

6/5 Channel Class-D Amplifier with DSP

Operating Instructions	GB
Mode d'emploi	FR
Manual de instrucciones	ES
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Owner's Record

The model and serial numbers are located on the bottom of the unit. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. XM-GS6DSP

Serial No. _____



To use the unit safely, see "Installation and Connections" (page 6) for details.

The nameplate indicating operating voltage, etc., is located on the bottom of the chassis.

Warning

FOR THE CUSTOMERS IN THE USA. NOT APPLICABLE IN CANADA, INCLUDING IN THE PROVINCE OF QUEBEC.

POUR LES CLIENTS AUX ÉTATS-UNIS. NON APPLICABLE AU CANADA, Y COMPRIS LA PROVINCE DE QUÉBEC.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

This device complies with Part 15 of the FCC Rules and Industry Canada's licence-exempt RSSs.

Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This equipment complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that is deemed to comply without maximum permissive exposure evaluation (MPE).

Important notice

Caution

IN NO EVENT SHALL SONY BE LIABLE FOR ANY INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR OTHER DAMAGES INCLUDING, WITHOUT LIMITATION, LOSS OF PROFITS, LOSS OF REVENUE, LOSS OF DATA, LOSS OF USE OF THE PRODUCT OR ANY ASSOCIATED EQUIPMENT, DOWNTIME, AND PURCHASER'S TIME RELATED TO OR ARISING OUT OF THE USE OF THIS PRODUCT, ITS HARDWARE AND/OR ITS SOFTWARE.

Dear customer, this product includes a radio transmitter.

Please check your vehicle operation manual or contact the manufacturer of your vehicle or your vehicle dealer, before you install this product into your vehicle.

Emergency calls

This BLUETOOTH car handsfree and the electronic device connected to the handsfree operate using radio signals, cellular, and landline networks as well as user-programmed function, which cannot guarantee connection under all conditions. Therefore do not rely solely upon any electronic device for essential communications (such as medical emergencies).

On BLUETOOTH communication

- Microwaves emitting from a BLUETOOTH device may affect the operation of electronic medical devices. Turn off this unit and other BLUETOOTH devices in the following locations, as it may cause an accident.
 - where inflammable gas is present, in a hospital, train, airplane, or petrol station
 - near automatic doors or a fire alarm
- This unit supports security capabilities that comply with the BLUETOOTH standard to provide a secure connection when the BLUETOOTH wireless technology is used, but security may not be enough depending on the setting. Be careful when communicating using BLUETOOTH wireless technology.
- We do not take any responsibility for the leakage of information during BLUETOOTH communication.

If you have any questions or problems concerning your unit that are not covered in this manual, consult your nearest Sony dealer.

Features

- Sony 5-speaker system with 4.1ch DSP connection supported.
- Sony 3-way component speaker connection supported.
- Bluetooth® connection with your iPhone/ Android™ smartphone supported.
- Maximum power output of 100 W per channel (FRONT/REAR at 4 Ω) and 300 W per channel (SUB at 2 Ω).
- This unit can be used as a bridging amplifier with a maximum output of 1,100 W (SUB at 2 Ω).
- Built-in LPF (low-pass filter) (REAR/SUB), HPF (high-pass filter) (FRONT/REAR), and Low boost circuit (SUB).
- Protection circuit and indicator provided.
- Direct connection can be made with the speaker output of your car audio unit if that is not equipped with the line output (High level input connection).
- Hi-level Sensing Power On feature allows this unit to be activated without the need for a REMOTE connection.
- Pulse power supply* for stable and regulated output power.

* Pulse power supply

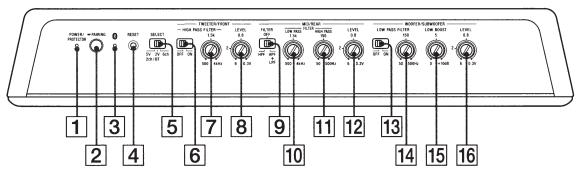
This unit has a built-in power regulator which converts the power supplied by the 12 V DC car battery into high speed pulses using a semiconductor switch. These pulses are stepped up by the built-in pulse transformer and separated into both positive and negative power supplies before being converted into direct current again. This is to regulate fluctuating voltage from the car battery. This lightweight power supply system provides a highly efficient power supply with a low impedance output.

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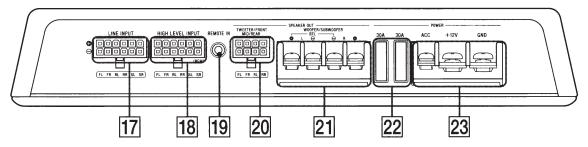
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Location and Function of Controls

Control panel side



Connector panel side



1 POWER/PROTECTOR indicator (green)

- Lights up when the unit is turned on.
- Flashes when the unit detects an abnormality.
 See "Troubleshooting" (page 21) for solutions to problems.

2 - PAIRING button

Press and hold for 2 seconds to enter the pairing standby mode.

Press and hold for 7 seconds to turn off the BLUETOOTH functions (BLUETOOTH off mode). (Available only when the SELECT switch is set to the "2V" or "5V" position.)

3 (BLUETOOTH) indicator (blue)

- Flashes quickly in pairing standby mode.
- Flashes slowly in BLUETOOTH standby mode.
- Lights up when BLUETOOTH connection is established.

4 RESET button

Resets the unit to the factory defaults (the DSP settings and BLUETOOTH pairing information stored on the unit are also erased). Press with a pointed object such as a ballpoint pen.

5 SELECT (input select) switch

Selects "2ch/BT" or "6ch" mode depending on the use/non-use of the DSP. When selecting the "2ch/BT" mode, also select the sensitivity "2V" or "5V" depending on the pre-output level of your car audio unit (page 10).

TWEETER/FRONT (tweeter/front speaker) section:

6 HIGH PASS FILTER switch

Turns the high-pass filter on/off.

7 HIGH PASS FILTER control

Adjusts the cut-off frequency (500 Hz - 4 kHz).

8 LEVEL control

Adjusts the input level (0.3 V - 6 V). Turn it clockwise when the output level of the audio device seems low.

MID/REAR (midrange/rear speaker) section:

9 FILTER switch

Selects "HPF" (high-pass filter) or "HPF+LPF" (high-pass and low-pass filters) according to the speaker system.

10 LOW PASS FILTER control

Adjusts the cut-off frequency (500 Hz - 4 kHz).

11 HIGH PASS FILTER control

Adjusts the cut-off frequency (50 Hz – 500 Hz).

12 LEVEL control

Adjusts the input level (0.3 V - 6 V). Turn it clockwise when the output level of the audio device seems low.

WOOFER/SUBWOOFER (woofer/subwoofer) section:

13 LOW PASS FILTER switch

Turns the low-pass filter on/off.

14 LOW PASS FILTER control

Adjusts the cut-off frequency (50 Hz – 500 Hz).

15 LOW BOOST control

Boosts the frequencies around 40 Hz to a maximum of 10 dB (0 dB – 10 dB).

16 LEVEL control

Adjusts the input level (0.3 V - 6 V). Turn it clockwise when the output level of the audio device seems low.

