

Clarion

Owner's manual

VT1020A

Overhead Monitor System

Clarion Co., Ltd.

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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

VT1020A 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

This overhead monitor player 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.

This overhead monitor player is engineered with advanced technological designs and components to combine flexibility with reliability, and expandability for the best picture quality and ease-of-use.

Flexibility

Designed primarily for rear seat entertainment, the audio from the overhead monitor player 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 player's built-in audio/video (A/V) connectors allow you to add multiple A/V sources.

Image features

- Flip-down thin film transistor (TFT) active matrix display with 10.1" screen
- WVGA LCD with 16:9 or 4:3 aspect ratios
- Screen resolution : 1280 x 800 pixels
- NTSC, PAL and SECAM support
- Wide viewing angle : 170 degree
- Manual display angle adjustment (motorized): vertically adjustable up and down with a maximum angle of 110 degrees
- Adjustable color, contrast brightness, and hue (PAL) or tint (NTSC)
- On-screen display (OSD) of configuration options
- 2 HDMI inputs and 1 analog video input
- USB audio/video/photo playback

Other features

- Roof mounting
- Built-in IR transmitter for IR wireless headphones
- IR remote control
- 1 L/R audio output

2. PRECAUTIONS

Failure to observe these precautions may damage your car, the monitor, or the video source, and may void the warranty. For questions or problems not covered in this manual, contact your local Clarion Dealer.

Operating

- Do not operate this product in ways other than those described in this manual. Failure to follow instructions may void the warranty.
- Do not use the unit with the ignition off. This could drain the car's battery.
- If the internal temperature of the vehicle is extremely high (over 50 degrees Celsius), let the unit cool down a bit before you use it.
- If the temperature in the car is very low (below -5 degrees Celsius), starting the unit right after you start the car with its heater running may cause moisture to form on the LCD. Turn the unit off immediately! Failure to do so may cause an electrical short. Allow about one hour for the condensation to dissipate before using the unit.
- In extremely cold temperatures the picture may appear dark and move slowly. The display returns to normal when the temperature rises.
- When using the system, make sure you are seated with your seat belt fastened. Otherwise, you may hit your head on the unit if the driver breaks suddenly. In an accident, injuries can be more severe if your seat belt is not fastened.

General

- Do not leave the monitor extended when you're not using it. Direct sunlight can cause the monitor to malfunction.
- Do not hang onto or hang items from the overhead monitor.
- If the unit becomes wet, turn off all power and ask your authorized Clarion Dealer to clean or service the unit.
- Do not drop the unit or hit the LCD panel with a hard object. You may cause permanent damage.
- If the LCD breaks, avoid touching the glass and fluid. If you do touch the fluid, clean it off your body and/or clothes with plenty of water, then get medical attention.

Maintenance

- Do not clean the surface of the LCD with chemical solvents or corrosive detergent. Permanent damage to the screen may result.
- Do not disassemble or modify this unit. You may damage the monitor, void the warranty, and suffer electric shock.

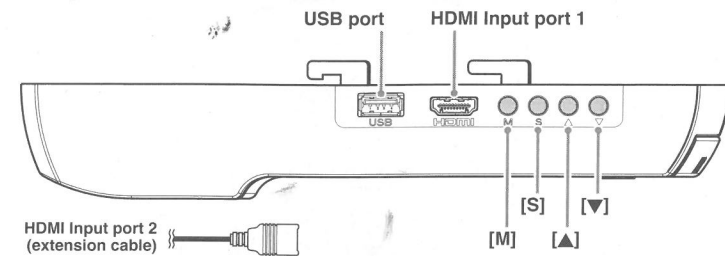
Installation

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

Port and Control



Quick reference to controls

USB port

- USB mass storage device input

HDMI Input port 1

- HDMI audio/video input

HDMI Input port 2 (extension cable)

- HDMI audio/video input

[M] button

- Power on the unit.
- Toggle video input source, source selection, and menu; long press to power off.

