



User Guide

Stereo Receiver

R200A

EN

TABLE OF CONTENTS

ABOUT THIS PRODUCT AND MANUALS

6

Features of this product

6

Supplied accessories and required commercially available items

7

About the manuals for this product

9

About the manuals for this product

9

Notes about the safety information in the User Guide

10

NAMES OF PARTS AND THEIR FUNCTIONS

11

Front panel

11

Rear panel

13

Front display

14

Remote control

15

LAYOUT

19

Placing the product

19

Placing the speakers

20

CONNECTION

21

Connecting the speakers

21

Preparing the speakers and speaker cables

21

How to connect the speakers

22

Connecting the speakers

25

Bi-wiring connections (for high-quality audio)

27

Connecting a subwoofer

28

Connecting external devices

29

Connecting audio devices

29

Connecting radio antennas

30

FM antenna

30

DAB/FM antenna

31

AM antenna

32



Connecting to power	33
Connecting to power	33
Turning the power on	34
PLAYBACK	35
Basic operation	35
Switching the output speakers	35
Selecting the input source	36
Adjusting the volume	37
Switching the front display	38
Playing radio	39
Selecting radio stations	39
Registering and deleting presets	41
Tuning to a Radio Data System (RDS) broadcaster	44
Tuning to a DAB radio station	45
Playing audio from a Bluetooth® device	48
Pairing (initial setting)	48
Multi-point connection (connecting 2 devices simultaneously)	51
Adjusting the sound	53
Adjusting bass and treble (BASS/TREBLE)	53
Adjusting volume balance (BALANCE)	54
USEFUL FUNCTIONS	55
Adjusting the brightness of the front display	55
Sleep timer	56
SETTINGS	57
Menu structure	57
Options menu	58
Basic operations of the options menu	58
Setting items	59
Volume difference adjustment	60
Displaying audio signal information	61
Preset	62
DAB initial setup	63
Displaying the signal strength of the DAB channel	64
Pairing a Bluetooth device	65
Bluetooth input synchronization	66

Settings menu 67

- Basic operation of the settings menu 67
- Setting items 68
- Balance control 69
- Configuring the volume 70
- Setting Bluetooth 71
- Auto standby 72
- Firmware update 73
- Initializing settings 74

FIRMWARE AND INITIALIZATION 75

Firmware update overview 75

Checking the firmware version 76

How to update the firmware 77

- Updating the firmware via a USB flash drive 77

Initializing settings 79

TROUBLESHOOTING 80

What to check first 80

Problems with power, system, and/or remote control 81

- Power fails to turn on 81
- Power does not turn off 82
- Power turns off right away 83
- Power switches to standby automatically 84
- The product does not respond to operations 85
- This product cannot be operated from the remote control 86

Problems with the audio 87

- No sound 87
- Volume cannot be increased 88
- No sound is output from a particular speaker 89
- No sound is output from the subwoofer 90
- Noise is being output 91
- Sound is distorted 92

Problems with FM radio 93

- Radio reception is poor or has noise 93
- Cannot automatically select FM radio stations 94
- Cannot select a radio station using the PRESET key 95



Problems with DAB radio 96

 Cannot receive DAB radio stations 96

 DAB radio cannot be received even after performing the initial scan 97

 DAB radio reception is poor or has noise 98

 DAB is unavailable or displayed as inaccurate 99

 No sound from DAB radio 100

Problems with AM radio 101

 AM radio reception is poor or has noise 101

 Cannot automatically select AM radio stations 102

 Cannot register (preset) AM radio stations 103

 Cannot select a radio station with the PRESET key 104

Bluetooth connection 105

 Cannot connect with a Bluetooth device 105

 When connected via Bluetooth, there is no sound or audio dropouts occur 106

Front display error messages 107

SPECIFICATIONS 108

Specifications 108

APPENDIX 112

Supported devices and formats 112

 Supported Bluetooth devices 112

Support centers 113

Trademarks 114

About third-party software programs 115



ABOUT THIS PRODUCT AND MANUALS

Features of this product

It is a stereo receiver that lets you enjoy a wide range of audio sources, including CDs, vinyl records, and radio, with premium sound quality. It supports Bluetooth® playback and connects to various devices via analog input jacks (LINE×2, CD×1, PHONO×1).

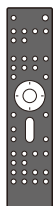
It also has a subwoofer pre-out, allowing you to connect your preferred speakers for true Hi-Fi audio.

Supplied accessories and required commercially available items

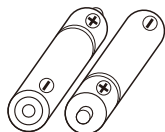
■ Check the supplied accessories.

This product comes with the following accessories. Make sure you have received all of the following accessories:

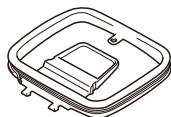
- Remote control (×1)



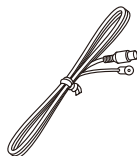
- AAA batteries (R03, UM-4) (×2)



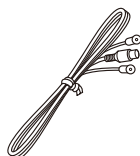
- AM antenna (×1)



- FM antenna (U.S.A. and Canada models) (×1)



- DAB/FM antenna (U.K., Europe, and Australia models) (×1)



- Safety Guide
- Quick Guide

■ Obtain commercially available items

Obtaining the necessary items beforehand will help make the setup process smoother.

- Speakers
- Subwoofer* (with a built-in amp)
- Speaker cables (qty required for the speakers)
- Audio pin cable* (for connecting the subwoofer)
- Banana plugs* (if used to connect speaker cables)

* Items marked with are optional. Have them ready if needed.

Prepare the necessary cables to connect the audio devices, such as analog stereo cables and RCA-type pin cables, based on the audio devices' audio jacks or terminals.

Next step

- "Remote control" (p.15)

About the manuals for this product

About the manuals for this product

The following guides are included with this product or are available on the Yamaha website.

Safety Guide

This contains important information for the safe use of the product. Be sure to read this guide before use.

Quick Guide

This explains the steps from opening the box after purchase to connecting speakers and playback devices and enjoying audio.

User Guide (this guide)

This explains all functions and operating procedures, including those not covered in the Quick Guide.

Notes about the safety information in the User Guide

- The User Guide (this guide) uses the following signal words for important safety information.



WARNING

Content that indicates a risk of serious injury or death.



CAUTION

Content that indicates a risk of injury.

• NOTICE

Content that must be followed to prevent product failure, damage, malfunction, data loss, and ensure environmentally friendly use.

• NOTE

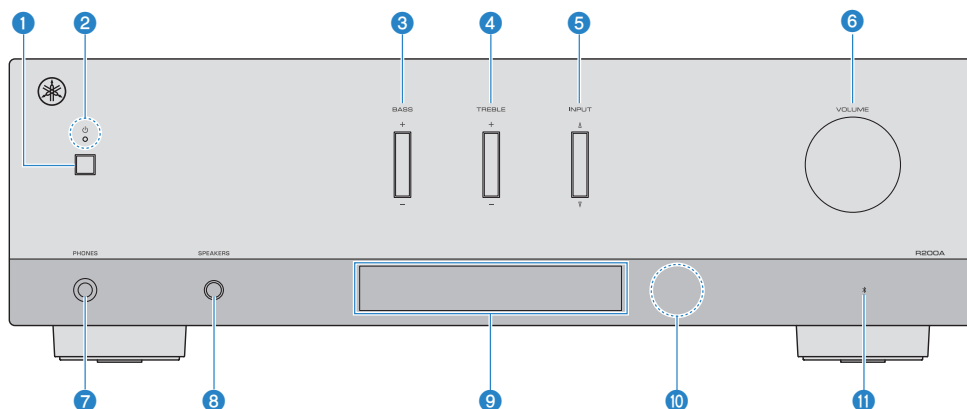
Usage tips, functional limitations, and helpful supplementary information.

- The illustrations and screenshots in the descriptions are for explanatory purposes only.
- The company names and product names in this guide are the trademarks or registered trademarks of their respective companies.
- In this guide, various smartphones and tablets are collectively referred to as “smartphones”. When necessary, the specific type of device is noted within the explanations.
- This guide mainly explains operations using the remote control. If it is necessary to perform an operation on the product itself, this is noted in the relevant section.

NAMES OF PARTS AND THEIR FUNCTIONS

Front panel

This section explains the names and functions of each part of the front panel.



1 **⏻ (Power) key**

Turns the product on or off (in standby). (p.34)

2 **Power indicator**

Lights up as follows to indicate the power state.

- Power on: Indicator lights up.
- Power in standby and Bluetooth Standby enabled: Indicator is faintly lit.
- Power off: Indicator is off.

3 **BASS**

Adjusts the volume of low frequencies (p.53).

4 **TREBLE**

Adjusts the volume of high frequencies (p.53).

5 **INPUT**

Selects the input source (p.36).

6 **VOLUME**

Adjusts the volume.

7 **PHONES jack**

For plugging in headphones.

8 SPEAKERS

For selecting the speakers to play through. Toggles Speakers A or B ON/OFF each time it is pressed (p.35).

9 Front display

Displays various information and menus (p.14).

10 Remote control sensor

Receives infrared signals from the remote control (p.15).

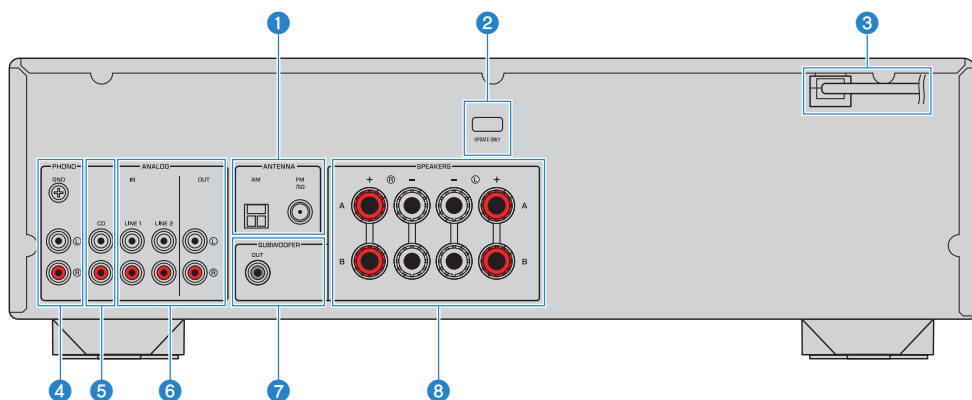
11 Bluetooth indicator

Turns on in the following condition.

- Bluetooth connected: On
- Bluetooth disconnected: Off

Rear panel

This section explains the names and functions of each part on the rear panel.



1 ANTENNA terminals

For connecting a radio antenna (p.30).

2 USB terminal

Dedicated to updating the firmware. Does not support playing music (p.77).

3 Power cord

Connects to an electrical outlet (p.33).

4 PHONO input jacks

For connecting to a turntable (record player) (p.29).

5 CD input jacks

For connecting to the analog audio output of devices such as a CD player (p.29).

6 LINE 1 and 2 jacks

For connecting external devices with analog audio input and output (p.29).

7 SUBWOOFER PRE OUT jack

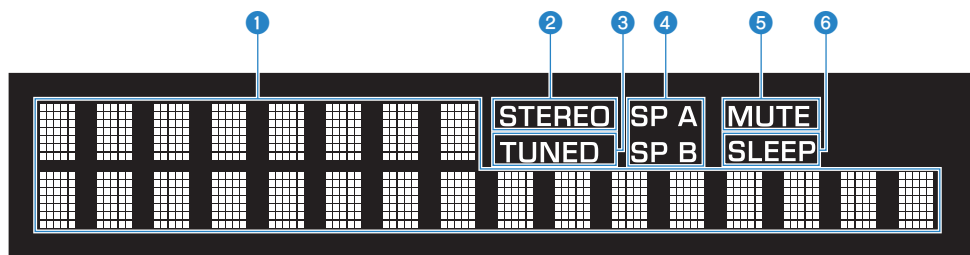
For connecting to a subwoofer with a built-in amplifier (p.28).

8 SPEAKERS terminals

For connecting to speakers (p.25).

Front display

This section explains the names and functions of the parts of the front display.



1 Information display

Displays various types of information, including the input source name. The displayed information can be changed by pressing the DISPLAY key (p.38).

2 STEREO indicator

Lights up when FM radio is received in stereo.

3 TUNED indicator

Lights up when AM/FM radio is received.

4 Speaker indicators

The indicator(s) for the speaker(s) (A/B) playing audio light up.

5 MUTE indicator

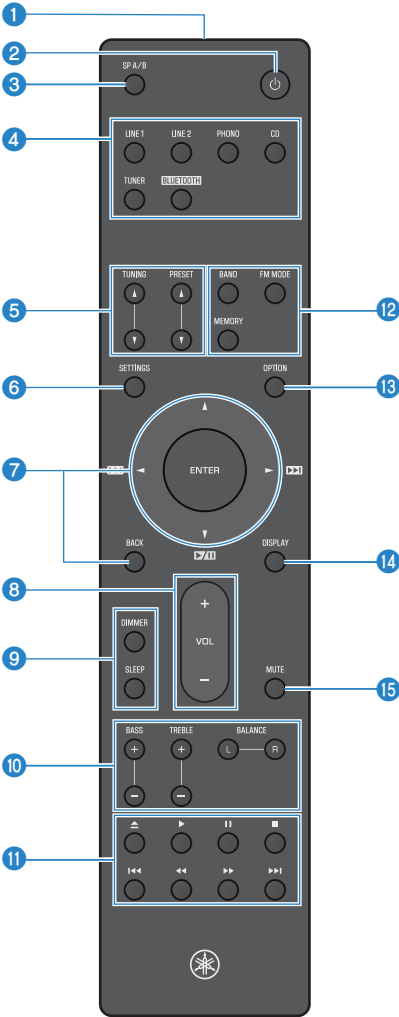
Flashes when the audio is muted.

6 SLEEP indicator

Lights up when the sleep timer has been set (p.56).

Remote control

This section explains the names and functions of the remote control's parts.



- 1 Remote control signal transmitter**
Sends infrared signals from the remote control.
- 2 (Power) key**
Turns the product on or off (in standby) (p.34).

3 SP A/B key

For switching the output speakers. Toggles Speakers A or B ON/OFF each time it is pressed (p.35).

