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VGA In-dash Monitor
TMI-M990



OWNER'S MANUAL



FOR CAR USE ONLY

ENGLISH



TMI-M990

VGA IN-DASH MONITOR

- OWNER'S MANUAL
Please read before using this equipment.

IONBUS™

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WARNING



WARNING

This symbol means important instructions. Failure to heed them can result in serious injury or death.

DO NOT OPERATE ANY FUNCTION THAT TAKES YOUR ATTENTION AWAY FROM SAFELY DRIVING YOUR VEHICLE.

Any function that requires your prolonged attention should only be performed after coming to a complete stop. Always stop the vehicle in a safe location before performing these functions. Failure to do so may result in an accident.

KEEP THE VOLUME AT A LEVEL WHERE YOU CAN STILL HEAR OUTSIDE NOISE WHILE DRIVING.

Failure to do so may result in an accident.

MINIMIZE DISPLAY VIEWING WHILE DRIVING.

Viewing the display may distract the driver from looking ahead of the vehicle and cause an accident.

DO NOT DISASSEMBLE OR ALTER.

Doing so may result in an accident, fire or electric shock.

USE ONLY IN CARS WITH A 12 VOLT NEGATIVE GROUND.

(Check with your dealer if you are not sure.)
Failure to do so may result in fire, etc.

KEEP SMALL OBJECTS SUCH AS BATTERIES OUT OF THE REACH OF CHILDREN.

Swallowing them may result in serious injury. If swallowed, consult a physician immediately.

USE THE CORRECT AMPERE RATING WHEN REPLACING FUSES.

Failure to do so may result in fire or electric shock.

DO NOT BLOCK VENTS OR RADIATOR PANELS.

Doing so may cause heat to build up inside and may result in fire.

USE THIS PRODUCT FOR MOBILE 12V APPLICATIONS.

Use for other than its designed application may result in fire, electric shock or other injury.

DO NOT PLACE HANDS, FINGERS OR FOREIGN OBJECTS IN INSERTION SLOTS OR GAPS.

Doing so may result in personal injury or damage to the product.

WARNING



CAUTION

This symbol means important instructions. Failure to heed them can result in injury or material property damage.

HALT USE IMMEDIATELY IF A PROBLEM APPEARS.

Failure to do so may cause personal injury or damage to the product. Return it to your authorized Alpine dealer or the nearest Alpine Service Centre for repairing.

DO NOT MIX NEW BATTERIES WITH OLD BATTERIES. INSERT WITH THE CORRECT BATTERY POLARITY.

When inserting the batteries, be sure to observe proper polarity (+ and -) as instructed. Rupture or chemical leakage from the battery may cause fire or personal injury.

KEEP FINGERS AWAY WHILE THE MOTORIZED FRONT PANEL OR MOVING MONITOR IS IN MOTION.

Failure to do so may result in personal injury or damage to the product.

PRECAUTIONS

Product Cleaning

Use a soft dry cloth for periodic cleaning of the product. For more severe stains, please dampen the cloth with water only. Anything else has the chance of dissolving the paint or damaging the plastic.

Temperature

Be sure the temperature inside the vehicle is between +45°C (+113°F) and 0°C (+32°F) before turning your unit on.

Moisture Condensation

You may notice the disc playback sound wavering due to condensation. If this happens, remove the disc from the player and wait about an hour for the moisture to evaporate.

Maintenance

If you have problems, do not attempt to repair the unit yourself. Return it to your Alpine dealer or the nearest Alpine Service Station for servicing.

Installation Location

Make sure the TMI-M990 will not be installed in a location subjected to:

- Direct sun and heat
 - High humidity and water
 - Excessive dust
 - Excessive vibrations
-
- After turning the system off, a slight ghost of the image will remain temporarily. This is an effect peculiar to LCD technology and is normal.
 - In cold temperature conditions, the screen may lose contrast temporarily. After a short warm-up period, it will return to normal.

Remove the anti-theft cover when you drive. This prevents the cover from falling off the unit and interfering with the safe operation of the vehicle.

Operation of some of the functions of this unit is very complex. Because of this, it was deemed necessary to place these functions into a special screen. This will restrict operation of these functions to times when the vehicle is parked. This ensures the focus of the driver's attention will be on the road and not on the TMI-M990. This has been done for the safety of the driver and passengers.

The Setup operation cannot be performed if the car is moving. The car must be parked and the parking brake must be engaged for the procedure described in the Owner's Manual to be valid. The warning "CAN'T OPERATE WHILE DRIVING," will be displayed if any attempts are made to perform these operations while driving. This operation is the same as when selecting sources using the remote control. When the car is parked, the selection is made as described in the Owner's Manual.

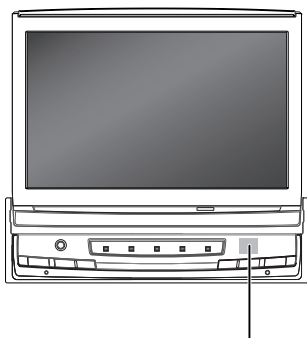
Getting Started

About the Remote Control

Notes on Using the Remote Control

Point the remote control transmitter at the remote control sensor.

If connected to an IONBUS compatible head unit, even if you point the remote control at the remote control sensor on the head unit, the operation is received the same way.



Remote control sensor

- Point the remote control at the remote sensor within about 2 meters.
- It may not be possible to operate the remote control unit if the remote control sensor is exposed to direct sunlight.
- The remote control is a small, light weight precision device. To avoid damage, short battery life, operational errors and poor button response, observe the following.
 - Do not subject to shock.
 - Do not put in a trouser pocket.
 - Keep away from food, moisture and dirt.
 - Do not place in direct sunlight.

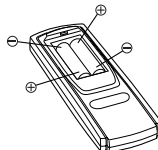
Battery Replacement

Applicable battery: Use two “AAA” sized dry batteries or equivalent.

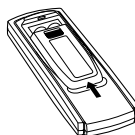
- 1 Opening the battery cover.**
Push on the cover and slide it as indicated by the arrows then the cover will be removed.



- 2 Replacing the battery.**
Put the batteries in the case observing the polarity, as illustrated.



- 3 Closing the cover.**
Push the cover in the arrow direction until a click is heard.

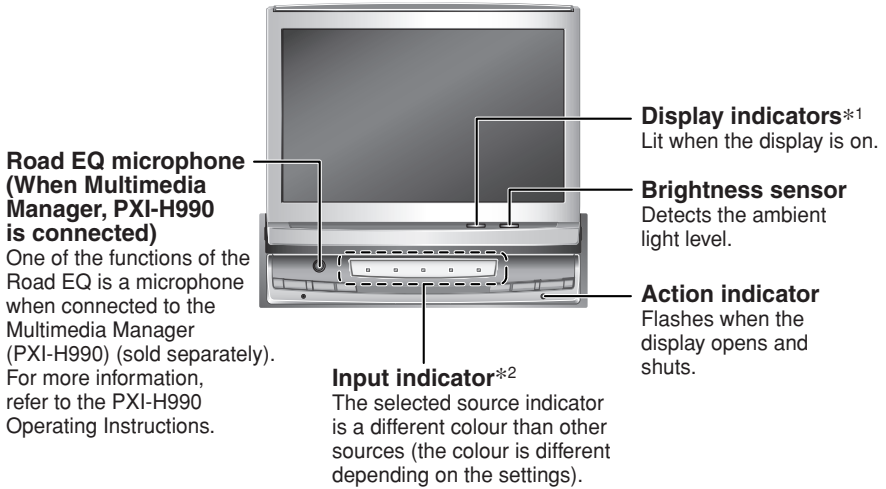


Warning

DO NOT OPERATE ANY FUNCTION THAT TAKES YOUR ATTENTION AWAY FROM SAFELY DRIVING YOUR VEHICLE.

Any function that requires your prolonged attention should only be performed after coming to a complete stop. Always stop the vehicle in a safe location before performing these functions. Failure to do so may result in an accident.

About the Indicators and the Microphone



*1 When AUTO is set for the “Illumination Control” (page 40), the light level corresponds to the detection of the Brightness sensor. So, when the ambient is dark, the indicator may not be lit.

*2 You can set the colour and brightness to your desired level.

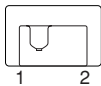
(Refer to “Setting the Illumination Brightness” on page 39, “Changing Lighting Colour” on page 42.)

Using the TMI-M990 with an IONBUS connection

This unit connects to IONBUS compatible head units, and can even be operated from the head unit.

- For more information for operating from the head unit, refer to **Operating from the Head Unit** page 48-51.
- To connect and use the IONBUS, turn the system switch on the main unit to “SYSTEM”. (See page 58).

System switch

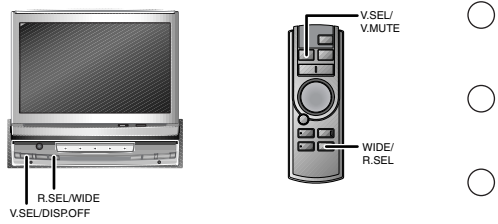


1:SYSTEM
2:STANDALONE
(Initial Setting)

How to Read This Manual

This manual details how to operate the TMI-M990 and the supplied remote control RUE-4199.

Basic Operation



Remote control icon
Indicates operations performed with the remote control unit.

Main unit icon
Indicates operations performed on the main unit.

Button name
Buttons to be operated are indicated in bold.

1Sec/2Sec icon
Indicates that the specified remote control button should be pressed and held for over 1 or 2 seconds.

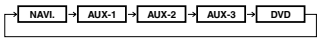
Continued (Next page)
Indicates that the description of the operation continues on the next page.

Supplement icon
Indicates that there is supplementary information on another page.

Switching the Source



1 Press V.SEL/DISP.OFF.
Each press of the button will cycle through the modes as follows:



- AUX-1, 2, 3 is only displayed when AUX IN 1, 2, 3 SIG. is ON. For details, refer to "Setting the AUX Mode", page 45.
- DVD displays when S-IN SIG. is set to ON. For details, see "Setting the S-IN Mode", page 45.

When connected with an IONBUS compatible head unit:

- The picture source can be switched from the head unit. For details, see **Operating from the Head Unit** "Switching the Source", page 49.



V.SEL
V.MUTE

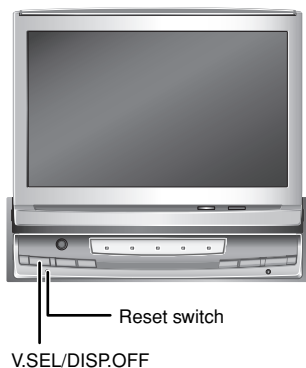
WIDE/
R.SEL

Continued

Supplement See page 19 for supplementary information

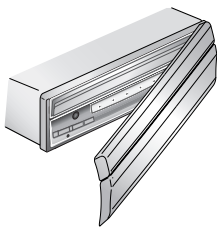
16-EN

Basic Operation



Using Face Cover

An anti-theft face cover is provided with the TMI-M990. Put the face cover onto the TMI-M990 when you leave the vehicle. Be sure to remove the anti-theft face cover when you drive.



Initial System Start-up

Immediately after installing or applying power to the unit, it should be initialized.



- 1 Check that the power is switched off. If it is on, press and hold **V.SEL/DISP.OFF** for more than 2 seconds to switch off the power.



POWER

Continued

Basic Operation

- 2 Press the reset switch with the tip of a pen.



- **To switch off the power on an IONBUS compatible head unit when it is connected:**
When the head unit power is switched off, the TMI-M990 power is also switched off. The power cannot be switched off from the TMI-M990.

Supplement See page 18 for supplementary information.

Turning Power On or Off

Some of this unit's functions cannot be performed while the vehicle is in motion. Be sure to stop your vehicle in a safe location and apply the parking brake, before attempting these operations.



- 1 Press **V.SEL/DISP.OFF** to turn on the unit.