[S] button

- Next item in a list; long press to select

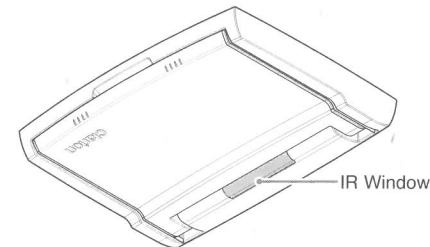
[▲] button

- Next

[▼] button

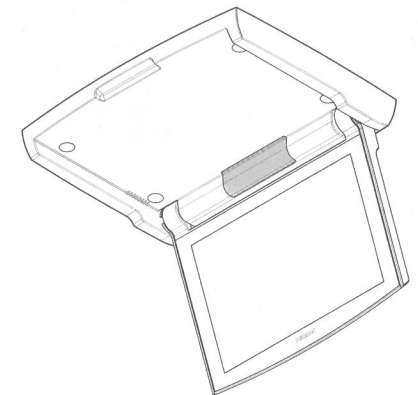
- Previous

Monitor closed



IR Window: Receives infrared (IR) signals from the remote control and sends IR signals to the headphones.

Monitor open

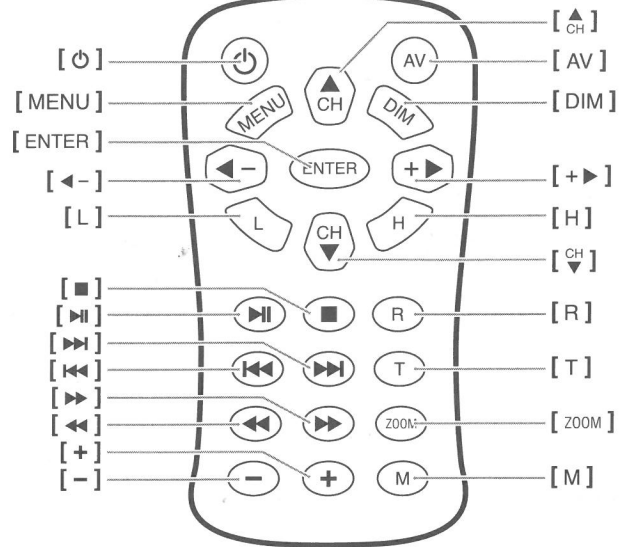


Looking up from directly below at the player with the LCD panel open

IR Window: Receives infrared (IR) signals from the remote control and sends IR signals to the headphones.

4. REMOTE CONTROL

Signal transmitter
Operating range: 30° in all directions



Remote control functions

[⏻]

- Power on/off

[MENU]

- Display menu

[ENTER]

- Select item / Enter selection

[←] / [→]

- Select menu / item (left), decrease adjustment value
- Select menu / item (right), increase adjustment value

[L] / [H]

- Decrease monitor angle (low)
- Increase monitor angle (high)

[■] / [⏸]

- Stop play
- Play / Pause

[⏮] / [⏭]

- Go to previous file
- Go to next file

[⏪] / [⏩]

- Fast rewind
- Fast forward

[+] / [-]

- Volume up
- Volume down

[▲] / [▼]

- Select menu / item (up)
- Select menu / item (down)

[AV]

- Select input source

[DIM]

- Not in used

[R]

- Return to previous level / screen
- Exit the menu

[T]

- Return to media selection

[ZOOM]

- Toggle aspect ratio

[M]

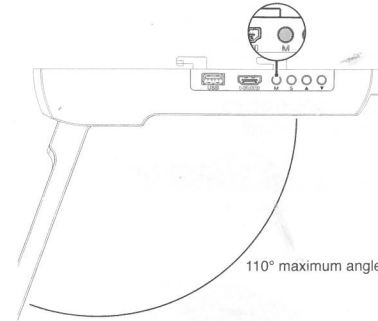
- Sound mute

5. OPERATIONS

The monitor and player provide the video; headphones provide the audio. The unit receives power from the power connector used for the car's dome light, which the unit replaces.

Opening the monitor

Press the [M] button to open the overhead monitor screen. The motorized monitor will open automatically.



CAUTION

The LCD opens to a maximum angle of 110 degrees. Do not attempt to open it further manually by force.

The LCD is powered by motor. Do not attempt to open it by hand manually.

Closing the monitor

Press and hold the [M] button to close the LCD automatically.

Note:

- When closing the LCD panel, do not let cords or other items get caught between the LCD and the overhead housing. Doing so can seriously damage the TFT screen.

For safety, close the LCD panel when you are not using it.

Do not attempt to close or adjust the LCD panel viewing angle by hand. This might damage the motorized component inside.

Please use the remote control to adjust the angle manually.