4 Input source selection keys

Selects the input source to play (p.36).

5 TUNING key

Switches the frequency of AM/FM radio (p.39).

PRESET key

Used to select a registered (preset) radio station (p.41).

6 SETTINGS key

Opens the settings menu (p.67).

7 ENTER and Cursor keys, and BACK key

Used to navigate the menus, including selecting menu options and changing settings.

8 VOLUME key

Adjusts the volume.

9 DIMMER key

Changes the brightness of the front display(p.55).

SLEEP key

Sets the sleep timer (p.56).

10 BASS keys, TREBLE keys, and BALANCE keys

Adjust the sound (p.53).

11 Yamaha CD player control keys

Used to control playback on a Yamaha CD player connected to the CD input.

Open/Close tray (▲)

Opens or closes the tray while the CD player is on.

Play (▶)

Starts playback.

Stop (■)

Stops playback.

Rewind (◀◀)

Rewinds the currently playing track.

Skip (◀◀)

Skips to the beginning of the current track.

Fast-Forward (▶▶)

Fast-forwards the currently playing track.

Skip (▶▶)

Skips to the beginning of the next track.

12 BAND key

Switches between AM/FM (p.39).

FM MODE key

Switches the FM radio reception mode (p.39).

MEMORY key

For registering radio stations (presets) (p.41).

13 OPTION key

Displays the options menu (p.58).

14 DISPLAY key

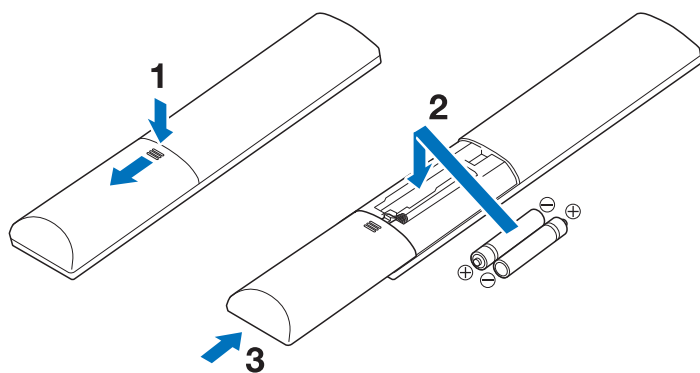
Used to switch the information shown on the front display (p.38).

15 MUTE key

Mutes the sound. Pressing it again restores the previous volume level.

■ How to insert batteries

Insert the supplied batteries into the remote control, making sure the + and - ends are facing the correct directions.

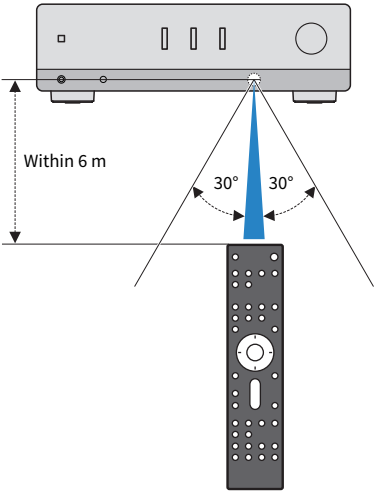


■ Remote control operating range

The operating range of the remote control is shown in the following illustration.

Use by pointing the remote control toward the product's remote control sensor.

NAMES OF PARTS AND THEIR FUNCTIONS > Remote control

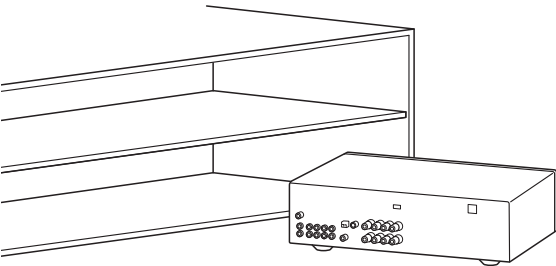


LAYOUT

Placing the product

Temporarily place the product in a location where wiring and operation are convenient.
When the setup and operating procedures in this guide are complete, replace the unit in your preferred location, such as a rack.

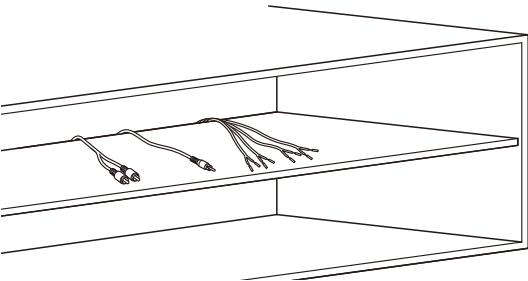
Example



NOTE

- Ensure there is sufficient space around the product.
- If you use the product on a rack, route the cables through the back of the rack beforehand to make it easier to connect to the product.

Example



Next step

- “Placing the speakers” (p.20)

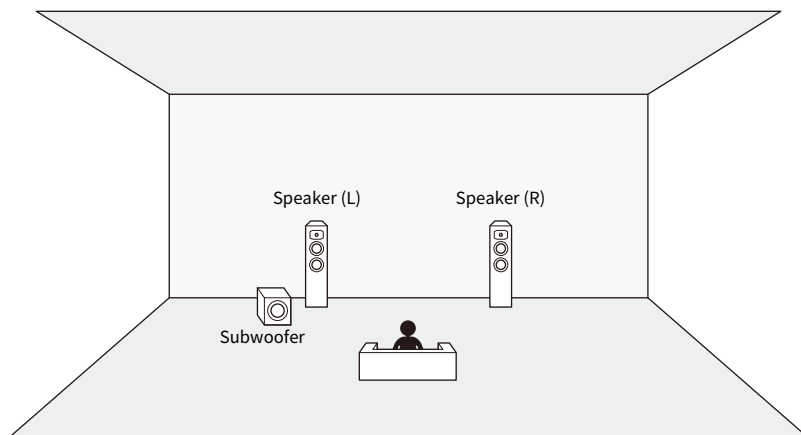
Placing the speakers

Place the speakers as shown in the illustration below for the best sound.

This product is a Stereo Receiver that supports 2-channel stereo playback.

Place the left (L) and right (R) speakers symmetrically.

By adding a subwoofer with a built-in amplifier, you can enhance the bass.



CONNECTION

Connecting the speakers

Preparing the speakers and speaker cables

■ Preparing the speakers

Prepare the speakers and subwoofer for connection to this product by keeping the following points in mind.

- Use speakers with the impedances listed below. Connecting speakers with excessively low impedance may cause this product to overheat.
- Use a subwoofer with a built-in amplifier.

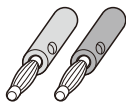
Speaker connection	Speaker impedance
Using either speaker connection A or B	8 Ω or more
Using both speaker connections A and B*	16 Ω or more
Bi-wiring connections	8 Ω or more

* : When output simultaneously.

■ Preparing the speaker cables

To connect this product to your speakers, obtain the following commercially available cables.

- U.S.A. and Canada models
Banana plugs (if used to connect speaker cables)



- Speaker cables (for speaker connection)



- Monaural pin cable (for subwoofer connection)



Next step

- “How to connect the speakers” (p.22)

How to connect the speakers

Connect the speakers and subwoofer.

Before making any connections, disconnect this product and the speakers/subwoofer from the AC outlet.

■ When using banana plugs

Model For

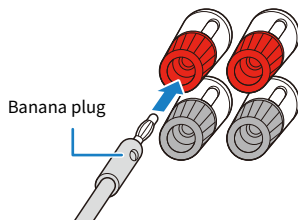
U.S.A. and Canada

Using banana plugs allows easier and safer connections than using bare speaker cables.

1 Tighten the speaker terminal.



2 Insert the banana plug into the speaker terminal.



■ When using speaker cables without banana plugs

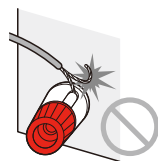
If banana plugs are not used, the speakers can be connected using speaker cables only.

NOTICE

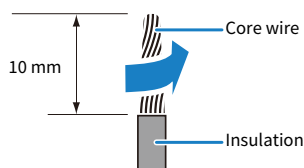
- When preparing the speaker cables, work away from the product. Otherwise, pieces of the cable strands of the speaker cable may fall inside the product and cause a short circuit, resulting in malfunction.
- Incorrect speaker cable connection may cause a short circuit and damage this product or the speakers.
- Do not allow cable strands to touch each other.



- Do not allow cable strands to touch any metal parts of this product (rear panel, screws, etc.).



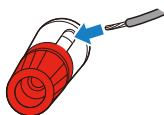
1 Strip about 10 mm of insulation from the end of the speaker cable, then twist the strands tightly.



2 Connect the speaker cable to the speaker terminal.



Loosen the speaker terminal.



Insert the core wire of the speaker cable into the gap on the side of the terminal (upper right or lower left).

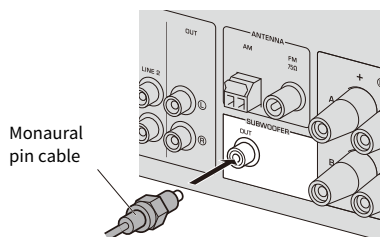


Tighten the terminal.

This completes the speaker connections.

■ Connecting a subwoofer

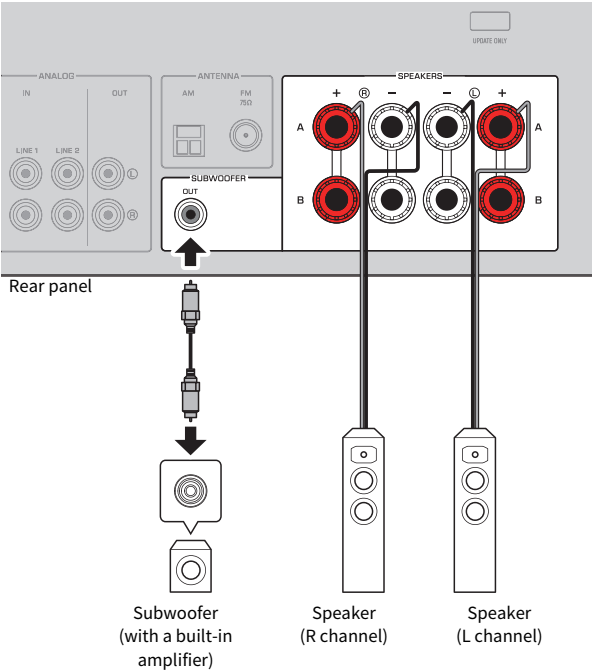
Connect this product and the subwoofer using a monaural pin cable.



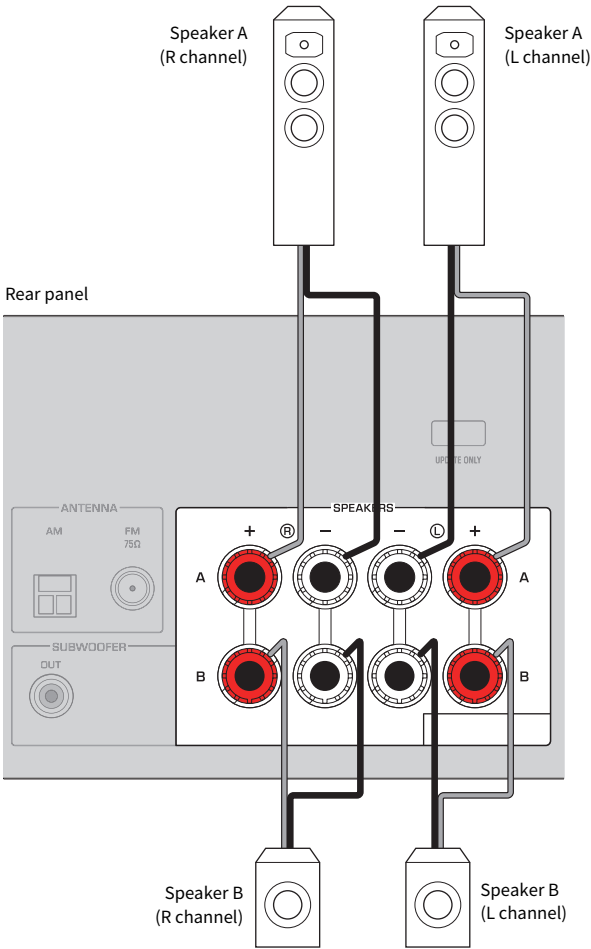
Connecting the speakers

Connect the speakers as shown in the illustration below, following their placement.

■ Speaker connections



■ When connecting speakers A and B



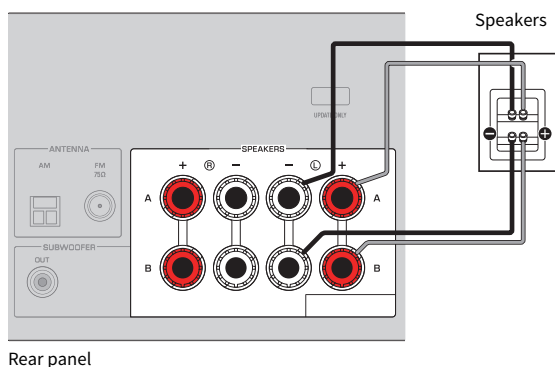
Bi-wiring connections (for high-quality audio)

Bi-wiring allows you to split the output between the speaker woofers (low-frequency) and the tweeter/midrange (mid- to high-frequency) and drive them separately. You need speakers that support bi-wiring for these connections.

1 Remove the jumper bars or bridges attached to the speaker terminals.

2 Connect the product and the speakers as illustrated.

The illustration shows connecting the left channel. Connect the right channel in the same way. You can swap the speaker terminals A and B for the speaker connections.



NOTE

- If the system is bi-wired, turn on the product, then press the SP A/B key to enable speakers A and B.
- Use bi-wiring-compatible speakers with an impedance of 8 Ω or higher.

