System Examples

Heavy Duty Color Camera Basic System

CC2000E
COLOR CAMERA (MIRROR IMAGE)

CCA394 CAMERA Cable

EA1232A
Power box (for one camera)

CJ981E
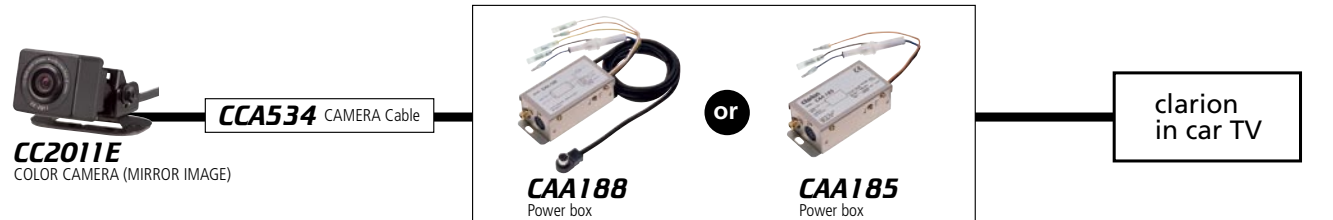6.5" wide color monitor
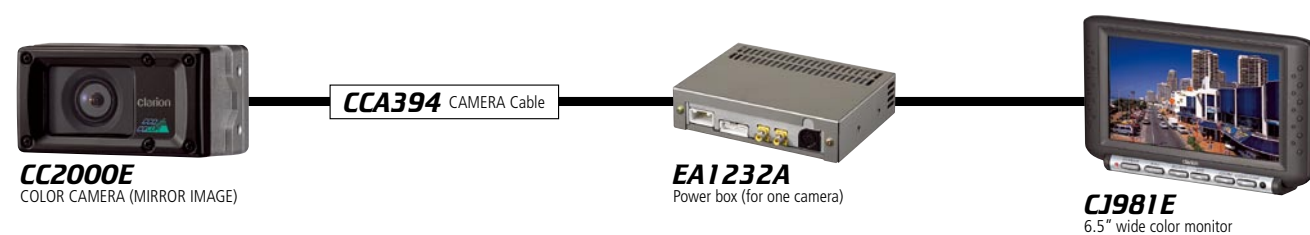
Heavy Duty Three Color Camera System

CC2001E
COLOR CAMERA WITH SHUTTER
(MIRROR IMAGE)

CCA394 CAMERA Cable

CC2000E
COLOR CAMERA (MIRROR IMAGE)

CCA394 CAMERA Cable

CC2003E
COLOR CAMERA (TRUE IMAGE)

CCA394 CAMERA Cable

EA1246A
Power box (for three cameras)

CJ981E
6.5" wide color monitor

Color Camera System

CC2011E
COLOR CAMERA (MIRROR IMAGE)

CCA534 CAMERA Cable

CJ5600E
5.6" color monitor

CC1030E
COLOR CAMERA (MIRROR IMAGE)

CCA534 CAMERA Cable

CC1030E
COLOR CAMERA (MIRROR IMAGE)

CCA534 CAMERA Cable

CJ7000E
7" color monitor

System for Clarion in-car TV

CC2011E
COLOR CAMERA (MIRROR IMAGE)

CCA534 CAMERA Cable

CAA188
Power box

or

CAA185
Power box

clarion
in car TV

Accessories

Three CCD camera changeover-switch box

RCA-223

Power box (only for 12V vehicles)

CAA-188
• DC12V Power box.
• Connects Clarion cameras to Clarion in-car TV.
• 8pin mini Din.
• Manual on / off switch.

Power box

CAA-185
• DC12V Power box.
• Connects Clarion cameras to Clarion in-car TV.
• Connects Clarion cameras to any monitor with composite video input.

Water-resistant specification camera cables

(5m / 16ft.) **CCA-416**
(7m / 23ft.) **CCA-392**
(10m / 33ft.) **CCA-393**
(13m / 42ft.) **CCA-435**
(15m / 49ft.) **CCA-394**
(18m / 59ft.) **CCA-436**
(20m / 65ft.) **CCA-395**
(23m / 75ft.) **CCA-437**

Water-resistant specification extension cable

(0.9m / 3ft.) **CCA-439**
(5m / 16ft.) **CCA-391**
(10m / 33ft.) **CCA-415**

For CC2011E / CC1030E

(7m / 23ft.) **CCA-532**
(10m / 33ft.) **CCA-533**
(15m / 49ft.) **CCA-534**
(20m / 65ft.) **CCA-535**

