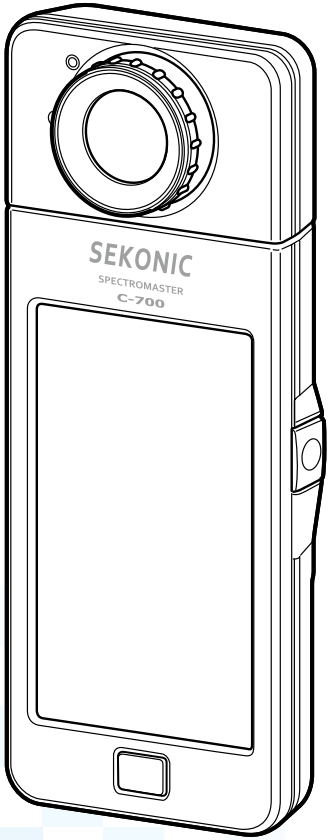
SEKONIC Spectrometer for Photo/Video/Cine

SPECTROMASTER
C-700
C-700R

Operating Manual



Please read the operating manual carefully to fully understand the features of this product before use and keep it for future use. Keep the operating manual in a safe place.

Congratulations on your purchase of a Sekonic SPECTROMASTER C-700/C-700R. Please read the operating manual carefully to properly utilize the many features and benefits of this precision instrument.

The Sekonic SPECTROMASTER C-700/C-700R is the first spectrometer that measures every light source (LED, HMI, Flourescent and the natural light spectrum) PLUS wireless flash (C-700R only). In addition, with its CMOS linear image sensor, the SPECTROMASTER C-700/C-700R makes it possible to create output wavelength in 1 nm increments, capture spikes in light source output, especially fluorescent and LED lighting, and provide unmatched color measurement accuracy.

In addition, the "C-700/C-7000 Series Utility", included as an accessory of this product, can be used to save data, display measurement values and graphs, and perform settings when the meter is connected by USB to computers or tablets.

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■ Safety Precautions

Before using this product, please read this "Safety Precautions" for proper operation.

⚠ WARNING	The WARNING symbol indicates the possibility of death or serious injury if the product is not used properly.
⚠ CAUTION	The CAUTION symbol indicates the possibility of minor to moderate personal injury or product damage if the product is not used properly.
NOTICE	The NOTICE symbol indicates cautions or restrictions when using the product. Please read all notes to avoid errors in operation.
NOTE	The reference symbol indicates additional information about the controls or related functions. Reading these is recommended.
➡	The arrow indicates reference pages.

⚠ WARNING

- **Infants or toddlers may accidentally wrap the strap around their neck, so please place it in a location out of their reach. There is a danger of suffocation.**
- **Do not place batteries in open flames, attempt to short, disassemble or apply heat to them, use unspecified batteries, or recharge them (except rechargeable batteries). They may burst and cause fires, serious injury, or damage to the environment.**

⚠ CAUTION

- **Do not handle this product with wet hands, or leave it in the rain or in a location where it may be splashed with water, submerged, or come into contact with moisture. There is a danger of electric shock if the "Flash Light Cord (PC) Mode" is used.**
  This may also result in damage to the product.
- **Do not attempt to disassemble the product for modification or parts replacement. It may affect measurement results or damage the meter.**
- **Do not attempt to play the included CD-ROM using an audio CD player. It may impair hearing or damage speakers and earphones.**
- **When controlling the meter with the LCD, gently touch with your finger. Using pointed pens or pencils may scratch the LCD screen or damage the product.**
- **Infants or toddlers may accidentally grab the strap and swing the product, so please place it in a location out of their reach, as the meter may be damaged by impacts.**
- **Be careful that the neck strap does not come loose when carrying the product, as the meter may be damaged when dropped.**
- **This neck strap is made of polyester fiber.**
  Please refrain from using the product if synthetic fibers cause your skin to become irritated, inflamed or itchy in order to prevent worsening your symptoms.

NOTICE

- A protective sheet is attached to the LCD. Peel it off before use.
- Although the LCD monitor is manufactured with very high precision technology with over 99.9% effective pixels, there might be a few dead pixels. Dead pixels, that do not or always light up, are not a malfunction.
- Do not use at altitudes above 2,000m (6,561 feet).
- Our company shall not be liable for any data loss caused by, but not limited to, malicious acts and control errors.
- You can install the software on the included CD-ROM only when you agree with all articles in the license agreement that comes with the CD-ROM.
- Be sure not to drop the meter or subject it to sudden impacts, as the meter will be damaged.
- Do not store the meter in areas of high temperature of high humidity, as the meter will be damaged.
- Be careful of condensation caused by sudden changes in temperature. It will cause damage or malfunction of the meter.
- If the temperature goes below -10°C, which may occur in the winter, the response of the liquid crystal display will slow down greatly and the display will become difficult to read. Between 0 ~ 10°C, the liquid crystal display response will slow down somewhat but the meter will not be harmed. Also, if the temperature exceeds 50°C, the liquid crystal display will darken and become difficult to read, but when it returns to room temperature it will return to its normal condition.
- If the meter is left in direct sunlight, a vehicle, or near a heater, the unit's temperature will rise and may result in damage. Please be careful when using the meter in these types of locations.
- If the meter is left where corrosive gases may be generated, the gases may affect the product and may result in damage. Please be careful when using the meter in these types of locations.
- When disposing of the meter, follow the rules of disposal in your area.

Maintenance Notes

- Be careful not to let the Light Receptor become dusty, dirty, or scratched as this may affect the precision of the measurement.
- If the meter becomes dirty, wipe it with a dry, soft cloth. Never use organic solvents such as thinner or benzine.

NOTE

- For used batteries, dispose of them according to the rules of your area, or bring them to a battery recycling shop near you.
- Insulate plus and minus terminals with tape or other insulation material.
- Do not remove the cover.
- Do not disassemble the batteries.

■ Intended Usage

The meter is designed for:

- Measuring color temperatures and illuminance of natural or artificial lights for photographs, videos, and movies.
- Displaying the correction values of filters for camera or lighting to match to the target color temperature.
- Managing the lighting lamps' aging degradation by checking the color temperature.
- Managing the viewing light source by color temperature for printing color proof, digital/film production, etc.
- Check the quality of light source in color rendering index.

Main features of the C-700/C-700R

Model name	Usage	Features
C-700	Lighting control for still and motion capture	Controls ambient lights, flash lights and environment lights at shooting, and controls light sources as devices. • Correlated color temperature (Digital mode), Photographic color temperature (Film mode) (1,600K ~ 40,000K) • Illuminance measurement • Displayed in accordance with usage (1) Color temperature (2) LB/CC filter number (KODAK WRATTEN 2, LEE, FUJIFILM, ROSCO) (3) LB/CC index (4) CRI measurements (5) Spectral distribution graph display, graph display enlargement function (6) Illuminance/luminous exposure (ambient light/ flash light) (7) Color deviation (⊿uv) • White balance function
C-700R	Lighting control for still and motion capture	• Radio transmission function to trigger PocketWizard® Brand radios using 340-354Mhz (FCC models) or 433MHz (CE models).

NOTE

The C-700R is designed so that it complies with technical standards for human body absorption of electromagnetic waves established by the Japanese government *1 and electromagnetic wave protection tolerance that the international guideline recommends. These international guidelines were established by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) in cooperation with the World Health Organization (WHO). The tolerance includes a sufficient safety margin regardless of the user's age or health conditions.

*1 The technical standard is stipulated in the Ministerial Ordinances Related to Radio Law (Ordinance Regulating Radio Equipment Article 14.2).

■ Intended Users

The intended users of this product are the following.

Those who are engaged in shooting or related businesses, such as photographers, videographers, and cinematographers, light operators, gaffers and directors of photography.
In addition, lighting engineers of architecture, art, and interior, and those who manage light sources in rental studios and light shops.

■ Restrictions

There are some cautions and restrictions regarding the use of this product.
Please agree to the following contents before use.

NOTE

- The contents of this operating manual may change without prior notice due to specification changes or other reasons. Therefore, the contents of this operating manual may differ from the operating manual included with the model you have, or of currently sold models.
- Cautions regarding safety such as the Usage Precautions and the Safety Precautions comply with the legal and industrial standards at the time of the making of this operating manual. Therefore, the described contents may not be up-to-date. When you use a past operating manual, refer to the cautions related to safety described in the latest operating manual.
- The product may contain printing material such as cautions related to safety and printing errors as a supplement to the operating manual.
- The contents of this operating manual may be reproduced for non-commercial purposes and for personal use only. However, the reproduced material must contain the copyright notice of our company.
- The screens in this operating manual may differ from the actual screens. (Colors, letters, etc.)

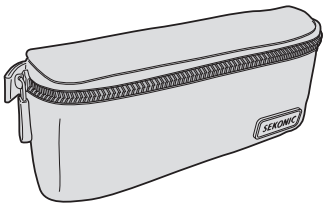
■ Accompanying Accessories

The following items are included with the SPECTROMASTER C-700/C-700R. Confirm if any accessories are missing after unpacking.
If something is missing, contact the sales agent.
Batteries (size AA) and a USB cable are not included.

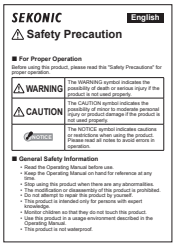
Neck Strap

Quick Guide

Soft Case



Safety Precaution


SEKONIC English

⚠ Safety Precaution

■ For Proper Operation

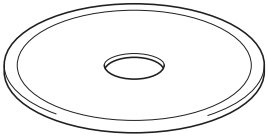
Before using this product, please read this "Safety Precautions" for proper operation.

⚠ WARNING	The WARNING symbol indicates the possibility of death or serious injury if the product is not used properly.
⚠ CAUTION	The CAUTION symbol indicates the possibility of minor to moderate personal injury or property damage if the product is not used properly.
NOTICE	The NOTICE symbol indicates cautions or restrictions when using the product. Please read all notes to avoid errors in operation.

■ General Safety Information

- Read the Operating Manual before use. Keep the Operating Manual on hand for reference at any time.
- Stop using this product when there are any abnormalities.
- The modification or disassembly of this product is prohibited.
- Do not attempt to repair this product by yourself. This product is intended only for persons with expert knowledge.
- Monitor children so that they do not touch this product.
- Use this product in a usage environment described in the Operating Manual.
- This product is not waterproof.

CD-ROM
(Operating Manual, C-700 Series Utility)



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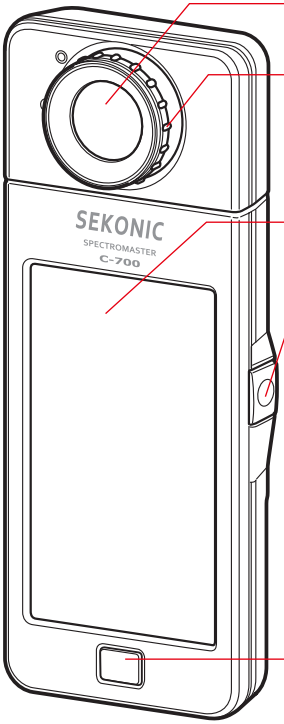
1. Parts Designations and Functions

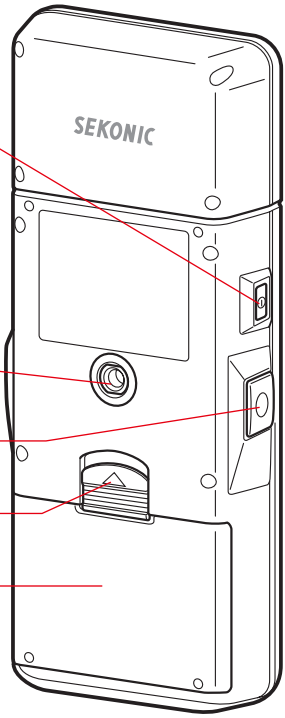
1-1 Parts Designations

Front View



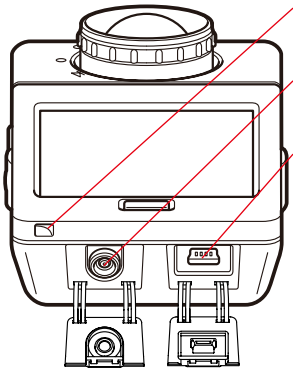
1 Light Receptor
2 Light Selection Ring
3 Power Button
4 Display Panel
5 Measuring Button
6 Menu Button

Rear View



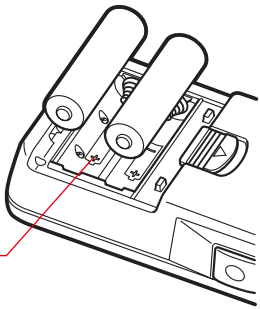
10 Tripod Socket
7 Memory Button
8 Battery Cover Latch
9 Battery Cover

Bottom View



13 Strap Eyelet
12 Sync Terminal
11 USB Connector
14 Battery Compartment

Battery Cover Section



1-2 Parts Functions

The following table lists the functions of each part.

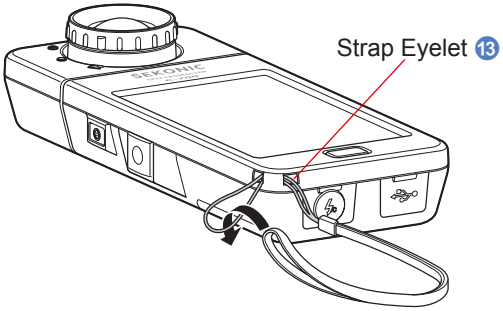
No.	Part Name	Functions
1	**Light Receptor**	Point light receptor directly at light source during reading. Head rotates 270 degrees to aid reading.
2	**Light Selection Ring**	Rotate to select dark calibration, normal measuring range or high range for flash light.
3	**Power Button**	Press to turn ON/OFF.
4	**Display Panel**	Displays the setting screens and measurement screens. The built-in touch panel function enables setting, selection or operation by touching the displayed screens. (➡P18)
5	**Measuring Button**	Press for measurement.
6	**Menu Button**	Press to shift display to Display Mode Selection screen.
7	**Memory Button**	Press after measuring to record the measured data.
8	**Battery Cover Latch**	Latch for the battery cover.
9	**Battery Cover**	Secures the batteries.
10	**Tripod Socket**	Female mounting threads (1/4-20) for hands free mounting on tripods.
11	**USB Connector**	The USB connector for connecting to the PC with the installed application and USB bus power. USB terminal: Mini-B-5pin
12	**Sync Terminal**	For measuring in Flash Light Cord (PC) Mode, plug in an optional sync cord.
13	**Strap Eyelet**	Used to attach the included strap.
14	**Battery Compartment**	Holds the batteries. Insert the batteries in the correct direction.

2. Before Use

2-1 Attaching the Strap

1. **Pass the strap (included) through the outer hole of the Strap Eyelet ⑬.**

2. **Pass the opposite end of the strap through the loop at the end of the strap.**



⚠ WARNING

Infants or toddlers may accidentally wrap the strap around their neck, so please place it in a location out of their reach. There is a danger of suffocation.

⚠ CAUTION

- **Infants or toddlers may accidentally grab the strap and swing the product, so please place it in a location out of their reach, as the meter may be damaged by impacts.**
- **Be careful that the neck strap does not come loose when carrying the product, as the meter may be damaged when dropped.**
- **This neck strap is made of polyester fiber.**
  Please refrain from using the product if synthetic fibers cause your skin to become irritated, inflamed or itchy in order to prevent worsening your symptoms.

2-2 Installing the Batteries

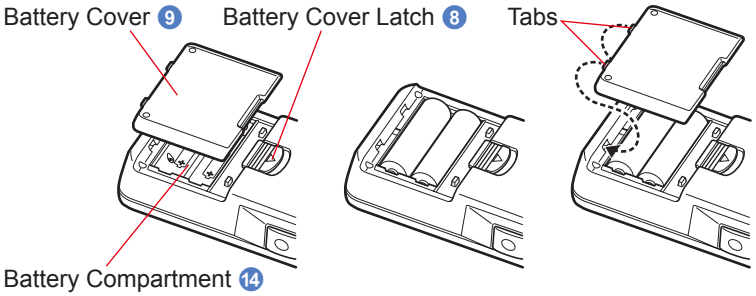
1. **Prepare two AA batteries.**

2. **Slide the Battery Cover Latch ⑧ in the direction of the arrow and remove the Battery Cover ⑨.**

3. **Insert the batteries according to the "+" and "-" symbols in the Battery Compartment ⑭.**

   * As shown in the diagram to the right, please note both positive sides of the batteries are facing in the same direction.

4. **While lining up the two tabs on the Battery Cover ⑨, press the Battery Cover ⑨ back into place from above.**



⚠ WARNING

Do not place batteries in open flames, attempt to short, disassemble, apply heat to, or recharge them (except rechargeable batteries). They may burst and cause fires, serious injury, or damage to the environment.

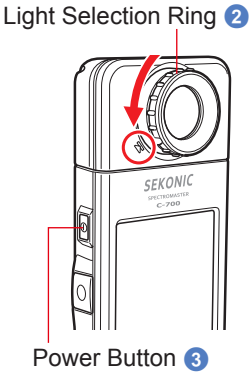
⚠ CAUTION

- **Please insert the batteries minus "-" side first.**
  When removing the batteries, remove them plus "+" side first.
- **Do not use batteries with any other rating than the one specified.**
  Also, do not mix old and new batteries.
- **If the meter will not be used for an extended period of time,**
  it is recommended to remove the batteries to avoid possible damage caused by battery leaking.

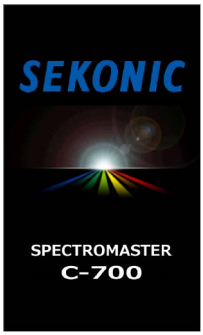
2-3 Power ON/OFF

Power ON

1. Turn the Light Selection Ring ② to set to the dark calibration position ( ).
2. Press the Power Button ③.
   The meter will turn on and the Opening screen will be displayed (for 2 seconds).



C-700 Opening Screen



C-700R Opening Screen

NOTICE

- The blue lettered "SEKONIC" logo screen is displayed after battery replacement and 24 hours after power OFF.
- Movement of the blue status bar indicates that the meter is checking its memory and preparing to operate. Do not turn the power OFF. Otherwise, the meter may be damaged.

Logo Screen

3. Select the language. (Appears only when turned ON for the first time)

The Language Selection screen is displayed. Select the language to use.

Language Selection Screen

Language Selection Confirmation Screen

A blue highlight will appear behind the selected button.

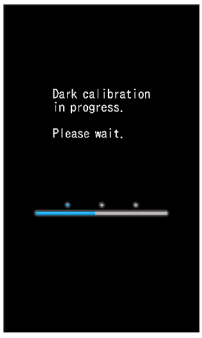
4. Press the [OK] to select the language.

The language can be switched at any time. (➡P141)

5. Dark calibration.

The C-700 series measuring system must be calibrated before use. Turn Light Selection Ring to calibration indication. "Dark calibration in progress. Please wait" and the status bar will appear while calibrating. The measurement screen will appear when operational.

Dark Calibration Process Screen



NOTICE

- **When the Light Selection Ring ❷ is not set to the dark calibration position, the message "Please set Light Selection Ring for dark calibration." is displayed. Set the Light Selection Ring ❷ to the dark calibration position ( ) to calibrate the system.**

Dark Calibration Position Confirmation Screen

- **If dark calibration is not successful, "Dark calibration failed. Please check Light Selection Ring position." is displayed. Set the Light Selection Ring ❷ to the dark calibration position ( ) to calibrate the system.**

Dark Calibration Confirmation Screen

6. Press the Measuring Button ❺ to measure.

Turn the Light Selection Ring ❷ to select the range.

When measuring ambient light, make sure to select Range L ( ).

When measuring flash units, select Range L ( ) or Range H ( ) depending on the brightness of of the flash. (➡P86, ➡P88)

NOTICE

When the Measuring Button ❺ is pressed at the dark calibration position, the message "Measurement failed. Please check Light Selection Ring position." is displayed. After you confirmed, touch the [OK]. The Measurement screen will be displayed.

NOTE

Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

Power OFF

1. Press and hold the Power Button ❸ for 1 second or longer.

The meter will turn OFF.

NOTICE

Please wait 3 seconds between repeated power on and power off sessions.

NOTE

- If the LCD screen shows no display, check if the batteries are installed properly (Pos/Neg positioning) and have enough capacity.
- All settings and measurements made during use are saved in memory even after the meter is powered off.

2-4 Checking the Battery Capacity

When the power is turned ON, the LCD screen will show the battery capacity indicator.


Sufficient battery life remaining.


Adequate battery life remaining.


Have a spare battery ready.


Replace the battery immediately.

NOTE

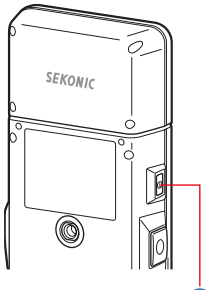
- When battery power is low and the meter is turned ON, the LCD screen will appear and then turn off immediately. This is an indication that the batteries are depleted and should be replaced immediately.
  Having spare batteries on hand is recommended.
- When the meter is continuously used at room temperature, the battery life should last 8 hours (based on Sekonic testing methods).

2-5 Automatic Power OFF Function

To save battery capacity, the meter will automatically turn off 20 minutes after the last button is pressed.

NOTE

- All measurements, settings and indications are saved in memory even after the meter has automatically turned off. When the power is turned ON, they will be displayed again.
- The automatic power off time setting can be selected according to your needs in the settings. (➡P135)
- If, while in transport, the Power Button 3 is inadvertently and continually pressed in, the meter will turn ON for about 1 minute and then turn automatically turn OFF to save battery power.



Power Button 3

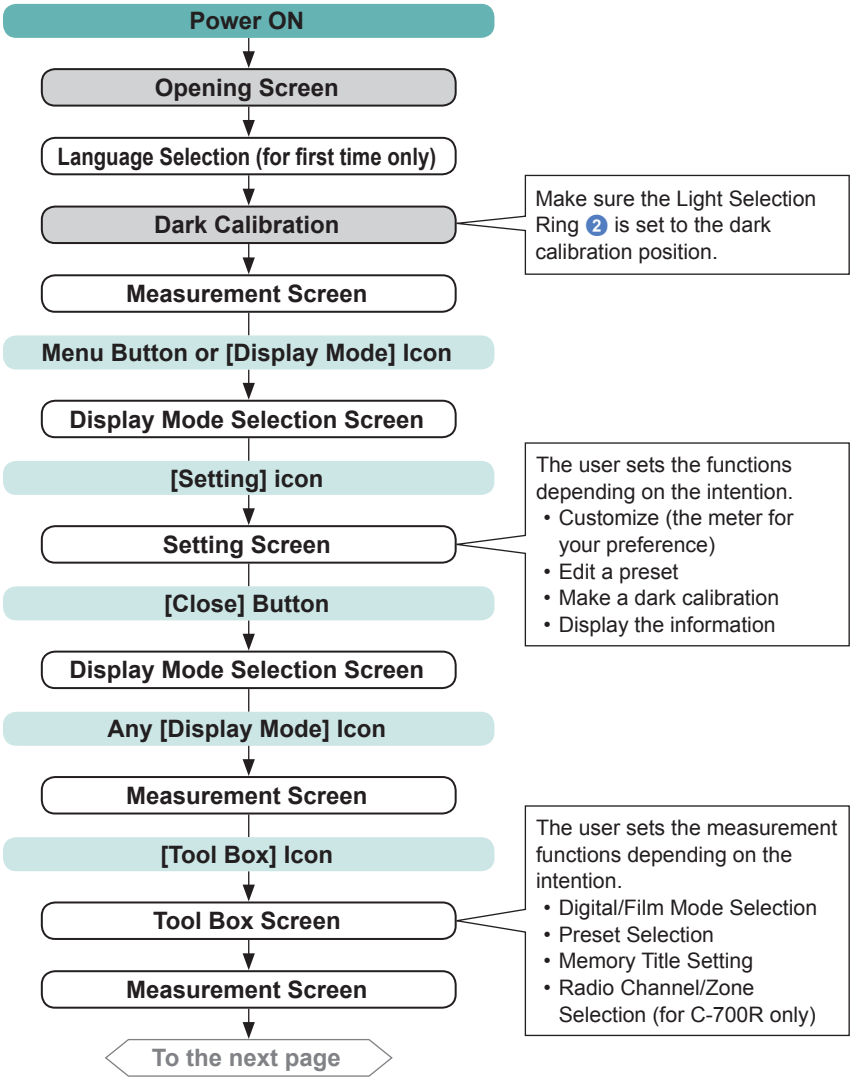
2-6 Changing Batteries During Measurement

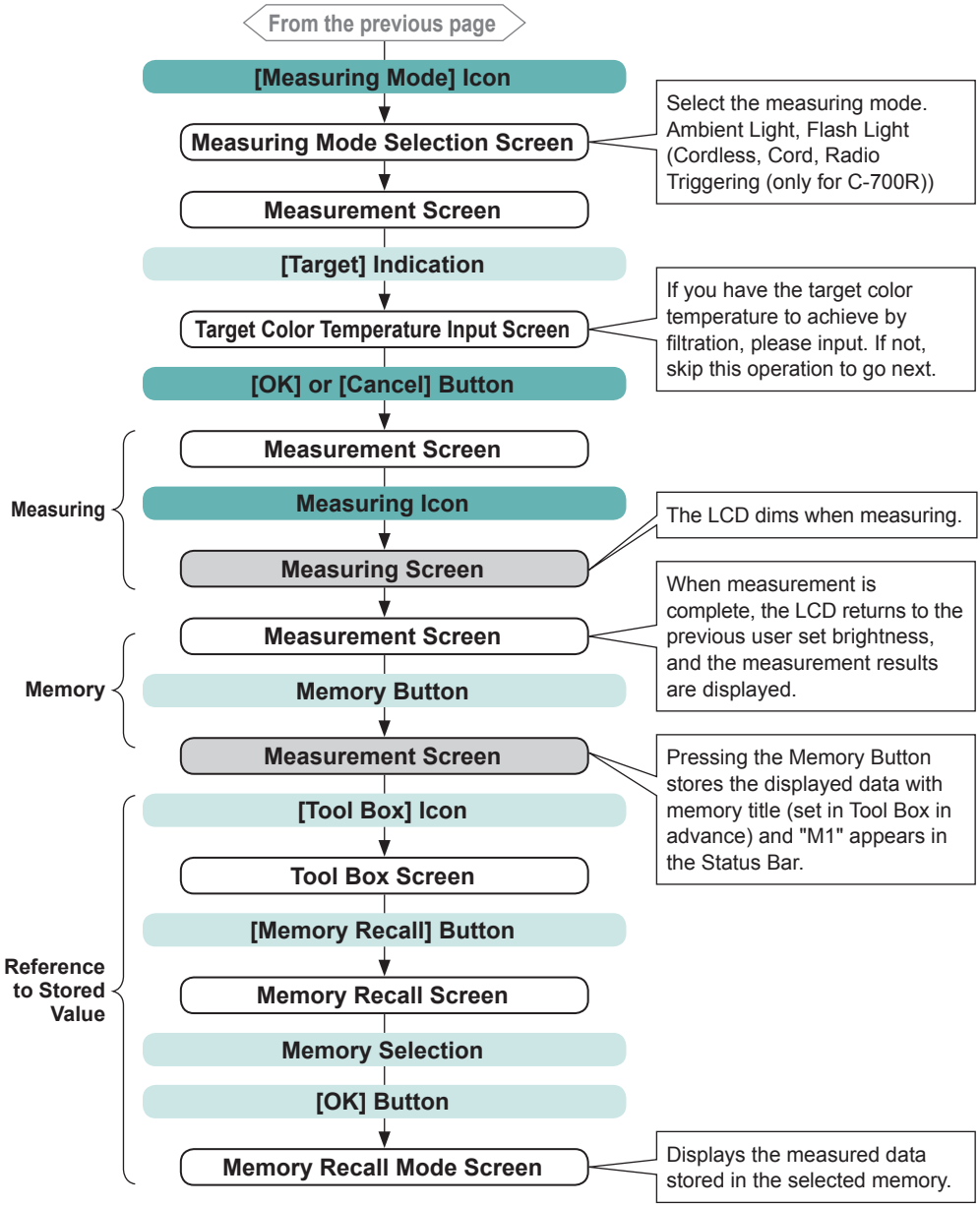
- Please make sure the power is OFF when replacing batteries. If left ON, the meter circuit could be damaged and measurements taken during the last operation will not be saved.
- If an unexpected display appears on the LCD during battery replacement or measurement, ie. settings other than selected, or if the meter does not respond when a button is pressed, remove the batteries, wait at least 10 seconds, and then re-install them.

3. Basic Operation Methods

3-1 Basic Operation Flow

The basic operations and screens are as follows. Measurements and measurement changes are operated from the Measurement screen.




From the previous page
[Measuring Mode] Icon
Measuring Mode Selection Screen
Select the measuring mode. Ambient Light, Flash Light (Cordless, Cord, Radio Triggering (only for C-700R))
Measurement Screen
[Target] Indication
Target Color Temperature Input Screen
If you have the target color temperature to achieve by filtration, please input. If not, skip this operation to go next.
[OK] or [Cancel] Button
Measurement Screen
Measuring
Measuring Icon
The LCD dims when measuring.
Measuring Screen
When measurement is complete, the LCD returns to the previous user set brightness, and the measurement results are displayed.
Measurement Screen
Memory
Memory Button
Measurement Screen
Pressing the Memory Button stores the displayed data with memory title (set in Tool Box in advance) and "M1" appears in the Status Bar.
[Tool Box] Icon
Tool Box Screen
[Memory Recall] Button
Reference to Stored Value
Memory Recall Screen
Memory Selection
[OK] Button
Memory Recall Mode Screen
Displays the measured data stored in the selected memory.

3-2 Screen and Operation

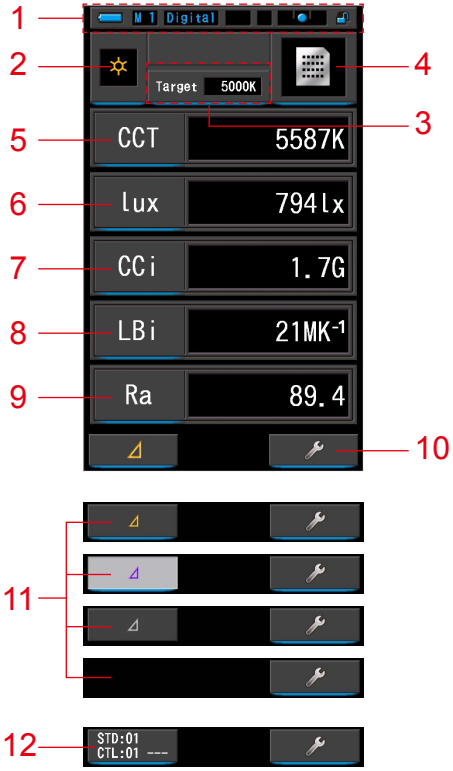
3-2-1 Basic Screen and Operation

The touch-screen display enables selecting Display Modes and settings with the touch of your finger.

Measurement Screen

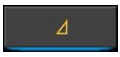
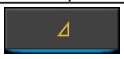
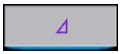
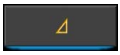
The Measurement screen is displayed after the meter is turned ON and the dark calibration is complete.
Measurements can be made in the Text, Spectrum, Spectrum Comparison, CRI and Camera and Lens Filter and White Balance Correction modes. For details of Display Modes, please refer to "4-3 Selecting the Display Mode" (➡P29).
* Pressing the Menu Button 6 returns the meter to the Display Mode Selection screen.

Measuring Screen in Text Mode



* The display changes depending on the set measuring mode.
* For this description, all icons and menus are displayed.

Item List

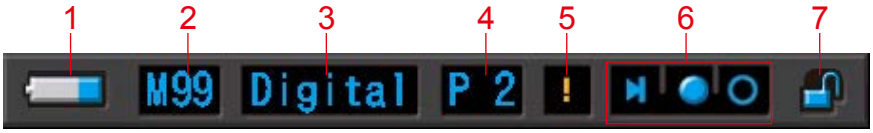
No.	Part Name	Description
1	**Status Bar**	Displays the setting contents. (➡ P16)
2	**[Measuring Mode] Icon**	Displays the measuring mode. (➡ P22) Switches to the Measuring Mode Selection screen.
3	**[Target] Indication**	Displays the reference color temperature. (➡ P26) Switches to the Target Color Temperature Input screen.
4	**[Display Mode] Icon**	Displays the display mode. (➡ P29) Switches to the Display Mode Selection screen.
5 ~ 9	**[Display Item] Indication**	Switches to the Item Selection screen. (➡ P28)
10	**[Tool Box] Icon**	Switches to the Tool Box screen. (➡ P89)
11	**[Delta] Icon (in Ambient Light Mode only)**	 Displayed when differential measurement can be performed.  When there is no reference measurement value, the icon is disabled.  When differential measurement cannot be performed, the (⊿) icon is not displayed. When  is touched, the displayed measurement is memorized and Contrast Function is activated. When holding the Measuring Button 5, the value differences of the memorized items (except filter names) and the current reading will be displayed. When the Measuring Button 5 is released, the display will revert to memorized values of the first reading. (A graph displays the reference values) When  is touched, the icon returns to  and the values measured last are displayed. Contrast Function is cancelled when the power is turned OFF. Note Caution: When the Contrast Function icon is displayed, the Memory Button 7 is disabled.
12	**[Channel Zone] Icon** (C-700R in Radio Triggering Mode only)	When  is touched, it switches to the Radio Channel/Zone screen. (➡ P108)

NOTE

When values are outside the display or measurement range, [Under], [Over] or [Out of Display] is displayed.

Under:	Displayed if value is lower than measurement range (too dark) or color temperature value Is too low.
Over:	Displayed if value is higher than measurement range (too bright) or color temperature value is too high.
Out of Display:	Displayed if there is no more combination of Filter name and number.

Status Bar



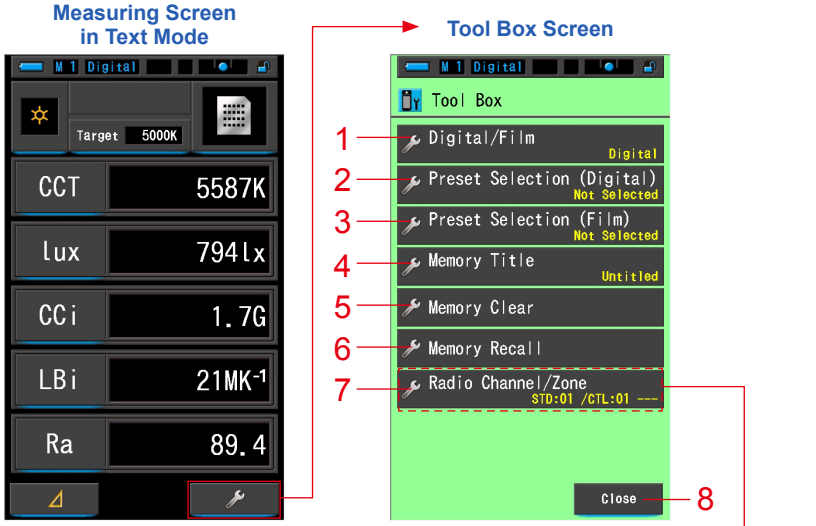
* For this description, all icons and menus are displayed.

No.	Part Name	Description	
1	**Battery Capacity Indicator**		Sufficient battery life remaining.
			Adequate battery life remaining.
			Have a spare battery ready.
			Replace the battery immediately.
			Displayed when powered by USB.
2	**Memory Count**		Displays the number of measured data stored in memory. The number in memory is displayed until 99 to the right of the mark.
3	**Digital/Film Mode**		Displayed when in Digital Mode.
			Displayed when in Film Mode.
4	**Preset Selection**		Displays the preset number when a preset is selected.
5	**Temperature Fluctuation Warning**		When the mark is illuminated, the color temperature reference is fluctuating, and you may be unable to take accurate measurements. Please perform dark calibration.
6	**Light Selection Ring Status Indicator**		Displayed when the Light Selection Ring ② is selected by the dark calibration position.
			Displayed when the Light Selection Ring ② has range "L" selected.
			Displayed when the Light Selection Ring ② has range "H" selected.
7	**Key Lock Status Indicator**		Displayed when the screen is unlocked.
			Displayed when the screen is locked. When the screen is locked, touch panel operations are disabled.

Tool Box Screen

You can perform the following settings by touching the [Tool Box ( )] icon on the Measurement screen.

* All icons are displayed for explanatory purposes for the Tool Box screen. It is not the default.



