# **NAVIGATION / AUDIO**

## **NAVIGATION FOR HEAVY VEHICLES**

Easy-to-view, easy-to-use 7-inch touch-screen display with truck-specific content features.

🚯 Bluetooth 🔊 🔊

Rear USB Built-in

Built-in navigation

🗟 iPod 🗍 iPhone

DSP

S»

728 color Keu

# NX702ETRK

2-DIN DVD MULTIMEDIA STATION WITH BUILT-IN NAVIGATION FOR **HEAVY VEHICLES & 7-INCH HIGH RESOLUTION DISPLAY** 

- Heavy vehicle speed limits, restrictions, warning, truck stops, and 39-country map coverage
- 7" high-resolution display Easy-to-use touch screen
- Built-in Parrot Bluetooth<sup>®</sup> module
- Rear vision camera compatible for added safety
- SDHC card compatible DAB ready (DAB302E)
- Ultimate multimedia unit with built-in DVB-T receiver and 2-Zone entertainment capability

#### DIGITAL RADIO TUNER

DAB (Digital Audio Broadcasting) for a superior listening experience.

## **DAB302E**

#### DAB RECEIVER

- · CD-quality radio broadcasting with a purer signal less susceptible to fading, weather interference and multipath effects
- Full lineup of DAB-ready models to meet your needs (compatible with NX702E, NX702ETRK, NX502ETRK, and CZ703E)
- · Wide selection of DAB radio stations to choose from
- Supports DAB-related standards including DAB+, DMB-A, as well as frequency blocks including Band-III and L-Band
- Antenna included

## **NAVIGATION FOR HEAVY VEHICLES**

Accurate navigation enhanced with content specific to the needs of truck drivers to assure more efficient transportation performance.

# NX502ETRK

2-DIN DVD MULTIMEDIA STATION WITH BUILT-IN NAVIGATION FOR **HEAVY VEHICLES & 6.2-INCH HIGH RESOLUTION DISPLAY** 

- Heavy vehicle speed limits, restrictions, warning, truck stops, and 39-country map coverage
- 6.2" high-resolution display Easy-to-use touch screen
- Built-in Parrot Bluetooth<sup>®</sup> module
- Rear vision camera compatible for added safety
- SDHC card compatible DAB ready (DAB302E)

## USB/MP3/WMA RADIO

Shallow body and back-up memory for easy use in special vehicles.

# FZ102E

#### **USB/MP3/WMA RECEIVER**

- Easy-to-understand control panel layout with large rotary volume control and red-illuminated buttons
- Equipped with front USB slot and AUX input jack (mini) for connecting a USB memory stick or portable audio unit (iPod® connection not supported)
- Shallow mounting depth
- Memory back-up the FZ102E contains a special Flash memory that protects all the user's stored settings and favourites, even if the unit is completely disconnected from the vehicle's power supply



# Shallow body and back-up memory for easy use in special

11

moves you - connects you

## System Examples by Vehicle Types



## 

Clarion Safety Camera & Monitor System products are intended to be utilized in conjunction with vehicle mirrors, parking assistance devices, and visual confirmation for safe vehicle operation within the line of sight, and are not intended to replace the use of mirrors, parking assistance devices, or good judgment and common sense. Users of Clarion Safety Camera & Monitor System products should at all times adhere to local driving laws and industry safety standards. Clarion is not liable under any circumstances for the following:

• Incidental, special, or consequential damage or loss that occurs directly or indirectly to Clarion Camera & Monitor System products. • Inconveniences, damages and/or losses (including those due to the user's improper use or incaution) caused by the inability to view the camera image due to reasons or causes that include the malfunctioning or defect of Clarion Camera & Monitor System products. NOTE

Specifications and design are subject to change without notice. Photos are non-binding. The manufacturer and importer do not take any responsibility for printing errors. Photographs in this catalog may appear slightly different in color than the actual product.

Clarion Europe S.A.S. Z. I. du Pré à Varois Route de Pompey 54670 Custines France Tel: +33 (0)3 83 49 44 00 Fax: +33 (0)3 83 49 45 99

Sack D More

-> Go!