POWER

2 Press and hold **V.SEL/DISP.OFF** for at least 2 seconds to turn off the unit.

- The unit can be turned on by pressing any one of the buttons **V.SEL/DISP. OFF**, **VISUAL EQ** or **R.SEL/WIDE**.
- The TMI-M990 draws minimal current even when its power switch is turned off. If the switched power (ignition) lead of the TMI-M990 is connected directly to the positive (+) post of the vehicle's battery, the battery may be discharged. If this lead is unswitched, it must be disconnected from the battery post should the vehicle be left unused for an extended period of time.

An SPST (Single-Pole, Single-Throw) switch (sold separately) can be added to simplify this procedure. Then, you can simply place it in the OFF position when you leave the vehicle. Turn the SPST switch back ON before using the TMI-M990. For connecting the SPST switch, refer to the "Connection Diagram of SPST Switch" (page 59).

- Some operation of the unit cannot be performed while the vehicle is in motion. In this case, be sure to first stop your vehicle and apply the parking brake, then perform the operation.

When the TMI-M990 is connected to an IONBUS compatible head unit:

- The TMI-M990 power is linked to the head unit. When the head unit is switched on, the TMI-M990 is also switched on, and when the head unit is switched off, the TMI-M990 is also switched off.

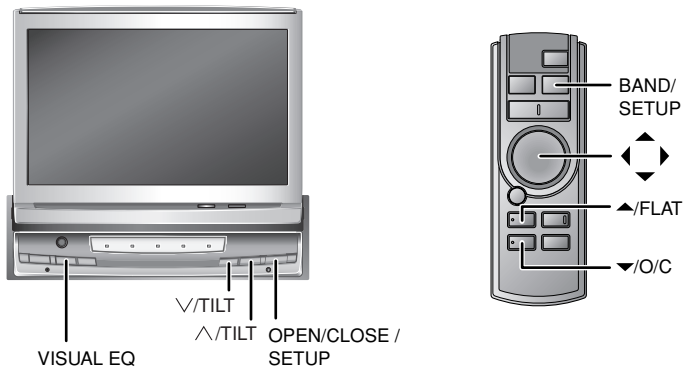
For details, refer to the head unit Operating Instructions.

- The power cannot be switched off from the TMI-M990.
- When the system switch on this unit is set to **STANDALONE**, the power will not turn on. You must set to **SYSTEM**. (See page 58)

POWER

Supplement See page 18 for supplementary information.

Basic Operation

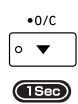


Opening/Closing the Monitor



1 Press **OPEN/CLOSE / SETUP**.
The unit beeps 3 times and raises (or lowers) the monitor automatically.

- The TMI-M990 is a precision device. With gentle handling, its unique capabilities can be enjoyed for a long time.
- When the movable monitor is opened, do not place any object on the monitor and be careful not to bump or apply any pressure to the monitor while it is open. This can cause damage to the mechanism.
- For your safety, some operation of the unit cannot be performed while the vehicle is in motion. In this case, first stop the vehicle and engage the parking brake, then perform the operation.
- If there is something in the way when opening the display, the display stops immediately. When this happens, remove the obstruction and press **OPEN/CLOSE / SETUP** again.
- If there is something in the way when closing the display, the display stops immediately. When this happens, remove the obstruction and press **OPEN/CLOSE / SETUP** again.



- If the display stops during opening/closing, then press **OPEN/CLOSE / SETUP** again. If it still does not move, then contact your Alpine dealer. Do not force the display. You may damage your TMI-M990.
- The display activates using the values stored for angle adjustment and back and forward adjustment.
See “Adjusting the Display Back and Forwards” (this page), and “Adjusting the Monitor Viewing Angle” (page 14).

Supplement See page 18 for supplementary information.

Adjusting the Display Back and Forwards

The monitor opening angle can be set in 2 positions.



- 1 Press and hold **OPEN/CLOSE / SETUP** for at least 2 seconds while the display is out.

- 2 Press **OPEN/CLOSE / SETUP** or **VISUAL EQ** and select SLIDE.
When you press OPEN/CLOSE / SETUP, you move to the next item, press VISUAL EQ to move to the previous item.

- 3 Press **∨ / TILT** or **∧ / TILT**, and select BACK or FRONT.
The display can slide about 1 cm back and forwards.

- 4 When you have finished adjusting, press and hold **OPEN/CLOSE / SETUP** for at least 2 seconds.



BAND
• SETUP

2Sec

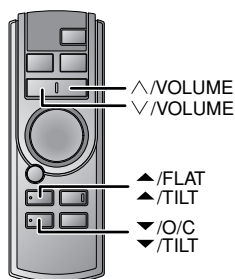


• FLAT
TILT
• O/C
• O/C

BAND
• SETUP

2Sec

Basic Operation



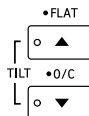
Adjusting the Monitor Viewing Angle

Adjust the monitor's angle for better visibility.



- 1 Press ∇ / TILT and \wedge / TILT to adjust the monitor's angle so the screen will be in the best viewing position. Pressing the buttons changes the screen angle between about 40 and 105 degrees.


- By pressing and holding ∇ / TILT or \wedge / TILT, the angle changes continuously.
- You can also adjust the display angle by selecting from one of 10 levels. For details, see the **Setup operation** "Adjusting the Monitor Viewing Angle" on page 41
- The adjustment angle is stored, but depending on the motion, the position can be a shifted from the original position.



Supplement See page 19 for supplementary information.

Moving the Monitor to be Flat

When you want to operate some function on the car (air conditioner, etc.) which is hidden by the raised monitor, use this function.


 The following operation is performed with the supplied remote control.

1 Press and hold **▲/FLAT** for at least 2 seconds.
The monitor moves to the flat position.

2 Press and hold **▲/FLAT** again for at least 2 seconds.
The monitor returns to the previous angle.

- The monitor returns to the previous angle from being flat after 10 seconds.
- If an excessive force is added to the monitor when the monitor is flat, putting an object on the back of the monitor for example, it may cause a malfunction.

Adjusting the Volume

 The following operation is performed with the supplied remote control.

1 Press **∇ / VOLUME** or **∧ / VOLUME** to adjust the volume.
Adjust the volume output to the Amplified Speaker that is connected to the AUX Audio Output (AUX OUT 1) Terminal.

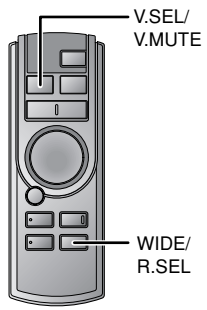
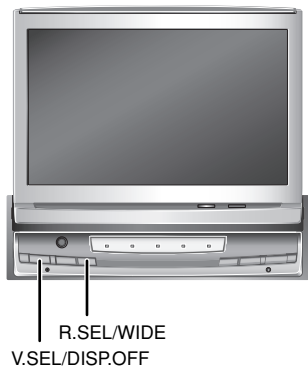
- The volume changes continuously if **∇ / VOLUME** or **∧ / VOLUME** is held down.
- You can adjust the volume level for each source.

When connected with an IONBUS compatible head unit:

- The volume adjustment is performed at the head unit. For details, see **Operating from the Head Unit** “Adjusting the Volume”, page 49.

Supplement See page 19 for supplementary information.

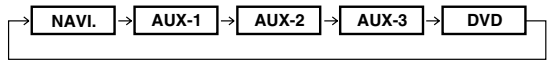
Basic Operation



Switching the Source



1 Press **V.SEL/DISP.OFF**.
Each press of the button will cycle through the modes as follows:



- AUX-1, 2, 3 is only displayed when AUX IN 1, 2, 3 SIG. is ON. For details, refer to “Setting the AUX Mode”, page 45.
- DVD displays when S-IN SIG. is set to ON. For details, see “Setting the S-IN Mode”, page 45.

When connected with an IONBUS compatible head unit:

- The picture source can be switched from the head unit. For details, see **Operating from the Head Unit** “Switching the Source”, page 49.



Supplement See page 19 for supplementary information.

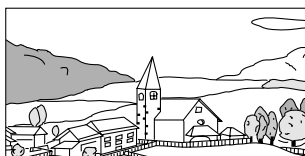
Switching Display Modes



- 1 Press and hold **R.SEL/WIDE** for at least 2 seconds in the visual source.
Each press changes the display modes as follows:



In Normal mode, the monitor displays a normal picture at the centre of the screen with a vertical black band at each side.



In Wide mode, the monitor displays a normal picture wider to fit in a wide-screen monitor by evenly stretching out the picture horizontally.













In Cinema mode, the monitor displays a normal picture by stretching out the picture horizontally and vertically. This mode is good for displaying a cinema type picture at the 16 : 9 ratio.











•R.SEL

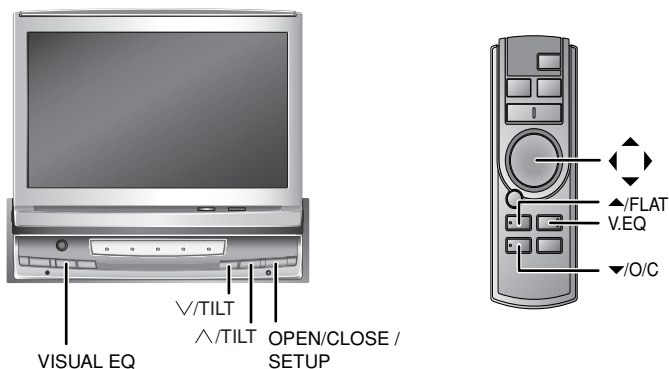
WIDE

Basic Operation

Supplementary information	This page includes supplementary information for pages 9 to 17. Please refer to these pages.	
TITLE	Description	Related page
Initial System Start-up	When reset, the stored contents are lost. Perform storage and adjustment one more time.	 Page 9
	If you reset when the display is open, then the display is automatically closed.	 Page 9
	If you reset while the display is opening , the backlight briefly lights up, but this is not a fault.	 Page 9
Turning Power On or Off	The power does not switch off by simply closing the display.	 Page 10
	The TMI-M990 stores the state before the ignition key switches off. For example, if the ignition key is switched from OFF to ON in NAVI. mode, then the NAVI. mode is activated.	 Page 10
Opening/Closing the Monitor	If OPEN/CLOSE / SETUP is pressed while the display is moving, then it stops. When it stops, press OPEN/CLOSE / SETUP again.	 Page 12
	The display automatically opens/closes depending on the status of the ignition key (engine key). For the setup operation, "Setting Automatic Opening/Closing of the Monitor", page 40.	 Page 12
	The display can be opened even when the power is off, but the power will not automatically turn on. See "Turning Power On or Off" (page 10) to turn on the power.	 Page 12
	Under cold temperature conditions, the screen may lose contrast temporarily. After a short warm-up period, it will return to normal.	 Page 12
	In low ambient temperature conditions, the display may be dark for a short period of time immediately after the power is turned on. Once the LCD has warmed up, the display returns to normal.	 Page 12

TITLE	Description	Related page
Adjusting the Monitor Viewing Angle	If the monitor touches an obstacle while the angle is being adjusted, the unit stops the screen immediately. Should this happen, remove the obstacle and press ∇ / TILT or ∧ / TILT again.	 Page 14
	The screen color will vary when viewed at certain angles. Adjust the screen angle for the best viewing position.	 Page 14
	If the voltage of the vehicle's battery power is low, the screen may blink when the screen angle is changed. This is normal and not a malfunction.	 Page 14
	The display angle is also allowed to adjust while turning power off.	 Page 14
Adjusting the Volume	The factory settings for the sound volume is minimum.	 Page 15
Switching the Source	In the AUX mode, if you press BAND/SETUP on the supplied remote control, you can change between AUX-1, 2, 3. ☐ → AUX-1 → AUX-2 → AUX-3 ☐	 Page16
Switching Display Modes	In the setup screen, etc., the display mode enters Wide mode. After exiting from the setup operation, the display mode returns to the original display mode.	 Page17
	In the navigation screen, the display mode is not allowed to be switched.	 Page17

Other Useful Features



About VISUAL EQ™

The Parking Brake must be engaged to access the Setup screen. Attempting to access this screen while driving will display the warning – CAN'T OPERATE WHILE DRIVING.

