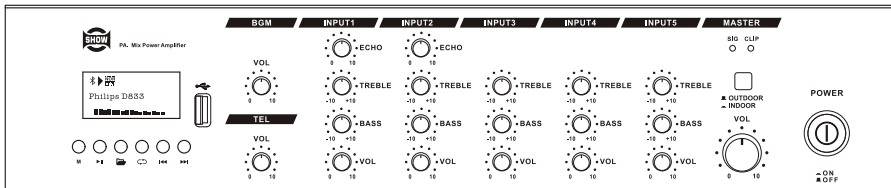




THE UNIVERSE OF INSTALLATION

PA. Mix Power Amplifier

User's Manual



PAS-150D/PAS-150F
PAS-300D/PAS-300F
PAS-500D/PAS-500F

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IMPORTANT!
Please read this manual carefully before
operating this unit for the first time.

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Important Safety Instructions



ATTENTION: RISQUE DE CHOC ÉLECTRIQUE NE PAS OUVRIR.

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

AVERTISSEMENT: NE PAS EXPOSER CE MATERIEL À LA PLUIE OU L'HUMIDITÉ AFIN DE RÉDUIRE LE RISQUE D'INFLAMMATION OU DE CHOC ÉLECTRIQUE



This symbol, wherever used, alerts you to the presence of un-insulated and dangerous voltages in the product enclosure. These are voltages that may be sufficient to constitute the risk of electric shock or death.



This symbol, wherever used, alerts you to important operating and maintenance instructions. Please read.



Protective Ground Terminal



AC mains (Alternating Current)



Hazardous Live Terminal

ON: Denotes the product is turned on.

OFF: Denotes the product is turned off.

CAUTION

Describes precautions that should be observed to prevent damage to the product.



Warning! This symbol indicates a hot surface. Certain parts of the housing can become hot during operation. After use, wait for a cool-down period of at least 10 minutes before handling or transporting the device.



Warning! This device is designed for use below 2000 metres in altitude.



Warning! This product is not intended for use in tropical climates.

CAUTION : Risk of fire or explosion if the battery is replaced by an incorrect type

ATTENTION : Risque d'incendie ou d'explosion si la batterie est remplacée par un type incorrect

WARNING: Remove batteries if exhausted or if they will not be used again for a long period.

- The incorrect use of batteries can cause electrolyte leakage and will corrode the compartment or cause the batteries to burst, therefore:
- Do not mix battery types, e.g. alkaline with zinc carbonate.
- When inserting new batteries, replace all batteries at the same time.



Dispose of this product should not be placed in municipal waste and should be separate collection.

Service Instructions

- Refer all servicing to authorized service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Disconnect power cord before servicing.
- Replace critical components only with factory parts or recommended equivalents.
- For AC line powered units: Before returning repaired unit to user, use an ohmmeter to measure from both AC plug blades to all exposed metal parts. The resistance should be more than 2,000,000 ohms.

1. Read and keep these instructions. Heed all warnings and follow all instructions.
2. **Warning** (if applicable): Please refer to any important information (e.g., electrical, safety, etc.) printed on the exterior bottom enclosure or rear panel before installing or operating the product.
3. Clean only with dry cloth.
4. **Water and Moisture** (if applicable): Do not use this apparatus near water. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus. Electrical equipment should NEVER be kept or stored in damp environments.
5. (If applicable) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. Do not install this equipment in a confined or "boxed-in" space such as a bookcase or similar unit, and maintain good ventilation conditions. The ventilation should not be impeded by covering the ventilation openings with items such as newspaper, tablecloths, curtains, etc.
6. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Do not place exposed flame sources such as lighted candles on the apparatus.
7. (If applicable) This product should be connected to a power supply only of the type described in these operating instructions, or as marked on the unit.
8. (if applicable) Be careful not to damage the power cord. When moving or not using the appliance, secure the power cord (e.g., wrap it with a cable tie). Before using it again, make sure the power cord has not been damaged. If the power cord has been damaged at all, bring the unit and cord to a qualified service technician for repair or replacement as specified by the manufacturer.