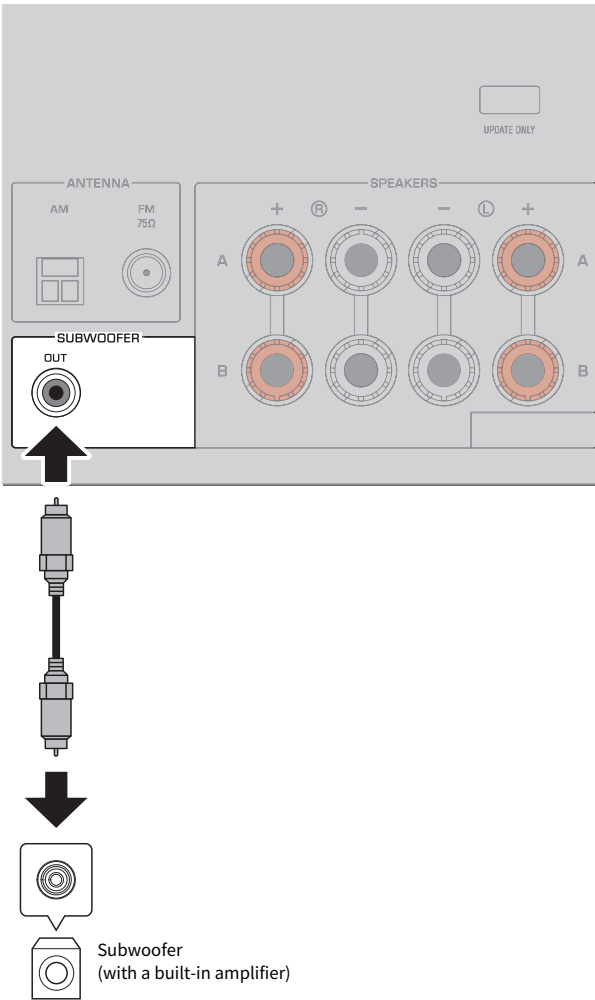
Related links

“Switching the output speakers” (p.35)

Connecting a subwoofer

To use a subwoofer, connect it to the product using a commercially available monaural pin cable (RCA).

Rear panel



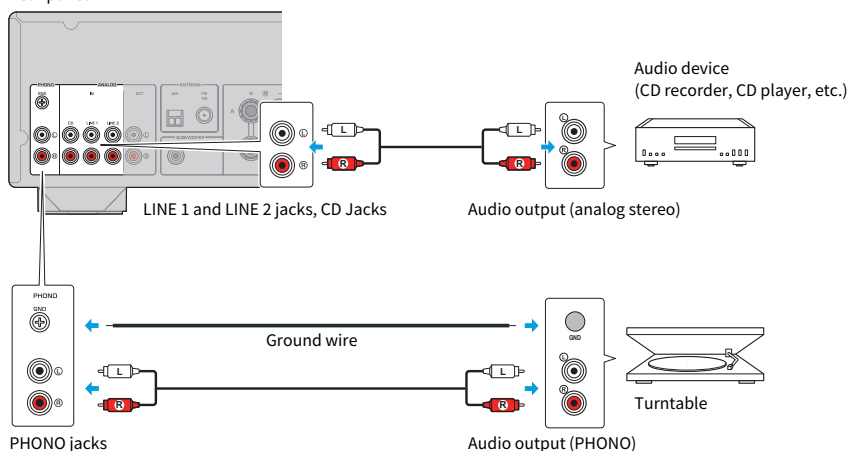
Connecting external devices

Connecting audio devices

This explains how to connect audio devices, such as a CD player, to the product.

Use suitable cables to connect the audio devices, such as RCA-type pin cables, based on the audio devices' audio jacks or terminals.

Rear panel



NOTE

The PHONO jacks on this product are compatible with MM cartridges. Use a step-up transformer or similar if connecting a turntable with an MC (low-output) cartridge.

Related links

"Rear panel" (p.13)

Connecting radio antennas

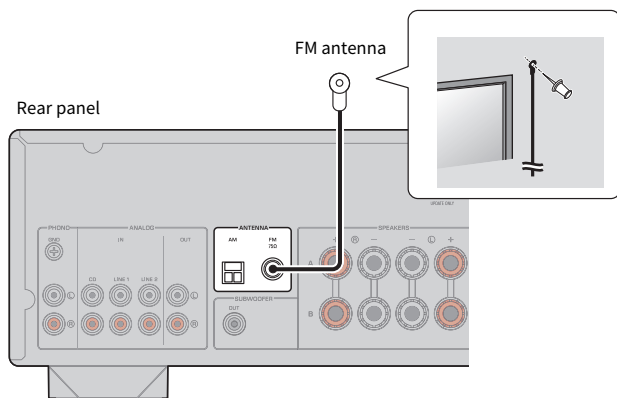
FM antenna

Model For

U.S.A. and Canada

Connect the supplied FM antenna to this product.

After connecting it, secure the FM antenna to a wall.



NOTE

Reception quality varies depending on where the antenna is positioned. If radio reception is poor, adjust the height, direction, or placement of the FM antenna.

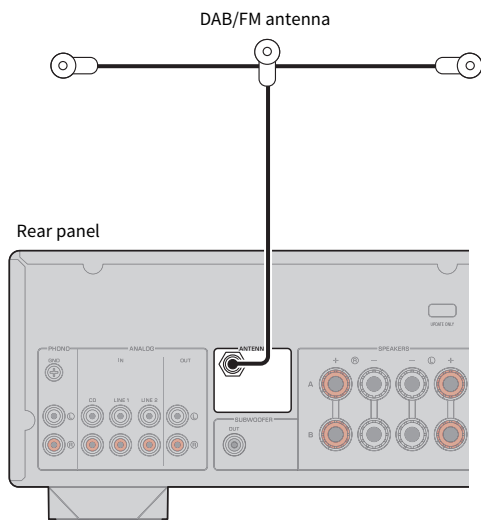
DAB/FM antenna

Model For

U.K., Europe, and Australia

Connect the supplied DAB/FM antenna to this product.

After connecting it, secure the DAB/FM antenna to a wall.



NOTE

- Extend the antenna horizontally.
- Reception quality varies depending on where the antenna is positioned. If radio reception is poor, adjust the height, direction, or placement of the DAB/FM antenna.

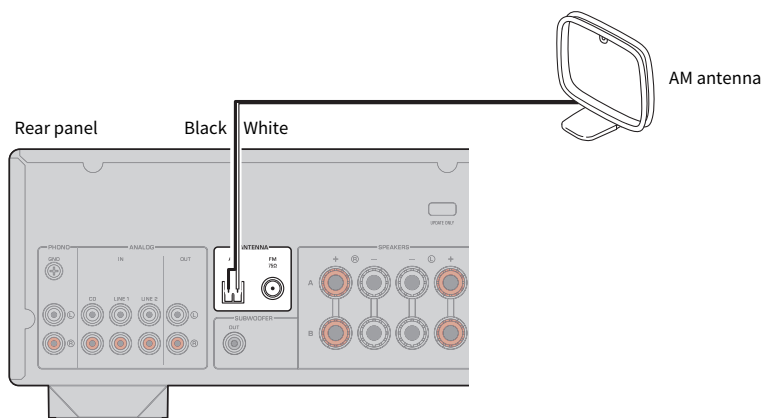
AM antenna

Model For

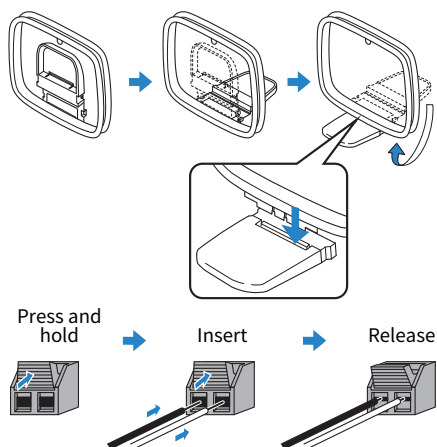
U.S.A. and Canada

Connect the supplied AM antenna to this product.

After connecting it, place the AM antenna on a flat surface.



Assembly and connection of the AM antenna



NOTE

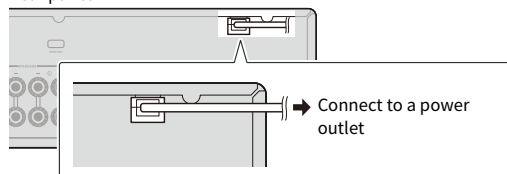
- Unwind only as much wire from the antenna unit as needed for wiring.
- The AM antenna cord does not have polarity.

Connecting to power

Connecting to power

After making all the connections, plug the power cord into an outlet.

Rear panel



NOTE

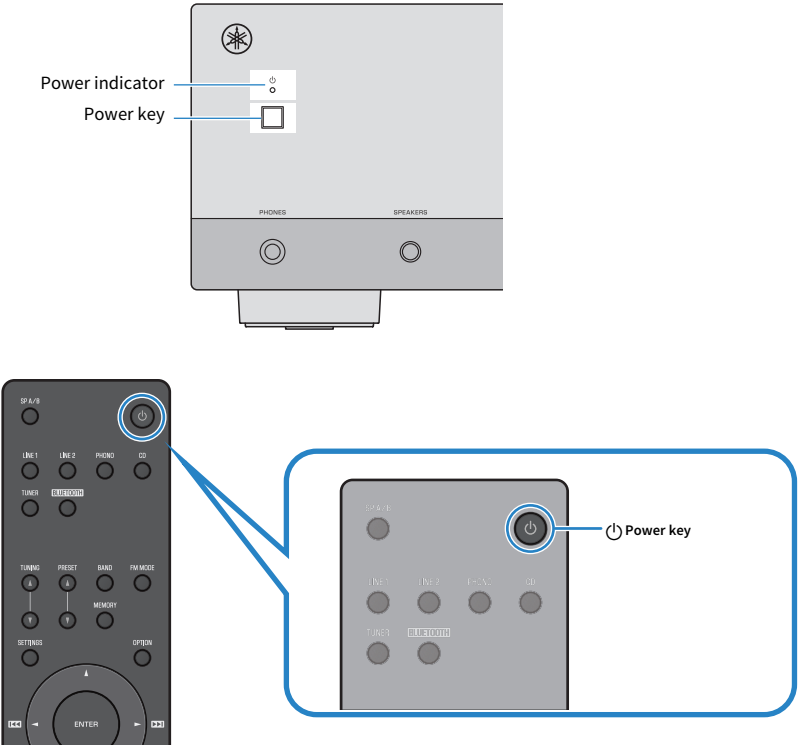
Be sure to unplug this product from the power outlet when it will not be used for an extended period. This product consumes a small amount of electricity even when its power is in Standby.

Turning the power on

Turn the product on.

Use the  (power) key on the remote control or on the front panel to turn the power on.

When the power comes on, the power indicator lights up.



NOTE

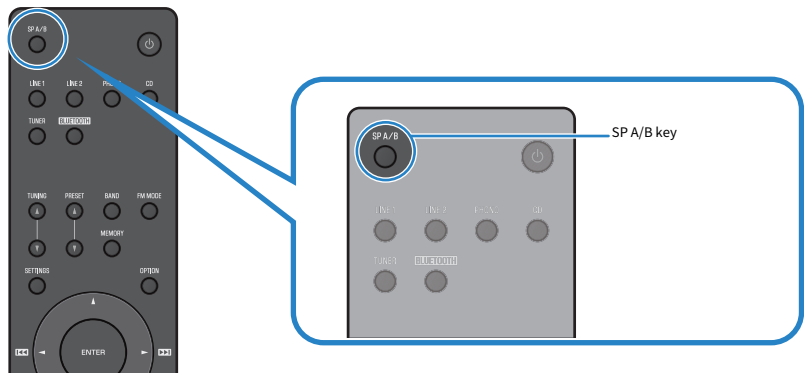
It takes several seconds from turning the power on to the audio playing.

PLAYBACK

Basic operation

Switching the output speakers

Press the SP A/B key to select the output speakers.
You can see which speakers are selected by checking the speaker indicators on the front display.



Each time you press the SP A/B key, it toggles Speakers A or B on/off.

Speaker indicator status

Speaker indicator	Output speakers
SPA	Output from Speakers A.
SPB	Output from Speakers B.
SPA SPB	Output from Speakers A and Speakers B.
No indicator	No output from both Speakers A and Speakers B.

NOTE

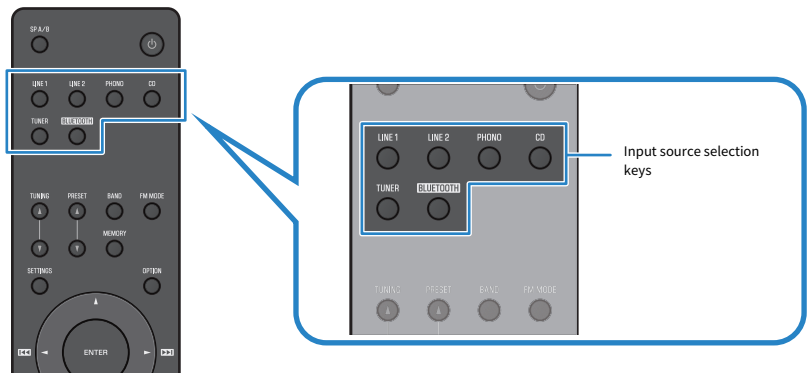
- You can also select the speakers by pressing SPEAKERS on the front panel.
- If the speakers are bi-wired, turn on both Speakers A and Speakers B.
- When headphones are connected, the speaker output is disabled.

Selecting the input source

To play music, select the desired input source.

- 1 Turn on the external device to use.
- 2 Press the input source selection key for the input source you want to use.

The following input sources are available:



Input source selection keys	Input source
LINE 1 / LINE 2	Audio input via the LINE 1 or LINE 2 input jacks
PHONO	Audio input from a turntable (record player) connected to the PHONO input jacks
CD	Audio input via the CD input jacks
TUNER	Radio audio
BLUETOOTH	Audio input from a Bluetooth-connected device, such as a smartphone

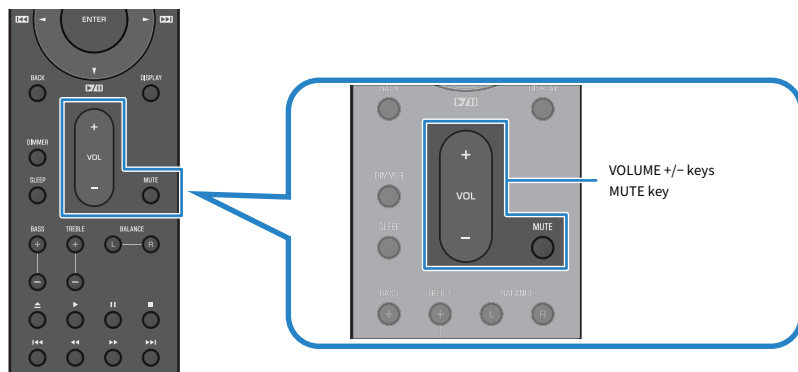
- 3 Start playback using an external device, or select a radio station on this product.

