



Photograph by: Joe Bronzino

**CAMBO**  
*MegaVision*



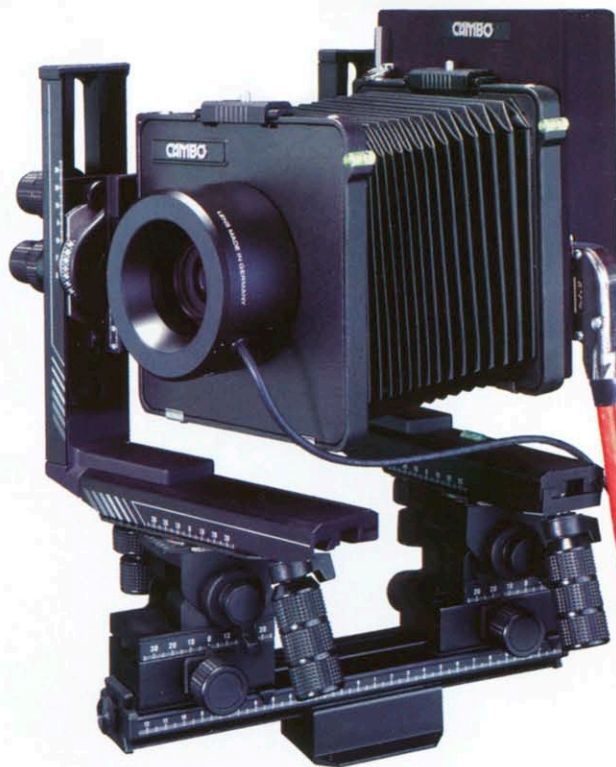
# How Would You Design a Digital Camera Back?

**W**e designed our 3-pass digital camera back the way you probably would if you were designing your own.

You'd design the camera back to fit on a 4x5 for complete perspective control and you'd make it mount on any camera without the need for expensive digital adapter packages.

Since it's a digital camera back you'd probably make the chip do double duty – capture the image and provide live video so you wouldn't have to focus and compose on a 1" section of the groundglass. You'd make it so you could zoom the display to check focus and look at fine detail. The shutter and internal filter wheel would be built into the back so you could use all the great 35mm and 120mm format lenses you already own, especially the wide-angles for forced perspectives. You'd seal the RGB filtration inside the camera back to keep it clean and never risk degrading your image by tilting or swinging the filtration.

Perhaps you might design an electronic aperture to control the lens in tenths of a stop and make it adjustable from the monitor screen with the click of the mouse. You'd make the RGB capture fast – about 5 seconds for the capture, another 5 to display the full 12MB file on the monitor. And it wouldn't need temperature stabilization, so you'd never have to wait for a blinking thermometer. You might even make it so you could capture a 3MB file with an even faster processing speed, plus twice the exposure index.



*For the ultimate in perspective manipulation, the T2 Digital Camera Back mounts on to Cambo's Master D view camera without expensive adapters.*

You'd make sure it was supported by sophisticated software and knowledgeable technical representatives. Finally, you'd bring it to the market at a really affordable price.

Luckily, you won't have to because we already did.

**CAMBO**  
**MegaVision**

**Step into MegaVision's world of Filmless Photography™ and you'll instantly enhance your image!**

Step into  
MegaVision's  
world of  
Filmless  
Photography

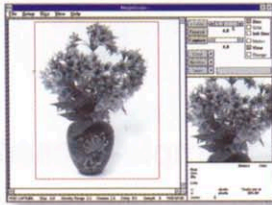


## **Cambo MegaVision's Digital Capture System**

is centered around giving you control over your image quality, your work flow, and most importantly, your artistic expression. We didn't build our system to meet standard requirements. We went out to exceed expectations.

### **Capturing Your Image**

The heart of our system is the state-of-the-art T2 Digital Camera Back. The T2 instantly captures the subject so you can view, compose and focus your image right on your monitor without interpolation. The live video image updates two times every second to instantly display every move you make.