17 LINE INPUT connector

18 HIGH LEVEL INPUT connector

19 REMOTE IN jack

For a wired remote control (not supplied)

SPEAKER OUT section:

20 TWEETER/FRONT/MID/REAR connector

21 WOOFER/SUBWOOFER terminals

POWER section:

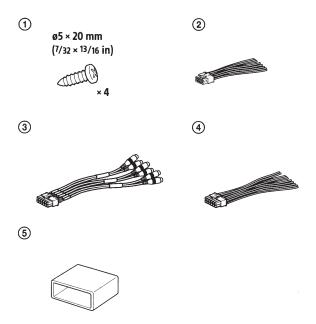
- 22 Fuse (30 A)
- 23 ACC (accessary) terminal

+12V terminal

GND (ground (earth)) terminal

Installation and Connections

Parts for Installation and Connections



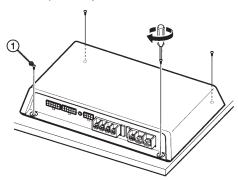
This parts list does not include all the package contents.

Installation

- Select the mounting location where it is easy to press the PAIRING button on the unit.
- Choose the mounting location carefully so the unit will not interfere with the normal movements of the driver and it will not be exposed to direct sunlight or hot air from the heater.
- Do not mount the unit in a confined space such as under the floor carpet that will obstruct heat dissipation.

Mounting the unit

First, place the unit where you plan to install it, and mark the positions of the 4 screw holes on a mounting board (not supplied). Then drill a 3 mm (1/8 in) pilot hole at each mark and mount the unit onto the board with the supplied mounting screws. The mounting screws are all 20 mm (13/16 in) long, so make sure that the mounting board is thicker than 20 mm (13/16 in).

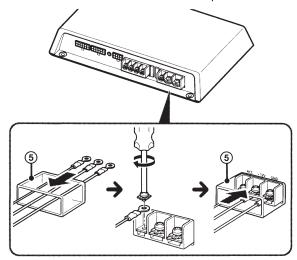


Connections

- Before making any connections, disconnect the ground (earth) terminal of the car battery to avoid short circuits.
- Be sure to use speakers with an adequate power rating. If you use small capacity speakers, they may be damaged.
- Do not connect the
 ⊖ terminal of the speaker system to the car chassis, and do not connect the
 ⊖ terminal of the right speaker with that of the left speaker.
- Install the input and output cords away from the power supply wire. Running them close together may generate interference noise.
- This unit is a high powered amplifier. Therefore, it may not perform to its full potential if used with the speaker cords supplied with the car.
- If your car is equipped with a computer system for navigation or some other purpose, do not remove the ground (earth) wire from the car battery. If you disconnect the wire, the computer memory may be erased. To avoid short circuits when making connections, disconnect the +12 V power supply wire until all the other wires have been connected.

Making the terminal connections

Pass the wires through the cap, connect the wires, then cover the terminals with the cap.



Note

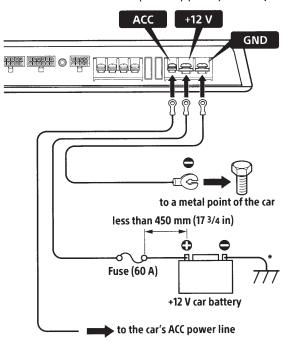
When you tighten a screw, be careful not to apply too much torque as doing so may damage the screw (the torque value should be less than 1 N•m).

Power connections

- Connect the +12 V power supply wire only after all the other wires have been connected.
- Be sure to connect the ground (earth) wire of the unit securely to a metal point of the car. A loose connection may cause a malfunction of the amplifier.
- When using a car audio unit without a remote output (REMOTE OUT) for the amplifier, connect the remote input (REM) terminal to the accessory power supply.
- Use a power supply wire with a fuse (60 A) attached.
- All power wires connected to the positive battery post should be fused within 450 mm (17 ³/₄ in) of the battery post, and before they pass through any metal.
- Make sure that the car's battery wires connected to the car (ground (earth) to chassis) are of a wire gauge at least equal to that of the main power wire connected from the battery to the amplifier.
- During full-power operation, a current of more than 60 A will run through the system. Therefore, make sure that the wires to be connected to the +12 V and GND terminals of this unit are at least 8-Gauge (AWG-8) or have a sectional area of more than 8 mm² (11/32 in²).

Making power connections

Power connection wires (not supplied) are required.



* Ground (earth) to chassis.

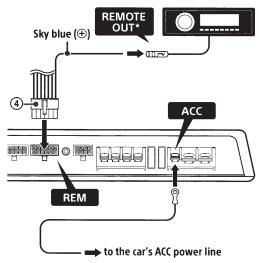
REMOTE connections

For the line input connections A (page 10), B (page 11) or C (page 11) only.

Connect the remote out (REMOTE OUT) from your car audio unit to the appropriate position.

When your car's ignition has an ACC position

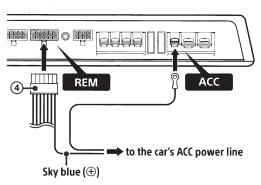
Connect the remote out (REMOTE OUT) from your car audio unit to the remote input (REM) terminal via the high level connector 4 (sky blue lead +), and connect the ACC terminal to the car's ACC power line.



* The REMOTE connection is not necessary when making the high level input connection \boxed{D} (page 12), \boxed{E} (page 12) and \boxed{F} (page 13).

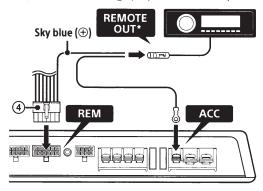
If your car audio unit has no REMOTE OUT

Connect the ACC terminal to the car's ACC power line, and connect the remote input (REM) terminal to the car's ACC power line via the high level input connector 4 (sky blue lead +).



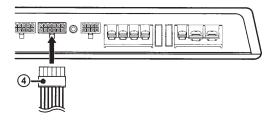
When your car's ignition has no ACC position

Connect the remote out (REMOTE OUT) from your car audio unit to the ACC terminal, and connect the remote out (REMOTE OUT) from your car audio unit to the remote input (REM) terminal via the high level input connector (4) (sky blue lead (+)).



* With this connection, a BLUETOOTH device cannot be played while the car audio unit is turned off.

If your car audio unit has no REMOTE OUT Connect the high level input connector (4).*



* With this connection, a BLUETOOTH device cannot be played while the car audio unit is turned off.

Input connections

Set the SELECT switch to the appropriate position according to the speaker system.

2ch/BT mode and 6ch mode

Select "2ch/BT" or "6ch" mode depending on the use/non-use of the DSP.

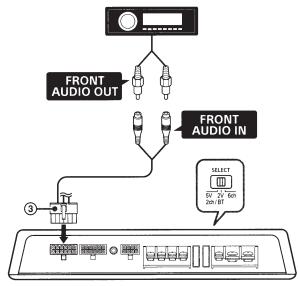
When selecting the "2ch/BT" mode, also select the sensitivity "2V" or "5V" depending on the preoutput level of your car audio unit.

Мо	de	For the production of the state
(opom domost) 429		 → using this unit as a 6ch amplifier (no built-in DSP is used)*1. For details on the connections, see: "B Line input connection (for Subwoofer BTL system/6ch mode)" (page 11). "E High level input connection (for Subwoofer BTL system/6ch mode)" (page 12). → using this unit with a 3-way speaker system. With this connection, a 3-ways speaker system can be driven without a crossover network. For details on the connections, see:
2ch/BT (DSP mode)*2*3		→ encoding 2ch input signals into 4.1ch output signals (the built-in DSP is used). For details on the connections, see: - "A Line input connection (with DSP enabled/2ch mode)" (page 10). - "D High level input connection (with DSP enabled/2ch mode)" (page 12). → playing a BLUETOOTH device by operating the "Sony Music Center" application. For details, see "Playing a BLUETOOTH Device" (page 16).
	27	Setting the sensitivity "2V" or "5V" of the "2ch/BT" mode. Normally, use this unit set to "2V".
	5V	When using a car audio unit with a high pre-output level, set to "5V" if the sound is distorted while increasing the volume.