Cables & Installation kit for trailer

Trailer "break point" to camera cable

(20m / 65ft.) **CCA-452**
(15m / 49ft.) **CCA-453**

(5m / 16ft.) **CCA-451**

Cabin (Monitor) to trailer break cable

(15m / 49ft.) **CCA-454**

CAMERAS	CC2001E	CC2000E / CC2003E	CC2002E	CC1030E	CC2011
Housing	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
Dual chamber design	Y	Y	Y	N	N
Color/B&W	Color	Color	Color	Color	Color
Motorized lens shutter	Y	N	N	N	N
Digital Zoom(x 1.4)	Y	Y	Y	N	N
W/P connector type-Din or Mini Din	W/P Din	W/P Din	W/P Din	W/P Mini Din	W/P Mini Din
Low light rating(lux)	1	1	1	3 or less	3 or less
Automatic Iris	Y	Y	Y	Y	Y
Iris Function	Y	Y	Y	N	N
CCD Pixels	250,000	250,000	250,000	250,000	250,000
Scan method	2:1 Interlace	2:1 Interlace	2:1 Interlace	2:1 Interlace	2:1 Interlace
Base video signal	525 lines	525 lines	525 lines	525 lines	525 lines
Focal distance	1.4mm	1.4mm	5.13mm	1.8mm	1.62mm
Maximum aperture ratio	1:2.8	1:2.8	1:2.8	1:2.8	1:2.4
Video output	1Vp-p (75Ω)	1Vp-p (75Ω)	1Vp-p (75Ω)	1Vp-p (75Ω)	1Vp-p (75Ω)
View angle(horiz./vert.)	118 / 97	118 / 97	40 / 30	115 / 88	130 / 97
Operating temperature range	-30℃ to +70℃	-30℃ to +70℃	-30℃ to +70℃	-30℃ to +70℃	-20℃ to +70℃
Horizontal resolution(TV lines)	300	300	300	290	300
Vertical resolution(TV lines)	280	280	280	270	280
CCD size	1/4"	1/4"	1/4"	1/4"	1/4"
Power Voltage(Camera)	9Vdc.neg connection	9Vdc.neg connection	9Vdc.neg connection	9Vdc.neg connection	9Vdc.neg connection
Operating range(Camera)	9Vdc ± 0.5V	9Vdc ± 0.5V	9Vdc ± 0.5V	9Vdc ± 0.5V	9Vdc ± 0.5V
Current consumption(Camera)	less than 150mA	less than 150mA	less than 150mA	less than 150mA	less than 120mA
Power Voltage(Shutter)	DC12V	N / A	N / A	N / A	N / A
Operating range(Shutter)	DC10.8~15.6V	N / A	N / A	N / A	N / A
Current consumption(Shutter)	less than 300mA	N / A	N / A	N / A	N / A
Vibration rating(G-force)	10	10	10	10	6.8
True/Mirror image select	MIRROR	MIRROR (CC2000E)/TRUE(CC2003E)	TRUE	MIRROR	MIRROR
Size(W x H x D) - Millimeters	80 x 40.5 x 57.4	80 x 40.5 x 53	80 x 40.5 x 53	48 x 35 x 32.5	27 x 25 x 28.3
Weight	0.295Kg	0.25Kg	0.25Kg	0.1Kg	0.072Kg (bracket+0.5m cable)
Signal system	NTSC	NTSC	NTSC	NTSC	NTSC

MONITORS	CJ5600E	CJ7000E	CJ981E
Diagonal screen size(inches)	5.6	7	6.5
CRT/LCD	LCD (TFT Active-Matrix Display)	LCD (TFT Active-Matrix Display)	LCD (TFT Active-Matrix Display)
Power supply	DC12V • 24V	DC12V • 24V	DC12V • 24V (requires power box)
Power consumption	550mA (DC 12V, monitor set only)	450mA (DC 12V, monitor set only)	less than 2A (with EA1246A)
Picture element pixel	320 (W) x 3 (RGB) x 234 (H)	480 (W) x 3 (RGB) x 234 (H)	112,320 pixels (234 x 480)
Picture signal (V + S)	1Vp-p (75Ω)	1Vp-p (75Ω)	1Vp-p (75Ω)
Color/B&W	Color	Color	Color
Built-in speaker	N	Y	Y
Brightness and contrast controls	Y	Y	Y
Color controls	Y	Y	Y
Volume controls	N/A	Y	Y
Day/Night dimming	MAN	MAN	AUTO (requires power box) / MAN
Image-right/mirror	Selectable	Selectable	R
Reverse gear on trigger	Y	Y	Y (requires power box)
Camera switcher	Y (2 cameras)	Y (2 cameras)	Y (3 cameras with EA1246A)
Auto triggering for 2nd camera	Y	Y	Y (with EA1246A)
Auto triggering for 3rd camera	N	N	Y (with EA1246A)
Input type	8 PIN DIN	8 PIN DIN	5 PIN DIN (requires power box)
Separate video input	N	Y	Y (requires power box)
Separate video output	N	N	Y (requires power box)
Separate audio input	N	Y (MONO INPUT)	N
Separate audio output	N	N	N
Mounting bracket included	Y	Y	Y
Electronic distance markers	N	N	Y
Operating temperature range	-10℃ to +60℃	-10℃ to +60℃	-20℃ to +60℃
Vibration rating (G-force)	2.2	2.2	2.2
Size (W X H x D) - Millimeters	163 x 112 x 30	187 x 113.5 x 26.6	194 x 116 x 28.3
Weight	0.3Kg	0.45Kg	0.5Kg
Signal system	NTSC (Switch between NTSC / PAL)	NTSC (Switch between NTSC / PAL)	NTSC (Switch between NTSC / PAL)

