

**The truth is ...  
IC's are less confusing  
in color.**







# You have to ask a designer about design equipment.

"...everyone in this business complains about headaches and eyestrain.

It's frustrating when you have to squint to make out different masks. If there's any overlapping, it's impossible ..."

**Designer**

"...designers really need different colors for each layer of the design.

Without color, you're forced to spend a lot of time patching up mistakes made because you couldn't see clearly.

It's been a lot easier to get designs into production with the MRD ..."

**Designer**

"...I like the way the MRD design station is set up.

Most stations aren't really made for designers who have to sit for eight hours.

Somebody finally remembered us designers with long legs!"

**Designer**

"...I'm constantly re-evaluating when I'm designing.

Designing is a lot like working with a complicated puzzle, so being able to move the pieces around to see where they'll fit best is pretty important.

With the MRD I can move parts around on the screen without constant redraws and figure out what arrangement's best..."

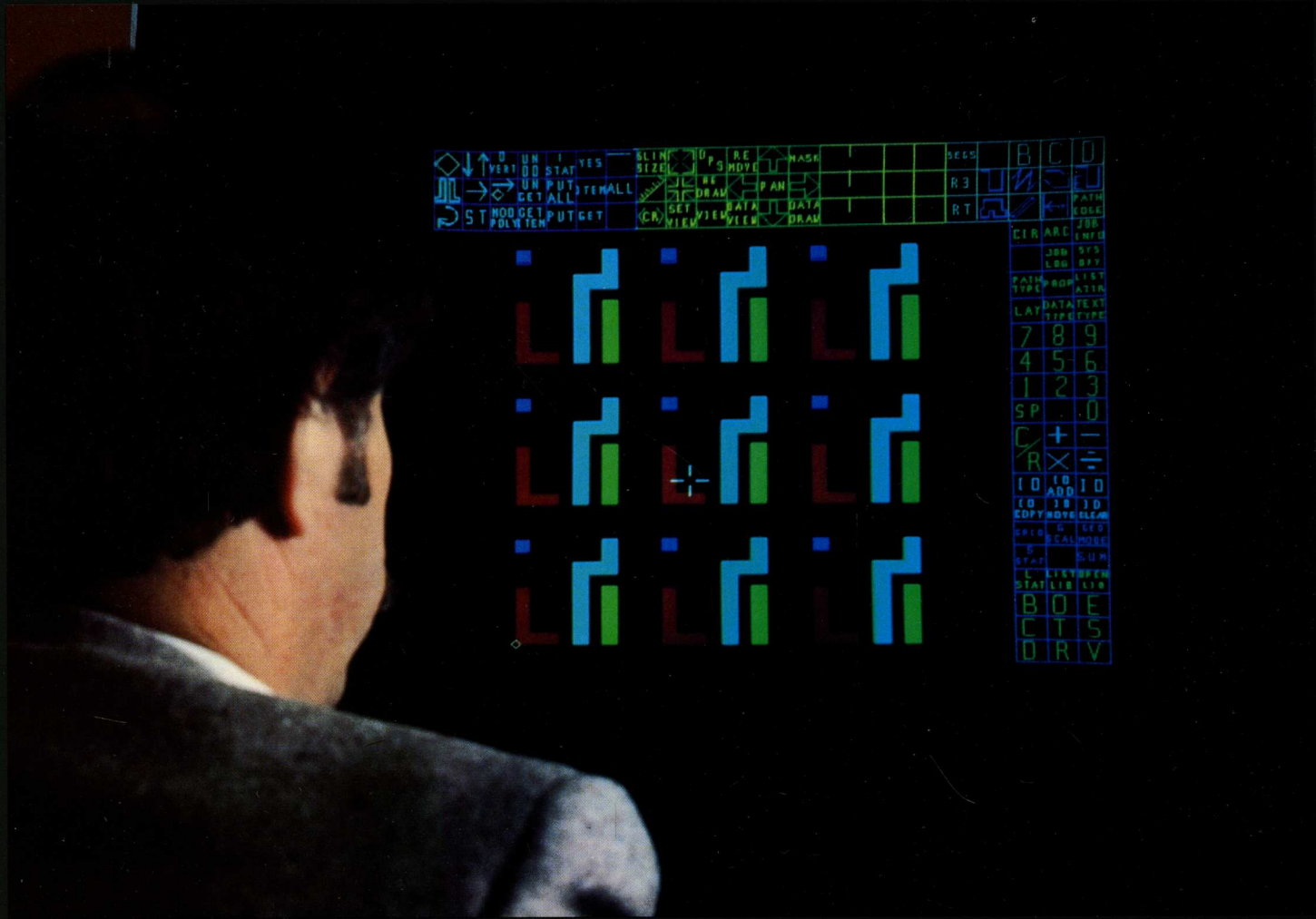
**Designer**



UNIT	YES	BLIND	SIZE	0	RE	MOVE	WASH			SECS	B	C	D
VERT	STAT	ALL	ITEM	HALL	SE	DRAW	PAN			R3	U	V	W
ST	HOOD	GET	PUT	GET	(CR)	SET	VIEW	VIEW	VIEW	RT			
POLY	TEM												

CIR	ARC	JOB	SY3
		LOG	OFF
PATH	ROH	VIEW	
TYPE		ATTN	
LAY	DATA	TEXT	
	TYPE	TYPE	
7	8	9	
4	5	6	
1	2	3	
SP	.	0	
C	+	-	
R	X	=	
IO	IO	IO	
IO	IO	IO	
EDPY	MOVE	OLEW	
KEY	S	LED	
STAT	SCALE	MODE	
		SUM	
STAT	LIB	LIB	
B	O	E	
C	T	S	
D	R	V	



# Break away from the competition...

You can't afford to be mediocre in this business...

Your survival depends on finding a faster and better way to do what the others do.

To survive you must be first. And at Calma we know this.

Every day, every hour, and every minute you look for ways to help you out-distance the competition.

You search for technology that will streamline your operations and get your product out fast.

Your aim is always to hit the marketplace ahead of your competitors.

Calma's MRD allows your designers to draw IC designs in easy-to-see color and get them into production fast.

The Multi-color Raster Display (MRD) allows a designer to see fine details on screen in a variety of sharp and clear colors.

The designer can easily spot errors and problems ahead of time because IC layers are identified by actual color shading.

Editing and checking are faster and easier to do with the MRD.

## Easy layer recognition

Different color combinations enable a designer to distinguish compact structures with ease and accuracy.

Even today's most complex IC designs are easy to see with the MRD.

## Complex structure movement

A designer is free to move structures from one position on the screen to another.

