

## Specification

SEKONIC		PRODIGI COLOR C-500R	PRODIGI COLOR C-500	
Type		Color meter with 4 internal sensors for digital or film cameras	Color meter with 4 internal sensors for digital or film cameras	
Light receiving method		Incident light	Incident light	
Light receptor		Flat diffuser (fixed type lumidisc) with 270° (Horizontal) swivel head	Flat diffuser (fixed type lumidisc) with 270° (Horizontal) swivel head	
Light receiving elements		Silicon photo diode (4 sensors) with visible transmitting filter	Silicon photo diode (4 sensors) with visible transmitting filter	
Measurement type	Digital mode	Visual Color Temperature (Color temperature measurement based on approximation of color matching function)	Visual Color Temperature (Color temperature measurement based on approximation of color matching function)	
	Film mode	Photographic color temperature (Color temperature measurement based on approximation of film spectral characteristic)	Photographic color temperature (Color temperature measurement based on approximation of film spectral characteristic)	
Measuring mode	Ambient	Yes	Yes	
	Flash	Yes	Yes	
	Radio triggering	Yes	No	
Display mode	Digital	Ambient/Flash light	*Visual Color temperature + CC index *LB filter number + CC filter number (Fuji's LBA/LBB, Kodak Wratten/LEE filter number) *LB index + CC index	
		Film	*Photographic Color temperature *LB filter number + CC filter number (Fuji's LBA/LBB, Kodak Wratten filter number) *LB index + CC filter number	
	Illuminance	Ambient/Flash light	*Photographic Color temperature *LB filter number + CC filter number (Fuji's LBA/LBB, Kodak Wratten filter number) *LB index + CC filter number	
		Ambient light	*Lux(lx) *Foot-candle(ft-cd)	
Measuring range	Color Temperature	2,300K to 20,000K	2,300K to 20,000K	
	Equivalent light amount of color temperature	Ambient light	EV3 to 16.3 (20lx to 200,000lx)	EV3 to 16.3 (20lx to 200,000lx)
		Flash light	Range Low F No.2.8 to 22 (20lx/s to 1,300lx/s) Range High F No.16 to 90.9 (640lx/s to 38,000lx/s)	Range Low F No.2.8 to 22 (20lx/s to 1,300lx/s) Range High F No.16 to 90.9 (640lx/s to 38,000lx/s)
	Illuminance	Ambient light	2.5lx to 610,000lx 0.23FC to 56,500FC	2.5lx to 610,000lx 0.23FC to 56,500FC
Display range	Measured color temperature	2,300K to 20,000K	2,300K to 20,000K	
	Selected color temperature	2,500K to 10,000K	2,500K to 10,000K	
	LB index	-500 to +500 (in MK <sup>-1</sup> )	-500 to +500 (in MK <sup>-1</sup> )	
	LB filter number	Fuji's LBA/LBB	LBA20 to LBB20	LBA20 to LBB20
		Kodak Wratten	85B+81EF to 80A+80D	85B+81EF to 80A+80D
	CC index	80G to 80M	80G to 80M	
	CC filter number	200G to 200M	200G to 200M	
	Illuminance		2.5lx to 610,000lx 0.23FC to 56,500FC	2.5lx to 610,000lx 0.23FC to 56,500FC
		Shutter speed	Flash light	1s to 1/500s (in 1, 1/2 or 1/3 steps) plus 1/75, 1/80, 1/90, 1/100, 1/200, 1/400
	Preset no.	Digital mode	1 to 19	1 to 19
		Film mode	1 to 19	1 to 19
	Dot matrix display		10 characters	10 characters
	Radio triggering	Channel	CH1 to 32	-
		Quad-triggering zone	A, B, C, or D	-
Repeat Accuracy	LB index	± 2 MK <sup>-1</sup>	± 2 MK <sup>-1</sup>	
	LB filter number	± 2 MK <sup>-1</sup>	± 2 MK <sup>-1</sup>	
	CC index	0.8	0.8	
	CC filter number	± 2 of displayed value	± 2 of displayed value	
	Illuminance	+/-4% of displayed Lux or FC	+/-4% of displayed Lux or FC	
Operating temperature range		-10 to +50 deg. centigrade	-10 to +50 deg. centigrade	
Storage temperature range		-20 to +60 deg. centigrade	-20 to +60 deg. centigrade	
Batteries Used		Two AA 1.5V batteries (Alkaline, Manganese, lithium, Nickel, NiCd and NiH)	Two AA 1.5V batteries (Alkaline, Manganese, lithium, Nickel, NiCd and NiH)	
Dimensions		Approx. 62w x 158.6h x 28d mm	Approx. 62w x 158.6h x 28d mm	
Weight		C-500R: 230g (with batteries), 195g(w/o batteries)	C-500: 220g (with batteries), 185g (w/o batteries)	
Standard accessories		Soft case, Strap, Synchro terminal cap, Operating manual, Quick Guide, 2 AA dry cell alkaline batteries	Soft case, Strap, Synchro terminal cap, Operating manual, Quick Guide, 2 AA dry cell alkaline batteries	
Main functions		Color temperature measurement, Illuminance measurement, Wireless flash radio triggering function, Custom settings, Preset White Balance/Color Compensation, Contrast function, Battery power indicator, Auto power off, Automatic EL backlight, Jog wheel lock, Tripod socket	Color temperature measurement, Illuminance measurement, Custom settings, Preset White Balance/Color Compensation, Contrast function, Battery power indicator, Auto power off, Automatic EL backlight, Jog wheel lock, Tripod socket	