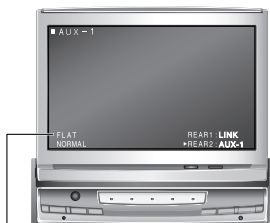
Use VISUAL EQ to create the best image by compensating for the ambient light conditions, then store your settings on the TMI-M990.



- 1 Select VISUAL EQ ON mode by pressing **VISUAL EQ**.

VISUAL EQ ON ↔ OFF

<Example of VISUAL EQ ON screen>



When switched ON, the selected VISUAL EQ property name is displayed.

- “OFF” is set on this unit when the power is turned on. Press **VISUAL EQ** to display “FLAT”.



V.EQ 0

- Press and hold **VISUAL EQ** for at least 2 seconds. The VISUAL EQ SETUP screen is displayed, and various VISUAL EQ settings can be made.

<Example of VISUAL EQ SETUP screen>



V.EQ 0

2Sec

- To exit VISUAL EQ SETUP, press and hold **VISUAL EQ** for more than 2 seconds. The screen returns to normal mode.

- If you select OFF in step 1, then VISUAL EQ settings etc. cannot be performed.

V.EQ 0

2Sec

Selecting the VISUAL EQ™ Property



- Select VISUAL EQ ON mode by pressing **VISUAL EQ**.

VISUAL EQ ON ⇄ OFF

- When VISUAL EQ is ON, the selected VISUAL EQ property name is displayed. (See page 20)
- “OFF” is set on this unit when the power is turned on. Press **VISUAL EQ** to display “FLAT”.



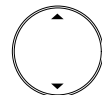
V.EQ 0

- Press and hold **VISUAL EQ** for at least 2 seconds. The VISUAL EQ SETUP screen is displayed.

V.EQ 0

2Sec

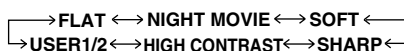
- Press **OPEN/CLOSE / SETUP** and select VISUAL EQ.



Continued

Other Useful Features

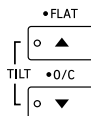
- 4 Select your preferred VISUAL EQ property with either
▼ / TILT or ▲ / TILT.

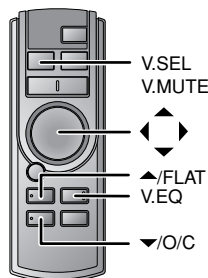
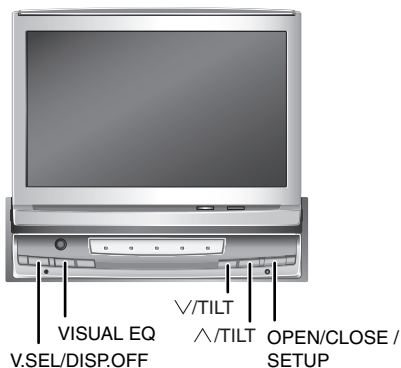


- FLAT:** Flat image.
- NIGHT MOVIE:** Brightens up a dark scene. Suitable for movies with a lot of dark scenes.
- SOFT:** Suppresses screen glare. Suitable when watching CG or animation.
- SHARP:** Sharpens the picture. Suitable when the picture is not clear.
- HIGH CONTRAST:** Increases the screen contrast. Suitable for new movies.
- USER 1/2:** Accesses the adjustment value stored in “Adjusting and Storing VISUAL EQ™” (page 23).

- 5 Press and hold **VISUAL EQ** for at least 2 seconds. The screen returns to normal mode.

- You can set VISUAL EQ for each picture source such as DVD. (VISUAL EQ cannot be set in RGB navigation mode, backup camera interruption mode.)





Adjusting and Storing VISUAL EQ™

You can store up to two of your image adjustments. The picture brightness, colour, tint, contrast and sharpness can be adjusted.



- 1 Press **VISUAL EQ** to select the VISUAL EQ ON mode.

VISUAL EQ ON ⇄ OFF

- When VISUAL EQ is ON, the selected VISUAL EQ property name is displayed. (See page 20)
- “OFF” is set on this unit when the power is first turned on. Press **VISUAL EQ** to display “FLAT”.

- 2 Press and hold **VISUAL EQ** for at least 2 seconds. The VISUAL EQ SETUP screen is displayed.



V.EQ

V.EQ

2Sec

Continued

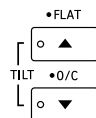
Other Useful Features

- 3** Press **OPEN/CLOSE / SETUP** or **VISUAL EQ**, and select an item to adjust from **BRIGHT**, **COLOR**, **TINT**, **CONTRAST**, **SHARPNESS**.

When you press **OPEN/CLOSE / SETUP**, you move to the next item, press **VISUAL EQ** to move to the previous item.

- For details on each item, see the **General Setup Operation** “Adjusting Brightness”, “Adjusting Colour of Picture”, “Adjusting Tint of Picture”, “Adjusting Display Contrast”, “Adjusting the Sharpness” (page 36 to 38).

- 4** Adjust the selected item by pressing **∇ / TILT** or **∧ / TILT**.



- 5** When adjusting another item, repeat steps 3 and 4.

- 6** When the picture settings are complete, press **OPEN/CLOSE / SETUP** or **VISUAL EQ** and select **V.EQ MEMORY**.

When you press **OPEN/CLOSE / SETUP**, you move to the next item, press **VISUAL EQ** to move to the previous item.

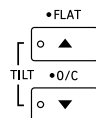


- 7** Select the **USER1** or **USER2** mode by pressing **∇ / TILT** or **∧ / TILT**.



CUSTOM is displayed while adjusting.

USER1 or **USER2** mode.



8 Press **V.SEL/DISP.OFF**.

The stored adjustments are applied to the current video image.



9 After setting, press and hold **VISUAL EQ** for at least 2 seconds.

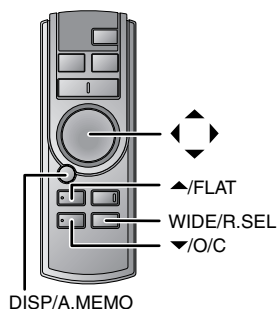
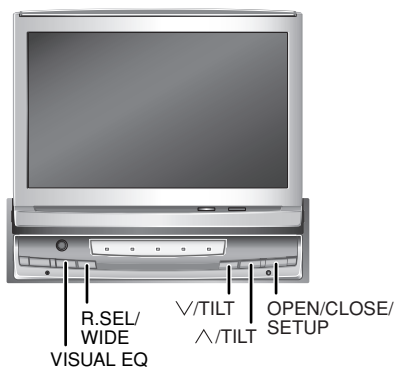
The screen returns to the previous one.



- To recall the stored adjustment values, see “Selecting the VISUAL EQ™ Property” (page 21).
- After selecting the manufacturer’s setting of VISUAL EQ property (NIGHT MOVIE etc.), the property can be adjusted and saved. While adjusting, CUSTOM is displayed.

Supplement See page 32 for supplementary information.

Other Useful Features



About REAR SELECTOR

With a Rear monitor connected to the TMI-M990, its adjustments may be set using the REAR SELECTOR screen. The following steps 1 to 4 are common operations for the REAR SELECTOR screen. Refer to each section for details.

< REAR SELECTOR standard operation >



- 1 Press **R.SEL/WIDE**.
The screen changes to the REAR SELECTOR screen.



• R.SEL

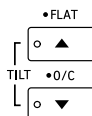
WIDE

2Sec

- 2** Press **OPEN/CLOSE / SETUP** or **VISUAL EQ** and select the item to set.
When you press **OPEN/CLOSE / SETUP**, you move to the next item, press **VISUAL EQ** to move to the previous item.



- 3** Change the setting item by pressing **∇ / TILT** or **∧ / TILT**.



- 4** After setting, press **R.SEL/WIDE**.
The screen returns to the previous one.



Rear monitor 1 (AUX OUT1),
Rear monitor 2 (AUX OUT2)
status display. (See page 28)

Remote control output display
When rear monitor remote control
operation is valid, ► indicator is dis-
played. (See page 29)

- When you press **DISP./A.MEMO** on the remote control unit, the current status is displayed.
The displayed items are the source (page 16), the display modes (page 17) and the **VISUAL EQ** property (page 21) other than the rear monitor status.

Supplement See page 32 for supplementary information.

Other Useful Features

Rear Entertainment function

The Rear Entertainment function independently routes different sources to the front and the rear of the car. For example, while listening to the radio or other audio source in the front, DVD can be enjoyed in the rear with the optional rear monitor and headphones.

Setting item: **AUX OUT1, AUX OUT2**

AUX OUT1*¹: Select the source, from the list below, that is output to AUX OUT1.

AUX OUT2: Select the source, from the list below, that is output to AUX OUT2.

Setting content: **LINK, NAVI., AUX-1, AUX-2, AUX-3, DVD**

LINK: The picture and sound being shown on the TMI-M990 is output to the rear monitor.

NAVI.: The picture and sound from the Navigation is output to the rear monitor. (Only when the Navigation is connected)

AUX-1*²: Any A/V source unit (TV, VCR, Video Game, etc.)

AUX-2*²: Any A/V source unit (TV, VCR, Video Game, etc.)

AUX-3*²: Any A/V source unit (TV, VCR, Video Game, etc.)

DVD*³: The picture from the S video output compatible Alpine head unit is output to the rear monitor.

*¹ If not connected to an IONBUS compatible head unit, AUX OUT1 is fixed to LINK. It is then used as audio output for the front (TMI-M990).

*² Only displayed when AUX IN 1, 2, 3 SIG. ON (See page 45).

*³ Only displayed when S-IN SIG. ON (See page 45).

Switching the Function of the Remote Sensor

The remote sensors of the external unit (monitor, etc.), can be selected for Remote control operation from the external unit.

Setting item: *REM.CON IN*

Setting content: *FRONT, REAR-1, REAR-2*

FRONT: The remote control sensor on the main unit is enabled. Remote control operation from any external monitor is disabled.

REAR-1*⁴: The remote sensor of the external monitor connected to AUX OUT1 is enabled. Remote control operation of the source selected for AUX OUT1 only, is possible.

REAR-2: The remote sensor of the external monitor connected to AUX OUT2 is enabled. Remote control operation of the source selected for AUX OUT2 only, is possible.

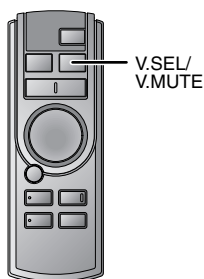
*⁴ Can be set only when an IONBUS compatible head unit is connected.

- When set to REAR-1/2, remote control operation cannot be performed on the FRONT (TMI-M990). In this case, perform operation with the buttons of the TMI-M990 main unit.

Other Useful Features



V.SEL/DISP.OFF



V.SEL/
V.MUTE

Switching the Visual Source Only (Simultaneous Function)

When an IONBUS compatible head unit is connected, you can watch the video portion of another source while listening to the current source.

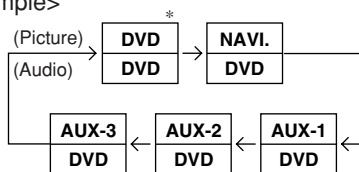
On the TMI-M990, you can watch video from the AUX or NAVI. while listening to the FM, AM or a CD on the head unit.



- 1 Change to your preferred source (FM, AM, CD etc.) on the head unit.
For details, see the head unit operating instructions.

- 2 Press **V.SEL/DISP.OFF**.
The TMI-M990 picture source changes each time it is pressed.

<Example>



* When simultaneous is off.

V.SEL
• V.MUTE

- The simultaneous function can only be used when an IONBUS compatible head unit is connected.
- To output the AUX, NAVI. mode sound of TMI-M990 during simultaneous operation, change the head unit source to AUX, NAVI. mode. See **(Operating from the Head Unit. “Switching the Source”, page 49).**
- When the simultaneous function is active and you change the head unit source, only the audio is switched and the simultaneous function is not cleared. To clear the simultaneous function, press **V.SEL/DISP.OFF** on the main unit to switch to video and audio from the same source.
The simultaneous function can also be cleared by linking to when the DVI-9990R/DVI-9990E source switches. (**General Setup Operation** “Head Unit Linked Functions” page 43)

Blackout Mode On and Off

When Blackout mode is turned on, the display will turn off. The backlight life can be extended.



