



clarion

Owner's manual

OHM106/156

OVERHEAD MONITOR SYSTEM



Thank you for purchasing this **Clarion** product.

- Please read this owner's manual in its entirety before operating this equipment.
- After reading this manual, keep it handy, such as in your glove compartment.
- Save your sales receipt. The warranty at the end of this manual and your sales receipt are essential for warranty service.

FCC Approval

The Clarion OHM106/156 have been tested and found to comply within the limits of a Class B digital device, pursuant of Part 15 of the FCC rules. These limitations are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and uses radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

There is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to a radio or television reception, turn off the equipment and contact a local Clarion Dealer for assistance. Changes or modifications to this product not approved by the manufacturer will void the warranty and violate FCC Approval.



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1. FEATURES

WARNING

The Clarion OHM106/156 overhead monitor system is designed strictly for rear-seat entertainment. Viewing the monitor while operating a motor vehicle can result in serious injury and/or property damage. Clarion is not responsible for any injury and/or property damage as a result of the improper use or viewing of the monitor.

The Clarion OHM106/156 overhead monitor system is engineered with advanced technological designs and components for the best picture quality and ease-of-use. This system combines flexibility, reliability, and expandability.

Flexibility. Designed primarily for rear seat entertainment, the audio from the OHM106/156 can be enjoyed privately through wireless headphones and/or incorporated into any head unit.

Reliability. High-grade electronic components and heightened electronic connections provide years of service in extremely harsh, mobile environments.

Expandability. The unit's built-in A/V switcher allows you to add multiple A/V sources.

Feature summary:

- 10.2" or 15.4" wide-screen (depends on model), flip-down thin film transistor (TFT) active matrix display screen with 16:9/4:3 format
- Easy-fit universal metal mounting bracket
- WVGA LCD with 16:9 or 4:3 formats
- On-screen display (OSD)
- Picture-in-picture (PIP)
- Adjustable split-screen viewing
- 4 audio/video inputs and 1 audio/video output
- 800 x 400 pixel resolution (1.15M pixels) - OHM106
1280 x 800 pixel resolution (3.07M pixels) - OHM156
- FM modulator control
- Built-in dual IR transmitters for wireless headphones (includes 1 WH204H)
- IR receiver and remote control included
- Supports NTSC and PAL
- Built-in dome lights

With the ability to access all the features and functions through an IR remote control, rear-seat passengers don't have to leave the comfort and safety of their seat.



2. PRECAUTIONS

- Do not operate this product in ways other than those described in this manual.
- Do not disassemble or modify this unit. You may damage the monitor, void the warranty, and suffer electric shock.
- Do not leave the monitor extended when you're not using it. Direct sunlight can cause the monitor to malfunction.
- In extremely cold temperatures the picture may appear dark and move slowly. The display returns to normal when the temperature rises.
- Do not hang onto or hang items from the overhead monitor.
- Do not pour liquid or poke foreign objects into the unit. Water and humidity may damage internal circuitry.
- If the unit becomes wet, turn off all power and ask your authorized Clarion Dealer to clean or service the unit.

Failure to observe these precautions may damage your car, the monitor, or the video source, and may void the warranty.

If you have any questions or problems concerning the monitor that are not covered in this manual, contact your local Clarion Dealer.

Installation

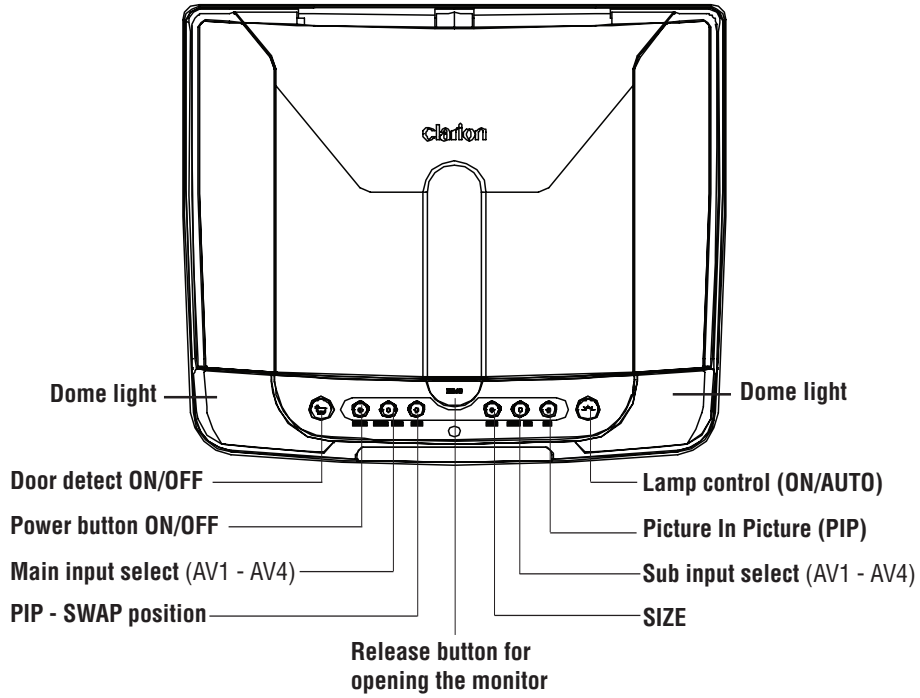
Installation of mobile audio and video components requires experience with a variety of mechanical and electrical procedures. Although this manual provides general installation and operation instructions, it does not show the exact installation methods for your particular vehicle.