Turning the player on

1. Turn the ignition to either ACC or ON.
2. Press the power button [⏻] on the remote.
3. To change input sources, press and alternate among A/V input sources: Additional AV sources must be connected.

Turning the player off

To turn the power off, press the power button [⏻].

Changing the image aspect ratio

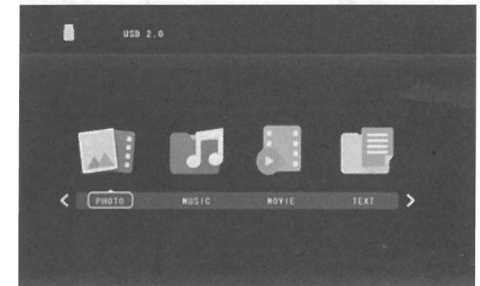
A common display setting to change is screen mode, which controls the aspect ratio used to display images.

Do not leave the headphones in a place that is subject to direct sunlight or extreme temperatures.

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.

Playing an USB device (Audio)

1. Put the headphones on your head and turn on the headphone power on.
2. Assuming the power is on, insert a USB mass storage device into the player.
3. Aim the remote control directly at the IR receiver on the player and select MUSIC → USB → the desired folder or song (Using the arrows and ENTER buttons).
4. Press the play/pause button [⏸] on the remote to play all the songs in folder.



Using the remote control

- Use the remote control only inside the vehicle.
- Use the remote control no further than five feet (3 meters) from the sensor.
- Direct sunlight (or a very bright light) reduces sensitivity to remote signals. Do not use the player in direct sunlight.
- Any object that comes between the infrared sensor and the remote control may disrupt reception.

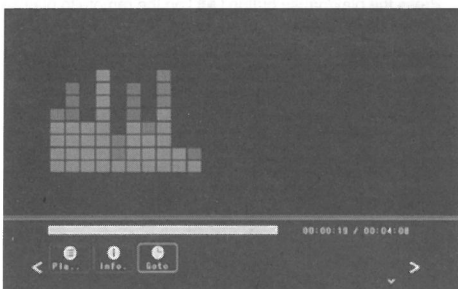
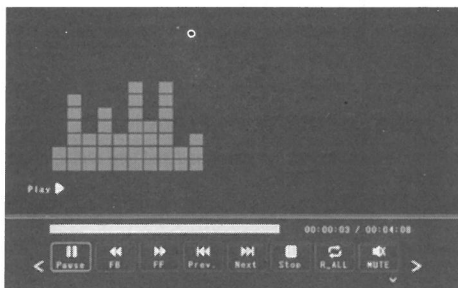
Operation

Basic Controlling playback

- To pause and resume, press the play/pause button [▶||].
- To stop playback, press the stop button [■].

If you press the stop button [■] and then press the play/pause button [▶||] again, playback starts from the beginning of the last audio played, not the last exact location when you interrupted playback.

- To playback the previous track, press the previous button [◀◀].
- To playback the next track, press the next button [▶▶].
- To fast forward a track, press the FF button [▶▶▶].
- To fast backward a track, press the FB button [◀◀◀].
- To mute the sound, press the M button. Press this button again to enable sound again.



USB Audio Player

Advanced Controlling playback

- To select the desired control at the bottom bar, press the next/previous button [◀▶].
- To trigger the selected function, press the ENTER button

Button	Description
Play/Pause	Play or pause
FB	Fast backward
FF	Fast forward
Prev.	Previous track
Next	Next track
Stop	Stop and exit

R_One/ R_ALL/ Random/R_None	R_One: Repeat current track R_ALL: Repeat All Random: Play randomly R_None: Repeat and random off
Mute	Mute/Unmute
Pla..	Display playlist
Info.	Song information
Goto	To play specific hour, minute and second of a track

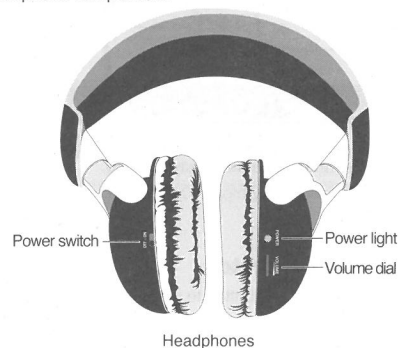
Using headphones

To hear the audio requires headphones.



Do not use the headphones while driving.