728 color Key

🗟 iPod 🗍 iPhone

# **COMMERCIAL VISION SYSTEMS**

# Clarion



**Superior Commercial Camera** and Monitor Solutions



# Clarion is a Leading Global Manufacturer of **Commercial In-Vehicle Vision Systems**



**Operational Shock Resistance** Built to last! Clarion cameras are designed to withstand up to a 10G (G-Force) shock.



#### **Repetition Durability Test**

Clarion examines the durability of movable parts, such as the shutter opening/closing and monitor controls by conducting more than 50,000 operational tests.



. . .

.....

Center Buildings

As a world leader in the development and manufacturing of in-vehicle mobile electronics, Clarion has always been at the forefront of technological evolution. Our years of experience — including more than four decades of development of in-vehicle camera systems - has given us the expertise that no one can match. And nowhere is that expertise more important than in the design of commercial vision monitoring systems. Clarion's reliability is backed up by one of the world's most rigorous production quality

assurance systems. We know that our in-vehicle equipment must perform consistently and reliably no matter what the application. Whether it's a garbage truck, bus, truck, forklift, agricultural, construction, or maritime machinery, we build it to exceed your expectations.

Clarion's state-of-the-art computer design system can simulate various climatic conditions and every product goes through a wide range of quality control tests. Only when products pass these tests, are they entitled to bear the Clarion insignia and be delivered to our customers around the world. Thanks to advanced automation, Clarion's factories produce 50,000 in-vehicle CCD and CMOS cameras for both commercial and passenger cars in countries around the world each-and-every month. When it comes to in-vehicle electronics and vision systems... think Clarion first for legendary quality you can rely on.

#### Water Resistance

Clarion's dual chamber design and cision O-ring seals prevent wate etration regardless of what Mother Nature throws at it. The cameras are examined for water penetration to ensure watertight integrity.



#### **Thermal Shock Resistance**

Cycled from -40°C to +85°C, Clarion cameras are really put through their paces. These tests are intended to expose any problems with solder joints, the PC board, and the aluminum housina.



# **DIGITAL WIRELESS CAMERA SYSTEMS**

## Clarion now offers both WLAN and FH (Frequency Hopping) wireless camera systems so you can choose the one that best fits your requirements.

#### Advantages of Clarion Wireless Camera Systems

Clarion wireless cameras share many common features, as well as individual benefits

- 1. Reduces costs of video cables and cable installation
- 2. Easier Camera System integration when regularly switching trailers (WLAN)
- 3. Short video signal delay (WLAN 100msec, FH 200msec under ideal conditions)
- 4. Heavy duty design, built to meet rigorous commercial vehicle standards

#### CC3500E/EE2178E

- Minimized video signal transmission delay
- Easy pairing operation

#### EE2179E

- Less susceptible to external signal interference
- · Longer transmission distance than WLAN allows wider vehicle applications



No video cable required.

NOT NECESSARY

#### WLAN 2.4GHz DIGITAL WIRELESS CAMERA AND RECEIVER SYSTEM

#### Digitally transmitted images over WLAN provide safety and convenience while driving.



#### **Digital WLAN Camera with Transmitter**

- Reduces the installation costs of connecting cables
- · Transmitter is built into the camera
- Wireless standard: IEEE802.11b/g
- Very short signal delay: Approximately 100 milliseconds under ideal conditions
- Easy pairing operation: Just press pairing button and select the camera to be paired on monitor
- Allows for connecting with existing monitor with composite video input Recommended vehicle types: Mini-Van, Small Trucks, Forklift.

CC3500E/EE2178E System Configuration





User-friendly pairing function between the camera and receiver

Image sample of pairing function

Model No.	Power Supply	Power Consumption	CMOS Size	Low Light Rating (LUX)	Camera View Angle (horiz./vert.)	Wireless Standard	Transmission /Reception Frequency	Video Output	Operating Temperature Range	Vibration Resistance	Size (W × H × D mm)	Waterproof Capability	Included Accessories
CC3500E	DC 12V/24V	Less than 250mA (DC 12V)	1/3.6"	Less than 1.0	115/85			-	-30°C to +70°C	6.8G	80 × 50 × 58.23	IP67	Antennas, mounting bracket
EE2178E	DC 12V/24V	Less than 200mA (DC 12V)	-	N/A	-	IEEE802.11b/g	2.4GHz band	NTSC	-20°C to +70°C	4.4G	93 × 24.5 × 108	Non-watertight	Pairing switch, RCA cord, Power supply cord, Mounting bracket

#### FH 2.4GHz DIGITAL WIRELESS CAMERA AND MONITOR SYSTEM

FH camera system for maximum security and minimal signal interruption.