If you do not have the required knowledge, experience, and/or tools to successfully complete the installation, consult an authorized Clarion Dealer about professional installation options.

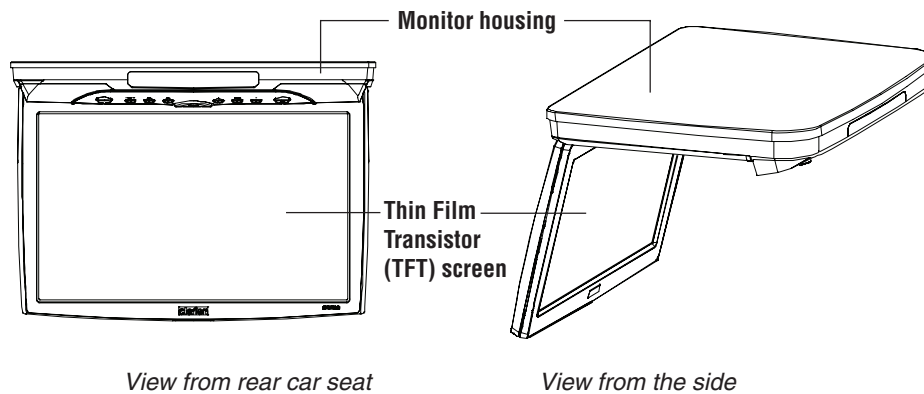
3. CONTROLS

Monitor closed (view looking up from directly below)

The controls face the back seat of the car.

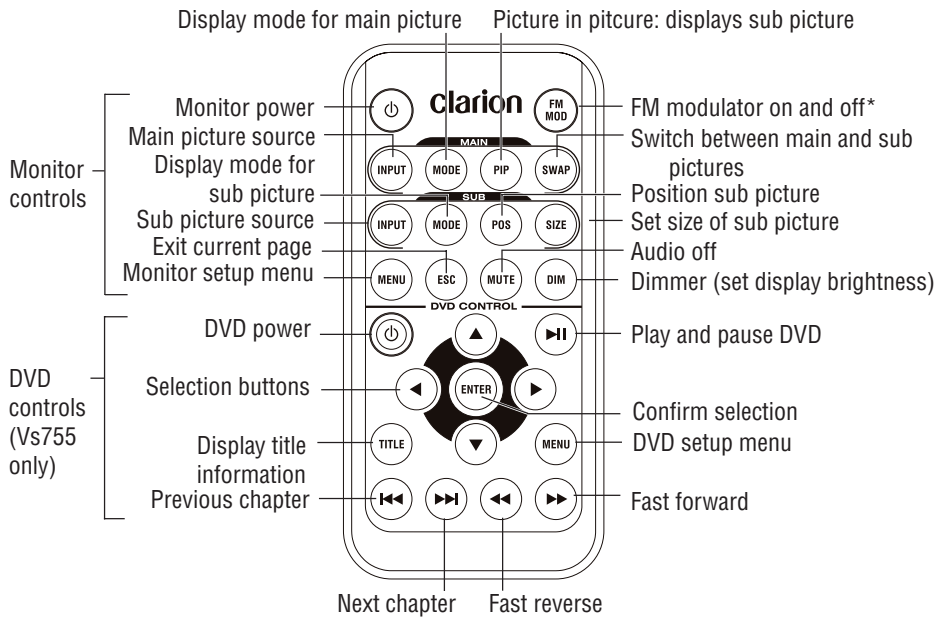


Monitor open





Remote control



*FM200 not included

The remote control allows you to select programming and configure the monitor. You can adjust display options using the remote control buttons or the on-screen menus.

Headphones



4. OPERATIONS

This monitor works in conjunction with a DVD player or other video source mounted usually in the dashboard of your car. Headphones provide the audio.

If your car is equipped with more than one audio/video source, such as a DVD and a game player, one person can watch a movie the other plays the game. The output from one video source displays in the main window and the output from the second video source either displays in a sub window, or the screen splits into two equal-sized pictures (split screen).

Using the headphones

To hear the audio requires headphones.

WARNING

Do not use the headphones while driving.

Installing batteries in the headphones

If this is the first time you're using the system, you'll need to install batteries in the headphones.

