KMA-1080/KMA-980

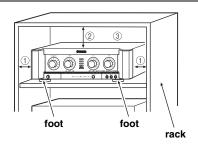
Digital Karaoke Mixing Amplifier

OWNER'S MANUAL MANUAL DE INSTRUCCIONES ИНСТРУКЦИЯ ПО ЭКСПЛУАТАЦИИ 使用说明书

Caution: Read this before operating your unit

- 1 To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
- 2 Install this sound system in a well ventilated, cool, dry, clean place away from direct sunlight, heat sources, vibration, dust, moisture, and/or cold. Allow ventilation space of at least 10 cm (3-15/16") on the top, left and right of this unit, and 20 cm (7-7/8") on the back.
- 3 Locate this unit away from other electrical appliances, motors, or transformers to avoid humming sounds.
- 4 Do not expose this unit to sudden temperature changes from cold to hot (or vice versa), and do not locate this unit in an environment with high humidity (i.e. a room with a humidifier) to prevent condensation inside this unit, which may cause an electrical shock, fire, damage to this unit, and/or personal injury.
- 5 Avoid installing this unit where foreign objects may fall onto this unit and/or this unit may be exposed to liquid dripping or splashing. On the top of this unit, do not place:
 - Other components, as they may cause damage and/or discoloration on the surface of this unit.
 - Burning objects (i.e. candles), as they may cause fire, damage to this unit, and/or personal injury.
 - Containers with liquid in them, as they may fall and liquid may cause electrical shock to the user and/or damage to this unit.
- 6 Do not cover this unit with a newspaper, tablecloth, curtain, etc. in order not to obstruct heat radiation. If the temperature inside this unit rises, it may cause fire, damage to this unit, and/or personal injury.
- 7 Do not plug in this unit to an AC wall outlet until all connections are complete.
- **8** Do not operate this unit upside-down. It may overheat, possibly causing damage.
- 9 Do not use force on switches, knobs and/or cords.
- 10 When disconnecting the power cord from the AC wall outlet, grasp the plug; do not pull the cord.
- 11 Do not clean this unit with chemical solvents; this might damage the finish. Use a clean, dry cloth.
- 12 Only voltage specified on this unit must be used. Using this unit with a higher voltage than specified is dangerous and may cause fire, damage to this unit, and/or personal injury. Yamaha will not be held responsible for any damage resulting from use of this unit with a voltage other than specified.
- 13 To prevent damage by lightning, keep the power cord disconnected from an AC wall outlet or the unit during a lightning storm.
- 14 Do not attempt to modify or fix this unit. Contact qualified Yamaha service personnel when any service is needed. The cabinet should never be opened for any reasons.
- 15 When not planning to use this unit for long periods of time (i.e. vacation), disconnect the AC power plug from the AC wall outlet.
- 16 Install this unit near the wall outlet and where the AC power plug can be reached easily.
- 17 Be sure to read the "TROUBLESHOOTING" section on common operating errors before concluding that this unit is faulty.

- 18 Before moving this unit, press 1/0 switch to turn this unit off, and disconnect the power cord from the AC wall outlet.
- 19 The batteries shall not be exposed to excessive heat such as sunshine, fire or like. When you dispose of batteries, follow your regional regulations.
- 20 Condensation will form when the surrounding temperature changes suddenly. Disconnect the power cable from the outlet, then leave the unit alone.
- 21 When using the unit for a long time, the unit may become warm. Turn the power off, then leave the unit alone for cooling.



The following rack size measurements must be adhered to:

- ①② The ventilation space on the top, left and right of this unit; more than 10 cm (3-15/16")
- 3 The ventilation space on the back of this unit; more than 20 cm (7-7/8")
- 4) Do not remove the feet.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if you turn off this unit by I/ \circlearrowleft switch.

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

INTRODUCTION

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Thank you for your purchase of the Yamaha KMA-1080/KMA-980 Digital Karaoke Mixing Amplifier.

This document is the owner's manual for both KMA-1080 and KMA-980. Model names are given where the details of functions are unique to each model. Illustrations for KMA-1080 are mainly used for explanations.

Before using this unit, be sure to read this manual so that you can take full advantage of the features of this unit. After you finish reading, keep this manual in a safe place in case you need it in the future. The manual should be very helpful in understanding the Digital Karaoke Mixing Amplifier and solving any difficulties that may arise during use.