- *1 While a bridged subwoofer connection is made, this unit functions as a 5ch amplifier.
- *2 When adjusting the volume balance of the front speakers, rear speakers and subwoofer while the unit is in 2ch mode (DSP mode), operate your iPhone/Android smartphone to adjust the [Fader], [Balance] and [Subwoofer Level] settings of the "Sony | Music Center" application.
- *3 The sound settings of the DSP (page 17) can be made by the "Sony | Music Center" application on the iPhone/Android smartphone. Before setting, operate your iPhone/Android smartphone to establish the BLUETOOTH connection with this unit (page 15).

A Line input connection (with DSP enabled/2ch mode)

With the speaker connection 1 (page 14)

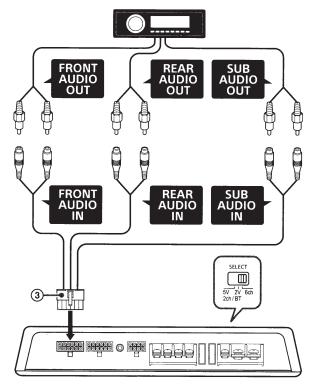


Notes

- When making this connection, set the SELECT switch to the "2V" position.
- Set the SELECT switch to the "5V" position if the sound is distorted when increasing the volume of the car audio unit (only for car audio unit with a preoutput level of 5 V).

B Line input connection (for Subwoofer BTL system/6ch mode)

With the speaker connection 1 or 2 (page 14)

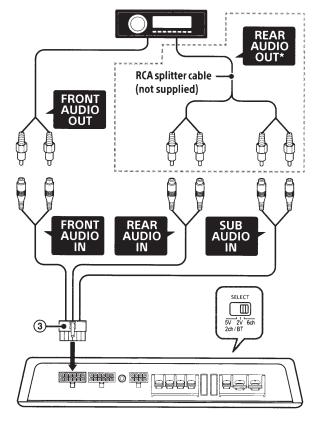


Notes

- When making this connection, set the SELECT switch to the "6ch" position.
- Make sure the signal to SUB AUDIO IN is monaural. SUB AUDIO IN of this unit does not support stereo signal input.

C Line input connection (for 3-way speaker system/6ch mode)

With the speaker connection 3 (page 15)



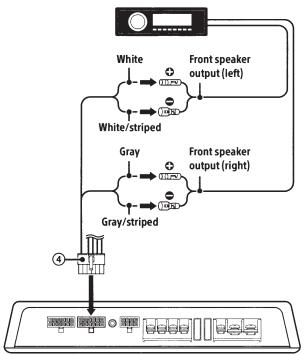
Note

When making this connection, set the SELECT switch to the "6ch" position.

* Use an RCA splitter cable (not supplied) to branch the signals from REAR AUDIO OUT to REAR AUDIO IN and SUB AUDIO IN.

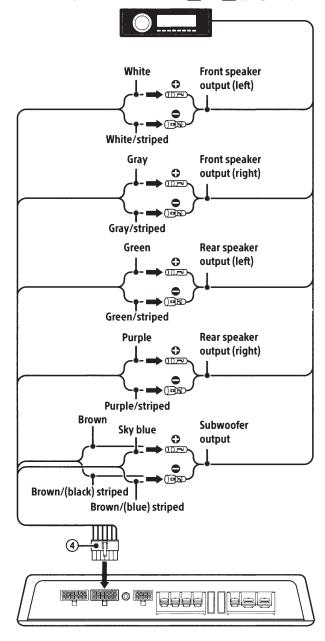
D High level input connection (with DSP enabled/2ch mode)

With the speaker connection 1 (page 14)



E High level input connection (for Subwoofer BTL system/6ch mode)

With the speaker connection 1 or 2 (page 14)

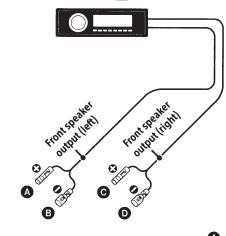


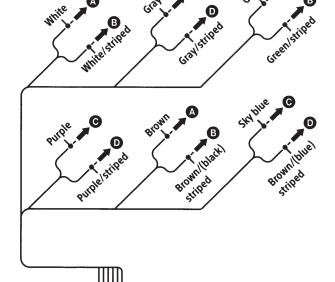
Note

If subwoofer outputs are not equipped to your car audio unit, use this unit as a 4ch amplifier, or make the connection in 2ch mode $(\boxed{\textbf{D}})$ instead.

F High level input connection (for 3-way speaker system/6ch mode)

With the speaker connection 3 (page 15)

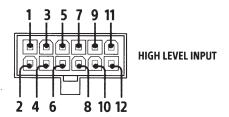




4

High level input cord connection

Connect the cords properly to speakers.



1	- FL	Front speaker (left)	(+)	White
2			Θ	White/striped
3	FR	Front speaker (right)	⊕	Gray
4			Θ	Gray/striped
5	RL	Rear speaker (left)	\oplus	Green
6			Θ	Green/striped
7	RR	Rear speaker (right)	⊕	Purple
8			Θ	Purple/striped
9	SL	Subwoofer (left)	⊕	Brown
10			Θ	Brown/(black) striped
11			\oplus	Sky blue
12 SR	Subwoofer (right)	Θ	Brown/(blue) striped	

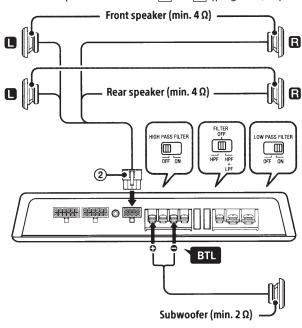
Speaker connections

Set the HIGH PASS FILTER switch, FILTER switch and LOW PASS FILTER switch on the control panel to the appropriate positions according to the speaker system.

Also, refer to the manual supplied with your speakers for further details.

11 4.1ch speaker system with a bridged subwoofer connection

With the input connection A or B (page 10, 11)

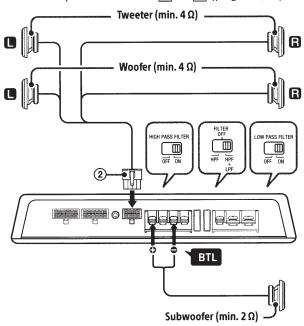


Notes

- When making this connection, set the filter switches to the following positions:
- HIGH PASS FILTER: OFF
- FILTER: OFF
- LOW PASS FILTER: ON
- When adjusting the volume balance of the front speakers, rear speakers and subwoofer while the unit is in 2ch mode (DSP mode), operate your iPhone/ Android smartphone to adjust the [Fader], [Balance] and [Subwoofer Level] settings of the "Sony | Music Center" application.

2 2-way speaker system with a bridged subwoofer connection

With the input connection A or B (page 10, 11)



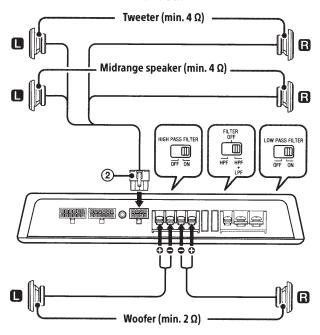
Note

When making this connection, set the filter switches to the following positions:

HIGH PASS FILTER: ONFILTER: HPF+LPFLOW PASS FILTER: ON

3 3-way speaker system

With the input connection © (page 11)
Using Sony 3 Way Component Speaker System
XS-GS1631C is recommended.