1. Slide the battery cover down.
2. If you're replacing the batteries, remove the discharged batteries.
3. Insert the new AAA batteries according to the polarity marked inside the battery compartment.
4. Slide the battery cover back into place.

Note:

Change the batteries when you begin to hear distorted audio that cuts in and out.

Setting the volume

The volume control is on the headphones. Turn the volume switch up or down.

Note:

Some noise may be audible depending on the type of encoder software used while recording. This noise is not caused by the OHM106/156.

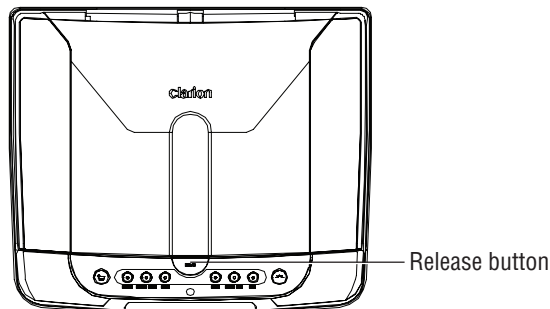
Direct sunlight and temperature extremes



An IR receiver in the headphones that is exposed to direct sunlight for an extended period of time may cause poor sound quality. Let the headphones cool off before you use them.

Opening the monitor

1. Press the open button to release the overhead monitor.
2. Gently push down on the button of the monitor until it reaches the desired position.



Looking up at the monitor from directly below

The monitor turns on automatically when you fully open it (assuming the ignition switch is on or in the ACC position).

Note:

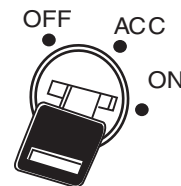
Do not place any object between the monitor and its housing. Doing so can seriously damage the TFT screen.

Closing the monitor

Gently push the back side of the monitor until it clicks into the overhead housing. The monitor turns off automatically when you return it to the closed position.

Getting started

1. Turn the ignition to either ACC or ON.
2. Turn the audio/video source power on.
3. Put the headphones on your head and turn the headphone power on.
4. Insert a DVD into the player, game cartridge into the game player, etc.
5. Press **INPUT** in the Main section of the remote.



Changing image aspect ratio

A common display setting to change is screen mode, which controls the aspect ratio used to display images.

To change the aspect ratio of the main screen, press **MODE** in the Main or Sub sections of the remote.

Note:

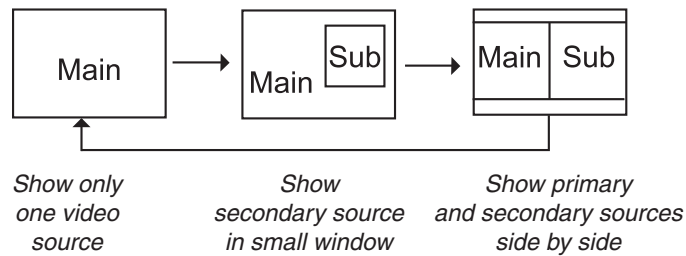
If you don't select a mode, the system waits for five seconds and returns to the previous mode selection.

Viewing two video sources at once

First, choose how to view both video sources. Then, decide which source to view in the main display and which to view in the sub display.

Select how to view the two sources

1. Press **PIP** in the Main section of the remote.
2. Press **SIZE** in the Sub section of the remote control.



Assign the sources to the main and sub screens

1. Press **INPUT** in the Main section of the remote to select the primary audio/video source.
2. Press **INPUT** in the Sub section of the remote to select the secondary audio/video source.



Notes:

To switch video output from the main screen to the sub screen and vice versa, press **SWAP** in the Main section of the remote.

The small sub screen can appear in any of the four corners of the main screen. To switch corners, press **POS** (position) in the Sub section of the remote control.

To change the aspect ratio of the sub screen, press **MODE** in the Sub section of the remote

Adjusting screen brightness

Press **DIM** in the Sub section of the remote. Keep pressing the Dim button



Care and maintenance

Cleaning the monitor

Use a clean, soft, dry cloth to gently wipe dust and dirt from the screen.

Do not use benzene, thinner, car cleaner, or other cleaners. These substances may damage the monitor system or cause the paint to peel.

Servicing the monitor

In the event that trouble arises, never open the monitor case, disassemble the unit or attempt to repair it yourself. The internal parts are not serviceable by the user. Opening any components will void the warranty. All warranty service should be performed by an authorized Clarion service center.

CAUTION!

Changes or modifications to this product not approved by the manufacturer will void the warranty and will violate FCC approval.