HANDLING PRECAUTIONS

■ Do not install the unit in the following locations:

- In places exposed to direct sunlight or near heat sources, such as a radiator.
- In places where heat cannot escape due to poor ventilation, or are very humid or dusty.
- On a sloping surface or exposed to excessive vibration.
- In places which may be exposed to rain, such as near a window
- In places which may be exposed to soot, vapor or heat, such as near cooking facilities.

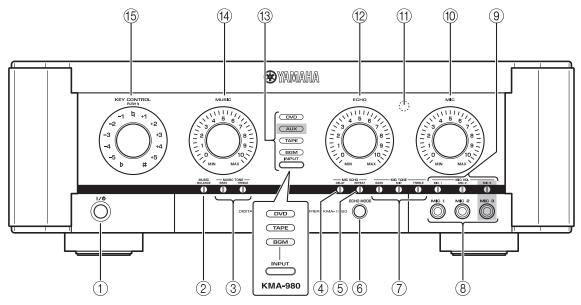
BEFORE CONNECTING

■ Connection precautions

- Be sure to switch off the power of the relevant equipment before making any connection.
- The white input/output jacks of the amplifier are designed for the left channel, while the red input/output jacks are for the right channels. Be sure to connect the cords without making a mistake in the color codes for the left and right channels.
- Insert the plugs of the connection cords securely into the jacks. If the connection is incomplete, there may be no sound produced or noise may be generated.
- When unplugging the power cable from the AC wall outlet, be sure to hold the plastic molding of the plug itself and pull.
- For KMA-1080, set IMPEDANCE SELECTOR on the rear panel before turning on the unit. Refer to "IMPEDANCE SELECTOR" on page 7.

NAMES OF PARTS AND THEIR FUNCTIONS

Front panel



The shaded part () is provided for KMA-1080 only.

1/0 (power on/off)

Turn the power on/off.

② MUSIC BALANCE

Adjust the volume balance.*

3 MUSIC TONE (BASS/TREBLE)

Adjust the low/high frequency response.*

4 MIC ECHO DELAY

Adjust the delay time between echoes.*

(5) MIC ECHO REPEAT

Adjust the amount of feedback.*

6 ECHO MODE

Select NORMAL, WIDE (stereo) or SPACIOUS** echo. SPACIOUS echo is an effect that produces both NORMAL and WIDE echo with a time lag. The LED lights up in amber/green** when WIDE/SPACIOUS** echo is selected.

ECHO MODE is reset after the played song has finished when the ECHO MODE auto reset is set to on. Refer to "ECHO MODE auto reset" on page 14. The unit assumes songs have finished when over 4 seconds of silence occurs.

7 MIC TONE (BASS/MID/TREBLE)

Adjust the low/middle/high frequency response of microphones.*

(8) MIC jacks (1/2/3**)

Connect microphones to these jacks.

9 MIC VOL (1/2/3**)

Adjust the microphone input level.*

(10) MIC

Adjust the overall volume of all microphones.

11 Remote sensor

This sensor receives signals from the remote control.

12 ECHO

Adjust the amount of echo.

(3) INPUT/Input source indicators (DVD/AUX**/ TAPE/BGM)

INPUT is not available in the default setting. To activate INPUT, refer to "Input mode" on page 14. Input source indicators indicate the input source currently active.

(14) MUSIC

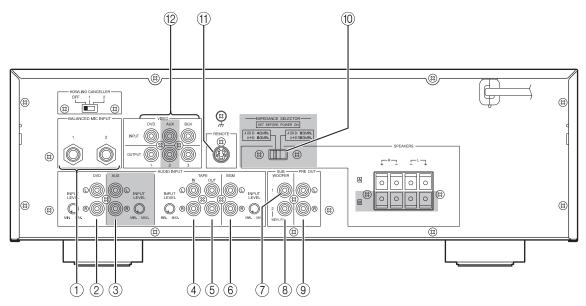
Adjust the volume of the music source.

15 KEY CONTROL

To transpose the key of the played music, rotate this control. The key can be changed in halftone steps in 5 steps; either higher or lower. To reset the key to the natural key, press this control. If over 4 seconds of silence occurs, the unit assumes the played song has finished and resets the key to natural.