POWER BOX for CJ981E	EA1232A	EA1246A
AV In terminal (RCA)	1 (video)	1 (video)
AV Out terminal (RCA)	1 (video)	1 (video)
RGB connection terminal	N	(DIN 13P) 1
Power consumption	less than 2A (with CJ981E)	less than 2A (with CJ981E)
Power supply	DV12V / 24V	DC12 / 24V
Temperature range	-20℃ to +60℃	-20℃ to +60℃
Vibration rating (G-force)	4.4	4.4
Size (W x H x D) - Millimeters	155 x 37.5 x 115	200 x 37.5 x 100
Weight	0.58Kg	0.66Kg

clarion

2007

SAFETY CAMERA & MONITOR SYSTEM

Safety Color Camera & Monitor Systems

Heavy Duty Color Camera System

A diverse product lineup that fits a variety of cars

CC2000 Series Feature highlights

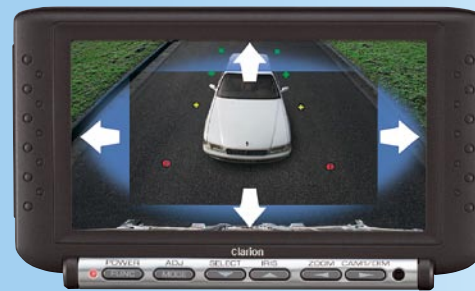### Improved low-light visibility
This system delivers even brighter, clearer images than black-and-white cameras, enabling reliable rearview monitoring in low light situations.

New low-distortion lens
The distortion typical of wide-angle lenses has been corrected in this ultra-wide-angle lens to provide a wider view that is also more natural.

1.4x digital zoom function
Switch to a magnified center area view with just the touch of a button.
The digital zoom delivers a detailed view when you need it for extra safety.

On-screen distance markers
On-screen markers are displayed at 1m, 3m, 5m, and 7m for reference, supporting rear proximity verification. (CJ981E)
The marker display is designed with 7 patterns that correspond to the height that the camera is attached to the vehicle. The 7 patterns range from a height of 2m ~ 3.5 meters, in 25cm stages. Furthermore, vertical and horizontal fine adjustments can also be made.
*Markers are available also for cameras without zoom function.

Rear camera visual verification screen (1m)
Rear camera visual verification screen (3m)
Rear camera visual verification screen (7m)

1m 3m 7m

Iris Function (Backlight Compensation Function)
Even during the daytime, particularly strong highlighting in some parts of the image can cause the shadow sections to become so black that you cannot see it clearly. In this situation, you can use the Iris button to correct the camera's exposure. The Iris function compensates by making the dark sections lighter and therefore easier to see.

Iris ON

Operational image picture
The dark sections are made brighter without any adverse effect on the bright sections.

Common CCD Camera Functions

Reverse gear link
Simply shifting the gear shift into reverse (R) automatically starts the image display.
By adopting the reverse gear link system, the amount of driver operation needed to use this system has been reduced to an absolute minimum.
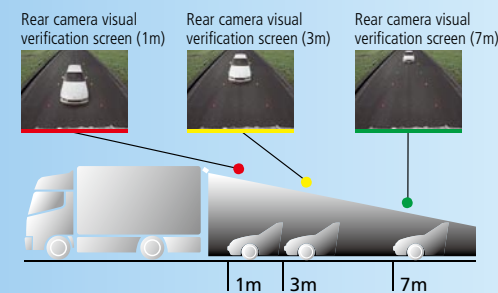
Automatic dimmer switch
In order to prevent the screen from being too bright at night, connect the automatic dimmer switch to the headlight "ON" switch to reduce the screen brightness when vehicle's lights are on.

CCD CAMERAS

Durable aluminum die-cast case and waterproof construction protects the camera from various forces of nature including rain and wind.