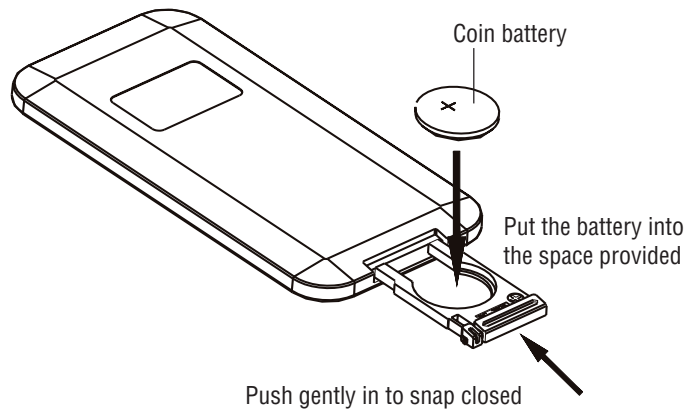
Cleaning the remote control

Use only a clean, soft, damp cloth to clean the remote control. Do not use lighter fluid, methyl alcohol or other solvents.

Changing the battery in the remote control

The battery needs changing when the buttons stop working.

1. Using a small screwdriver, pry open the transparent battery cover.

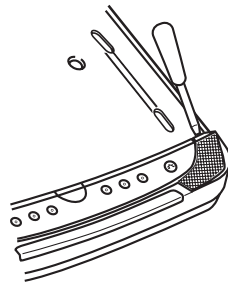


Replacing the battery in the remote control

2. Replace the battery with the same type (Model CR2025) and snap the cover closed.

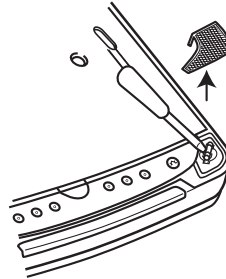
Changing the dome lights

1. Using a small straight-edged screwdriver, gently pry the cover away from the light fixture.



Opening the light cover

2. Using the same small straight-edged screwdriver, gently remove the light bulb.



Removing the bulb

3. Replace the bulb with the same type bulb.

5. INSTALLATION AND WIRING

Read these instructions and precautions carefully. Improper installation can damage the monitor and the vehicle.

What is included in the box

In addition to this manual, the box contains:

- 1 OHM106 or OHM156
- 1 remote control
- 1 audio/video RCA accessory
- 1 four-pin power harness
- 1 metal mounting bracket
- 2 mounting keys
- 2 plastic covers to cover the key holes
- 4 screws and plastic covers for attaching the unit to the ceiling bracket
- 1 soft, black rubber gasket (usually attached to the unit)
- 1 EMC cover (wiring harness cover)
- 3 screws for the EMC cover
- 1 FM modulator control cable (FM MOD only; FM200 not included)
- 1 dual-channel set of head phones (WH204H)

Tools and additional components

You will need:

- A Phillips-head screwdriver when mounting the unit in the vehicle
- 4-6 screws to attach the ceiling bracket to the ceiling of the vehicle (not included)
- High-quality RCA input-output cables

Extra cable can cause signal loss and act as an antenna for noise. Use only high-quality RCA cables that are no longer than necessary to make a direct connection with the source unit(s) and monitor.

Before you begin

1. Verify that the vehicle electrical components function, including: power windows, power door locks, air conditioning, lights, etc.
2. Test fit the location of the overhead monitor system to ensure it will not interfere with the operation of the vehicle.
3. If applicable, verify that the monitor, when mounted, will not interfere with the operation of the sun roof.
4. Determine the location of the audio/video source(s).
5. Disconnect the negative battery terminal before making any wiring connections.

CAUTION

Do not open the case. There are no serviceable parts inside. If you drop anything into the unit during installation, consult with your Clarion Dealer or an authorized Clarion service center.

Mounting and wiring precautions

The OHM106/156 should be mounted in the ceiling of the vehicle. The front panel controls should be easily accessible from the rear seat. In addition:

- This unit is exclusively for vehicles with a negative ground, 12V power supply.
- This unit requires additional mobile audio components, such as a DVD player, for proper operation.
- Always use great care when attaching anything to a vehicle! Check clearances on both sides of the planned installation before drilling any holes or installing any screws.



- A good chassis ground connection is critical to minimize resistance and avoid noise problems. Use the shortest wire possible and securely connect it to the car chassis and the source unit ground.
- When routing RCA cables, keep them away from the power cables and output speaker wires, engine, exhaust system, etc. Heat may damage wires.
- If the fuse should blow, make sure all connections are correct and no wires are damaged before replacing the fuse. Always use fuses that are the same amperage value as the original fuse. When replacing a fuse, never let the battery side touch any metal part or any other wire.

WARNING!

To prevent short circuits during installation, disconnect the vehicle's negative (-) battery lead before making any power connections.

Installation procedure

The OHM106/156 replaces the car's dome light. This section provides basic tips and techniques to aid the installation. These are not vehicle specific, but should be used as guidelines for performing the installation.

Preparation

1. Identify the polarity of the dome light circuit and set the switch on the bottom of the overhead monitor housing.
2. Test fit the overhead monitor system on the ceiling of the vehicle. Verify that it will not interfere with the safe operation of the vehicle.
3. Carefully mark the location with masking tape.
4. Lower the vehicle's headliner down to see if a roof support beam is available to screw the mounting bracket to.