NOTE

- You can also press INPUT on the front panel to select the input source.
- How the playback keys behave and what information is displayed depend on the input source and the content being played.
- For information on operating your external device, consult its owner's manual.

Adjusting the volume

Press the VOLUME +/- keys or the MUTE key to adjust the volume.



NOTE

- You can also turn VOLUME on the front panel to adjust it.
- Pressing the MUTE key mutes the sound. Pressing it again returns the volume to its previous level.
- You can adjust the sound to your preference using the BASS and TREBLE keys on the front panel.

Related links

- “Adjusting bass and treble (BASS/TREBLE)” (p.53)
- “Adjusting volume balance (BALANCE)” (p.54)

Switching the front display

The information shown on the front display can be changed depending on the current input source. Press the DISPLAY key repeatedly to select the desired display item.

Input	Displayed screen
LINE, CD, PHONO	Input
BLUETOOTH	Input, Audio Format
TUNER	Frequency
TUNER-RDS	Frequency, PS, PTY, RT, CT
TUNER-DAB	Station Name, PTY, DLS, Ensemble, Name, Channel No., Channel Frequency, Audio Codec

NOTE

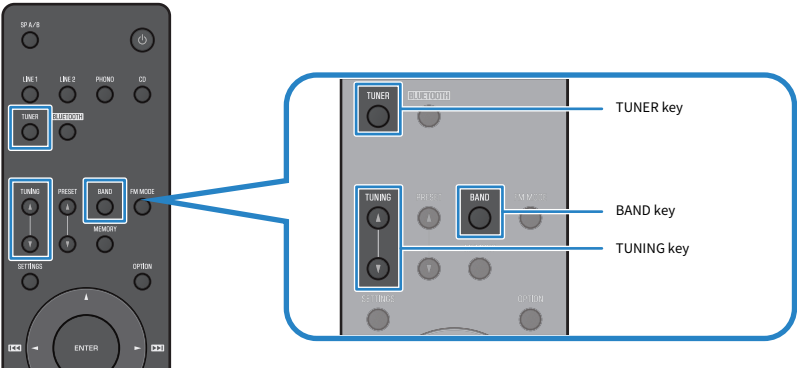
- How the playback keys behave and what information is displayed depend on the input source and the content being played.
- Some operations may not be available depending on the content being played and the connected device's specifications.



Playing radio

Selecting radio stations

You can use this product’s built-in tuner to listen to the radio.



- 1 Press the TUNER key to switch the input source to “TUNER”.**
- 2 Press the BAND key to switch to the next reception band.**
- 3 Press the TUNING key repeatedly to change the frequency.**

FM/DAB

Holding the key for approximately one second starts automatic tuning.
The currently selected frequency is shown on the front display.



NOTE

- If FM radio reception is unstable, switching to mono may improve the signal. Use the FM MODE key to switch the FM radio reception mode (Stereo/Mono).
- To select a registered radio station, press the PRESET key. For details on registering radio stations, see the related links below.



Related links

[“Registering and deleting presets” \(p.41\)](#)



Registering and deleting presets

■ Auto-registering radio stations (auto preset)

This function automatically registers the FM stations with the strongest signals to the preset numbers.

- 1 Press the TUNER key to switch the input source to “TUNER”.**
- 2 Press the OPTION key.**
The options menu opens on the display.
- 3 Select “Auto Preset” using the cursor keys (▲/▼), then press the ENTER key.**
- 4 Specify a starting preset number (optional).**

The selected preset number is used as the first preset number for automatic registration. To specify a starting preset number, use the PRESET key or the cursor keys (▲/▼), then press the ENTER key.

If you do not specify a starting preset number, registration begins with an automatically selected preset number.

Radio station search and registration start automatically.

Once all registrations are complete, a completion message is displayed.

The options menu closes automatically, and the display reverts to the normal TUNER display.

NOTE

- Up to 40 radio stations can be registered (40 stations total across FM and AM, or 40 each for FM and DAB).
- To stop registration, press the BACK key during the auto-preset process.
- (U.K. and Europe models only)
With the auto preset function, only radio stations that provide Radio Data System services will be automatically registered.

■ Registering radio stations (manual operation)

You can select a radio station and manually assign it to a preset number.

- 1 Tune to the radio station you want to register.**
- 2 Press the MEMORY key.**



- 3 Use the PRESET ▲/▼ keys to select the preset number (01–40) to register.**

4 Press the MEMORY key again.



This completes the registration.

NOTE

- Up to 40 radio stations can be registered (40 stations total across FM and AM, or 40 each for FM and DAB).
- To register the tuned station to the next available preset number after the most recently assigned one, press and hold the MEMORY key for 3 seconds or longer while the station you want to register is tuned in.
- To go back to the original display without registering, press the BACK key.
- After 30 seconds of inactivity, the display automatically returns to the previous display.

■ Recalling a registered radio station

This recalls a radio station (preset station) registered to a preset number.

1 Switch the input to “TUNER”.

2 Press the PRESET ▲/▼ key to select a preset number (01–40).

The radio station assigned to the preset number is recalled.

NOTE

- Any preset number not assigned to a radio station is skipped.
- If no radio stations are registered, “No Presets” is shown on the front display.

■ Deleting a registered radio station

You can remove a radio station registered to a preset number.

1 Switch the input source to “TUNER”.

2 Press the OPTION key to open the options menu on the front display.

3 Select “Clear Preset” and press the ENTER key.

4 Select the preset number to delete.

Press the PRESET ▲/▼ keys to select the preset number you want to delete (01–40).

5 Check the displayed number, then press the ENTER key to confirm deletion.

6 To delete other radio stations, repeat steps 2 to 5.

This completes the removal of the registration.

PLAYBACK > Playing radio

After completing the process, press the BACK key to return to the normal display.

Related links

[“Selecting radio stations” \(p.39\)](#)

Tuning to a Radio Data System (RDS) broadcaster

Radio Data System (RDS) is a data transmission system used by FM broadcasters. When tuned to an RDS broadcaster, this product displays RDS information, such as the broadcaster's name, on the front display. An FM broadcaster that supports RDS can be tuned in the same way as an ordinary FM radio station.

Model For
U.K. and Europe

- 1 Select the desired FM broadcaster that supports RDS.**
- 2 Press the **DISPLAY** key to change the display.**

If the received broadcaster supports RDS, the front display shows information such as the station name.

Frequency	Frequency
PS	Program Service
PTY	Program Type
RT	Radio Text
CT	Clock Time

NOTE

Use of the Auto Preset function is recommended for receiving Radio Data System (RDS) broadcasters. For details on "Auto Preset", see the related links below.

Related links

- "Selecting radio stations" (p.39)
- "Registering and deleting presets" (p.41)



Tuning to a DAB radio station

DAB radio scans for services in advance, then selects a registered service and tunes to it.

Model For

U.K., Europe, and Australia

NOTE

- When using a DAB radio for the first time, make sure to perform a DAB scan.
- When the product is moved to another location or the available broadcasters change, rescan.
- Operations may be unavailable during the scan. Wait until the scan completes.

■ Scanning DAB broadcasters (initial setting)

1 Press the TUNER key to switch the input source to “TUNER”.

2 Press the BAND key to switch to the DAB band.

The initial scan starts.

When the initial scan finishes, the product automatically tunes to the first DAB radio station in frequency order.

■ Registering radio stations (manual operation)

You can select a radio station and manually assign it to a preset number.

1 Tune to the radio station you want to register.

2 Press the MEMORY key.

3 Use the PRESET ▲/▼ keys to select the preset number (01–40) to register.

4 Press the MEMORY key again.

This completes the registration.

NOTE

- Up to 40 radio stations can be registered.
- DAB uses digital signals to provide clearer audio and more stable reception compared to analog signals. This product also supports DAB+. DAB+ is an upgraded version of DAB and supports stations that use the MPEG-4 HE-AAC v2 audio codec, which provides a more efficient transmission method.
- Because not all regions are covered yet, be sure to check DAB coverage in your area. For nationwide DAB status and a list of DAB frequencies worldwide, visit WorldDAB Online at <http://www.worlddab.org/>.
- If the initial scan fails to find DAB radio stations, you can run it using the “Initial Scan” option in the options menu.
- You can check the signal strength for each DAB channel label. In the options menu, select “Tune AID”. Then select the desired DAB channel label. The signal strength of the displayed DAB channel label ranges from 0 (none) to 100 (maximum).
- If you run the initial scan again after registering several DAB stations, the current DAB stations registered to the preset numbers will be cleared.

DAB frequency information

This product supports only Band III (174–240 MHz).

Frequency	Channel label
174.928 MHz	5A
176.640 MHz	5B
178.352 MHz	5C
180.064 MHz	5D
181.936 MHz	6A
183.648 MHz	6B
185.360 MHz	6C
187.072 MHz	6D
188.928 MHz	7A
190.640 MHz	7B
192.352 MHz	7C
194.064 MHz	7D
195.936 MHz	8A
197.648 MHz	8B
199.360 MHz	8C
201.072 MHz	8D
202.928 MHz	9A
204.640 MHz	9B
206.352 MHz	9C
208.064 MHz	9D
209.936 MHz	10A
211.648 MHz	10B
213.360 MHz	10C
215.072 MHz	10D
216.928 MHz	11A
218.640 MHz	11B
220.352 MHz	11C
222.064 MHz	11D
223.936 MHz	12A
225.648 MHz	12B
227.360 MHz	12C
229.072 MHz	12D
230.784 MHz	13A
232.496 MHz	13B
234.208 MHz	13C
235.776 MHz	13D
237.488 MHz	13E
239.200 MHz	13F



■ **Displaying DAB information**

When tuned to a DAB radio station, this product can receive various types of DAB information.

- 1 Tune to the desired DAB radio station.**
- 2 Press the **DISPLAY** key to change the display.**

The information will appear in the front display.

NOTE

Depending on the selected DAB radio station, some information may not be available.

TUNER-RDS	Frequency	Frequency
	PS	Program Service
	PTY	Program Type
	RT	Radio Text
	CT	Clock Time
TUNER-DAB	Station Name	Station Name
	PTY	Program Type
	DLS	Dynamic Label Segment
	Ensemble Name	Ensemble Name
	Channel No.	Channel No.
	Channel Frequency	Channel Frequency
	Audio Codec	Audio Codec



Playing audio from a Bluetooth® device

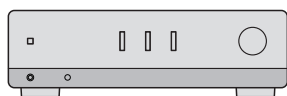
Pairing (initial setting)

Wirelessly connect a Bluetooth device (such as a smartphone) to this product to play music files and other audio.



CAUTION

- Adjusting the volume on the Bluetooth device may cause the sound to become unexpectedly loud, which can result in hearing impairment or damage to equipment. If the volume suddenly becomes too loud during playback, stop playback immediately.



This product



Bluetooth device
(smartphone, etc.)

1 Press the BLUETOOTH key to switch the input source to “Bluetooth”.

2 Check that “Pairing” is displayed on the front display.

If it is not displayed, press and hold the BLUETOOTH key.

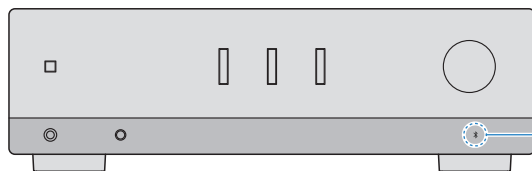
This product enters pairing mode. When pairing mode is enabled, the “✱” icon on the front panel flashes.

You can also access pairing from the “Pairing” option in the options menu.

3 Select this product (its network name) on the Bluetooth device.

The default name of this product is “Yamaha R200A”.

Once pairing is complete, “Connected” appears, and the Bluetooth indicator lights up.



Bluetooth indicator

4 Operate the Bluetooth device to play music.

You can also use the cursor keys (◀▶/⏮⏭/⏪⏩) to control playback on the Bluetooth device.

NOTE

- This product can register up to 8 Bluetooth devices (save them in the pairing history). When the 9th Bluetooth device is registered, the oldest registered device is automatically deleted.
- When the input is switched to Bluetooth, a paired Bluetooth device automatically connects if it is detected.
- Depending on the Bluetooth device, you may be able to control this product's volume directly from the device during playback. You can also adjust the volume by pressing the VOLUME +/- key on the remote control or by rotating the front panel VOLUME control.

■ How to disconnect a Bluetooth device

Perform one of the following.

- Turn the product off manually.
- Switch this product's input source to something other than "Bluetooth".
- In the settings menu, set "Bluetooth" to "Off".
- Turn off Bluetooth on the device.
- From the Bluetooth device's connection list, disconnect this product.
- From the Bluetooth device's connection list, remove this product (reconnection will require pairing).

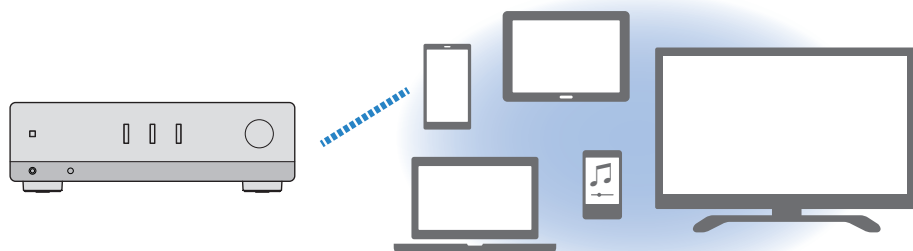
Related links

- "Pairing a Bluetooth device" (p.65)
- "Bluetooth input synchronization" (p.66)

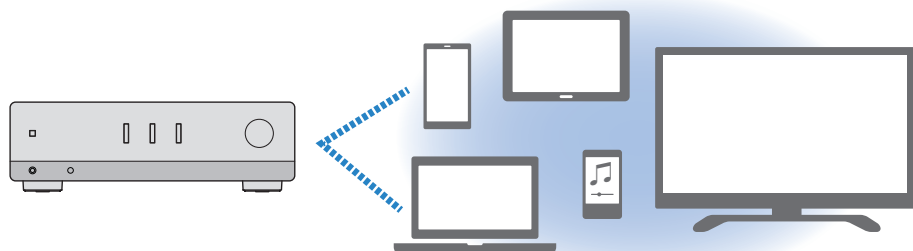
Usage tips (when paired with multiple Bluetooth devices)

When you pair the product with multiple Bluetooth devices, you can use those devices as follows.