## Optional Accessory



### Sync Cord

A convenient five-meter(=16.4 feet) long cord with three plugs, allowing you to connect and synchronize between a color meter, flash unit and camera, so there is no need to plug or unplug the cord during a shooting. Also, one terminal of the sync cord has a locking mechanism to ensure connection when used with a color meter.

## SEKONIC CORPORATION



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# SEKONIC

## C-500R/C-500 PRODIGI COLOR

**NEW**

C0831



The First Wireless Color Meter Created for Digital and Film Color Control  
PRODIGI COLOR C-500R & C-500

# Accurate Color Control The Essential Goal..... Film or Digital

Reproducing colors as they appear in the image has been the essential goal and dream of color photography since its inception. Using color filters and yesterday's color measuring instruments, photographers around the world managed to control color in their images. Today's digital photographers remain unchanged in their desires to control color precisely. Unfortunately using yesterday's color measuring and balancing tools have little use for digital capture today.

Sekonic New PRODIGI COLOR C-500R/C-500 series is the first color meters to address the needs of today's digital shooter. Offering four unique color sensors (including a digital sensor) the PRODIGI COLOR makes it possible to measure color accurately for Film or Digital capture.

The PRODIGI COLOR C-500R/C-500 series assists the photographer in capturing accurate image color reproduction before the shutter is released. By measuring and correcting mixed lighting, color temperatures, adjusting for accurate white balance and other color challenges, the PRODIGI COLOR eliminates countless hours of post production editing with image editing software.

Sekonic continues to be dedicated towards providing photographers with the tools needs to capture the world's most captivating images. The PRODIGI COLOR C-500R/C-500 series joins in Sekonic dedication to create a new standard in digital capture, where exposure and color can now be easily and quick controlled precisely.



## The color temperature of light source determines the color of an image



The overall color of an image is greatly affected by the color of the light illuminating it. As the color of the light source changes, so does the overall color of the image. These changes in color determine the color of the shadow, mid-tone and highlights of the image. Both film and digital capture are affected by the color of the light source and require accuracy measurement and color balance to produce accurate color reproduction.

The three images above show the affects of different light sources. Each image was photographed with a digital camera set for 5500K (day light type film) and photographed under three various light sources:  
(Image A) Flash light :5230K. (Image B) Tungsten lamp:2640K. (Image C) Fluorescent lamp:6800K

## Color Correcting for Multiple light sources



When a scene requires multiply light sources to add depth and detail to an image, it is important to measure and adjust each light source to the proper light balance. If various color temperature light sources are allowed to illuminate the subject, than inconsistent and uneven color will result in those effected areas of the image. Mixed color temperature light sources make it difficult to get correct white balance even in digital capture, and trying to color balance a poorly balanced color image with image editing software is time consuming and difficult.

The three images above show the affects of multiple light sources with different color temperatures.

(Image A) Photographed using multiple light sources with different color temperatures. Notice the uneven color.

(Image B) Image editing software was used to correct the white balance in the image, however the uneven colors are still present.

(Image C) When using the color meter to measure and adjust the color temperature of each light source, the final image is free from uneven color reproduction and no color balancing is necessary after the image is captured.

## Adjust the light source to match the color temperature of the digital camera (or film) for accurate color reproduction



To achieve the proper color reproduction (realistic colors) it is necessary to adjust the color temperature of light source and the digital camera's setting (digital camera's white balance setting (Kelvin setting) or type of film being used) to match. For example if the camera is set for 5500K than the light source should also be as close to 5500K as possible for true color balance. Using the cameras AUTO White Balance mode, Preset White Balance or similar in camera automatic white balancing mode can not correct for inconsistent light sources or provide accurate color balance.