- * Use a flathead screwdriver to adjust.
- ** KMA-1080 only

Rear panel



The shaded part () is provided for KMA-1080 only.

For details on component connection, refer to "SYSTEM CONNECTIONS" on page 6.

1 BALANCED MIC INPUT jacks (1/2)

Connect microphones to these jacks.

These are balanced inputs and each connects to the same circuit MIC 1 and 2 on the front panel.

② DVD audio input jacks

Connect to the output jacks of KARAOKE equipment or DVD player.

③ AUX audio input jacks*

Connect to the output jacks of a TAPE player, VCR, etc.

(4) TAPE audio input jacks

Connect to the output jacks of a TAPE player, VCR, etc.

5 TAPE audio output jacks

Connect to the input jacks of a TAPE player, VCR, etc.

6 BGM audio input jacks

Connect to the output jacks of the source component of background music.

SUBWOOFER jack without low-pass filter

Connect to the input jack of the subwoofer with a lowpass filter. This jack outputs the monaural signal directly.

(8) SUBWOOFER jack with low-pass filter

Connect to the input jack of the subwoofer.

9 PRE OUT jacks

Connect to the input jacks of the extension power amplifier.

10 IMPEDANCE SELECTOR*

Refer to "IMPEDANCE SELECTOR" on page 7.

(1) REMOTE jack

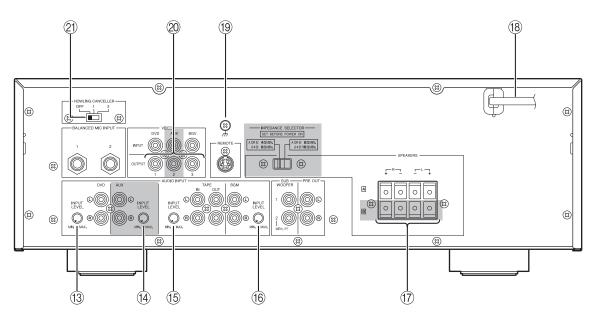
Connect to an external remote control.

Refer to "Connecting an external remote control" on page 8.

12 VIDEO INPUT jacks

Connect to the input jack of the video output of a DVD, AUX*, or background video player or video camera, etc.

* KMA-1080 only



The shaded part () is provided for KMA-1080 only.

13 DVD INPUT LEVEL

Adjust the balance of the DVD input level with respect to other inputs (AUX*, TAPE, BGM).

(4) AUX INPUT LEVEL*

Adjust the balance of the AUX input level with respect to other inputs (DVD, TAPE, BGM).

15 TAPE INPUT LEVEL

Adjust the balance of the TAPE input level with respect to other inputs (DVD, AUX*, BGM).

16 BGM INPUT LEVEL

Adjust the balance of the BGM input level with respect to other inputs (DVD, AUX*, TAPE).

SPEAKERS (Speaker system terminal(s))

Connect to the speaker system(s).

For KMA-980, only one speaker system is available.

® Power cable

Plug this cable into an AC wall outlet after all other connections are complete.

(9) Signal ground terminal

Connect this terminal if a humming noise is emitted when connecting this amplifier.

② VIDEO OUTPUT jacks

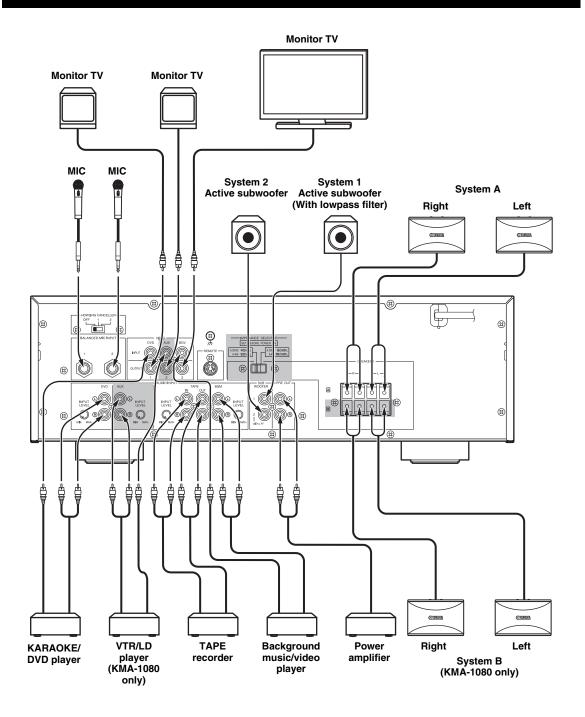
Connect to the video input of the monitor.