Thanks to the system's PCI local bus interface, images are captured at unprecedented speeds. The interface also boosts focusing speed for quick image control. Take a look at these incredible speeds achieved with Power PC computers with PCI bus architecture:

- In less than 1 second, a 2048 x 2048 monochrome image is captured.
- In less than 2 seconds, a 2048 x 2048 monochrome image is captured, processed and displayed.
- In less than 5 seconds, a 2048 x 2048 RGB color image is captured.
- In less than 10 seconds, a 2048 x 2048 RGB color image is captured, processed and displayed.

You also have the flexibility to capture your image in three resolutions: 12MB, 3MB or 786K (perfect for modeming!)

### **Every Bit Counts**

Color depth of your image is determined by the number of distinct shades of gray, or levels of light, that can be imaged into each pixel. The 2K chip (2048 x 2048) in our digital back contains approximately 4.2 million pixels to accept light. The pixel cell size is 15 microns which is digitized into 12 bits of data per cell. Those 12 bits can discern 4096 different shades of gray. Other chips feature a 9 micron pixel cell which only discerns 256 shades of gray. Although 256 shades satisfy most printing requirements for now, press technology is constantly improving. With MegaVision's incredible color depth, your high-resolution image will always be knocking on the door of printing technology.

The T2 chips operate at room temperature so there is no need to rely on costly cooling systems. In fact, the temperature in your studio provides an excellent signal-to-noise environment to fully capture your image's color palette. While other chips may contain 14 bits of data, they are not efficient. In order to function, the chips require temperature stabilization to a near-freezing 33°F with a Peltier cooler. The change of temperature during operation causes condensation and leaves behind water marks for you to clean.

### **Innovative Construction**

Dust in a digital camera can cause the same frustrating problems found in your darkroom. When dust gathers close to your negative in an enlarger, it will inevitably show up on your print. But in digital imaging, the consequences are even worse. For example, an enlargement from 31mm to 11" will magnify a dust particle 1100 percent! That's why we added a second pane of infrared glass to prevent particles from settling close to the chip.

If the protective glass is ever scratched, its replacement will only cost about \$100. Scratch the glass on our competitor's digital back and you'll be faced with investing in a whole new chip for many thousands of dollars. And because their models require extra maintenance to remove dust and condensation marks, you risk scratching the glass or even the chip every time you clean.

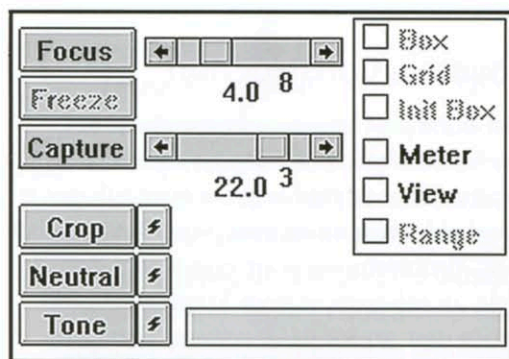
**Capture  
and display  
a full-color,  
true image  
in less than  
10 seconds**

The T2  
operates  
at room  
temperature  
without  
costly  
cooling  
systems

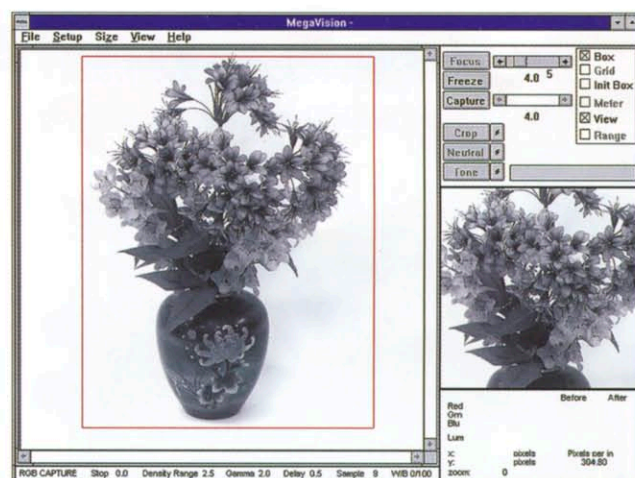
## The Ultimate Format

The T2 easily mounts (just like a film back!) to Cambo's Master Series 4x5 view cameras without expensive adapters. The Master Series cameras feature a refined L-shaped design, with precise calibrated lateral and vertical shifts, control swings and axial-tilts for complete perspective control. The T2 is also compatible with other 4x5 view cameras.