*Indicated only for C-700R model

[Tool Box: Item List]

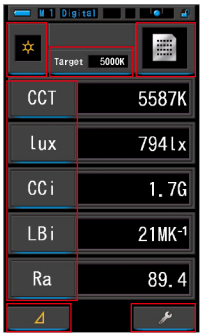
No.	Part Name	Description
1	**Digital/Film**	Switches to the Digital/Film screen. (➡ P90)
2	**Preset Selection (Digital)**	Switches to the Preset Selection screen. (➡ P92)
3	**Preset Selection (Film)**	Switches to the Preset Selection screen. (➡ P92)
4	**Memory Title**	Switches to the Memory Title Input screen. (➡ P95)
5	**Memory Clear**	Switches to the Memory Clear screen. (➡ P104)
6	**Memory Recall**	Switches to the Memory Recall screen. (➡ P98)
7	**Radio Channel/Zone** (only for C-700R model)	Switches to the Radio Channel/Zone screen. (➡ P108)
8	**[Close] Button**	Closes the Tool Box screen and returns to the Measurement screen.

3-2-2 Icon Operation

Touch operation

Touch the icons on screen to perform various operations.

(Ex.) Measuring Screen in Text Mode



Touch-enabled Icons

A blue illumination under icons indicates which icons are operational.

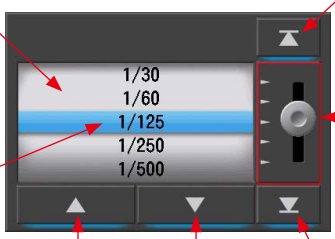
Touch-enabled Icons

Touch-disabled Icons

Slide Operation

Slide your finger tip up or down over a value to change the value amount.
Sliding your finger over scroll bar provides fast navigation of large menus.

(Ex.) Shutter Speed Selection Screen



Scroll Selection
Slide a finger up or down on the setting value areas to change setting values.

Top Icon
Touch to advance to the lowest value.

Scroll Bar
Touch and slide up or down to scroll settings.

One Step Icon
Touch the Up or Down icon to advance one position.

Bottom Icon
Touch to advance to the highest value.

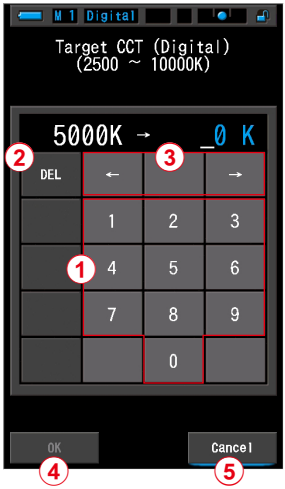
* Blue bar indicates the value selected.

3-2-3 Input of Numbers/Characters

You can input numbers and characters.

Numeric Number Input Screen

(Ex.) Target Color Temperature (Digital) Display

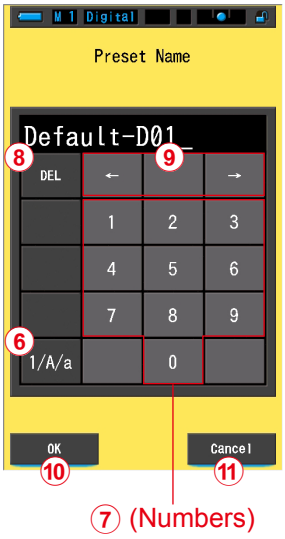


Numeric Number Method

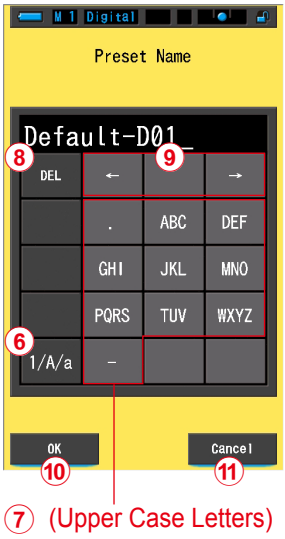
No.	Key	Description
①	**0-9**	Value displayed on screen when key touched.
②	**Delete**	Deletes input value at cursor position.
③	← →	Moves input position.
④	**OK**	Confirms input value and returns to previous screen.
⑤	**Cancel**	Cancels inputting and returns to previous screen.

Character Input Screen

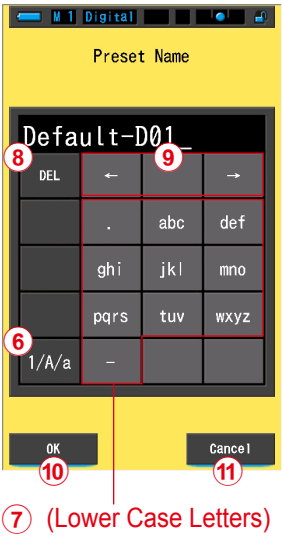
Number Input Screen



Upper Case Input Screen



Lower Case Input Screen

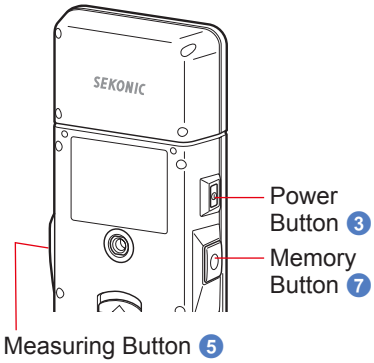


Input Method of Characters and Numbers

No.	Key	Description
⑥	**1/A/a**	Shifts between numbers/upper case letters/lower case letters.
⑦	**0-9, ABC, abc, hyphen, period**	Value displayed on screen when key touched. Repeated touching of the same button for alphabet (ABC/abc) will change the alphabet character in order.
⑧	**Delete**	Deletes the character at the cursored position.
⑨	← →	Moves input position.
⑩	**OK**	Confirms input value and returns to previous screen.
⑪	**Cancel**	Cancels inputting and returns to previous screen.

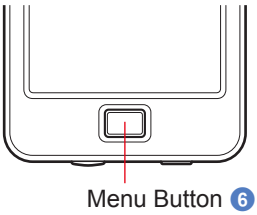
3-2-4 Locking and Unlocking the Screen

You can lock the screen to prevent misoperation.
When the screen is locked, touch operation is disabled.
However, the Memory Button 7, Measuring Button 5, and Power Button 3 are still operational.
The screen will stay locked even when power is turned OFF and ON.



To Lock

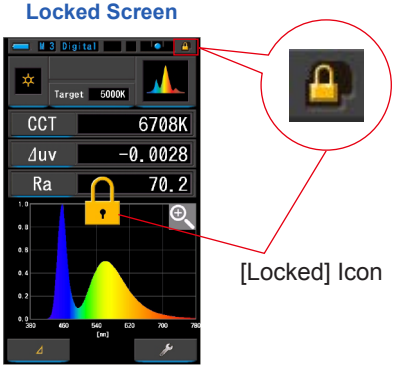
When the Menu Button 6 is pressed and held, the screen is locked and the [Locked] icon is displayed in the upper right corner of the LCD.
While the screen is locked, icons on the LCD cannot be operated.
When icons are touched in locked mode, the [Locked] icon will be displayed for approximately 1 second.
The operation of menu functions by pressing the Menu Button 6 is also disabled.
* This lock function can be set in the Measuring screens only.



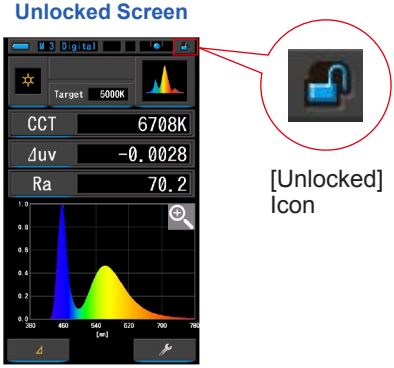
To Unlock

When the Menu Button 6 is pressed and held again, the screen is unlocked.

Locked Screen



Unlocked Screen



4. Setting the Measuring Conditions

4-1 Selecting the Measuring Mode

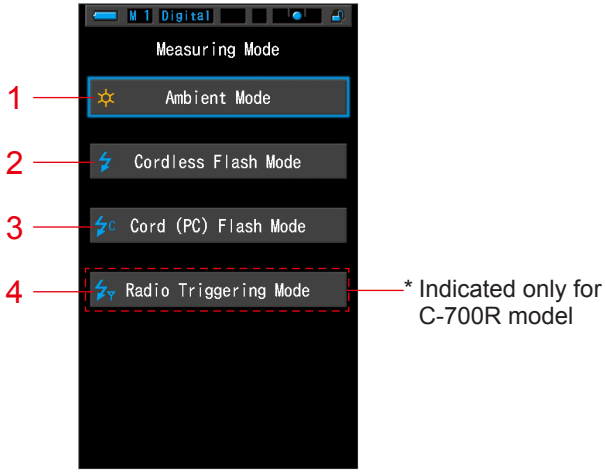
4-1-1 Matching Measuring Mode with Light Sources

Select the Measuring Mode to use.

NOTICE

If you change measuring mode settings, the measurement data will be erased.

Measuring Mode Selection Screen



No.	Measuring Mode	Icon	Description
1	**Ambient Light Mode**		Measures continuous light such as sunlight, tungsten, fluorescent, and LED lights. (➡ P58)
2	**Cordless Flash Mode**		Detects flash color temperature without meter-flash connection after Measuring Button pressed to arm meter (for 90 seconds) and flash fired separately. Measure using a flash during the wait time. (➡ P62)
3	**Cord (PC) Flash Mode**		Detects flash color temperature with PC (synchro) cord meter-flash connection. (➡ P68)
4	**Radio Triggering Flash Mode** (only for C-700R model)		Detects flash color temperature without meter-flash connection after radio transmitted signal is received by radio-receiver connected flash. (➡ P75)

Operation

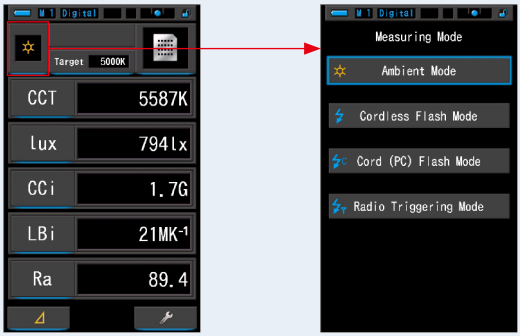
1. Touch the [Measuring Mode] icon in the upper left corner of the screen.

The Measuring Mode Selection screen will be displayed.

Measuring Screen in Text Mode

Measuring Mode Selection Screen

Text Mode in Ambient Light Mode



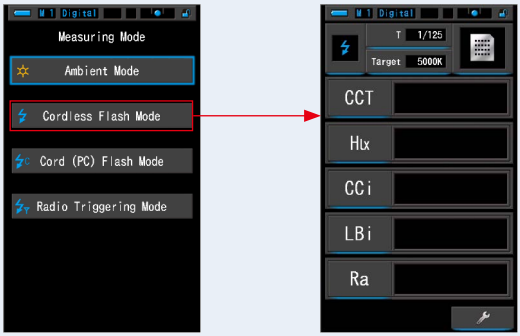
2. Touch an icon to select the measuring mode.

Select the desired measuring mode.

Making selection returns the display to previous measuring screen using selected mode.

Measuring Mode Selection Screen

Measuring Screen in Text Mode



Ex.) Ambient Light Mode →Cordless Mode

Text Mode in Cordless Mode

NOTE

- Ambient light includes continuous light sources such as natural light (sunlight), tungsten lamps or fluorescent lights.
- Flash light includes brief and intense burst of light sources such as electronic flash units or flash bulbs.

4-1-2 Selecting the Shutter Speed (Flash Modes Only)

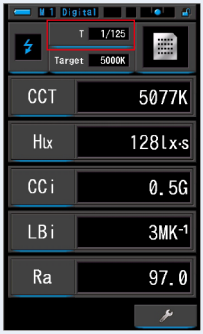
In any flash mode, set the shutter speed.

Operation

1. Touch the [T (Shutter Speed)] indication.

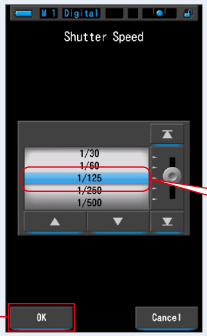
Measuring Screen in Text Mode

Text Mode in Cordless Mode



2. Select the desired shutter speed.

Shutter Speed Screen



[OK] Button

[Shutter Speed 1/125]

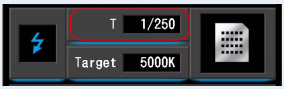
[Shutter Speed 1/250]

3. Touch the [OK] button.

Confirms the settings, and returns to the previous Measurement screen.

Touch [Cancel] to return to the previous measurement screen without setting speed.

The shutter speed is set.



NOTE

Shutter speeds can be selected by the item [Shutter Speed Step] in page 1 of Setting.
You can choose 1 step, 1/3 step, and 1/2 steps. (➡P120)

Shutter Speed Options

1 Step (Factory default)	1/3 Step	1/2 Step
1s	1s	1s
1/2	0.8	0.7
1/4	0.6	1/2
1/8	0.5	1/3
1/15	0.4	1/4
1/30	0.3	1/6
1/60	1/4	1/8
1/125	1/5	1/10
1/250	1/6	1/15
1/500	1/8	1/20
*1/75	1/10	1/30
*1/80	1/13	1/45
*1/90	1/15	1/60
*1/100	1/20	1/90
*1/200	1/25	1/125
*1/400	1/30	1/180
	1/40	1/250
	1/50	1/350
	1/60	1/500
	1/80	*1/75
	1/100	*1/80
	1/125	*1/90
	1/160	*1/100
	1/200	*1/200
	1/250	*1/400
	1/320	
	1/400	
	1/500	
	*1/75	
	*1/80	
	*1/90	
	*1/100	
	*1/200	
	*1/400	

* Special shutter speed setting.

NOTICE

- **Select a shutter speed that will synchronize with your camera and flash system.**
- **If you change shutter speed settings, the measurement data will be erased.**

4-2 Setting the Indication and Items in Measurement Screen

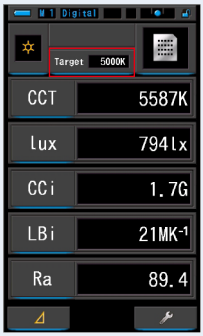
4-2-1 Setting Target Color Temperature

Use this setting to establish a "target" color temperature for camera and light source filtration selection.
The target color temperature is displayed in the upper central part of the Measurement screen.

Operation

1. Touch the [Target] indication on the Measurement screen.

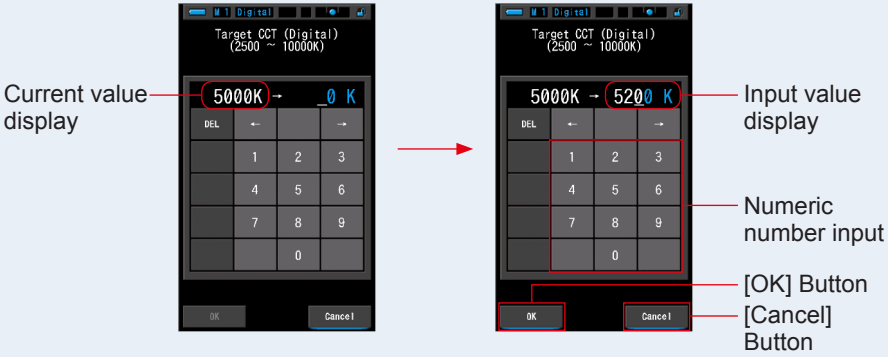
(Ex.) Measuring Screen Text Display



2. Enter the Target color temperature value.

The current target color temperature value and the entered value are displayed.

Target CCT Input Screen



3. Touch the [OK] button.

Confirms input value and returns to previous measurement screen.

Touch [Cancel] to return to the previous measurement screen without setting Target value.

The target color temperature in Text Mode is set.

NOTE

Setting Target for Digital Mode

- Set the meter to the same color temperature set on your camera. Please note that many digital cameras reproduce color better at certain color temperature settings. If your work requires optimum color reproduction and high color fidelity, select the camera manufacturers recommended color temperature for best color reproduction. (Please refer to your digital camera's operating manual.)
- You can set the color temperature from 2,500K to 10,000K in steps of 10K.
- When you frequently use multiple reference color temperatures, use preset for convenience. (➡ P92)

Setting Target for Film Mode

- Set the reference color temperature of the type of film you are using.
  Daylight type : 5,500K
  Tungsten Type-A : 3,400K
  Tungsten Type-B : 3,200K
- You can set the color temperature from 2,500K to 10,000K in steps of 10K.

4-2-2 Customizing Measuring Displays

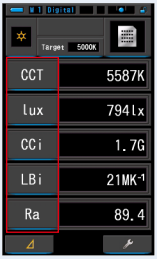
You can customize displayed information to see exactly what you need in single view.

Operation

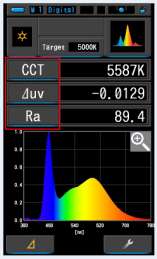
1. Touch the [Display Item] indication on the Measurement screen.
The Display item library screen will be displayed. (➡ P34)

2. Select the items to be displayed.
Selected items and the values will be displayed.

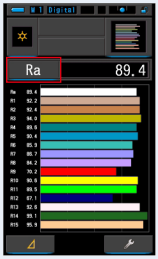
Measuring Screen Text Display (➡ P33)



Measuring Screen Spectrum Display (➡ P36)



Measurement Screen CRI Display (➡ P43)



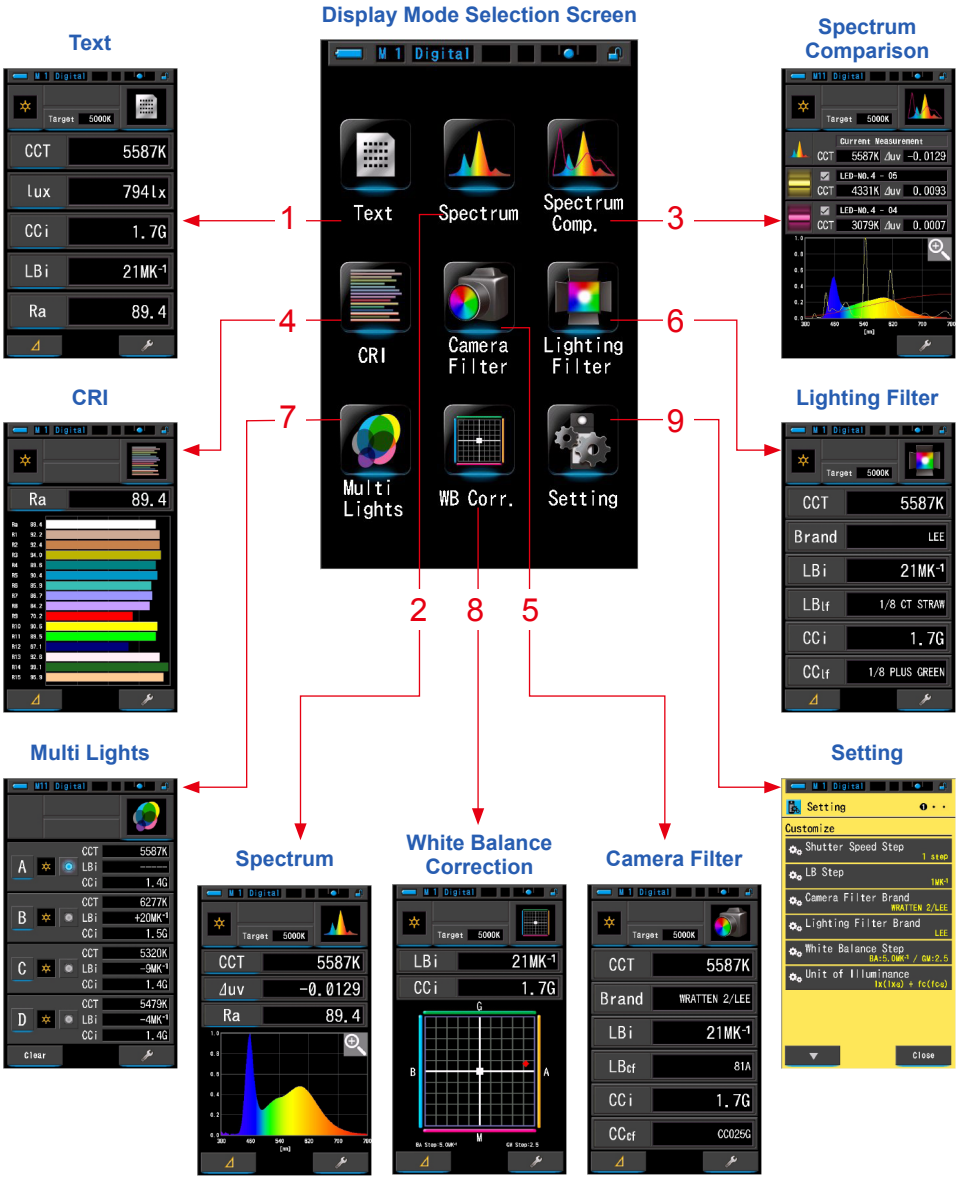
Display Item List

No.	Indication	Display Item Name	Description
1	CCT	Color Temperature Display	In Digital Mode: Displays correlated color temperature. In Film Mode: Displays photographic color temperature.
2	Δuv	Color Temperature Deviation	Displays deviation from the black-body radiation.
3	lux, fc	Illuminance	Displays illuminance in lux or foot-candle.
4	Hlx, Hfc	Exposure	Displays exposure in lux-second or foot-candle-second.
5	CCi	CC Index Correction	Displays the CC correction value in CC index.
6	CCcf	CC Camera Filter Correction	Displays the CC corrected value in the compensation filter name. The filter manufacturer is selected in the setting.
	CClf	CC Lighting Filter Correction	
7	LBi	LB Index Correction	Displays the LB corrected value in LB index.
8	LBcf	LB Camera Filter Correction	Displays the LB corrected value in the compensation filter name. The filter manufacturer is selected in the setting.
	LBlf	LB Lighting Filter Correction	
9	Ra	Average CRI	Displays the average value of CRI R1 to R8.
10	R1 ~ R15	CRI Number	Displays Individual CRI number from R1 to R15.

* Models sold in some countries do not display illuminance and exposure in "fc (fc·s)" due to legal restrictions.

4-3 Selecting the Display Mode

Touching an icon on the Display Mode Selection screen displays lighting information in different ways to suit your needs.
* Pressing the Menu Button 6 returns the screen to the Display Mode Selection.



Display Mode Icons List

No.	Icon	Display Mode Name	Description
1		**[Text] Icon**	Displays user-selected 5 items in numeric values. (➡ P33)
2		**[Spectrum] Icon**	Displays 3 user-selected values and spectrum distribution graph. (➡ P36)
3		**[Spectrum Comparison] Icon**	Compares the current measurement value and up to 2 memorized values in the spectrum distribution graph. (➡ P38)
4		**[CRI] Icon**	Displays the selected average CRI (Ra) or individual CRI (R1 ~ R15) numerically. Each CRI is displayed in a bar graph. (➡ P43)
5		**[Camera Filter] Icon**	Displays correction values and camera filter names required to adjust measured source to Target Color temperature. (➡ P45)
6		**[Lighting Filter] Icon**	Displays correction values and light-source filter names required to adjust measured source to Target Color temperature. (➡ P47)
7		**[Multi Lights] Icon**	Displays comparative correction values from multiple measurements. (➡ P49)
8		**[White Balance Correction] Icon**	Displays the difference between the current measurement value and the target color temperature in a white balance graph. (➡ P53)
9		**[Setting] Icon**	Displays Setting screen. (➡ P55)

* 1 ~ 8 are the Measurement screen.

Operation

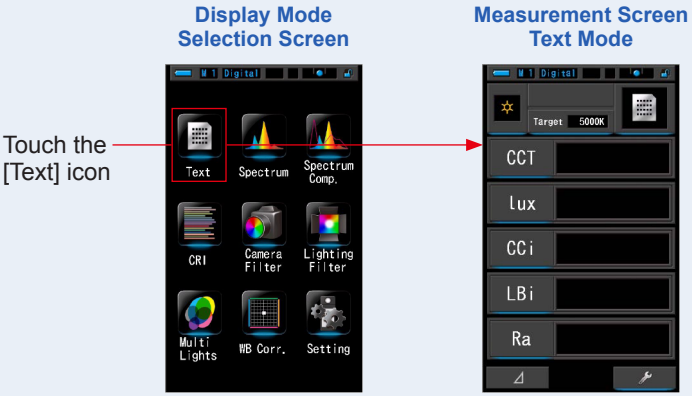
1. Touch the [Display Mode] icon on the Measurement screen or press Menu Button 6 on the meter.

The Display Mode Selection screen will be displayed. (➡ P29)

Display modes from No.1 to 8 are for measurement.
Display mode No.9 is for settings.

2. Touch a desired Display Icon.

The measurement screen in selected Display Mode appears on the screen.



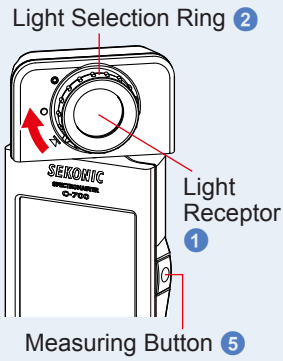
3. Press the Measuring Button 5 to measure.

Turn the Light Selection Ring 2 to select the range.

When measuring ambient light, make sure to select Range L ( ).

When measuring flash units, select Range L ( ) or Range H ( ) depending on the brightness of of the flash. (➡ P86, ➡ P88)

Measurements can now be made.

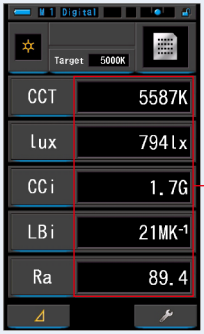


NOTE

- To measure the color temperature of a light source properly, point Light Receptor 1 directly at light source during reading.
- Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

4. Observe measurement values on Text Mode.

Measurement Screen Text Mode

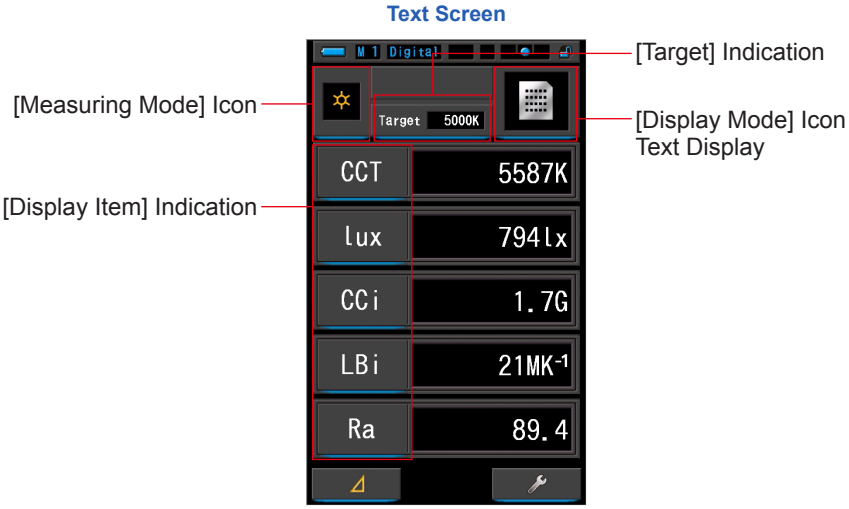


5. Memorize the measurement results.

Measurement results can be memorized.
To record measurements, press Memory Button ⑦. (➡P95)

4-3-1 Displaying in Text [Text] Mode

Selected 5 items are displayed in text.



Operation

1. Touch the [Text] icon on the Display Mode screen.

A Text screen will be displayed. (➡ P29)

2. Touch the [Measuring Mode] icon.

The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➡ P22)

3. Touch the [Target] indication.

Target CCT Input screen will be displayed. (➡ P26)
Set the desired color temperature number.

4. Touch the [Display Item] indication to change.

The Display item library screen will be displayed.

The currently selected display item will be encircled in blue.

5. Touch the desired Display Item indication and [OK] button.

Confirms the settings, and returns to the Measurement screen.

To return to the Measurement screen without changing, touch the [Cancel] button.

* Models sold in some countries do not display "fc (fc·s)" due to legal restrictions.

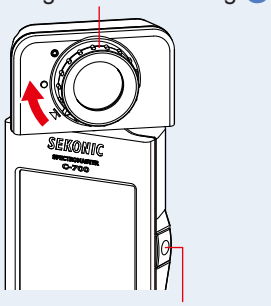
6. Press the Measuring Button ❺ to measure.

Turn the Light Selection Ring ❷ to select the range.

When measuring ambient light, make sure to select Range L ( ).

When measuring flash units, select Range L ( ) or Range H ( ) depending on the brightness of of the flash. (➡ P86, ➡ P88)

Measurements can now be made.



NOTE

It may take longer time in case of taking measurement under low light (under 30lx).
It is not defect that LCD backlight becomes darker while taking measurement to avoid any influence.

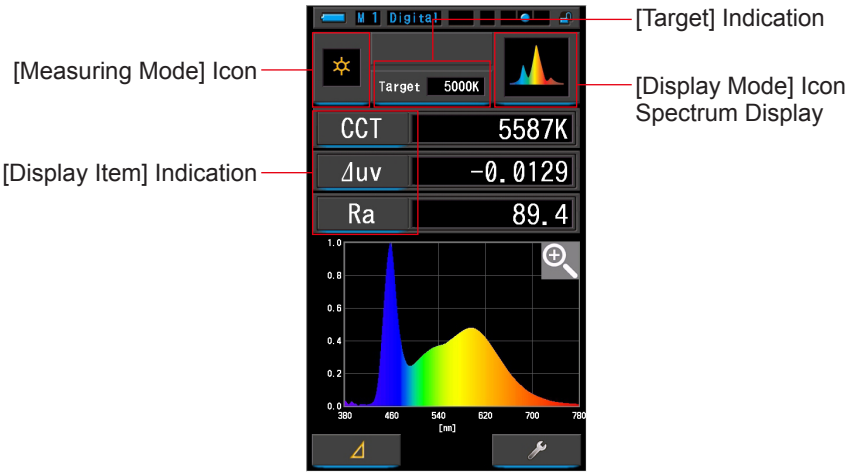
7. Memorize the measurement results.

Measurement results can be memorized.
To record measurements, press Memory Button ❼. (➡ P95)

4-3-2 Displaying in Spectrum Graph [Spectrum] Mode

Displays three user-selected values and spectral distribution graph.

Spectrum Screen



Operation

1. Touch the [Spectrum] icon on the Display Mode screen.

A spectrum distribution graph screen will be displayed. (➡ P29)

2. Touch the [Measuring Mode] icon.

The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➡ P22)

3. Touch the [Target] indication.

Target CCT Input screen will be displayed. (➡ P26)
Set the desired color temperature number.

4. Touch the [Display Item] indication to change.

The Display item library screen will be displayed. (➡ P34)

Touch the desired Display Item and [OK] button.

5. Press the Measuring Button 5 to measure.

Turn the Light Selection Ring 2 to select the range.

When measuring ambient light, make sure to select Range L ( ).

When measuring flash units, select Range L ( ) or Range H ( ) depending on the brightness of of the flash. (➡ P86, ➡ P88)

Measurements can now be made.

NOTE

Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

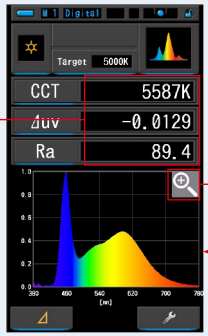
6. Touch the [Magnifying Glass (+)] icon on the screen.

The spectrum distribution graph will be enlarged.

The enlarged graph is displayed on the whole screen (landscape).

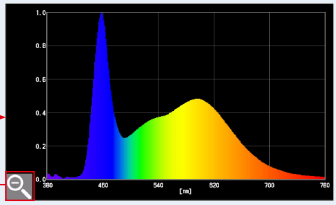
To return to the Spectrum screen, touch the [Magnifying Glass (-)] icon on the enlarged spectrum distribution graph.

Spectrum Screen



Measurement results are displayed.

Spectrum Distribution Graph Enlarged Display



NOTICE

When the enlarged graph is displayed, measurement cannot be performed.

NOTE

The maximum display value of the Y-axis can be selected by the item [Spectrum Y-axis Scale] icon in page 2 of Setting. (➡ P133)

7. Memorize the measurement results.

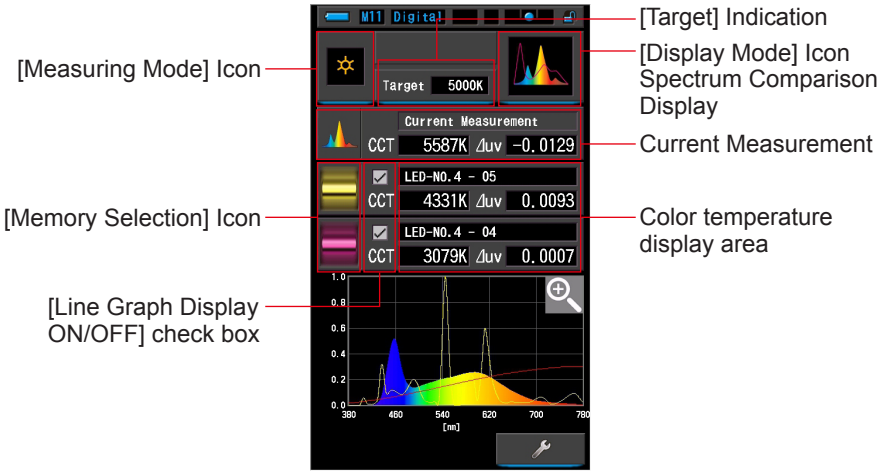
Measurement results can be memorized.

To record measurements, press Memory Button 7. (➡ P95)

4-3-3 Displaying in Spectrum Comparison [Spectrum Comp.] Mode

The spectrum comparison displays and compares the current measurement and up to 2 memorized values in spectrum graph.

Spectrum Comp. Screen



Operation

1. Touch the [Spectrum Comp.] icon on the Display Mode screen.

The Spectrum Comp. screen will be displayed. (➡ P29)

2. Touch the [Measuring Mode] icon.

The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➡ P22)

3. Touch the [Target] indication.

Target CCT Input screen will be displayed. (➡ P26)
Set the desired color temperature number.

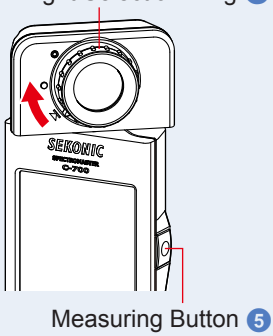
4. Press the Measuring Button ❺ to measure.

Turn the Light Selection Ring ❷ to select the range.

When measuring ambient light, make sure to select Range L ( ).

When measuring flash units, select Range L ( ) or Range H ( ) depending on the brightness of of the flash. (➡ P86, ➡ P88)

Measurements can now be made.



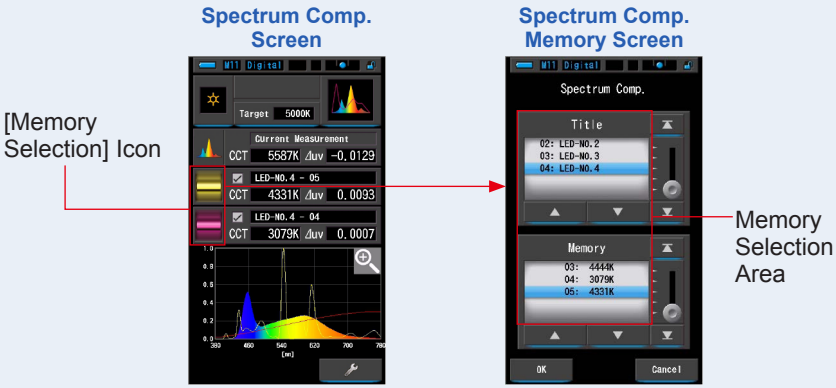
NOTE

Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

5. The current measurement is displayed in the display area of the screen.

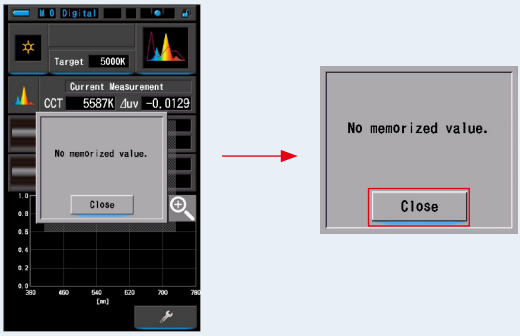
6. Touch the [Memory Select] icon.

