

harman/kardon
 ULTRAWIDEBAND
 INTEGRATED AMPLIFIER

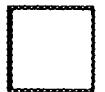
PM635

owner's manual

harman/kardon PM635 ULTRAWIDEBAND INTEGRATED AMPLIFIER



POWER



HEADPHONES



SPEAKERS



BASS



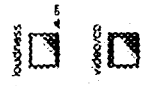
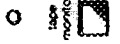
TREBLE



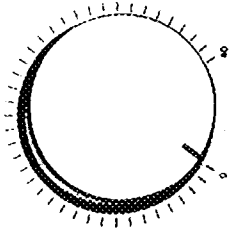
BALANCE



HIGH INSTANTANEOUS
 CURRENT CAPABILITY



VOLUME



SPECIFICATIONS

Congratulations on your purchase of the Harman Kardon PM635 Ultrawideband Integrated Amplifier.

In order to appreciate the full performance of this sophisticated unit, please be sure to read this owner's manual and use your integrated amplifier only in accordance with its instructions. Keep it in a safe place for future reference.

Power Output, RMS (both channels driven into 8 Ohms, 20 – 20,000Hz)	: 30 watts per channel @less than 0.09% THD
HCC (high instantaneous current capability)	: 18A
Power Bandwidth (at half rated output into 8 Ohms)	: 10Hz to 60,000Hz
Frequency Response (+0, – 3dB)	: 0.5Hz to 150,000Hz
Damping Factor	: > 60
Signal-to-Noise Ratio, IHF-A WTD (reference 1W output)	
Phono	: 80dB
Tuner, Video/CD, Tape	: 82dB
Input Sensitivity/Impedance	
Phono	: 2.2mV/47k Ohms and 125pF
Tuner, Video/CD, Tape	: 135mV/22k Ohms
Phono Overload, MM	: 180mV
Tone Control Characteristics	
Bass Boost/Cut (at 50Hz)	: + 10dB/– 10dB
Treble Boost/Cut (at 10kHz)	: + 10dB/– 10dB
Dimensions (W x H x D)	: 17-1/2" x 4-1/16" x 13-7/8" (443 x 103 x 353 mm)
Weight	: 12lbs. 2oz. (5.5kg)
Power Supply	: AC 120V, 60Hz
Power Consumption	: 220W (242VA)



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UNE RALLONGE. UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

All specifications and features subject to change without notice.

This manual applies to champagne gold and black versions with this model PM635.

■ HCC (High-instantaneous Current Capability)

Recent studies have shown that while reproducing dynamic music signals the instantaneous impedances of nearly all loud-speakers drop to less than one third of the nominal ratings. These low instantaneous impedances typically require 3 to 6 times more current than an 8 Ohm resistive load. Reduced dynamic range and increased distortion will result if the amplifier cannot provide these higher currents. For this reason, the PM635 was designed to provide 18 amperes of instantaneous current.

■ Ultrawide Bandwidth

The bandwidth of this unit is exceptionally wide and independent of negative feedback. This improves transient accuracy and phase linearity.

■ Low Negative Feedback

This unit has been designed to have low distortion and wide bandwidth without high negative feedback. This further improves its dynamic accuracy.

■ Discrete Component Circuitry

In order to achieve the above goals, all discrete electronic circuitry has been employed. All available integrated circuits could not provide this high level of performance.

■ Sophisticated Electronic Protection

Harman Kardon engineers developed a unique protection system that permits high instantaneous current to be driven into speaker systems but protects the amplifier from short-circuited or damaged speakers and wires. This protection system in no way limits amplifier output voltage or current during music reproduction, and therefore has no negative effect on sound quality.

Always Use at 120V AC

This unit is designed for operation with 120V AC. Connect only to domestic AC outlets. Never connect the unit to an outlet supplying a higher voltage. This may create a fire hazard.

Handle the Power Cord Gently

● Do not disconnect the plug from the AC outlet by pulling the cord; always pull the plug itself. Pulling the cord may break the wire.

● If you do not intend to use your unit for any considerable length of time, disconnect the plug from the AC outlet.

● Do not place furniture or other heavy objects on the cord, and avoid dropping heavy objects on it. Also do not make a knot in the power cord. Not only may the cord be damaged, it can also cause a short circuit and a consequent fire hazard.

Place of Installation

Place your unit on a firm and level surface. Avoid installing your unit under the following conditions:

- ▶ Moist or humid places.
- ▶ Places exposed to direct sunlight or close to heating equipment.
- ▶ Extremely cold locations such as those in the direct draft from an air conditioner.
- ▶ Places subject to excessive vibration or dust.
- ▶ Poorly ventilated places.