The following operation is performed with the supplied remote control.

- 1 Press and hold **V.SEL/V.MUTE** for at least 2 seconds to start the blackout mode. By doing so the display will turn off.
-
- 2 To cancel Blackout mode, press and hold **V.SEL/V.MUTE** for at least 2 seconds.
 - If any button on the unit is pressed during Blackout mode, the function will be displayed for 5 seconds to show the operation before returning to Blackout mode.

[When an IONBUS Compatible Head Unit is Connected]






Operation can be performed with either the main unit switch or the remote control. The main unit switch operation is as follows.

- 1 Press and hold **V.SEL/DISP.OFF** for at least 2 seconds to start the blackout mode. By doing so the display will turn off.
-
- 2 To cancel Blackout mode, press and hold **V.SEL/DISP.OFF** for at least 2 seconds.
 - If any button on the unit is pressed during Blackout mode, the function will be displayed for 5 seconds to show the operation before returning to Blackout mode.

Supplement See page 32 for supplementary information.

Other Useful Features

Supplementary information	This page includes supplementary information for pages 20 to 31. Please refer to these pages.	
TITLE	Description	Related page
Adjusting and Storing VISUAL EQ	<p>Adjusting and storing of VISUAL EQ can also be made from the setup. The procedure is below. For more details, see the General Setup Operation.</p> <p>Operation from the main unit</p> <ol style="list-style-type: none"> 1 Press and hold OPEN/CLOSE / SETUP for at least 2 seconds. 2 Press VISUAL EQ or OPEN/CLOSE / SETUP, and select an item to adjust from BRIGHT, COLOR, TINT, CONTRAST, SHARPNESS. 3 Adjust the image by pressing ∇ / TILT or ∧ / TILT. 4 When adjusting another item, repeat steps 2 and 3. 5 When the picture settings are complete, press VISUAL EQ or OPEN/CLOSE / SETUP and select V.EQ MEMORY. 6 Press ∇ / TILT or ∧ / TILT to select USER1 or USER2 mode. 7 Press V.SEL/DISP.OFF. The image adjustments are stored in the selected mode. 8 After setting, press and hold OPEN/CLOSE / SETUP for at least 2 seconds. The screen returns to the previous one. <p>Operation from the remote control</p> <ol style="list-style-type: none"> 1 Press and hold BAND/SETUP for at least 2 seconds. 2 Press ▼ or ▲, and select an item to adjust from BRIGHT, COLOR, TINT, CONTRAST, SHARPNESS. 3 Adjust the image by pressing ◀ or ▶. 4 When adjusting another item, repeat steps 2 and 3. 5 When the picture settings are complete, press ▼ or ▲ and select V.EQ MEMORY. 6 Press ◀ or ▶ to select USER1 or USER2 mode. 7 Press V.SEL/V.MUTE. The image adjustments are stored in the selected mode. 8 After setting, press and hold BAND/SETUP for at least 2 seconds. The screen returns to the previous one. 	 Page 23
About REAR SELECTOR	The REAR SELECTOR function which switches the source of the rear monitor is allowed to set while driving.	 Page 26
Blackout Mode On and Off	When using the head unit BLACK OUT function, the main unit switch and the input indicator illumination turn off.	 Page 31

Setup

About the Setup

There are a number of setup functions available in the TMI-M990.

- For example, a sound is made when a switch is pressed, or a beep sound can be set ON/OFF when a command is received. In this way, you can change your preferred settings.

<Setup menu chart>

Setting item	Setting content	Page
Picture brightness adjustment	BRIGHT ± 0 (-15~+15)	EP 36
Picture colour adjustment*1	COLOR ± 0 (-15~+15)	EP 37
Picture tint adjustment*1	TINT ± 0 (G15~R15)	EP 37
Display contrast adjustment	CONTRAST ± 0 (-15~+15)	EP 37
Picture sharpness adjustment*1	SHARPNESS ± 0 (-15~+15)	EP 38
Store the image adjustments	V.EQ MEMORY USER1/USER2	EP 38
Illumination brightness setting	DIMMER ON/OFF/(AUTO)*2	EP 39
Illumination level setting	DIMMER Lvl. ± 0 (-2~+2)	EP 39
Display brightness adjustment	BACKLIGHT DIMMER AUTO/OFF	EP 40
Automatic display opening/closing	AUTO OPEN AUTO/CLOSE/ OFF	EP 40
Adjusting the display back and forwards	SLIDE BACK /FRONT	EP 41
Adjusting the display angle	TILT 1~10	EP 41
External input setting	AUX IN1, 2, 3 SIG. ON/OFF*3	EP 45
AUX 1,2,3 display change setting	NAME AUX-1, (2, 3) /DVD/VCR/GAME/TV/CAMERA*4	EP 45
NTSC/PAL switching settings	SIGNAL NTSC/PAL	EP 46
External input audio level setting*5	INPUT GAIN HIGH/LOW	EP 45
S video input setting	S-IN SIG. ON/OFF*6	EP 45
S-IN display change setting	NAME DVD/VCR/GAME/TV/AUX	EP 46
Operation sound setting	BEEP ON/OFF	EP 41
Illumination colour setting	ILLUMINATION BLUE/GREEN/AMBER/(AUTO) *2	EP 42
Navigation interruption mode setting	NAVI INT. AUTO/VOICE/OFF	EP 42
Navigation voice interrupt volume adjustment*7	NAVI MIX LEVEL +7 (OFF, +1~+15)	EP 42
Head unit link function*7	BUS AUTO OFF/ON/AUTO	EP 43

Bold indicates the factory setting positions.

*1 Cannot be set in the RGB Navigation mode.

*2 AUTO is displayed only when an IONBUS compatible head unit is connected. The factory setting position is AUTO.

*3 The factory setting position for AUX IN2 and 3 is OFF.

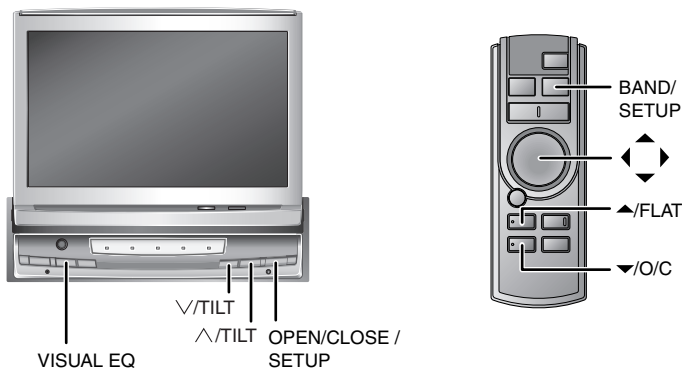
*4 CAMERA is displayed with AUX-3.

*5 When the system switch is set to "STANDALONE", the setting is fixed to HIGH.

*6 When connecting an IONBUS compatible head unit, the setting is fixed to ON.

*7 Can only be set when an IONBUS compatible head unit is connected.

Setup



General Setup Operation

The Parking Brake must be engaged to access the Setup screen. Attempting to access this screen while driving will display the warning – CAN'T OPERATE WHILE DRIVING.

The following steps 1 to 4 are common operations to each “Setting item” of GENERAL Setup. Refer to each section for details.

< GENERAL Setup Standard Operation >



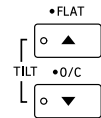
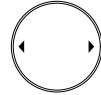
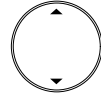
- 1 Press and hold **OPEN/CLOSE / SETUP** for at least 2 seconds.
The GENERAL SETUP screen is displayed.



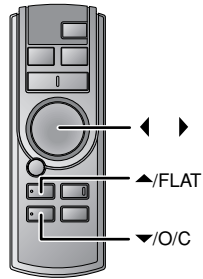
- 2** Press **VISUAL EQ** or **OPEN/CLOSE / SETUP**, and select the item you wish to set.
When you press **OPEN/CLOSE / SETUP**, you move to the next item, press **VISUAL EQ** to move to the previous item.

- 3** Press **∇ / TILT** or **∧ / TILT** to change the settings.

- 4** After setting, press and hold **OPEN/CLOSE / SETUP** for at least 2 seconds.
The screen returns to the previous one.



Setup



Before performing each setting, please refer to “Setup menu chart” on page 33 and “GENERAL Setup Standard Operation” on page 34.

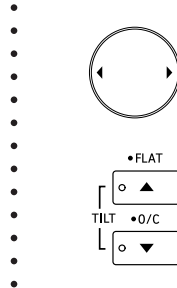
Adjusting Brightness

Setting item: **BRIGHT**

Setting content: **-15 ~ +15**



Adjust the brightness from -15 to +15 by pressing ∇/TILT or ▲/TILT.



Adjusting Colour of Picture

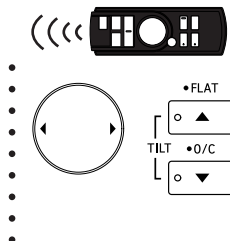
Setting item: *COLOR*

Setting content: *-15 ~ +15*



Adjust the color from -15 to $+15$ by pressing ∇ / TILT or \blacktriangle / TILT.

- Colour adjustment cannot be made if a Navigation system with the RGB feature is connected.



Adjusting Tint of Picture

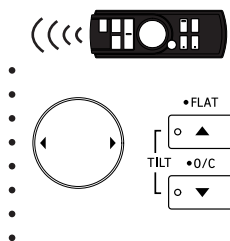
Setting item: *TINT*

Setting content: *G15 ~ R15*



Adjust the tint from G15 to R15 by pressing ∇ / TILT or \blacktriangle / TILT.

- Tint adjustment cannot be made if a Navigation system with the RGB feature is connected.



Adjusting Display Contrast

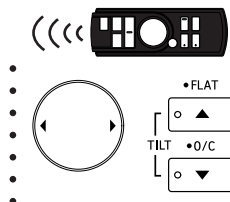
You can adjust the display contrast for better visibility.

Setting item: *CONTRAST*

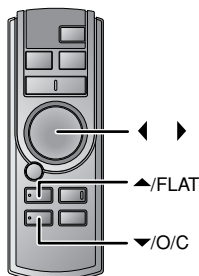
Setting content: *-15 ~ +15*



Adjust the contrast from -15 to $+15$ by pressing ∇ / TILT or \blacktriangle / TILT.



Setup



Before performing each setting, please refer to “Setup menu chart” on page 33 and “GENERAL Setup Standard Operation” on page 34.

Adjusting the Sharpness

Setting item: SHARPNESS

Setting content: -15 ~ +15

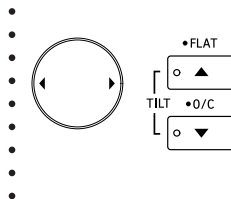


Adjust the sharpness from -15 to +15 by pressing ▼/TILT or ▲/TILT.

When decreasing Sharpness, the image softens.

When increasing Sharpness, the image sharpens.

- Sharpness adjustment cannot be made if a Navigation system with the RGB feature is connected.



Storing the Adjusted VISUAL EQ

You can select either USER1 or USER2 to store your preferred adjusted settings for VISUAL EQ.

Setting item: V. EQ MEMORY

Setting content: USER1/USER2

Setting the Illumination Brightness

When the lights are switched on at night etc., the switch and Input indicator brightness of the TMI-M990 can be dimmed.

Setting item: *DIMMER*

Setting content: *ON/OFF/AUTO*

- ON: The switch and indicator brightness of the TMI-M990 change to the value set in “Adjusting the Illumination Level” (refer to this page).
- OFF: The illumination brightness does not change.
- AUTO*: When the car lights are switched ON, the switch and input indicator brightness on the TMI-M990 become dimmer. The brightness changes to the value set in “Adjusting the Illumination Level” (refer to this page).