21 HOWLING CANCELLER

Set this switch to reduce the room's acoustic feedback. To reduce the feedback, select 1. If reduction in feedback is not sufficient, select 2. Select OFF to cancel feedback reduction.

* KMA-1080 only

SYSTEM CONNECTIONS



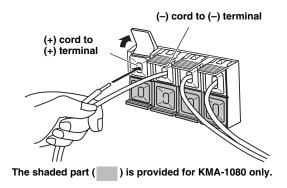
The shaded part () is provided for KMA-1080 only.

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CONNECTIONS

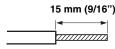
Connecting speaker cords

1 Pull the lever up to open, then insert the conductor wire into the hole.



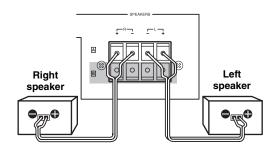
2 Close the lever to secure the conductor wire.

Before connection, strip a section of coating 15 mm (9/16") in length from the end of each cord using a tool such as pliers.



Note

Be careful that the cord conductors projected from a terminal do not contact with another cord. Contact from the conductors of different speaker cords may cause damage to the system.



The shaded part () is provided for KMA-1080 only.

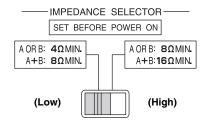
Important precautions for speaker connection

 Use Yamaha speakers to prevent any trouble or damage caused by mismatching.

[For KMA-1080]

IMPEDANCE SELECTOR

 Before turning on this unit, be sure to set IMPEDANCE SELECTOR on the rear panel to the position whose requirements your speaker system meets.



Switch position	If your system uses:	Speaker impedance level
Low	One speaker system	4 Ω or higher
LOW	Two speaker systems	8Ω or higher
Lliab	One speaker system	8Ω or higher
High	Two speaker systems	16Ω or higher

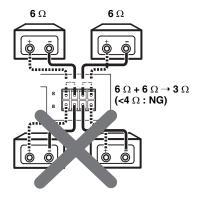
 Do not change IMPEDANCE SELECTOR setting while the power to this unit is on, otherwise this unit may be damaged.

Connection examples

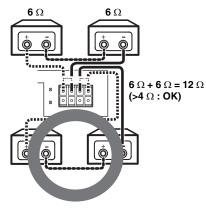
The minimum speaker impedance is 4 Ω . If two 6 Ω speaker systems are connected in parallel, this will exceed the design value and trigger a safety protector device. When two speaker systems are used and the protector is frequently activated, the speaker systems should be connected serially instead.

CONNECTIONS

1. Parallel connection (each speaker should be 8 Ω or more)



2. Series connection (total: over 4 Ω is available)

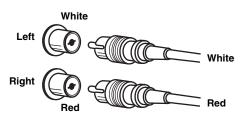


[For KMA-980]

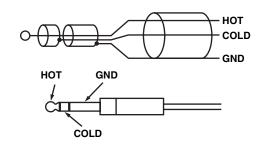
The speaker impedance must be between 8 Ω to 16 Ω .

■ Connecting the RCA pin plugs

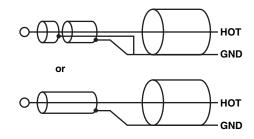
When connecting RCA pin plugs, be sure to insert the red plug into the red jack and the white plug into the white jack.



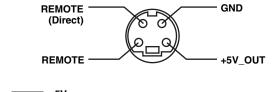
■ Connecting to the balanced input

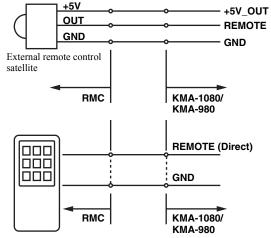


■ Connecting to the unbalanced input



■ Connecting an external remote control





English

1. External remote control satellite

Connect to +5V_OUT, REMOTE and GND.

Note

By connecting the remote control satellite to this input, this unit can receive the signal of the remote control.