The [Spectrum Comp. Memory] screen will be displayed.



When the no data is registered in memory, a message will be displayed in a pop-up screen.

Memory Selection Pop-up Screen



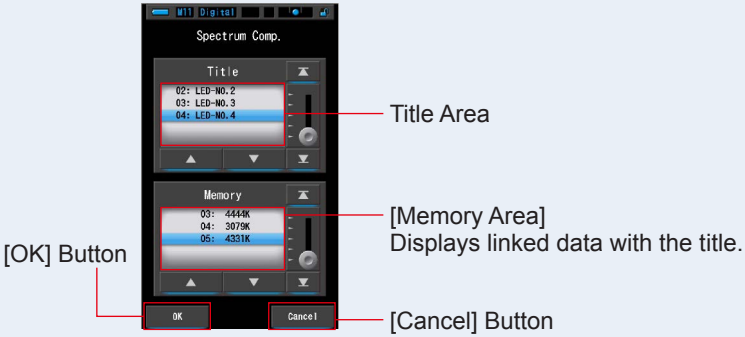
After you confirmed the message "No memorized value.", touch the [Close] button.
Returns to the Spectrum Comp. screen.

7. Select the desired memory data to compare the spectrum.

When a title is selected, the memory linked to the title will be displayed.
Select memories to compare.

To select a title and a memory, match them with the blue background positions.

Spectrum Comparison Title/Memory Screen



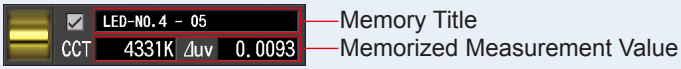
8. Touch the [OK] button.

Confirms the setting and returns to the Spectrum Comp. screen.

To cancel the setting, touch the [Cancel] button.

9. The titles and measurements of the selected memories will be displayed on the Spectrum Comp. screen.

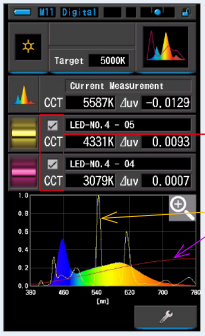
Memory Title Display



10. Line graphs will be displayed in the spectrum graph.

To select show/hide the line graph, use the [Line Graph Display ON/OFF] check box.
* Check the check box (☑) to show. Uncheck the check box (☐) to hide.

Spectrum Comp. Screen



[Line Graph Display ON/OFF] Check Box

Line Graph

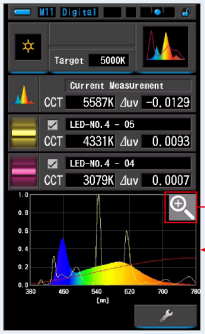
11. Touch the [Magnifying Glass (+)] icon.

The spectrum comparison graph will be enlarged.

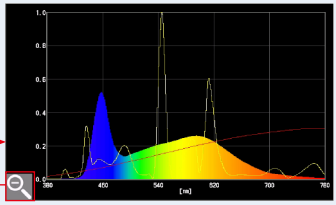
The enlarged graph is displayed on the whole screen (landscape).

To return to the Spectrum Comp. screen, touch the [Magnifying Glass (-)] icon on the enlarged spectrum comparison graph.

Spectrum Comp. Screen



Spectrum Comparison Graph Enlarged Display



NOTICE

When the enlarged graph is displayed, measurement cannot be performed.

NOTE

The maximum display value of the Y-axis can be selected by the item [Spectrum Y-axis Scale] icon in page 2 of Setting. (➡ P133)

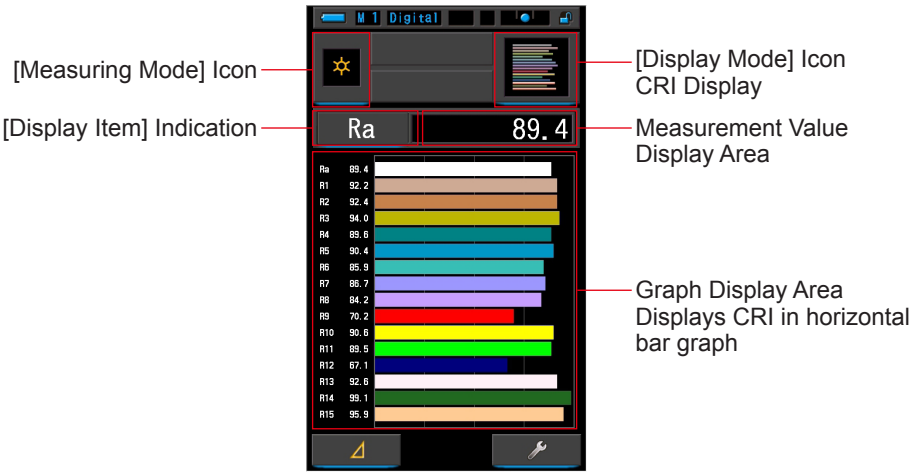
12. Memorize the measurement results.

Measurement results can be memorized.
To record measurements, press Memory Button 7. (➡ P95)

4-3-4 Displaying in Color Rendering Index [CRI] Mode

Displays the selected average CRI (Ra) or individual CRI (R1 ~ R15) numerically. Each CRI isdisplayed in a bar graph.

CRI Screen



Operation

1. Touch the [CRI] icon on the Display Mode screen.

The CRI screen will be displayed. (➡ P29)

2. Touch the [Measuring Mode] icon.

The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➡ P22)

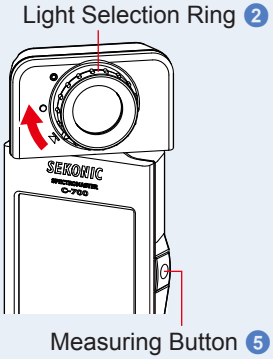
3. Press the Measuring Button 5 to measure.

Turn the Light Selection Ring 2 to select the range.

When measuring ambient light, make sure to select Range L ( ).

When measuring flash units, select Range L ( ) or Range H ( ) depending on the brightness of of the flash. (➡ P86, ➡ P88)

Measurements can now be made.

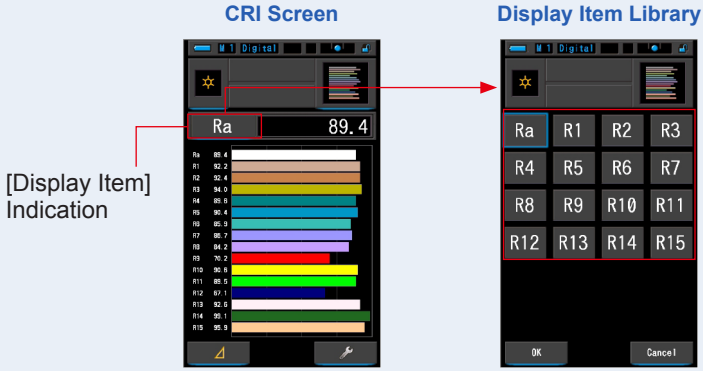


NOTE

- Graph display areas Ra, R1 ~ R15 are always displayed.
- Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

4. Touch the [Display Item] indication to change.

The Display item library screen will be displayed.



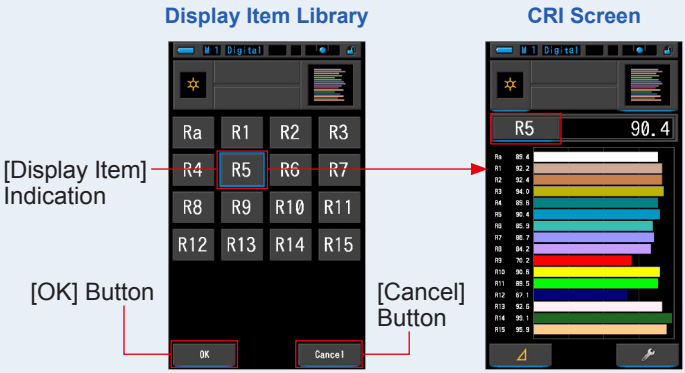
5. Touch the desired Display Item.

Select the item to display above the graph.
Indication will be encircled in blue.

6. Touch the [OK] button.

Returns to the CRI screen by the [OK] button.

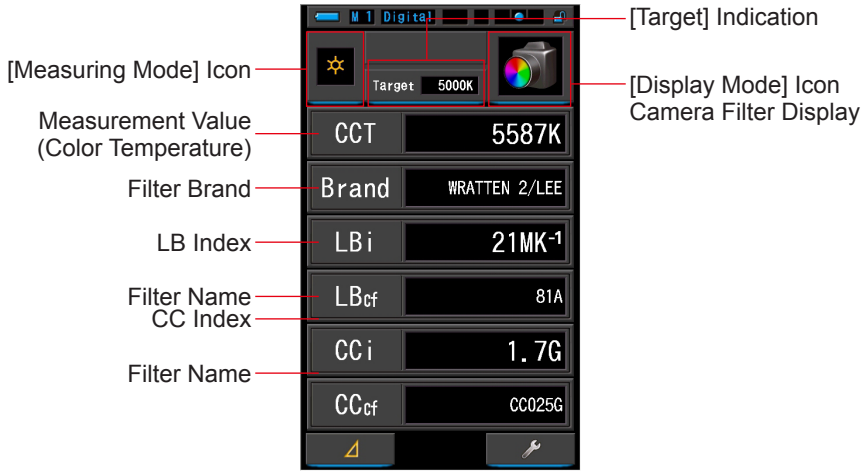
When the [Cancel] button is touched, it returns to the CRI screen without the display item being changed.



4-3-5 Displaying in Camera Filter [Camera Filter] Mode

Displays correction values and camera filter names required to adjust measured source to Target Color temperature.
You can select filter brand in advance in Setting (Kodak WRATTEN 2, LEE or FUJIFILM).

Camera Filter Screen



Operation

1. Touch the [Camera Filter] icon on the Display Mode screen.

The Camera Filter screen will be displayed. (➡ P29)

2. Touch the [Measuring Mode] icon.

The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➡ P22)

3. Touch the [Target] indication.

Target CCT Input screen will be displayed. (➡ P26)
Set the desired color temperature number.

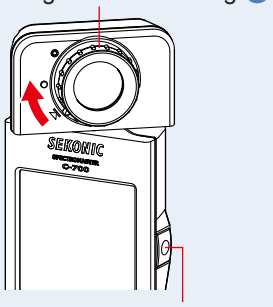
4. Press the Measuring Button 5 to measure.

Turn the Light Selection Ring 2 to select the range.

When measuring ambient light, make sure to select Range L ( ).

When measuring flash units, select Range L ( ) or Range H ( ) depending on the brightness of of the flash. (➡P86, ➡P88)

Measurements can now be made.



NOTE

Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

5. Memorize the measurement results.

Measurement results can be memorized.

To record measurements, press Memory Button 7. (➡P95)

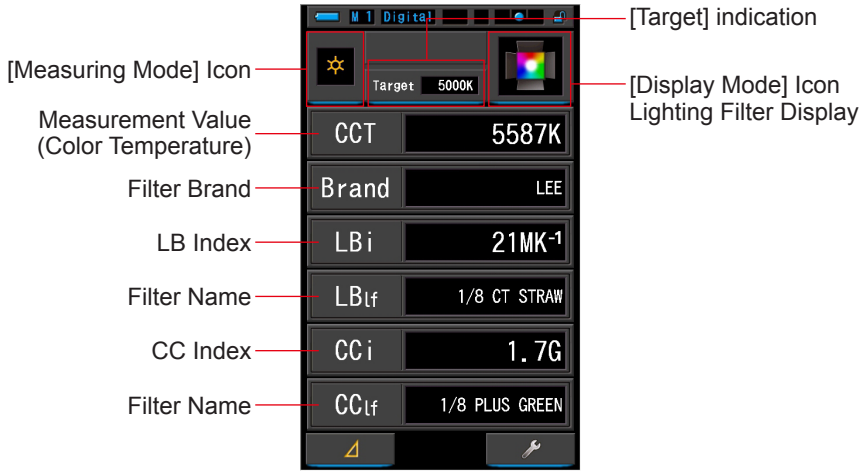
NOTE

The filter manufacturer can be selected by the item [Camera Filter Brand] in page 1 of Setting. (➡P125)

4-3-6 Displaying in Lighting Filter [Lighting Filter] Mode

Displays correction values and light-source filter names required to adjust measured source to Target Color temperature.
You can select filter brand in advance in Setting (LEE, ROSCO E-COLOUR+ or CINEGEL).

Lighting Filter Screen



Operation

1. Touch the [Lighting Filter] icon on the Display Mode screen.

The Lighting Filter screen will be displayed. (➡ P29)

2. Touch the [Measuring Mode] icon.

The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➡ P22)

3. Touch the [Target] indication.

Target CCT Input screen will be displayed. (➡ P26)
Set the desired color temperature number.

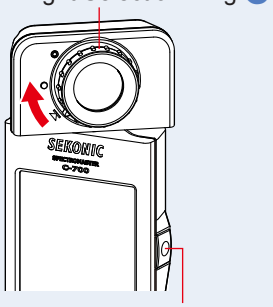
4. Press the Measuring Button ❺ to measure.

Turn the Light Selection Ring ❷ to select the range.

When measuring ambient light, make sure to select Range L ( ).

When measuring flash units, select Range L ( ) or Range H ( ) depending on the brightness of of the flash. (➡ P86, ➡ P88)

Measurements can now be made.



NOTE

Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

5. Memorize the measurement results.

Measurement results can be memorized.

To record measurements, press Memory Button ❼. (➡ P95)

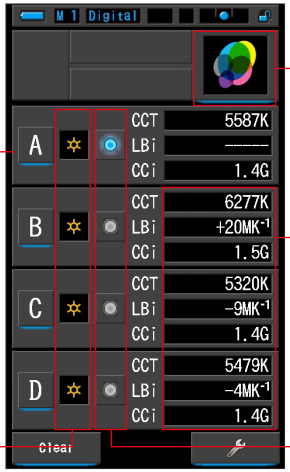
NOTE

The filter manufacturer can be selected by the item [Lighting Filter Brand] on the page 1 of Setting. (➡ P127)

4-3-7 Displaying to Compare Light Sources [Multi Lights] Mode

Displays comparative correction values from multiple measurements.

Multi Lights Screen



[Display Mode] Icon
Multi Lights Comparison

Up to 4 light sources can be compared from A to D

Compensation value shows the difference between the selected color temperature by the radio button

Displays the mode when measured

Standard Selection Radio Button

Operation

1. Touch the [Multi Lights] icon on the Display Mode screen.

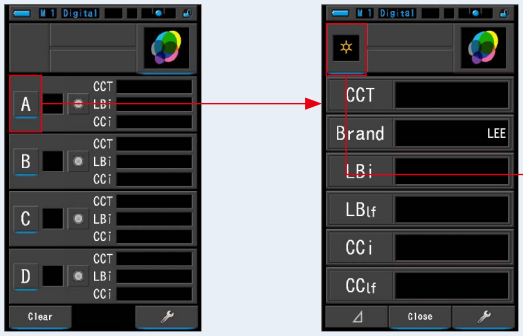
The Multi Lights screen will be displayed. (➡ P29)

2. Touch the [A] button.

The Measuring screen of [A] will be displayed.

Multi Lights Screen

Measurement Screen for Multi Lights



Touch the [A] button

[Measuring Mode] Icon

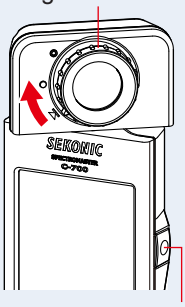
3. Press the Measuring Button ❺ to measure.

Turn the Light Selection Ring ❷ to select the range.

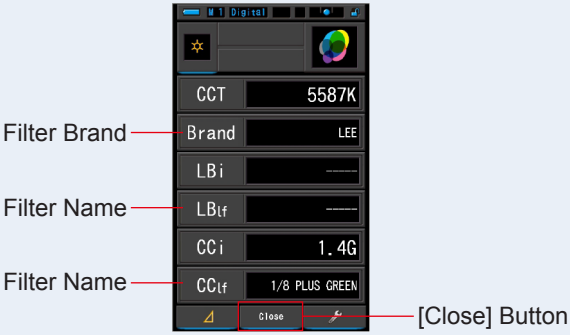
When measuring ambient light, make sure to select Range L ( ).

When measuring flash units, select Range L ( ) or Range H ( ) depending on the brightness of of the flash. (➡ P86, ➡ P88)

The measurement results will be displayed.

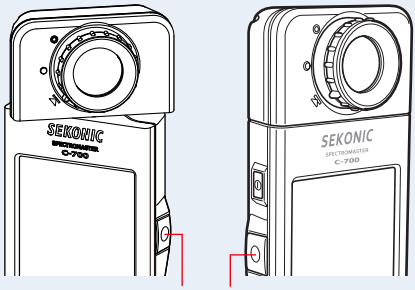


Measurement Results Screen for Multi Lights



NOTICE

On the Measuring screen of Multi Lights, the Measuring Button ❺ is enabled, but Memory Button ❼ is disabled.



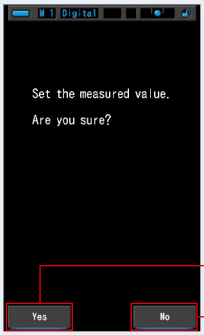
NOTE

Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

4. Touch the [Close] button.

The message "Set the measured value. Are you sure?" will be displayed.

Message Confirmation Screen



[Yes] Button

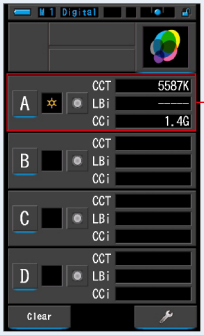
[No] Button

5. Touch the [Yes] button.

Returns to the Multi Lights screen. (Measurement results are reflected in the light source [A])

To return to the Multi Lights screen without reflecting the results, touch the [No] button.

Multi Lights Screen



Measurement results are displayed.

6. Measure other light sources for comparison.

Repeat steps 1 through 5 for display areas B, C and D. Up to 4 light sources can be compared.

NOTE

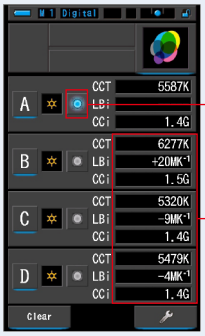
- Touch the A, B, C or D button to confirm the measured values.
- Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

7. Touch the radio button of the light source to set as the reference.

(●: Selected, ○: Not selected)
Measured values will be displayed in CCT indication regardless of selecting the standard value.
Correction values (LB index) against the standard light sources will be displayed in LBis of light sources.

The CC index shows the deviation from the black-body radiation at a measured color temperature. For this reason, even when the standard light source is set, the CC index shows the deviation from the black-body radiation, not the difference between the selected standard and the other light sources.

Multi Lights Screen



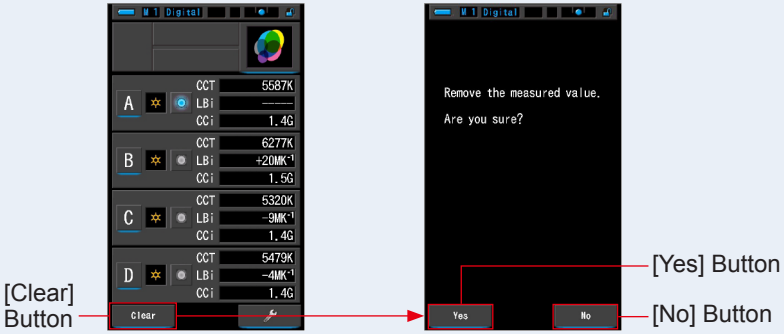
Standard Selection Radio Button Selected Status

Corrected Value Display

NOTE

To clear all of the measurement results and start a measurement comparison again, touch the [Clear] button.
The Multi Lights Clear Confirmation screen will be displayed.

Multi Lights Screen **Clear Confirmation Screen**



[Clear] Button

[Yes] Button

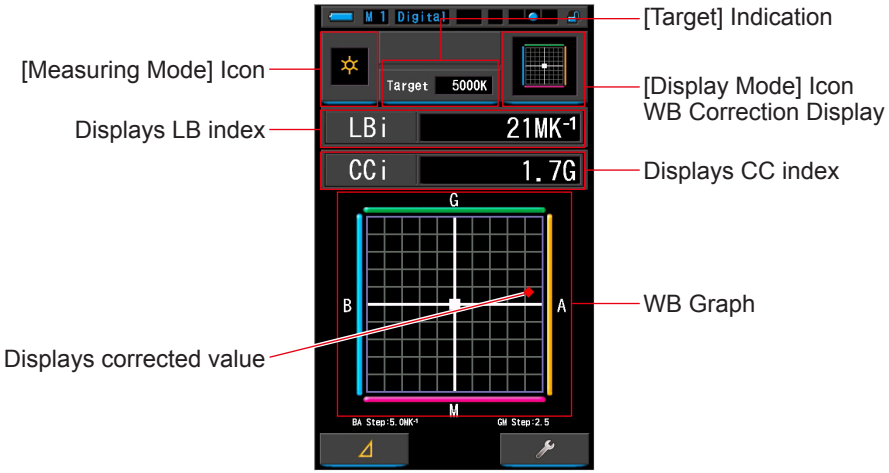
[No] Button

Touch the [Yes] button.
All (A ~ D) will be deleted, and it will return to the Multi Lights screen.
When the [No] button is touched, the display returns to the Multi Lights screen without deleting the memory.

4-3-8 Displaying in White Balance Correction Graph [WB Corr.] Mode

Displays the difference between the current measurement value and the target color temperature in a white balance correction graph.

WB Corr. Screen



Operation

1. Touch the [WB Corr.] icon on the Display Mode screen.

The WB Corr. screen will be displayed. (➡ P29)

2. Touch the [Measuring Mode] icon.

The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➡ P22)

3. Touch the [Target] indication.

Target CCT Input screen will be displayed. (➡ P26)
Set the desired color temperature number.

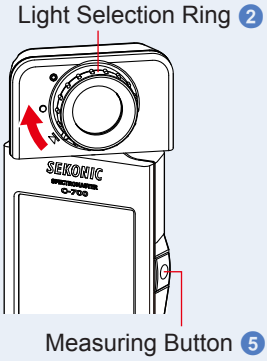
4. Press the Measuring Button 5 to measure.

Turn the Light Selection Ring 2 to select the range.

When measuring ambient light, make sure to select Range L ( ).

When measuring flash units, select Range L ( ) or Range H ( ) depending on the brightness of of the flash. (➡P86, ➡P88)

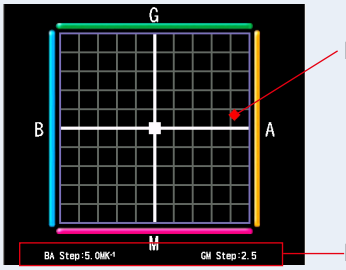
Measurements can now be made.



NOTE

Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

5. The red point shows the correction value from the target color temperature.



6. Memorize the measurement results.

Measurement results can be memorized.

To record measurements, press Memory Button 7. (➡P95)

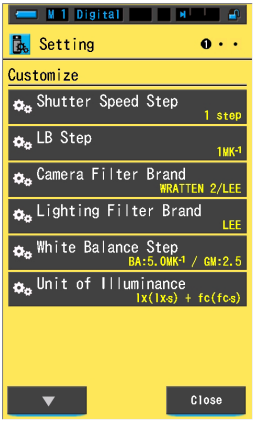
NOTE

The value per matrix can be changed by the item [White Balance Step] in page 1 of Setting. Match the value with your camera. (➡P129)

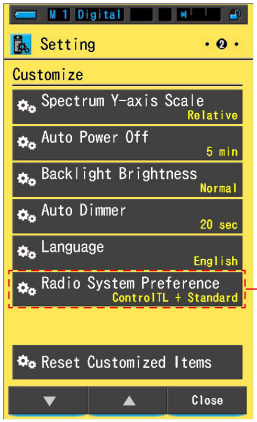
4-3-9 Displaying Setting [Setting] Screen

Displays the settings. The contents can be changed according to usage.
For more information about how to set and the details of specifications, see "7-1-1 Item List". (➡ P117)

Setting Screen Page 1



Setting Screen Page 2



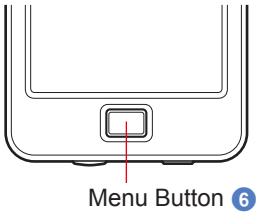
Setting Screen Page 3

* Models sold in some countries do not display illuminance and exposure in "fc (fc·s)" due to legal restrictions. In this case, Unit of Illuminance is not displayed.

*Indicated only for C-700R model

NOTICE

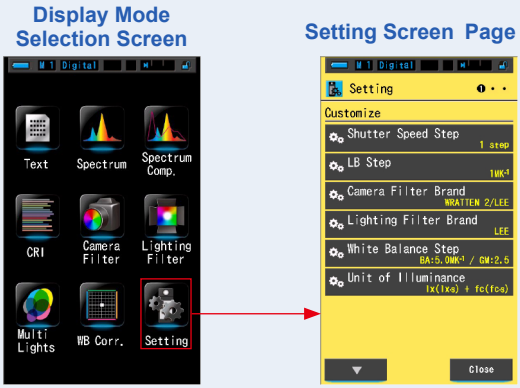
Pressing the Menu Button ⑥ will terminate the settings and return to the Display Mode Selection screen.



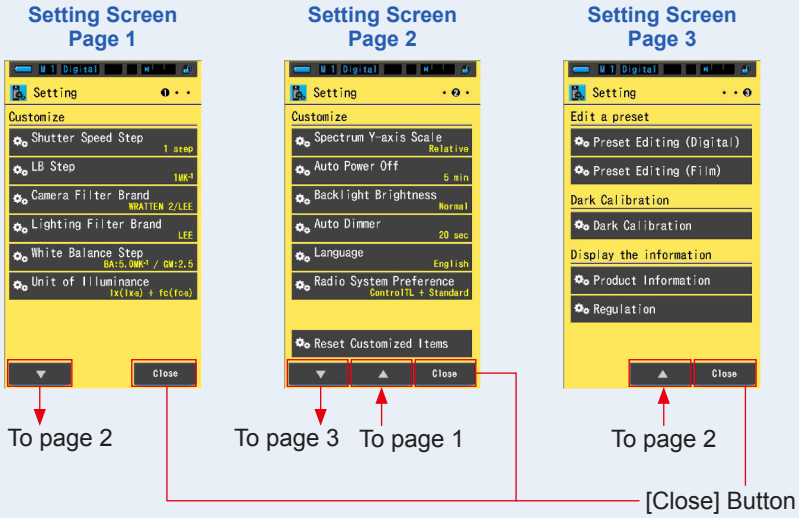
Operation

1. Touch the [Setting] icon on the Display Mode Selection screen.

The Setting screen will be displayed.



2. Setting shows items in white letters and setting contents in yellow letters. Touch each item to change the setting.



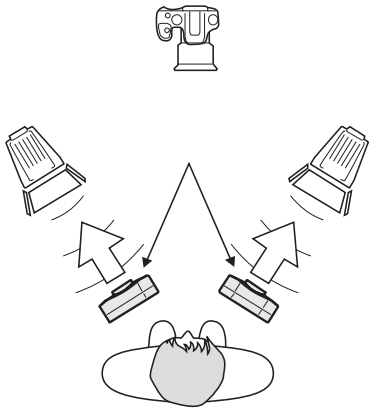
When the [Close] button is touched, the display returns to the Display Mode Selection screen. For more information about how to set and the details of specifications, see "7-1-1 Item List". (➡ P117)

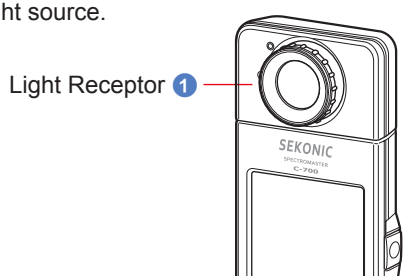
5. Measuring Light Sources [Measurement Screen]

5-1 Measurement Method

5-1-1 Balancing Color Temperatures of Light Sources

When multiple light sources are being used, the color temperature of each light source must be measured separately. If light sources with different color temperatures are used together in the same image, inconsistent color will be present in the shadows and highlights. Take a measurement by facing the Light Receptor ① towards the light source to correctly measure the color temperature of the light source.





NOTICE

- **It is always important to get the true color of the main light source. Then any influence from light reflected off of colored surfaces onto the subject will look as they do when observed by eye.**
- **Because it may affect the precision of the measurements, be careful not to damage or dirty the white surface of the Light Receptor ①. If the Light Receptor ① becomes dirty, wipe it with a dry and soft cloth. Never use organic solvents such as thinner or benzene.**
- **There may be those who are sensitive to flash or other strong lights (photosensitivity), and they may be negatively affected by light. Therefore, be careful when people are nearby during measurement.**

5-2 Measurement in Ambient Light Mode

Select Ambient Light Mode when taking measurements of natural light (sunlight), and continuous light sources such as LED, tungsten lamps and fluorescent lights.

NOTICE

Do not look directly into sunlight or other strong light when measuring. It may cause severe eye damage or even loss of vision.

Operation

1. Touch the [Tool Box] icon.

Touch and select the [Digital/Film] button. (➡ P90)

[Tool Box] icon on the Measurement Screen

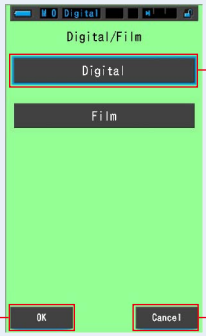
Tool Box Screen

The set content is displayed in yellow letter at the lower right hand corner of the button.

2. Select the type of camera (Digital or Film) used.

Touch either the [Digital] or [Film] button.

Digital/Film Screen



The selected icon will be displayed encircled in blue.

[OK] Button

[Cancel] Button

3. Touch the [OK] button.

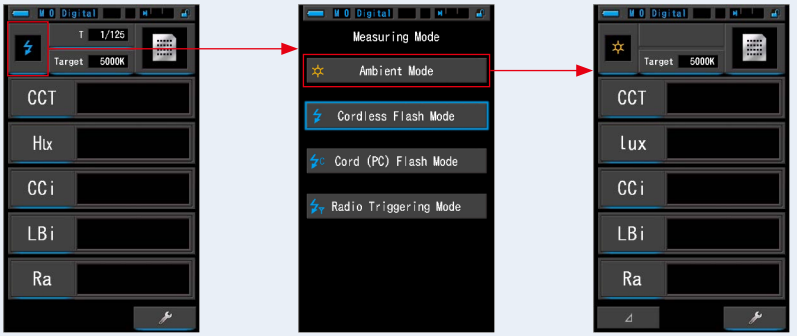
Confirm and return to the Measurement screen.

To return to the Measurement screen without confirming, touch the [Cancel] button.

4. On the Measurement screen, touch the [Measuring Mode] icon and select the [Ambient Light Mode] icon on the next screen.

Select the measuring mode. (➡ P22)

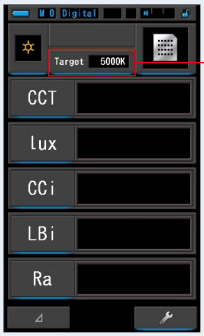
Measurement Screen → **Measuring Mode Selection Screen** → **Measurement Screen**



5. Touch the [Target] indication.

Target CCT screen will be displayed. (➡ P26)
Set the color temperature.

Measurement Screen



Target CCT Screen

NOTE

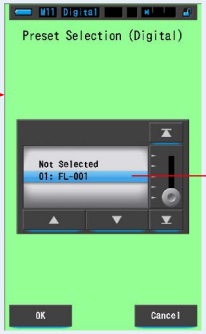
If you are not using LB index/filter and CC index/filter values, you can omit this step.
You cannot set the target color temperature using the "CRI" or "Multi Lights Mode".

NOTE

If necessary, you can select a previously created Preset value from Preset Selection in the Tool Box. (➡ P146)

Tool Box Screen

Preset Selection Screen



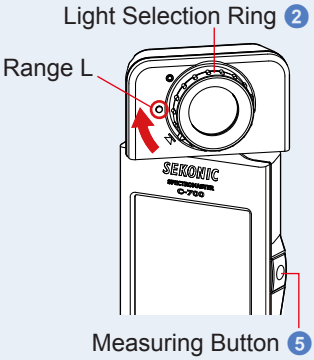
Tool Box Screen

The selected value is indicated by the blue background.

If no presets have been created, the Preset Selection will be grayed out and touching the button will not display the Preset Selection Display.
You can omit this step if unnecessary.

6. Confirm the light measuring range.

When you return to the Measurement screen, make sure to select Range L ( ).



7. Press the Measuring Button 5.

Measurement will be taken and the light source values will be displayed.
While the button is held, the meter measures continuously.
When the button is released, the measurements will stop and the light source value at the time of release will be displayed.

NOTE

- [Over] or [Under] will be displayed if the light source illumination is too bright or not bright enough, or if the color temperature is out of the measurement range, when the Measuring Button is pressed.
  In this case, adjust the brightness or color temperature of light source.
- Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

Measurement in Ambient Light Mode is complete.

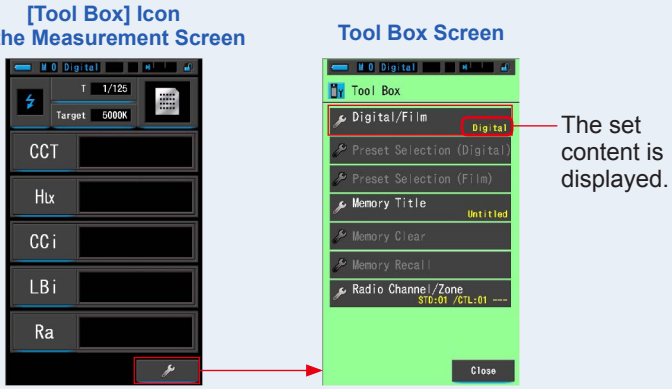
5-3 Measurement in Cordless Flash Mode

Cordless Flash Mode is preferable when the flash to subject distance is too far to use a sync cord or when wireless measuring is desired.
In this measuring mode, the meter will go into measurement standby mode (for 90 seconds) to wait for a burst of flash to measure.

Operation

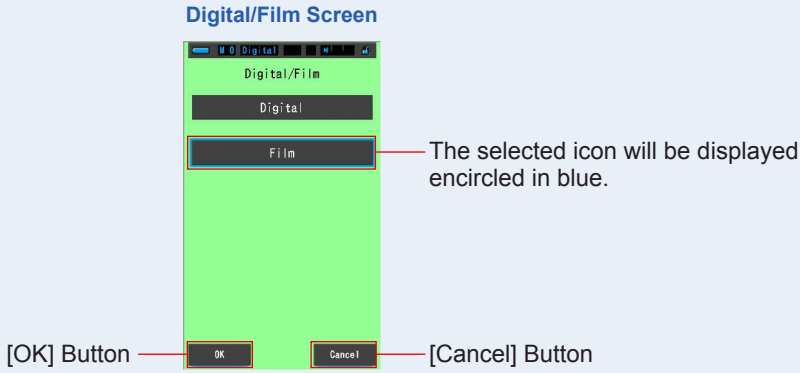
1. Touch the [Tool Box] icon.

Touch and select the [Digital/Film] button. (➡ P90)



2. Select the type of camera (Digital or Film) used.

Touch either the [Digital] or [Film] button.



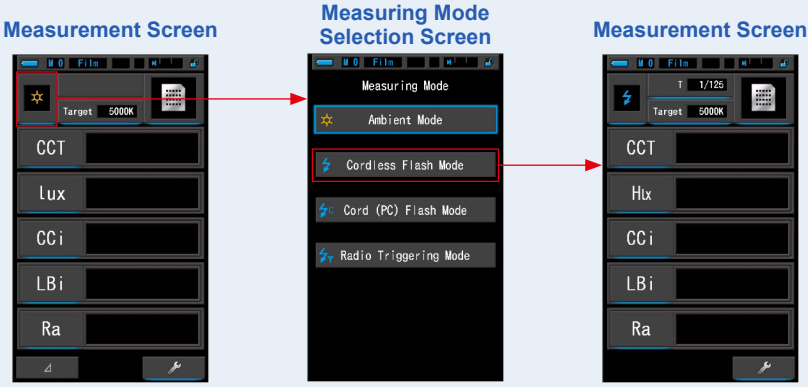
3. Touch the [OK] button.

Confirm and return to the Measurement screen.

To return to the Measurement screen without confirming, touch the [Cancel] button.