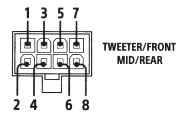
Note

When making this connection, set the filter switches to the following positions:

HIGH PASS FILTER: ONFILTER: HPF+LPFLOW PASS FILTER: ON

Speaker cord connection

Connect the cords properly to speakers.



1	1 2 FL	Front speaker (left)	(+)	White
2			Θ	White/striped
3	FR	Front speaker (right)	(+)	Gray
4			Θ	Gray/striped
5	RL	Rear speaker (left)	\oplus	Green
6	NL.		Θ	Green/striped
7	7 8 RR	Rear speaker (right)	(+)	Purple
8			Θ	Purple/striped

BLUETOOTH

Preparing a BLUETOOTH Device

You can enjoy music on a BLUETOOTH compatible device such an iPhone/Android smartphone (hereafter "BLUETOOTH device" if not otherwise specified). For details on connecting, refer to the operating instructions supplied with the device. Before connecting the device, turn down the volume of the BLUETOOTH device; otherwise, a loud sound may result.

(Available only when the SELECT switch is set to the "2V" or "5V" position.)

Pairing and connecting with a BLUETOOTH device

When connecting a BLUETOOTH device for the first time, mutual registration (called "pairing") is required. Pairing enables this unit and other devices to recognize each other.



- Place the BLUETOOTH device within 1 m (3 ft) of this unit.
- **Press and hold PAIRING for 2 seconds.**The **3** indicator flashes quickly while the unit is in pairing standby mode.
- **3** Perform pairing on the BLUETOOTH device so it detects this unit.
- 4 Select [XM-GS6DSP] shown in the display of the BLUETOOTH device. If your model name does not appear, repeat from step 2.
- If passkey input is required on the BLUETOOTH device, input [0000].
 When pairing is made, the indicator flashes slowly.
- Select this unit on the BLUETOOTH device to make the BLUETOOTH connection. The indicator lights up when the connection is established.

Note

While connected to a BLUETOOTH device, this unit cannot be detected from another device. To enable detection, press PAIRING to enter the pairing standby mode and search for this unit from another device.

To start playback

For details, see "Playing a BLUETOOTH Device" (page 16).

To disconnect the paired device Perform step 2.

Connecting with a paired BLUETOOTH device

To use this unit with BLUETOOTH, connection with a paired device is required. Some paired devices will connect to this unit automatically.



Operate the BLUETOOTH device to make the BLUETOOTH connection with this unit (page 15).

Playing a BLUETOOTH Device

You can play contents on a connected BLUETOOTH device that supports BLUETOOTH A2DP (Advanced Audio Distribution Profile).

(Available only when the SELECT switch is set to the "2V" or "5V" position.)



To play the BLUETOOTH device, installing the "Sony | Music Center" application to your iPhone/Android smartphone is required.

Download the latest version of "Sony | Music Center" application from the App Store for iPhone or from Google Play for Android smartphone.

- 1 Operate the BLUETOOTH device to make the BLUETOOTH connection with this unit (page 15).
- **2** Launch the "Sony | Music Center" application.
- **3** Start up your audio playback application on the BLUETOOTH device.
- **4** Operate the BLUETOOTH device to start playback.

To adjust the volume

During playback, adjust the volume of your iPhone/ Android smartphone, or adjust the sound settings of the "Sony | Music Center" application.

To switch to the line input connection (in 2ch mode)

Select [Audio In] on the "Sony | Music Center" application.

To turn off the BLUETOOTH functions

Press and hold PAIRING for 7 seconds. The BLUETOOTH pairing information stored on the unit is erased.

Tip

If the car's ignition is turned off while the BLUETOOTH connection is established, this unit reconnects automatically to the last-connected BLUETOOTH device when the car's ignition is turned to on.

Settings

DSP Settings

You can configure the DSP settings using the "Sony | Music Center" application with the "Advanced car audio setting" app embedded in as a plug-in.

(Available only when the SELECT switch is set to the "2V" or "5V" position.)

Sony | Music Center with iPhone/ Android smartphone

Downloading the latest version of the "Sony | Music Center" application is required from the App Store for iPhone or from Google Play for Android smartphone.

Notes

- For your safety, follow your local traffic laws and regulations, and do not operate the application while driving.
- "Sony | Music Center" is an app for controlling Sony audio devices which are compatible with "Sony | Music Center", by your iPhone/Android smartphone.
- What you can control with "Sony | Music Center" varies depending on the connected device.
- To make use of "Sony | Music Center" features, see the details on your iPhone/Android smartphone.
- For further details on "Sony | Music Center," visit the following URL: http://www.sony.net/smcqa/
- Visit the website below and check the compatible iPhone/Android smartphone models.
 For iPhone: visit the App Store
 For Android smartphone: visit Google Play

About the "Advanced car audio setting" application

"Advanced car audio setting" is a plug-in application enabling you to configure further sound settings by the "Sony | Music Center" application. Downloading the latest version of the "Advanced car audio setting" application is required from the App Store for iPhone or from Google Play for Android smartphone.

Establishing the Sony | Music Center connection

- 1 Make the BLUETOOTH connection with your iPhone/Android smartphone (page 15).
- **2** Launch the "Sony | Music Center" application.

Connection to iPhone/Android smartphone starts.

For details on the operations on iPhone/ Android smartphone, see the Help of the application.

If the device number appears

Make sure that the number is displayed (e.g., 123456), then select [Yes] on the iPhone/Android smartphone.

Configuring the DSP settings

- 1 Operate your iPhone/Android smartphone to activate the "Sony | Music Center" application, then touch the [Settings] icon.
 - Alternatively, touch [Advanced car audio setting] to enter the setting mode.
- **2** Tap [Sound].
- **3** Tap the desired setup item, then make the sound settings.

The following items can be set.

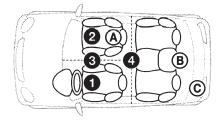
Equalizer (equalizer)

Selects an equalizer curve from 10 equalizer curves or off:

[Off], [R&B], [Rock], [Pop], [Hip-Hop], [EDM], [Jazz], [Soul], [Country], [Karaoke]*, [Custom]. The equalizer curve setting can be memorized for each source.

* [Karaoke] reduces the vocal sound but cannot fully remove it during playback. Also, using a microphone is not supported.

Listening Position (listening position)



Front/Rear Position (front/rear position)
Simulates a natural sound field by delaying the sound output from speakers to suit your position:

- [Front Left] (front left),
- [Front Right] (front right),
- 3 [Front] (center front),
- 4 [All] (center of your car),

[Custom] (position set by "Advanced car audio setting" of "Sony | Music Center")
[OFF] (no position set)

Adjust Position (adjust position)

Fine-tunes the listening position setting: [+3] – [Center] – [-3].

(Available only when [Front/Rear Position] is not set to [Off] or [Custom].)

Subwoofer Position (subwoofer position)

- (A) [Near] (near),
- B [Normal] (normal),
- © [Far] (far)

(Available only when [Front/Rear Position] is not set to [Off] or [Custom].)

Balance (balance)

Adjusts the sound balance: [15] – [0] – [-15]. Alternatively, adjust the setting point to the left/right in the "BAL/FAD/SW Level" setting of "Advanced car audio setting".

