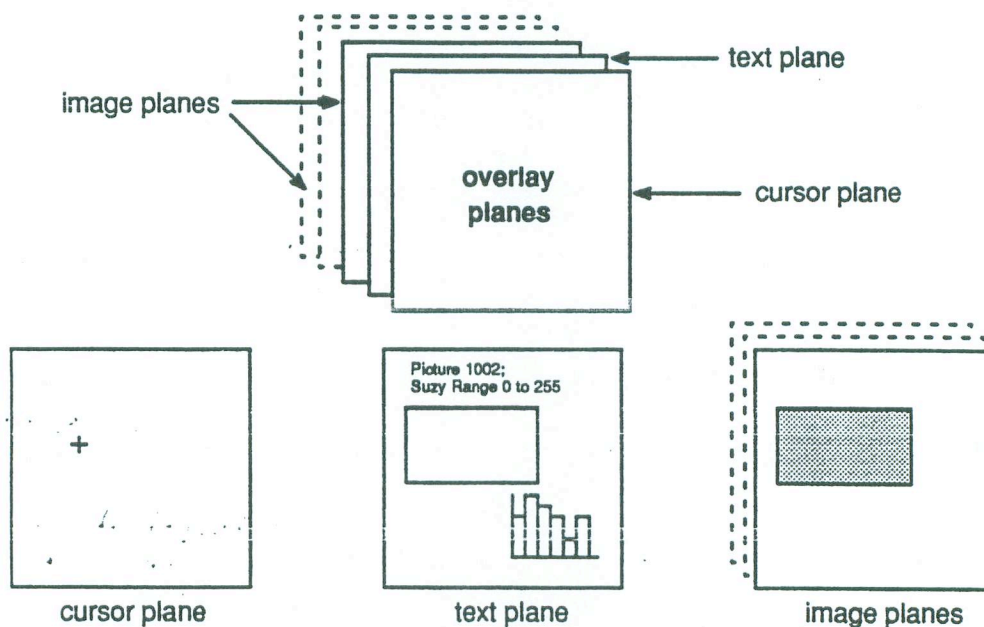
You can specify the colour for the overlay plane using the colour keys and options given above. Note that if you have a *Imaging Technology* PCVISIONplus framestore you can also use the options **on/off**. The option **off** makes the overlay plane transparent (as opposed to erasing it) and the option **on** makes the overlay plane visible again.

The installations given below have two overlay planes, using two bits of annotation per image pixel:

- MRC500 framestore
- *Synoptics* Synapse framestore
- *Synoptics* Synergy framestore
- *Metabyte Corporation* MV1 framestore
- *Sun3* workstation + SUNVIEW window manager

Semper uses one of these overlay planes to hold the **xwires** cursor as it is being moved about. It uses the text overlay to hold all other graphical information such as text, picture borders, **histogram** and **ymod** plots. Use the options **cursor/text** to specify an overlay plane. If you have a *Synoptics* Synapse framestore or a *Metabyte Corporation* MV1 framestore you can also make an overlay transparent using the **off** option and make it visible using the **on** option. The diagram overleaf illustrates the different overlay planes.

overlay

**PC + Quantimet 520 greystore only**

The Quantimet 520 greystore has two overlay planes, providing two bits of annotation per image pixel. Semper uses one of these, the **cursor** overlay, to hold the **xwires** cursor as it is moved about the screen. It uses the other plane, the **text** overlay, to hold all other graphical information such as text, picture borders, **histogram** and **ymod** plots.

The option **off** makes the overlay(s) transparent (as opposed to erasing them). The option **on** makes the overlay(s) visible again. Use the **text** and **cursor** options to specify which overlay plane is to be affected. If you do not specify a plane, Semper assumes both.

Defaults and Ranges

keys/options	defaults	range
rgb	<i>none</i>	real number expressing a percentage
cursor/text	Semper assumes both planes	
on/off	<i>none</i>	