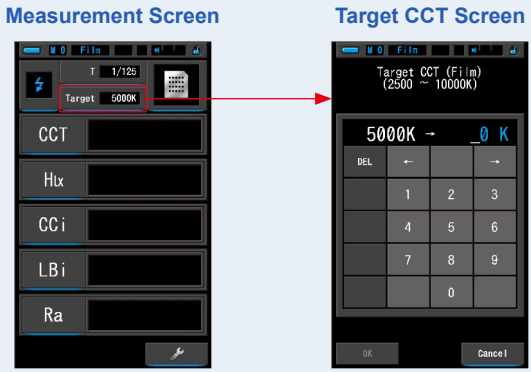
4. On the Measurement screen, touch the [Measuring Mode] icon and select the [Cordless Flash Mode] icon on the next screen.

Select the measuring mode. (➡ P22)



5. Touch the [Target] indication.

Target CCT screen will be displayed. (➡ P26)
Set the color temperature.



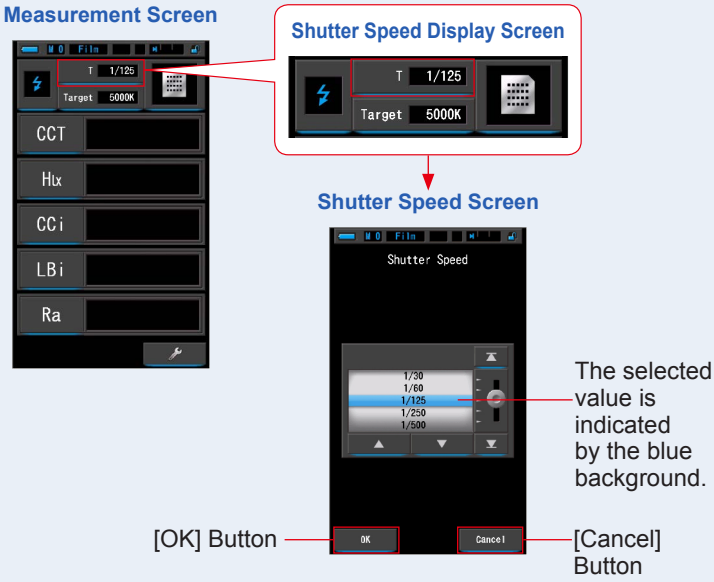
NOTE

If you are not using LB index/filter and CC index/filter values, you can omit this step.
You cannot set the target color temperature using the "CRI" or "Multi Lights Mode".

6. Touch the [T (Shutter Speed)] indication on the Measurement screen.

Set the shutter speed used for measurements. (➡ P24)

Match the blue background with the desired shutter speed.

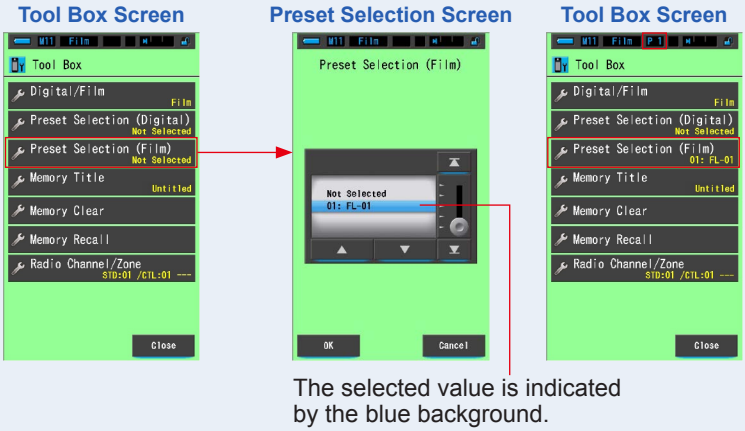


NOTICE

Select a shutter speed range that will synchronize with your camera and flash system.

NOTE

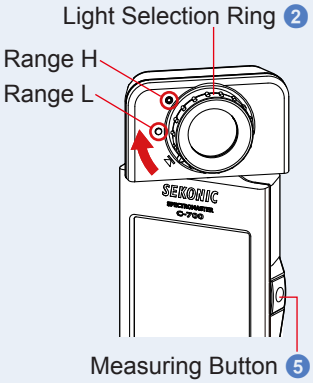
If necessary, you can select a previously created Preset value from Preset Selection in the Tool Box. (➡ P146)



If no presets have been created, the Preset Selection will be grayed out and touching the button will not display the Preset Selection Display.
You can omit this step if unnecessary.

7. Confirm the light measuring range.

When you return to the Measurement screen, select Range L ( ) or Range H ( ) depending on the brightness of of the flash.



NOTE

- Range L ( ): Select when measuring small and low power flash units (lower than 640lx·s), [Over] will appear if flash power is too high. Select Range H.
- Range H ( ): Select when measuring powerful flash units (brighter than 640lx·s) [Under] will appear if flash power is too low. Select Range L.

8. Press the Measuring Button 5.

The meter will enter measurement standby mode.
While the icon is blinking, manually trigger the flash.
The [Measuring Mode] icon will blink for 90 seconds when measuring.

The display illumination will dim when the measuring button is pressed as the display illumination can affect the reading. This is normal.
When the flash light is fired, the measured value will be displayed for 3 seconds, and the display will return to measurement standby mode.
To cancel standby mode, touch the screen or press the Menu Button 6.

NOTE

When the icon stops blinking before triggering the flash, or when you want to take measurements again, press Measuring Button 5 again.

Measurement in Cordless Flash Mode is complete.

⚠ CAUTION

- **Do not trigger flash while skin or other objects are in contact with the flash tube. Do not touch the flash tube after repeated flashes. (It may cause burns.)**
- **Do not trigger flash while near the eyes of people or animals. (It may temporarily affect vision.)**
- **The flash may be triggered suddenly. Because there is the possibility of burns or negative effects on vision, please handle with care.**

NOTICE

- **If the flash output power is too weak compared to the surrounding light, the meter may not detect the flash output. In this case, use "5-4 Measurement in Cord (PC) Flash Mode". (➡ P68)**
- **Pulsed light sources such as fluorescent lights or special lighting could cause the meter to take cordless flash measurements in rare cases. In these situations, use "5-4 Measurement in Cord (PC) Flash Mode". (➡ P68)**
- **If the Light Receptor ❶ detects a sudden and bright change in lighting intensity, the meter may mistakenly take a measurement. To avoid this, take "5-4 Measurement in Cord (PC) Flash Mode". (➡ P68)**
- **Because the light radiated from a flash bulb gradually builds, the meter will not detect the light when used in Cordless Flash Mode.**
  Be sure to take "5-4 Measurement in Cord (PC) Flash Mode". (➡ P68)
- **When using Cordless Flash Mode, the LCD screen backlight dims during measurement, and the LCD backlight is illuminated for only 3 seconds after measurement. To cancel standby mode, touch the screen or press the Menu Button ❻.**

NOTE

- When using the meter in Cordless Flash Mode, it is possible to mount the meter to a light stand, tripod or similar support using the Tripod Socket ❿.
- [Over] or [Under] will be displayed if the light source illumination is too bright or not bright enough, or if the color temperature is out of the measurement range, when the Measuring Button is pressed. In this case, adjust the brightness or color temperature of light source, or switch the light range. (➡ P88)

5-4 Measurement in Cord (PC) Flash Mode

Cord (PC) Flash Mode is preferable when lighting conditions prevent the use of cordless measurements or when certain types of equipment require a physical sync connection.
In Cord (PC) Flash Mode, the meter and flash unit are connected with a Sync Cord (sold separately).

⚠ CAUTION

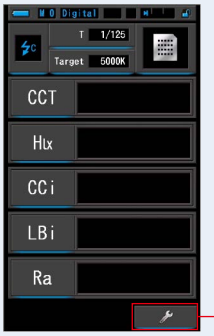
- **Do not handle this product with wet hands, or leave it in the rain or in a location where it may be splashed with water, submerged, or come into contact with moisture. There is a danger of electric shock in Cord (PC) Flash Mode. This may also result in damage to the product.**
- **When using flash with high voltage, there is a danger of electric shock if you touch the Sync Terminal ⑫. Handle the flash with care when using for measurement.**

Operation

1. Touch the [Tool Box] icon.

Touch and select the [Digital/Film] button. (➡ P90)

[Tool Box] Icon on the Measurement Screen



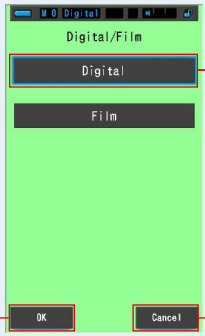
Tool Box Screen

The set content is displayed.

2. Select the type of camera (Digital or Film) used.

Touch either the [Digital] or [Film] button.

Digital/Film Screen



The selected icon will be displayed encircled in blue.

[OK] Button — [Cancel] Button

3. Touch the [OK] button.

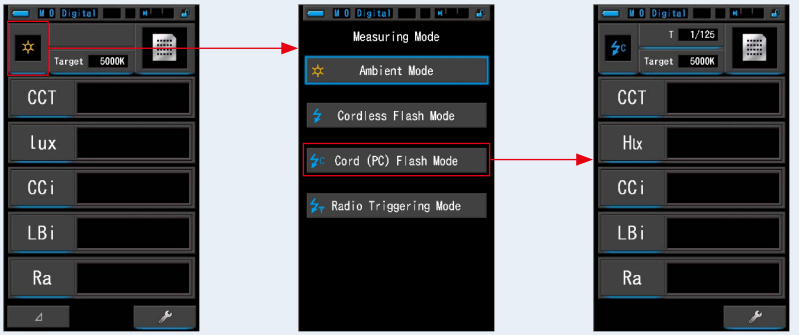
Confirm and return to the Measurement screen.

To return to the Measurement screen without confirming, touch the [Cancel] button.

4. On the Measurement screen, touch the [Measuring Mode] icon and select the [Cord (PC) Flash Mode] icon on the next screen.

Select the measuring mode. (➡ P22)

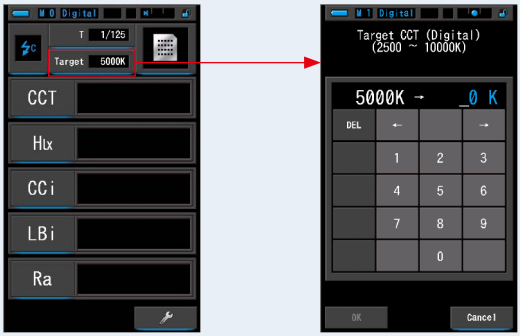
Measurement Screen → **Measuring Mode Selection Screen** → **Measurement Screen**



5. Touch the [Target] indication.

Target CCT screen will be displayed. (➡ P26)
Set the color temperature.

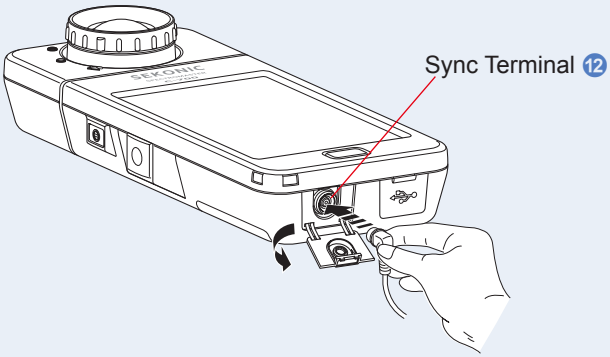
Measurement Screen **Target CCT Screen**



NOTE

If you are not using LB index/filter and CC index/filter values, you can omit this step.
You cannot set the target color temperature using the "CRI" or "Multi Lights Mode".

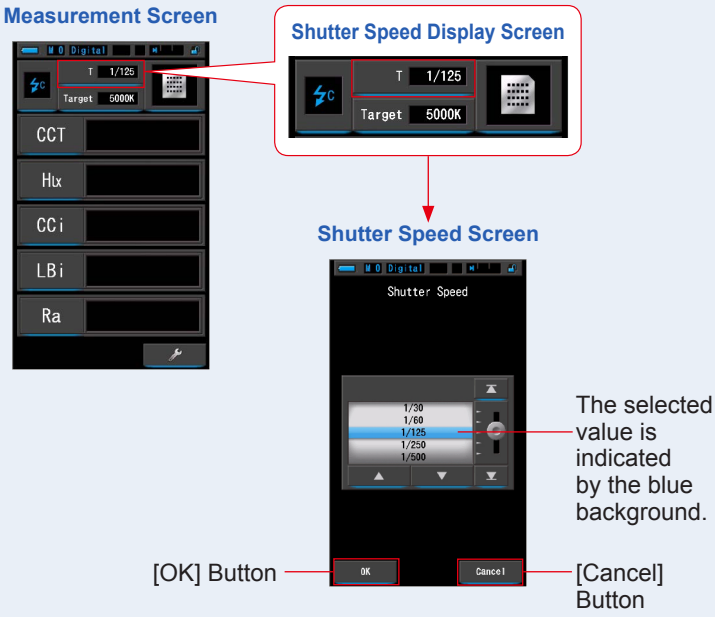
6. Connect the sync cord (sold separately) to the Sync Terminal ⑫ of the meter.



7. Touch the [T (Shutter Speed)] indication on the Measurement screen.

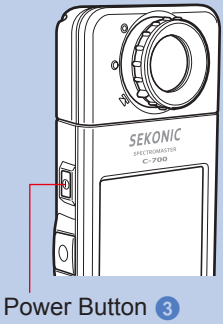
Set the shutter speed used for measurements. (➡ P24)

Match the blue background with the desired shutter speed.



⚠ CAUTION

- **Depending on the flash equipment used, the flash may be triggered when the sync cord is connected to the Sync Terminal ⑫ or when operating the Power Button ③. Because there is the possibility of burns or negative effects on vision, please handle with care.**

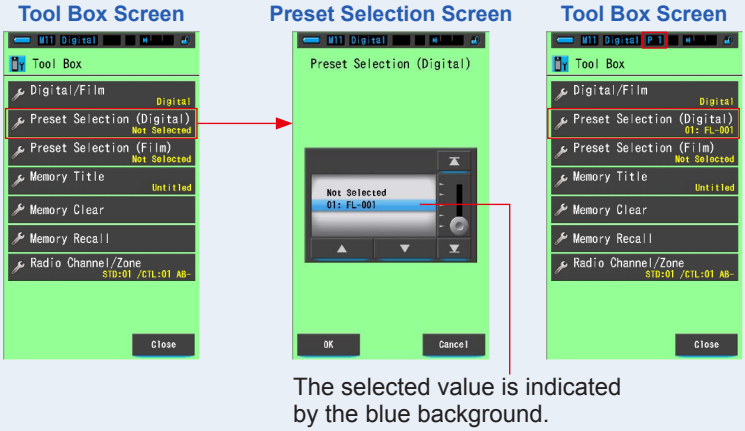


NOTICE

- **Select a shutter speed that will synchronize with your camera and flash system.**
- **If the triggering voltage of the flash used is extremely low, the flash may not trigger. In this case, use "5-3 Measurement in Cordless Flash Mode". (➡ P62)**

NOTE

If necessary, you can select a previously created Preset value from Preset Selection in the Tool Box. (➡ P146)

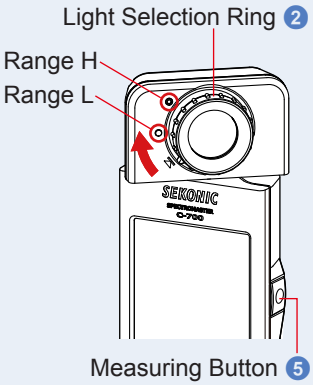


The selected value is indicated by the blue background.

If no presets have been created, the Preset Selection will be grayed out and touching the button will not display the Preset Selection Display.
You can omit this step if unnecessary.

8. Confirm the light measuring range.

When you return to the Measurement screen, select Range L ( ) or Range H ( ) depending on the brightness of of the flash.



NOTE

- Range L ( ): Select this when measuring small and low power flash units (lower than 640lx·s), [Over] will appear if flash power is too high. Select Range H.
- Range H ( ): Select when measuring powerful flash units (brighter than 640lx·s) [Under] will appear if flash power is too low. Select Range L.

9. Press the Measuring Button 5.

Measurement will be taken with flash, and the light source values will be displayed.

Because it affects measurement while measuring, the LCD backlight will dim. It is not a defect.

Measurement in Cord (PC) Flash Mode is complete.

CAUTION

- **Depending on the flash equipment used, the flash may be triggered when the sync cord is connected to the Sync Terminal ⑫ or when operating the Power Button ③. Because there is the possibility of burns or negative effects on vision, please handle with care.**
- **Do not trigger flash while skin or other objects are in contact with the flash tube. Do not touch the flash tube after continuous flashes. (It may cause burns.)**
- **Do not trigger flash while near the eyes of people or animals. (It may temporarily affect vision.)**
- **The flash may be triggered suddenly. Because there is the possibility of burns or negative effects on vision, please handle with care.**

NOTICE

- **If the triggering voltage of the flash used is extremely low, the flash may not trigger. In this care, use "5-3 Measurement in Cordless Flash Mode". (➡ P62)**
- **When measuring flash bulbs, make sure the shutter sync speed is set to the proper synchronization range of your camera.**

NOTE

[Over] or [Under] will be displayed if the light source illumination is too bright or not bright enough, or if the color temperature is out of the measurement range, when the Measuring Button is pressed.
In this case, adjust the brightness or color temperature of light source, or switch the light range. (➡ P88)

5-5 Measurement in Radio Triggering Flash Mode (C-700R Only)

The Radio Triggering Flash Mode is a measurement method that triggers flash from the meter wirelessly by connecting to the flash through a radio receiver (sold separately). This allows a single person to cordlessly perform flash measurement. Before taking a measurement, you must set the transmitter (meter) and the receiver to the same radio channel.

* Compatibility with C-700R
  The PocketWizard® Series from LPA and other flash devices equipped with PocketWizard® systems are compatible. Read the instruction manual of the radio receiver for information about how to operate it.
  For information about compatible devices, refer to LPA's website (www.pocketwizard.com).

⚠ WARNING

- **Do not use near industrial, scientific or medical devices such as pacemakers. The radio waves may affect the operation of pacemakers.**

⚠ CAUTION

- **Do not use within hospitals and other medical institutions, or near medical electrical equipment.**
  The radio waves may cause accidents through misoperation.
- **Do not use the meter inside airplanes.**
  The radio waves may cause accidents through misoperation.
- **Stop using the meter when there is electromagnetic interference with other devices.**
  The radio waves may cause accidents through misoperation.
- **To comply with local broadcast regulations, Sekonic wireless systems sold in the various markets around the world are designed to operate at different frequencies.**
  *** Sekonic meters having a FCC&IC designation on the back of body are designed for operation in the USA and Canadian market.**
  [Frequencies]
  Standard System: CH1 to 16 - 344.0MHz
  CH17 to 32 - 346.5 to 354.0MHz
  ControlTL System: CH1 to 4 - 340.0 to 346.0MHz
  CH5 to 20 - 341.5 to 351.0MHz
  *** Sekonic meters having a CE designation on the back of body are designed for operation in European countries.**
  [Frequencies]
  Standard System: CH1 to 16 - 433.62MHz
  CH17 to 32 - 434.22 to 354.0MHz
  ControlTL System: CH1 to 3 - 433.42 to 434.42MHz
- **Both FCC and CE versions of C-700R have built-in transmitting antennas that are specifically tuned for their market area. When purchasing and/or using the meter with a receiver, be sure that the meter and receiver are designed to be used in your location and use the same frequency.**

NOTICE

The working distance of the wireless triggering system differs depending on the position and direction of the radio receiver. For the best conditions, follow these steps when placing the meter and the radio receiver.

1. **Make sure nothing is between the meter and the radio receiver.**
2. **Place the radio receiver away from any large metallic objects, concrete, and objects with large amounts of water (people, plants, etc.).**
3. **Secure the radio receiver with tape or a tripod. When placing on the flash pack, make sure the antenna of the radio receiver is higher than the flash pack. Prevent the radio receiver antenna from directly contacting metallic material.**
4. **Depending on the shooting location, there may be times when the radio receiver receives no signal. This may be due to radio reflection from nearby objects or other causes. Under normal conditions, moving the radio receiver a few centimeters may improve reception. Do not place the radio receiver behind things that absorb or easily intercept radio waves, such as concrete, metal, or hills.**
5. **Use within approximately 30m (100 feet) while following the above conditions.**

5-5-1 Measurement Method

Selecting Radio Channels

ControlTL® channels and Standard channels are the radio channels of the meter that can be used for measurements.

ControlTL® Channels:
The C-700R is designed for use with PocketWizard® radios. There are 20 channels for FCC&IC, and 3 for CE. You can set 3 zones (A, B and C) for each channel. When used with ControlTL radios, the C-700R cannot control flash power, and can only trigger flash.

Standard Channels:
The C-700R is designed for use with PocketWizard® radios.
There are 32 meter channels. Channels No.1 ~ 16 are single channels. Channels No.17 ~ 32 can have 4 zones (A, B, C, D).

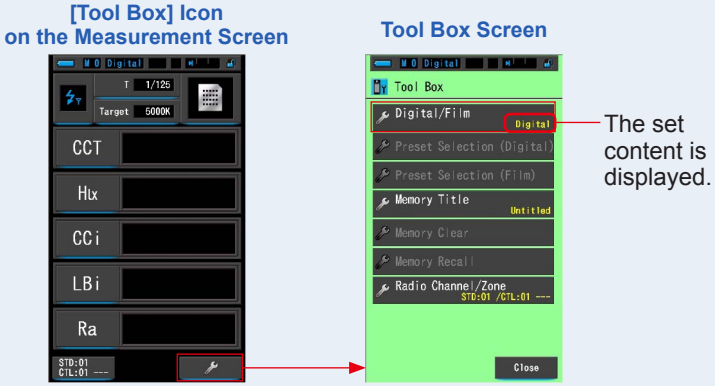
5-5-2 Setting the Radio Channel

The radio channel can be set from the Tool Box or from the channel indication in the lower light corner of the Measurement screen.
For how to set the channel from the Tool Box, refer to the Tool Box item. (➡ P108)

Operation

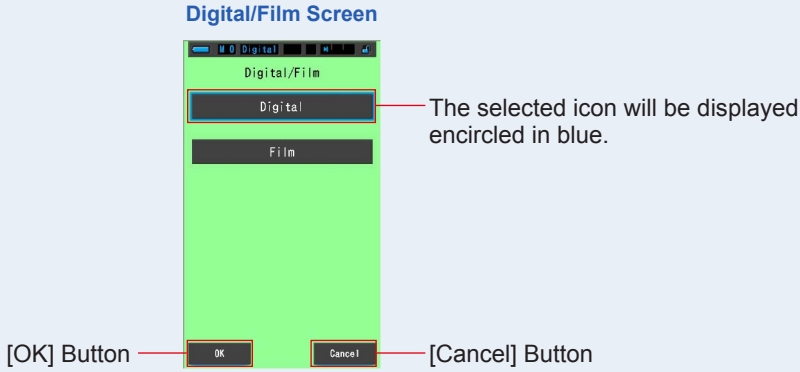
1. Touch the [Tool Box] icon.

Touch and select the [Digital/Film] button. (➡ P90)



2. Select the type of camera (Digital or Film) used.

Touch either the [Digital] or [Film] button.



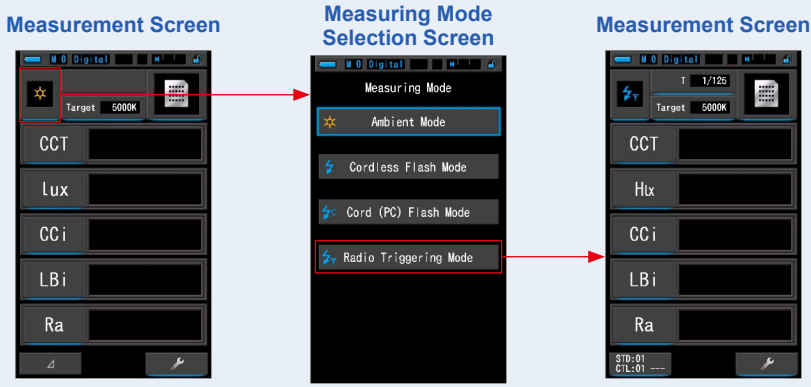
3. Touch the [OK] button.

Confirm and return to the Measurement screen.

To return to the Measurement screen without confirming, touch the [Cancel] button.

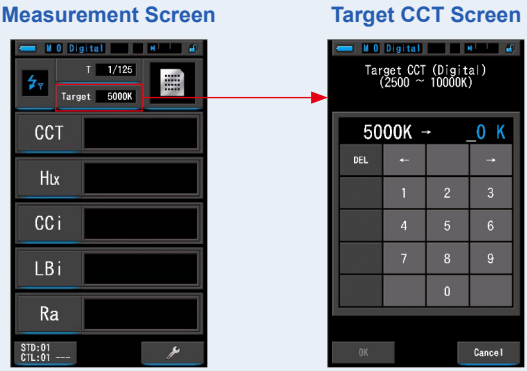
4. On the Measurement screen, touch the [Measuring Mode] icon and select the [Radio Triggering Flash Mode] icon on the next screen.

Select the measuring mode. (➡ P22)



5. Touch the [Target] indication.

Target CCT screen will be displayed. (➡ P26)
Set the color temperature.



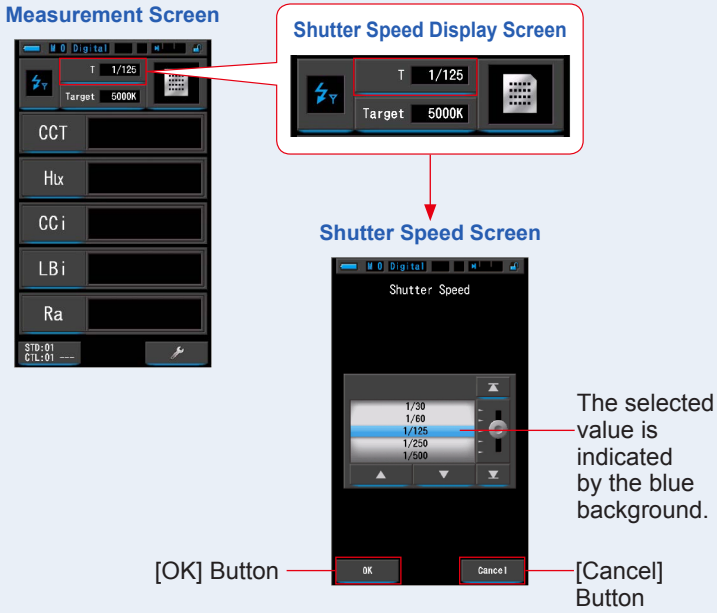
NOTE

If you are not using LB index/filter and CC index/filter values, you can omit this step.
You cannot set the target color temperature using the "CRI" or "Multi Lights Mode".

6. Touch the [T (Shutter Speed)] indication on the Measurement screen.

Set the shutter speed used for measurements. (➡ P24)

Match the blue background with the desired shutter speed.



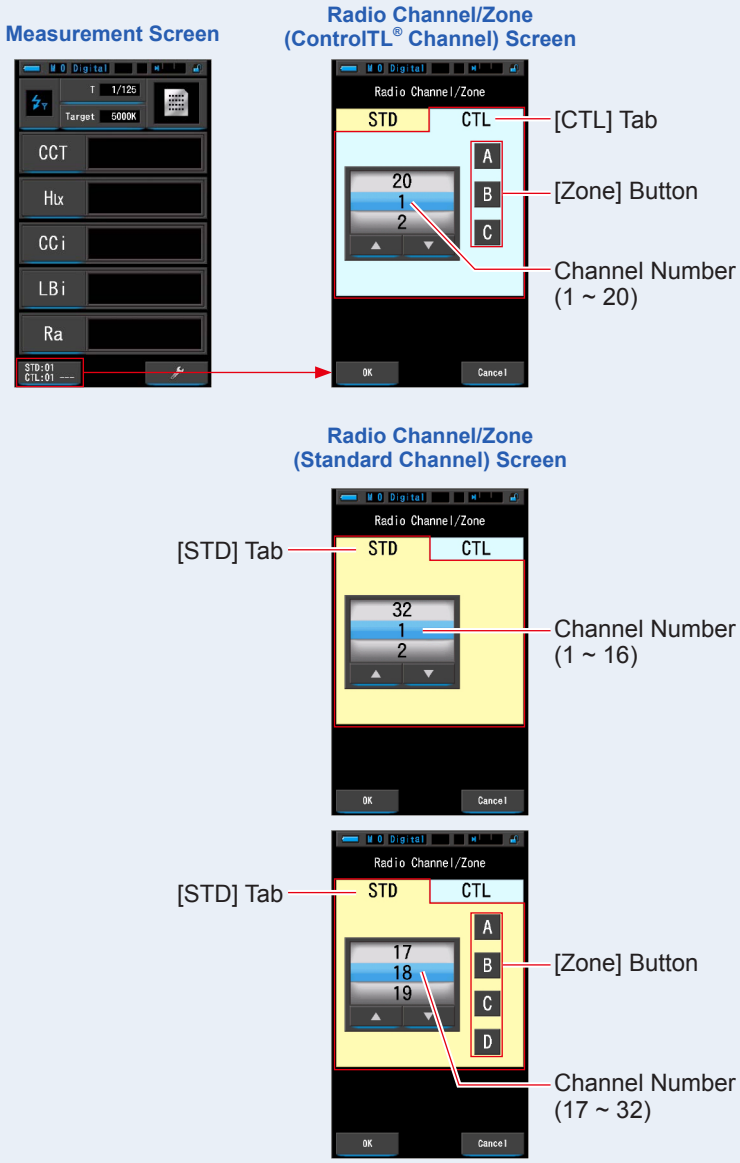
NOTICE

Select a shutter speed that will synchronize with your camera and flash system.

7. Touch the [Radio Channel/Zone] button.

Set the radio channel/zone to use. (➡ P108)

When you touch the [CTL] tab or the [STD] tab, the screen will change.



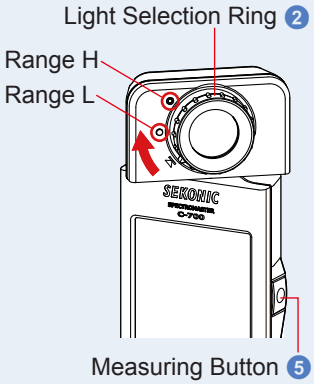
NOTE

If necessary, you can select a previously created Preset value from Preset Selection in the Tool Box. (➡ P146)

If no presets have been created, the Preset Selection will be grayed out and touching the button will not display the Preset Selection Display.
You can omit this step if unnecessary.

8. Confirm the light measuring range.

When you return to the Measurement screen, select Range L ( ) or Range H ( ) depending on the brightness of of the flash.



NOTE

- Range L ( ): Select when measuring small and low power flash units (lower than 640lx·s), [Over] will appear if flash power is too high. Select Range H.
- Range H ( ): Select when measuring powerful flash units (brighter than 640lx·s) [Under] will appear if flash power is too low. Select Range L.

9. Press the Measuring Button 5.

Measurement will be taken with flash, and the light source values will be displayed.

The display illumination will dim when the measuring button is pressed as the display illumination can affect the reading. This is normal.

Measurement in Radio Triggering Flash Mode is complete.

⚠ CAUTION

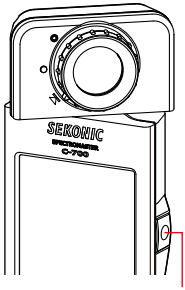
- **Do not trigger flash while skin or other objects are in contact with the flash tube. Do not touch the flash tube after continuous flashes. (It may cause burns.)**
- **Do not trigger flash while near the eyes of people or animals. (It may temporarily affect vision.)**
- **The flash may be triggered suddenly. Because there is the possibility of burns or negative effects on vision, please handle with care.**

NOTICE

- **If the flash output power is too weak compared to the surrounding light, the meter may not detect the flash output. In this case, use "5-4 Measurement in Cord (PC) Flash Mode". (➡ P68)**
- **Pulsed light sources such as fluorescent lights or special lighting could cause the meter to take cordless flash measurements in rare cases. In these situations, use "5-4 Measurement in Cord (PC) Flash Mode". (➡ P68)**
- **If the Light Receptor 1 detects a sudden, bright change in lighting intensity, the meter may mistakenly take a measurement. To avoid this, take "5-4 Measurement in Cord (PC) Flash Mode". (➡ P68)**
- **Because the light radiated from a flash bulb gradually builds, the meter will not detect the light when used in Radio Triggering Flash Mode. Be sure to take "5-4 Measurement in Cord (PC) Flash Mode". (➡ P68)**
- **When using Flash Cordless Mode, the LCD screen backlight dims during measurement, and the LCD backlight is illuminated for only 3 seconds after measurement. To cancel standby mode, touch the screen or press the Memory Button 7.**

5-6 Contrast Function (in Ambient Light Mode only)

In all item (except LB, CC filter name) modes, when you touch the [Delta] icon ( ), the [Delta] icon changes to ( ).
While this mode, the difference between standard value and currently being measured value is displayed as long as the Measuring Button 5 is pressed.
The reference value is the measurement value when the [Delta] icon is pressed.
When the Measuring Button 5 is released, the standard value is displayed as the last measurement.
The graphs in Spectrum, CRI and White Balance Correction modes show the standard value only even if Contrast Function is activated.



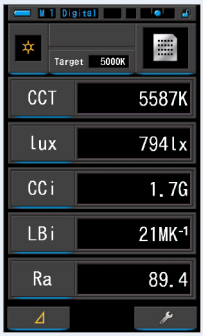
Measuring Button 5

Operation

1. Press the Measuring Button 5 and start measurements.

The measurement results will be displayed.

Measurement Screen



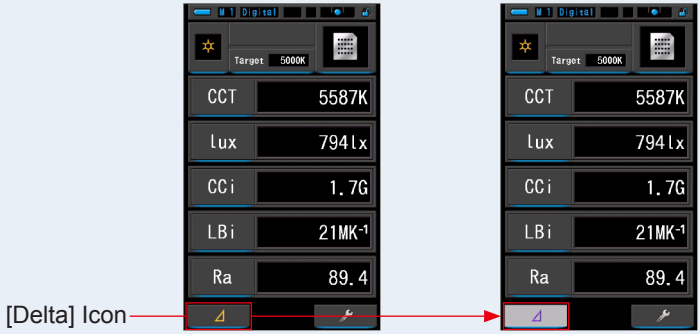
NOTE

Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

2. Touch the [Delta] ( ) icon.

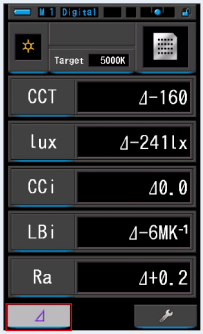
The measurement results right before touching the icon will become the standard values.

The [Delta] icon will change ( ).



3. Press the Measuring Button 5.

While the [Delta] icon is change ( ), the difference with the standard value is displayed as long as the Measuring Button 5 is pressed.



4. Monitoring Function is complete.

When the Measuring Button 5 is released, the standard value is displayed.

5. Touch the [Delta] ( ) icon.

The [Delta] icon will be deactivated ( ).

NOTE

- If the [Delta] icon is touched before a first measurement is taken, Monitoring Function cannot be activated.
- The [Delta] icon ( ) is deactivated when the power is turned OFF.
- When the [Delta] icon is displayed, the Memory Button 7 is disabled.

5-7 When [Over], [Under] or [Out of Display] is Displayed

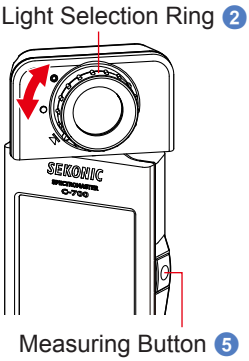
When [Over] or [Under] is displayed, measurement cannot be taken.
When [Out of Display] is displayed, the indicated value is out of display while measurement can be taken.

5-7-1 Display of [Over], [Under] or [Out of Display]

When [Over] is displayed:
If the indicated values are higher than the maximum measuring range, [Over] is displayed.
When measuring ambient light, decrease the brightness of the illumination.
When measuring flash light, turn the Light Selection Ring 2, and change the range from L to H, or lower the flash output power.

When [Under] is displayed:
If the indicated values are lower than the minimum measuring range, [Under] is displayed.
When measuring ambient light, increase the brightness of the illumination.
When measuring flash light, turn the Light Selection Ring 2, and change the range from H to L, or raise the flash output power.

When [Out of Display] is displayed:
If [Out of display] appears in the filter number indication, it is out of display range (combination) of filter number.
Take a new measurement after changing the target color temperature.