Do not cover the ventilation slots on the top of the unit. This will cause the temperature inside the unit to rise, which can eventually effect the reliability of your unit.

Moving the Unit

Before moving the unit, be sure to unplug the power cord from the AC outlet and disconnect the interconnection cords to other units.

Do Not Open the Cabinet

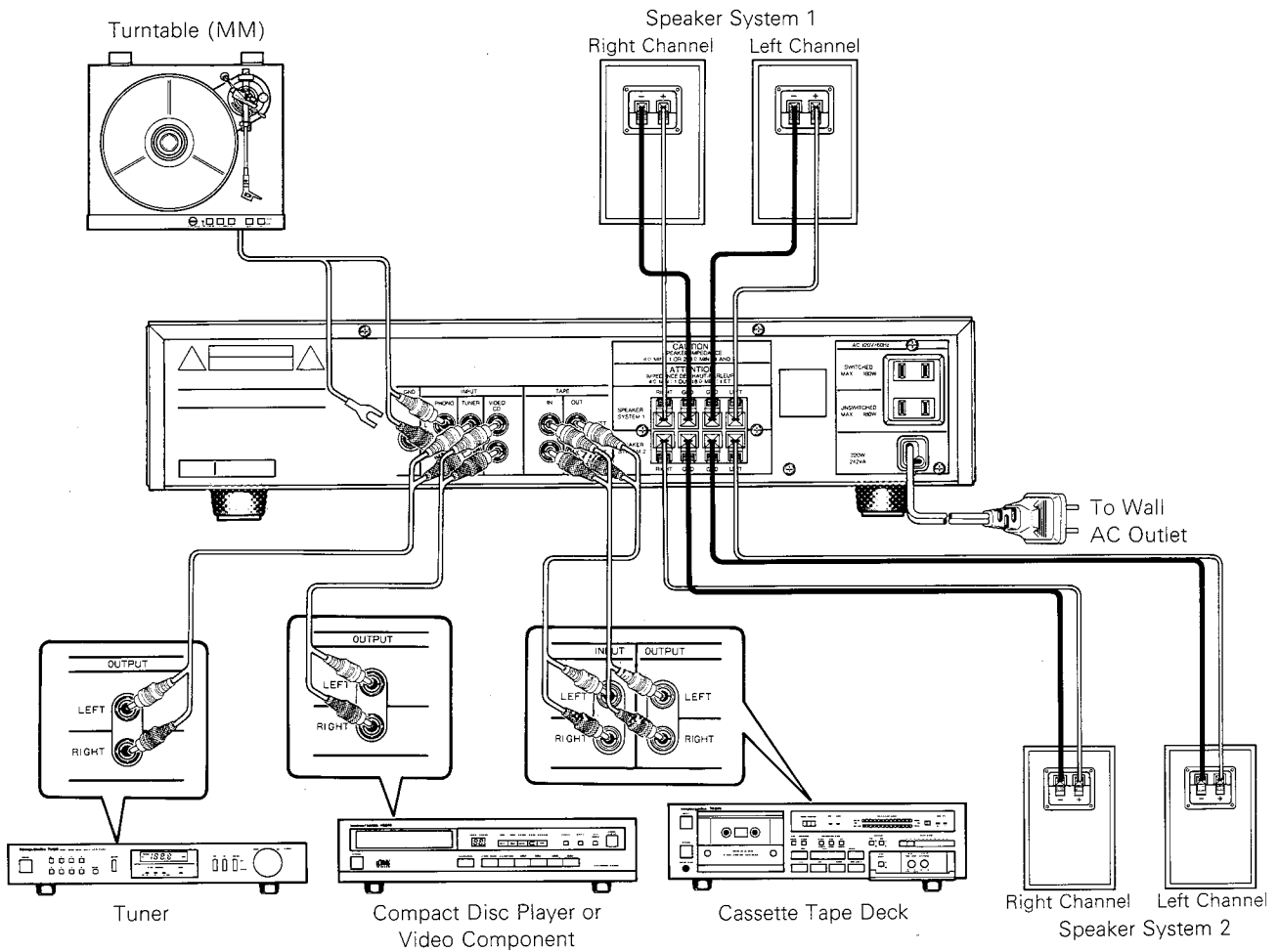
To prevent fire or shock hazard, do not tamper with internal components for inspection or maintenance. Harman Kardon does not guarantee against performance degradation resulting from any modification.

If water, a hairpin or wire accidentally enters the unit, immediately unplug the power cord from the AC outlet to prevent shock and consult an authorized Harman Kardon service station. If you use the unit under this condition, it may cause a fire or shock hazard.