4x5 cameras are the ideal format for digital photography because they offer liberal movements and fine focusing. There's plenty of image control for fine-tuning image perspective and field-of-focus. Medium format cameras just can't compare in perspective manipulation.



The electronic aperture is controlled from the monitor in precise 1/10 stop increments.



The live focus window features a zoom and proportion box overlay for fine focusing and perfect composition.

## Complete Arsenal of Lenses

The system is supported by nine new digital Schneider lenses designed exclusively for use with Cambo MegaVision. The lenses deliver sharp images with superb contrast and range from 60mm to 150mm, including 80mm and 120mm Macro lenses. All lenses feature an electronic aperture control which is controlled in precise 1/10-stop increments with the click of a mouse.

The aperture automatically opens to the focus setting then stops down to capture. The normal shutter speed is 1/10 second, but can be extended to 1/4, 1/2, 1 or 2 second settings. In every speed, the filter wheel and shutter are positioned in front of the chip for the exact amount of time.

For even greater flexibility, the T2's filter wheel and shutter are built-in so you can use all your Nikon 35mm, Pentax, Mamiya 645 or Hasselblad 120mm format lenses – including the wide angles! Simply install our adapting lens mount and your lens directly onto the T2, and the camera back is converted into a stand-alone capture station. Just focus, then fire from your keyboard.



## Flexible Computer Configurations

Our system is fully compatible with Pentium based PC and Power Macintosh systems supported by the PCI interface. The standard T2 Capture Station for Macintosh or PC includes a 100 MHz processor configured with a one gigabyte hard drive, 48MB of RAM (64MB for Mac), a Syquest drive (PC only), a 17" high-resolution monitor, and Filmless Photography™ software.

If your operation relies on one computer for camera control, image editing and page production, a Macintosh is your best bet. But if you can devote a computer solely to the capture station, we recommend the PC as a cost effective solution. They are less expensive and just as fast.

## Sophisticated Software

Before your image is captured, our advanced Filmless Photography software provides all the critical tools you need to create a press-ready image. Best of all, the functions are user friendly and puts you in control of your image.

## Composition

Our software includes a proportional crop window so you can size the image and place it anywhere in the focus area. Your shot is arranged by moving the subject on the set and viewing the changes in real-time on the monitor instead of walking back and forth from your camera to the set. Imagine the time and frustration you can eliminate.

The large focus screen also features a grid overlay so you can perfectly compose the vertical elements and control converging lines in your image. You can also zoom the display up to the pixel for direct critical focusing on fine details. It's like having a loupe built into your camera!

## Sample

The "Sample" tool is your key for accurate measuring. Specific parts of your image can be isolated in a sample size from 1 pixel to a 21 x 21 pixel representation. Competing photo software only samples up to a 5 x 5 pixel section – leaving room for erroneous readings.



*The T2 easily converts into a stand-alone capture station with 35mm and 120mm lenses and adapters.*

**Compatible  
with Mac  
or PC  
computers**

Create a  
press-ready  
image  
without  
remapping  
data



Photograph by Joe Bronzino

### Light Meter

As you know, conventional film photography requires metering and calculating every time you set up your shot. MegaVision's software precisely spot-meters your shot after you capture your image. No more bracketing!

By selecting the "Meter" option, the camera captures one exposure and displays a grayscale image 7" square. The image is then color-coded to indicate the light intensity in various ranges: red = lightest areas, green = mid-tones and dark blue = darkest

areas. The lightest area showing detail is displayed in yellow, while the darkest showing detail is displayed in cyan. The colors can be turned on/off or modified to your preferences.

With color-coded light metering, you can easily determine what part of your image you need to fill with additional light and what part needs to be lowered. Other digital software adjusts every value on a curve with the same density as the point you're trying to move – ultimately sacrificing important highlights and shadows.



## Gamma

After your highlights and shadow areas have been properly adjusted, the "Gamma"

function establishes your midtones for proper separation of tones. This control allows you to choose the shape of the curve. The Gamma tool won't control the overall contrast, but it will determine where the midtone lies within the highlight-to-shadow range.