NOTE

Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

NOTE

Display range:

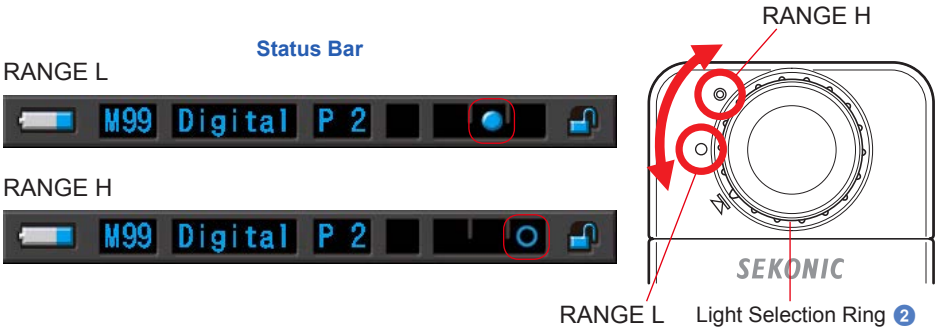
Color Temperature (Digital/Film)	: Digital (C-700/C-700R) 1,600K ~ 40,000K
	: Film (C-700/C-700R) 1,600K ~ 40,000K
LB Index	: -500 to +500MK^{-1}
LB Filter Numbers	
Camera Filter	
Kodak WRATTEN 2/LEE	: 80A+80B to 85B+85
FUJIFILM LBA/LBB	: LBB-20 + LBB-16 to LBA-20 + LBA-16
Lighting Filter	
LEE	: L287 DOUBLE CTO + L204 FULL CTO to L200 DOUBLE CTB + L283 1.5 CTB
ROSCO CINEGEL	: R3420 DOUBLE CTO + R3407 FULL CTO to R3220 DOUBLE CTB + R3202 FULL CTB
ROSCO E-COLOUR+	: E287 DOUBLE CTO + E204 FULL CTO to E200 DOUBLE CTB + E283 1.5 CTB
CC Index	: 80G to 80M
CC Filter Numbers	: 200G to 200M
Camera Filter	
Kodak WRATTEN 2/LEE	: CC50M + CC40M to CC50G + CC40G
FUJIFILM CC	: CC-50M + CC-40M to CC-50G + CC-40G
Lighting Filter	
LEE	: L247 MINUS GREEN + L248 1/2 MINUS GREEN to L244 PLUS GREEN + L245 1/2 PLUS GREEN
ROSCO CINEGEL	: R3308 MINUS GREEN + R3309 3/4 MINUS GREEN to R3304 PLUS GREEN + R3315 1/2 PLUS GREEN
ROSCO E-COLOUR+	: E247 MINUS GREEN + E248 1/2 MINUS GREEN to E244 PLUS GREEN + E245 1/2 PLUS GREEN
Illuminance lux	: 1lx ~ 200,000lx
Exposure lux-second	: 20lx·s ~ 20,500lx·s
Illuminance foot-candle	: 0.1FC ~ 18,600FC
Exposure foot-candle-second	: 1.86fc·s ~ 1,902fc·s

5-7-2 Changing the Light Range

Change and use the light range depending on the brightness of the flash.

Light Selection Ring (Status Bar Display)		Content
Dark Calibration Position		Select for dark calibration only. Measurement cannot be made in this position.
Range L		Select for ALL ambient light measurement, and low power flash units (lower than 640lx·s)
Range H		Select for powerful flash units (brighter than 640lx·s) only.

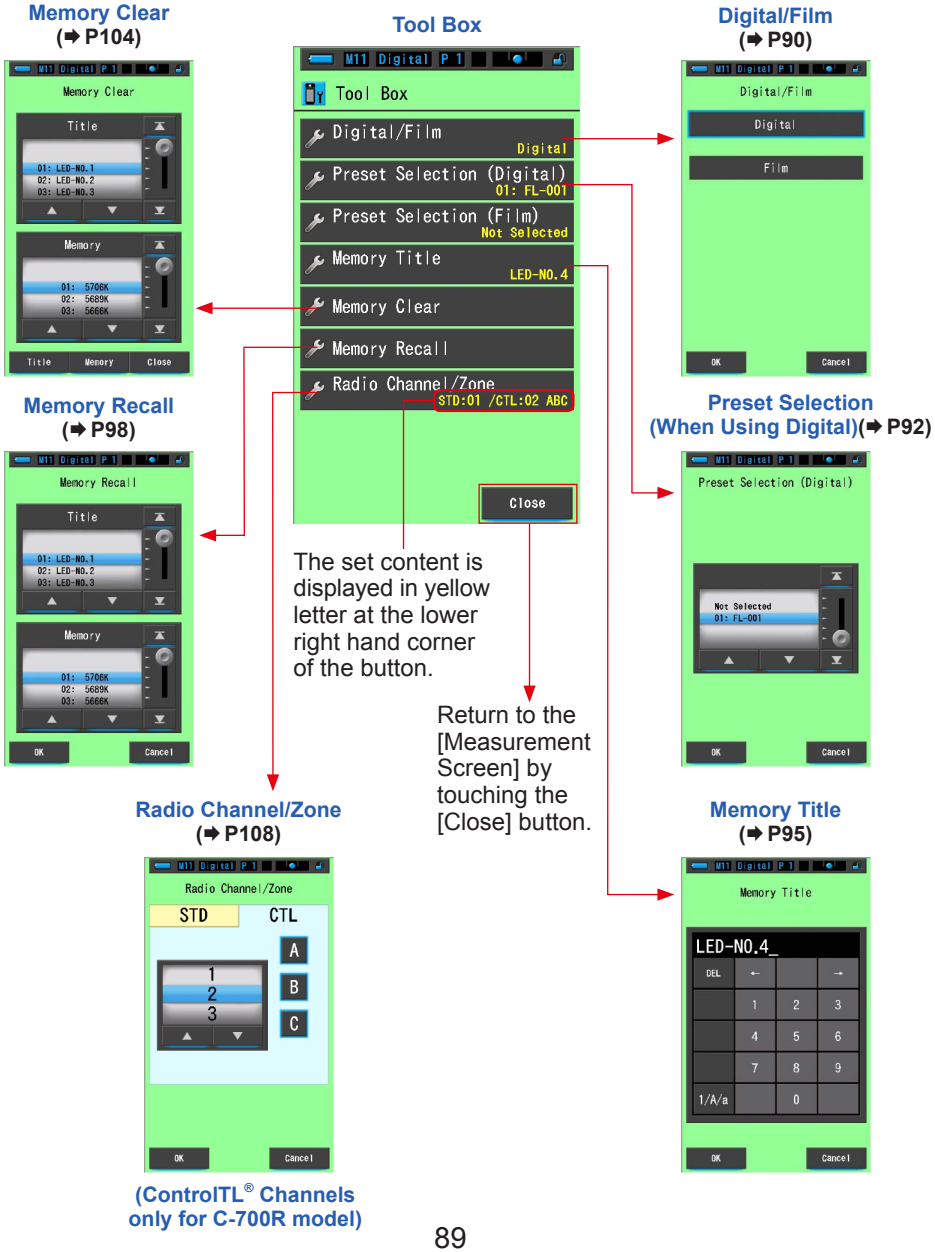
Turn the Light Selection Ring ❷ and select the desired range.
The set range will be displayed on the LCD screen's status bar.



6. Measurement Tool [Tool Box] Screen

Selecting Screens from the Tool Box

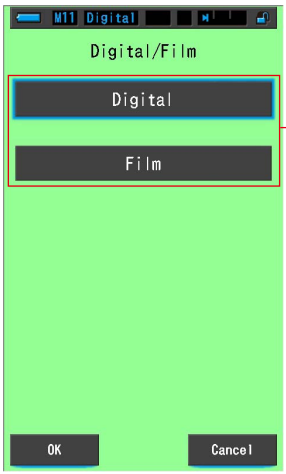
Touch the [Tool Box ( )] icon in the Measurement screen to display the Tool Box screen. (➡ P17) You can select screens from the Tool Box as follows.



6-1 Selecting Digital/Film

Select "Digital" or "Film" in accordance with the type of camera.

Digital/Film Screen

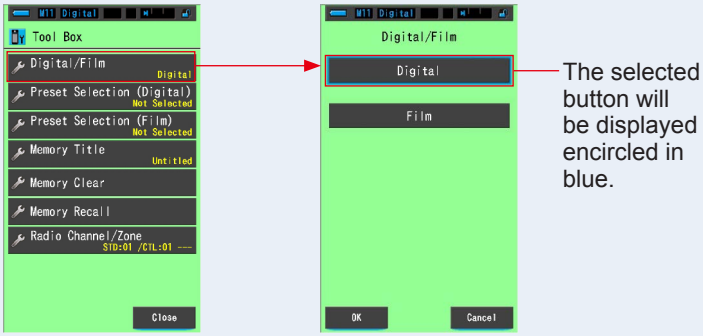


Operation

1. Touch the [Digital/Film] button.

[Digital] and [Film] button will be displayed.

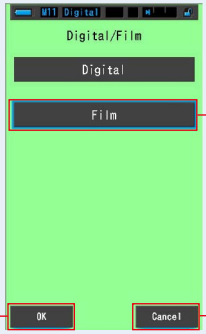
Tool Box Screen **Digital/Film Screen**



2. Touch either the [Digital] or [Film] button.

The selected button will be encircled in blue.

Digital/Film Screen



The selected button will be displayed encircled in blue.

[OK] Button

[Cancel] Button

3. Touch the [OK] button.

Confirm and return to the Measurement screen.

To return to the Measurement screen without confirming, touch the [Cancel] button.

The selected status will be displayed on the status bar.

The selected Film is displayed.

The camera type is set.

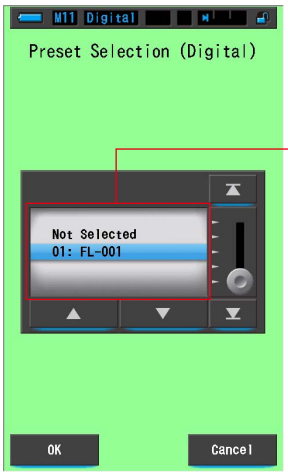
NOTICE

- **If "Digital" is selected, settings based on human eye characteristics (correlated color temperature) are displayed.**
  If "Film" is selected, settings based on film's characteristics (photographic color temperature) are displayed.
- **Please note that color reproduction may be inaccurate if "Digital" is selected when using a film camera, or vice versa.**

6-2 Setting Preset Contents [Preset Selection] Screen

Presets are a quick way to introduce adjustments to the C-700's camera/light source filter recommendations.
You can create and store Presets for different lighting conditions or color effects to use when ever needed. (➡ P146)
Also, when you use several target color temperatures, setting them in "Edit a Preset" beforehand makes it easier to change target color temperatures by recalling one of presents in Tool Box even if you do not input a target color temperature every time.

Preset Selection Screen



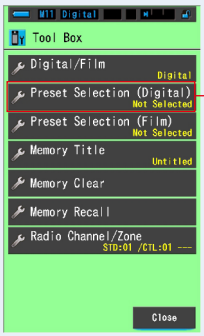
There are 19 Presets that can be displayed and used.

Operation

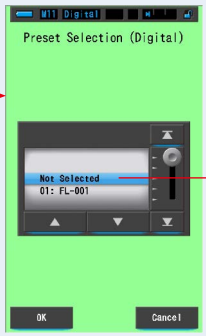
1. Touch the [Preset Selection] button in the Tool Box.

The Preset Selection screen will be displayed.

Tool Box Screen



Preset Selection Screen



Blue bar indicates the item selected.

NOTICE

A Preset value must be created and saved in the Preset Editing function under the "Setting Mode" icon before it can be used.
Preset Selection buttons will be grayed out until settings are created.

2. Select desired preset no. (1 ~ 19).

Touch Up/Down buttons or move slide to position the desired Preset under the blue bar.

Preset Selection Screen

[OK] Button

[Cancel] Button

NOTICE

Be sure to set Preset Selection to "Not Selected" when no correction is desired.

3. Touch the [OK] button.

Confirm and return to the Measurement screen.

To return to the Measurement screen without confirming, touch the [Cancel] button.

The selected status will be displayed on the status bar.

The selected preset no. is displayed.

The preset is set.

NOTICE

When selected, the Preset Color Temperature is used by the meter in place of the Target Color Temperature that was selected from the Measuring screen.

6-3 Using the Memory Function

6-3-1 Naming Memorized Measurement Values

The memory function enables storing light source data for single sources and groups of sources for recall at any time. You can create special titles for memorized values to make them easier to select, view and use data later.

To use this function the order of operation:
* Create memory title
* Measure light source
* Press Memory button 7 to memorize

Memory Title Screen

The factory default name is displayed.

NOTE

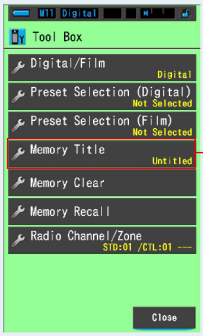
- A title can be a maximum of 16 alphanumeric characters.
- Up to 99 titles can be created. More than one measurement can be stored under one title.

Operation

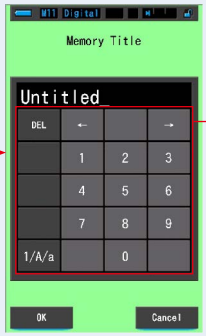
1. Touch and select the [Memory Title] button in the Tool Box.

The Memory Title screen will be displayed.

Tool Box Screen



Memory Title Screen



Input Section

2. Enter the memory title. (➡ P19)

Use the keyboard to create a name for the measured light.

Memory Title Screen

[OK] Button

[Cancel] Button

3. Touch the [OK] button.

Confirm and return to the Measurement screen.

To return to the Measurement screen without confirming, touch the [Cancel] button.

The memory title is entered.

NOTICE

The memory title needs to be entered before memorizing.
The title cannot be changed after memorizing.

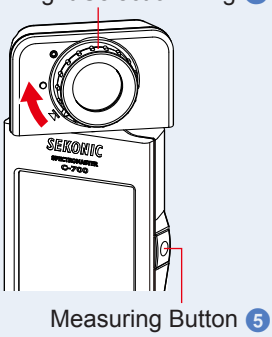
4. Measure light.

Press Measuring Button 5 to take a measurement.

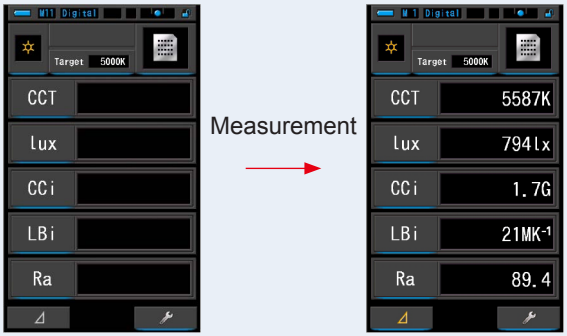
Turn the Light Selection Ring 2 to select the range.

When measuring ambient light, make sure to select Range L ( ).

When measuring flash units, select Range L ( ) or Range H ( ) depending on the brightness of of the flash. (➡P86, ➡P88)



Measurement screen

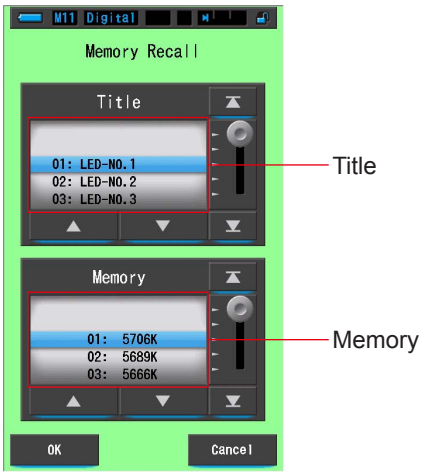


5. Press Memory Button 7 to memorize light source values and link the reading to the created title name.

6-3-2 Recalling Measurement Results [Memory Recall] Screen

The Memory Recall screen enables selecting a specific Title and any memorized measurement under the Title. It allows viewing all memorized (stored) measurements for inspection. All measurement screens can be viewed for each Memory number.

Memory Recall Screen

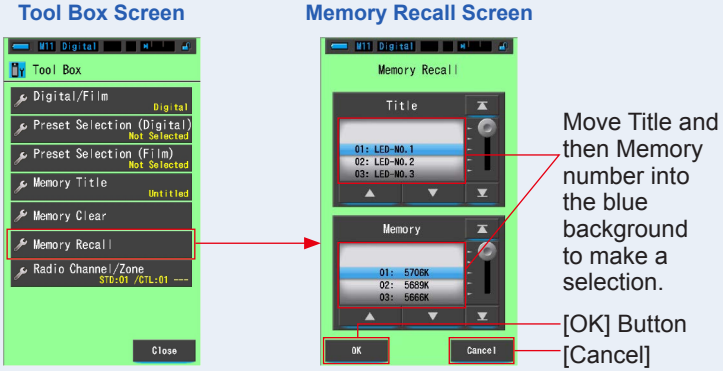


Operation

1. Touch the [Memory Recall] button in the Tool Box.

"Title" and "Memory" will be displayed.

2. Select the "Title" and "Memory" to recall with the blue background positions.



3. Touch the [OK] button.

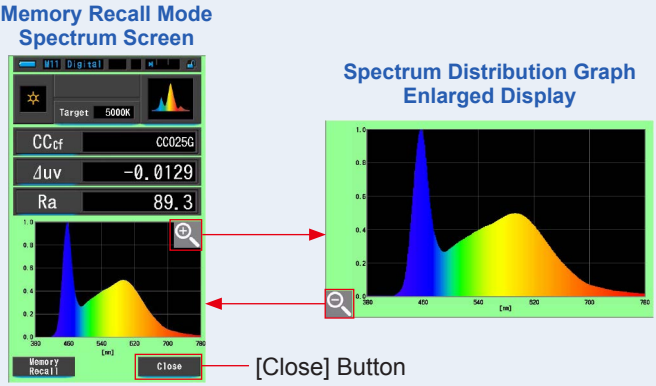
The meter will display the display mode viewed when the light source was memorized.

To return to the Measurement screen without confirming, touch the [Cancel] button.

4. Confirm the memory contents.

Display Mode at the time when memorized appears.
In Memory Recall Mode, the background color becomes green.

Ex.)



NOTICE

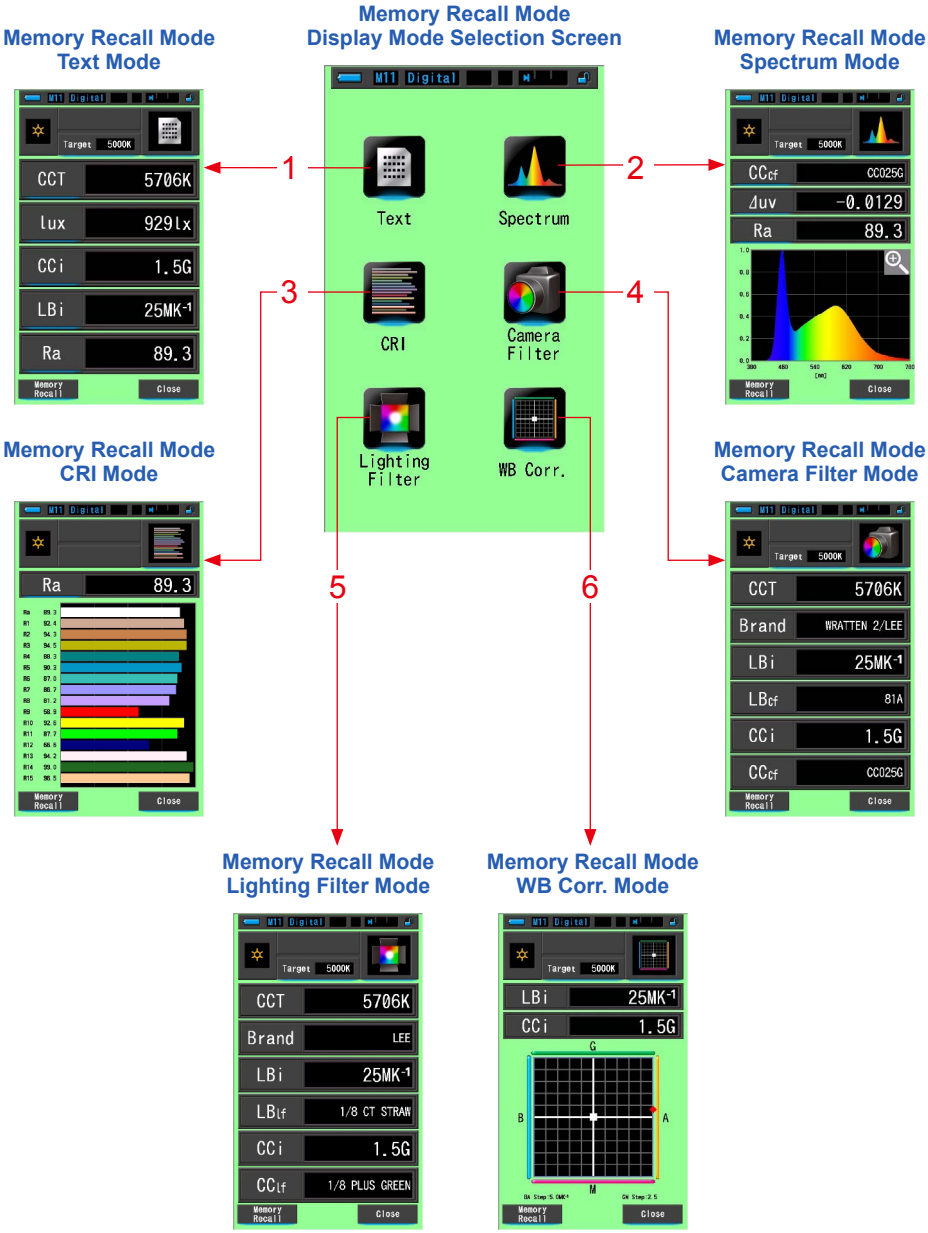
- Only the current reading can be memorized in the [Spectrum Comparison] Mode. If the Spectrum Comparison screen is displayed when the memory button is pressed, the stored data will be displayed on the Spectrum display screen.
- In Memory Recall Mode, measurement cannot be made.

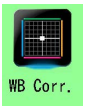
5. **Touch the [Close] button.**

Returns to the Measurement screen.

Changing the Display Mode of Memory Recall

Touch the [Display Mode] icon in Memory Recall Mode, and available Display Modes of memory recall appear. Touch each icon to display a specified display mode (Memory Recall Mode).



No.	Display Mode Icon	Part Name	Description
1		**Memory Recall Mode [Text] Icon**	Displays user-selected 5 items in numeric values. (➡ P33)
2		**Memory Recall Mode [Spectrum] Icon**	Displays 3 user-selected values and spectrum distribution graph. (➡ P36)
3		**Memory Recall Mode [CRI] Icon**	Displays the selected average CRI (RA) or individual CRI (R1 ~ R15). Each CRI is displayed in a bar graph. (➡ P43)
4		**Memory Recall Mode [Camera Filter] Icon**	Displays correction values and camera filter names required to adjust measured source to Target Color temperature. (➡ P45)
5		**Memory Recall Mode [Lighting Filter] Icon**	Displays correction values and light-source filter names required to adjust measured source to Target Color temperature. (➡ P47)
6		**Memory Recall Mode [WB Corr.] Icon**	Displays the difference between the current measurement value and the reference color temperature in a white balance graph. (➡ P53)

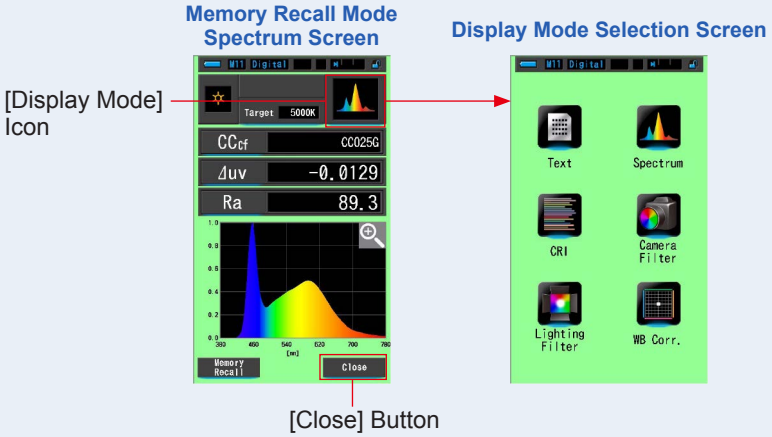
NOTE

The contents of Memory Recall Mode display the selected display items in the current Measurement Screen instead of display items at the time when memorized.

Operation

1. Touch the [Display Mode] icon on the Memory Recall Mode.

Display modes of Memory Recall Mode will be displayed.



2. Touch the desired [Display Mode] icon to display.

Switches to each display mode screen.

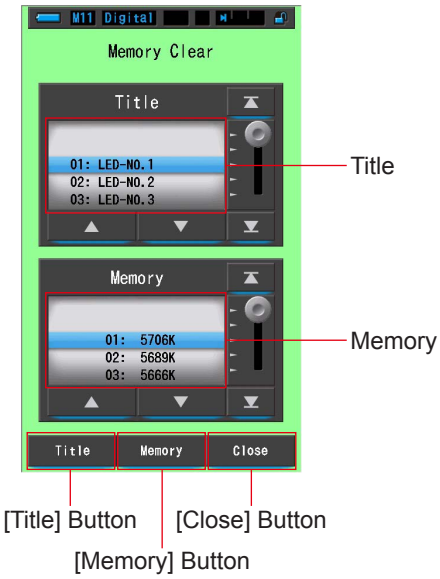
3. Touch the [Close] button.

Returns to the Measurement screen.

6-3-3 Deleting Saved Measurement Results [Memory Clear]

You can delete memorized measurement values individually or all at once.
In Memory Clear, titles and memory contents (memory numbers and measurement values) are displayed in the registered order.

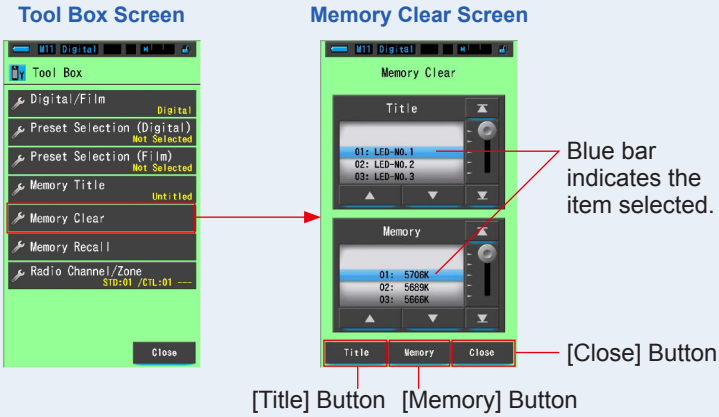
Memory Clear Screen



Operation

1. Touch and select the [Memory Clear] button in the Tool Box.

The Memory Clear screen will be displayed.

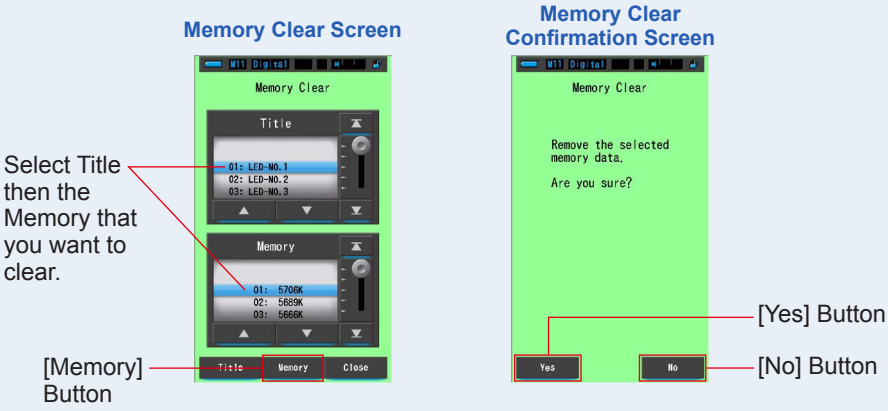


[Erasing Individual Values]

1. Select the Title to display the memorized value you want to delete. Then select the specific light source value under that title, if more than one value has been memorized.

2. Touch the [Memory] button.

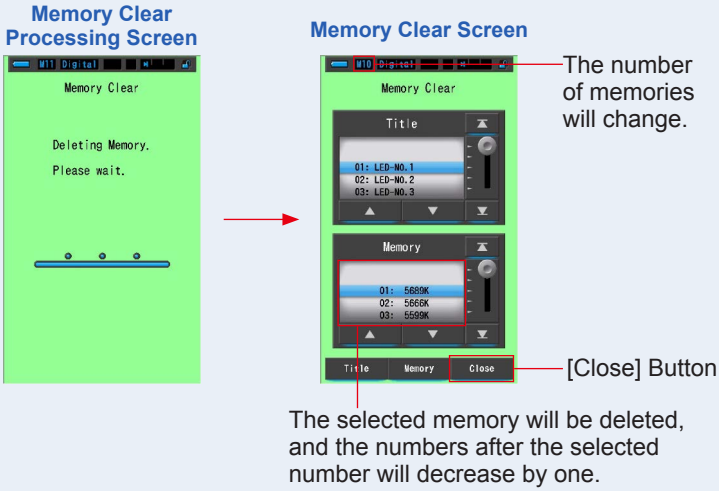
This will display the Memory Clear Confirmation screen. "Remove the selected memory data. Are you sure?" will be displayed.



3. Touch the [Yes] button.

A progress bar will appear while the memory is being deleted.
When the memory has been cleared, the meter will return to the Memory Clear Screen.

You can clear (delete) additional memories (stroed data) by repeating steps 1-3.
If you decide not to delete a memory (stored data), touch the [No] button to return to the Memory Clear Screen.



4. Touch the [Close] button.

Returns to the Measurement screen.

When you do not delete other memories, touch the [Close] button. Returns to the Measurement screen.

[Erasing All]

1. Match the "Title" to be deleted with the blue background positions.

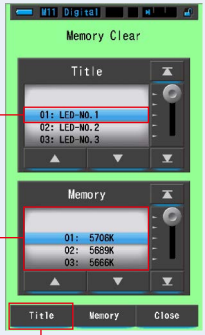
Select the "Title" to be deleted.

2. Touch the [Title] button.

This will delete the title. All the memory data linked to the title will be deleted.

This will display the Memory Clear Confirmation screen. "Remove the selected memory title. Are you sure?" will be displayed.

Memory Clear Screen

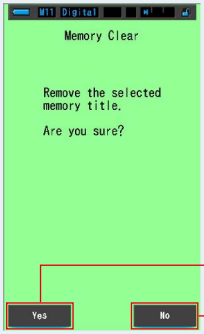


Move title into the blue background to select it.

All memorized measurements linked to the selected title will be displayed.

[Title] Button

Memory Clear Confirmation Screen



[Yes] Button

[No] Button

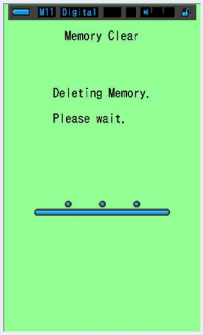
3. Touch the [Yes] button.

"Deleting Memory. Please wait." will be displayed. Returns to the Memory Clear screen after deletion.

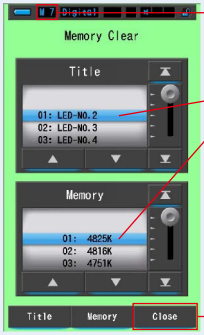
While the progress bar is running, the deletion is in progress. The process may require time depending on the number of memories to be deleted. Do not perform other work.

When you do not delete the memories, touch the [No] button. Returns to the Memory Clear screen.

Memory Clear Processing Screen



Memory Clear Screen



The number of memories will change.

After the selected memory and its linked data is deleted, the contents of title 01 are displayed.

[Close] Button

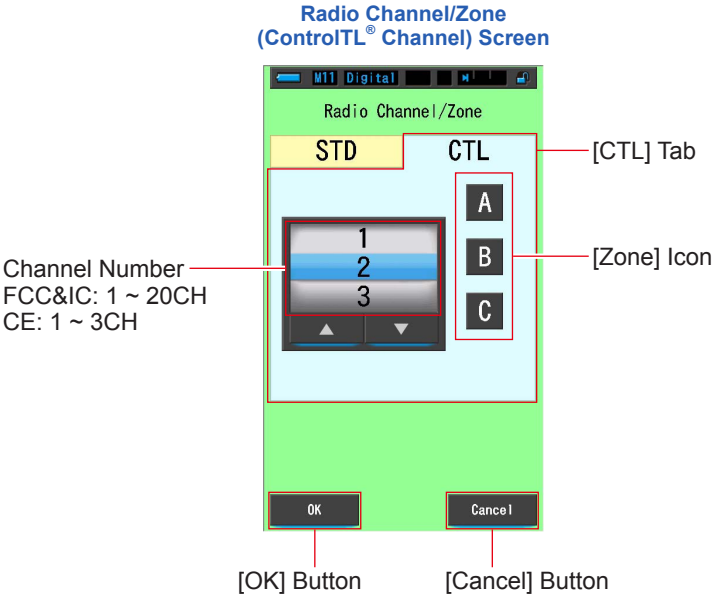
4. Touch the [Close] button.

Returns to the Measurement screen.

6-4 Setting the Radio Channel (C-700R Only)

Set the radio channel/zone to use.

■ Setting ControlTL® Channels



Operation

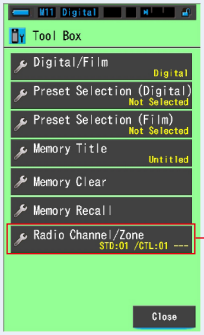
1. Touch the [Radio Channel/Zone] button in the Tool Box.

The radio channel/zone will be displayed.

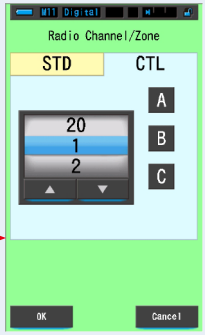
2. Touch the [CTL] tab.

When [Radio Channel/Zone] is selected, the [CTL] tab comes forward.

Tool Box Screen



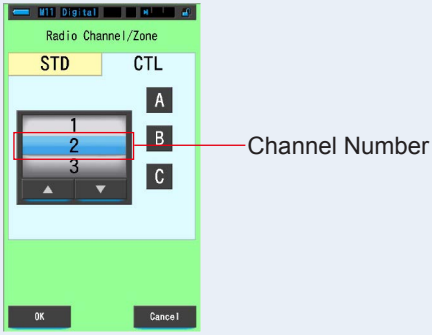
Radio Channel/Zone (ControlTL® Channel) Screen



3. Select the channel number. (FCC&IC: 1 ~ 20, CE: 1 ~ 3)

Select the channel number that you want to use.

Radio Channel/Zone (ControlTL® Channel) Screen

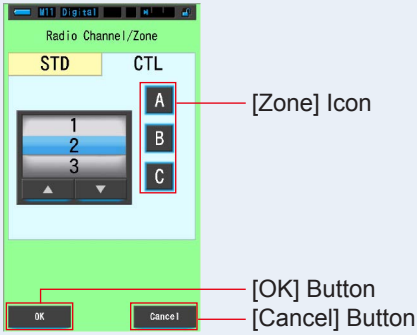


4. Touch the [Zone] icon.

Set one or more zones (A, B, C).

The selected zones will be displayed and encircled in blue.

Radio Channel/Zone (ControlTL® Channel) Screen



5. Touch the [OK] button.

Confirm and return to the Measurement screen.

To return to the Measurement screen without confirming, touch the [Cancel] button.

6. Confirm the set channel and zones on the Measurement screen.

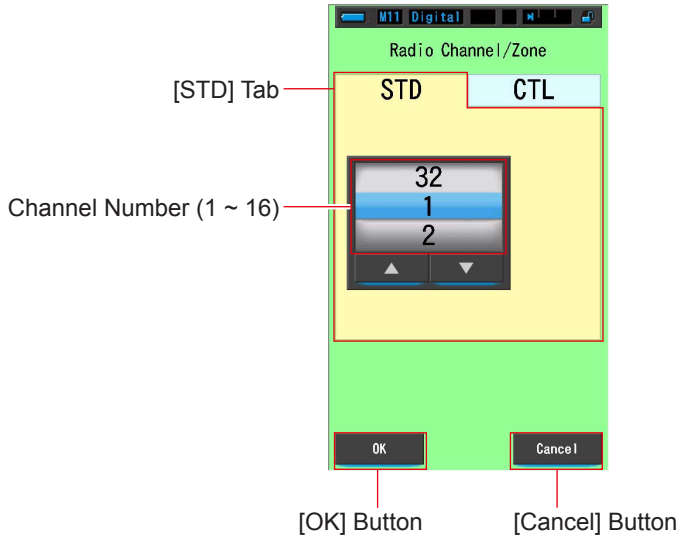
You can see the settings on the button at the lower left hand corner.