Measuring the color and balancing the light source to the camera (or film) avoids lose of accurate color reproduction and image quality.

(Image A) The light source in this image is a tungsten lamp (approx 3200K) and photographed with a digital camera set for 5200K.

(Image B) Image editing software was used to correct the white balance in the "image A" , however the proper color balance was not achieved.

(Image C) When using the color meter to measure and adjust the color temperature of the light source (approx 3200K) to the cameras Kelvin setting, the final image is free from uneven color reproduction and no color balancing is necessary after the image is captured.

## Digital Camera's Auto White Balancing is not a consistent or reliable solution for accurate white balancing



Digital camera's auto white balance is not always perfect for correct color reproduction. Also, the preset white balance in digital camera is closer to the correct color, however, it is not perfect. It makes the correct color reproduction possible to measure the color temperature of light sources and set the result to the digital camera's setting.

The three images above show the affects of different white balancing solutions. Each image was photographed using three different white balance modes Auto White Balance, Preset White Balance and Kelvin White Balance setting (using the Prodigy Color Meter):

(Image A) This images was photographed by using a digital camera's auto white balance setting, note color inaccuracy.

(Image B) This image was photographed by using a digital camera's preset white balance setting, color accuracy is closer but not perfect.

(Image C) This image was photographed by measuring the light source with the PRODIGI COLOR C-500R and setting the digital camera's Kelvin settings to match the meters readings, the colors are reproduced correctly.

# C-500R/C-500 PRODIGI COLOR

## The World First Color Meter Created for Digital and Film Color Control

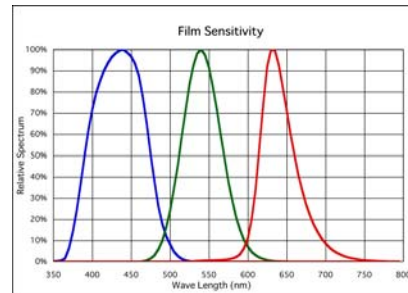


fig. 1 Film sensitivity in general

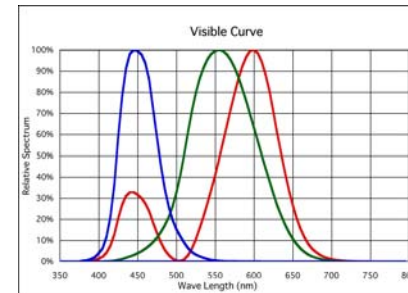


fig.2 Digital sensor's spectral sensitivity in general (Approximated to human eye)

The PRODIGI COLOR C-500R (Wireless Triggering) and C-500 can measure and display the color temperature and compensation values (LB/CC index or filter numbers) by simply selecting digital<sup>1</sup> or film sensitive mode. The above fig. 1(Film sensitivity) and fig. 2(Digital sensitivity) show the differences between the color response of film as compared to digital capture. Offering both film and digital color sensitivity response and proper color corrections, all in one color meter enables today's photographer to easily maintain color accuracy as their shooting needs change.

<sup>1</sup> PRODIGI COLOR C-500 series is designed based on the color response of the human eye, which is how digital cameras are engineered.

The PRODIGI COLOR C-500 series offers color measurement accuracy demanded by professionals metering challenging light sources such as HMI or fluorescent lights. It provides consistent and accurate measurements and color corrections values for both film and digital cameras, something that traditional color meters could never achieve.

In addition, the Prodigy Color C-500R/C-500 includes the ability to measure illuminance either in Lux or Foot-Candle measurements.

The PRODIGI COLOR C-500 series incorporates four-color sensors, a Red sensor for digital response (Rd), a Red sensor for film response (Rf), a Green sensor (G) and a Blue sensor (B). By using a simulated spectrum<sup>2</sup> (patent pending), Sekonic has created a selectable Digital or Film mode in the PRODIGI COLOR.

<sup>2</sup> Simulated spectrum (patent pending) is a Sekonic software solution that emulates the blue and green channel color response for both digital and film.