- Connect this product to any paired Bluetooth device.
 - To do so, disconnect from all Bluetooth devices except the one you intend to connect to.



- Connect this product to any 2 paired Bluetooth devices (multi-point connection).
 - For more details, refer to “Multi-point connection (connecting 2 devices simultaneously)” (p.51).



Multi-point connection (connecting 2 devices simultaneously)

This product supports multi-point connections, allowing up to 2 Bluetooth devices to connect simultaneously. For example, after listening to music on your PC, you can switch to playing music on your smartphone without disconnecting from the Bluetooth connection.

Preparation for multi-point connection

For a multi-point connection, pair (register) the 2 Bluetooth devices you want to connect to this product beforehand.

■ How to use a multi-point connection

- 1 Press the BLUETOOTH key to switch the input source to “Bluetooth”.**
- 2 Select this product on the first Bluetooth device, then connect to the device.**
The Bluetooth indicator on this product lights up when the connection is complete.
- 3 Select this product on the second Bluetooth device, then connect to the device.**

If the first device disconnects while the second device is connecting, reconnect the first Bluetooth device after the second device's connection is complete.

When both Bluetooth devices are connected to this product, a multi-point connection is established.

■ How to play

- 1 Press the BLUETOOTH key to switch the input source to “Bluetooth”.**
- 2 Start playback on the first Bluetooth device.**
Music from the first Bluetooth device plays through this product.
- 3 Start playback on the second Bluetooth device.**
Playback switches to the second Bluetooth device, and music plays through this product.

NOTE

- Start and switch playback on the connected Bluetooth devices.
- You can perform the following actions on this product:
 - Switch the input source to Bluetooth
 - Adjust the volume
 - Mute
- You can play music from either device, but not from both devices simultaneously.
- Music from the device you last played back is played through the product.
- While playing music, if you start playback on another Bluetooth device, playback will switch to that device.
- You can connect up to 2 Bluetooth devices via a multi-point connection. To connect to another Bluetooth device, disconnect one of the currently connected devices.
- After a multi-point connection is established, when this product is powered off and then back on, the device connected last is automatically reconnected if both devices are powered on. To connect to the other device, select this product on the device, then connect to it.
- Multi-point connection performance varies by the Bluetooth device. The function does not guarantee performance on all Bluetooth-supported devices. For more details, consult the user manual for the Bluetooth device.
- Depending on the connected devices, the connection to the second device may be lost while the first device is in use.
- Depending on the apps or software used, this function may not work properly. If it does not work correctly, operate the connected device.

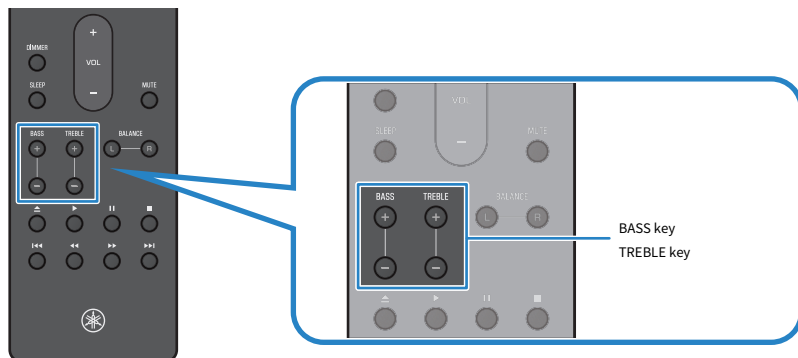
■ How to cancel the multi-point connection

Cancel the connection on the Bluetooth device.

Adjusting the sound

Adjusting bass and treble (BASS/TREBLE)

You can adjust the levels of the high-frequency range (Treble) and the low-frequency range (Bass) separately.



■ Adjusting the bass

Use the BASS keys (+/-) to adjust the bass level. If the bass sounds weak, press the + key to increase its level. If it sounds too loud, press the - key to reduce its level.

Setting range: -10 dB to 0 to +10 dB (50 Hz)

■ Adjusting the treble

Use the TREBLE keys (+/-) to adjust the treble level. If the treble sounds weak, press the + key to increase its level. If it sounds too loud, press the - key to reduce its level.

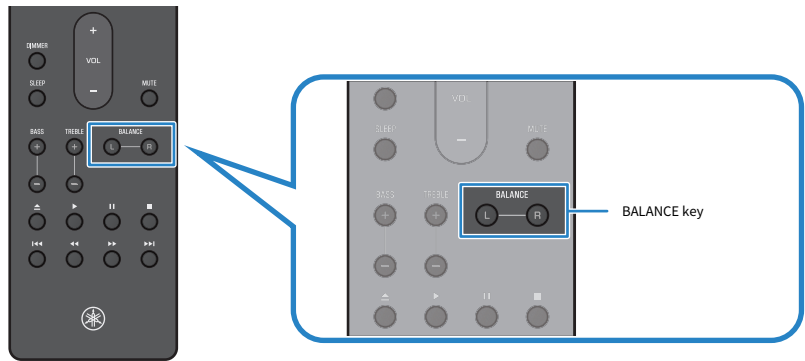
Setting range: -10 dB to 0 to +10 dB (20 kHz)

NOTE

You can also adjust the bass and treble levels using "BASS" and "TREBLE" on the front panel.

Adjusting volume balance (BALANCE)

Any volume imbalance caused by speaker placement and/or room conditions can be corrected by adjusting the balance between the left and right speakers.



Use the BALANCE L (left channel) and R (right channel) keys to adjust the balance. Pressing one key to its maximum level mutes the other channel.

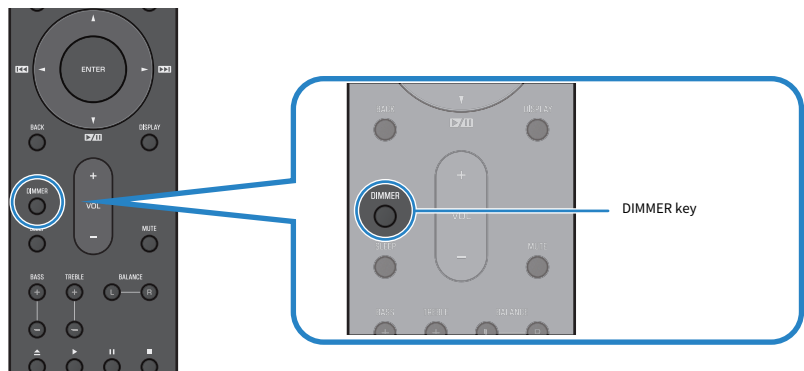
NOTE

You can also adjust the balance in the “Settings Menu”.

USEFUL FUNCTIONS

Adjusting the brightness of the front display

You can adjust the front display's brightness.



Press the DIMMER key to adjust the front display's brightness.
Each time you press the DIMMER key, the brightness changes in 5 levels.

DIMMER (brightness) setting

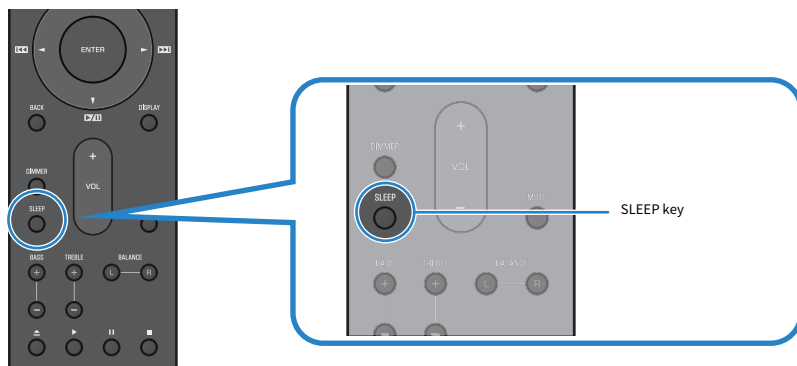
Front display value	Brightness
0	High (default setting)
-1	↓
-2	↓
-3	↓
-4	Low

Sleep timer

The sleep timer switches the product to standby once the specified time elapses.

1 Press the SLEEP key repeatedly to set the desired time for the sleep timer.

You can choose OFF, 120, 90, 60 or 30 minutes.



2 When the desired time appears, stop pressing the keys.

Once the set time has elapsed, the product enters standby.



The SLEEP indicator on the front display flashes while a sleep timer setting is being made. Once a setting is made, the SLEEP indicator lights up.

NOTE

- To cancel the sleep timer, select OFF.
- If you put this product into Standby, it cancels the sleep timer setting.

SETTINGS

Menu structure

This product has the following menus, depending on the use case.

■ Option menu

You can set playback-related functions to match the source that is currently playing.

■ Settings menu

You can configure detailed settings for the functions of the product.

Related links

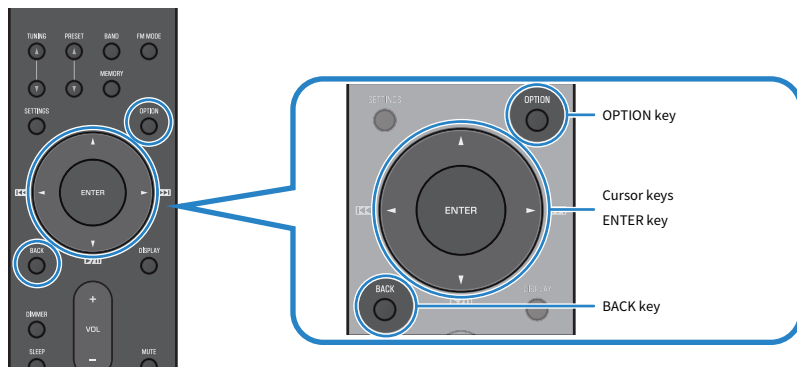
- “Options menu” (p.58)
- “Settings menu” (p.67)

Options menu

Basic operations of the options menu

This section describes the basic control operations in the options menu. This menu is operated using the remote control while viewing the front display.

1 Press the **OPTION** key.



2 When the options menu opens on the front display, use the cursor (**▲/▼**) keys to select an item, then press the **ENTER** key.

To go back a level of the menu, press the **BACK** key.



3 Use the cursor (**◀/▶**) keys to select a value, then press the **ENTER** key to confirm the setting.

4 Press the **BACK** key.

The options menu screen closes.

This completes the setting.

Related links

"Setting items" (p.59)

Setting items

This section shows the items available in the option menu. For more information, click the links under “Page”.

Item	Display name	Page
Volume difference adjustment	Volume Trim	60
Audio signal information	Signal Info.	Format
		Sampling
Preset (auto registration)	Auto Preset	62
Preset (removal)	Clear Preset	
Broadcaster registration	Initial Scan	63
Reception level checking	Tune AID	64
Pairing	Pairing	65
Bluetooth input synchronization	Interlock	66

NOTE

- The available settings vary depending on the selected input.
- "Initial Scan" and "Tune AID" are available on U.K., Europe, and Australia models.



Volume difference adjustment

This function corrects volume differences among input sources.
It reduces the volume difference that can occur when you switch input sources, so the audio plays at a consistent volume.

Options menu	"Volume Trim"
Setting	Input level correction: -6.0 dB to 0.0 dB to +6.0 dB
Default setting	0.0 dB

Related links

"Basic operations of the options menu" (p.58)



Displaying audio signal information

When the input source is set to Bluetooth, you can display the format and sampling frequency of the currently playing audio signal.

■ Displaying format information

You can display format information for the currently playing audio signal.

Options menu	“Signal Info.” > “Format”
--------------	---------------------------

Related links

“Basic operations of the options menu” (p.58)

■ Displaying the sampling frequency

You can display the sampling frequency of the audio signal that is playing.

Options menu	“Signal Info.” > “Sampling”
--------------	-----------------------------

Related links

“Basic operations of the options menu” (p.58)



Preset

■ Automatically registering radio stations to preset numbers

You can automatically register radio stations to preset numbers.

Options menu	"Auto Preset"
Setting	01 to 40 (preset numbers)
Default setting	01

NOTE

- Up to 40 radio stations can be registered.
- Auto preset works only when FM is selected.
- To abort the auto preset process before completion, press the BACK key.

■ Deleting a radio station registered to a preset number

You can delete a radio station registered to a preset number.

Options menu	"Clear Preset"
Setting	01 to 40 (preset numbers)
Default setting	Currently selected preset number

Related links

- "Registering and deleting presets" (p.41)
- "Basic operations of the options menu" (p.58)



DAB initial setup

Model For

U.K., Europe, and Australia

Before listening to DAB (Digital Audio Broadcasting) radio, perform an initial scan to automatically register DAB radio stations.

When you select the menu item, the initial scan begins.

Options menu	“Initial Scan”
---------------------	----------------

NOTE

Up to 40 radio stations can be registered.

Related links

- “Tuning to a DAB radio station” (p.45)
- “Basic operations of the options menu” (p.58)



Displaying the signal strength of the DAB channel

Model For

U.K., Europe, and Australia

You can check the signal strength of each DAB channel.

When you select the desired DAB channel label, the signal strength is displayed on a scale from 0 (none) to 100 (maximum).

Options menu	"Tune AID"
--------------	------------

Related links

- "Tuning to a DAB radio station" (p.45)
- "Basic operations of the options menu" (p.58)



Pairing a Bluetooth device

You can register a Bluetooth device with this product.

Options menu	"Pairing"
--------------	-----------

1 Press the ENTER key.

You can also register a Bluetooth device with this product by pressing and holding the BLUETOOTH key.

2 Select this product on the Bluetooth device (Yamaha R200A).

Related links

- "Playing audio from a Bluetooth® device" (p.48)
- "Basic operations of the options menu" (p.58)



Bluetooth input synchronization

When this setting is enabled, the input automatically switches to “Bluetooth” when a paired Bluetooth device is powered on, even if another input is currently selected.