#### **Digital FH Wireless Camera and** Monitor System

- · Reduces the installation costs of connecting cables
- Modulation system: FHSS (Frequency Hopping)
- Spread Spectrum) technology
- · Transmitter is built into the camera
- · Receiver is integrated into the 7" LCD monitor
- Pre-Paired at the factory
- Short signal delay: Approximately 200 milliseconds under ideal conditions
- Recommended vehicle type: Commercial trucks (up to around 10m length), Recreational vehicles, etc.





Model No		Power Supply	Power Consumption	Screen Size (inches)	Monitor View Angle (horiz./ vert.)	CMOS Size	Rating	Camera View Angle (horiz./vert.)	Modulation	Transmission / Reception Frequency	Operating Temperature Range	Vibration Resistance	Size (W × H × D mm)	Waterproof Capability	Included Accessories
EE2179	Camera with transmitter	DC 12V/24V	Less than 300mA (DC 12V)	-	-	1/3.6"	Less than 1.0		FHSS (Frequency		-30°C to +70°C	6.8G	80 × 50 × 58.23	IP67	Antenna, mounting bracket
	Monitor with receiver	DC 12V/24V	Less than 500mA (DC 12V)	7	45/45	-	N/A	-	Spectrum)	2.4GHz band	-20°C to +70°C	4.4G	174 × 113 × 40.5	Non-watertight	Antenna, mounting bracket

#### Note:

- · Supply power to the camera from the vehicle on which the camera is mounted.
- The wireless camera systems cannot be used in some countries. Contact your Clarion Dealers for details.

#### Disclaimer

- screen is displayed to inform drivers of signal interruption.
- Mounting may not be possible depending on the condition of the vehicle.

EE2178E **Digital WLAN Receiver** 



• These products are intended to improve blind spot viewing while operating the vehicle and promoting safe driving. • When signal interruption occurs due to RF interference and/or environmental surroundings, the Clarion wireless camera systems may experience image jump and/or video signal loss. When video signal loss occurs, a caution screen or black

# **CAMERAS**

#### HEAVY DUTY COLOR CCD CAMERAS

Thanks to the digital CCD image sensor, these heavy-duty cameras have exceptional picture quality.



#### Heavy Duty Color CCD Camera with Motorized Shutter (Mirror Image/Wide Angle)

- · The motorized shutter keeps dirt, water, snow, and dust off the lens when the camera is not in use (CC2001F)
- A dual chamber design provides two moisture barriers from the outside environment to the electronics inside the camera chassis
- · Weather-Resistant Die-Cast Aluminum Housing
- Electronic Iris
- · Stainless steel cover and brackets included





(True Image/Wide Angle)



Heavy Duty Color CCD Camera (True Image/Narrow Angle)







The connector Opening and can be tightened closing of securely with a the shutter is wrench to ensure coupled with watertightness. camera operation (CC2001F only).



Installed Image

Low-Light Visibility Clarion color cameras deliver even brighter, clearer images than black-and-white cameras, enabling reliable rearview monitoring in low-light situations.

The distortion typical of wide-angle lenses

has been corrected with this ultra-wide-



Low-Distortion Lens

Garbage Truck







Model No.	Number of Pixels	View Angle (horiz./vert.)	CCD Size	Low Light Rating (LUX)	Operating Temperature Range	Vibration Rating (G-force)	Size (W × H × D mm)	Weight	Waterproof Capability	Included Accessories
CC2001F	250,000	118/97	1/4"	Less than 1.0	-30°C to +70°C	10G	80 × 40.5 × 57.4	Approx. 300g	JIS D0203 S2*	Stainless Steel Cover & Bracket
CC2003E	250,000	118/97	1/4"	Less than 1.0	-30°C to +70°C	10G	80 × 40.5 × 53	Approx. 260g	JIS D0203 S2*	Stainless Steel Cover & Bracket
CC2002E	250,000	40/30	1/4"	Less than 1.0	-30°C to +70°C	10G	80 × 40.5 × 53	Approx. 260g	JIS D0203 S2*	Stainless Steel Cover & Bracket

\*JIS D0203 S2 : Water-resistance and humidity-resistance testing of automotive components as specified in the Japan Industry Standards. S2 means resistance to strong water pressure.