Headphone components



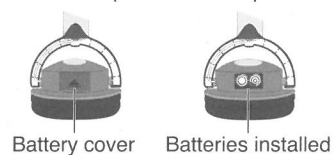
Installing batteries in the headphones

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

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

- Rotate the left earpiece so the battery cover is accessible.
- Slide the battery cover down.
- If replacing the batteries, remove the discharged batteries.
- Insert the new AAA batteries according to the polarity marked inside the battery compartment.
- Slide the battery cover back into place.

Close-up of the left earpiece



Battery cover

Batteries installed

Operation

Setting the volume

The volume control is on the headphones. Turn the volume dial 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 direct sunlight and temperature extremes.
- Do not leave the headphones in direct sunlight or extreme temperatures.

Playing an USB device (Video)

- Insert a USB mass storage device into the player.
- Aim the remote control directly at the IR receiver on the player and select **MOVIE → USB →** the desired video (Using the arrows and **ENTER** buttons).

Basic Controlling playback

- Refer to audio playback on page 7.

Advanced Controlling playback

- To select the desired control at the bottom bar, press the next/previous button [◀▶].
- To trigger the selected function, press the **ENTER** button.

Button	Description
Play/Pause	Play or pause
FB	Fast backward
FF	Fast forward
Prev.	Previous track
Next	Next track
Stop	Stop and exit
R_One/ R_ALL/ Random/R_None	R_One: Repeat current track R_ALL: Repeat All Random: Play randomly R_None: Repeat and random off
Set A/ Set B	Allow video start playing from point A to point B
Pla..	Display playlist
Info.	Song information
Slow F	Slow forward with 2x, 4x, 8x or 16x slower than normal speed
Step F	Play frame by frame
Goto	To play specific hour, minute and second of a track
Zoom +	Increase zoom (1/4, 1/2, 1, 2, 4, 8)
Zoom -	Decrease zoom
Asp..	Aspect ratio (Auto, 4:3, 16:9)
Move	Move image during zoom

Playing an USB device (Photo)

- Insert a USB mass storage device into the player.
- Aim the remote control directly at the IR receiver on the player and select **PHOTO → USB →** the desired photo (Using the arrows and **ENTER** buttons).
- Press play button [▶||] to start the slideshow.

Basic Controlling playback

- To pause and resume a slideshow, press the play/pause button [▶||].
- To stop slideshow, press the stop button [■].
- To playback the previous image, press the previous button [◀◀].
- To playback the next image, press the next button [▶▶].

Advanced Controlling playback

- To select the desired control at the bottom bar, press the next/previous button [◀▶].
- To trigger the selected function, press the **ENTER** button.

Button	Description
Play/Pause	Play or pause
Prev.	Previous image
Next	Next track
Stop	Stop and exit
R_One/ R_ALL/ Random/R_None	R_One: Repeat current photo R_ALL: Repeat All Random: Play randomly R_None: Repeat and random off
Music	Toggle music on/off
Pla..	Display playlist
Info.	Song information
Rotate	Rotate image clockwise (90 degree)
Rotate	Rotate image counter-clockwise (90 degree)
Zoom +	Increase zoom (1/4, 1/2, 1, 2, 4, 8)
Zoom -	Decrease zoom
Move	Move image during zoom

Operation

Playing an USB device (Text)

1. Insert an USB mass storage device into the player.
2. Aim the remote control directly at the IR receiver on the player and select **TEXT → USB →** the desired text file (Using the arrows and **ENTER** buttons).

Basic Controlling playback

- To show the text file, press the play button [▶].
- To exit the text, press the stop button [■].
- To exit the text, press the stop button [◀◀].
- To playback the next text file, press the next button [▶▶].
- To go to next page of a text file, press the button [▶▶].
- To go to previous page of a text file, press the button [◀◀].

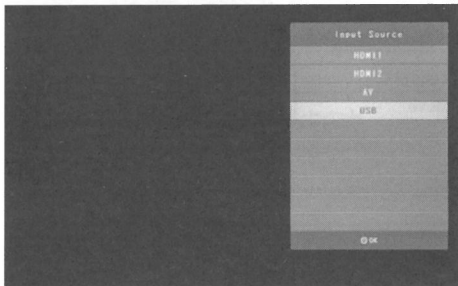
Advanced Controlling playback

- To select the desired control at the bottom bar, press the next/previous button [◀▶].
- To trigger the selected function, press the **ENTER** button.