* Can only be set when connected to an IONBUS compatible head unit. Does not operate when the head unit illumination cable is not connected.

Adjusting the Illumination Level

The switch and indicator brightness of the TMI-M990 can be adjusted on the TMI-M990. For example, used when slightly adjusting the brightness while driving at night etc..

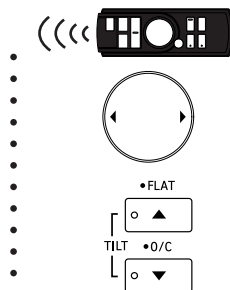
Setting item: *DIMMER Lvl.*

Setting content: *-2 ~ +2*

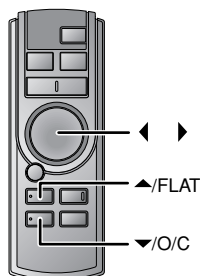


The illumination dimmer level can be adjusted by pressing ∇ / *TILT* or \blacktriangle / *TILT*.

-2 ~ +2: When adjusting in a minus direction, the illumination becomes darker. When adjusting in a plus direction, the illumination becomes brighter.



Setup



Before performing each setting, please refer to "Setup menu chart" on page 33 and "GENERAL Setup Standard Operation" on page 34.

Illumination Control

The back light (fluorescent light) built in the liquid crystal panel is switched to the brightness of the car inside to be easy to be seen.

Setting item: *BACKLIGHT DIMMER*

Setting content: *AUTO/OFF*

AUTO: Adjust the brightness of the background illumination of the monitor automatically to the brightness of the car inside.

OFF: Deactivate Auto Dimmer mode to keep the background illumination of the monitor bright.

Setting Automatic Opening/Closing of the Monitor

Setting item: *AUTO OPEN*

Setting content: *OFF/AUTO/CLOSE*

OFF: The monitor is manually opened or closed by pressing OPEN/CLOSE / SETUP.

AUTO: The display automatically opening/closing depending on the status of the ignition key (engine key).

CLOSE: The monitor automatically closes when the ignition key is turned OFF. (The monitor can be opened manually by pressing OPEN/CLOSE / SETUP.)

Selecting the Monitor Opening Angle

Setting item: *SLIDE*

Setting content: *BACK/FRONT*

- For details, see “Adjusting the Display Back and Forwards”, page 13.

Adjusting the Monitor Viewing Angle

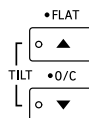
Setting item: *TILT*

Setting content: *1 ~ 10*



Press ∇ / **TILT** or \blacktriangle / **TILT** and adjust to an angle (10 levels) that is easily viewable.

- The display angle can be adjusted by pushing the main unit switches ∇ / **TILT** or \blacktriangle / **TILT**, or the remote control switches \blacktriangledown / **TILT** or \blacktriangle / **TILT**. For details, see “Adjusting the Monitor Viewing Angle”, page 14.



Sound (Beep) Guide Function

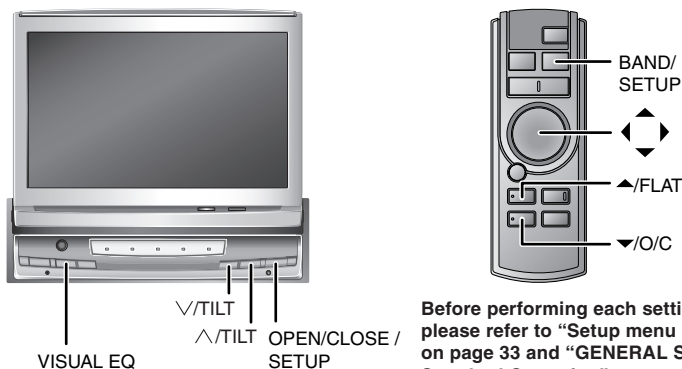
Setting item: *BEEP*

Setting content: *ON/OFF*

ON: Activate the Sound Guide mode.

OFF: Deactivate the Sound Guide mode. The sound guide beep will not be produced when a button on the unit is pressed.

Setup



Before performing each setting, please refer to "Setup menu chart" on page 33 and "GENERAL Setup Standard Operation" on page 34.

Changing Lighting Colour

The illumination colour of the switch and input indicators of the TMI-M990 can be selected from one of three colours. Also, if connected with an IONBUS compatible head unit (DVI-9990R/DVI-9990E), the head unit illumination colour can be linked.

Setting item: *ILLUMINATION*

Setting content: *BLUE/GREEN/AMBER/AUTO*

BLUE*¹: The illumination is set to BLUE.

GREEN*¹: The illumination is set to GREEN.

AMBER*¹: The illumination is set to AMBER.

AUTO*²: The illumination automatically changes to the colour set in the head unit.

*¹ When an IONBUS compatible head unit is connected, the head unit illumination color is linked to the setting above.

*² Auto is valid if connected with the IONBUS compatible head unit (DVI-9990R/DVI-9990E).

Navigation Interruption

With an Alpine navigation system connected to the TMI-M990, the voice guidance of the navigation system will be mixed with the external input such as DVD play.

Setting item: *NAVI INT.*

Setting content: *AUTO/VOICE/OFF*

AUTO: The navigation picture and voice guidance interrupt.

VOICE: Only the voice interrupts.

OFF: The navigation interruption mode is turned off.

Navigation Audio Interruption Volume Adjustment

You can adjust the volume level of the voice guidance.

Setting item: *NAVI MIX LEVEL*

Setting content: *+ 7 (OFF, +1~+15)*

- Can only be set when an IONBUS compatible head unit is connected.

Head Unit Linked Functions

The simultaneous operation on the main unit can be linked to IONBUS compatible head unit source switching and cleared.

Setting item: *BUS AUTO*

Setting content: *OFF/ON/AUTO*

- OFF: The main unit performs normal simultaneous operation.
- ON: Simultaneous function is performed when the video is in navigation mode only. When the source is other video sources, the main unit simultaneous operation is cleared linking to the source switching of the head unit.
- AUTO: The main unit simultaneous operation is cleared linking to the source switching of the head unit.

- Can only be set when an IONBUS compatible head unit is connected.
- For information on the simultaneous function, see “Switching the Visual Source Only (Simultaneous Function)”, page 30.

AUX IN/S-IN SETUP

The following steps 1 to 6 are for the standard AUX IN/S-IN setup. For details on the setup item details, see each setting item.

< AUX IN/S-IN Setup standard operation >



- 1** Press and hold **OPEN/CLOSE / SETUP** for at least 2 seconds.
The GENERAL SETUP screen is displayed.

- 2** Press **OPEN/CLOSE / SETUP** or **VISUAL EQ**, and select the preferred item setting from AUX IN 1, 2, 3 SIG. or S-IN SIG.

When you press OPEN/CLOSE / SETUP, you move to the next item, press VISUAL EQ to move to the previous item.



Continued

Setup

- 3** Press **∇ / TILT** or **∧ / TILT**.
The AUX IN 1, 2, 3 or S-IN SETUP screen is displayed.

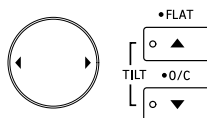
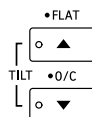
<AUX IN1 SETUP screen example>



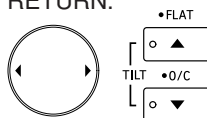
- 4** Press **VISUAL EQ** or **OPEN/CLOSE / SETUP**, and select the preferred item setting.
When you press **OPEN/CLOSE / SETUP**, you move to the next item, press **VISUAL EQ** to move to the previous item.

- 5** Change the setting by pressing **∇ / TILT** or **∧ / TILT**.

- 6** To return to the **GENERAL SETUP** screen, press **∇ / TILT** or **∧ / TILT** after selecting **RETURN**.
To exit the setup, press and hold **OPEN/CLOSE / SETUP** for at least 2 seconds.



To return to the **GENERAL SETUP** screen, select **RETURN**.



To exit the setup:



Before performing each setting, please refer to “Setup menu chart” on page 33 and “AUX IN/S-IN setup standard operation” on page 43.

Setting the AUX Mode

Setting item: *AUX IN 1, 2, 3, SIG.*

Setting content: *ON/OFF*

ON: AUX source is displayed.

OFF: AUX source is not displayed.

Name External Equipment to be Displayed (AUX)

When at least one external device is connected, you can name each as you like.

Setting item: *NAME*

Setting content: *AUX-1, (2, 3)/DVD/VCR/GAME/TV*1/CAMERA*2*

*1 To connect with a TV unit, refer to “TV operations” page 47.

*2 CAMERA is only displayed in AUX-3 mode. Set to CAMERA when the back camera is connected.

- Can be only when AUX IN 1, 2, 3 SIG. is ON.

External Input Audio Level Adjustment

Setting item: *INPUT GAIN*

Setting content: *HIGH/LOW*

HIGH: Set external input audio level to high.

LOW: Set external input audio level to low.

- Can be set when AUX IN 1, 2, 3 SIG. ON.
- Cannot be set to LOW, when the system switch is set to STANDALONE. (Refer to “About the system switch” (page 58).)

Setting the S-IN Mode

Setting item: *S-IN SIG.*

Setting content: *ON/OFF*

ON: Display S video output compatible ALPINE head unit source.

OFF: Do not display S video output compatible ALPINE head unit.

- Set when connecting to a S video output compatible head unit.
- You cannot set to OFF when connected to an IONBUS compatible head unit.
- If connected with a DVI-9990R/DVI-9990E, set “Changing Video Output” on the S-VIDEO of DVI-9990R/DVI-9990E. For details, refer to the DVI-9990R/DVI-9990E instructions manual.

Setup

Name the S video input to be displayed (S-IN)

If a S video output compatible ALPINE head unit is connected, you can attach a display name you like.

Setting item: *NAME*

Setting content: *AUX/DVD/VCR/GAME/TV*

- Only valid when S-IN SIG. is ON.
- Not displayed when changing the source.
You can check the display by pressing **DISP/A.MEMO** on the remote control.

Switching Between NTSC and PAL Configuration

Switch the video output configuration to NTSC or PAL according to the type of television and the disc recording method.

Setting item: *SIGNAL*

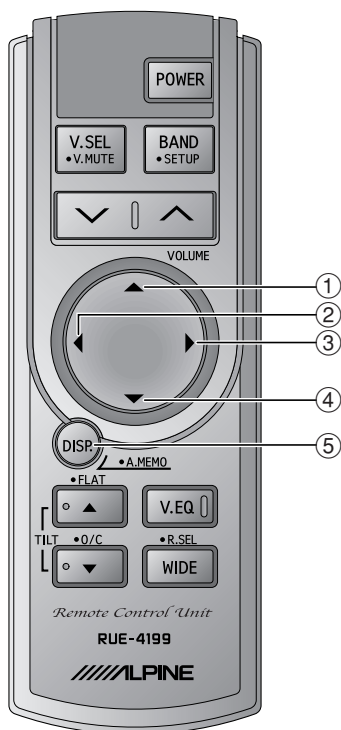
Setting content: *NTSC/PAL*

- The system is set to NTSC at time of shipment from the factory. (AUX-2's default setting is PAL.) Switch to PAL if required.
- The image output configuration must be correct. Otherwise the following message appears and playback does not start: "VIDEO SIGNAL SYSTEM IS NOT CORRECT".

TV (Optional)

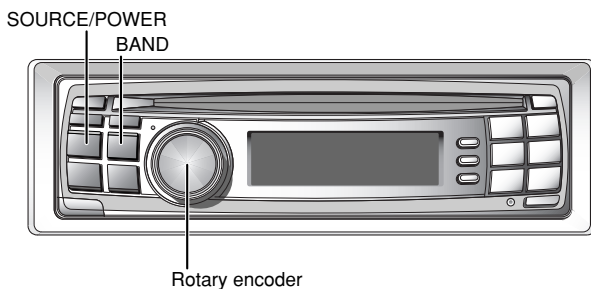
TV Operation

When connected with a TV unit (sold separately), you can use the remote control supplied with the TMI-M990 to operate the TV. Set the AUX NAME to TV. Refer to (Setup "Name External Equipment to be Displayed (AUX) page 45).