Options menu	“Interlock”
Setting	- Off: Does not automatically switch the input to Bluetooth. - On: Automatically switches the input to Bluetooth.
Default setting	On

Related links

- “Playing audio from a Bluetooth® device” (p.48)
- “Basic operations of the options menu” (p.58)

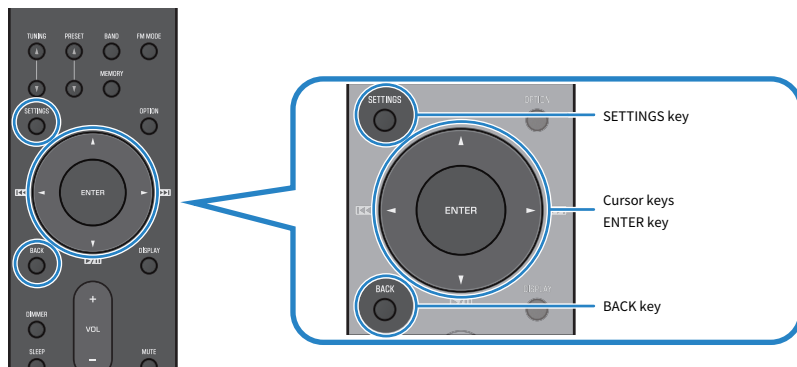


Settings menu

Basic operation of the settings menu

This section describes the basic control operations of the settings menu. This menu is operated using the remote control while viewing the front display.

1 Press the **SETTINGS** key.



2 When the settings menu appears on the front display, use the cursor (**▲/▼**) keys to select an item, then press the **ENTER** key.

To go back a level of the menu, press the **BACK** key.



3 Use the cursor (**◀/▶**) keys to select a value, then press the **ENTER** key to confirm the setting.

4 Press the **BACK** key.

The settings menu screen closes.

This completes the setting.

Related links

"Setting items" (p.68)

Setting items

The following are the items in the settings menu. For more information, click the links under “Page”.

Item	Front display value		Page
Balance control	Balance		69
Volume settings	Max Volume		70
	Initial Volume		70
Bluetooth settings	Bluetooth	Bluetooth	71
		Bluetooth Standby	
Auto standby	Auto Standby	Timer	72
Firmware update	Firmware	Version	73
		USB	
Initializing settings	Factory Reset	All	74



Balance control

Any volume imbalance caused by speaker placement and/or room conditions can be corrected by adjusting the balance between the left and right speakers.

Settings menu	"Balance"
Setting	-10 to 0 to +10 (1 step)
Default setting	0

Related links

- "Adjusting volume balance (BALANCE)" (p.54)
- "Basic operation of the settings menu" (p.67)



Configuring the volume

■ Setting the maximum volume

You can set the maximum volume that the VOLUME keys can adjust to.

Settings menu	“Max Volume”
Setting	35–95
Default setting	95

■ Setting the power-on volume

This sets the volume when the power is turned on.

Settings menu	“Initial Volume”
Setting	• Off: Uses the volume from the last time the power entered standby. • Mute: Mutes the volume. • 1 to 95: Uses the specified volume. Enabled only when the volume is set lower than “Max Volume”.
Default setting	Off

Related links

“Basic operation of the settings menu” (p.67)



Setting Bluetooth

■ Setting Bluetooth

You can set whether to use the Bluetooth function.

Settings menu	“Bluetooth” > “Bluetooth”
Setting	- Off: Disables the Bluetooth function. - On: Enables the Bluetooth function.
Default setting	On

■ Setting Bluetooth standby

Setting Bluetooth standby to “On” keeps Bluetooth active while the product is in standby and allows you to power on the product by connecting a Bluetooth device.

Settings menu	“Bluetooth” > “Bluetooth Standby”
Setting	- Off: Disables the Bluetooth standby function. - On: Enables the Bluetooth standby function. This setting consumes more power than when set to “Off”.
Default setting	On

Related links

- “Pairing a Bluetooth device” (p.65)
- “Basic operation of the settings menu” (p.67)



Auto standby

This setting automatically puts the product into standby power mode.

Settings menu	"Auto Standby" > "Timer"
Options	- Off: The product does not automatically enter standby mode. Power does not turn off automatically, so standby power consumption increases. 5 min/20 min: The product enters standby mode when it has not been operated for the specified period of time and no input signal has been detected during that period. 2 hours/4 hours/8 hours/12 hours: The product switches to standby when it has not been operated for the specified period of time.
Default setting	20 min

NOTE

- Just before switching to standby, the front display shows "auto standby xxs" (where xx is the number of seconds) indicating the number of seconds remaining until standby.
- Even if Auto Standby is set to "5 min" or "20 min," the product remains active when LINE 1, LINE 2, CD, PHONO, or TUNER input is used, and Auto Standby does not activate.

Related links

"Basic operation of the settings menu" (p.67)



Firmware update

■ Checking the firmware version

You can confirm the version of the current firmware.

Settings menu	"Firmware" > "Version"
---------------	------------------------

■ Updating the firmware

Settings menu	"Firmware" > "USB" > "Update"
---------------	-------------------------------

NOTE

- For instructions on how to perform updates, see "How to update the firmware" (p.77).
- Do not execute this unless updating the firmware. Before executing the update, review the information provided with the firmware update.

Related links

- "Basic operation of the settings menu" (p.67)
- "How to update the firmware" (p.77)



Initializing settings

You can initialize (reset) the product’s various settings.

Settings menu	“Factory Reset”
Options	“All”: Resets all settings to factory settings.

NOTE

- If you perform Factory Reset, you cannot revert the initialized settings.
- After the reset, you need to reconfigure the settings as needed.
- For details on the specific operations, refer to “Initializing settings” (p.79).

Related links

- “Basic operation of the settings menu” (p.67)
- “Initializing settings” (p.79)



FIRMWARE AND INITIALIZATION

Firmware update overview

Updated firmware is provided to add functionality to this product or to improve its performance. For more information about firmware, visit the Yamaha website at <https://www.yamaha.com/>.

Firmware can be updated using a USB flash drive.

Checking the firmware version

You can check the version of this product's firmware in the settings menu. Follow these steps.

1 Press the **SETTINGS key.**

The settings menu appears on the front display.

2 Use the cursor keys (▲/▼) to select “Firmware”, then press the **ENTER key.**

3 Select “Version”, then press the **ENTER key.**

The current firmware version is displayed.

How to update the firmware

Updating the firmware via a USB flash drive

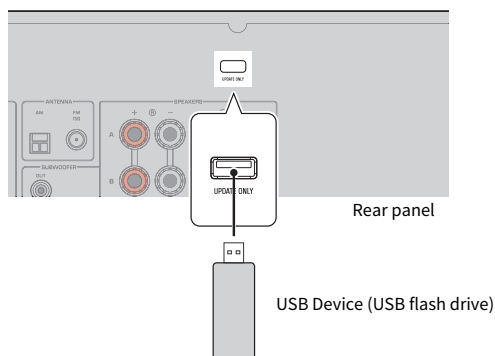
You can update the product's firmware via a USB flash drive.

1 Download the latest version of the firmware for the product to your computer from the Yamaha website.

For more information, visit the product information page on the Yamaha website at "<https://www.yamaha.com/>".

2 Extract the downloaded compressed file, and save the firmware data file to the USB flash drive.

3 Connect the USB flash drive to the USB port on the rear panel.



4 In the settings menu, select “Firmware” > “USB” > “Update”.

5 Press the ENTER key.

The firmware update starts.

During the update, progress is displayed on the front display.

Never turn off the power during the firmware update.

When the update process is complete, the power automatically turns off.

6 Remove the USB flash drive from the product.

This completes the firmware update.

Next time you turn on the product, it will display “UPDATE SUCCESS” to indicate the update is complete.

NOTICE

- Do not unplug the power cord during a firmware update. If the process is interrupted, this product may become unusable. In that case, the product will require servicing.

Initializing settings

You can reset (initialize) the product's various settings.

Follow the procedure below to reset the settings.

1 Press the **SETTINGS key.**

The settings menu is displayed.

2 Select “Factory Reset”, then press the **ENTER key.**

3 When “All” appears, press the **ENTER key.**

4 Follow the instructions on the display to complete the reset.

When the reset is complete, the product automatically turns off.

This completes the initialization process.

NOTE

- If you perform initialization, all settings, including volume and Bluetooth, are reset to factory settings.
- After the reset, reconfigure the input settings as needed.

TROUBLESHOOTING

What to check first

If the product stops working properly while you are using it, check the following conditions first.

- The power plugs for the product and the audio device(s) (such as a CD player) are securely plugged into the outlets.
- The power for the product, the subwoofer, and audio devices (such as a CD player) is on.
- The cables between devices are securely connected to the correct ports.

Problems with power, system, and/or remote control

Power fails to turn on

- **The protection circuitry has been activated three times consecutively.**

If the Standby indicator on the front panel flashes when you attempt to turn the power on, the power will no longer turn on in order to protect the product. Please get in touch with an authorized service center to have it repaired.

Power does not turn off

- **The built-in microcontroller may have frozen due to an external electrical shock (such as from lightning or excessive static electricity) or a sudden drop in electrical voltage.**

Press and hold the  (Power) key on the front panel for 15 seconds or more to restart the product. If the problem is not resolved, unplug the power cord from the wall outlet, then plug it back in.

Power turns off right away

● **You may be trying to turn on the power while the speaker cables are shorted.**

Firmly twist the strands of each speaker cable and then reconnect them to this product and the speakers. For more details, refer to the following section.

- “Connecting the speakers” (p.25)

Power switches to standby automatically

- **The sleep timer has activated.**

Turn the power back on and start playback.

- **The Auto Standby function was activated because no operations were performed for a certain period of time.**

To disable the Auto Standby function, set “Auto Standby” in the settings menu to “Off”. For more details, refer to the following section.

- “Auto standby” (p.72)

- **The protective circuit was activated due to a short in the speaker cables.**

Firmly twist the strands of each speaker cable, then reconnect them to this product and the speakers. For more details, refer to the following section.

- “Preparing the speakers and speaker cables” (p.21)

- **The protective circuit was activated because the volume was set too high.**

Lower the volume.

The product does not respond to operations

- **The built-in microcontroller may have frozen due to an external electrical shock (such as from lightning or excessive static electricity) or a sudden drop in electrical voltage.**

Turn off the power using the ⏻ (Power) key on the front panel. Wait at least 15 seconds, then turn the power back on. If the problem is not resolved, unplug the power cord from the wall outlet, then plug it back in.

This product cannot be operated from the remote control

● **It is outside the operating range.**

Try using it within the operating range. For more details, refer to the following section.

- “Remote control” (p.15)

● **The batteries are dead.**

Replace with new batteries.

● **Strong light or sunlight is hitting the remote control signal receiver on the front panel.**

Change the orientation of the lighting or the product.

Problems with the audio

No sound

● **A different input is selected.**

Use the input selection key to choose the correct input. For more details, refer to the following section.

- “Selecting the input source” (p.36)

● **A cable connecting this product to an audio device is damaged.**

Check the connections. If you find no issues, replace the cable with another one.

● **The output speakers are not set correctly.**

Press the SP A/B key or the SPEAKERS key on the product to enable speaker output for the jacks where the speakers are connected. For more details, refer to the following section.

- “Switching the output speakers” (p.35)

● **The audio is muted.**

Press the MUTE key to cancel muting.

● **Headphones are plugged into the PHONES jack.**

Unplug the headphones.

● **The product entered standby mode via the Auto Standby function.**

In the settings menu, set “Auto Standby” to “Off”. For more details, refer to the following section.

- “Auto standby” (p.72)

Volume cannot be increased

● **The maximum volume is set too low.**

In the settings menu, adjust the maximum value for “Max Volume”. For more details, refer to the following section.

- “Configuring the volume” (p.70)

No sound is output from a particular speaker

- **BALANCE is set to the maximum for either left or right.**

Adjust BALANCE so sound comes out of the left and right speakers.

- **A cable connecting this product and the corresponding speaker is damaged.**

Check the terminals on both the speaker side and the amplifier side. If the connection is normal, the cable may be broken. Replace the cable with a different one.

- **The corresponding speaker may be damaged.**

You can check this by swapping it with a different speaker that you know is functioning normally. If no sound comes from the swapped-in speaker either, this product may be faulty.

- **The output speakers are not set correctly.**

Press the SP A/B key or the SPEAKERS key on the product to enable speaker output for the jacks where the speakers are connected. For more details, refer to the following section.

“Switching the output speakers” (p.35)

No sound is output from the subwoofer

- **The volume level of the subwoofer is extremely low.**

Adjust the volume level of the subwoofer.

- **The auto standby function of the subwoofer (automatically turns off power) was activated.**

Either disable the subwoofer auto standby function or adjust its activation sensitivity.

Noise is being output

- **A digital device or high-frequency device is located near this product.**

Move such a device away from this product.

- **A cable connecting this product to an audio device is damaged.**

Check the connections. If you find no issues, replace the cable with another one.

Sound is distorted

- **The volume is too loud.**

Lower the volume.

Problems with FM radio

Radio reception is poor or has noise

- **The product is experiencing interference, such as multipath interference (reflected signals).**
Change the height, orientation, or installation location of the FM antenna.
- **The radio station is being received from a distant region.**
Press the FM MODE key to switch to mono reception.

Cannot automatically select FM radio stations

● The FM radio stations are being received from distant regions.

Manually select stations. For more details, refer to the following section.

- “Selecting radio stations” (p.39)

Also consider using a commercially available outdoor antenna.

Cannot select a radio station using the PRESET key

● No radio stations are registered.

Register radio stations to the preset numbers. For more details, refer to the following section.

- “Registering and deleting presets” (p.41)

FM radio stations can also be registered using the auto preset function. For more details, refer to the following section.

- “Registering and deleting presets” (p.41)

If FM radio station signals are weak, the auto preset function may not register any stations. In that case, register stations manually.

● The input is on something other than “TUNER”.

Press the TUNER key. “TUNER” presets can only be recalled when the input is on “TUNER”.