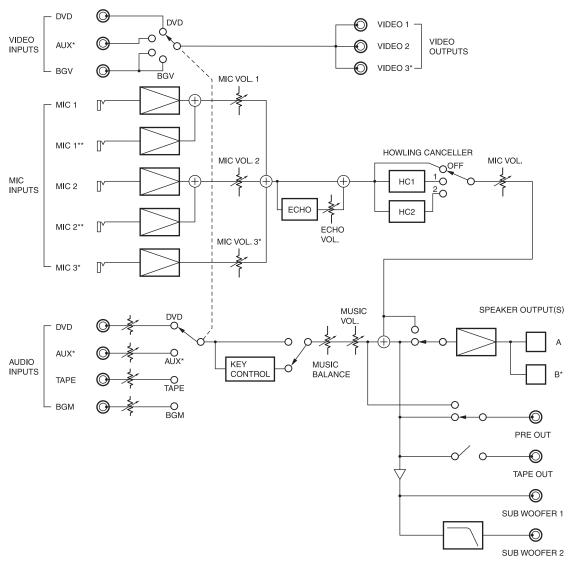
2. REMOTE (Direct)

Connect to REMOTE (Direct) and GND. Connect to the infrared diode output (open collector) of RMC.

Note

By connecting the REMOTE (Direct) to this input, this unit can receive the signal of the REMOTE.

CONFIGURATION DIAGRAM



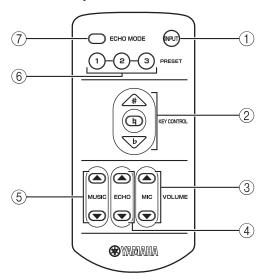
^{*} KMA-1080 only

^{**} Balanced input, on the rear panel

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REMOTE CONTROL

Names of parts and their functions



① INPUT

INPUT is not available in default setting. To activate INPUT, refer to "Input mode" on page 14.

② KEY CONTROL (▲/५/▼)

Transpose the key of the played music.

③ MIC (▲/▼)*

Adjust the overall volume of the microphones.

(4) ECHO (▲/▼)*

Adjust the amount of echo.

⑤ MUSIC (▲/▼)*

Adjust the music volume.

 The LED on the corresponding control on the front panel blinks during adjustment.

6 PRESET (1/2/3)

Recall saved preset settings for MIC volume/ECHO amount/MUSIC volume/ECHO MODE.

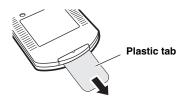
To save current settings of the above, press the desired button (PRESET 1, 2, 3 or KEY CONTROL on the front panel) for 3 seconds. Pressing KEY CONTROL saves settings to PRESET 1. When save is completed, "\u03b4" on the KEY CONTROL blinks once. You can save up to 3 presets (PRESET 1/2/3) on this unit. Refer to "Power ON recall" on page 14.

⑦ ECHO MODE

Select NORMAL, WIDE or SPACIOUS (KMA-1080 only) echo.

Preparing the remote control

The remote control comes with the battery already installed. Before using the remote control for the very first time, pull out the plastic tab, as shown.

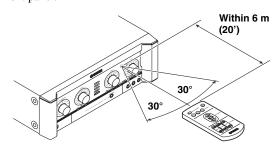


For information on replacing the battery, refer to next section.

Operation of remote control

1. Remote control

The distance between the remote control and the remote sensor of this unit should be within 6 m (20°). Be sure to aim the remote control directly at the remote sensor on the front panel.



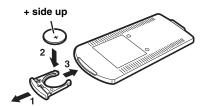
Continued to the next page.

2. Loading a battery

The life of the battery used in the remote control is about half a year under normal use. Remove the battery if the remote control is not used for an extended period. When the battery becomes weak, replace with a new CR2025 battery.

To replace the battery:

- 1. Using a small screwdriver, carefully slide out the battery holder.
- Remove the expired battery, and place the new CR2025 battery onto the battery holder with the + side facing up.
- 3. Slide the battery holder into the remote control, and push it so that it clicks shut.

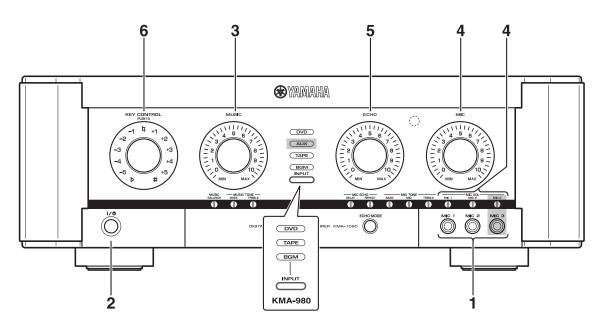


Improper use of batteries may cause a risk of battery leakage and explosion.