Button	Description
Pre..	Previous page
Nex..	Next page
Prev.	Previous file
Next	Next file
Stop	Stop and exit
Music	Toggle music on/off
Pla..	Display playlist
Info.	File information

Playing video from HDMI/Analog Video Input connection

1. Connect video player device via HDMI port/ Analog video input.
2. Press **AV** button on remote.
3. Press **AV** button to select between HDMI1, HDMI2 or AV.



Note:

- No playback control is available when video source is from HDMI/ Analog Video Input.

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.
- The surface of the LCD can be easily scratched. Do not rub it with anything abrasive.

Servicing the monitor

In the event that trouble arises, never open the monitor case, disassemble the player 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

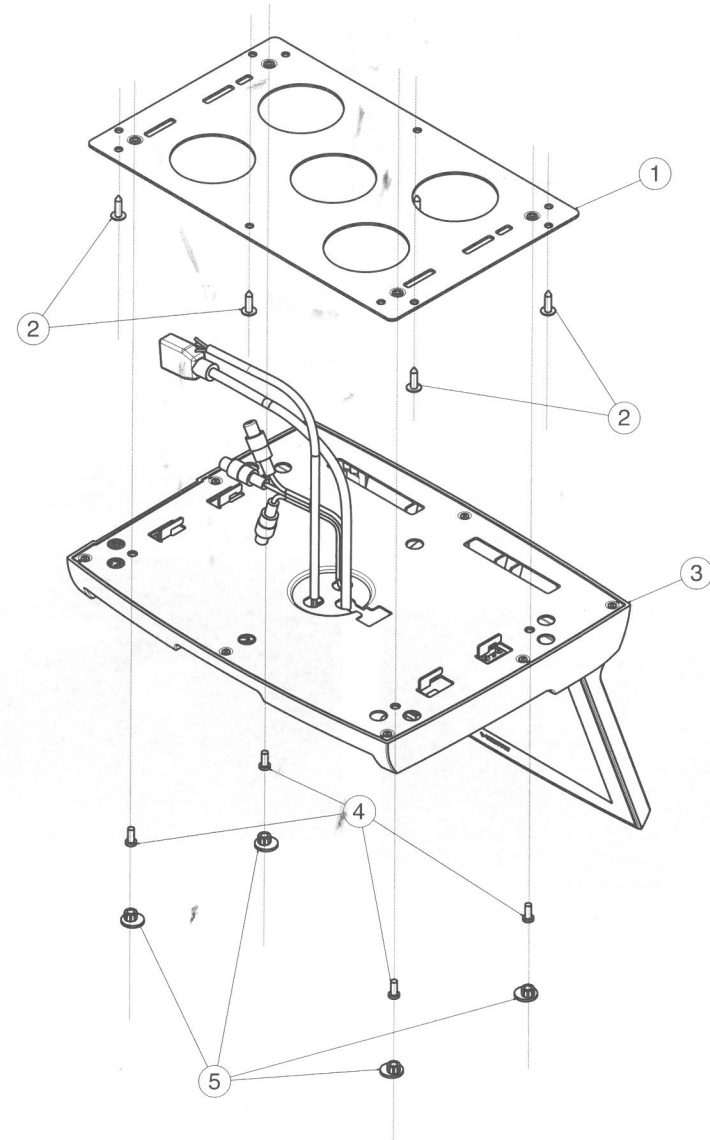
Changes or modifications to this product not approved by the manufacturer will void the warranty and will violate FCC approval.

Cleaning the remote control

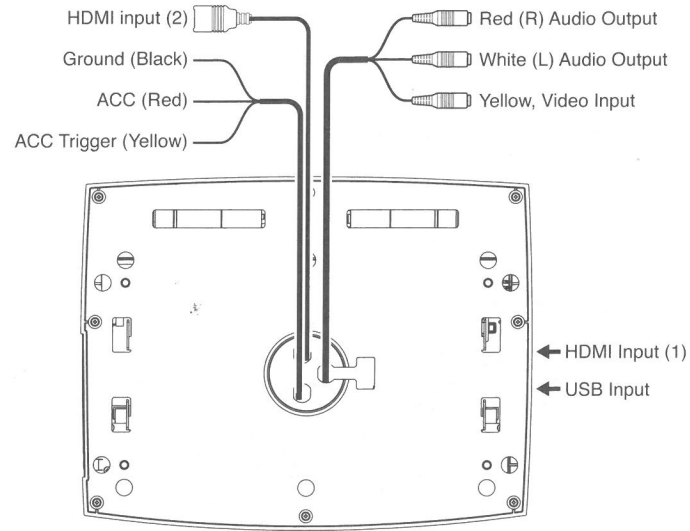
Use only a clean, soft, damp cloth to clean the remote control. Do not use lighter fluid, methyl alcohol or other solvents.