- ① ▲ Button
Preset selection UP
- ② ◀ Button
Channel station selection DOWN
Long press for automatic selection
- ③ ▶ Button
Channel station selection UP
Long press for automatic selection
- ④ ▼ Button
Preset selection DOWN
- ⑤ DISP/A.MEMO Button
Check channel no.
Long press for auto memory

Operating from the Head Unit



<Ex: DVI-9990R>

Operating from the Head Unit

This operation can also be performed from an ALPINE IONBUS compatible head unit. Also refer to the head unit operating instructions.

To customers in Europe:

The TMI-M990 can be operated with the DVI-9990R and RUE-4197 (remote control supplied with the Head Unit).

To customers outside Europe:

The TMI-M990 can be operated with the DVI-9990E and RUE-4200 (remote control supplied with the Head Unit).

List of possible operations from the head unit

Switch	Operation explanation
SOURCE/POWER	Changes the picture source
BAND	Changes between AUX and Navigation mode
Rotary encoder	Volume adjustment

- Using the remote control supplied with the head unit, you can operate the same way as using switches on the head unit. (H/U selector switch on the rear side of the remote control)

Switching the Source



Operation is performed from an ALPINE IONBUS compatible head unit.

- 1 Press **SOURCE/POWER**.

→ TUNER →  AUX → DVD →

- 2 Press **BAND** in AUX mode, and change the AUX mode.

→ NAVI. → AUX-1 → AUX-2 → AUX-3 →

Adjusting the Volume



Operation is performed from an ALPINE IONBUS compatible head unit.

- 1 The volume is adjusted by rotating the **Rotary encoder**.

Operating from the Head Unit

Operating the Head Unit with the Remote Control

The main unit can be operated with the remote control supplied with the head unit.

● Remote control operation list

RUE-4197

	Operation explanation	Page
◀▶*	Channel selection etc. Press and hold for automatic channel selection.	—
▲▼*	Preset selection etc.	—
▶/ *	Auto memory	—
A.PROC.	Switch display mode	17
	Press and hold to access/exit the REAR SELECTOR screen.	26
BAND*	Switching the TV band	—
Joystick	Press ↑, ↓ to select the adjusting items. Press ←, → to adjust the item and/or change the setting.	23, 26, 34, 43
TITLE	Accessing VISUAL EQ mode	20
	Press and hold to access/exit the VISUAL EQ SETUP screen.	23
V.SEL.	Switch V. SEL (Simultaneous Function)/In the VISUAL EQ SETUP screen, the adjusted VISUAL EQ value is stored.	30/23
	Press and hold to turn the backlight off/on.	31
■*	Switches the power of the TV Tuner ON/OFF	—
MENU/SETUP	Press and hold down continuously to access/exit the SETUP screen.	33
TOP.M/DISP	Video source, display mode, etc. indication.	27
	Long press for auto memory**.	—
DEL.*	Memorizes the channel.	—
+10	Press and hold to open/close the display.	12
AUDIO	Display angle DOWN	14, 41
	Press and hold to open/close the display.	12
ANGLE	Display angle UP	14, 41
	Press and hold to make the display go flat.	15
SUBT.	Adjusting the display back and forwards	13, 41
POWER	Press and hold to switch between NTSC/PAL.	46

* Valid when connected with a TV unit (sold separately).

** Depending on the TV unit connected.

- Change the switch on the back of the remote control to “TV MONI.” and operate.

RUE-4200

	Operation explanation	Page
A.PROC.	Switch display mode	17
	Press and hold to access/exit the REAR SELECTOR screen.	26
Joystick	Press ↑, ↓ to select the adjusting items. Press ←, → to adjust the item and/or change the setting.	23, 26, 34, 43
TITLE	Accessing VISUAL EQ mode	20
	Press and hold to access/exit the VISUAL EQ SETUP screen.	23
V.SEL.	Switch V. SEL (Simultaneous Function)/In the VISUAL EQ SETUP screen, the adjusted VISUAL EQ value is stored.	30/23
	Press and hold to turn the backlight off/on.	31
MENU/SETUP	Press and hold down continuously to access/exit the SETUP screen.	33
+10	Press and hold to open/close the display.	12
AUDIO	Display angle DOWN	14, 41
	Press and hold to open/close the display.	12
ANGLE	Display angle UP	14, 41
	Press and hold to make the display go flat.	15
SUBT.	Adjusting the display back and forwards	13, 41

- Change the switch on the back of the remote control to “TV MONI.” and operate.

In Case of Difficulty

If you encounter a problem, please turn the power off, then on again. If the unit is still not functioning normally, please review the items in the following checklist. This guide will help you isolate the problem if the unit is at fault. Otherwise, make sure the rest of your system is properly connected, or then consult your authorized Alpine dealer.

No function or display.

- Vehicle's ignition is off.
 - If connected according to the instructions, the unit will not operate with the vehicle's ignition off.
- Improper power lead connections.
 - Check power lead connections.
- Blown fuse.
 - Check the fuse on the battery lead of the unit; replace with the proper value if necessary.
- Internal micro-computer malfunctioned due to interference noise, etc.
 - Press the RESET switch with a ballpoint pen or other pointed article.

No sound or unnatural sound.

- Incorrect setting of volume controls.
 - Readjust the controls.
- Connections are not properly or securely made.
 - Check the connections and firmly connect.

Unclear picture display.

- Fluorescent tube is exhausted.
 - Replace the fluorescent tube*.
- * The fluorescent tube replacement is not free of charge even within the warranty period, for the tube is an article of consumption.

Screen not displayed.

- Brightness control is set at the minimum position.
 - Adjust the Brightness control.
- Temperature in the vehicle is too low.
 - Increase the vehicle's interior temperature to operation temperature range.
- Connections to the DVD, CD player, navigation system are not securely made.
 - Check the connections and firmly connect.

Movement of displayed picture is abnormal.

- Temperature in the vehicle is too high.
 - Allow the vehicle's interior temperature to cool.

Unclear or noisy display.

- Fluorescent plate is worn out.
 - Replace the fluorescent plate.

Navigation system inoperative.

- Connections to the navigation system are incorrect.
 - Check the connections with the navigation system and connect the cables correctly and firmly.

Indication

HI-TEMP

- Protective circuit is activated due to high temperature.
 - Leave the power OFF until the temperature decreases and then turn the power ON again.

Specifications

MONITOR SECTION

Screen Size	7.0"
LCD Type	Transparent type TN LCD
Operation System	Low temperature p-si TFT active matrix
Number of Picture Elements	1,152,000 pcs. (2,400 x 480)
Effective Number of Picture Elements	99.99% or more
Illumination System	Cold cathode fluorescent tube

AV-INTERFACE UNIT SECTION

S/N Ratio	
Video	40dB
Audio	50dB
Input Level	
Video	1 Vp-p (75Ω UNBALANCED)
Audio	1200mV (RMS)
Output Level	
Video	1 Vp-p (75Ω UNBALANCED)
Audio*	425mV (RMS) (AUX1 when the system switch is set to STANDALONE (VOL MAX)) 1200mV (RMS) (AUX1, AUX2 when the system switch is set to SYSTEM)

* AUX OUT (Audio) level: when the AUX IN level is 1200mV (RMS).

REMOTE CONTROL

Battery Type	“AAA” sized dry battery
Battery Quantity	2
Dimensions (W × H × D)	42 mm (1-21/32") × 121 mm (4-25/32") × 23 mm (29/32")
Weight (without battery)	50 g (1.8 oz)

GENERAL

Power Requirement	14.4V DC (11-16 V allowable)
Operating temperature	0°C to + 45°C (+32°F to +113°F)
Weight	
(Monitor Section)	1.7 kg (3 lbs. 12 oz)
(AV-Interface Unit Section)	530g (1 lb. 3 oz)

Information

CHASSIS SIZE (Monitor section)

Width	178 mm (7")
Height	50 mm (2")
Depth	165 mm (6-1/2")

CHASSIS SIZE (AV-Interface Unit section)

Width	160 mm (5-5/16")
Height	40 mm (1-9/16")
Depth	120 mm (4-3/4")

- Due to continuous product improvement, specifications and design are subject to change without notice.
- The LCD panel is manufactured using an extremely high precision manufacturing technology. Its effective pixel ratio is over 99.99%. This means that there is a possibility that 0.01% of the pixels could be either always ON or OFF.

Installation and Connections

Before installing or connecting the unit, please read the following and pages 3 to 5 of this manual thoroughly for proper use.

Warning

MAKE THE CORRECT CONNECTIONS

Failure to make the proper connections may result in fire or product damage.

USE ONLY IN CARS WITH A 12 VOLT NEGATIVE GROUND.

(Check with your dealer if you are not sure.) Failure to do so may result in fire, etc.

BEFORE WIRING, DISCONNECT THE CABLE FROM THE NEGATIVE BATTERY TERMINAL.

Failure to do so may result in electric shock or injury due to electrical shorts.

DO NOT SPLICE INTO ELECTRICAL CABLES.

Never cut away cable insulation to supply power to other equipment. Doing so will exceed the current carrying capacity of the wire and result in fire or electric shock.

DO NOT DAMAGE PIPE OR WIRING WHEN DRILLING HOLES.

When drilling holes in the chassis for installation, take precautions so as not to contact, damage or obstruct pipes, fuel lines, tanks or electrical wiring. Failure to take such precautions may result in fire.

DO NOT USE BOLTS OR NUTS IN THE BRAKE OR STEERING SYSTEMS TO MAKE GROUND CONNECTIONS.

Bolts or nuts used for the brake or steering systems (or any other safety-related system), or tanks should NEVER be used for installations or ground connections. Using such parts could disable control of the vehicle and cause fire etc.

KEEP SMALL OBJECTS SUCH AS BOLTS OR SCREWS OUT OF THE REACH OF CHILDREN.

Swallowing them may result in serious injury. If swallowed, consult a physician immediately.

DO NOT INSTALL IN LOCATIONS WHICH MIGHT HINDER VEHICLE OPERATION, SUCH AS THE STEERING WHEEL OR SHIFT LEVER.

Doing so may obstruct forward vision or hamper movement etc. and results in serious accident.

Installation and Connections

Caution

HAVE THE WIRING AND INSTALLATION DONE BY EXPERTS.

The wiring and installation of this unit requires special technical skill and experience. To ensure safety, always contact the dealer where you purchased this product to have the work done.

USE SPECIFIED ACCESSORY PARTS AND INSTALL THEM SECURELY.

Be sure to use only the specified accessory parts. Use of other than designated parts may damage this unit internally or may not securely install the unit in place. This may cause parts to become loose resulting in hazards or product failure.

ARRANGE THE WIRING SO IT IS NOT CRIMPED OR PINCHED BY A SHARP METAL EDGE.

Route the cables and wiring away from moving parts (like the seat rails) or sharp or pointed edges. This will prevent crimping and damage to the wiring. If wiring passes through a hole in metal, use a rubber grommet to prevent the wires insulation from being cut by the metal edge of the hole.

DO NOT INSTALL IN LOCATIONS WITH HIGH MOISTURE OR DUST.

Avoid installing the unit in locations with high incidence of moisture or dust. Moisture or dust that penetrates into this unit may result in product failure.

Precautions

- Be sure to disconnect the cable from the (-) battery post before installing your TMI-M990. This will reduce any chance of damage to the unit in case of a short-circuit.
- Be sure to connect the colour coded leads according to the diagram. Incorrect connections may cause the unit to malfunction or damage to the vehicle's electrical system.
- When making connections to the vehicle's electrical system, be aware of the factory installed components (e.g. on-board computer). Do not tap into these leads to provide power for this unit. When connecting the TMI-M990 to the fuse box, make sure the fuse for the intended circuit of the TMI-M990 has the appropriate amperage. Failure to do so may result in damage to the unit and/or the vehicle. When in doubt, consult your ALPINE dealer.
- The TMI-M990 uses female RCA-type jacks for connection to other units (e.g. amplifier) having RCA connectors. You may need an adaptor to connect other units. If so, please contact your authorized ALPINE dealer for assistance.
- The Display must be completely retracted in the casing when installing. If it is not, problems may occur.
- When installing in automobiles, make sure the Display can open/close without coming in contact with the gear shift.