Adhere to the following guidelines:

- Do not attempt to recharge the old battery.
- Insert a battery so that the positive (+) and negative (-)
 poles are positioned as shown.
- Even if the shapes are the same, the voltage of batteries may vary depending on the models. Be careful not to use different model of battery.
- Dispose of the old battery in accordance with local regulations.

GENERAL OPERATION



The shaded part () is provided for KMA-1080 only.

- Connect the required number of microphones.
- 2 Set the power switches of this unit and other required components to on.
- Play the KARAOKE music source component, and adjust the volume by rotating MUSIC.

The music source is selected automatically in default setting. To set the conditions for selection, refer to "Auto input condition" on page 14. To select the music source manually, refer to "Input mode" on page 14.

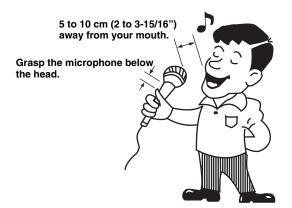
4 Adjust the microphone volume by rotating MIC.

When different microphone volumes are not balanced, adjust MIC VOL using a flathead screwdriver.

- 5 Adjust the ECHO amount by rotating ECHO.
- 6 Adjust the key by rotating KEY CONTROL.

■ Notes for the proper use of microphones

- Sing into the microphone by holding it at a distance of 5 to 10 cm (2 to 3-15/16") from your mouth.
- To ensure clear sound, grasp the microphone below the mic head
- Do not block the lower part of the windscreen. This will disturb proper voice reproduction with unclear bass. Howling also tends to occur in such cases.



SETUP MODE

■ Menus in Setup mode

You can set the following menus in Setup mode:

1. Power ON recall

Select Last memory or Preset, to recall the settings of MIC volume/ECHO amount/MUSIC volume/ECHO MODE when the unit is turned on.

Last memory*: The settings when the unit was turned off last are recalled.

Preset: The settings saved to PRESET 1 are recalled.

2. Input mode

Set Input mode to Auto or Manual.

Auto*: The input source is set automatically.

Manual: The input source is selected by INPUT. Source is selected in order of DVD, AUX**, TAPE, BGM.

3. Auto input condition

Set the conditions for each source (DVD, AUX** and TAPE) for Auto Input mode described in 2.

Audio*: The source is switched based on audio signal. **Video:** The source is switched based on video signal.

Audio/Video: The source is switched based on audio or video signal.

For only this menu, select desired source by INPUT before selecting the desired item.

4. ECHO MODE auto reset

Select whether the selected ECHO MODE is reset or not after the current song has finished. The unit assumes songs have finished when over 4 seconds of silence occurs.

Off*: The unit retains the last selected ECHO MODE.

On: The ECHO MODE is reset to the mode that is recalled when this unit is turned on. Refer to "Power ON

recall" on this page. 5. Remote mode

Set the light receiving device.

Front&Ext.*: Both the front panel and external remote control satellite receive the signal from the remote control.

Front: Only the front panel receives the signal.

Ext.: Only the external remote control satellite receives the signal.

Disable: The remote control is disabled.

6. MIC/MUSIC max level

Set the maximum volume of MIC and MUSIC.

10*: No setting.

9 to 3: The maximum volume is set to the level indicated (2 to 0 cannot be set).

7. MIC/MUSIC volume select

Select how MIC and MUSIC volumes increase/decrease (i.e., the volume curve) when the controls are turned.

Pattern 1: Steep curve

Pattern 2*: Less steep curve

Pattern 3: Least steep curve, and is most suitable for fine adjustment.

8. Ext Output select

Set the output signals from PRE OUT/SPEAKERS.

Normal*: PRE OUT/SPEAKERS output both of the mic/music signals.

Separate: PRE OUT outputs music; SPEAKERS outputs mic signals.

9. Power Amplifier mode

You can also use this unit as a 2ch power amplifier. Most of the functions on this unit are not available in Power Amplifier mode. The default setting is Normal (Digital Karaoke Mixing Amplifier). See the CAUTION on page 17.