## Wireless Radio Triggering Mode (C-500R only)

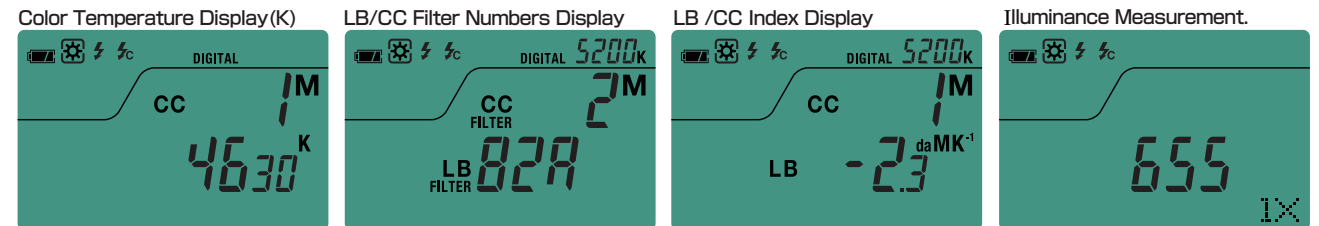


The PRODIGI COLOR C-500R is the first color meter to include a built-in radio transmitter module. Color temperature measurements of electronic flash units can be made by triggering the flash wirelessly from up to 100 feet (30 meters) away. The built-in transmitter is compatible with PocketWizard<sup>®3</sup> radio triggering systems, as well as the PocketWizard Wireless Freedom partners (Profoto, Dyna-lite, Photogenic, Norman and Lumedyne with built-in PocketWizard radio technology). The Wireless Radio Triggering Mode offers 32 digital coded channels (1-32) and four Quad-Triggering Zones.

<sup>3</sup> The Prodigy Color C-500R incorporates PocketWizard radio technology produced by LPA Design Burlington, VT.

## Large LCD screen displays the appropriate data for the selected mode

PRODIGI COLOR C-500R/C-500 provide not only the measured values such as color temperature or illuminance but also the compensated values necessary for correct color reproduction such as LB/CC filter numbers (selectable from Kodak/LEE or Fujifilm) and LC/CC index compensation on the LCD screen.



The color temperature is shown as Kelvin value (unit:K). The Kelvin displayed value is based on the selected mode, film or digital.

<sup>\*</sup>The color temperature in digital mode is an approximate value to the industrial chromameter.

LB/CC filter numbers (Kodak/LEE or Fujifilm selectable in custom setting) are directly displayed to show the compensation differences between the actual light source and the desirable color temperature.

<NOTE >

Due to the characteristics of digital sensors, there might be a possibility of exceeding the limits of color correction using filters.

LB/CC index is shown as unit of MK<sup>-1</sup> or daMK<sup>-1</sup>(with/without decimal point), selectable in custom setting, to compensate the difference between the actual light sources and desirable color temperature.

"MK<sup>-1</sup> (per mega Kelvin)" is defined and based on the International System of Units (SI), and equivalent to the traditional unit of "Mired". "daMK<sup>-1</sup> (deca per mega Kelvin)" is a unit of one tenth of MK<sup>-1</sup>.

Illuminance is measured by using the G (Green) sensor. Lux (lx) or Foot-Candle (FC) measurement values are selectable in the custom settings mode. The measured values are the same in either Digital or film mode.

## How to use the PRODIGI COLOR C-500R / C-500

The Prodigy Color C-500R/C-500 can be used in the following methods depending on what type of camera or light source is being used. It is important to select the appropriate method depending on the type of photographic application required.

	Light source can be adjustable		Light source can NOT be adjustable	
		Digital camera	Film	
Procedure 1	Measure the color temperature of light source.	Measure the color temperature of light source.	Set the color temperature in C-500R/C-500 to the type of film being used.	
Procedure 2	By using light balancing or color correcting filters (gels) over the light source, adjust the color temperature to match the Kelvin temperature set in the digital camera or type of film being used. * When using film, set the color temperature of the film in the C-500R/C-500 and use the indicated LB/CC index.	Set the digital camera to the measured color temperature of the meter.	Measure the color temperature of light source.	
Procedure 3		Compensate G (Green) or M (Magenta) by using CC index in the digital camera if color compensation function is equipped in the camera.	Photograph by using the filter numbers indicated in the C-500R/C-500.	
Result	Most effect and efficient way of color balancing multiply light sources.	It's possible to get more accurate white balance than using the Auto white balance camera mode.	It's possible to get accurate color reproduction.	

# C-500R/C-500 PRODIGI COLOR

The Prodigy Color C-500R/C-500 responds to all professional imaging demands



In the studio or on location, lighting conditions are continually changing that require the demanding professional to constantly monitor the changes in color temperature. The Prodigy Color C-500R/C-500 offers a quick and accurate method for measuring and correcting changes in color temperature caused by factors such as light diffusers, light panels, flash tubes, umbrellas, reflectors and position of the sun. The Prodigy Color is the ideal tool to assist the professional who is concerned with all levels of color management, including the color temperature of a viewing light source, lighting for film or video production and even lighting for monitor viewing. Since the Prodigy Color can also measure illuminance, it's a great solution for light level control. Lighting levels for factories, theaters, events, industrial applications and interior decorations as well as many more applications can be managed with the Prodigy Color C-500R/C-500.