#### ULTRA WIDE ANGLE COMPACT COLOR CCD CAMERA

With a super-wide 160-degree horizontal angle of view, virtually nothing is left uncovered.



Ultra Wide Angle Compact Color CCD Camera (Mirror Image/Ultra Wide Angle)

- Ultra wide 160° wide angle view reduces blind spots IP69K compliant
- · Designed to withstand severe vibrations · Electronic Iris · Stainless steel mounting bracket included

Compact desig easy installation	, ,	ne Camera In	Flat	plication Exan	nples
Model No.	Number of Pixels	View Angle (horiz./vert.)	CCD Size	Low Light Rating (LUX)	Operating Temperature Ra
CC1601A	250,000	162/130	1/4"	Less than 3.0	-30°C to +70°

## ULTRA COMPACT COLOR CMOS CAMERA with HEAVY DUTY BRACKET

Offering maximum quality in minimum size together with stainless-steel bracket for unsurpassed performance and quality.



#### Ultra Compact Color CMOS Camera

- Excellent 130° wide angle view minimizes blind spots 307,200 Pixel High Quality Picture Image
- Designed to withstand severe vibrations Compact and lightweight design for easy installation
- · Electronic Iris · Heavy duty stainless steel cover and mounting bracket included

Daytime came image		ghttime cam	era	Wide View Ar	ngle før ggr
Model No.	Number of Pixels	View Angle (horiz./vert.)	CMOS Size	Low Light Rating (LUX)	Operating Temperature P
	1	i	i	i	

## IR ILLUMINATED COLOR CCD CAMERA

1/4"

Less than 3.0

130/99

Designed to meet a wide range of conditions with built-in infrared emitters, microphone, pre-heater, and more.



307.200

CC4100E

#### IR Illuminated Color CCD Camera (Mirror Image/Wide Angle)

- Built-in 6 infrared Emitters Built-in microphone
- · Built-in heating element ensures the camera is ready for use at all times
- Weather-Resistant Die-Cast Aluminum Housing 
  Electronic Iris
- · Can also be connected to a general-purpose monitor with a composite (RCA) input terminal via the dedicated conversion cable (CCA730) (12V vehicles only)

Installed Image	Nighttime Camera Image	(Mirror/Wide/IR/Audio)

Model No.	Number of Pixels	View Angle (horiz./vert.)	CCD Size	Low Light Rating (LUX)	Operating Temperature Range	Vibration Rating (G-force)	Size (W × H × D mm)	Weight	Waterproof Capability	Included Accessories
CC3000E	250,000	95/70	1/3"	0.01 (LED ON)	-10°C to +60°C	6.8G	70 × 44 × 57	Approx. 238g	IP67	Stainless Steel Cover & Bracket

Note: Microphone function of CC2020E/CC3000E is available only in combination with the CJ7100E, CJ7300G and CJ7500E.







Application Example Recreationa Vehicle

# n is for 12V vehicles only

# LCD COLOR MONITORS

#### **7" WATERPROOF WIDESCREEN DIGITAL QUAD COLOR MONITOR**

Built tough to withstand the harshest working environments, Clarion's quad screen monitor now boasts waterproof capability to ensure maximum reliability under any conditions.



## CJ7500E water

7" Waterproof Widescreen Digital Quad Color Monitor

(Compatible with both DC12V and 24V)

- Waterproof capability: IP67
- Aluminum die-cast housing
- · Digital LCD panel delivers a high-quality image
- 4 Display Modes: single, two, three or four screens
- Built-in power box allows direct connection of up to 4 cameras
- · True or mirror camera image switching function
- · Automatic video switching with reverse gear and turn signal inputs (When the driver uses reverse gear or right/left turn signals, the monitor displays the corresponding camera)
- Automatic/manual dimmer function

Camera Coverage Areas

- On-screen distance marker (Camera 1 only)
- Built-in speaker (works in combination with the CC3000E's microphone)
- 8 Languages (English/French/German/Italian/Spanish/Swedish/Chinese/Japanese) display selection
- · U-bracket, dash mounting kit and sun visor included





Dash mounting kit and sun visor included.