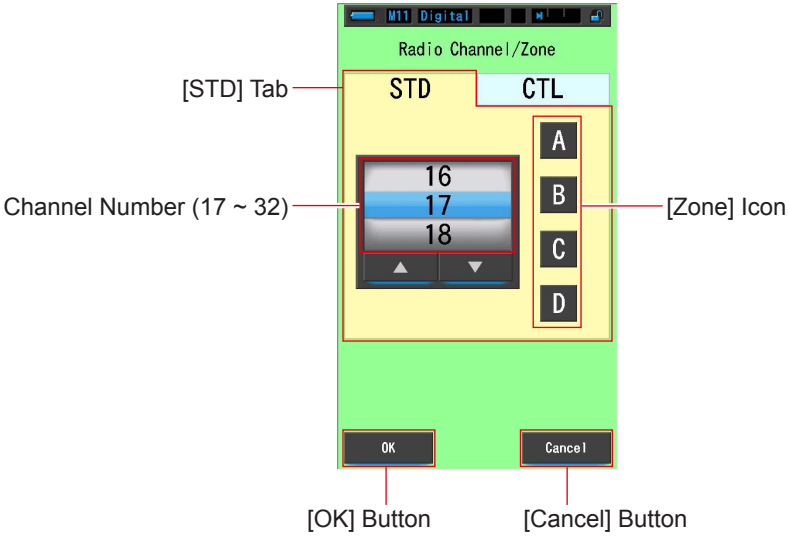
Measurement screen

The ControlTL® channel and zones are set.

Setting Standard Channels

Radio Channel/Zone (Standard Channel) Screen



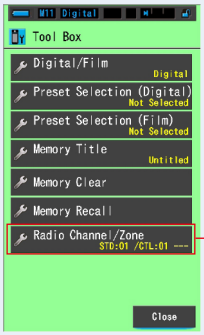


Operation

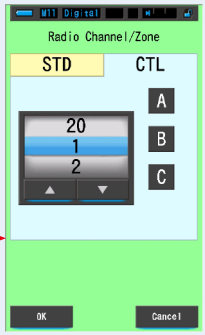
1. Touch the [Radio Channel/Zone] button in the Tool Box.

The radio channel/zone will be displayed.

Tool Box Screen



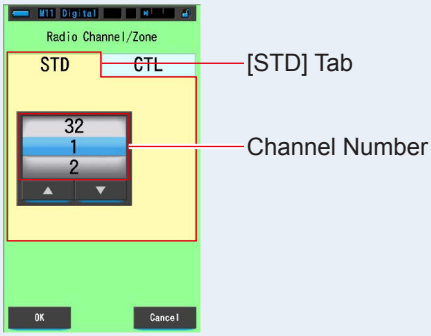
Radio Channel/Zone (ControlTL® Channel) Screen



2. Touch the [STD] tab.

Standard channels will be displayed.

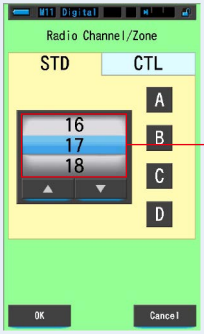
Radio Channel/Zone (Standard Channel) Screen



3. Select the channel number (1 ~ 32).

Select the channel number that you want to use.

Radio Channel/Zone (Standard Channel) Screen



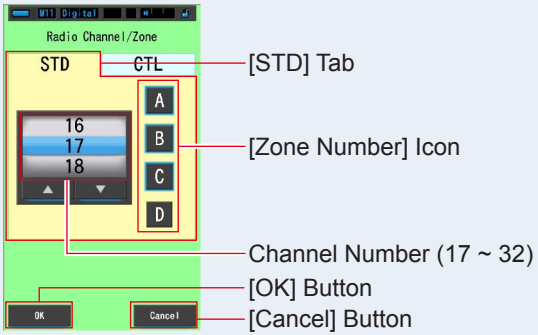
4. Touch the [Zone] icon.

When a channel number is set to 17 to 32, zones (A, B, C, D) will appear to select.

Select the zone to trigger the flash.
Channel 1 to 16: No zone setting
Channel 17 to 32: Up to 4 (A, B, C, D) can be set.

The selected zone will be displayed and encircled in blue.

Radio Channel/Zone (Standard Channel) Screen



5. Touch the [OK] button.

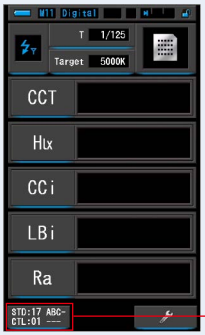
Confirm and return to the Measurement screen.

To return to the Measurement screen without confirming, touch the [Cancel] button.

6. Confirm the set channel and zones on the Measurement screen.

You can see the settings on the button at the lower left hand corner.

Measurement screen



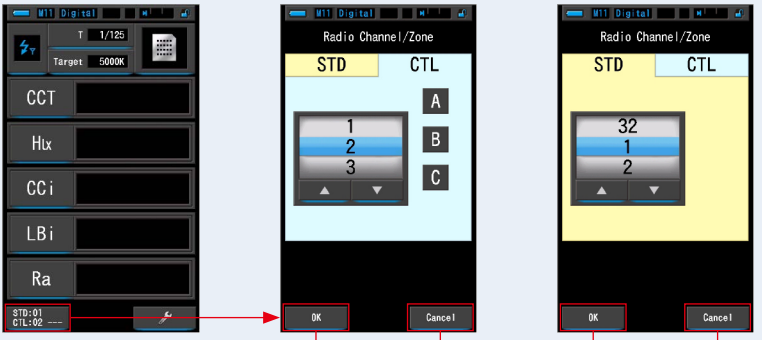
The set content is displayed.

The Standard channel is set.

NOTE

- Touching the [Radio Channel/Zone] button on the Measurement screen will display the Radio Channel/Zone screen. The background color is black.
- When shifted to the Radio Channel/Zone screen by the [Radio Cancel/Zone] button, touch the [OK] button or [Cancel] button to return to the Measurement screen.

Measurement Screen | **Radio Channel/Zone (ControlTL® Channel) Screen** | **Radio Channel/Zone (Standard Channel) Screen**



[OK] Button [Cancel] Button [OK] Button [Cancel] Button

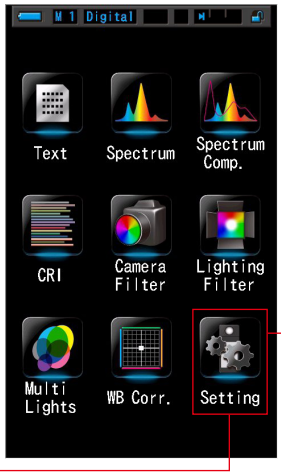
- When you set Radio Channel/Zone from either screen, the last settings are reflected on both screens.

7. Meter Settings [Setting] Screen

7-1 Setting Items

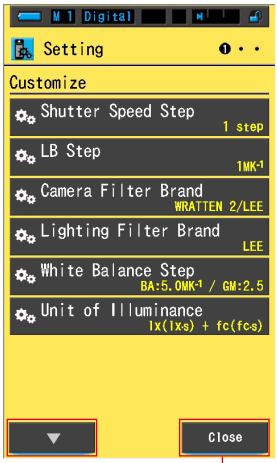
Here you can customize your meter for your preference in advance.

Display Mode Selection Screen



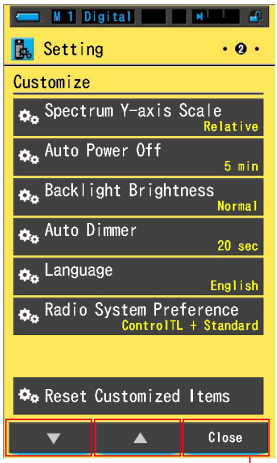
[Setting] Icon

Setting Page 1 Screen



To page 2

Setting Page 2 Screen



To page 1 To page 3

Setting Page 3 Screen

To page 2

[Close] Button

Operation

1. Touch the [Setting] icon on the Display Mode screen.

Setting will be displayed.

2. Touch the one step icons [▲][▼] to display the desired page.

3. Touch the desired setting name.

That setting screen will be displayed.

When the [Close] button is touched, the display returns to the Display Mode Selection screen.

7-1-1 Item List

The Setting screen items are as follows.

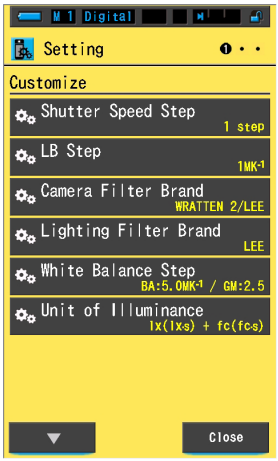
Item Name	Description
Customize	
Shutter Speed Step	Select the shutter speed from 1 step, 1/3 step, and 1/2 step. (➡ P120)
LB Step	Select the LB index display step from $1MK^{-1}$, $1daMK^{-1}$ (no decimal point) step, and $0.1daMK^{-1}$ (with decimal point) step. (➡ P123)
Camera Filter Brand	Select Kodak WRATTEN 2/LEE or FUJIFILM as the camera filter brand. (➡ P125)
Lighting Filter Brand	Select LEE, Rosco Cinegel or Rosco E-Colour+ as the lighting filter brand. (➡ P127)
White Balance Step	Set the step for 1 grid square on the WB Corr. screen from the ranges below. BA: 0.5 ~ $100.0MK^{-1}$ GM: 0.5 ~ 20.0. (➡ P129)
Unit of Illuminance*	Select the unit from lx(lx·s), fc(fc·s) or both when measuring illuminance. (➡ P131)
Spectrum Y-axis Scale	Select relative, auto, or spectral radiant intensity. (➡ P133)
Auto Power Off	Select the time before the power automatically turns off after last use (5min, 10min, 20min, No Auto Power Off). When No Auto Power Off is set, the automatic power OFF function is not activated. (➡ P135)
Backlight Brightness	Select the LCD backlight brightness from dark, normal, or bright. (➡ P137)
Auto Dimmer	Select the time before the backlight dims after last use to save extra power or adjust the visibility under the surrounding light condition. (20sec, 40sec, 60sec, No Dimmer) (➡ P139)
Language	Select the language displayed on the touch panel from English, Japanese or Chinese. (➡ P141)
Radio System Preference (for C-700R only)	Select from ControlTL, Standard, Control TL + Standard, or Not in Use. (➡ P143)
Reset Customized Items	Initialize (reset) only contents of "Customize" in Setting to the factory default (11 items for C-700 and 12 items for C-700R). (➡ P145)
Edit a preset	
Preset Editing	Edit a preset for film or digital separately. (➡ P146)
Dark Calibration	
Dark Calibration	Perform a dark calibration. (➡ P160)
Display the information	
Product Information	Display the product Information. (➡ P163)
Regulation	Display the complied regulations or certifications. (➡ P165)

* Models sold in some countries do not display illuminance and exposure in "fc (fc·s)" due to legal restrictions.

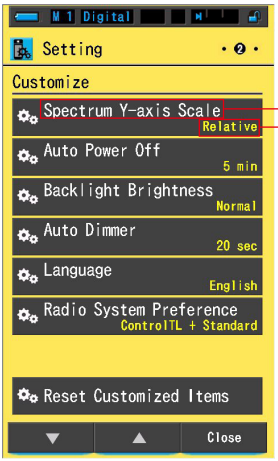
7-2 Customize

You can set the display contents of 11 items (C-700), 12 items (C-700R) in Customize (P1 to 2 of Setting) to customize your meter for your preference. The current setting for each item is displayed in yellow letters.

Setting Page 1 Screen



Setting Page 2 Screen



Item (white letters)

Current Setting Value (yellow letters)

Operation

1. Touch the [Setting] icon on the Display Mode screen.

Setting will be displayed.

2. Touch the one step icons [▲][▼] to display the desired page.

3. Touch the desired item.

The item screen will be displayed.

When the [Close] button is touched, the display returns to the Display Mode Selection screen.

7-2-1 Item Specifications

The specifications of each "Customize" item is as follows.

No.	Setting Name	Item				
						(Default)
1	**Shutter Speed Step**	1 Step	1/3 Step	1/2 Step	-	1 Step
2	**LB Step**	1MK^{-1} Step	1daMK^{-1} Step	0.1daMK^{-1} Step	-	1MK^{-1} Step
3	**Camera Filter Brand**	WRATTEN 2/ LEE	FUJIFILM	-	-	WRATTEN 2/ LEE
4	**Lighting Filter Brand**	LEE	ROSCO CINEGEL	ROSCO E-COLOUR+	-	LEE
5	**White Balance Step**	BA: 0.5 to 100.0MK^{-1} GM: 0.5 to 20.0				BA: 5MK^{-1} GM: 2.5
6	**Unit of Illuminance**	lx(lx·s)+ fc(fc·s)	lx(lx·s)	fc(fc·s)	-	lx(lx·s)+ fc(fc·s)
7	**Spectrum Y-axis Scale**	Relative	Auto	Spectral Radiant Intensity 1.0μW to 100W·m^{-2}·nm^{-1}		Relative
8	**Auto Power Off**	5min	10min	20min	No Auto Power Off	5min
9	**Backlight Brightness**	Dark	Normal	Bright	-	Normal
10	**Auto Dimmer**	20sec	40sec	60sec	No Dimmer	20sec
11	**Language**	English	Japanese	Chinese	-	Selected by default
12	**Radio System Preference**	ControlTL	Standard	ControlTL +Standard	Not in Use	ControlTL +Standard
13	**Reset Customized Items**	When you touch the [OK] button, the Setting contents will be reset to factory default.				-

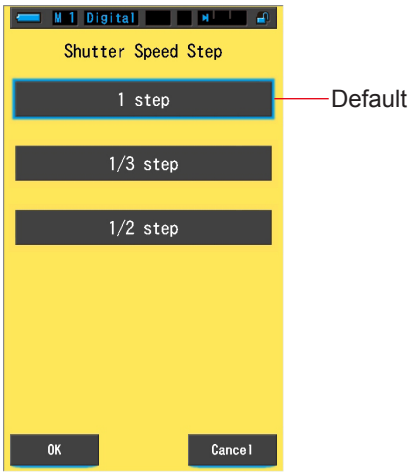
NOTE

- 1MK^{-1} is equivalent to 1Mired.
- The unit "MK^{-1}" is now used based on the International System of Units (SI) instead of traditional unit "Mired". The latest unit is adopted to the Spectromaster C-700/700R.

7-2-2 Selecting the Shutter Speed Step

Select the shutter speed from 1 step, 1/3 step, and 1/2 step.

Shutter Speed Step Screen



Selectable Shutter Speeds (in seconds)

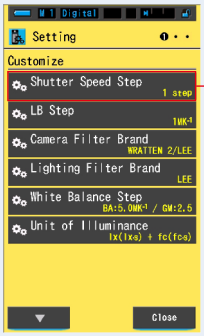
1 Step (Default)	1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, 1/500, 1/75, 1/80, 1/90, 1/100, 1/200, 1/400
1/3 Step	1, 0.8, 0.6, 0.5, 0.4, 0.3, 1/4, 1/5, 1/6, 1/8, 1/10, 1/13, 1/15, 1/20, 1/25, 1/30, 1/40, 1/50, 1/60, 1/80, 1/100, 1/125, 1/160, 1/200, 1/250, 1/320, 1/400, 1/500, 1/75, 1/80, 1/90, 1/100, 1/200, 1/400
1/2 Step	1, 0.7, 1/2, 1/3, 1/4, 1/6, 1/8, 1/10, 1/15, 1/20, 1/30, 1/45, 1/60, 1/90, 1/125, 1/180, 1/250, 1/350, 1/500, 1/75, 1/80, 1/90, 1/100, 1/200, 1/400

Operation

1. Touch the item [Shutter Speed Step] button on page 1 of Setting.

The shutter speed step will be displayed.

Setting Screen

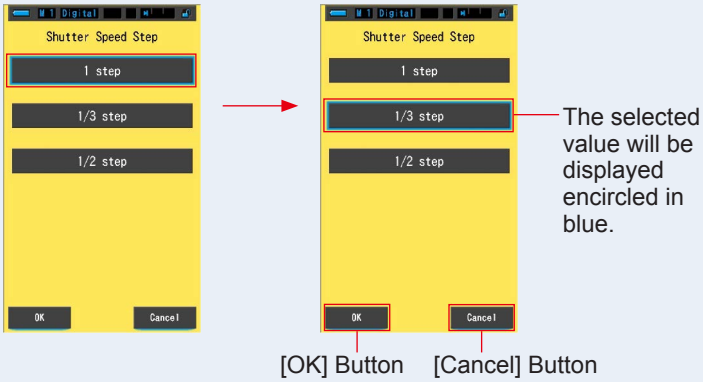


Shutter Speed Step Screen

2. Touch the desired shutter speed step to use.

Select from 1 step, 1/3 step, or 1/2 step.

Shutter Speed Step Screen

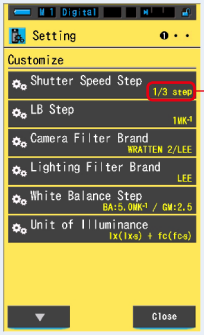


3. Touch the [OK] button.

Confirms the settings, and returns to Setting.

To return to Setting without confirming, touch the [Cancel] button.

Setting Screen



The set content is displayed.

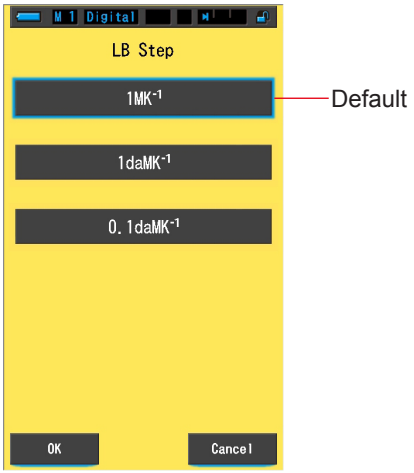
The shutter speed step is set.

7-2-3 Selecting the LB Step

Select the LB index display step from $1MK^{-1}$, $1daMK^{-1}$ (no decimal point) step, and $0.1daMK^{-1}$ (with decimal point) step.

Ex) $38MK^{-1}$ is displayed as $38MK^{-1}$ in $1MK^{-1}$ step, $4MK^{-1}$ in $1daMK^{-1}$ step, and $3.8MK^{-1}$ in $0.1daMK^{-1}$ step.

LB Step Screen



Operation

1. Touch the item [LB Step] button on page 1 of Setting.

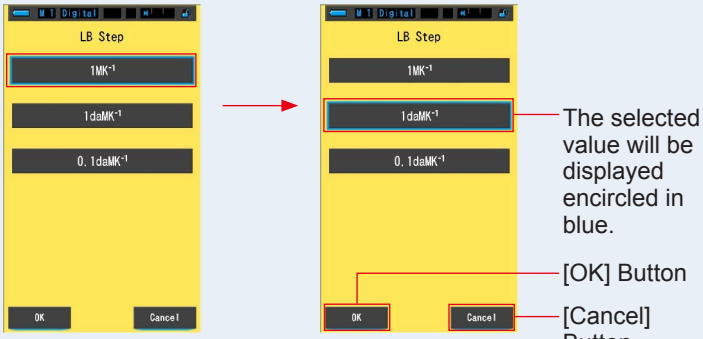
The LB step will be displayed.

Setting Screen **LB Step Screen**

2. Touch the desired LB step value to use.

Select the LB Step value.

LB Step Screen



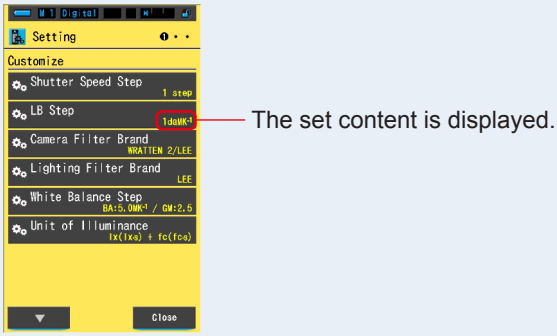
Measurement Screen Display Example

3. Touch the [OK] button.

Confirms the settings, and returns to Setting.

To return to Setting without confirming, touch the [Cancel] button.

Setting Screen



The LB step is set.

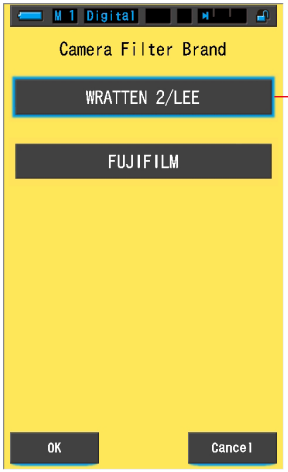
NOTE

- $1MK^{-1}$ is equivalent to 1Mired.
- The unit "MK^{-1}" is now used based on the International System of Units (SI) instead of traditional unit "Mired". The latest unit is adopted to the Spectromaster C-700/700R.

7-2-4 Selecting the Camera Filter Brand

Select WRATTEN 2/LEE (Kodak WRATTEN 2 or Lee) or FUJIFILM (FUJIFILM) as the camera filter brand.

Camera Filter Brand Screen

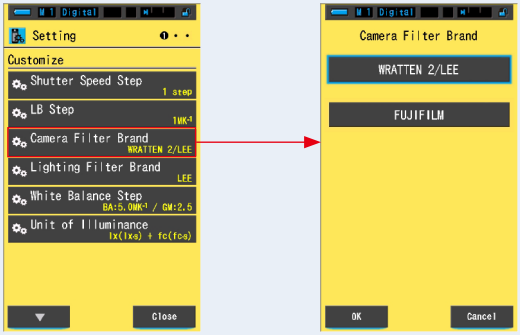


Operation

1. Touch the item [Camera Filter Brand] button on page 1 of Setting.

The camera filter brand will be displayed.

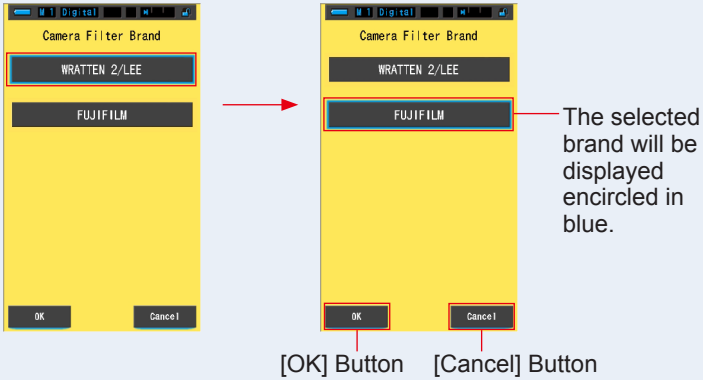
Setting Screen **Camera Filter Brand Screen**



2. Touch the desired camera filter brand to use.

Select the filter brand of the camera used.

Camera Filter Brand Screen

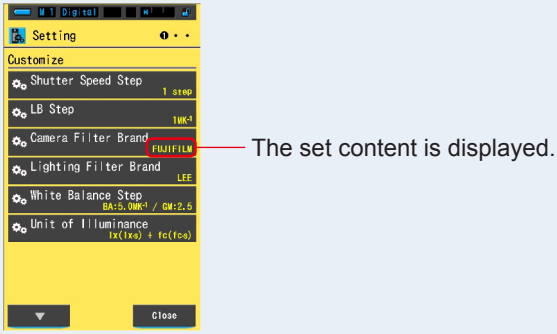


3. Touch the [OK] button.

Confirms the settings, and returns to Setting.

To return to Setting without confirming, touch the [Cancel] button.

Setting Screen

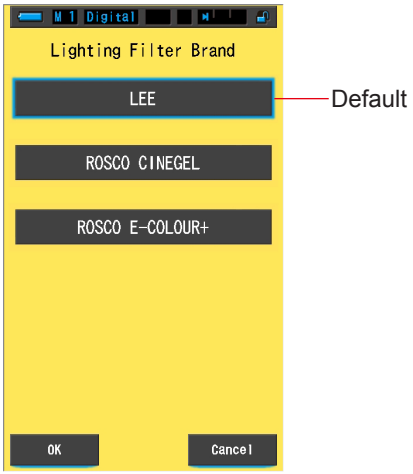


The camera filter brand is set.

7-2-5 Selecting the Lighting Filter Brand

Select LEE, ROSCO CINEGEL, or ROSCO E-COLOUR+ as the lighting filter brand.

Lighting Filter Brand Screen

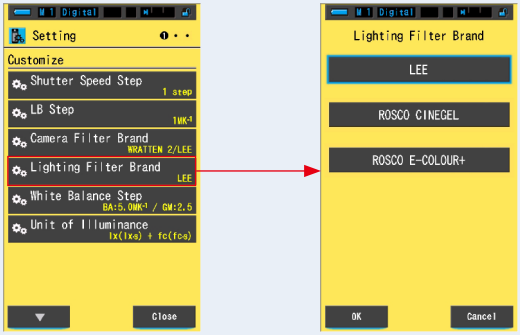


Operation

1. Touch the [Lighting Filter Brand] button on page 1 of Setting.

The lighting filter brand will be displayed.

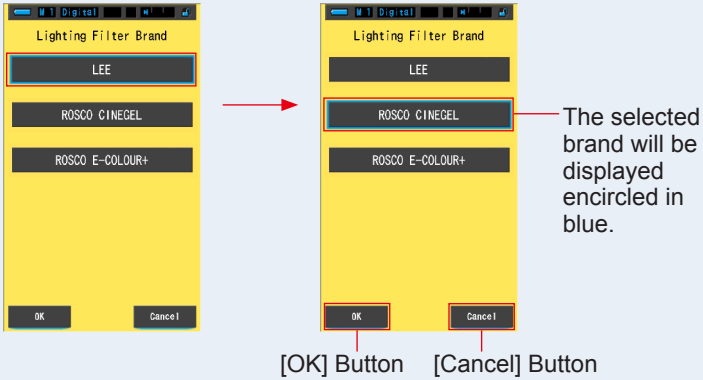
Setting Screen **Lighting Filter Brand Screen**



2. Touch the desired filter brand to use.

Select the filter brand of the lighting used.

Lighting Filter Brand Screen

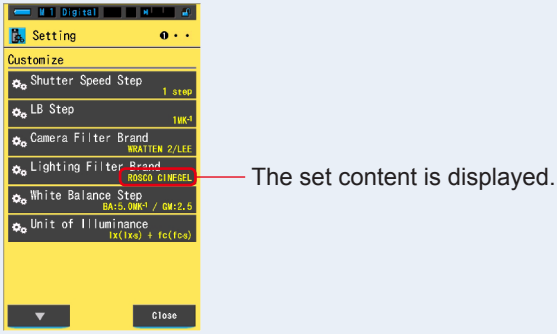


3. Touch the [OK] button.

Confirms the settings, and returns to Setting.

To return to Setting without confirming, touch the [Cancel] button.

Setting Screen

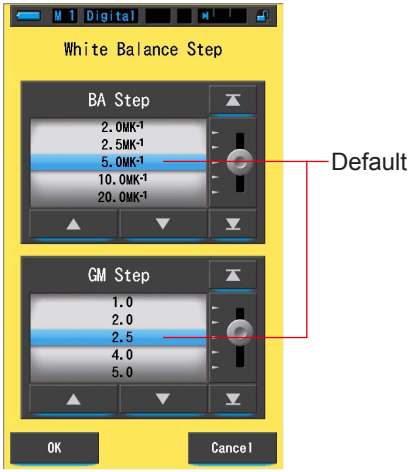


The lighting filter brand is set.

7-2-6 Selecting the White Balance Step

Select the unit per step displayed per grid cell on the WB Corr. Mode measurement screen from a range of BA: 0.5 to 100.0MK^{-1},GM: 0.5 to 20.0.

White Balance Step Screen

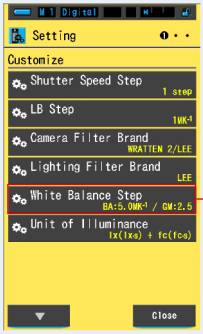


Operation

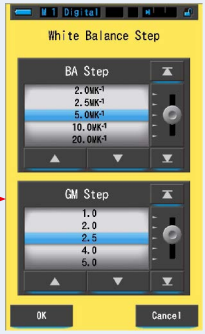
1. Touch the item [White Balance Step] button on page 1 of Setting.

The white balance step will be displayed.

Setting Screen

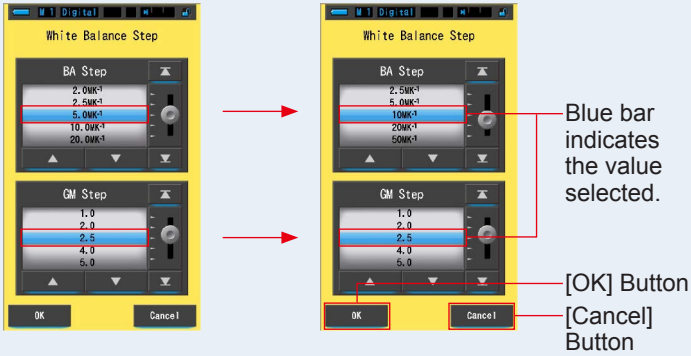


White Balance Step Screen

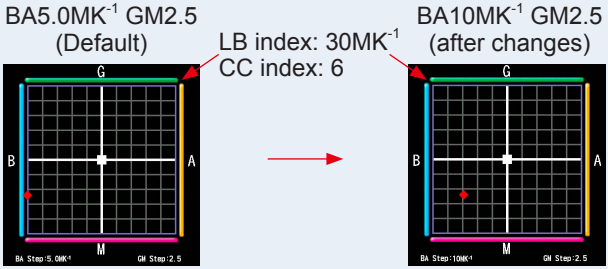


2. Select the desired white balance step to use.

White Balance Step Screen



Measurement Screen Display Example

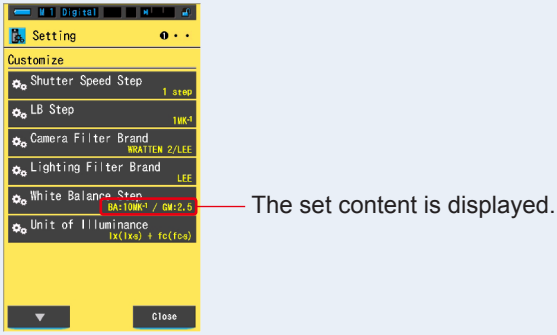


3. Touch the [OK] button.

Confirms the settings, and returns to Setting.

To return to Setting without confirming, touch the [Cancel] button.

Setting Screen



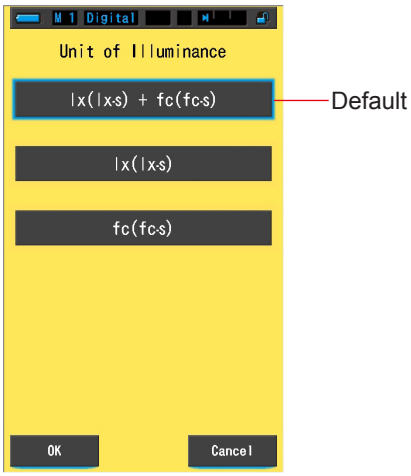
The white balance step is set.

7-2-7 Selecting the Unit of Illuminance

Select the unit when measuring illuminance.

* Models sold in some countries do not display illuminance and exposure in "fc (fc·s)" due to legal restrictions. In this case, "Unit of Illuminance" button will not appear in Setting screen.

Unit of Illuminance Screen

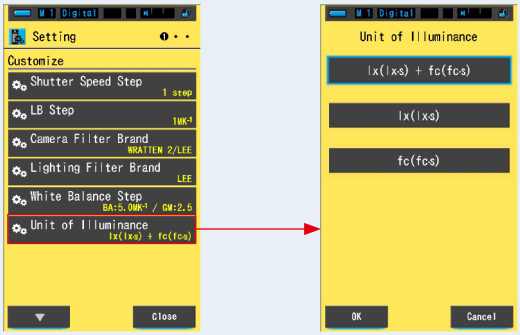


Operation

1. Touch the item [Unit of Illuminance] button on page 1 of Setting.

The unit of illuminance will be displayed.

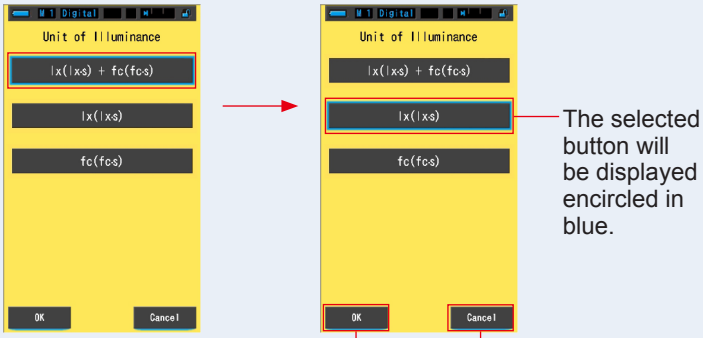
Setting Screen **Unit of Illuminance Screen**



2. Touch the desired unit to use.

Select the unit of illuminance.

Unit of Illuminance Screen

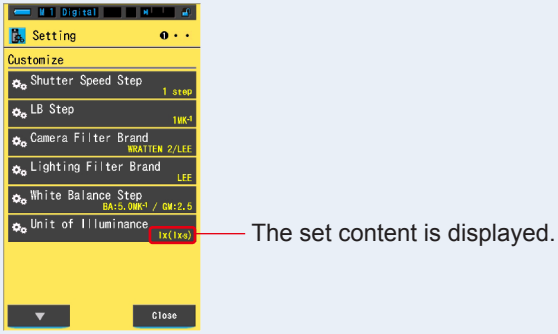


3. Touch the [OK] button.

Confirms the settings, and returns to Setting.

To return to Setting without confirming, touch the [Cancel] button.

Setting Screen

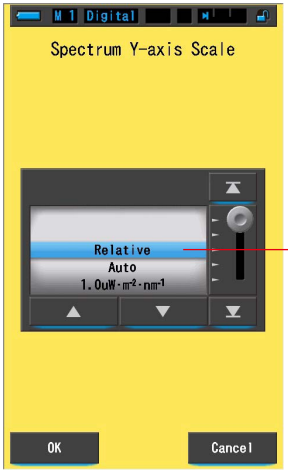


The unit of illuminance is set.

7-2-8 Selecting the Spectrum Y-axis Scale

Select relative, auto, or spectral radiant intensity as the maximum display value for the spectrum y-axis.

Spectrum Y-axis Scale Screen

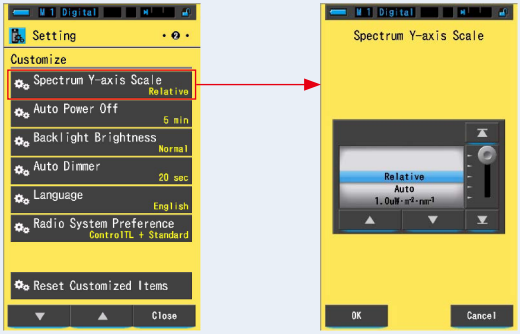


Operation

1. Touch the item [Spectrum Y-axis Scale] button on page 2 of Setting.

The maximum display value of the spectrum y-axis scale will be displayed.

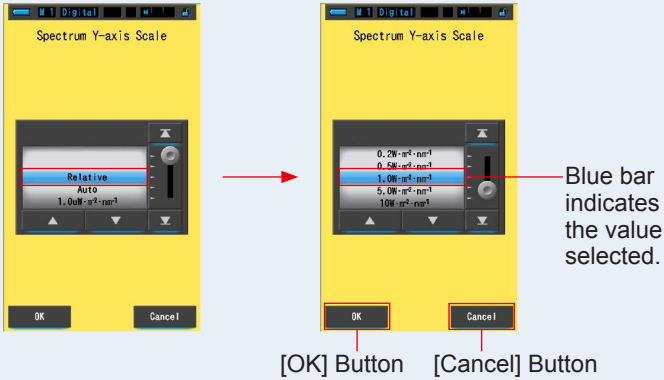
Setting Screen **Spectrum Y-axis Scale Screen**



2. Select the desired spectrum y-axis scale.

Select from relative, auto, or spectral radiant intensity.