Fader (fader)

Adjusts the relative level: [15] – [0] – [-15]. Alternatively, adjust the setting point to up/down in the "BAL/FAD/SW Level" setting of "Advanced car audio setting".

Subwoofer Level (subwoofer level)

Adjusts the subwoofer volume level: [-11.0] – [0.0] – [10.0].

Alternatively, touch SW Level +/- in the "BAL/FAD/SW Level" setting of "Advanced car audio setting".

Additional Information

Precautions

- This unit is designed for negative ground (earth)
 12 V DC operation only.
- Use speakers with an impedance of 2 Ω to 8 Ω (SUB), and 4 Ω to 8 Ω (FRONT/REAR).
- Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit.
 Doing so may damage the active speakers.
- Avoid installing the unit in areas subject to:
 - high temperatures such as from direct sunlight or hot air from the heater
 - rain or moisture
 - dust or dirt.
- If your car is parked in direct sunlight and there is a considerable rise in temperature inside the car, allow the unit to cool down before use.
- When installing the unit horizontally, be sure not to cover the fins with the floor carpet, etc.
- If this unit is placed too close to the car audio unit or antenna (aerial), interference may occur. In this case, relocate this unit away from the car audio unit or antenna (aerial).
- If no power is being supplied to the car audio unit, check the connections.
- This power amplifier employs a protection circuit* to protect the transistors and speakers if the amplifier malfunctions. Do not attempt to test the protection circuits by covering the heat sink or connecting improper loads.
- Do not use the unit on a weak battery as its optimum performance depends on a good power supply.
- For safety, keep your car audio unit volume moderate so that you can still hear other sounds.

* Protection circuit

This amplifier is provided with a protection circuit that operates in the following cases:

- when the unit overheats
- when a DC current is generated
- when the speaker terminals are short-circuited.
 The POWER/PROTECTOR indicator will blink, and the unit will shut down. If this happens, take out the cassette tape or disc, turn off the connected equipment, and determine the cause of the malfunction. If the unit has overheated, wait until it cools down before use.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

About iPod

You can connect to the following iPod models.
 Update your iPod devices to the latest software before use.

Compatible iPhone/iPod models

Compatible Model	Bluetooth®
iPhone 8 Plus	1
iPhone 8	1
iPhone 7 Plus	1
iPhone 7	1
iPhone SE	1
iPhone 6s Plus	1
iPhone 6s	1
iPhone 6 Plus	1
iPhone 6	1
iPhone 5s	1
iPhone 5c	1
iPhone 5	1
iPhone 4s	1
iPod touch (6th generation)	/
iPod touch (5th generation)	✓

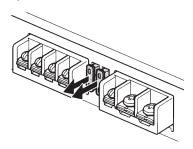
"Made for iPod," and "Made for iPhone," mean that an electronic accessory has been designed to connect specifically to iPod or iPhone, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod or iPhone may affect wireless performance.

If you have any questions or problems concerning your unit that are not covered in this manual, consult your nearest Sony dealer.

Maintenance

Fuse replacement

When replacing the fuse, be sure to use one matching the amperage stated above the fuse holder. If the fuse blows, check the power connection and replace both the fuses. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.



Warning

Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.

Specifications

AUDIO POWER SPECIFICATIONS



CTA2006 Standard

Power Output: 45 Watts RMS × 4 at 4 Ohms, 90 Watts RMS × 2 at 4 Ohms < 1%

THD+N

SN Ratio: 83 dBA (FRONT/REAR), 80 dBA (SUB) (reference: 1 Watt into 4 Ohms)

Wireless Communication

Communication System:

BLUETOOTH Standard version 3.0

Output:

BLUETOOTH Standard Power Class 2

(Max. Conducted +1 dBm)

Maximum communication range*1:

Line of sight approx. 10 m (33 ft)

Frequency band:

2.4 GHz band

(2.4000 GHz - 2.4835 GHz)

Modulation method: FHSS

Compatible BLUETOOTH Profiles*2:

A2DP (Advanced Audio Distribution Profile) 1.3 AVRCP (Audio Video Remote Control Profile) 1.5 SPP (Serial Port Profile)

Corresponding codec:

SBC (.sbc), AAC (.m4a)

- *1 The actual range will vary depending on factors such as obstacles between devices, magnetic fields around a microwave oven, static electricity, reception sensitivity, antenna (aerial)'s performance, operating system, software application, etc.
- *2 BLUETOOTH standard profiles indicate the purpose of BLUETOOTH communication between devices.

General

Circuit system:

Class D Amplifier,

Pulse power supply

Inputs:

RCA pin jacks,

High level input connector

Input level adjustment range (in 6ch mode):

0.3 V - 6 V (RCA pin jacks)

3 V - 12 V (High level input)

Outputs:

Speaker output connector,

WOOFER/SUBWOOFER terminals

Speaker impedance:

 $4 \Omega - 8 \Omega$ (Speaker output connector),

 $2 \Omega - 8 \Omega$ (WOOFER/SUBWOOFER terminals)

Maximum output:

5 Speakers:

100 W × 4 (FRONT/REAR at 4 Ω), 1,100 W × 1 (SUB BTL at 2 Ω)

6 Speakers:

100 W \times 4 (FRONT/REAR at 4 Ω),

300 W \times 2 (SUB at 2 Ω)

Rated output (supply voltage at 14.4 V, 20 Hz -

20 kHz, 1% THD):

6 Speakers:

45 W \times 4 (FRONT/REAR at 4 Ω),

90 W \times 2 (SUB at 4 Ω)

Frequency response:

20 Hz - 20 kHz ($^{+0.5}_{-3.0}$ dB) (FRONT/REAR),

20 Hz - 10 kHz $\binom{+0.5}{-3.0}$ dB) (SUB)

Harmonic distortion:

0.1% at 1 W, 1 kHz (FRONT/REAR at 4 Ω),

0.1% at 45 W, 1 kHz (SUB at 4 Ω)

Low-pass filter:

500 Hz - 4 kHz, 12 dB/oct (REAR),

50 Hz - 500 Hz, 12 dB/oct (SUB)

High-pass filter:

500 Hz - 4 kHz, 12 dB/oct (FRONT),

50 Hz - 500 Hz, 12 dB/oct (REAR)

Low boost:

0 dB - 10 dB (40 Hz) (SUB)

Power requirements:

12 V DC car battery (negative ground (earth))

Power supply voltage:

10.5 V - 16 V

Current drain:

At rated output: 36 A

45 W \times 4 (FRONT/REAR at 4 Ω),

90 W \times 2 (SUB at 4 Ω)

ACC Input: 1 mA

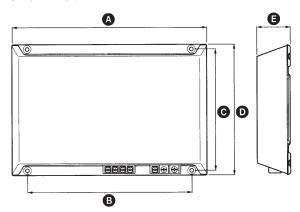
Remote input: 1 mA

Dimensions:

Approx. 295 mm × 51 mm × 199.5 mm

 $(11.5/8 \text{ in} \times 2.1/8 \text{ in} \times 7.7/8 \text{ in}) (w/h/d) \text{ not incl.}$

projecting parts and controls



- A 295 mm (11 5/8 in)
- **B** 248 mm (9 7/8 in)
- (7 3/8 in)
- **D** 199.5 mm (7 7/8 in)
- **6** 51 mm (2 1/8 in)

Mass:

Approx. 2.6 kg (5 lb 12 oz) not incl. accessories Package contents:

Main unit (1)

Mounting screws (4)

High level input cord (1)

RCA input cord (1)

Speaker output cord (1)

Protection cap (1)

Your dealer may not handle some of the above listed accessories. Please ask the dealer for detailed information.