Cleaning

When the unit gets dirty, wipe it with a soft dry cloth. If necessary, wipe it with a soft cloth dampened with mild soapy water and then wipe with a dry cloth.

Never use benzine, thinner, alcohol or other volatile agent, and avoid spraying an insecticide near the unit.



Connecting Other Components

Carefully connect the plugs to the left and right channel jacks. Push the plugs in all the way. Poor setting of the plugs tends to cause hum or intermittent sound and may damage the speakers.

NOTE: While you are connecting this unit to the rest of your high fidelity system, please unplug the power cord, disconnecting not only this unit but all the components, from the AC outlet.

Do not interwind the connection wires with the power cord. If interwound, the sound quality may be degraded.

AC Convenience Receptacles

This unit is provided with two AC convenience receptacles on the rear panel for supplying power to a tuner, turntable, tape deck or other low power component. The receptacles have a power capacity of 180 watts each. Check the component's owner's manual to find its power requirement.

SWITCHED: The power to this receptacle is turned on and off by this unit's power switch.

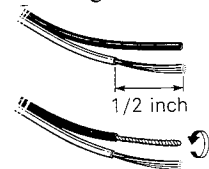
UNSWITCHED: The power to this receptacle is independent of this unit's power switch.

Connecting Speakers

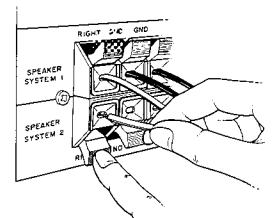
Connect the speaker wires carefully to the speaker terminals on the rear panel so as not to mistake the left and the right channels or reverse the speaker polarities (+ and -).

Use sufficiently thick wire (18 gauge for short lengths, 16-12 gauge for longer lengths). It is recommended to use color-coded wire for easy polarity identification. Speaker wires should be as short as possible, and the left and the right channel wires should be the same length.

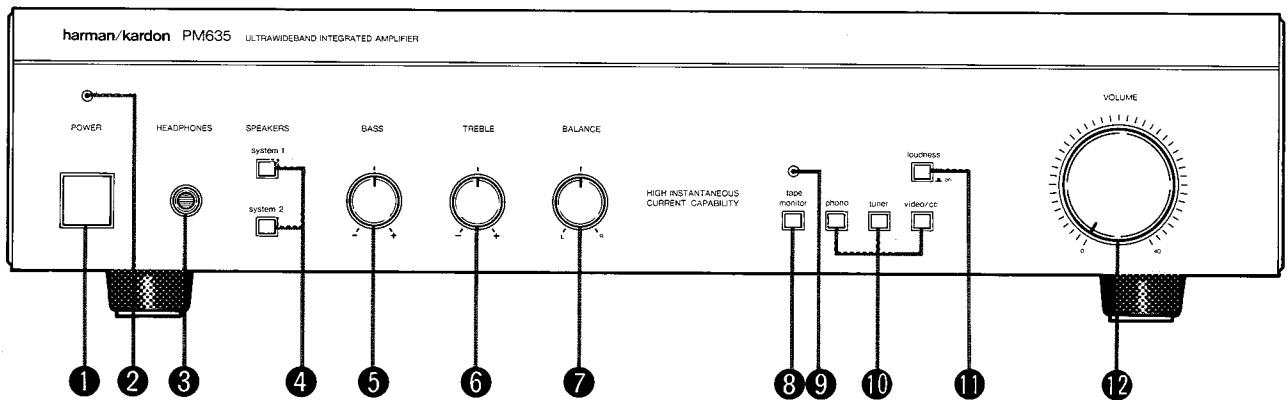
1. Remove about 1/2 inch (12 mm) of insulation from the end of each wire and twist the strands of each end.



2. Push the plastic button of the speaker terminal. Insert the bare end of the wire into the opening at the center of the speaker terminal. Release the plastic button, and the end of the wire will automatically be held in place.



CAUTION: Two speaker systems can be connected to this unit. The minimum speaker impedance should be 4 Ohm when only one speaker system is connected. When two speaker systems are connected, care should be taken that net impedance does not become less than 4 Ohm.



① POWER SWITCH (POWER)

Pressing this switch will turn on the power and the POWER indicator will light up. Press the switch again to turn the power off.

② POWER INDICATOR

When the "POWER" switch is pressed, the POWER indicator lights up in red.

③ HEADPHONE JACK (HEADPHONES)

Stereo headphones with a standard 1/4 inch plug can be connected to this jack. When both "SPEAKERS" switches are in the OFF position (buttons out), sound can still be obtained via the headphone jack.