When a designer has specified a portion of the data which is to be moved, the specified area turns white for immediate verification.

Then, by pointing the stylus at the desired location the designer can make the shape instantly appear in the new position.

The screen is once again refreshed in color, this time with the correct information.

## Pattern shading

Outlined shapes can be completely filled with four shading densities.

These patterns further define intersecting layers and shapes so they are easy to see.

## On-screen menus

A designer never needs to look away from the screen to find a command.

The MRD monitor displays a constant array of command menu's in the designer's choice of color.

Menu's can be switched instantly without requiring the entire screen to be repainted.

On the MRD you spend more time designing and less time searching for commands.

## Selective erase

Selective erase allows you to change or delete any portion of the design without affecting the rest of the screen.

Designers spend 80% less time redrawing the screen. On conventional storage screens it is necessary to redraw the entire image each time the design is edited.

## Identification

Before the MRD edits a structure, the specified area turns white on the screen.

This allows the designer to immediately verify that this is the shape which is to be altered.

The designer never edits the wrong geometry with the MRD.





# **In a nutshell, the MRD is the designer's choice.**

A designer knows what he needs, to do his best.

With color designers see minute details embedded in the most complicated IC designs.

And seeing the details is what really counts when you want to speed up the design process.

Today's designers are looking more and more toward color to answer their need for a precise, speedy method of design.

Today's designers are looking toward the MRD.

## **Minimizes error**

By making work easy to see, designers avoid time consuming mistakes.

With sharp color, you get fewer errors and faster throughput.

## **Increases productivity**

The MRD eliminates the confusion associated with complex circuit viewing.

Designers get more work done in less time.

## **Improves discrimination**

Each IC layer can be assigned a color for easy visibility.

In addition, shading further enhances layer and shape discrimination.

You see overlapping and intersecting figures with ease on the MRD.

## **Saves time**

With selective erase designers don't wait for the screen to repaint itself each time a change is made.

Less waiting means more drawings in less time.

## **Eliminates eyestrain**

Designers work faster and better without the discomfort associated with a monochrome screen.

The MRD's 20 inch refresh graphics display shows a bright, clear image.





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