Design and specifications are subject to change without notice.

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Troubleshooting

The following checklist will assist in the correction of most problems which you may encounter with your unit. Before going through the checklist below, refer to the connection and operating procedures.

The POWER/PROTECTOR indicator does not light up.

- → The fuse is blown.
 - Replace the fuse with a new one.
- → The ground (earth) wire is not securely connected.
 - Fasten the ground (earth) wire securely to a metal point of the car.
- → The voltage going into the remote input (REM) terminal is too low.
 - Turn on the car audio unit if it is not turned on.
 - Use a relay if the system employs too many amplifiers.
- → Check the battery voltage (10.5 V 16 V).

The POWER/PROTECTOR indicator flashes quickly.

- → Turn off the power switch. The speaker outputs have shorted.
 - Rectify the cause of the short.
- → Turn off the power switch. Make sure the speaker cord and ground (earth) wire are securely connected.

The POWER/PROTECTOR indicator flashes slowly (once every second).

- → The thermal protector has activated, and the speaker outputs will be decreased.
 - Make sure the impedance of connected speakers is appropriate.

The unit becomes abnormally hot.

- → The unit heats up abnormally.
 - Use speakers with suitable impedance: $2 \Omega 8 \Omega$ (stereo), $4 \Omega 8 \Omega$ (when used as a bridging amplifier).
- → Make sure to place the unit in a well ventilated location.

Alternator noise is heard.

- → The power connecting wires are installed too close to the RCA pin cords.
 - Keep the wires away from the cords.
- → The ground (earth) wire is not securely connected.
 - Fasten the ground (earth) wire securely to a metal point of the car.
- → Negative speaker wires are touching the car chassis.
 - Keep the wires away from the car chassis.

The sound is muffled.

→ Check that the filter settings and the cut-off frequency adjustment are appropriate according to the speaker system. For details, see "Input connections" (page 10) and "Speaker connections" (page 14).

The sound is too quiet.

→ The LEVEL adjustment control is not appropriate.

Turn the LEVEL adjustment control in the clockwise direction.

BLUETOOTH function

The 3 indicator does not light up.

- → The selected connection mode on the unit is not appropriate.
 - Check that the SELECT switch is set to the "2V" or "5V" position.

This unit cannot be detected from BLUETOOTH devices.

- → Press PAIRING to set this unit to pairing standby mode before pairing the BLUETOOTH devices.
- → This unit may not be detected from a BLUETOOTH device already connected to other BLUETOOTH devices.
 - Operate the BLUETOOTH device to release the connections with other BLUETOOTH devices, then search for this unit.
- → If the device is already paired, detect this unit from the BLUETOOTH device while the ③ indicator on the unit is flashing quickly.

Connection is not possible.

- → The connection is controlled from the BLUETOOTH device.
 - Operate the BLUETOOTH device to connect to this unit.

The device name of this unit does not appear.

→ Depending on the status of the BLUETOOTH device, it may not be possible to obtain the device name of this unit.

The volume of the connected BLUETOOTH device is low (high).

- → Volume level will differ depending on the BLUETOOTH device.
 - Adjust the volume of the connected BLUETOOTH device or this unit.

The sound skips during playback of a BLUETOOTH device.

- → Reduce the distance between this unit and the BLUETOOTH device.
- → If the BLUETOOTH device is inside a case which interrupts the signal, remove the case from the BLUETOOTH device during use.
- → Several BLUETOOTH devices or other devices which emit radio waves are in use nearby.
 - Turn off the other devices.
 - Increase the distance from the other devices.
- → The playback sound stops momentarily when the connection with the cellular phone is being made on the BLUETOOTH device. This is not a malfunction.

This unit cannot be controlled from the BLUETOOTH device.

→ Check that the connected BLUETOOTH device supports AVRCP.

Some functions do not work.

→ Check that the connected BLUETOOTH device supports the functions in question.

Pairing failed due to a timeout.

- → Depending on the connecting BLUETOOTH device, the time limit for pairing may be short.
 - Try completing the pairing within the time.

Cannot pair.

→ If the pairing information of the unit is on the connecting BLUETOOTH device, the unit may not be able to pair with a previously paired BLUETOOTH device after initializing the unit. In this case, delete the pairing information of the unit from the BLUETOOTH device, and then pair them again.

BLUETOOTH function cannot operate.

→ Turn off the car audio unit, then turn the car audio unit on again.

Sony | Music Center operation

Application name does not match the actual application in "Sony | Music Center".

→ Launch the application again from the "Sony | Music Center" application.

If these solutions do not help improve the situation, consult your nearest Sony dealer.

Support Site

If you have any questions or for the latest support information on this product, please visit the website below:

Customers in the United States/Canada:

http://esupport.sony.com/

Customers in Asia Pacific/Middle East:

http://www.sony-asia.com/section/support

http://www.sony-asia.com/caraudio/

SONY

إرشادات التشغيل PR دستور العمل هاى عملياتى

6/5 Channel Class-D Amplifier with DSP





http://www.sony.net/

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E.-U. et Canada uniquement – 3 ans

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Pour obtenir un service de garantie, vous devez livrer le produit, dans son emballage d'origine ou un emballage offrant un niveau de protection équivalent, à un centre de service autorisé Sony accompagné du reçu d'achat daté afin d'accéder au service de garantie. Sony n'est pas en mesure de garantir la réparation d'un produit au titre de ladite garantie ou l'échange d'un produit sans risque d'altérer le logiciel ou de perdre des données. Il relève de votre responsabilité de retirer ou sauvegarder tout média ou toute pièce amovible, toutes données, tout logiciel ou autre matériel stocké ou conservé sur votre produit. Il est probable que tout média ou toute pièce, toutes données, tout logiciel ou autre matériel (comme des images, de la musique, des vidéos, etc.) soit perdu ou reformaté pendant le service et Sony ne pourra être tenu pour responsable dudit dommage ou de ladite perte. Contactez les services suivants pour des instructions spécifiques sur la façon d'obtenir un service de garantie pour votre produit :

Pour les achats effectués aux ÉTATS-UNIS :

Visitez le site Web Sony : www.sony.com/support Ou appelez le centre d'expérience client : 1-800-222-SONY (7669)

Pour enregistrer votre produit ou obtenir des coordonnées pour acheter des accessoires ou des pièces, rendez-vous sur le site Web Sony

Pour les achats effectués au CANADA:

Visitez le site Web Sony : www.sony.ca/support

Visitez le site web 30rly : www.sorly.casupport

Ou appelez le centre d'expérience client : 1-877-899-SONY (7669)

Pour enregistrer votre produit ou obtenir des coordonnées pour acheter des accessoires ou des pièces, rendez-vous sur le site Web Sony

Un service sur place pour les téléviseurs de certaines dimensions est disponible pour les clients vivant dans un rayon de 50 km d'un local de service Sony autorisé, à condition que le lieu de résidence soit accessible à un véhicule de service.

Garantie de réparation/remplacement : Cette Garantie limitée s'applique à toute réparation, pièce de rechange ou tout produit de remplacement, recertifié ou remis en état pendant la période restante de la Garantie limitée d'origine ou pour une période de quatre-vingt-dix (90) jours, la plus longue date étant celle retenue. Toute pièce ou tout produit remplacé(e) au titre de ladite Garantie limitée sera la propriété de Sony. Tout produit de remplacement, recertifié ou remis en état fourni au titre de ladite Garantie limitée peut, au gré de Sony, être de couleur et/ou d'aspect différent par rapport au produit d'origine et peut ne pas inclure de gravure d'origine ou une personnalisation similaire.