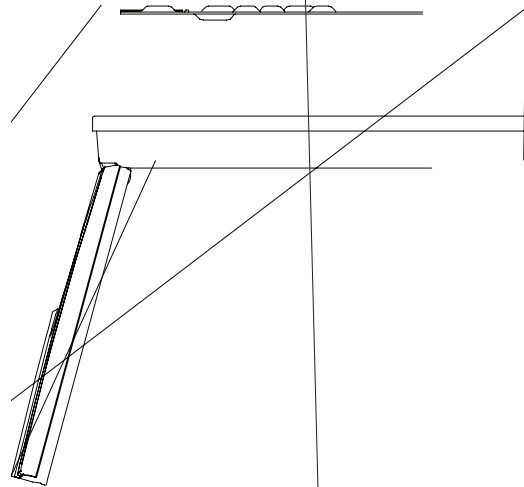
If a support beam is not available, use a 3/4 inch piece of plywood cut to the appropriate size. Attach the plywood to the roof of the vehicle using silicone. Allow for adequate drying time.

5. Double-check the length of the mounting screws (not included) to make sure they will hold the unit securely.

English

Install the ceiling bracket and cables

1. Screw the ceiling bracket to the beam or plywood.



Ceiling bracket

4-6 screws
(not included)

4 screws Max 12
(included)

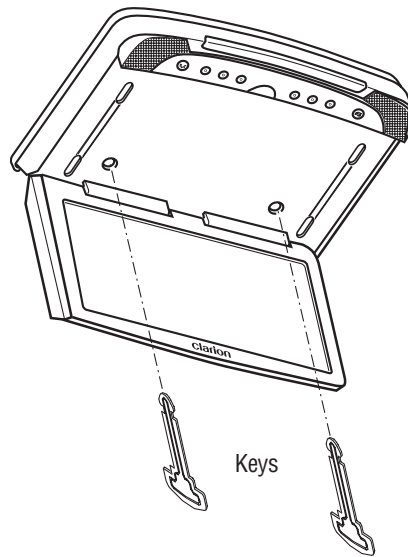
2. Cut a one-inch hole in the headliner along the edge of the ceiling to allow the cables to pass through.

3. Route the cables through the hole to the location of the audio/video source(s).
4. Identify the dome light wires in the field and connect them to the corresponding dome light wire on the overhead monitor system.
5. Plug in the audio/video source and the power harness into the overhead monitor system.



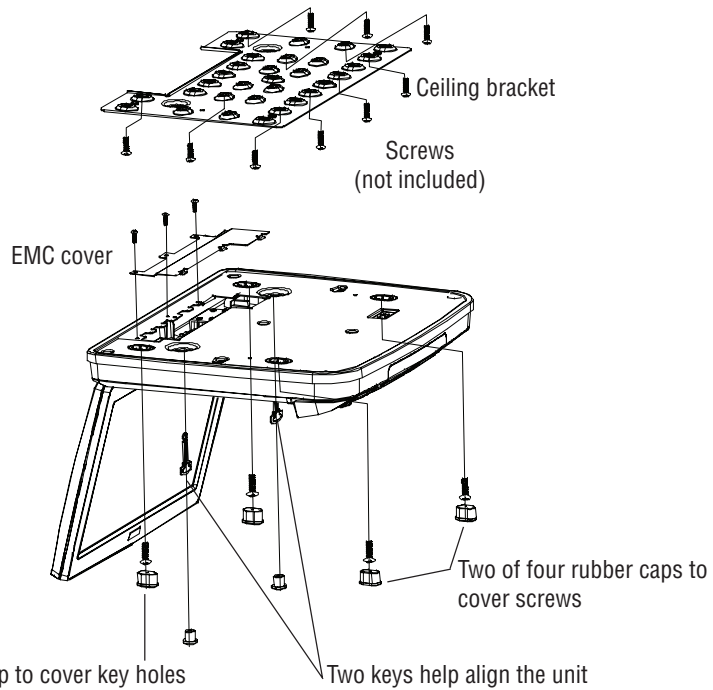
Install the monitor

1. Carefully hold the overhead monitor up to the ceiling bracket.
2. Insert both keys to help you align the mounting screw holes.



Using the keys to hold the monitor in place

3. Screw in the screws making sure the wires are not in the way.

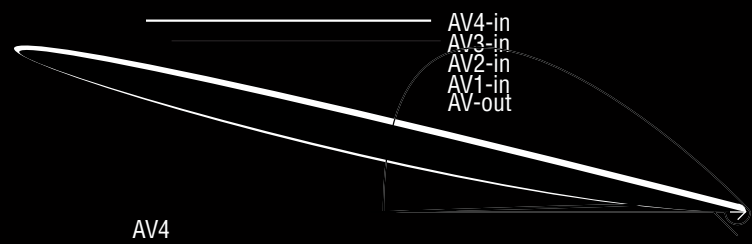


Locating all the screws and rubber caps

3. Remove the keys.
4. Cover the key holes and screws with the rubber caps provided.
5. Ground the black wire of the power harness to a clean ground spot.