Problems with DAB radio

Cannot receive DAB radio stations

● **The initial scan is not performed.**

To receive DAB radio, perform the initial scan. For details, refer to the following section.

- “Tuning to a DAB radio station” (p.45)

DAB radio cannot be received even after performing the initial scan

● The DAB reception signal is weak.

Check the “Tune AID” signal strength displayed on the front display. Adjust the antenna’s height or direction, or relocate it. For details, refer to the following section.

- “DAB/FM antenna” (p.31)
- “Tuning to a DAB radio station” (p.45)

● DAB broadcasts may not be available in your region.

For coverage information in your region, contact your dealer or visit the WorldDAB website at “<http://www.worlddab.org>”.

DAB radio reception is poor or has noise

● **Multipath interference may be occurring.**

Check the “Tune AID” signal strength displayed on the front display. Adjust the antenna’s height or direction, or relocate it. For details, refer to the following section.

- “DAB/FM antenna” (p.31)
- “Tuning to a DAB radio station” (p.45)

● **Your location may be too far from the DAB transmitter.**

Use an outdoor antenna. A high-sensitivity multi-element antenna is recommended.

DAB is unavailable or displayed as inaccurate

- **The selected DAB station may be temporarily out of service or not providing information.**

Contact the DAB broadcaster for details.

No sound from DAB radio

- **The selected DAB station may be temporarily off the air.**

Try the station again later, or select a different station.

Problems with AM radio

AM radio reception is poor or has noise

- **It is picking up noise from sources like fluorescent lights, motors, etc.**

It is difficult to completely eliminate noise from the environment. However, using a commercially-available outdoor antenna may help reduce the noise.

Cannot automatically select AM radio stations

● The AM radio signal is weak.

Change the direction of the AM antenna.

Manually select stations. For more details, refer to the following section.

- “Selecting radio stations” (p.39)

Cannot register (preset) AM radio stations

● **The auto registration function (auto preset) is enabled.**

Auto preset only works with FM radio stations. Register AM radio stations manually. For more details, refer to the following section.

- “Registering and deleting presets” (p.41)

Cannot select a radio station with the PRESET key

- **No radio stations are registered.**

Register radio stations to the preset numbers. For more details, refer to the following section.

- “Registering and deleting presets” (p.41)

- **The input is not “TUNER”.**

Press the TUNER key. “TUNER” presets can only be recalled when the input is on “TUNER”.

Bluetooth connection

Cannot connect with a Bluetooth device

● **The Bluetooth function of this product is disabled.**

Enable the Bluetooth function. For more details, refer to the following section.

- “Setting Bluetooth” (p.71)

● **The Bluetooth function on the Bluetooth device is off.**

Turn on the Bluetooth function on the Bluetooth device.

● **This product is connected to a different Bluetooth device.**

Terminate the current Bluetooth connection and connect to the desired Bluetooth device. For more details, refer to the following section.

- “Pairing (initial setting)” (p.48)

● **This product and the Bluetooth device are too far apart.**

Move this product and the Bluetooth device closer together.

● **Wireless communication is being interfered with by other devices that use the 2.4GHz band (such as microwave ovens or wireless LAN equipment).**

Move this product and/or the Bluetooth device away from those devices. Also, if your wireless LAN router supports the 5GHz frequency band, switch the connection to the 5GHz band.

● **The Bluetooth device you are using does not support the A2DP profile.**

Use a Bluetooth device that supports the A2DP profile.

● **The connection information registered to the Bluetooth device is not functioning properly for some reason.**

Delete the connection information of the Bluetooth device and then reconnect this product to the Bluetooth device. For more details, refer to the following section.

- “Pairing (initial setting)” (p.48)

When connected via Bluetooth, there is no sound or audio dropouts occur

- **The volume of the Bluetooth device is too low.**

Turn up the volume of the Bluetooth device.

- **The Bluetooth device is not set to output audio to this product.**

Configure the Bluetooth device so that its audio output is set to this product.

- **The Bluetooth connection was cut off.**

Reconnect via Bluetooth. For more details, refer to the following section.

- “Pairing (initial setting)” (p.48)

- **They are too far apart.**

Move the Bluetooth device closer to this product.

- **Wireless communication is being interfered with by other devices that use the 2.4GHz band (such as microwave ovens or wireless LAN equipment).**

Move this product and/or the Bluetooth device away from those devices. Also, if your wireless LAN router supports the 5GHz frequency band, switch the connection to the 5GHz band.

Front display error messages

When an error is shown on the front display, check it in the following table.

Message	Contents	Solution
CHECK SP WIRES	The speaker cable(s) are shorted.	Firmly twist the core wires of each of the speaker cables and then reconnect them to this product and the speakers. For more details, refer to the following. “How to connect the speakers” (p.22)



SPECIFICATIONS

Specifications

The main specifications of this product are provided below.

Input jacks

Analog audio

- Stereo × 4 (including PHONO)

Other

- USB × 1 (USB 2.0, for firmware update)

Output jacks

Analog audio

- Speaker output × 4 (A L/R, B L/R)
- Subwoofer output (monaural) × 1
- LINE output × 1
- Headphones × 1

Audio formats (Bluetooth)

- SBC
- AAC

Tuner

Analog tuner

- [U.K. and Europe models]
 - DAB/FM ×1 with Radio Data System (tuner)
- [Australia model]
 - DAB/FM ×1 (tuner)
- [U.S.A. and Canada models]
 - FM×1 (tuner)
 - AM×1 (tuner)

Bluetooth

Sink Function

- Supports receiving audio from Bluetooth devices (smartphones, tablets, etc.)
- Supported profiles
 - A2DP, AVRCP
- Supported codecs
 - SBC, AAC
- Supported content protection
 - SCMS-T

Bluetooth version

- Ver.5.3

Wireless output

- Bluetooth Class 2

Maximum communication distance

- 10 m (no obstructions)

Audio section

Rated power output (2-channel driven) (40 Hz to 20 kHz, 0.2% THD)	
• 8 Ω	100 W+100 W
Dynamic power (IHF)	
• 8 Ω	125 W
• 6 Ω	150 W
• 4 Ω	165 W
• 2 Ω	180 W
1-channel driven output (1 kHz, 0.7%THD)	
• 4 Ω	115 W
Damping factor (1 kHz, 8 Ω)	120 or more
Input sensitivity / Input impedance	
• CD, etc. (1 kHz, 100 W/8 Ω)	500 mV/47 kΩ
• PHONO (MM) (1 kHz, 100 W/ 8 Ω)	10 mV/47 kΩ
Maximum allowable input	
• CD, etc. (1 kHz, 0.5% THD)	2.2 V
• PHONO (MM)(1 kHz, 0.06% THD)	35 mV
Rated output voltage / Output impedance	
• LINE OUT	500 mV/2.2 kΩ
• SUBWOOFER OUT	6.0 Vrms/2.2 kΩ
• PHONES (8 Ω)	470 mV/470 Ω
Maximum output level	
• SUBWOOFER OUT	6.0 V
Frequency Response	
• CD, etc. (10 Hz to 100 kHz)	±3.0 dB
• CD, etc. (20 Hz to 20 kHz)	±0.5 dB
RIAA deviation	
• PHONO (MM)	±0.5 dB



SPECIFICATIONS > Specifications

Total harmonic distortion	
• CD, etc.→SP OUT (20 Hz to 20 kHz, 50 W, 8 Ω)	0.2% or less
• PHONO (MM)→LINE OUT (20 Hz to 20 kHz)	0.025% or less
Signal to noise ratio (IHF-A Network)	
• CD, etc. (input shorted 500 mV)	100 dB or more
• PHONO (MM) (input shorted 10 mV)	75 dB or more
Residual noise (IHF-A Network)	
• SP OUT	70 μV or less
Channel separation	
• CD, etc. (input 5.1 kΩ shorted, 1 kHz/10 kHz)	65 dB/50 dB or more
Tone control characteristics	
• Bass Boost/Cut	±10 dB / 2 dB steps, 50 Hz
• Treble Boost/Cut	±10 dB / 2 dB steps, 20 kHz

FM tuner section

Tuning Range	
• [U.K., Europe, and Australia models]	87.50 MHz to 108.00 MHz
• [U.S.A. and Canada models]	87.5 MHz to 107.9 MHz
50 dB Quiet Sensitivity (IHF, 1 kHz, 100% MOD.)	
• Mono	3 μV (20.8 dBf)
Signal to Noise Ratio (IHF)	
• Mono / Stereo	65 dB / 64 dB
Harmonic Distortion	
• Mono / Stereo	0.5% / 0.6%
Antenna Input	
75 Ω, unbalanced	

DAB tuner section (U.K., Europe, and Australia models)

Tuning Range	174 MHz to 240 MHz (BAND III)
Supported formats	MPEG 1 Layer II / MPEG-4 HE-AAC v2 (aacPlus v2)
Antenna Input	75 Ω, unbalanced

AM tuner section (U.S.A. and Canada models)

Tuning Range	530 kHz to 1710 kHz
--------------	---------------------



Antenna Input	Loop antenna
---------------	--------------

General

Power supply	
[U.S.A. and Canada models] [Australia model] [U.K. and Europe models]	AC 120 V, 60 Hz AC 230 to 240 V, 50 Hz AC 230 V, 50 Hz
Power consumption	200 W
Standby power consumption*	
- Bluetooth Standby off - Bluetooth Standby on	0.3 W 0.5 W
Dimensions (W × H × D)	
* Include feet and protrusions	435 × 137 × 328 mm (17-1/8" × 5-3/8" × 12-7/8")
Weight	7.3 kg (16.1 lbs)

* This content is based on the latest specifications available at the time of publication. For the most up-to-date information, please download the latest version from the Yamaha website.



APPENDIX

Supported devices and formats

Supported Bluetooth devices

Refer to the following for Bluetooth devices supported by this product.

- Bluetooth devices that support the A2DP and AVRCP profiles can be connected.
- Connection to all Bluetooth devices is not guaranteed.

Support centers

If the problem cannot be resolved, please contact one of the following support centers.

Customers in Japan

Please contact the store where you purchased the product or the Product Support Center listed in the “Safety Guide” included with this product.

Customers outside Japan

Please contact your nearest authorized Yamaha dealer or service center.

https://manual.yamaha.com/audio/address_list/

Trademarks

The following trademarks are used in this guide.



The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Yamaha Corporation is under license. Other trademarks and trade names are those of their respective owners.

About third-party software programs

This product uses the following third-party software programs:

- CMSIS Core(M)
- CMSIS Device (STM32G0xx)
- STM32G0xx HAL/LL Driver
- Tiny printf
- STM32Cube USB Device Library
- STM32Cube USB Host Library
- FatFs
- FreeRTOS
- ARM (mbed TLS)
- ARM ECC
- USBware
- Newlib
 - Red Hat Incorporated
 - University of California, Berkeley
 - David M. Gay (AT&T 1991, Lucent 1998)
 - Advanced Micro Devices
 - Sun Microsystems
 - Hewlett Packard
 - Hans-Peter Nilsson
 - Christopher G. Demetriou
 - SuperH, Inc.
 - Royal Institute of Technology
 - Alexey Zelkin
 - Andrey A. Chernov
 - FreeBSD
 - S. L. Moshier
 - Citrus Project
 - Todd C. Miller
 - DJ Delorie
 - Mike Barcroft
 - Konstantin Chuguev
 - Artem Bityuckiy
 - Alex Tatmanjants
 - M. Warner Losh
 - Andrey A. Chernov (targets using libc/posix)
 - Daniel Eischen
 - Ed Schouten
- DMDecode
- pjpeg

- DejaVu Fonts
 - Bitstream Vera Fonts
 - Arev Fonts

For information on copyrights and license conditions of each software program, refer to the following.

NOTE

- At the request of the respective rights holders, the original (English) text is provided.
- For other third-party software license information not contained in this manual, refer to the corresponding app for this product.

■ CMSIS Core(M)

Copyright © 2009-2019 Arm Limited. All rights reserved.

SPDX-License-Identifier: Apache-2.0

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at

<http://www.apache.org/licenses/LICENSE-2.0>

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

■ CMSIS Device (STM32G0xx)

Copyright © 2018-2021 STMicroelectronics. All rights reserved.

SPDX-License-Identifier: Apache-2.0

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at

<http://www.apache.org/licenses/LICENSE-2.0>

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

■ STM32G0xx HAL/LL Driver

Copyright © 2018 STMicroelectronics. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the copyright holder nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

■ Tiny printf

The MIT License (MIT)

Copyright © 2014-2019 Marco Paland (info@paland.com), PALANDesign Hannover, Germany

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

■ STM32Cube USB Device Library

Copyright © 2015 STMicroelectronics. All rights reserved.

This software is licensed under terms that can be found in the LICENSE file in the root directory of this software component. If no LICENSE file comes with this software, it is provided AS-IS.

LICENSE : SLA0044 Rev5 - ULTIMATE LIBERTY SOFTWARE LICENSE AGREEMENT
(<https://www.st.com/SLA0044>)

* SLA0044 2. Redistributions in binary form, except as embedded into microcontroller or microprocessor device manufactured by or for STMicroelectronics or a software update for such device, must reproduce any copyright notice provided with the binary code, this list of conditions, and the disclaimer set forth below as items 10 and 11, in documentation and/or other materials provided with the distribution.

■ STM32Cube USB Host Library

Copyright © 2015 STMicroelectronics. All rights reserved.

This software is licensed under terms that can be found in the LICENSE file in the root directory of this software component. If no LICENSE file comes with this software, it is provided AS-IS.

LICENSE : SLA0044 Rev5 - ULTIMATE LIBERTY SOFTWARE LICENSE AGREEMENT
(<https://www.st.com/SLA0044>)

* SLA0044 2. Redistributions in binary form, except as embedded into microcontroller or microprocessor device manufactured by or for STMicroelectronics or a software update for such device, must reproduce any copyright notice provided with the binary code, this list of conditions, and the disclaimer set forth below as items 10 and 11, in documentation and/or other materials provided with the distribution.

■ FatFs

FatFs - Generic FAT file system module R0.12c

Copyright © 2017, ChaN, all right reserved.