IMPORTANT

Please record the serial number of your unit in the space provided below and keep it as a permanent record. The serial number plate is located on the bottom of the unit.

SERIAL NUMBER: _____
INSTALLATION DATE: _____
INSTALLATION TECHNICIAN: _____
PLACE OF PURCHASE: _____

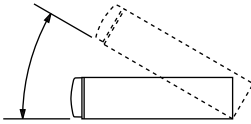
Installation

Installing the Monitor

2

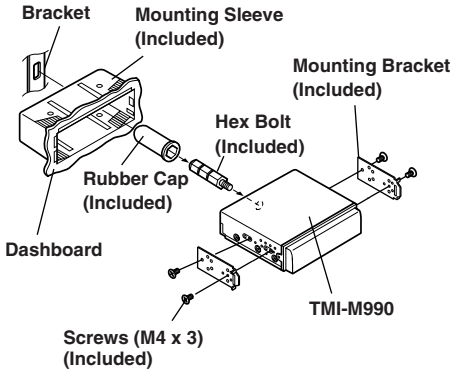
Installation Location

Before deciding on the mounting location, check that opening and closing the display will not hamper gear shifting in that position.



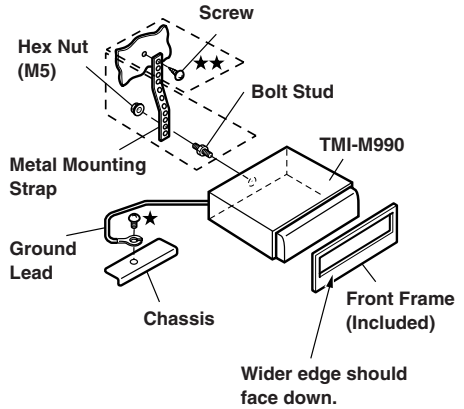
- Install at an angle of within 30 degrees from the horizontal.

1



Slide the mounting sleeve into the dashboard. Install the supplied bracket on the monitor.

- Make sure to use the supplied screw (M4 x 3) to install the monitor. If you use another screw to install the monitor, it may cause a malfunction.



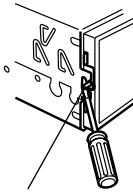
When your vehicle has the Bracket, mount the long hex bolt onto the rear panel of the TMI-M990 and put the Rubber Cap on the hex bolt. If your vehicle does not have the Mounting Support, reinforce the monitor unit with the metal mounting strap (not supplied). Secure the ground lead of the unit to a clean metal spot using a screw (★) already attached to the vehicle's chassis.

- For the screw marked ★★, use an appropriate screw for the chosen mounting location.

Continued

Installation and Connections

3



Lock Pin

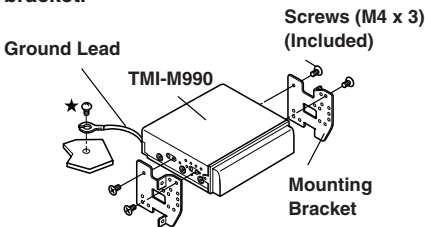
Slide the TMI-M990 into the dashboard. When the unit is in place, make sure the locking pins are fully seated in the down position. This can be done by pressing firmly in on the unit while pushing the locking pin down with a small screwdriver. This ensures that the unit is properly locked and will not accidentally come out from the dashboard. Install the supplied Front Frame.

Removal

1. Use a small screwdriver (or similar tool) to push the locking pins to the "up" position (see Step 3). As each pin is unlocked, gently pull out on the unit to make sure it does not re-lock before unlocking the second pin.
2. Pull the unit out, keeping it unlocked as you do so.

< JAPANESE CAR >

To install using the vehicle's standard bracket.



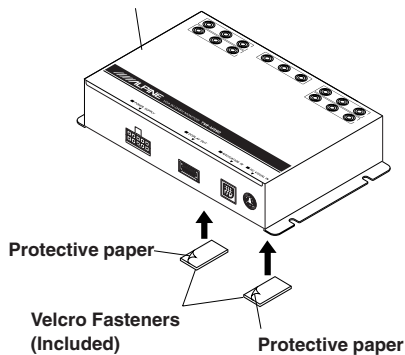
- Make sure to use the supplied screw (M4 x 3) to install the monitor. If you use another screw to install the monitor, it may cause a malfunction.

Installing the AV-Interface Unit

When mounting the tuner with the Velcro fasteners, be sure to choose a flat location. Do not hang the unit from the bottom of the dashboard or rear deck with the Velcro fasteners.

- 1 **Remove the Protective paper and attach two pieces of Velcro fastener to the bottom of the Unit.**

AV-Interface Unit

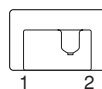


- 2 **Check the position, and then fix the Unit to the floor carpet.**

About the system switch

It is necessary to change the system switch before installing this unit.

- Change to "1:SYSTEM" when the main unit is connected with an IONBUS compatible head unit.
- When not connected to an IONBUS compatible head unit, change to "2:STANDALONE".



1:SYSTEM
2:STANDALONE
(Initial Setting)

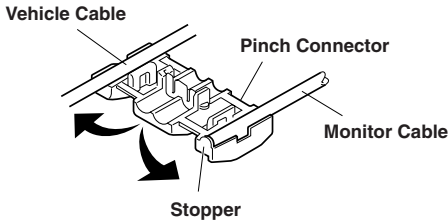
<Monitor bottom side>

- Be sure to turn the power off to the unit before changing the switch position.

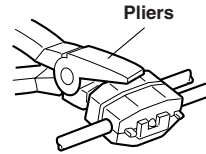
Parking Brake Lead Connection

If necessary, use a pinch connector to connect the parking brake lead, etc.

1

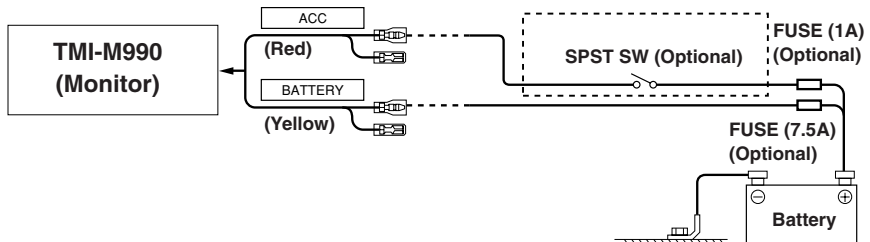


2



Connection Diagram of SPST Switch (Sold Separately)

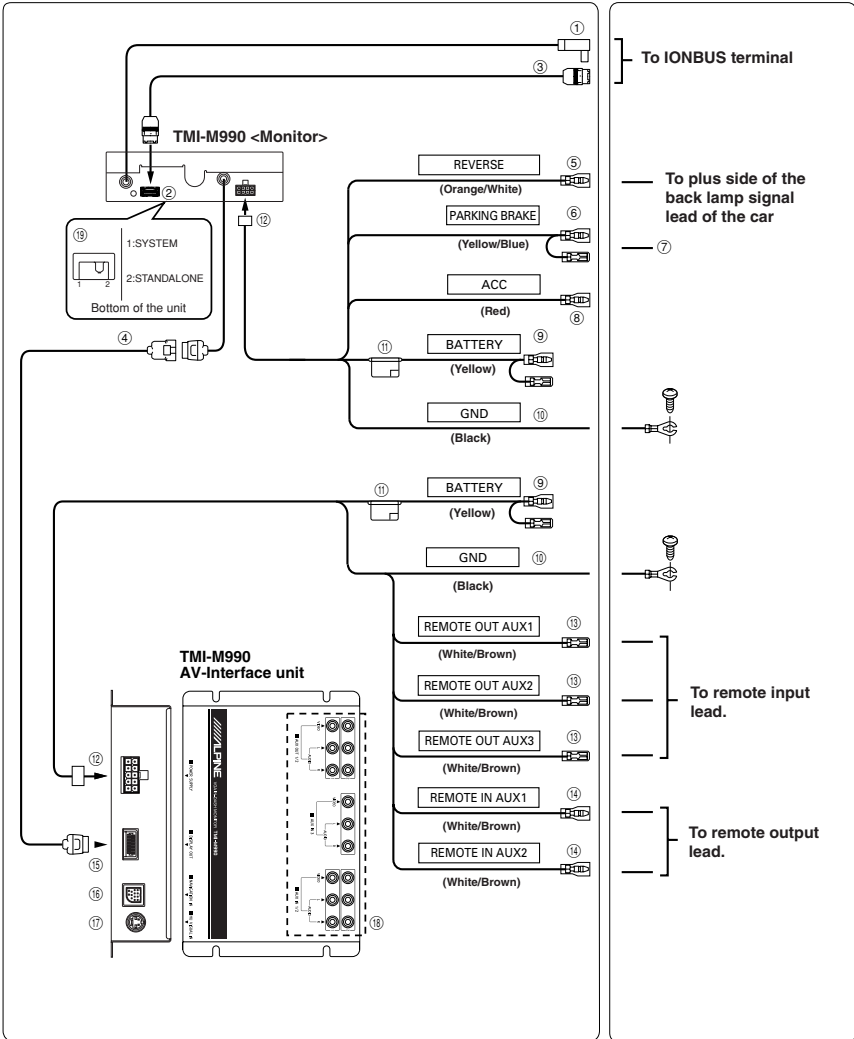
(If the ACC power supply is not available)



- If your vehicle has no ACC power supply, add an SPST (Single-Pole, Single-Throw) switch (sold separately) and fuse (sold separately).
- The diagram and the fuse amperage shown above are in the case when TMI-M990 is used individually.
- If the switched power (ignition) lead of the TMI-M990 is connected directly to the positive (+) post of the vehicle's battery, the TMI-M990 draws some current (several hundred milliamperes) even when its switch is placed in the OFF position and the battery may be discharged.

Installation and Connections

Connections (TMI-M990 Wiring Diagram)



- ① **IONBUS cable**
Used when setting up IONBUS compatible products.
- ② **IONBUS terminal**
Used when setting up IONBUS compatible products.
- ③ **IONBUS cable (Included)**
- ④ **Monitor Extension Cable (Included)**
- ⑤ **Reverse Lead (Orange/White)**
Use only when a back-up camera is connected. Connect to the plus side of the car's reverse lamp that lights when the transmission is shifted into reverse (R).
Switches the video picture to the back-up camera. This is linked with putting the car into reverse (R).
- ⑥ **Parking Brake Lead (Yellow/Blue)**
Connect this lead to the power supply side of the parking brake switch to transmit the parking brake status signals to the TMI-M990.
- ⑦ **Connect this lead to the parking brake lead powered when parking brake is engaged.**
- ⑧ **Switched Power Lead (Ignition) (Red)**
Connect this lead to an open terminal on the vehicle's fuse box or another unused power source which provides (+) 12V only when the ignition is turned on or in the accessory position. When connecting with the IONBUS compatible head unit, do not connect the ignition lead.
- ⑨ **Battery Lead (Yellow)**
Connect this lead to the positive (+) post of the vehicle's battery.
- ⑩ **Ground Lead (Black)**
Connect this lead to a good chassis ground on the vehicle. Make sure the connection is made to bare metal and is securely fastened using the sheet metal screw provided.
- ⑪ **Choke Coil with Fuse Holder (7.5A)**
- ⑫ **Power Supply Connector**
- ⑬ **Remote Control Output Lead (White/Brown)**
Connect this lead to the remote control input lead. This lead outputs the controlling signals from the remote control.
- ⑭ **Remote Control Input Lead (White/Brown)**
Connect the external Alpine product to the remote control output lead.
- ⑮ **Display Output Terminal**
- ⑯ **RGB Input Terminal**
- ⑰ **S Video Input Terminal**
- ⑱ **AUX Input Terminals/AUX Output Terminals**
- ⑲ **System Switch**
Change to "1:SYSTEM" when the main unit is connected with an IONBUS compatible head unit.
When not connected to an IONBUS compatible head unit, change to "2:STANDALONE".