## Other Functions

### Memory (Δ) Function



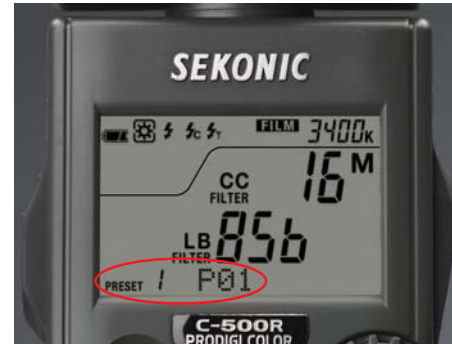
This function offers a convenient way to check the consistence or uniformity of the light sources. After taking an initial measurement to establish a standard value, it is possible to compare the differences between the standard measured value and the new measured value in every display mode.

### Swivel Light Receiving Head



Swivel head (rotated 270 degrees) enables you to read LCD screen while pointing the heads towards the light source.

### Preset White Balance / Color Compensation Function



The Preset Values are the stored correction values that automatically calculate and compensate the measured value when activated. If the indicated compensation value does not produce the desired or expected color reproduction than it will be necessary to modify the filter compensation values.

### Convenient Readily AA Batteries



Two convenient AA dry cell or rechargeable batteries can be used as the power source. Dry cell: Alkaline, Manganese, Lithium and Nickel Rechargeable: NiCd and NiH.

### Auto Backlight Function



The automatic backlight LCD activates in low light conditions (under EV6 or 160 LUX) such as a studio.

### User Friendly Design

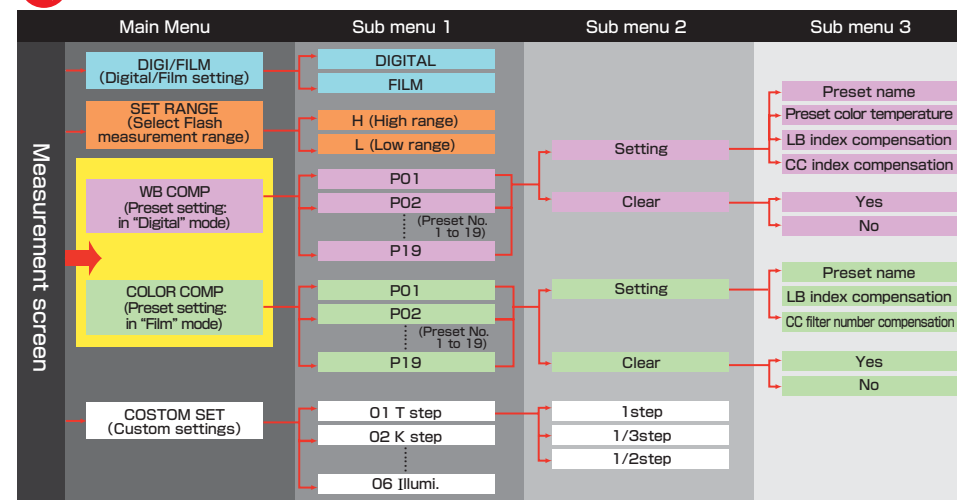


The PRODIGI COLOR has been designed with a sensible key configuration. Using less buttons and switches, the C-500R/C-500 uses Sekonic's popular Jog wheel and key action for quick and easy operation.

## Custom Settings

Setting number	Custom setting name	Sub menu 2			
		0	1	2	3
01	T step (Shutter speed step)	1step (1step)	1/3step (1/3step)	1/2step (1/2step)	-
02	K step (Selected / preset color temp. step)	100K step (100K step)	10MK <sup>-1</sup> step (10MK <sup>-1</sup> step)	-	-
03	LB step (LB index display step)	1MK <sup>-1</sup> step (1MK <sup>-1</sup> step)	1daMK <sup>-1</sup> step (1daMK <sup>-1</sup> step, no decimal point)	0.1 daMK <sup>-1</sup> step (1daMK <sup>-1</sup> step, with decimal point)	-
04	LB filter (LB filter number selection)	Wratten (Kodak Wratten/LEE)	LBA/LBB (Fuji LBA/LBB)	-	-
05	Auto off (Automatic power OFF setting)	20min (20 minutes)	10min (10 minutes)	5min (5 minutes)	None (Disable)
06	Illumi. (Illuminance mode)	None (Not displayed)	lx+FC (both lx and FC)	lx Illumi. (Only lux display)	FC (Only FC display)

## Menu List



## Parts Designation