Rear camera with

Waterproof Screen

**On-screen Distance Markers** 

On-screen markers are displayed at 1m, 3m, 5m, and 7m for

# reference to support proximity verification. Front facing Rear view cal Side view cam Rear camera with Rear camera with reen (1m) verification screen (3m) 2-screen display 3-screen display 4-screen display CCA394 (Camera cable)



Model No.	Screen Size (inches)	Power Supply	Power Consumption	Picture Element Pixels	Operating Temperature Range	Size ( W × H × D mm)	Weight	Camera Inputs	Video Input	Audio Input	On-screen Distance Marker	Included Accessories
CJ7500E	7	DC 12V/24V	900mA/DC 12V, if four cameras are connected	800 × 3 (RGB) × 480	-10°C to +60°C	190 × 29 × 141	Approx. 879g	4	No	Yes (CC3000 audio func.)	Yes	Mounting bracket, Sunvisor, Monitor cable

## **7" WIDESCREEN DIGITAL COLOR QUAD MONITOR**

Clarion's guad camera monitor shows you what you need to see; when and where you need to see it most.

# CJ7300G

7" Widescreen Digital Quad Color Monitor (Compatible with both DC 12V/24V)

- · Digital LCD panel delivers a high-quality image
- 4 Display Modes: single, two, three or four screens
- · Built-in power box allows direct connection of up to 4 cameras
- LED Backlighting
- True or Mirror camera image switching function
- Automatic video switching with reverse gear and turn signal inputs
- Automatic/Manual dimmer function
- On-screen Distance Marker (Camera 1 only)
- Built-in Speaker (works in combination with the CC3000E's microphone\*)
- Touch-panel buttons and 8 Languages (English/French/German/Italian/ Spanish/Swedish/Chinese/Japanese) display selection
- · Color, Brightness, and Contrast controls
- · Auxiliary (RCA) Video and Mono Audio Input
- NTSC/PAL Compatible
- · On-dash mounting kit and wireless remote control included

\* Only CAMERA 1 input can be used with the CC3000E's microphone function.









Model No.	Screen Size (inches)	Power Supply	Power Consumption	Picture Element Pixels	Operating Temperature Range	Size ( W × H × D mm)	Weight	Camera Inputs	Video Input	Audio Input	On-screen Distance Marker	Included Accessories
CJ7300G	7	DC 12V/24V	900mA/DC 12V, if four cameras are connected	800 × 3 (RGB) × 480	-10°C to +60°C	$174 \times 125 \times 25$	Approx. 480g	4	1 (RCA)	1 (Mono/RCA)	Yes	Mounting Bracket, Monitor Cable







Dash mou kit

# LCD COLOR MONITORS

## **7" WIDESCREEN DIGITAL COLOR LCD MONITOR**

Large 7" digital widescreen monitor delivers sharp, clear images in a sleek, stylish design that fits attractively in your vehicle's interior.

# CJ7100E

#### 7" Widescreen Digital Color LCD Monitor

(Compatible with both DC 12V/24V)

- Digital LCD panel delivers high picture quality
- Built-in camera power supply and two-camera switcher
- LED Backlighting True/Mirror image switching function
- Automatic camera switching with reverse gear and turn signal inputs
- Manual dimmer function
- Built-in speaker (works in combination with the CC3000E's microphone)
- Composite Audio/Video input
  NTSC/PAL Compatible
- 7 Languages (English/French/German/Italian/ Spanish/Korean/Japanese) display selection
- Color, Brightness, and Contrast controls
- Wireless remote control included

7











CJ5600E (5.6" LCD monito

## System Examples of Rearview Color Monitors



Clarion In-Vehicle Multimedia Unit or separate monitor with		d
composite RCA Audio/Video input (NTSC).	CCA730	







## 7" WIDESCREEN DIGITAL COLOR LCD MONITOR

Wide 7" screen makes it easy to confirm that everything is under control around your vehicle.