## Density Range

For best reproduction, our software allows you to match the scale of your image to the scale of the press with its built-in densitometer. The Density Range tool controls the number of tones the camera will record. By using this information, you can rely on traditional photographic techniques to create your ideal image instead of remapping. The Density Range value is always displayed for convenient viewing. Simply set the Density Range (available from your printer or separator) and shoot!

## Time Delay

The T2 synchronizes to all popular flash systems. You can even set your capture according to your lighting equipment recycling time. Just click on the "Time Delay" preference and set your exposure. It's that easy.

## Small Reproductions

Small reproductions are a snap with our software! If your image size doesn't require a 12MB file, just specify a 1K x 1K image and the pixels will instantly group to reduce the file size to 3MB. This mode captures the image faster and adds an extra stop of exposure. There's no need for scaling or extra disk space for storage.

Time Delay (0-100)	30
Density Range (1-4)	1.8
Gamma (1-5)	2.2
Sample (1-21)	9

## Batch Processing

Automate your production with a click of a mouse! The Batch Processing feature applies your capture parameters to a series of shots then automatically names and saves the files in numeric order. Now you can shoot, crop, name and save image files just by choosing the "Capture" command. Perfect for catalog work on a tight production schedule.



*Our software's accurate light meter function color-codes the light intensity of your image without adjusting every value on a curve.*

**Compare the MegaVision System with other digital cameras. We're sure you'll agree that our speed, flexibility, design and affordability just can't be beat by our competition!**

**Call to**

**arrange**

**a personal**

**demonstration**

**of the**

**MegaVision**

**System**

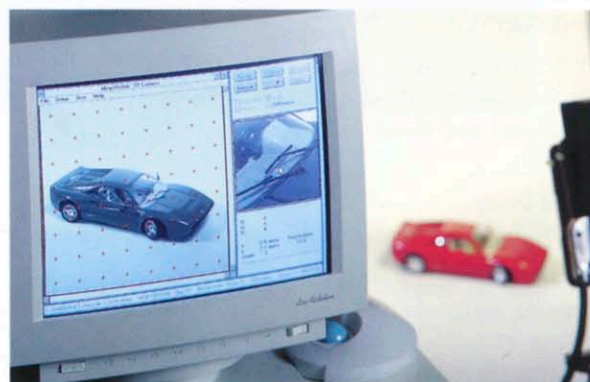


# Technical Information

Feature	Cambo MegaVision T2 Digital Back
Type of sensor	CCD area array
Resolution of sensor	2048 x 2048
Size of sensor	31mm square
Anti-Blooming	Yes
Bits per color	12
File Size	12MB, 3MB or 786K
Bits required for printing	8
Cooling	Not required. Less than 4 watts dissipated in back.
Color filter wheel	Internal near focal plane included in T2 back.
Shutter	Internal focal plane shutter included in T2 back. Does not require any other shutter.
Focus	Focus on computer monitor with live-video-focusing. Camera software includes zoom and positioning controls.
Preview cropping box & grid overlay	Using camera software. Intuitive controls allow familiar viewing and cropping tools.
Stand alone capability	Accessory lens mounting plates available for Nikon, Hasselblad, Pentax and Mamiya 645 cameras.
Image sizing	During capture using cropping box or after capture in T2 or 3rd party software.
Capture time from start until displayed on monitor	Approximately 10 seconds.
Weight & Balance	1.6 kg Center of gravity forward of focal plane.
Lenses	Digital lenses with electronically controlled aperture: 60mm f4.0, 80mm f4.0, 80mm macro f4.0, 90mm f4.5, 100mm f5.6, 120mm macro f5.6, 135mm f5.6 and 150mm f5.6.
Electronic Aperture	Included in lens with $\frac{1}{10}$ -stop control.
Computer Control of Iris	Included in T2 software.
Warranty	1 year parts and labor. Extended warranty is available.



*The MegaVision Capture Station: T2 Digital Back mounted on Cambo Master D 4x5 camera with PC computer and monitor supported by the UBS-E studio stand.*



*Live video focus right on the monitor.*

# CAMBO MegaVision

*Special thanks to Graphic Arts Services (Marietta, Georgia) for providing the images on our cover and page 6. These images were created with the MegaVision System.*