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Ladite Garantie limitée ne couvre pas les produits Sony vendus « EN L'ÉTAT » ou « AVEC DÉFAUTS » ou les consommables (comme les fusibles ou les piles jetables). Sony ne remplacera pas les composants manquants d'un emballage acheté comme « Boîte ouverte » ou « EN L'ÉTAT ». Ladite Garantie limitée est valide uniquement aux États-Unis et au Canada (selon le cas).

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Pour les achats effectués aux États-Unis : Lisez attentivement la clause de résolution/d'arbitrage des litiges suivante. Vos droits et les étapes à suivre en cas de litige lié au produit y sont détaillés.

Que se passe-t-il en cas de litige: En cas de litige ou de réclamation lié(e) au produit, à votre achat et/ou à l'utilisation du produit, aux clauses de ladite Garantie limitée, ou à un service fourni conformément aux conditions de ladite Garantie limitée (incluant une réparation ou un remplacement) (« Litige »), vous et Sony acceptez que le litige soit résolu exclusivement à travers un arbitrage exécutoire. VOUS COMPRENEZ ET RECONNAISSEZ QU'EN ACCEPTANT L'ARBITRAGE VOUS AVEZ LE DROIT D'INTENTER UNE ACTION EN JUSTICE POUR (OU DE PARTICIPER EN TANT QUE PARTIE OU MEMBRE DU RECOURS À) LA RÉSOLUTION DES LITIGES DEVANT UN TRIBUNAL. Vous acceptez également que TOUTE PROCÉDURE DE RÈGLEMENT DES DIFFÉRENDS CONSIDÈRERA UNIQUEMENT VOS REVENDICATIONS INDIVIDUELLES, ET LES DEUX PARTIES ACCEPTENT QU'UN LITIGE NE SOIT PAS ENTENDU COMME UN RECOURS COLLECTIF OU UN RECOURS DU PROCURE UR GÉNÉRAL. Malgré dans la mesure que des la compétence limitée deux le manière individuelle devent le Cour des petites créances ou une Cour similaire à la compétence limitée deux le mesure que dessus, vous avez le droit d'intenter une action en justice de manière individuelle devant la Cour des petites créances ou une Cour similaire à la compétence limitée, dans la mesure où le montant en question n'excède pas 15 000 \$, et aussi longtemps que la dite Cour soit compétente et que toutes les autres exigences (incluant le montant en litige) soient satisfaites.

Consignes d'arbitrage. Pour commencer l'arbitrage, vous ou Sony devez faire une demande d'arbitrage écrite à l'autre partie. L'arbitrage aura lieu devant un seul arbitre. L'arbitrage sera géré en suivant les Procédures accélérées des Règles d'arbitrage commercial et les Procédures additionnelles (les « Règles ») de l'association américaine d'arbitrage (« AAA ») pour les différends de consommateur, si elles sont applicables et en vigueur au moment où la réclamation est traitée. Vous pouvez demander une copie des Règles de l'AAA en contactant l'AAA au (800) 778-7879 ou en visitant le site Web www.adr.org. Les droits de dépôt pour commencer et mener l'arbitrage seront partagés entre vous et Sony, mais vos frais ne devront en aucun cas excéder le montant permis par les règles spécifiques de l'AAA pour les Différends de consommateur, après quoi Sony couvrira tous les frais administratifs et dépenses additionnels. Ce paragraphe n'interdit pas à l'arbitre de restituer à la partie ayant obtenu gain de cause les frais et dépenses qu'elle a engagées dans l'arbitrage lorsque les Règles le permettent. Sauf si Sony et vous en conveniez autrement, l'arbitrage aura lieu dans le pays et l'État où vous vivez, et la loi fédérale ou d'État applicable régira le fond du différend pendant l'arbitrage. Cependant, la Loi sur l'arbitrage fédéral 9 U.S.C. § 1, et seq., régira l'arbitrage et non une quelconque loi d'État sur l'arbitrage. La décision de l'arbitre sera obligatoire et définitive, sauf dans le cadre d'un droit d'appel limité conformément à la Loi sur l'arbitrage.

Consignes d'exclusion. SI VOUS NE SOUHAITEZ PAS ÊTRE CONTRAINT PAR LA CLAUSE D'ARBITRAGE OBLIGATOIRE, ALORS: (1) Vous devez en informer Sony par écrit dans les 30 jours à compter de la date d'achat du produit; (2) Votre notification écrite doit être envoyée par courrier à Sony Electronics Inc., 16535 Via Esprillo, MZ 1105, San Diego CA 92127, à l'attention de : Service juridique; ET (3) Votre notification écrite doit inclure (a) votre NOM (b) votre ADRÉSSE, (c) la DATE d'achat du produit, et (d) une déclaration claire stipulant que « VOUS NE SOUHAITEZ PAS RÉSOUDRE LES DIFFÉRENDS AVEC UNE ENTITÉ SONY ELECTRONICS À TRAVERS L'ARBITRAGE ET/OU ÊTRE CONTRAINT PAR LA RENONCIATION À INITIER OU PARTICIPER À UN RECOURS COLLECTIF ».

Décider de ne pas adhérer à cette procédure de résolution des différends n'affectera en aucun cas la couverture de la Garantie limitée et vous continuerez à bénéficier des avantages de la garantie limitée.



SONY®

LIMITED WARRANTY

Car Audio

U.S. and Canada only - 3 years

Sony Electronics Inc. solely for purchases made in the United States and Sony of Canada Ltd. solely for purchases made in Canada (collectively "Sony") warrants this product against defects in material or workmanship for the original owner and any subsequent end user owner(s) ("You" or "Your") for the time period set forth above as set forth herein. Pursuant to this Limited Warranty, Sony will, at its option, (i) repair the product using new or refurbished parts or (ii) replace the product with a new or recertified/refurbished product of the same (or similar) model. For purposes of this Limited Warranty, "recertified" or "refurbished" means a product or part that has been returned to its original specifications. In the event of a defect, these are Your exclusive remedies. Sony does not warrant that the operation of the product will be uninterrupted or error-free

Term: For the time period set forth above from the original date of purchase of the product when purchased directly from Sony or Sony authorized dealer (To determine if a dealer is in the Sony authorized dealer network, please visit US: www.sony.com/retailers; Canada: https://dealerlocator.sony.ca/locator; or contact Sony directly), Sony will, at its option, repair or replace with a new, recertified or refurbished product or part, any product or part determined to be defective.

This Limited Warranty covers only the hardware components packaged with the product. It does not cover separate accessories, technical assistance for hardware or software usage and it does not cover any software products whether or not contained in the product, and other included content; any such software or other included content is provided "AS IS" unless expressly provided for in any enclosed software Limited Warranty or End User License Agreement. Please refer to the End User License Agreement(s) included with the product for Your rights and obligations with respect to the software or other included content. If You purchased an extended service plan, please refer to the service plan for the coverage, duration and terms of service. Extended service plans are not governed by this Limited Warranty.