# CJ7000E

#### 7" Widescreen Digital Color LCD Monitor

(Compatible with both DC 12V/24V)

- 7" Widescreen Colour LCD Monitor
  Composite video input
- Direct inputs for two cameras to the built-in power box
- True/mirror image switching Manual dimmer
- Wireless remote controller included
- Built-in speaker

CJ7100E

Model	No.	Screen Size (inches)	Power Supply	Power Consumption	Picture Element Pixels	Operating Temperature Range	Size ( W × H × D mm)	Weight	Camera Inputs	Video Input	Audio Input	On-screen Distance Marker	Included Accessories
CJ70	DOE	7	DC 12V/24V	450mA (DC 12V, monitor set only)	800 x 3 (RGB) x 480	-10°C to +60°C	187 × 113.5 × 26.6	Approx. 450g	2	1 (RCA)	1 (mono/RCA)	No	Mounting Bracket, Monitor Cable

## 5.6" DIGITAL COLOR LCD MONITOR

Uncompromising performance and picture quality in a compact 5.6" color digital LCD monitor.

# CJ5600E

5.6" Digital Color LCD Monitor

(Compatible with both DC 12V/24V)

- Digital LCD panel that delivers high quality images
- Built-in camera power supply and two-camera switcher
- LED Backlighting
- True/Mirror image switching function
- Automatic camera switching with reverse gear and turn signal inputs
- Manual dimmer function
- Color, Brightness, and Contrast controls
- 7 Languages (English/French/German/Italian/Spanish/ Korean/Japanese) display selection

Model No.	Screen size (inches)	Power Supply	Power Consumption	Picture Element Pixels	Operating Temperature Range	$\begin{array}{c} \text{Size} \\ (\text{W} \times \text{H} \times \text{D} \text{ mm}) \end{array}$	Weight	Camera Inputs	Video Input	Audio Input	On-screen Distance Marker	Included Accessories
CJ5600E	5.6	DC 12V/24V	400mA (DC 12V, monitor set only)	640 x 3 (RGB) x 480	-10°C to +60°C	$163\times112\times30$	Approx. 300g	2	No	No	No	Mounting Bracket, Monitor Cable

Note : The CJ7100E and CJ5600E are not equipped with On-screen Distance Markers.





#### Accessories





#### Cables & Installation Kit for Trailer

Trailer "Break Point" to Camera Cables / Connection Cable between the "Break Point" and Clarion Heavy Duty Camera

CCA452 (20m/65ft.) CCA453 (15m/49ft.)



CCA451 (5m/16ft.)

# Monitor to Trailer "Break Point" Connection Cable

CCA454 (15m/49ft.)



#### Camera Cables for CC3000E

#### CCA729 (20m/65ft.)

• For connecting CJ5600E/ CJ7100E/CJ7300G/CJ7500E



- Universal power, audio/video pigtail adapter for CCA729.
- DIN connector to RCA and power connectors: Allows the CC2020E/CC3000E camera to be interfaced with any monitor with composite A/V inputs.
- 12V vehicles only.





#### iPod and iPhone Video Connecting Cable

CCA750

• iPod and iPhone Video Connecting Cable.



**Compatibility Chart for Cameras and Cables** 

			Camera Types		
Monitor	Cables		CC2001F, CC2003E, CC1601A	CC4100E	CC3000E
Clarion Rear View Monitors CJ7100E/CJ5600E/CJ7300G/ CJ7500E	Camera Connecting Cables	5m/16ft.	CCA416	-	-
		7m/23ft.	CCA392	-	-
		10m/33ft.	CCA393	-	-
		13m/42ft.	CCA435	-	-
		15m/49ft.	CCA394	-	-
		18m/59ft.	CCA436	-	-
		20m/65ft.	CCA395	-	CCA729 (*1)
		23m/75ft.	CCA437	-	-
	Camera Extension Cables	0.9m/3ft.	CCA439	-	-
		5m/16ft.	CCA391	-	-
		10m/33ft.	CCA415	-	-
	Trailer "Break Point" to Camera Cable	20m/65ft.	CCA452	-	-
		15m/49ft.	CCA453	-	-
		5m/16ft.	CCA451	-	-
	Cabin (monitor) to Trailer Break Cable	15m/49ft.	CCA454	-	-
Composite RCA Audio/Video input (NTSC)	DIN connector to RCA and power cable	1m/3ft.	-	-	CCA729 and CCA730 (*2)

(\*1): CCA729: For connecting CJ5600E/CJ7100E/CJ7300G/CJ7500E

(\*2): Allows CC3000E camera to be interfaced with any monitor with composite RCA A/V inputs (NTSC). CCA730 adaptor can only be used in combination with CCA729. 12V vehicles only.