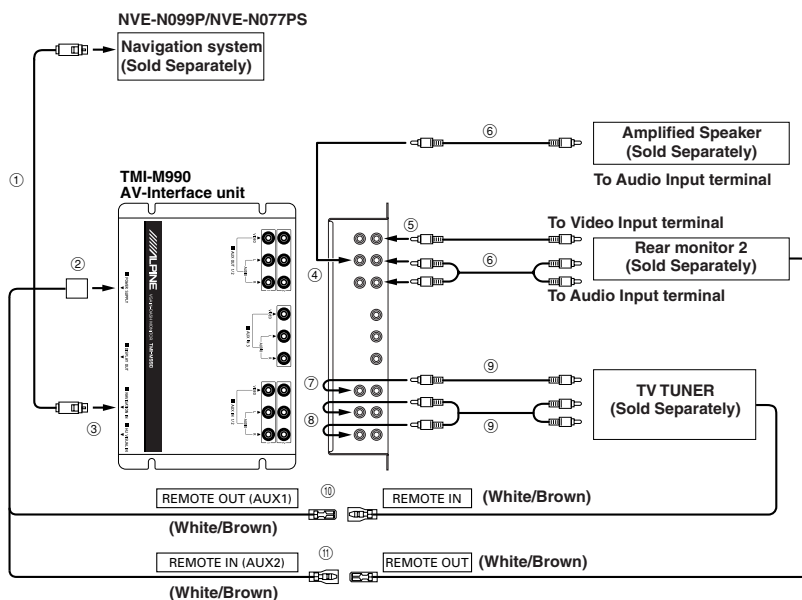
- Be sure to turn the power off to the unit before changing the switch position.

Installation and Connections

System Example

When Connecting External Equipment (If an IONBUS compatible head unit is not connected)

System Switch: When "STANDALONE" is set (See page 58)



① RGB Cable

② Power Supply Connector

③ RGB Input Terminal

Connect this to the RGB output terminal of the Navigation System.

④ AUX Audio Output (AUX1) (L) Terminal

When the System Switch is set to STANDALONE:

AUX1 Audio Output Terminal is used as the audio output for the main unit.

A separately sold Amplifier Speaker is required if using this unit by itself.

There is no output from the AUX1 Video Output Terminal.

⑤ AUX Video/Audio Output (AUX2) Terminal

⑥ RCA Extension Cable (Sold separately)

⑦ AUX Video Input (AUX1) Terminal

⑧ AUX Audio Input (AUX1) Terminal

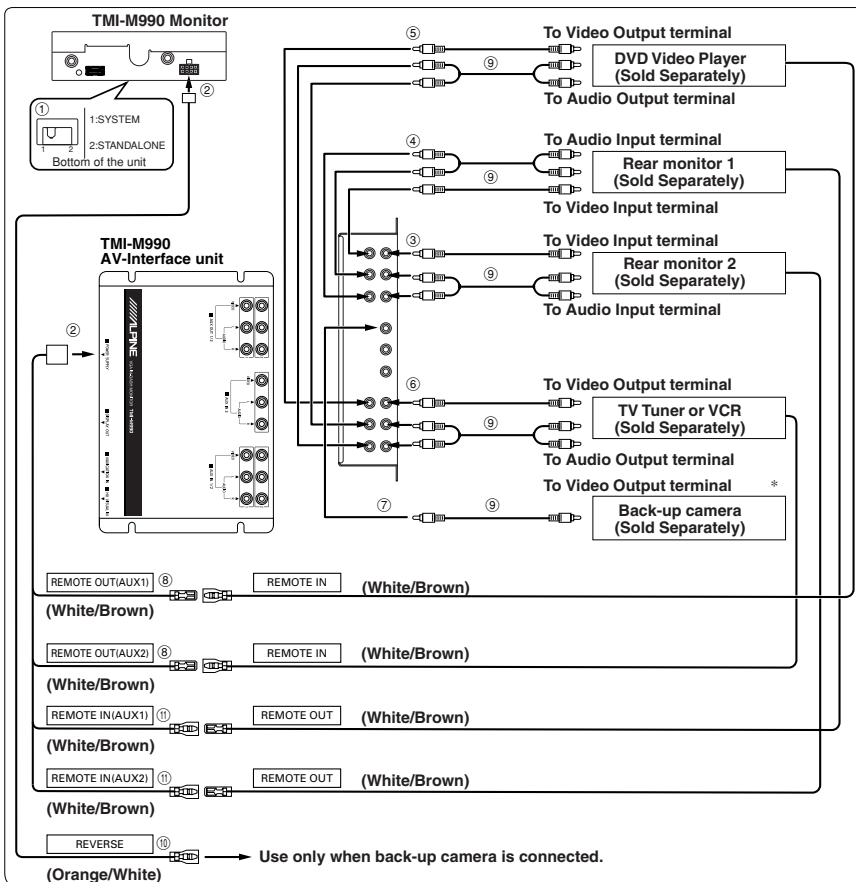
⑨ RCA Extension Cable

⑩ Remote Control Output Lead (White/Brown)

⑪ Remote Control Input Lead (White/Brown)

When Connecting External Equipment (When Connected to an IONBUS Compatible Head Unit)

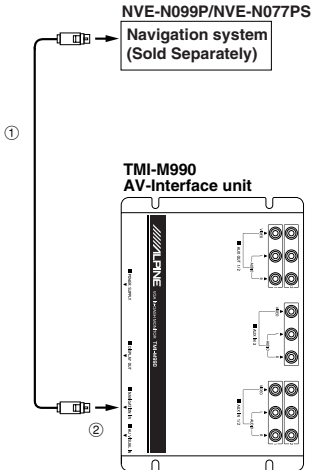
System Switch: When SYSTEM is set (See page 58)



Installation and Connections

- ① **System Switch**
Change to "1:SYSTEM" when the main unit is connected with an IONBUS compatible head unit.
When not connected to an IONBUS compatible head unit, change to "2:STANDALONE".
 - Be sure to turn the power off to the unit before changing the switch position.
 - ② **Power Supply Connector**
 - ③ **AUX Video/Audio Output (AUX2) Terminal**
Use when connecting an optional monitor etc.
 - ④ **AUX Video/Audio Output (AUX1) Terminal**
Use when connecting an optional monitor etc.
 - ⑤ **AUX Video/Audio Input (AUX1) Terminal**
 - ⑥ **AUX Video/Audio Input (AUX2) Terminal**
 - ⑦ **AUX Video Input (AUX3) Terminal**
Use when connecting a back-up camera.
 - ⑧ **Remote Control Output Lead (White/Brown)**
Connect this lead to the remote control input lead. This lead outputs the controlling signals from the remote control.
 - ⑨ **RCA Extension Cable (Sold separately)**
 - ⑩ **Reverse Lead (Orange/White)**
Connect to the plus side of the car's reverse lamp which lights when the transmission is shifted into reverse (R).
Switches the video picture to the back-up camera. This is linked to putting the car into reverse (R).
 - ⑪ **Remote Control Input Lead (White/Brown)**
- * Connect to AUX-3 when connecting a back-up camera.
Set AUX-3 NAME to CAMERA.
(Refer to "Name External Equipment to be Displayed (AUX)" Page 45.)
- When connecting with the IONBUS compatible head unit, do not connect the ignition lead.

Connect the Navigation system



- When the NVE-N055PS is connected for the Navigation System, use the RGB conversion cable KCE-030N (Sold separately).

① RGB Cable (Included with Navigation)

② RGB Input Terminal

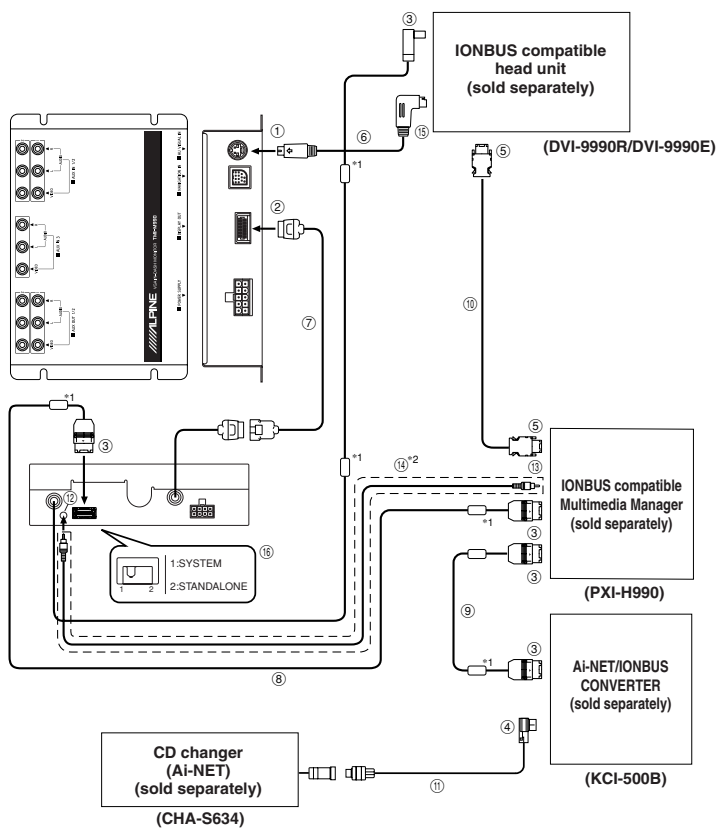
Connect this to the RGB output terminal of the Navigation System.

To prevent external noise from entering the audio system.

- Locate the unit and route the leads at least 10 cm away from the car's electrical harness.
- Keep the battery power leads as far away from other leads as possible.
- Connect the ground lead securely to a bare metal spot (remove any paint, dirt or grease if necessary) of the car chassis.
- If you add an optional noise suppressor, connect it as far away from the unit as possible. Your Alpine dealer carries various noise suppressors, contact them for further information.
- Your Alpine dealer knows best about noise prevention measures so consult your dealer for further information.

Installation and Connections

Connecting an IONBUS compatible head unit, an IONBUS compatible Multimedia Manager and an Ai-NET compatible CD changer



① **S Video Input Terminal**

② **Display Output Terminal**

③ **IONBUS Terminal**

④ **Ai-NET Connector**

Only an Ai-NET compatible CD changer can be connected. All other Ai-NET products are not compatible.

⑤ **DVD Audio Link Terminal**

⑥ **S Video Cable (Included with head unit)**

⑦ **Monitor Extension Cable (Included)**

⑧ **IONBUS Cable (Included)**

⑨ **IONBUS Cable (Included with CONVERTER)**

⑩ **DVD Audio Link Cable (Included with Multimedia Manager)**

⑪ **Ai-NET Cable (Included with CD changer)**

⑫ **Road EQ Microphone Terminal**

⑬ **Microphone Terminal**

⑭ **Microphone Terminal Connection Cable (Included with Multimedia Manager)**

⑮ **S Video Output Terminal**

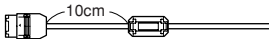
⑯ **System Switch**

Change to "1:SYSTEM" when the TMI-M990 is connected with an IONBUS compatible head unit.

*1 Ferrite Core

Attach the Ferrite Core (included) to the both ends of the IONBUS cable at a location where the product does not touch the core when installing.

(When connecting to the main unit or head unit, attach the core at a location of approx. 10 cm from the terminal end.)



When attaching the core to the cable from the monitor main unit, also attach to the both ends.

Two pieces are attached to TMI-M990, PXI-H990, KCI-500B.

*2 Connect only when using the Road EQ microphone built in the main unit.

- IONBUS compatible products can be connected in any order. The left connection chart is an example.
- When connecting with the IONBUS compatible head unit, do not connect the ignition lead.
- Use if connecting a KCI-500B to an Ai-NET compatible CD changer.