Spectrum Y-axis Scale Screen

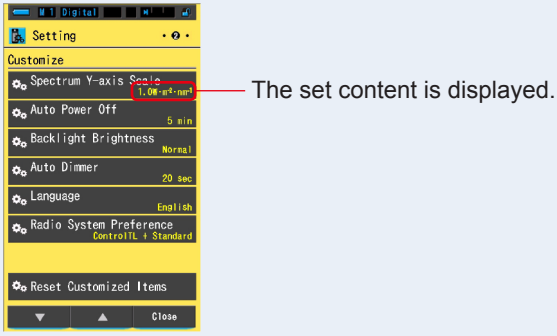


3. Touch the [OK] button.

Confirms the settings, and returns to Setting.

To return to Setting without confirming, touch the [Cancel] button.

Setting Screen

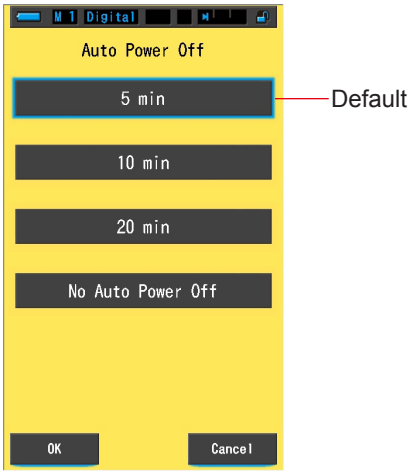


The spectrum y-axis scale is set.

7-2-9 Selecting the Auto Power Off Time

Select the time before the power automatically turns off after last use (5min, 10min, 20min, No Auto Power Off). When No Auto Power Off is set, the automatic power OFF function is not activated.

Auto Power Off Screen

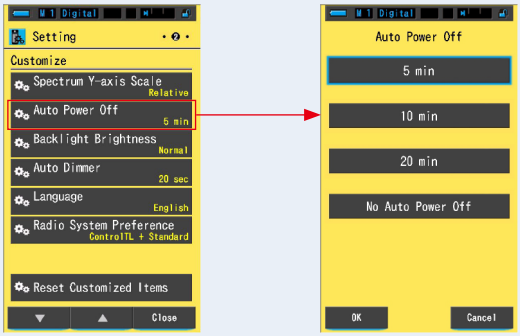


Operation

1. Touch the item [Auto Power Off] button on page 2 of Setting.

The auto power off time will be displayed.

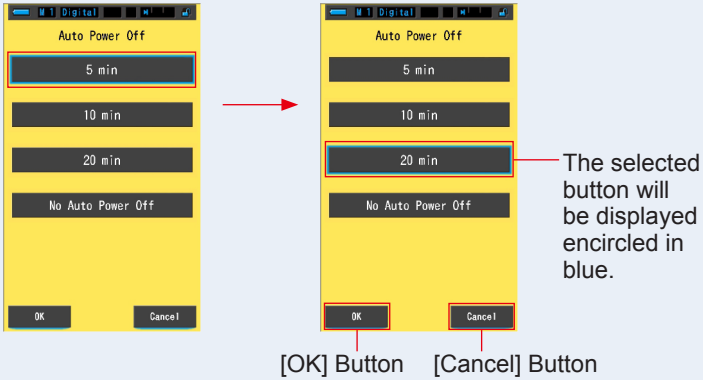
Setting Screen **Auto Power Off Screen**



2. Touch the desired time on the Auto Power Off screen.

Select 5min, 10min, 20min, or No Auto Power Off.

Auto Power Off Screen

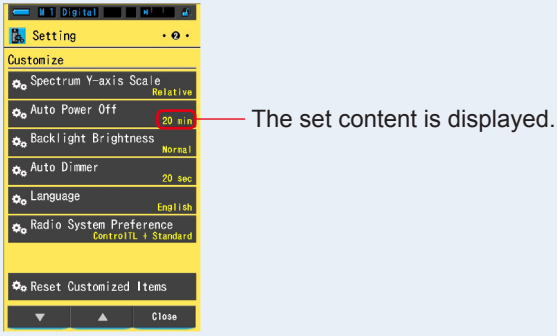


3. Touch the [OK] button.

Confirms the settings, and returns to Setting.

To return to Setting without confirming, touch the [Cancel] button.

Setting Screen

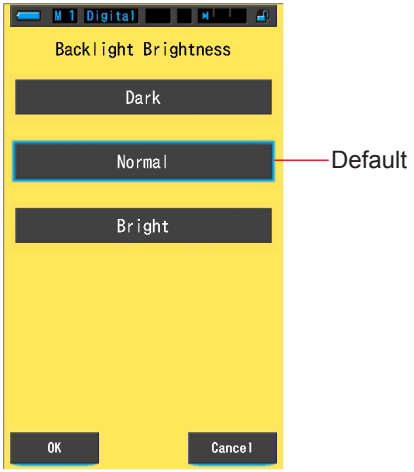


The auto power off time is set.

7-2-10 Selecting the Backlight Brightness

Select the LCD backlight brightness from Dark, Normal or Bright to save extra power or adjust the visibility under the surrounding light condition.

Backlight Brightness Screen

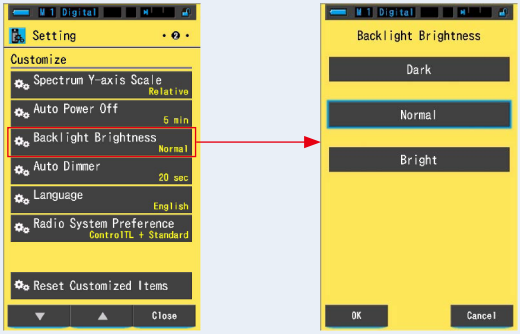


Operation

1. Touch the item [Backlight Brightness] button on page 2 of Setting.

The backlight brightness will be displayed.

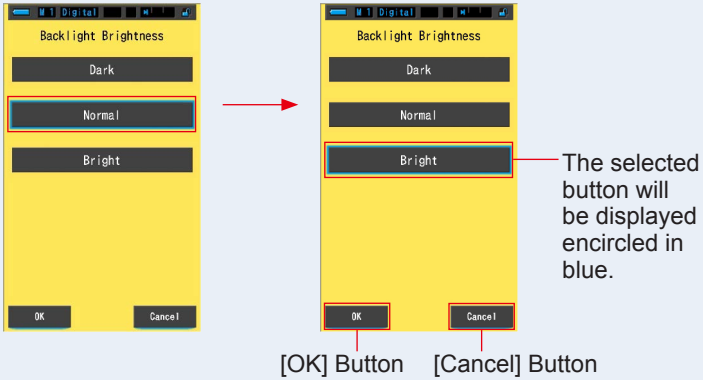
Setting Screen **Backlight Brightness Screen**



2. Touch the desired brightness on the Backlight Brightness screen.

Select dark, normal or bright.

Backlight Brightness Screen

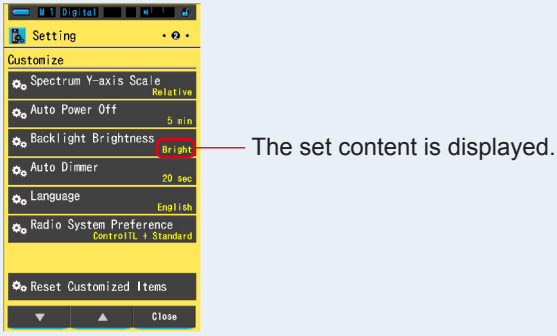


3. Touch the [OK] button.

Confirms the settings, and returns to Setting.

To return to Setting without confirming, touch the [Cancel] button.

Setting Screen

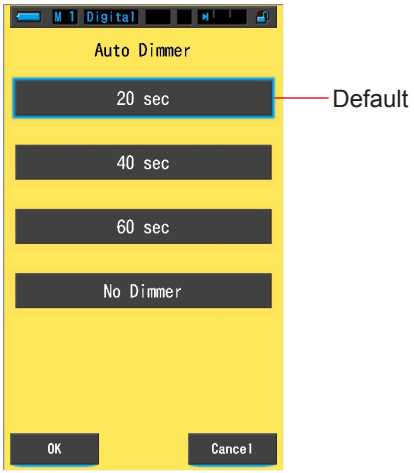


The backlight brightness is set.

7-2-11 Selecting the Auto Dimmer Time

Select the time before the backlight dims after last use to save extra power or adjust the visibility under the surrounding light condition.
(20sec, 40sec, 60sec, No Dimmer)

Auto Dimmer Screen



Operation

1. Touch the [Auto Dimmer] button on page 2 of Setting.

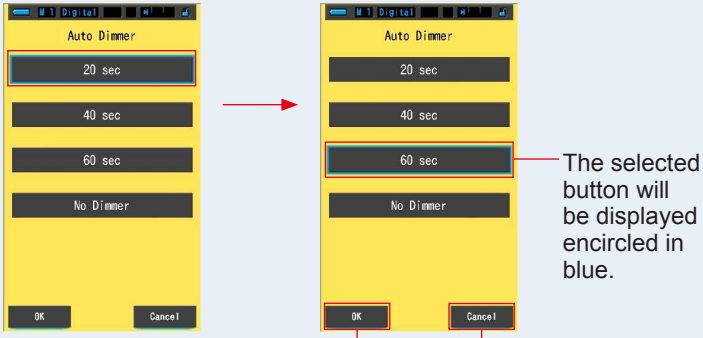
The auto dimmer time will be displayed.

Setting Screen **Auto Dimmer Screen**

2. Touch the desired time on the Auto Dimmer screen.

Select 20sec, 40sec, or No Dimmer.

Auto Dimmer Screen

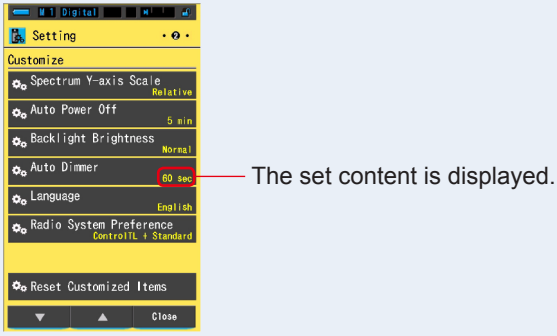


3. Touch the [OK] button.

Confirms the settings, and returns to Setting.

To return to Setting without confirming, touch the [Cancel] button.

Setting Screen



The auto dimmer time is set.

7-2-12 Selecting the Language

Select the language displayed in the meter setting or menu from English, Japanese or Chinese.

Language Screen

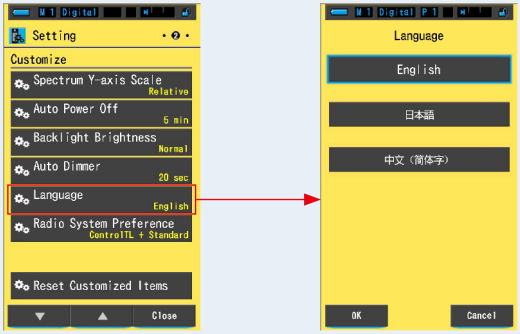
Operation

1. Touch the item [Language] button on page 2 of Setting.

The language will be displayed.

* You can change the language set when power is turned on for the first time.

Setting Screen **Language Screen**



2. Touch the desired language to use.

Select English, Japanese or Chinese.

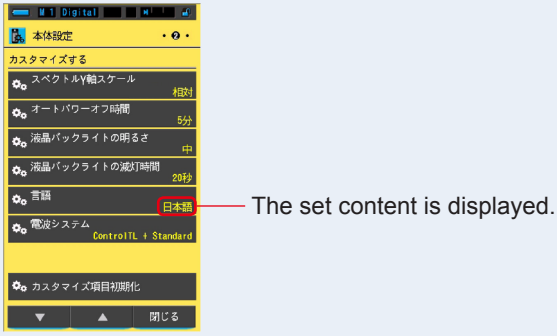
Language Screen

3. Touch the [OK] button.

Confirms the settings, and returns to Setting.

To return to Setting without confirming, touch the [Cancel] button.

Setting Screen

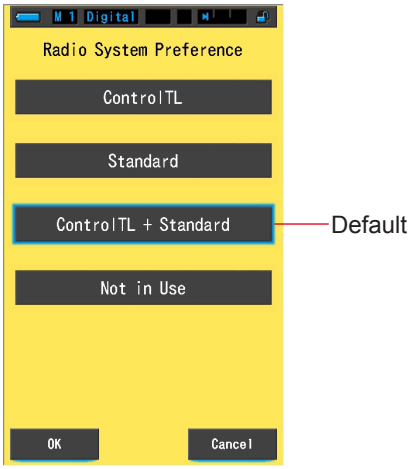


The language is set.

7-2-13 Selecting the Radio System Preference (C-700R Only)

Select from ControlTL, Standard, ControlTL+Standard, or Not in Use as the preference of the Radio Triggering Flash Mode.
ControlTL+Standard is default setting.

Radio System Preference Screen

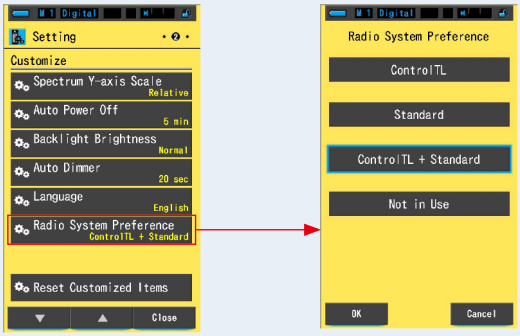


Operation

1. Touch the item [Radio System Preference] button on page 2 of Setting.

The radio system preference type and the Not in Use screen will be displayed.

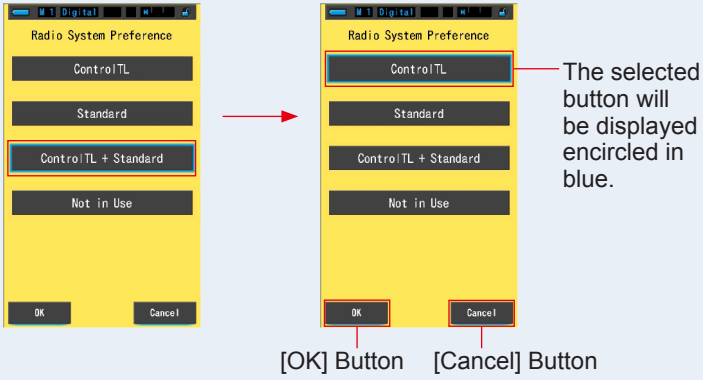
Setting Screen **Radio System Preference Screen**



2. Touch the desired system to use.

Select from 4 options. (ControlTL, Standard, ControlTL+Standard, or Not in Use)

Radio System Preference Screen

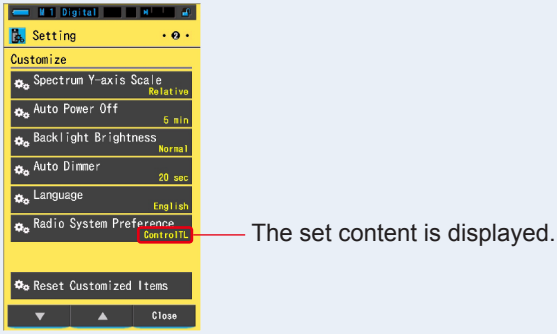


3. Touch the [OK] button.

Confirms the settings, and returns to Setting.

To return to Setting without confirming, touch the [Cancel] button.

Setting Screen

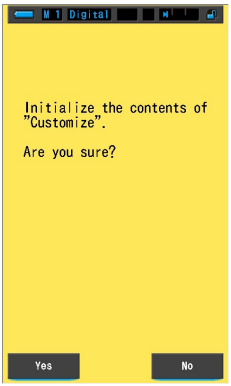


The radio system preference is set.

7-2-14 Reset Customized Items

Initialize (reset) only contents of "Customize" in Setting to the factory default.

Reset Customized Items Screen

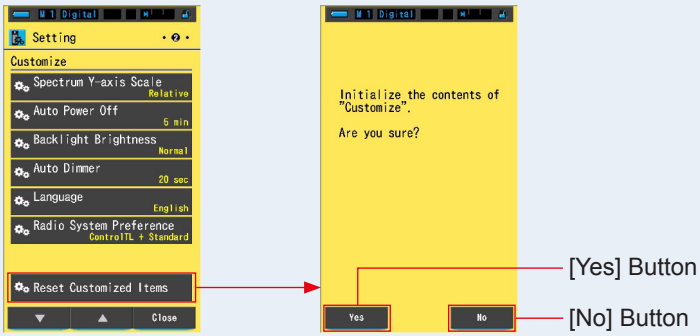


Operation

1. Touch the item [Reset Customized Items] button on page 2 of Setting.

"Initialize the contents of "Customize". Are you sure?" is displayed.

Setting Screen **Reset Customized Items Screen**



2. Touch the [Yes] button.

Custom settings are reset. After finishing initialization, returns to Setting.

To return to Setting without initializing, touch the [No] button.

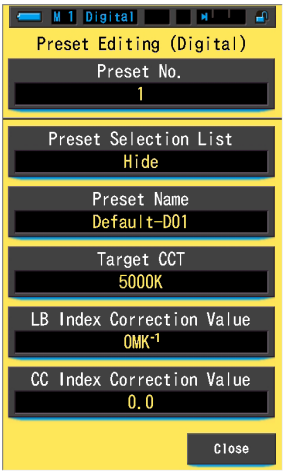
7-3 Preset Editing

Presets are a quick way to introduce adjustments to the C-700's camera/light source filter recommendations.
You can create and store Presets for different lighting conditions or color effects to use when ever needed.

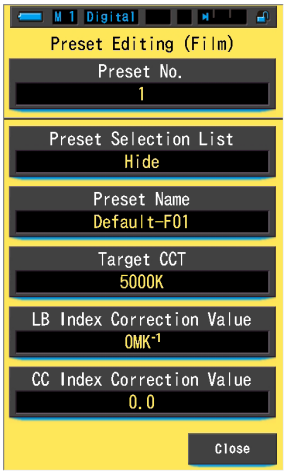
The Spectromaster C-700/700R has been calibrated to Sekonic standards. However if the indicated compensating values do not yield the desired or expected color reproduction, than it will be necessary to modify the filter compensation values.
In this case, if you save the compensation values in memory as a preset number and then take measurements, you can display results with the compensated values.

Also, when you use several target color temperatures, you can easily set the target color temperature by recalling one of presents in Tool Box even if you do not input a target color temperature every time.
Depending on the camera used, select either [Preset Editing (Digital)] or [Preset Editing (Film)].

Preset Editing (Digital) Screen



Preset Editing (Film) Screen



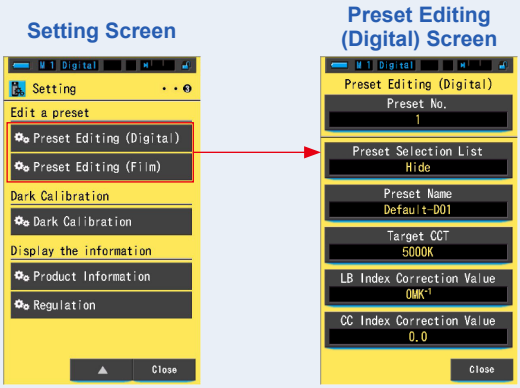
NOTE

Up to 19 presets can be registered for each digital and film.

Operation

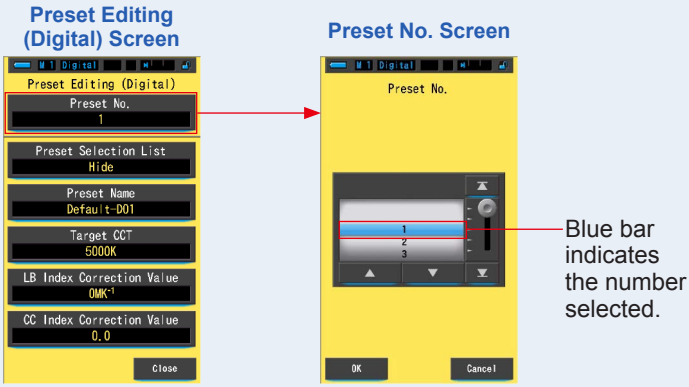
1. Touch the item [Preset Editing (Digital)] or [Present Editing (Film)] button on page 3 of Setting.

The Preset Editing screen of Setting will be displayed.



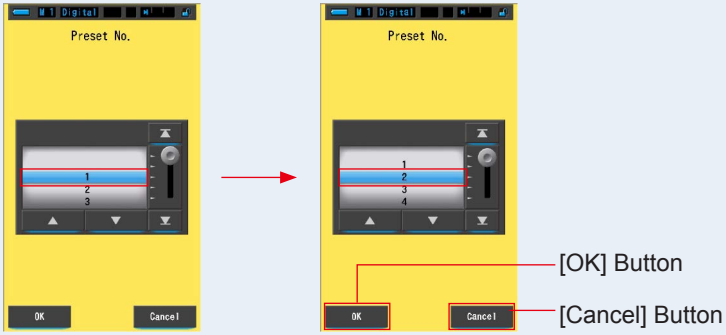
2. Touch the [Preset No.] button.

The preset number is displayed.



3. Select the desired present number (1 ~ 19) to edit.

Preset No. Screen



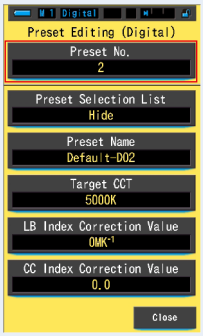
4. Touch the [OK] button.

The number is fixed, and returns to the Preset Editing screen.

The desired preset number to edit is displayed.

To return to the Preset Editing screen without confirming, touch the [Cancel] button.

Preset Editing (Digital) Screen



5. Edit each setting item.

Refer to the follow reference pages for editing each setting item.

- Preset Selection List (➡ P149)
- Preset Name (➡ P151)
- Target CCT (➡ P153)
- LB Index Correction Value (➡ P156)
- CC Index Correction Value (➡ P158)

6. Touch the [Close] button.

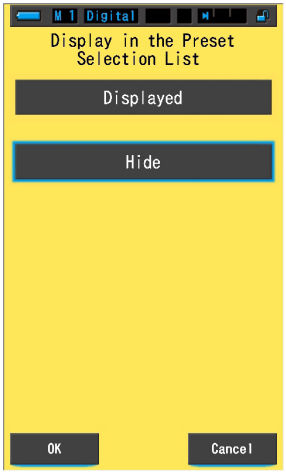
Returns to Setting.

Preset editing is complete.

7-3-1 Displaying the Preset Selection List

Select to display or not in the Preset Selection list in the Tool Box.

Display in the Preset Selection List Screen

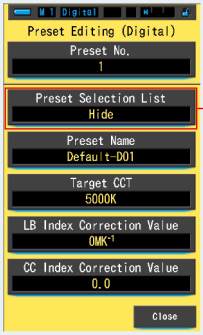


Operation

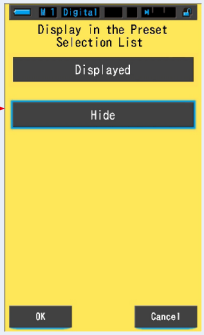
1. Touch the [Preset Selection List] button.

Display in the Preset Selection List will appear.

Preset Editing (Digital) Screen



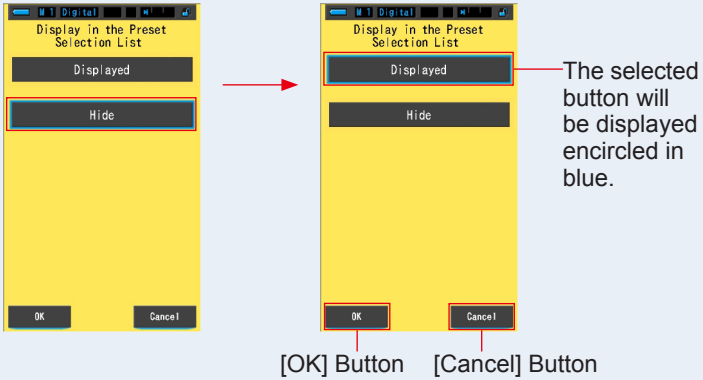
Display in the Preset Selection List Screen



2. Select the [Displayed] to set.

The selected icon will be displayed encircled in blue.

Display in the Preset Selection List Screen

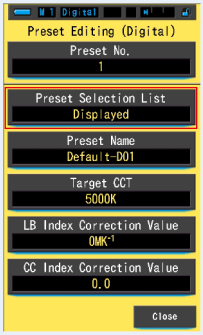


3. Touch the [OK] button.

The set item is fixed, and returns to the Preset Editing screen.

To return to the Preset Editing screen without confirming, touch the [Cancel] button.

Preset Editing (Digital) Screen

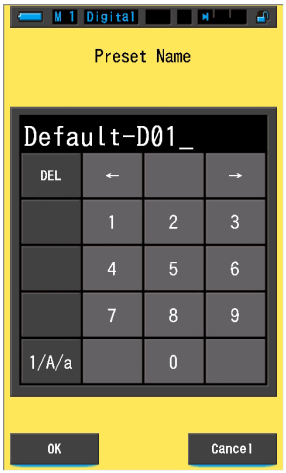


The Preset Selection List is set.

7-3-2 Setting the Present Name

Edit the preset name.

Preset Name Screen



NOTE

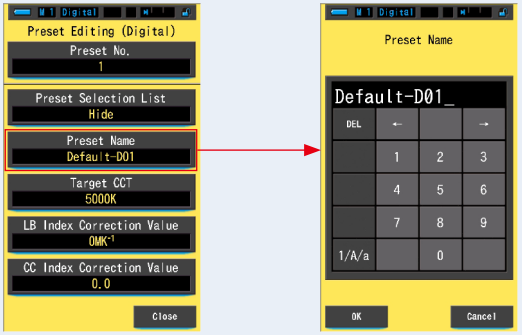
Up to 16 alphanumeric characters can be input for Preset name.

Operation

1. Touch the [Preset Name] button.

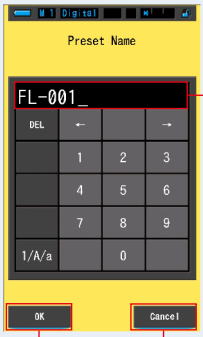
The Preset Name Input screen is displayed.

Preset Editing (Digital) Screen **Preset Name Screen**



2. Use the keyboard to create a name for preset. (➡ P19)

Preset Name Screen

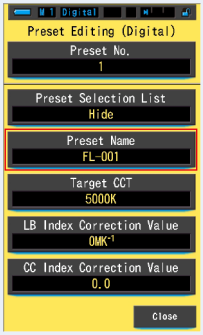


3. Touch the [OK] button.

The Preset name is fixed, and returns to Preset Editing screen.

To return to the Preset Editing screen without confirming (registering/editing), touch the [Cancel] button.

Preset Editing (Digital) Screen



The preset name is set.

7-3-3 Setting the Preset Target Color Temperature

Input the target color temperature for preset.

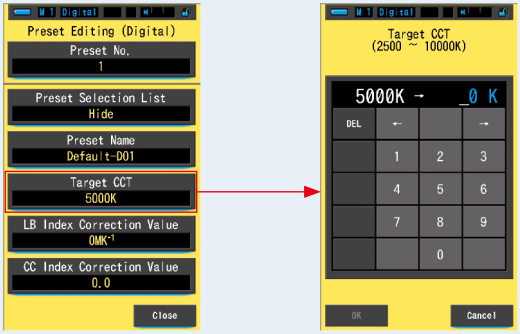
Reference Color Temperature Screen

Operation

1. Touch the [Target CCT] button.

The Target CCT screen will be displayed.

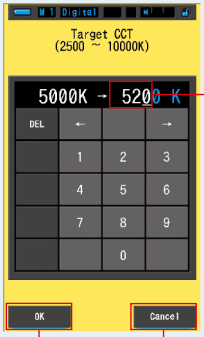
Preset Editing (Digital) Screen **Target CCT Screen**



2. Enter the value of the target color temperature. (➡ P19)

* The units place is fixed as 0.

Target CCT Screen

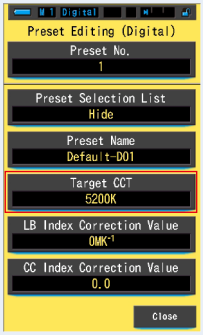


3. Touch the [OK] button.

The number is fixed, and returns to the Preset Editing screen.

To return to the Preset Editing screen without confirming, touch the [Cancel] button.

Preset Editing (Digital) Screen



The reference target color temperature is edited.

NOTE

Digital Mode

- Set the meter to the same color temperature that was selected in your camera. Please note that many digital cameras reproduce color better at certain color temperature settings. If your work requires optimum color reproduction and high color fidelity, select the camera manufacturers recommended color temperature for best color reproduction. Please refer to your digital camera's operating manual.
- You can set the color temperature from 2,500K to 10,000K.
- When you frequently use several target color temperatures, use preset for convenience.

Film Mode

- Set the target color temperature of the type of film you are using.
  Daylight Type : 5,500K
  Tungsten Type-A : 3,400K
  Tungsten Type-B : 3,200K
- You can set the target color temperature from 2,500K to 10,000K.

7-3-4 Setting the LB Index Correction Value

Sets the preset LB index Correction value.

LB Index Correction Value Screen

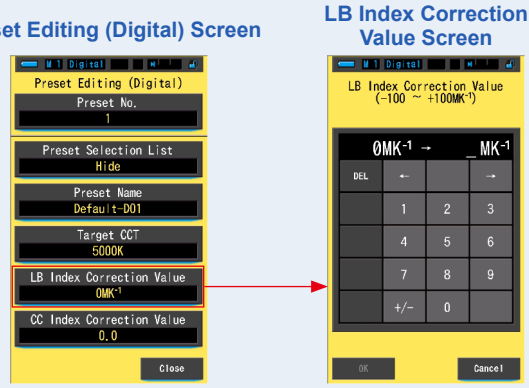
Operation

1. Touch the [LB Index Correction Value] button.

The LB index correction value will be displayed.

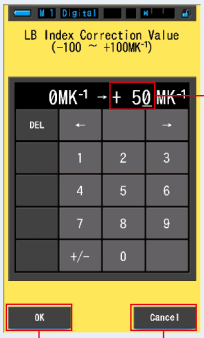
Preset Editing (Digital) Screen

LB Index Correction Value Screen



2. Set the correction value within a range of ±100MK^{-1}. (➡ P19)

LB Index Correction Value Screen



Input number

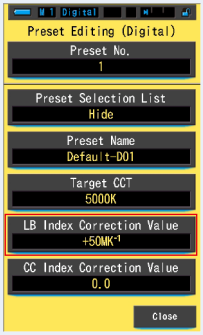
[OK] Button [Cancel] Button

3. Touch the [OK] button.

The number is fixed, and returns to the Preset Editing screen.

To return to the Preset Editing screen without confirming, touch the [Cancel] button.

Preset Editing (Digital) Screen



The LB index correction value is edited.

7-3-5 Setting the CC Index Correction Value

Sets the preset CC index Correction value.

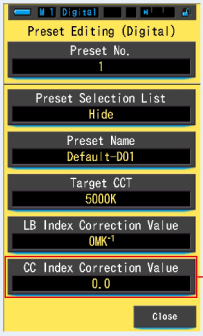
CC Index Correction Value Screen

Operation

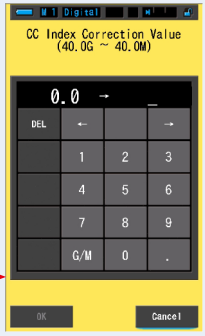
1. Touch the [CC Index Correction Value] button.

The CC index correction value will be displayed.

Preset Editing (Digital) Screen



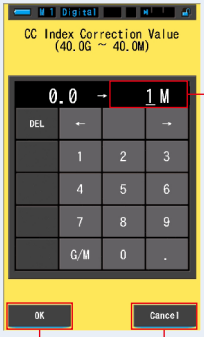
CC Index Correction Value Screen



2. Set the CC index correction value within a range of 40.0G ~ 40.0M.

(➡ P19)

CC Index Correction Value Screen

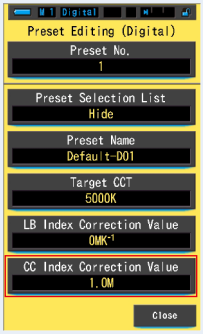


3. Touch the [OK] button.

The number is fixed, and returns to the Preset Editing screen.

To return to the Preset Editing screen without confirming, touch the [Cancel] button.

Preset Editing (Digital) Screen



The CC index correction value is edited.

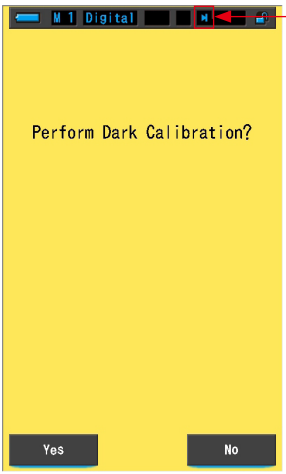
NOTE

Because the CC index correction value unit is an index, 1 of CC index is equivalent to 2.5 CC filter number.

7-4 Dark Calibration

Dark calibration is performed whenever power is turned on, however when there are sudden changes in temperature while in use, it may effect measured values. In this case, perform dark calibration manually.

Dark Calibration Confirmation Screen



Light Selection Ring Status Indicator Chart

Icon	Content
	If either of icons appears, set the Light Selection Ring ❷ to the dark calibration position.
	
	This icon is the dark calibration position. Perform dark calibration after making sure it is set to this position.

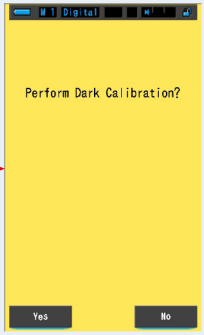
Operation

1. Touch the item [Dark Calibration] button on page 3 of Setting.

"Perform Dark Calibration?" will be displayed.

Setting Screen

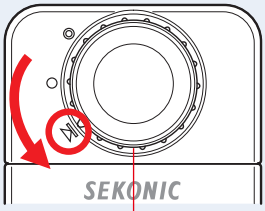
Dark Calibration Confirmation Screen



2. Turn the Light Selection Ring ② to set to the dark calibration position ( ).

The status bar will display the dark calibration Icon.

Status Bar



Light Selection Ring ②

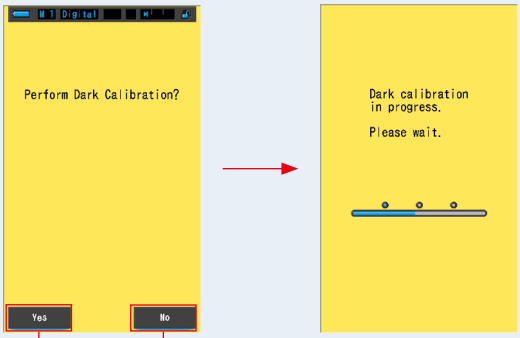
3. Touch the [Yes] button.

"Dark calibration in progress. Please wait" and the status bar will appear while calibrating.

To return to Setting without performing dark calibration, touch the [No] button.

Dark Calibration Confirmation Screen

Dark Calibration Process Screen



[Yes] Button [No] Button

NOTICE

While the message "Dark calibration in progress. Please wait." or the progress bar is displayed, do not turn the power off. Otherwise, the meter may be damaged.

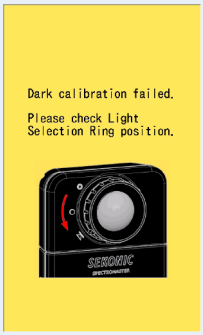
The dark calibration is completed.

When the Following Screen is Displayed

Dark Calibration Position Confirmation Screen

The Light Selection Ring ❷ is set to Range H ( ) or Range L ( ), and dark calibration could not be performed.
Set the Light Selection Ring ❷ to the dark calibration position ( ), and perform dark calibration.

Dark Calibration failure Screen

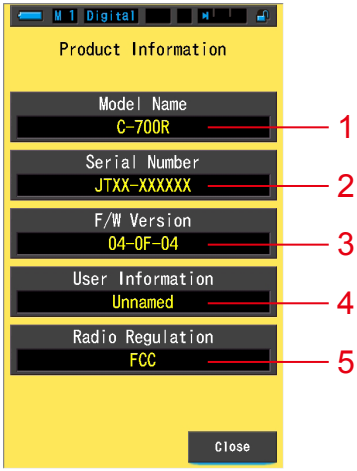


Dark calibration was performed, but it could not be completed normally.
Set the Light Selection Ring ❷ to the dark calibration position ( ) again, and perform dark calibration one more time.