10. Initializing

Reset all the settings set in Setup mode to the defaults.

Cancel: Initializing is not executed.

Initialize: Initializing is executed.

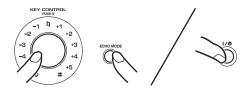
When pressing KEY CONTROL with MUSIC set to 3, Initializing is executed.

* Default setting

** KMA-1080 only

To set each menu above, set the corresponding controls as shown in the "Setup mode table" on pages 15 to 16 according to the following procedure.

To enter Setup mode, turn off the main unit and press |/ while pressing KEY CONTROL and ECHO MODE.



2 Set KEY CONTROL and MUSIC according to the "Setup mode table" on page 15 to set desired menus and items.

For Auto input condition, select the desired source before selecting the item.

Set all settings you want to change before moving to step 3.

3 Press KEY CONTROL to enter the settings.



"4" blinks once when the settings are entered.

4 To terminate Setup mode, turn off the main unit.

■ Setup mode table

	Menu Menu	KEY CONTROL	Items/MUSIC
1. 1	Power ON recall	+1 KEY CONTROL FORM F	Last memory: 1 Preset: 2 MURIC MURIC MINISTE MINISTE
2. 1	Input mode	+2	Auto: 1 Manual: 2
3. /	Auto input condition	+3	Select desired source by INPUT. TAPE BIGHT POPUT POPUT Audio: 1 Video: 2 Audio/Video: 3
	ECHO MODE auto reset	+4 -7 -7 -63 -63 -63 -63 -63	Off: 1 On: 2
5.	Remote mode	+5	Front&Ext.: 1 Front: 2 Ext.: 3 Disable: 4
	MIC/MUSIC max level	HEY CONTI	No setting: 10 Set to the indicated level: 9 to 3 Set MIC and MUSIC separately.
	MIC/MUSIC volume select	-2	Pattern 1: 1 Pattern 2: 2 Pattern 3: 3
8. 1	Ext Output select	-3	Normal: 1 Separate: 2

Menu KEY CONTROL Items/MUSIC 9. Power Amplifier mode See the CAUTION on page 17. 10. Initializing Cancel: 1 Initialize: 3

CAUTION

- Always use the default setting for Power Amplifier mode in normal use.
- If "Power Amplifier: 2" is set, the volume level of this unit will be maximum and cannot be controlled by rotating MUSIC on the front panel.
- Be careful of inadvertent setting to avoid excessive volume output.
- Consult your dealer when using this unit in Power Amplifier mode.

TROUBLESHOOTING

If problems should occur, check the following table for simple remedies. If the problem still cannot be solved, please consult your dealer.

Problems	Possible causes	Solutions
No speaker sound is output at all.	I/(is set to off.	Set I/O to on.
	The power cable is unplugged.	Plug the power cable securely into the AC wall outlet.
	MUSIC is in the lowest position.	Adjust MUSIC.
	The wrong music source is selected when Input mode is set to Manual in Setup mode.	Select the correct music source with INPUT or set Input mode to Auto in Setup mode. Refer to "Input mode" on page 14.
	The sound is cut off due to a temperature rise in the unit.	Turn the power off, then leave the unit alone for cooling.
No sound is output from one of the speakers.	MUSIC BALANCE is turned fully to one speaker.	Set the control to the center position.
	One of the speaker cords is disconnected.	Insert the cord securely into the terminals.
No microphone sound is	The microphone plug is not fully inserted.	Insert the plug securely into the jack.
output.	The switch on the microphone is set to OFF.	Set the switch on the microphone to ON.
	The corresponding MIC VOL or MIC controls are in the minimum position.	Adjust the control.
	The microphone is too far from your mouth, or the microphone handling is incorrect.	Refer to the user's manual supplied with your microphone.
The remote control does not work, or does not function properly.	The remote control is too far away or tilted too much.	The remote control will function within 6 m (20') and no more than 30 degrees off-center from the front panel.
	Direct sunlight or lighting is striking the remote control sensor of this unit.	Reposition this unit.
	Remote mode is set to Disable in Setup mode.	Set Remote mode to Front&Ext., Front, or Ext. in Setup mode. Refer to "Remote mode" on page 14.
	The wrong Remote mode is set in Setup mode.	Set the correct Remote mode in Setup mode. Refer to "Remote mode" on page 14.
	The battery is weak.	Replace with a new CR2025 battery. Refer to "Loading a battery" on page 12.
	When INPUT does not work, Input mode is set to Auto.	Set Input mode to Manual in Setup mode. Refer to "Input mode" on page 14.
	Power Amplifier mode is set.	Set Power Amplifier mode to Normal. Refer to "Power Amplifier mode" on page 14.
The Input source indicators flash.	The temperature of the unit is too high or too low.	Turn the power off and leave the unit alone for a while.