④ SPEAKER SWITCHES (SPEAKERS)

One or two speaker systems can be connected to this unit. Depress the "SPEAKERS system 1" or "SPEAKERS system 2" switch corresponding to the system to which you want to listen. To use both speaker systems, depress both switches. Press down the switches once again if the use of the speaker systems are not desired.

⑤ BASS CONTROL KNOB (BASS)

This knob controls the low frequency sound level. Turn it clockwise to boost or counterclockwise to reduce the low frequency sound level.

⑥ TREBLE CONTROL KNOB (TREBLE)

This knob controls the high frequency sound level. Turn it clockwise to boost or counterclockwise to reduce the high frequency sound level.

⑦ BALANCE CONTROL KNOB (BALANCE)

This knob is used to balance the left and the right channels. Usually, it is set at the center. Turn it to the left or right to balance the sound if it seems unbalanced from the speakers or the headphones.

⑧ TAPE MONITOR SWITCH (tape monitor)

This switch is used when listening to a tape or monitoring the sound during recording. The TAPE MONITOR indicator lights up in red when it is pressed.

NOTE: The "TAPE" jacks on the rear panel can also be used to record and playback audio signals with a video cassette recorder.

The "VIDEO/CD INPUT" jacks can be used to play audio signals from a video disc player or video cassette recorder.

⑨ TAPE MONITOR INDICATOR

This indicator illuminates when the "tape monitor" switch is pressed.

⑩ FUNCTION SELECTOR

These switches are used to select a program source other than a tape.

"phono" switch: Press this switch to listen to a disc played on the turntable connected to the "PHONO INPUT" jacks.

"tuner" switch: Press this switch to listen to an FM or AM broadcast from the stereo tuner connected to the "TUNER INPUT" jacks.

"video/CD" switch: Press this switch to listen to the sound from the video component, the compact disc player or other component connected to the "VIDEO/CD INPUT" jacks.

⑪ LOUDNESS SWITCH (loudness)

This switch is pressed to create a natural sound quality when listening at a low volume by boosting the low and high frequency ranges.

⑫ VOLUME CONTROL KNOB (VOLUME)

This knob controls the sound level. Turning clockwise increases the sound volume, and turning counterclockwise decreases it. Set this knob at a minimum level before turning the power on or changing the sound source to protect the speakers from being damaged by a sudden high level sound.

Listening to a Record (Disc)

1. Turn the "VOLUME" control knob to the minimum level and press the "POWER" switch. The POWER indicator will light up.
2. Press the "SPEAKERS system 1" switch and/or "SPEAKERS system 2" switch for the desired speaker system(s).
3. Press the "phono" switch.
4. Set the "tape monitor" switch to the source (button out) position.
5. Activate your turntable and place the stylus on the record (disc).
6. Turn the "VOLUME" control knob clockwise to increase the sound volume to the desired level.
7. Adjust the "BASS" and "TREBLE" control knobs to obtain the desired tone.
8. Activate the "BALANCE" control knob or "loudness" switch if necessary.

NOTE: If you hear a hum at average listening levels, turn the "POWER" switch off and check to see that the phono and the ground connections are secure. Depending on the cartridge type used, less hum may be created without the ground connection.

Listening to Broadcasts

1. Turn the "VOLUME" control knob to the minimum level and press the "POWER" switch. The POWER indicator will light up.
2. Press the "SPEAKERS system 1" switch and/or "SPEAKERS system 2" switch for the desired speaker system(s).
3. Press the "tuner" switch.
4. Set the "tape monitor" switch to the source (button out) position.
5. Activate the tuner and tune to broadcast frequency.
6. When the desired station is selected, advance the "VOLUME" control knob to a comfortable level and adjust the "BASS" and "TREBLE" control knobs as desired.
7. Activate the "BALANCE" control knob or "loudness" switch if necessary.

Listening to the Video/CD Input Source

To listen to a video component, compact disc player or other component:

1. Turn the "VOLUME" control knob to the minimum level and press the "POWER" switch. The POWER indicator will light up.
2. Press the "SPEAKERS system 1" switch and/or "SPEAKERS system 2" switch for the desired speaker system(s).
3. Press the "video/CD" switch.
4. Set the "tape monitor" switch to the source (button out) position.
5. Activate the component connected to the "VIDEO/CD INPUT" jacks.
6. Advance the "VOLUME" control knob to a comfortable level and adjust the "BASS" and "TREBLE" control knobs as desired.
7. Activate the "BALANCE" control knob or "loudness" switch if necessary.