CCD COLOR

CC2001E
Wide Mirror

HEAVY DUTY COLOR CCD CAMERA WITH SHUTTER (MIRROR IMAGE / WIDE ANGLE)

Front gate shutter prevents visibility from being obstructed due to splashed mud and the like. That way, you always have a clear view.

High quality cameras capture dangerous situations, with precision through the use of vivid colors and digital high resolution.

CC2000E
Wide Mirror

HEAVY DUTY COLOR CCD CAMERA (MIRROR IMAGE / WIDE ANGLE)

CC2003E
Wide True

HEAVY DUTY COLOR CCD CAMERA (TRUE IMAGE / WIDE ANGLE)

CC2002E
Narrow True

HEAVY DUTY COLOR CCD CAMERA (TRUE IMAGE / NARROW ANGLE)

COLOR MONITORS

6.5 inch high brightness TFT liquid crystal panel provides excellent driver visibility. Cameras can be controlled using the front buttons.

CJ981E

Monitor mounting bracket (Included with CJ981E)

6.5" WIDE COLOR LCD MONITOR
• With remote control signal receiver.
• Camera selection, ZOOM, IRIS ON / OFF can be performed with the front buttons or via optional wired remote control (RCB174)
• Markers that help to provide a more accurate indication of distance are displayed on the monitor screen.
• With IRIS function (backlight compensation function).
• Automatically compatible with both DC12V and DC24V vehicles.
• Image sources other than those from a camera can be used via the auxiliary image input. NTSC or PAL can be selected in VTR mode.
• Built-in speaker for use with navigation systems (The use with navigation is not available in some countries).
• Equipped with a timer to automatically switch the power OFF, which prevents the unit from being left ON in manual mode.
(The timer operating time can be selected within the range of 1 min ~ 5 min from manual ON)

Connect a single camera or three camera power box

EA1232A
POWER BOX FOR CJ981E
• For connecting 1 camera.
• Includes wired remote control.

EA1246A
POWER BOX FOR CJ981E (WITH THREE-CAMERA SWITCHER)
• Connect up to 3 cameras.
• RGB Input.
• Hazard light trigger function.
Wired remote control sold separately (RCB-174-100)

Wired optional remote control for EA1246A

RCB174
With ZOOM / IRIS / Select buttons.

COMPACT CCD CAMERAS

High-performance CCD technology is packed into an ultra-small body. This small CCD color camera has a 130° wide angle of view and is a perfect camera for smaller vehicles.

Actual Size

Light Duty Camera
### CC2011E
ULTRA COMPACT COLOR CCD CAMERA (MIRROR IMAGE)
• Sufficient field of view secured through 130° wide view angle even at low mounting positions.
• Small, light design allows for easy mounting.
• Suitable for smaller trucks, RV and passenger vehicles and so on.

Special bracket (included) allows the camera to be turned left/right and the angle adjusted.
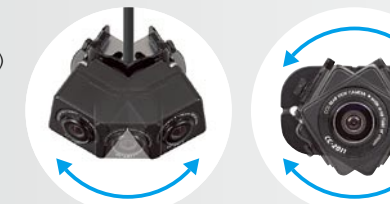
*This product does not include zoom or IRIS functions.

Wide view angle

130° horizontal
97° vertical
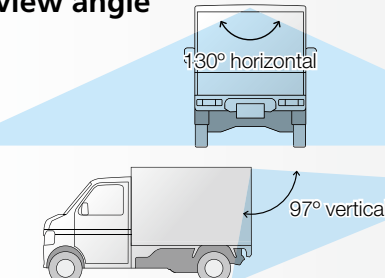
Medium Duty Camera
CC1030E
COMPACT COLOR CCD CAMERA (MIRROR IMAGE)
• Compact size and light weight.
• Wide angle view.
• Suitable for trucks, buses and coaches, and so on.

COLOR MONITORS

Introducing the latest Clarion monitors that deliver superior cost performance as well as sophisticated original design. Two cameras can be connected directly.

CJ7000E
7" WIDE COLOR LCD MONITOR (Compatible with both DC12V and 24V)
• Power box is built-in and two CCD cameras can be connected directly.
• Convenient true/mirror image switching function.
• Automatic video switching with reverse gear and turn signal link.
• Manual dimmer function.
• Image sources other than those from a camera can be used via video input and audio input.
• Seven language display selection.
• Wireless remote control is included.

CJ5600E
5.6" COLOR LCD MONITOR (compatible with both DC 12 V and 24 V)
• Power box is built-in and two CCD cameras can be connected directly.
• Convenient true/mirror image switching function.
• Automatic video switching with reverse gear and turn signal link.
• Seven language display selection.

*Distance marker/Zoom/IRIS/Timer function are not included in CJ7000 and CJ5600E.