MAINTENANCE

When the set gets dirty, wipe it with a soft, dry cloth.

Never use alcohol, thinner, benzene, insecticide or other volatile agents, for they may damage the surface paint or gloss of the set.

Also do not wipe the set with a chemical cloth or leave it on the set for a long period, for the surface finish may deteriorate or the paint may be stripped off.

AFTER-SALES SERVICING

- If this unit is found to be defective, your local dealer will repair or replace defective parts at charge on request.
- Before requesting a repair from your local dealer, see the "TROUBLESHOOTING" for possible remedies.

For the dealer:

If the customer requests after-sales service, please first check the following points:

- · Confirm the details of any accident.
- Check out all cables and connections.
- Confirm cautions regarding operation and instructions on using the system with your customer.

If the unit is found to be defective and it is difficult to repair, bring the defective unit to your nearest Yamaha authorized service center.

KARAOKE ETIQUETTE



The KARAOKE performance you enjoy may be disturbing to others. When performing KARAOKE, be sure to consider your neighbors.

You can control the volume of KARAOKE. Remember that even small sounds travel easily during quiet nights, so be especially careful during KARAOKE performances at night. We recommend consideration for your neighbors by closing your windows.

COPYRIGHT

- Broadcasting and music sources such as recorded music tapes, DVDs, video tapes, CDs and so on are strictly
 protected under copyright law.
- You require permission from the copyright holder to use, distribute, or rent these music sources for commercial use, or sell dubbed media to other people; except when enjoying these sources by yourself.

SPECIFICATIONS

AMPLIFIER

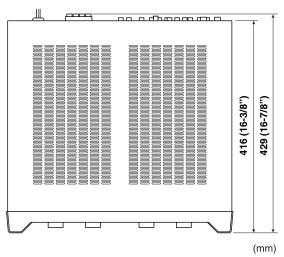
AWIFLIFIEN	
Maximum output [KMA-1080]	
[KMA-980]	200 W+200 W
Minimum RMS Output Power	130 W+130 W
[KMA-1080] (1 kHz, 8 Ω, 1%THD) [KMA-980]	160 W
	120 W
Audio input (Sensitivity/Impedance DVD, TAPE, AUX (KMA-1080 of BGM	only)
Audio output (Output level/Output in the control of the control output in the contr	
PRE OUT	
REC OUT	
SUBWOOFER	2.0 V/1.2 k Ω
Frequency response MUSIC	20 Hz to 15 kHz +1 5/-0 5 dB
MIC	,
Tone control characteristics MUSIC	
	±12 dB (100 Hz)
	±12 dB (10 kHz)
MIC	
	±12 dB (100 Hz)
	±12 dB (1 kHz)
Speaker impedance	±10 dB (10 kHz)
[KMA-1080]	4 Ω to 8 Ω /8 Ω to 16 Ω
	8 Ω to 16 Ω
	8 Ω to 16 Ω
Key control range	±5 steps, ±2.5 tones
Video input (Sensitivity/Input impedance)	1 Vp-p/75 Ω
Video output (Output level/Impedance)	1 Vp-p/75 Ω
GENERAL	
Supply voltage	AC 230 V 50 Hz
Power consumption	
[KMA-1080] (IEC 60065)	200 W
	30 W
[KMA-980]	145 XV
	145 W
• Dimensions (W × H × D)	
	(17-1/8" × 5-15/16" × 16-3/8")
• Weight	11.51
[KMA-1080]	(25 lbs. 6 oz.)
[KMA-980]	11 kg
	(24 lbs 4 oz)

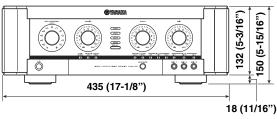
(24 lbs. 4 oz.)

ACCESSORIES

Owner's manual	. 1
Remote control	1

DIMENSIONS





Design and specifications are subject to change without notice.