Note:

Keep the ground wires from the monitor and the audio/video source as short as possible to prevent unwanted vehicle noise.



Antenna

Audio output

Game Game

FM200

Ground +12V FM ON/OFF control modulator



6. Saving your preferences

Changes you make by pressing the buttons in the Main and Sub sections of the remote control affect only your current viewing session. If you define your viewing preferences using the on-screen display (OSD) menus, the monitor stores your preferences so that you don't have to reconfigure the monitor every time you use the system.

For example, by default, picture-in-picture always displays in the upper right corner of the main picture. Through the main and sub OSD menus, you can change the location of the sub picture to anywhere on the screen.

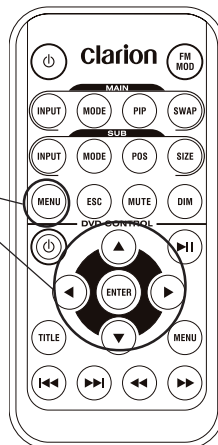
Accessing the on-screen display menus

- Press **MENU** on the remote to access the OSD menus.

The main Display menu appears.

To configure options, use the **MENU**, arrow keys and **ENTER**.

(The **ENTER** and arrow keys also control the DVD player.)



- Press **MENU** again to access each of the other option menus: MAIN > SUB > OSD > FACTORY DEFAULT
- Press ◀ (left arrow) and ▶ (right arrow) in the DVD control section of the remote to alternate among the options on the current menu.
- Press ▲ (up arrow) and ▼ (down arrow) to alternate menu settings for the currently-selected option.
- Once you've selected a setting, press ◀ to increase and ▶ to decrease the value for the setting.
- Press **ENTER** on the remote to confirm your selection and exit the on-screen display menus.

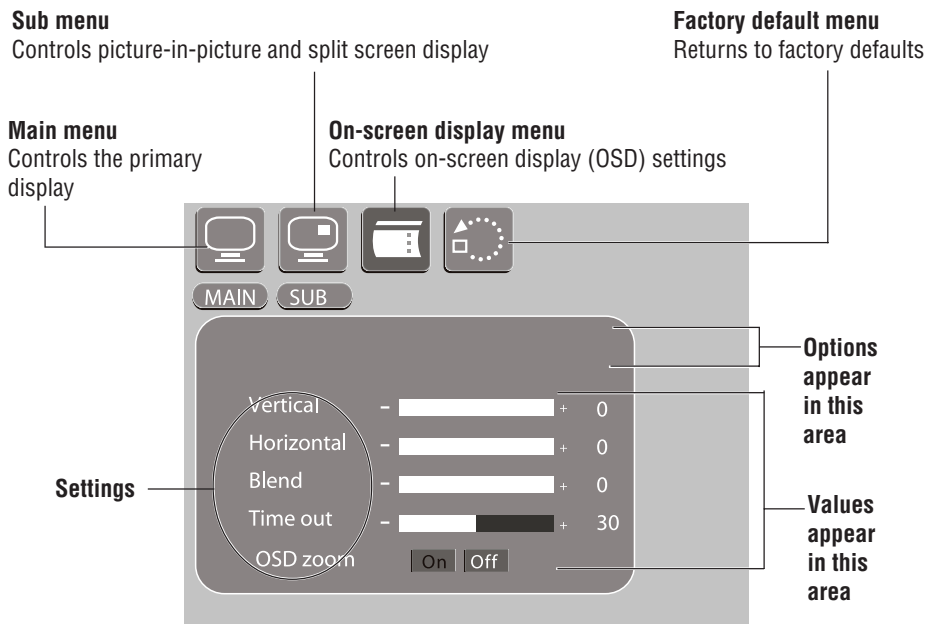


Example: Setting options while using the monitor

The four on-screen display menus overlay whatever is currently playing on the monitor. You can configure the system to fade out the background of the OSD menus. With this feature enabled, you can continue watching whatever is playing while you configure preferences.

1. Press **MENU** three times to display the on-screen display menu.

The system displays the OSD menu.



On-screen display menu

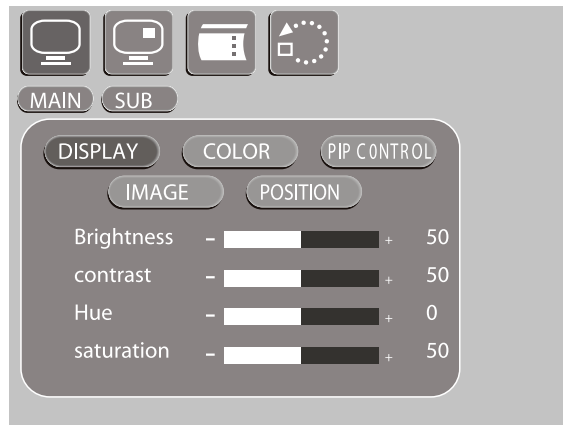
2. Press **▼** three times to select **Blend**.
3. Press **◀** to increase and **▶** to decrease the transparency of the background.
4. Press **ENTER** to save this preference and exit the on-screen display menus.