6. INSTALLATION AND WIRING

1. Mount ① to car roof by screw, ②
2. Hook up Roof Top Monitor assembly ③ to mounting bracket ①
3. Screw item ③ by using mounting screw ④
4. Use screw cap ⑤ to cover the mounting screw ④



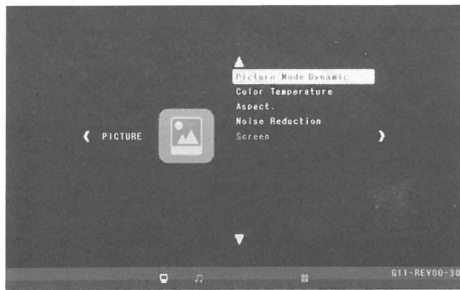
Installation and Wiring



7. SETTING PREFERENCES

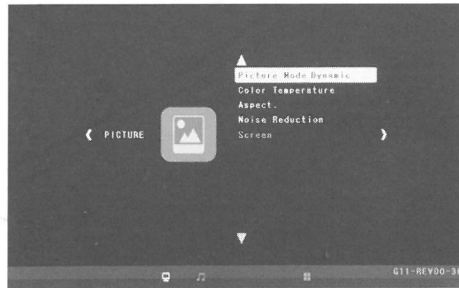
Accessing the on-screen display menus

1. Press MENU on the remote to access the OSD menus. The main display menu appears.



2. Press ◀ (left arrow) and ▶ (right arrow) to alternate among 3 menus: PICTURE menu, SOUND menu and OPTION menu.
3. Press ENTER to select the option that wish to change.
4. Press ◀ (left arrow) and ▶ (right arrow) or ▲ (up arrow) and ▼ (down arrow) to adjust the desired settings.
5. Press RETURN to go back to parent level.
6. Press MENU to exit the on screen display menus.

PICTURE Menu

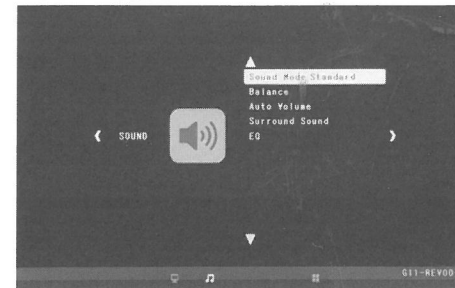


Settings	Value and Description
Picture Mode	Choose the displaying condition <ul style="list-style-type: none"> • Standard • Mild • User (Contrast, Brightness, Color, Sharpness, Tint) • Dynamic
Color Temperature	Choose the color tone <ul style="list-style-type: none"> • Cool • Medium • Warm • User (Red, Green, Blue)

Setting Preferences

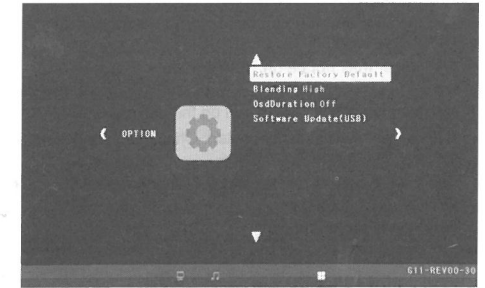
Aspect	Control screen size <ul style="list-style-type: none"> • Auto • 4:3 • 16:9 • Zoom1 • Zoom2 • Just Scan
Noise Reduction	Adjust strength of noise reduction <ul style="list-style-type: none"> • Off • Low • Middle • High • Default
Screen	Adjust VGA screen

SOUND Menu



Settings	Value and Description
Sound Mode	Choose the sound condition <ul style="list-style-type: none"> • Standard • Music • Movie • Sports • User (Treble, Bass)
Balance	Adjust Sound L/R Balance
Auto Volume	Enable Auto Volume function <ul style="list-style-type: none"> • On • Off
Surround Sound	Enable Auto Surround function <ul style="list-style-type: none"> • Off • Surround • SRS TruSurround XT
EQ	Adjust Volume of each frequency <ul style="list-style-type: none"> • 120Hz • 500Hz • 1.5kHz • 5kHz • 10kHz