To obtain warranty service, You must deliver the product, in either its original packaging or packaging affording an equal degree of protection to a Sony authorized service center together with a dated purchase receipt in order to obtain warranty service. Sony cannot guarantee that it will be able to repair any product under this warranty or make a product exchange without risk to or loss of software or data. It is Your responsibility to remove or backup any removable media or parts, data, software or other materials You may have stored or preserved on Your product. It is likely that any media or parts, data, software, or other materials (like pictures, music, videos, etc.) will be lost or reformatted during service and Sony will not be responsible for any such damage or loss. Contact the following for specific instructions on how to obtain warranty service for Your product:

For purchases made in the UNITED STATES:

Visit Sony's Website: www.sony.com/support Or call the Customer Experience Center: 1-800-222-SONY (7669) To register Your product or for contact information to purchase accessories or parts go to Sony's Website

For purchases made in CANADA:

Visit Sony's Website: www.sony.ca/support
Or call the Customer Experience Center: 1-877-899-SONY (7669)
To register Your product or for contact information to purchase accessories or parts go to Sony's Website
On-site service for televisions of certain dimensions may be available to a customer living within a 50km radius of an authorized Sony service facility, provided the residence can be accessed by an on-road service vehicle.

Repair/Replacement Warranty: This Limited Warranty shall apply to any repair, replacement part or replacement, recertified or refurbished product for the remainder of the original Limited Warranty period or for ninety (90) days, whichever is longer. Any parts or product replaced under this Limited Warranty will become the property of Sony. Any replacement, recertified or refurbished product provided under this Limited Warranty may, at Sony's option, vary in color and/or cosmetic design from the original product and may not include any original engraving or similar customization/personalization.

Sony is not responsible for, and this Limited Warranty does not cover, any damage arising from a failure to operate the product within its intended uses, or otherwise follow the owner's manual and safety instructions relating to the product's use and installation. This Limited Warranty only covers product issues caused by defects in material or workmanship during ordinary consumer use. This Limited Warranty does not cover products purchased from sources other than Sony or a Sony authorized dealer (including worknarship during ordinary consumer use. This Limited Warranty does not cover products purchased from sources of earth sony or a sony authorized ordinary consumer use. This Limited Warranty does not cover products purchased from sources of earth sony or a sony authorized ordinary (ii) accidental damage; (iv) abuse; (v) limitations of technology; (vi) cosmetic damage; (vii) contact with liquid, heat, humidity or perspiration, sand, smoke, or foreign materials; (viii) use of parts or supplies not sold or authorized by Sony; (ix) servicing not authorized or performed by Sony or a Sony authorized service center; (x) computer or internet viruses, bugs, worms, or Trojan Horses; (xii) malfunctions due to peripherals/accessories; (xiii) modifications of or to any part of the product, including "rooting" or other modifications to control the behavior of the product or any factory installed operating system; (xiii) consumable parts such as batteries; or (xiv) any product where the factory-applied serial number has been altered or removed from the product. Further, to the extent this product incorporates use of a display, please note that a display contains hundreds of thousands of individual pixels, and displays typically contain a small number of pixels that do not function properly. This Limited Warranty does not cover up to .01% pixel outages (small dot picture elements that are dark or incorrectly illuminated).

This Limited Warranty does not cover Sony products sold "AS IS" or "WITH ALL FAULTS" or consumables (such as fuses or disposable batteries). Sony will not replace missing components from any package purchased "Open Box" or "AS IS". This Limited Warranty is valid only in the United States and Canada (as applicable).

LIMITATION ON DAMAGES: SONY SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY OR CONDITION ON THIS PRODUCT. NOR SHALL RECOVERY OF ANY KIND AGAINST SONY BE GREATER THAN THE ORIGINAL PURCHASE PRICE OF THE PRODUCT FROM SONY OR AN AUTHORIZED SONY DEALER.

DURATION OF IMPLIED WARRANTIES OR CONDITIONS: EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTIBILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED IN DURATION TO THE DURATION OF THIS LIMITED WARRANTY.

Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to You. This Limited Warranty gives You specific legal rights and You may have other rights which vary from jurisdiction to jurisdiction.

For purchases made in the U.S.: Read the following Dispute Resolution/Arbitration provision carefully. It details Your rights and instructions should a dispute related to the product arise.

What Happens If We Have A Dispute: Should a dispute or claim arise related to the product, Your purchase and/or use of the product, the terms of this Limited Warranty, or any service provided under the terms of this Limited Warranty (including any repair or replacement) ("Dispute"), You and Sony agree that the Dispute shall be resolved exclusively through binding arbitration. YOU UNDERSTAND AND ACKNOWLEDGE THAT BY AGREEING TO ARBITRATION, YOU ARE GIVING UP THE RIGHT TO LITIGATE (OR PARTICIPATE IN AS A PARTY OR CLASS MEMBER) IN ANY DISPUTES IN COURT. You also agree that ANY DISPUTE RESOLUTION PROCEEDING WILL ONLY CONSIDER YOUR INDIVIDUAL CLAIMS, AND BOTH PARTIES AGREE NOT TO HAVE ANY DISPUTE HEARD AS A CLASS ACTION, REPRESENTATIVE ACTION, CONSOLIDATED ACTION, OR PRIVATE ATTORNEY GENERAL ACTION. Despite the above, You have the right to litigate any Dispute on an individual basis in small claims court or other similar court of limited jurisdiction, to the extent the amount at issue does not exceed \$15,000, and as long as such court has proper jurisdiction and all other requirements (including the amount in controversy) are satisfied.

Arbitration Instructions. To begin Arbitration, either You or Sony must make a written demand to the other for arbitration. The Arbitration will take place before a single arbitrator. The arbitration will be administered in keeping with the Expedited Procedures of the Commercial Arbitration Rules and the Supplementary Proceedings for Consumer-Related disputes ("Rules") of the American Arbitration Association ("AAA"), when applicable and in effect when the claim is filed. You may get a copy of AAA's Rules by contacting AAA at (800) 778-7879 or visiting www.adr.org. The filing fees to begin and carry out arbitration will be shared between You and Sony, but in no event shall Your fees ever exceed the amount allowable by the special rules for Consumers Disputes provided for by AAA, at which point Sony will cover all additional administrative fees and expenses. This does not prohibit the Arbitrator from giving the winning party their fees and expenses of the arbitration when appropriate pursuant to the Rules. Unless You and Sony agree differently, the arbitration will take place in the county and state where You live, and applicable federal or state law shall govern the substance of any Dispute during the arbitration. However, the Federal Arbitration Act, 9 U.S.C. § 1, et seq., will govern the arbitration itself and not any state law on arbitration. Act and not any state law on arbitration. The Arbitrator's decision will be binding and final, except for a limited right of appeal under the Federal Arbitration Act.

Opt-Out Instructions. IF YOU DO NOT WISH TO BE BOUND BY THE BINDING ARBITRATION PROVISION, THEN: (1) You must notify Sony in writing within 30 days of the date that You purchased the product; (2) Your written notification must be mailed to Sony Electronics Inc., 16535 Via Esprillo, MZ 1105, San Diego CA 92127, Attn: Legal Department; AND (3) Your written notification must include (a) Your NAME, (b) Your ADDRESS, (c) the DATE You purchased the product, and (d) a clear statement that "YOU DO NOT WISH TO RESOLVE DISPUTES WITH ANY SONY ELECTRONICS ENTITY THROUGH ARBITRATION AND/OR BE BOUND BY THE CLASS ACTION WAIVER."

Opting out of this dispute resolution procedure will not affect the coverage of the Limited Warranty in any way, and You will continue to enjoy the benefits of the Limited Warranty.