FatFs module is an open source software. Redistribution and use of FatFs in source and binary forms, with or without modification, are permitted provided that the following condition is met:

1. Redistributions of source code must retain the above copyright notice, this condition and the following disclaimer.

This software is provided by the copyright holder and contributors "AS IS" and any warranties related to this software are DISCLAIMED. The copyright owner or contributors be NOT LIABLE for any damages caused by use of this software.

■ FreeRTOS

FreeRTOS Kernel V10.4.3 Copyright © 2020 Amazon.com, Inc. or its affiliates. All Rights Reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

<http://www.FreeRTOS.org>

■ ARM (mbed TLS)

Apache-2.0

Copyright The Mbed TLS Contributors.

This component is licensed under the Apache License, Version 2.0.

You may use, modify and redistribute the software under the terms of the Apache License 2.0, provided that:

- A copy of the Apache License 2.0 is included with the distribution;
- Copyright and license notices are preserved;

<https://github.com/Mbed-TLS/mbedtls>

■ ARM ECC

Copyright © 2013, Kenneth MacKay All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- * Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- * Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

■ **DAB Module (Siena FS2415) – Open Source Software**

DAB7.x SDK Open Source Software (Frontier Silicon). Last updated: January 2023

In the table below there is a list of Third-Party Software. Details of the licence obligations associated with the software are listed below.

Software	Third-Party Software Provider
USBware	USBware from Jungo Ltd.
Newlib	Red Hat Incorporated
	University of California, Berkeley
	David M. Gay (AT&T 1991, Lucent 1998)
	Advanced Micro Devices
	Sun Microsystems
	Hewlett Packard
	Hans-Peter Nilsson
	Christopher G. Demetriou
	SuperH, Inc.
	Royal Institute of Technology
	Alexey Zelkin
	Andrey A. Chernov
	FreeBSD
	S. L. Moshier
	Citrus Project
	Todd C. Miller
	DJ Delorie (i386) Copyright © 1991 DJ Delorie All rights reserved.
	Mike Barcroft
	Konstantin Chuguev (--enable-newlib-iconv)



Software	Third-Party Software Provider
	Artem Bityuckiy (--enable-newlib-iconv)
	Alex Tatmanjants (targets using libc/posix)
	M. Warner Losh (targets using libc/posix)
	Andrey A. Chernov (targets using libc/posix)
	Daniel Eischen (targets using libc/posix)
	Ed Schouten - Free BSD
DMDecode (Used in flash image compression)	Simon Tatham
picojpeg	Rich Geldreich
DejaVu Fonts	Bitstream Vera Fonts Copyright
	Arev Fonts Copyright

■ **USBware**

USBware from Jungo Ltd.

“This product includes software developed by the NetBSD Foundation, Inc. and its contributors.”

Neither the name of The NetBSD Foundation nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC. AND CONTRIBUTORS “AS IS” AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE * POSSIBILITY OF SUCH DAMAGE.

■ **Newlib**

The newlib subdirectory is a collection of software from several sources.

Each file may have its own copyright/license that is embedded in the source file.

Unless otherwise noted in the body of the source file(s), the following copyright notices will apply to the contents of the newlib subdirectory:

1. Red Hat Incorporated

Copyright © 1994-2009 Red Hat, Inc. All rights reserved.



This copyrighted material is made available to anyone wishing to use, modify, copy, or redistribute it subject to the terms and conditions of the BSD License. This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY expressed or implied, including the implied warranties of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. A copy of this license is available at <http://www.opensource.org/licenses>. Any Red Hat trademarks that are incorporated in the source code or documentation are not subject to the BSD License and may only be used or replicated with the express permission of Red Hat, Inc.

2. University of California, Berkeley

Copyright © 1981-2000 The Regents of the University of California. All rights reserved. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

3. David M. Gay (AT&T 1991, Lucent 1998)

The author of this software is David M. Gay.

Copyright © 1991 by AT&T.

Permission to use, copy, modify, and distribute this software for any purpose without fee is hereby granted, provided that this entire notice is included in all copies of any software which is or includes a copy or modification of this software and in all copies of the supporting documentation for such software.

THIS SOFTWARE IS BEING PROVIDED "AS IS", WITHOUT ANY EXPRESS OR IMPLIED WARRANTY. IN PARTICULAR, NEITHER THE AUTHOR NOR AT&T MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND CONCERNING THE MERCHANTABILITY OF THIS SOFTWARE OR ITS FITNESS FOR ANY PARTICULAR PURPOSE.

The author of this software is David M. Gay.

Copyright © 1998-2001 by Lucent Technologies All Rights Reserved

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that the copyright notice and this permission notice and warranty disclaimer appear in supporting documentation, and that the name of Lucent or any of its entities not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

LUCENT DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL LUCENT OR ANY OF ITS ENTITIES BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

4. Advanced Micro Devices

Copyright 1989, 1990 Advanced Micro Devices, Inc.

This software is the property of Advanced Micro Devices, Inc (AMD) which specifically grants the user the right to modify, use and distribute this software provided this notice is not removed or altered. All other rights are reserved by AMD.

AMD MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARD TO THIS SOFTWARE. IN NO EVENT SHALL AMD BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING FROM THE FURNISHING, PERFORMANCE, OR USE OF THIS SOFTWARE.

So that all may benefit from your experience, please report any problems or suggestions about this software to the 29K Technical Support Center at 800-29-29-AMD (800-292-9263) in the USA, or 0800-89-1131 in the UK, or 0031-11-1129 in Japan, toll free. The direct dial number is 512-462-4118.

Advanced Micro Devices, Inc.

29K Support Products

Mail Stop 573

5900 E. Ben White Blvd.

Austin, TX 78741

800-292-9263

5. Sun Microsystems

Copyright © 1993 by Sun Microsystems, Inc. All rights reserved.

Developed at SunPro, a Sun Microsystems, Inc. business.

Permission to use, copy, modify, and distribute this software is freely granted, provided that this notice is preserved.

6. Hewlett Packard

© Copyright 1986 HEWLETT-PACKARD COMPANY

To anyone who acknowledges that this file is provided "AS IS" without any express or implied warranty: permission to use, copy, modify, and distribute this file for any purpose is hereby granted without fee, provided that the above copyright notice and this notice appears in all copies, and that the name of Hewlett-Packard Company not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission. Hewlett-Packard Company makes no representations about the suitability of this software for any purpose.

7. Hans-Peter Nilsson

Copyright © 2001 Hans-Peter Nilsson

Permission to use, copy, modify, and distribute this software is freely granted, provided that the above copyright notice, this notice and the following disclaimer are preserved with no changes.

THIS SOFTWARE IS PROVIDED “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

8. Christopher G. Demetriou

Copyright © 2001 Christopher G. Demetriou

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR “AS IS” AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

9. SuperH, Inc.

Copyright 2002 SuperH, Inc. All rights reserved

This software is the property of SuperH, Inc (SuperH) which specifically grants the user the right to modify, use and distribute this software provided this notice is not removed or altered. All other rights are reserved by SuperH.

SUPERH MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARD TO THIS SOFTWARE. IN NO EVENT SHALL SUPERH BE LIABLE FOR INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING FROM THE FURNISHING, PERFORMANCE, OR USE OF THIS SOFTWARE.

So that all may benefit from your experience, please report any problems or suggestions about this software to the SuperH Support Center via e-mail at softwaresupport@superh.com.

SuperH, Inc. 405 River Oaks Parkway San Jose CA 95134 USA

10. Royal Institute of Technology

Copyright © 1999 Kungliga Tekniska Högskolan (Royal Institute of Technology, Stockholm, Sweden).

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. Neither the name of KTH nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY KTH AND ITS CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL KTH OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

11. Alexey Zelkin

Copyright © 2000, 2001 Alexey Zelkin <phantom@FreeBSD.org> All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

12. Andrey A. Chernov

Copyright © 1997 by Andrey A. Chernov, Moscow, Russia.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR

PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

13. FreeBSD

Copyright © 1997-2002 FreeBSD Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

14. S. L. Moshier

Author: S. L. Moshier.

Copyright © 1984,2000 S.L. Moshier

Permission to use, copy, modify, and distribute this software for any purpose without fee is hereby granted, provided that this entire notice is included in all copies of any software which is or includes a copy or modification of this software and in all copies of the supporting documentation for such software.

THIS SOFTWARE IS BEING PROVIDED "AS IS", WITHOUT ANY EXPRESS OR IMPLIED WARRANTY. IN PARTICULAR, THE AUTHOR MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND CONCERNING THE MERCHANTABILITY OF THIS SOFTWARE OR ITS FITNESS FOR ANY PARTICULAR PURPOSE.

15. Citrus Project

Copyright ©1999 Citrus Project, All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR

SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

16. Todd C. Miller

Copyright © 1998 Todd C. Miller <Todd.Miller@courtesan.com> All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED “AS IS” AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

17. DJ Delorie (i386)

Copyright © 1991 DJ Delorie All rights reserved.

Redistribution, modification, and use in source and binary forms is permitted provided that the above copyright notice and following paragraph are duplicated in all such forms.

This file is distributed WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

18. Mike Barcroft

Copyright © 2001 Mike Barcroft <mike@FreeBSD.org>

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS “AS IS” AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR

SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

19. Konstantin Chuguev (--enable-newlib-iconv)

Copyright © 1999, 2000 Konstantin Chuguev. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS “AS IS” AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

iconv (Charset Conversion Library) v2.0

20. Artem Bityuckiy (--enable-newlib-iconv)

Copyright © 2003, Artem B. Bityuckiy, SoftMine Corporation. Rights transferred to Franklin Electronic Publishers.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS “AS IS” AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

21. Alex Tatmanjants (targets using libc/posix)

Copyright © 1995 Alex Tatmanjants <alex@elvisti.kiev.ua> at Electronni Visti IA, Kiev, Ukraine

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

22. M. Warner Losh (targets using libc/posix)

Copyright © 1998, M. Warner Losh imp@freebsd.org

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

23. Andrey A. Chernov (targets using libc/posix)

Copyright © 1996 by Andrey A. Chernov, Moscow, Russia.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

24. Daniel Eischen (targets using libc/posix)

Copyright © 2001 Daniel Eischen <deischen@FreeBSD.org>.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

25. Ed Schouten - Free BSD

Copyright © 2008 Ed Schouten <ed@FreeBSD.org> All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

■ DMDecode

Simon Tatham

This software is copyright 2008 Simon Tatham.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

■ pjpeg

Rich Geldreich

Pjpeg is a public domain JPEG decompressor (Used in DAB slideshow) pjpeg - Public domain, Rich Geldreich <richgel99@gmail.com>

THE FOLLOWING FILE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.

■ DejaVu Fonts

DejaVu Fonts are used in the colour variant.

Fonts are © Bitstream (see below). DejaVu changes are in public domain. Explanation of copyright is on Gnome page on Bitstream Vera fonts (<http://gnome.org/fonts/>). Glyphs imported from Arev (https://dejavu-fonts.github.io/Bitstream_Vera_Derivatives.html) fonts are © Tavmjung Bah (see below)

Bitstream Vera Fonts Copyright

Copyright © 2003 by Bitstream, Inc. All Rights Reserved. Bitstream Vera is a trademark of Bitstream, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of the fonts accompanying this license ("Fonts") and associated documentation files (the "Font Software"), to reproduce and distribute the Font Software, including without limitation the rights to use, copy, merge, publish, distribute, and/or sell copies of the Font Software, and to permit persons to whom the Font Software is furnished to do so, subject to the following conditions:

The above copyright and trademark notices and this permission notice shall be included in all copies of one or more of the Font Software typefaces.

The Font Software may be modified, altered, or added to, and in particular the designs of glyphs or characters in the Fonts may be modified and additional glyphs or characters may be added to the Fonts, only if the fonts are renamed to names not containing either the words "Bitstream" or the word "Vera".

This License becomes null and void to the extent applicable to Fonts or Font Software that has been modified and is distributed under the "Bitstream Vera" names.

The Font Software may be sold as part of a larger software package but no copy of one or more of the Font Software typefaces may be sold by itself.

THE FONT SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OF COPYRIGHT, PATENT, TRADEMARK, OR OTHER RIGHT. IN NO EVENT SHALL BITSTREAM OR THE GNOME FOUNDATION BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, INCLUDING ANY GENERAL, SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF THE USE OR INABILITY TO USE THE FONT SOFTWARE OR FROM OTHER DEALINGS IN THE FONT SOFTWARE.

Except as contained in this notice, the names of Gnome, the Gnome Foundation, and Bitstream Inc., shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Font Software without prior written authorization from the Gnome Foundation or Bitstream Inc., respectively. For further information, contact: fonts@gnome.org.

Arev Fonts Copyright

Copyright © 2006 by Tavmjong Bah. All Rights Reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of the fonts accompanying this license ("Fonts") and associated documentation files (the "Font Software"), to reproduce and distribute the modifications to the Bitstream Vera Font Software, including without limitation the rights to use, copy, merge, publish, distribute, and/or sell copies of the Font Software, and to permit persons to whom the Font Software is furnished to do so, subject to the following conditions:

The above copyright and trademark notices and this permission notice shall be included in all copies of one or more of the Font Software typefaces.

The Font Software may be modified, altered, or added to, and in particular the designs of glyphs or characters in the Fonts may be modified and additional glyphs or characters may be added to the Fonts, only if the fonts are renamed to names not containing either the words "Tavmjong Bah" or the word "Arev".

This License becomes null and void to the extent applicable to Fonts or Font Software that has been modified and is distributed under the "Tavmjong Bah Arev" names.

The Font Software may be sold as part of a larger software package but no copy of one or more of the Font Software typefaces may be sold by itself.

THE FONT SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OF COPYRIGHT, PATENT, TRADEMARK, OR OTHER RIGHT. IN NO EVENT SHALL TAVMJONG BAH BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, INCLUDING ANY GENERAL, SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF THE USE OR INABILITY TO USE THE FONT SOFTWARE OR FROM OTHER DEALINGS IN THE FONT SOFTWARE.

Except as contained in this notice, the name of Tavmjong Bah shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Font Software without prior written authorization from Tavmjong Bah. For further information, contact: tavmjong@free.fr.

Yamaha Global Site
<https://www.yamaha.com/>

Yamaha Downloads
<https://download.yamaha.com/>

© 2026 Yamaha Corporation

Published 10/2026 KW-A0

AV25-0082