7-5 Product Information Display

The Product Information screen displays detailed information not displayed in the Measurement screen.

Product Information Screen



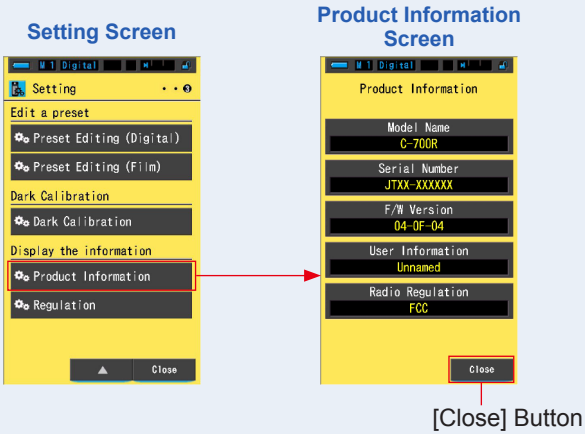
* The screen contents differs depending on model.

No.	Item Name	Description
1	**Model Name**	Displays the model number of the meter (C-700 or C-700R).
2	**Serial Number**	Displays the serial number of the meter.
3	**F/W Version**	Displays the firmware version.
4	**User Information**	Displays the user information. You can input desired characters in the "Hardware Setting" as user information. (➡ P166)
5	**Radio Regulation**	Displays the radio regulations used in Radio Triggering Flash Mode.

Operation

1. Touch the item [Product Information] button on page 3 of Setting.

The Product Information screen will be displayed.



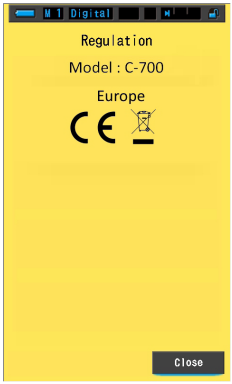
2. Touch the [Close] button.

Returns to Setting.

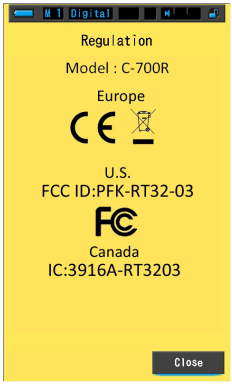
7-5-1 Regulation Display

The Regulation screen displays the symbols, approved number, regulation names, etc. which the meter is compliance with.

Regulation Screen (for C-700)



Regulation Screen (for C-700R)



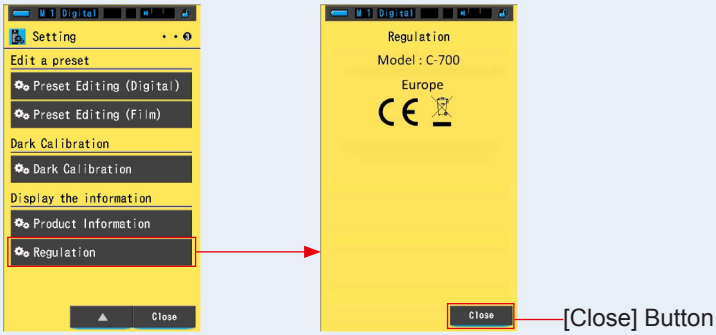
Operation

1. Touch the item [Regulation] button on page 3 of Setting.

The Regulation screen will be displayed.

The display contents will differ depending on the product you have purchased.

Setting Screen **Regulation Screen (for C-700)**



2. Touch the [Close] button.

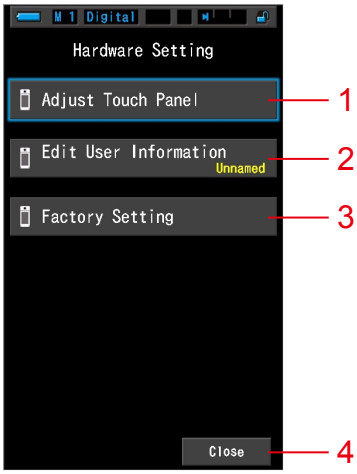
Returns to Setting.

8. Hardware Setting Screen

You can set the follow on the Hardware Setting screen.

- Adjust Touch Panel
- Edit User Information
- Factory Setting

Hardware Setting Screen



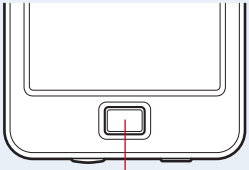
No.	Item Name	Description
1	**Adjust Touch Panel**	Adjust the position of touch panel display. (➡ P168)
2	**Edit User Information**	Edit user information to display the User Information screen in Setting. (➡ P171)
3	**Factory Setting**	Returns all display and setting contents to the factory default. (➡ P173)
4	**Close**	Closes the Hardware Setting screen and Perform Dark calibration.

Operation

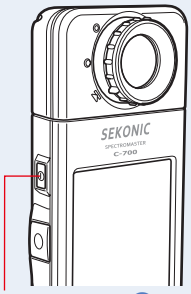
1. While holding the Menu Button 6, press the Power Button 3.

* Until the Hardware Setting screen is displayed, do not release the Menu Button 6 and the Power Button 3.
  If you release the button before the Hardware Setting screen is displayed, the Measurement screen will be displayed.

The Hardware Setting screen is displayed.



Menu Button 6



Power Button 3

2. Touch the desired menu item.

The setting screen of the selected item will be displayed.

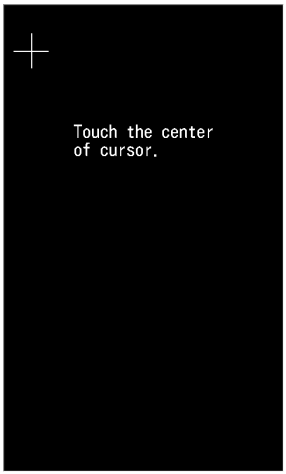
Refer to the explanations on the following page for each item setting.

3. When finished, touch the [Close] button.
Switches to the Dark Calibration Process screen, and returns to the Measurement screen.

8-1 Adjust Touch Panel

Adjust the position of touch panel display.

Adjust Touch Panel Screen

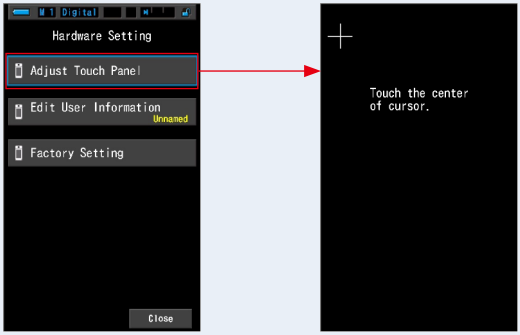


Operation

1. Touch the [Adjust Touch Panel] button on the Hardware Setting screen.

"Touch the center of cursor." will be displayed.

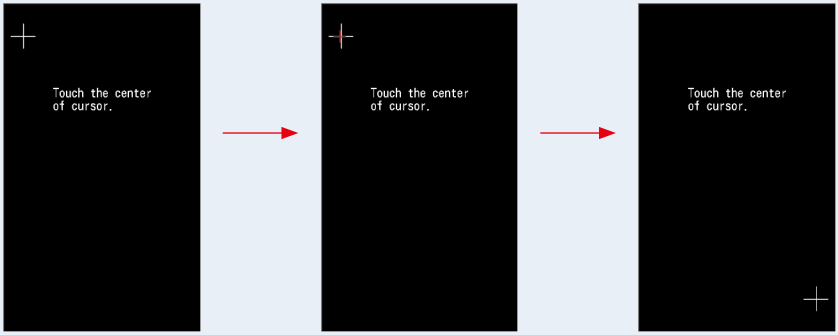
Hardware Setting Screen → **Adjust Touch Panel Screen**



2. Touch the center of the white cross in the upper left corner of the screen.

The touch position will be shown with a red cross cursor, and the white cross cursor will move to the next position.

Adjust Touch Panel Screen | The touch position is showed with a red cross cursor | The white cross move to the next position

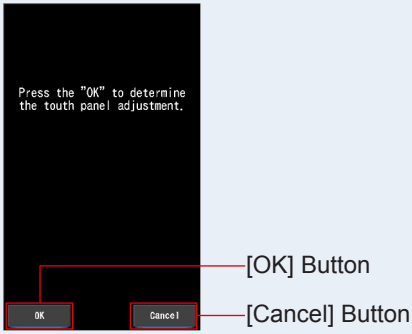


3. Repeat in 7 places.

Continue and repeat in 7 places.

The screen of "Press the "OK" to determine the touch panel adjustment." will be displayed.

Adjust Touch Panel Confirmation Screen



4. Touch the [OK] button.

Adjustment of touch panel is completed, and returns to the Hardware Setting screen.

To return to the Hardware Setting screen without adjusting the setting, touch the [Cancel] button.

Touch panel adjustment is completed.

NOTE

When a place far from the white cursor is touched, the screen blinks.
Do it again.

Adjust Touch Panel Screen

8-2 Edit User Information

User information can be input in this screen.

User Information Screen

NOTE

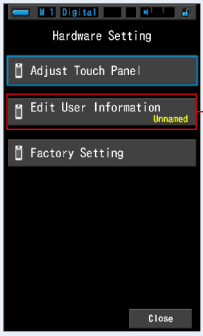
Up to 16 alphanumeric characters can be input.

Operation

1. Touch the [Edit User Information] button on the Hardware Setting screen.

The Edit User Information Input screen is displayed.

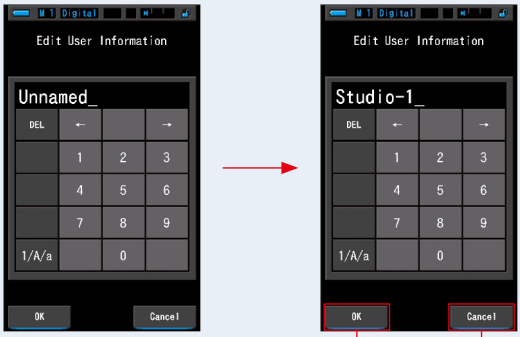
Hardware Setting Screen



Edit User Information Input Screen

2. Edit the user information. (➡ P19)

Edit User Information Input Screen

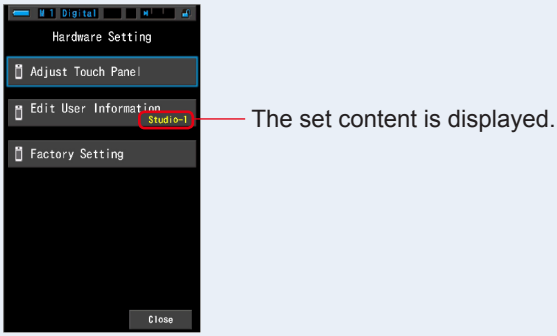


3. Touch the [OK] button.

Registers the user information, and returns to the Hardware Setting screen.

To return to the Hardware Setting screen without registering the user information, touch the [Cancel] button.

Hardware Setting Screen



The user information is input.

8-3 Factory Setting

Return all display and setting contents of the meter to the factory default.

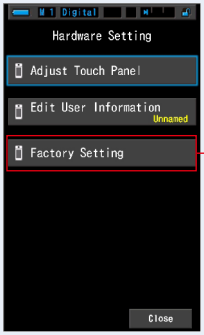
Factory Setting Screen

Operation

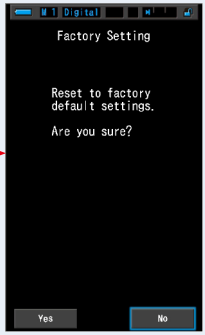
1. Touch the [Factory Setting] button on the Hardware Setting screen.

The screen of "Reset to factory default settings. Are you sure?" will be displayed.

Hardware Setting Screen



Factory Setting Screen



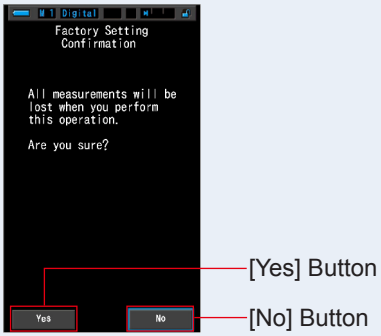
2. Touch the [Yes] button.

The factory setting confirmation message "All measurements will be lost when you perform this operation. Are you sure?" will be displayed.

Confirm again.

To return to the Hardware Setting screen without resetting to factory default settings, touch the [No] button.

Factory Setting Confirmation Screen



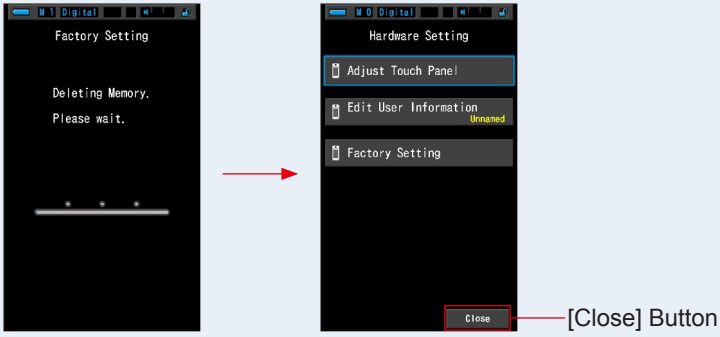
3. Touch the [Yes] button.

NOTICE

When the message "Deleting Memory. Please wait." or the progress bar is displayed, do not turn the power off. Otherwise, the meter may be damaged.

All measurement values are deleted, and returns to the Hardware Setting screen. (English display is the default factory setting.)

Factory Setting (Deleting) Screen **Hardware Setting Screen**



4. Touch the [Close] button.

The Language Selection screen is displayed. Select the language to use. (➡ P5)

Language Selection Screen

Language Selection Confirmation Screen

The selected button will be displayed encircled in blue.

[OK] Button

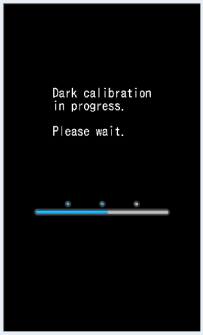
5. Touch the [OK] button.

The language can be switched anytime. (➡ P141)

6. Dark calibration starts.

"Dark calibration in progress. Please wait." and status bar will appear whil calibration. The Measurement screen will appear when operational.

Dark Calibration Process Screen



Measurement Screen

Factory setting is completed.

9. Appendix

9-1 Glossary

Term	Description
Color Temperature	Color temperature refers to the chromaticity of a heated object (commonly refer to as a black body) that will vary according to its temperature. The color temperature is measured in units of Kelvin (K) and refers to the temperature of a heated object at a given color or chromaticity. The higher color temperature is, the bluer the light, and the larger the Kelvin value becomes. The lower the color temperature is, the redder the light, and the smaller the Kelvin value becomes. A figure that plots the changes of color temperatures on an xy chromaticity diagram is called the black body radiation locus.
Correlated Color Temperature	Not all light sources match the black body radiation locus when measuring light sources. In this case, the correlated color temperature is used. The correlated color temperature is a color temperature obtained by drawing an isotemperature line from the black body radiation locus which matches the measured value.
Photographic Color Temperature	Color temperature calculated by using the ratio of R, G and B characteristics obtained by measurement to match to the characteristic of film.
Light	This refers to the electromagnetic wavelength ranging from 380nm to 780nm that can be detected by the human eye.
Black Body	Theoretically, this is an object that absorbs all wavelengths and when heated, emits light equivalent to the applied color temperature.
Black-body Radiation	This refers to the light emitted by a black body. The amount of energy released for each wavelength changes with the applied color temperature, resulting in visible color variations.
K	Expressed in absolute Kelvin temperature, with units of "K". 0 (zero) K is equivalent to -273.15 °C or -459.67 °F.
⊿uv	The deviation between the correlated color temperature and the black body radiation locus. When the correlated color temperature is above the black body radiation locus, a "+" sign is assigned; when below, a "-" sign is assigned.
CRI	An index that provides color rendering properties, the hue of object color, of a light source. It expresses the difference of the hue of object color against a basic light source. There are individual CRI (Ri), and average CRI (Ra), which is expressed by the average value from R1 to R8.

Term	Description
MK^{-1}	Read as "per mega Kelvin", this unit is based on the International System of Units and is equivalent to the traditional unit of MIRED (mrd). It expresses the inverse of the color temperature. The inverse of the color temperature is 1,000,000 divided by the color temperature. Inverse color temperature = 1,000,000/Color temperature The inverse color temperature decreases as the color temperature increases. Ex.) 10,000K=100MK^{-1}, 3200K=312.5MK^{-1} If a 100K change is applied to both 10,000K and to 3,200K, the human eye perceives the change applied to 3,200K as larger. In other words, there is a difference in perception of the same change in color temperature depending on the color temperature's numerical value. When the inverse color temperature is used, the human eye perceives a given amount of change as the same for any color temperature.
$daMK^{-1}$	MK^{-1} divided by 10. Because the unit MK^{-1} is extremely small compared to the amount of change in color temperature the human eye can perceive, and because performing corrections is difficult, for practical purposes the unit $daMK^{-1}$ (deca per Mega Kelvin) is used. This unit is also used in conventional filters that change color temperature.
LB Index	The difference of the reciprocal of the selected color temperature and the reciprocal of the measured color temperature. It is expressed in units of MK^{-1} (equivalent to MIRED) or $daMK^{-1}$.
LB Filter	Stands for "Light Balancing Filter", and refers to a filter used for correcting color temperature in photography. A blue filter is used to raise the light source color temperature, while an amber filter is used to lower it. By using the custom settings in the C-700/C-700R, the display can be changed to show the type of the filter brand being used.
CC Index	Number that expresses the amount of difference between the G component (Green range) of the measured light source and the base black body radiation of the color temperature. 1CC index is equivalent to 2.5CC filter number.
CC Filter Number	Stands for "Color Compensating Filter", and refers to a filter used for correcting color in lighting. There are 6 different types of filters Yellow (Y), Magenta (M), Cyan (C), Blue (B), Green (G), and Red (R), but the C-700/C700R only uses the Magenta (M) and Green (G) types.

9-2 Filter Types

When using camera LB/CC filters based on the recommended compensation displayed in the meter (C-700 series), please note that camera lens filters block or absorb light to produce their effect and thus the amount of light passing through them for exposure will be reduced.
If your camera does not have a through the lens exposure system and you are using a handheld exposure meter to determine camera settings, consult the table below to find how much to increase the exposure to compensate for the light absorbed by the lens filter.
When you use a lighting filter, exposure compensation is not necessary, because the intensity of the light is already decreased.

■ Kodak WRATTEN 2/LEE Filter [Camera Filter]

Amber Type			Blue Type		
LB Index (MK^{-1})	Filter Number	Exposure Increase Increment (+EV)	LB Index (MK^{-1})	Filter Number	Exposure Increase Increment (+EV)
+9	81	1/3	-10	82	1/3
+18	81A	1/3	-21	82A	1/3
+27	81B	1/3	-32	82B	2/3
+35	81C	1/3	-45	82C	2/3
+42	81D	2/3	-56	80D	2/3
+52	81EF	2/3	-81	80C	1
+81	85C	1/3	-112	80B	1 2/3
+112	85	2/3	-131	80A	2
+131	85B	2/3			

Magenta Type			Green Type		
CC index	Filter Number	Exposure Increase Increment (+EV)	CC index	Filter Number	Exposure Increase Increment (+EV)
+1.0	CC025M	0	-1.0	CC025G	0
+2.0	CC05M	1/3	-2.0	CC05G	1/3
+4.0	CC10M	1/3	-4.0	CC10G	1/3
+8.0	CC20M	1/3	-8.0	CC20G	1/3
+12.0	CC30M	2/3	-12.0	CC30G	2/3
+16.0	CC40M	2/3	-16.0	CC40G	2/3
+20.0	CC50M	1	-20.0	CC50G	2/3

FUJIFILM Filter [Camera Filter]

Amber Type			Blue Type		
LB Index (MK^{-1})	Filter Number	Exposure Increase Increment (+EV)	LB Index (MK^{-1})	Filter Number	Exposure Increase Increment (+EV)
+10	LBA-1	0	-10	LBB-1	0
+20	LBA-2	1/3	-20	LBB-2	1/3
+30	LBA-3	1/3	-30	LBB-3	1/2
+40	LBA-4	1/3	-40	LBB-4	2/3
+60	LBA-6	2/3	-60	LBB-6	2/3
+80	LBA-8	2/3	-80	LBB-8	1
+120	LBA-12	2/3	-120	LBB-12	1 2/3
+160	LBA-16	1	-160	LBB-16	2
+200	LBA-20	1	-200	LBB-20	2 1/3

Magenta Type			Green Type		
CC index	Filter Number	Exposure Increase Increment (+EV)	CC index	Filter Number	Exposure Increase Increment (+EV)
+0.5	CC-1.25M	0	-0.5	CC-1.25G	0
+1.0	CC-2.5M	0	-1.0	CC-2.5G	0
+2.0	CC-5M	1/3	-2.0	CC-5G	1/4
+3.0	CC-7.5M	1/3	-3.0	CC-7.5G	1/3
+4.0	CC-10M	1/2	-4.0	CC-10G	1/3
+8.0	CC-20M	2/3	-8.0	CC-20G	1/2
+12.0	CC-30M	2/3	-12.0	CC-30G	2/3
+16.0	CC-40M	1	-16.0	CC-40G	2/3
+20.0	CC-50M	1 1/3	-20.0	CC-50G	1

LEE [Lighting Filter]

LB index (MK^{-1})	Filter No.	Filter Name	CCT(K) Conversion
-18	L218	1/8 CTB	3200 to 3400
-35	L203	1/4 CTB	3200 to 3600
-78	L202	1/2 CTB	3200 to 4300
-113	L281	3/4 CTB	3200 to 5000
-137	L201	FULL CTB	3200 to 5700
-200	L283	ONE AND 1/2 CTB (1.5 CTB)	3200 to 8888
-274	L200	DOUBLE CTB	3200 to 26000
+26	L223	1/8 CTO	6500 to 5550
+64	L206	1/4 CTO	6500 to 4600
+109	L205	1/2 CTO	6500 to 3800
+124	L285	3/4 CTO	6500 to 3600
+159	L204	FULL CTO	6500 to 3200
+245	L286	ONE AND 1/2 CTO (1.5 CTO)	6500 to 2507
+312	L287	DOUBLE CTO	6500 to 2147

CC index	Filter No.	Filter Name	CC Filter Equivalent
-1.4	L278	1/8 PLUS GREEN (1/8 PLUS G)	CC 035 Green
-3.0	L246	1/4 PLUS GREEN (1/4 PLUS G)	CC 075 Green
-6.0	L245	1/2 PLUS GREEN (1/2 PLUS G)	CC 15 Green
-12.0	L244	FULL PLUS GREEN (PLUS GREEN)	CC 30 Green
+1.4	L279	1/8 MINUS GREEN	CC 035 Magenta
+3.0	L249	1/4 MINUS GREEN	CC 075 Magenta
+6.0	L248	1/2 MINUS GREEN	CC 15 Magenta
+12.0	L247	FULL MINUS GREEN	CC 30 Magenta

( ) Displayed in C-700/C-700R

ROSCO CINEGEL [Lighting Filter]

LB index (MK^{-1})	Filter No.	Filter Name	CCT(K) Conversion
-12	R3216	1/8 CTB	3200 to 3300
-30	R3208	1/4 CTB	3200 to 3500
-49	R3206	1/3 CTB	3200 to 3800
-68	R3204	1/2 CTB	3200 to 4100
-100	R3203	3/4 CTB	3200 to 4700
-131	R3202	FULL CTB	3200 to 5500
-260	R3220	DOUBLE CTB	2800 to 10000
+20	R3410	1/8 CTO	5500 to 4900
+42	R3409	1/4 CTO	5500 to 4500
+81	R3408	1/2 CTO	5500 to 3800
+131	R3411	3/4 CTO	5500 to 3200
+167	R3407	FULL CTO	5500 to 2900
+320	R3420	DOUBLE CTO	10000 to 2400

CC index	Filter No.	Filter Name	CC Filter Equivalent
-1.4	R3317	1/8 PLUS GREEN (1/8 PLUS G)	CC 035 Green
-3.0	R3316	1/4 PLUS GREEN (1/4 PLUS G)	CC 075 Green
-6.0	R3315	1/2 PLUS GREEN (1/2 PLUS G)	CC 15 Green
-12.0	R3304	PLUS GREEN	CC 30 Green
+1.4	R3318	1/8 MINUS GREEN (1/8 MINUS G)	CC 035 Magenta
+3.0	R3314	1/4 MINUS GREEN (1/4 MINUS G)	CC 075 Magenta
+6.0	R3313	1/2 MINUS GREEN (1/2 MINUS G)	CC 15 Magenta
+9.0	R3309	3/4 MINUS GREEN (3/4 MINUS G)	CC 22.5 Magenta
+12.0	R3308	MINUS GREEN	CC 30 Magenta

( ) Displayed in C-700/C-700R

ROSCO E-COLOUR+ [Lighting Filter]

LB index (MK^{-1})	Filter No.	Filter Name	CCT(K) Conversion
-18	E218	1/8 CTB	3200 to 3400
-35	E203	1/4 CTB	3200 to 3600
-78	E202	1/2 CTB	3200 to 4300
-113	E281	3/4 CTB	3200 to 5000
-137	E201	FULL CTB	3200 to 5700
-200	E283	ONE AND 1/2 CTB (1.5 CTB)	3200 to 8900
-274	E200	DOUBLE CTB	2800 to 10000
+26	E223	1/8 CTO	Daylight to 5300
+64	E206	1/4 CTO	Daylight to 4600
+109	E205	1/2 CTO	Daylight to 3800
+124	E285	3/4 CTO	Daylight to 3500
+159	E204	FULL CTO	Daylight to 3200
+245	E286	ONE AND 1/2 CTO (1.5 CTO)	Daylight to 2507
+312	E287	DOUBLE CTO	Daylight to 2120

CC index	Filter No.	Filter Name	CC Filter Equivalent
-1.4	E278	1/8 PLUS GREEN	CC 035 Green
-3.0	E246	1/4 PLUS GREEN	CC 075 Green
-6.0	E245	1/2 PLUS GREEN	CC 15 Green
-12.0	E244	FULL PLUS GREEN	CC 30 Green
+1.4	E279	1/8 MINUS GREEN	CC 035 Magenta
+3.0	E249	1/4 MINUS GREEN	CC 075 Magenta
+6.0	E248	1/2 MINUS GREEN	CC 15 Magenta
+12.0	E247	FULL MINUS GREEN	CC 30 Magenta

( ) Displayed in C-700/C-700R

9-3 Specifications

Type

- Spectrometer with CMOS linear image sensor for digital or film cameras

Light receiving method

- Incident light

Light receptor

- White diffuser (fixed type)

Light receptor element

- CMOS linear image sensor 128 pixels

Measurement system

• Measuring mode	• Ambient light	Ambient light mode
	• Flash light	Cord flash mode with sync cord Cordless flash mode Radio triggering flash mode (C-700R Only)
• Measurement type	• Digital	Color temperature measurement based on color matching function (Correlated color temperature)
	• Film	Color temperature measurement based on approximation of film spectral characteristics (Photographic color temperature)
	• Illuminance	Complies with JIS C1609-1:2006 general A class illuminometer
• Display mode	• Digital/Film	Text mode, Spectrum mode Spectrum Comp. mode, CRI mode Camera Filter mode, Lighting Filter mode Multi Lights mode, WB Corr. mode
	• Illuminance/ luminous exposure	lux (lx), lx per second (lx·s) foot-candle (fc), foot-candle per second (fc·s) (in limited version only)

Measurement range

• Illuminance in color temperature measurement		Ambient light 5lx ~ 200,000lx 0.46FC ~ 18,600FC (in limited version only)
• Illuminance	• Ambient light	1lx to 200,000lx 0.1fc to 18,600fc (in limited version only)
	• Flash light	Range L: 20lx·s ~ 640lx·s (f/2.8 to f/16) Range H: 640lx·s ~ 20,500lx (f/16 to f/90)

Accuracy		
• Illuminance		±5% + 1digit of indicated value 3000lx ~ ±7.5% 1digit (Complies with JIS C1609-1:2006 general A class illuminometer)
• Color temperature		±4MK^{-1} (Light source A, 800lx)
Repeatability (2σ)		
• Illuminance		1% + 1digit (Light source A, 30 ~ 200,00lx), 5% + 1digit (Light source A, 1 ~ 30lx)
• Color temperature	• Light source A, 500 ~ 100,000lx	2MK^{-1}
	• Light source A, 100 ~ 500lx	4MK^{-1}
	• Light source A, 30 ~ 100lx	8MK^{-1}
	• Light source A, 5 ~ 30lx	17MK^{-1}
Spectral response characteristics		
• f1'		9% or less (Complies with JIS C1609-1:2006 general A class illuminometer)
Oblique incident light characteristics		
• f2		6% or less (Complies with JIS C1609-1:2006 general A class illuminometer)
Temperature characteristics		
• Illuminance		±5% of indicated value (Complies with JIS C1609-1:2006 general A class illuminometer)
• Color temperature		12MK^{-1} (Light source A, 1000lx)
Humidity characteristics		
• Illuminance		±3% of indicated value (Complies with JIS C1609-1:2006 general A class illuminometer)
• Color temperature		±12MK^{-1} (Light source A, 1000lx)
Display range		
• Correlated color temperature	• Digital	1,600K ~ 40,000K (3 significant digits)
• Photographic color temperature	• Film	1,600K ~ 40,000K (3 significant digits)
• Target color temperature settings		2,500K ~ 10,000K
• LB Index	• 1MK^{-1} step	-500 ~ +500MK^{-1}
	• 1daMK^{-1} step	Without decimal point: -50 ~ +50daMK^{-1}
	• 0.1daMK^{-1} step	With decimal point: -50.0 ~ +50.0daMK^{-1}
• CC index	• 80G ~ 80M	

• Illuminance	• Ambient light	1lx ~ 200,000lx (3 significant digits) 0.1fc ~ 18,600fc (3 significant digits) (in limited version only)
• Shutter speed	• Flash light	1 second ~ 1/500 second (in 1, 1/2, 1/3 step) plus: 1/75, 1/80, 1/90, 1/100, 1/200, 1/400 second

Other functions

• Preset setting	• Preset 1 ~ 19 settings for each digital or film mode
• Setting	• 11 item settings (C-700R: 12 item settings possible)
• Memory function	• Up to 99 measurements or titles
• Memory clear/recall function	
• Out of measurement range or out of display range	• [Under]/[Over]/[Out of Display] warning display
• Battery capacity indicator display	• With 4 level status icons
• Automatic power OFF function	• Time elapsed after last operation: selectable from 20min., 10min., 5min., none
• LCD backlight	• Brightness can be selected from bright, normal, or dark • Dimmer time after last operation: selectable from about 20second, about 40second, about 60second, none
• Touch panel lock function	
• Tripod socket	• 1/4-inch, 20 threads

Used radio frequency

• Standard System	• FCC&IC	(CH1 to 16) (CH17 to 32)	344.04MHz 346.5 ~ 354.0MHz
	• CE	(CH1 to 16) (CH17 to 32)	433.62MHz 434.22MHz
• ControlTL® System	• FCC&IC	(CH1 to 4) (CH5 to 20)	344 to 346.0MHz 341.5 to 351.0MHz
	• CE	(CH1 to 3)	433.42 ~ 434.42MHz

Display

• LCD display resolution	• 4.3 inch QVGA 480×800 dots

Recommended battery

• AA batteries	• 1.5V × 2 alkaline, manganese
• USB bus-power	• 5V/500mA or less (via USB cable when connected to computer)

Operating temperature

- -10°C ~ 40°C (without condensation)

Operating humidity

- 85%RH or less (at 35°C) (without condensation)

Transportation and storage conditions

- -10°C ~ 60°C (without condensation)

Dimensions

- Approx. 73 (width) × 183 (height) × 27 (depth) mm
  (excluding protruding part of light receiving) (max. thickness 40mm)

Weight

- (C-700) approx. 230g (without batteries)
- (C-700R) approx. 238g (without batteries)

Included accessories

- CD-ROM (this Operating Manual and applications (Win & Mac)), Soft case, Strap, Start-up Guide, Safety Precaution

* Specifications and appearance described in this Operating Manual are subject to change without prior notice for improvements.

9-4 Legal Requirement

Legal Requirement

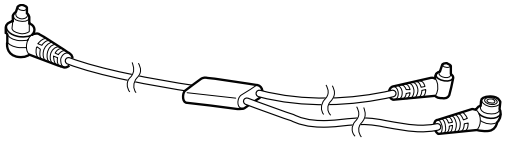
This product complies with the following legal requirements.

Destination	Standard		Details
Europe	CE	SAFETY	EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013
		EMC	EMS: EN55024:2010 EMI: EN55022:2010
		Wireless	R&TTE Directive 1999/5/EC EN300 220-2 V2.4.1 (2012-05) EN301 489-1 V1.9.2 (2011-09) EN301 489-3 V1.6.1 (2013-08) EN62479:2010
		Environmental	WEEE, RoHS, REACH
North America	FCC (US)	EMC	FCC Part15 SubpartB ClassB
		Wireless	FCC Part15 SubpartC
	IC (Canada)	EMC	ICES-003
		Wireless	RSS-210 Issue8
Japan		Environmental	Containers and Packaging Recycling Law
China		Environmental	China RoHS (GB 189455)

10. Optional Accessories

Synchro 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.



11. Troubleshooting

The following cases may not suggest failures. Please check again before requesting repair. When the meter does not function normally after checking the following, it may be damaged. Remove the battery, and ask the retailer or us to repair it.

Status	Check item	Measure
It does not turn on (It does not display)	Are you pressing and holding the Power Button for one or more seconds?	Press and hold the Power Button for one or more seconds.
	Are ⊕ ⊖ of the batteries inserted properly?	Check the ⊕ ⊖ signs. (➡ P4)
	Is there enough battery?	Replace the battery. (➡ P9)
	Are the battery terminals dirty?	Wipe them off with a dry cloth.
	Are you using the specified batteries?	Check the batteries. (➡ P4)
The LCD does not respond	Is the screen locked?	Press and hold the Menu Button 6 to unlock the screen. (➡ P21)
The measurement cannot be made	Are you using the "C-700 Series Utility"?	Stop using the "C-700 Series Utility".
The measured values are wrong	Is the Light Selection Ring in the middle position? The light distribution characteristics change and suitable measurements cannot be made.	Rotate the Light Selection Ring until it clicks.
	Are any unnecessary corrections or filter corrections set?	Check the Target (reference color temperature) to see if the setting is wrong. (➡ P26)
		Check the Preset Target Color Temperature and confirm the setting is correct. (➡ P153)
	Is the measuring mode wrong? (Such as measuring in Ambient Light Mode in flash light)	Check if the measuring mode is correct. (➡ P22)
	Are you using the pre-flash function when measuring in Cordless Flash Mode?	In Cordless Flash Mode, the measurement value of the main flash may not be displayed because the pre-flash is measured at first. Cancel the pre-flash function.

Status	Check item	Measure
Setting values and measurement values of the spectrometer are not in the camera settings	Do the shutter speed and iris setting step of the camera and the shutter speed and iris setting step of the spectrometer match?	Some cameras can select 1/3 step, 1 step and 1/2 step, like a spectrometer. Match the step of the spectrometer with the step of the camera. (Shutter Speed Step) (➡ P120)
The memory function cannot be used	Is the differential measurement icon displayed?	The memory function cannot be used when the differential measurement icon is displayed. Cancel the differential measurement mode.
	Is "Memory Full" displayed when pressing the Memory Button?	The memory can store up to 99 values. Clear unnecessary memory values in advance, measure, and memorize it.
Flash cannot be triggered in Radio Triggering Flash Mode. (C-700R only)	Do you use a receiver that installs the PocketWizard® system? Or do you use a radio system of other brands or manufacturers?	Use a receiver that installs the PocketWizard® system. www.pocketwizard.com
	Do the radio destination of the spectrometer that is a transmitter and the receiver match?	There are two types, FCC&IC (344 MHz band) and CE (433 MHz band). Check if the destinations (frequency) of the transmitter and the receiver are the same.
	Did you set the same channel number to the transmitter and the receiver? Are you mixing the Standard system and the ControlTL® system?	Check if the transmitter and the receiver use the same system, either the Standard system or the ControlTL® system, and set the same channel number.

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