The next time you access the on-screen display menus you'll notice that they float on top of whatever you're watching.

On-screen display menus reference



Main on-screen display menu



Main picture menu

DISPLAY

Controls the display settings for the main picture.

Setting

Description

Brightness

Sets screen brightness.

Contrast

Adjusts the difference between light and dark areas.

Hue Balance

Adjusts the way each color displays.

Color Saturation

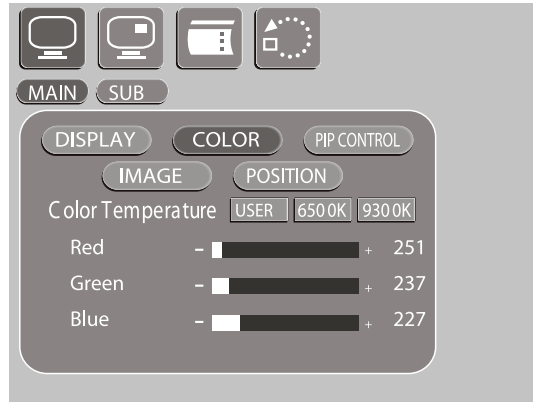
Adjusts the overall color of the picture.



OHM106/







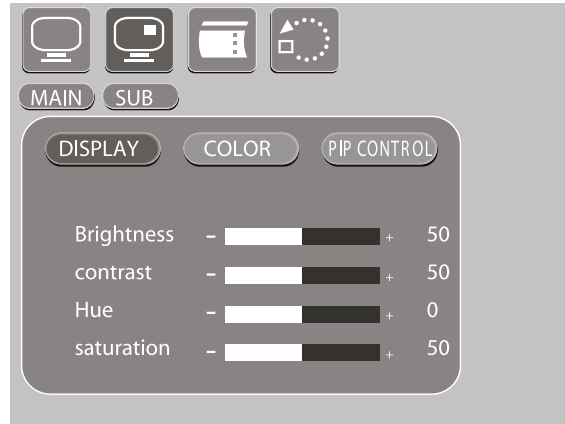
COLOR Controls how color displays on the screen.

Setting	Value	Description
Color temperature	Adjusts colors in combination.	
User	Allows you to configure the mixture of red, green and blue.	
6500K	Selects a pre-configured combination of the three colors that could be described as "warm."	
9300K	Selects a pre-configured combination of the three colors that could be described as "cooler."	
	You can still adjust individual colors after choosing 6500K or 9300K .	
Red	Increases and decreases the amount of red.	
Green	Increases and decreases the amount of green.	
Blue	Increases and decreases the amount of blue.	



Sub picture on-screen display menu

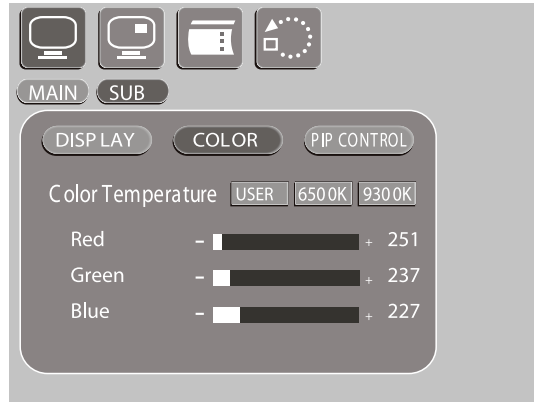
English



Sub picture menu

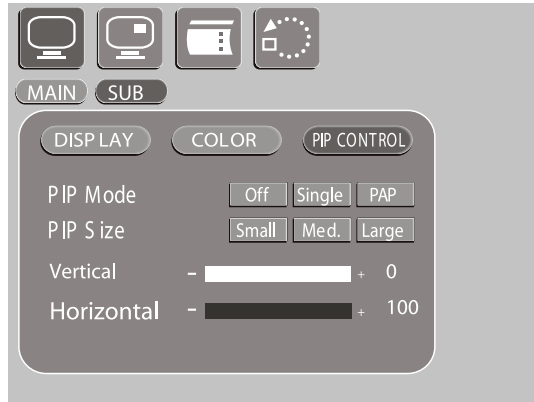
DISPLAY Controls the display settings for the sub picture.

Setting	Description
Brightness	Sets screen brightness.
Contrast	Adjusts the difference between light and dark areas.
Hue Balance	Adjusts the way each color displays.
Color Saturation	Adjusts the overall color of the monitor.