OPTION Menu



Settings	Value and Description
Restore Factory	Initialize system
Blending	Adjust the transparency of menu <ul style="list-style-type: none"> • Off • Low • Middle • High
OsdDuration	Adjust menu display time <ul style="list-style-type: none"> • Off • 5Sec • 10Sec • 15Sec
Software Update (USB)	Upgrade system

8. TROUBLESHOOTING

Player does not turn on

- The car's ignition may be off. Turn on the ignition to the ACC (Accessory) position.
- The player may not be on. Turn the player's power on.
- A fuse may be blown. Check the fuses at the end of the monitor installation cables and on the vehicle.
- The player may be disconnected. Check all connections. See the installation instructions.
- The remote control battery may require changing.
- Dirt may be covering the remote's infrared lens. Clean the lens with a soft damp cloth.

Player is on but won't play the USB

- The file system format may not be supported. The player supports these formats: Mass storage class with FAT32
- The audio file format may not be supported.

The player works erratically

- The remote control battery needs replacing.
- The IR window on the player or remote control is dirty. Clean the IR windows with a soft damp cloth.
- The connections are loose. Check and tighten all connections.

The picture is very dark

- The temperature in the car is very low. At low temperatures LCD screen display dark pictures. The picture will improve as the temperature rises.
- The brightness is set too high. Adjust it lower. Press the MENU button on the remote or on the player.

No sound can be heard from the IR wireless headphones

- The headphones are not turned on.
- The battery in the headphones is low. Replace the battery.
- An object is blocking the transmission of the infrared signal from the player to the headphones or the headphones are beyond the reach of the IR signal. The IR receiver on the headphones must be in direct line of sight of the IR transmitter on the player.

9. GLOSSARY

Active matrix: A flat panel display technology that produces a brighter and sharper display and a broader viewing angle than passive matrix panels. Each pixel has its own thin film transistor (TFT) and is sometimes called a "TFT screen."

Aspect ratio: The comparison of the width to the height of an object.

Audio/video (A/V) source: Any additional audio and/or video device that has a composite RCA output, such as a game player, VCR, digital camera, etc.

Display angle: The extent to which the LCD screen can be opened (150 degrees).

JPEG/JPG: Joint Pictures Expert Group, the committee that developed the standards for compressing graphics, especially photographs.

IR: Infrared.

NTSC: National TV Standards Committee, the group that developed the television standards used in the United States.

LCD: Liquid Crystal Display, the technology used for laptop and other small computer monitors.

MP3: MPEG Audio Layer-3, a standard for sound compression without sacrificing quality.

OSD: on-screen display.

PAL: The primarily European standard for displaying analog television signals.

Pixel: Short for picture element, the smallest point on a graphic image or monitor.

Thin film transistor (TFT): The display technology in which thin films are deposited during the manufacturing process to create metallic contacts.

SRC: Source.

WVGA: Wide Angle Video Array, the number of pixels in each direction that can be displayed on a monitor.

10. SPECIFICATIONS

Power supply (car battery)

10.5V to 16V DC

Test voltage

13.2V

Operating current

1A

Max current consumption

<2A

Screen

10.1 inch diagonal

Resolution

1280 x 800 (RGB)

Display angle

Vertical adjustable up and down; maximum angle 110°

Viewing angle

170°

Weight

2.076 kg

Operating temperature

-20 to +60° C

Storage temperature

-30 to +70° C

Video input

1 x USB, 2 x HDMI input, 1 x video composite input

Audio output

1 x Left/Right

File Support

Type	Codec	File Extension
Video	MPEG1, MPEG2, H.264, MPEG4, XviD	DAT, MPG, MPEG, TS, TRP, TP, M2TS, VOB, MP4, MKV, AVI, MOV
Audio	MPEG1 Layer 3, AAC, HEAAC, WMA, Vorbis	MP3, M4A, AAC, WMA, ASF, OGG
Photo	-	JPEG/JPG, PNG, BMP
Text	-	TXT

* Not all resolution and bitrate are supported

Note:

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

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Owner's manual

VT1020A

Overhead Monitor System

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