Tape Recording

Recording from a program source (FM/AM broadcast, turntable or a component connected to "VIDEO/CD INPUT" jacks) on a tape deck connected to the "TAPE" jacks:

1. Turn the "VOLUME" control knob to the minimum level and press the "POWER" switch. The POWER indicator will light up.
2. Press the "SPEAKERS system 1" switch and/or "SPEAKERS system 2" switch for the desired speaker system(s).
3. Select the desired program source with the FUNCTION selector.
4. Set the "tape monitor" switch to the source (button out) position.
5. Advance the "VOLUME" control knob to a comfortable level.
6. Start recording by activating the tape deck connected to "TAPE" jacks. The source sound can be listened to from the speakers or headphone.
7. To monitor the sound being recorded, press the "tape monitor" switch. The TAPE MONITOR indicator lights up, indicating the monitoring state.

NOTE: The tape monitor output signal fed to the tape deck is carried out directly from the program source without being influenced by the volume, balance, bass and treble controls, and loudness switch of this unit.

Tape Playback

1. Turn the "VOLUME" control knob to the minimum level and press the "POWER" switch. The POWER indicator will light up.
2. Press the "SPEAKERS system 1" switch and/or "SPEAKERS system 2" switch for the desired speaker system(s).
3. Press the "tape monitor" switch and confirm that the TAPE MONITOR indicator lights up.
4. Insert a recorded tape in the tape deck and set the tape deck in the playback mode.
5. Advance the "VOLUME" control knob to a comfortable level and adjust the "BASS" and "TREBLE" control knobs as desired.
6. Activate the "BALANCE" control knob or "loudness" switch if necessary.

TROUBLESHOOTING CHECKLIST

Most of the problems consumers have with their high fidelity system are due to incorrect operation. If this unit does not operate as you intended, first check the items in the following checklist. Also check other related components such as the

tuner, turntable, tape deck, speakers and other electrical equipment you use with this amplifier. If a problem persists even though you have done as suggested in the checklist, consult your authorized Harman Kardon service station.

Problem	Cause	Remedy
The POWER indicator does not light up when the "POWER" switch is pressed.	<ul style="list-style-type: none"> The power cord is not plugged in. 	<ul style="list-style-type: none"> Plug in the power cord securely.
The POWER indicator lights up, but no sound is heard.	<ul style="list-style-type: none"> The "tape monitor" switch is in the ON position (indicator is lit up). The function selection was not made properly. The "SPEAKERS system 1" and "SPEAKERS system 2" switches are set to the OFF position. The speaker wires are disconnected or broken. 	<ul style="list-style-type: none"> Repress the "tape monitor" switch (button out). Press the proper FUNCTION selector according to the desired program source. Press the "SPEAKERS system 1" or "SPEAKERS system 2" switch. Check the speaker wires and connect them correctly.
Sound is not heard from the speaker system on one side.	<ul style="list-style-type: none"> The connection of a speaker wires are incorrect or incomplete. The connection wires to other equipment are disconnected. The "BALANCE" control knob is turned to either the extreme right or the left position. 	<ul style="list-style-type: none"> Check the speaker wires for disconnection or breaking and reconnect them correctly. Check the wires for disconnection and connect them correctly. Set the mark on the "BALANCE" control knob to the center position.
When listening to stereo sound, the left and right sounds are reversed.	<ul style="list-style-type: none"> The left and right speaker wires are reversed. The left and right wires connected to other equipment are reversed. 	<ul style="list-style-type: none"> Check the speaker wires and connect them correctly. Check the wires to other equipment and connect them correctly.
When playing the turntable, a low-pitched noise ("hum" or "buzz") is heard.	<ul style="list-style-type: none"> The ground wire of the turntable is disconnected. The connections of the turntable wires are incorrect or incomplete. 	<ul style="list-style-type: none"> Make the ground wire connection correctly. Insert the turntable wires into the "PHONO INPUT" jacks of this unit securely.
When increasing the volume level while playing a turntable, an undesirable prolonged sound (howling) is heard.	<ul style="list-style-type: none"> "Howling" is created by the speakers and turntable. Too much low frequency sound is present. 	<ul style="list-style-type: none"> Place the speakers further away from the turntable. Place the turntable on a more solid surface. Decrease the setting of the "BASS" control knob. Turn off the "loudness" switch.
Sound quality is poor.	<ul style="list-style-type: none"> Input components have not been set up correctly. Tone control is not proper. 	<ul style="list-style-type: none"> Check the antenna, turntable and cartridge, tape deck, etc. and make corrections as needed. Adjust the "BASS" and/or "TREBLE" control knobs to obtain a desired tone.