COLOR Controls how color displays on the screen.

Setting	Value	Description
Color temperature	Adjusts colors in combination.	
	User	Allows you to configure the mixture of red, green and blue.
	6500K	Selects a pre-configured combination of the three colors that could be described as "warm."
	9300K	Selects a pre-configured combination of the three colors that could be described as "cooler."
		You can still adjust individual colors after choosing 6500K or 9300K .
Red		Increases and decreases the amount of red.
Green		Increases and decreases the amount of green.
Blue		Increases and decreases the amount of blue.



PIP CONTROL Controls the sub picture, also called the picture-in-picture.

Setting	Value	Description
---------	-------	-------------

PIP Mode		Turns the sub picture on and off, and selects the style of sub picture.
-----------------	--	---

Off		No sub picture.
------------	--	-----------------

Single		Sub picture overlays a portion of the main picture.
---------------	--	---

PAP		Both pictures split the screen equally.
------------	--	---

Choosing PAP locks out the ability to size and move the sub picture.

PIP Size		Controls the size of the sub picture.
-----------------	--	---------------------------------------

Small		Smallest sub picture.
--------------	--	-----------------------

Medium		Larger sub picture.
---------------	--	---------------------

Large		Largest sub picture.
--------------	--	----------------------

Vertical		Moves the PIP image up and down. The image starts out in the upper right corner.
-----------------	--	--

Pressing ► moves the picture down.

Pressing ◀ moves the picture up.

Horizontal		Moves the PIP image right and left.
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Pressing ► moves the image to the right.

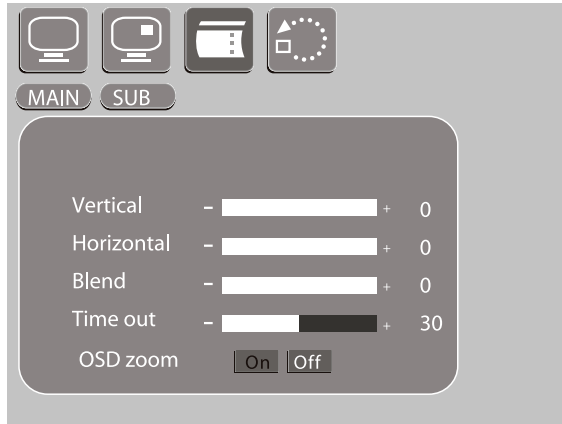
Pressing ◀ moves the image to the left.



English



OSD (on-screen display) menu



On-screen display menu



Setting	Value/Description
Vertical	Moves the on-screen display menus up and down.
Horizontal	Moves the on-screen display menus left and right.
Blend	Fades out the background of the on-screen display so that you can see what's playing behind the menus.
Time Out	Defines the number of seconds (0-30) before the on-screen display turns itself off. This value displays next to the timeout configuration bar.
OSD Zoom	Controls the size of the on-screen menus.
On	Enlarges the size of the menus.
Off	Selects normal menu size.



7. Troubleshooting

System or DVD does not work

1. Turn on the ignition.
2. Turn on the DVD player.
3. Make sure there's a DVD in the DVD player.
4. Press play on the remote control.

Possible remedies

If the monitor does not respond:

- Check the fuses at the end of the monitor installation cables and on the vehicle.
- Check all connections. See the installation instructions.
- Change the batteries in the remote control.
- Dirt may be covering the remote's infrared lens. Clean the lens with a damp cloth.

In rare cases your DVD system may not function the way you expect it to. Before calling for service, read the operating instructions for the DVD.

8. Glossary

audio/video source: any audio and/or video device that has a composite RCA output, such as a DVD player, game player, VCR, digital camera, etc.

Main screen: primary area of the screen for displaying output from a video source.

Sub screen: secondary area of the screen for displaying output from a video source.

OSD: on-screen display

9. Specifications

Power supply	12V DC (10V-16V)	
Test voltage	12V, negative ground	
Current consumption	OHM106: 1 Amp	OHM156: 1.9 Amps
Max current consumption	OHM106: 1.1 Amps	OHM156: 2 Amps
Operating temperature	OHM106: 0 ~ 60° C	OHM156: 0 ~ 50° C
Storage temperature	OHM106: -30 ~ 85° C	OHM156: -20 ~ 60° C
Video system	Auto NTSC and PAL	
Screen	OHM106: 10.2" diagonal	OHM156: 15.4" diagonal
Resolution	OHM106: 800 x 480	OHM156: 1280 x 800
Weight	OHM106: 3.8 lbs.	OHM156: 7.2 lbs.
Video signal	1Vp-p with 75-Ohm load	200mV to 8 Volts

Note:

For the sake of technical improvements, this technical data and the design of the equipment may change without prior notice.

WARRANTY INFORMATION

For USA and Canada only

English



English





English



OHM106/156

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OHM.pmd

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2006-02-28, 13:00





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