9. Unplug this apparatus during lightning storms or when unused for long periods of time.
10. Only use attachment/accessories specified by the manufacturer.
11. (If applicable) Use only the cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
12. Internal/External Voltage Selectors (if applicable): Internal or external voltage selector switches, if any, should only be reset and re-equipped with a proper plug for alternative voltage by a qualified service technician. Do not attempt to alter this yourself.
13. **Caution** (if applicable): Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type. Batteries (a battery pack or an installed battery) shall not be exposed to excessive heat such as sunshine, fire, etc.
14. (If applicable) Do not defeat the safety purpose of the polarized or grounding-type plug.
15. Protective earthing terminal (if applicable): The apparatus should be connected to a mains socket outlet with a protective earthing connection.
 - Denmark (*Danmark*): Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.
 - Finland (*Suomi*): Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan.
 - Norway (*Norge*): Apparatet må tilkoples jordet stikkontakt.
 - Sweden (*Sverige*): Apparatens skall anslutas till jordat uttag.
16. **For Class II apparatus only:** This symbol means the equipment is a Class II or double-insulated electrical appliance. It has been designed in such a way that it does not require a safety connection to electrical earth. When servicing use only identical replacement parts installed by an instructed person or with the use of ready-made leads or cords.
17. **Warning** (if applicable): Provide an earthing connection before the mains plug is connected to the mains. When disconnecting the earthing connection, be sure to disconnect it after pulling the mains plug out from the mains.
18. (If applicable) Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
19. **Warning** (if applicable): To prevent possible hearing damage, do not listen at high volume levels for long periods.
20. This apparatus is for professional use only. Intended operational climate: moderate.



FCC STATEMENT

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - (1) This device may not cause harmful interference, and
 - (2) This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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

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



General Note on the Declaration of Conformity: We hereby declare that this device is in accordance with the essential requirements of the European Directive 2014/53/EU or 2014/30/EU (LVD: 2014/35/EU; GPSD: 2001/95/EC).

INTRODUCTION

Function introduction:

PAS series models, the entire series uses class D modules High efficiency: The biggest advantage of Class D power amplifier is its high efficiency. Wide range of applications; Class D power amplifiers have a wide range of applications and low minimum connected loads. . Clear sound: The Class D amplifier lacks high and mid-range frequencies and can be adjusted relative to the frequency. The sound is very clear and the sound image positioning is quite accurate. Can be mass produced: Class D power amplifiers are very suitable for mass production.

3 power levels: 150W, 300W, 500W,

6 models: PAS-150D, PAS-150F, PAS-300D, PAS-300F, PAS-500D, PAS-500F.

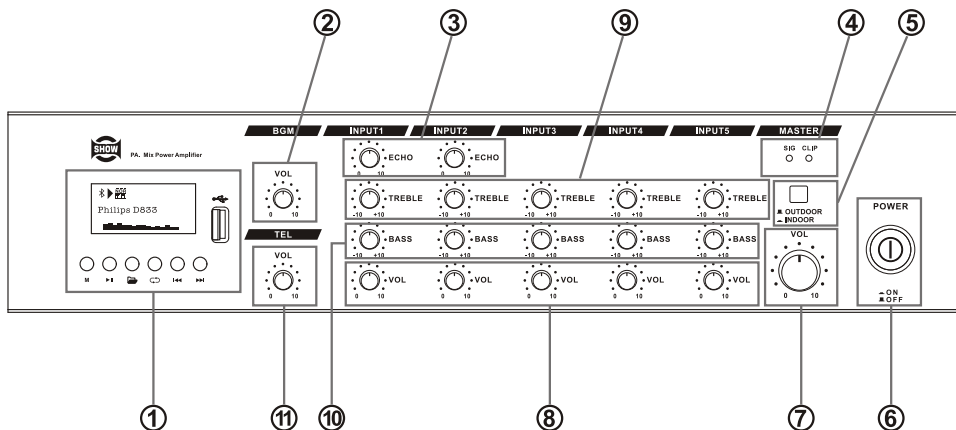
D stands for DAB function: Digital Audio Broadcasting (DAB for short) is the third generation of broadcasting after AM and FM traditional analog broadcasting - digital signal broadcasting. It provides sound close to CD quality, broadcasting and unlimited business opportunities. Data service has the advantages of anti-noise, anti-interference, anti-radio wave propagation fading, and is suitable for high-speed mobile reception, ensuring the quality of received signals when fixed, portable, and mobile.

F represents FM radio function: FM is the abbreviation of frequency modulation, which means frequency modulation. A commonly used term in radio: FM frequency modulation (FM) is a modulation method that uses instantaneous frequency changes of the carrier wave to represent information.

CONTROL ELEMENTS

Take the below model with MP3 player + ECHO for example.

I. FRONT PANEL



① MP3 MODULE

Regarding its function and operation, please see the BGM module description in detail.

② BGM VOL KNOBS

The knobs are used to adjust the gain of MP3. Adjust clockwise to increase the volume while adjust counterclockwise to decrease the volume.

③ ECHO EFFECT KNOB

Rotate left to attenuate the echo effect; rotate to the right to enhance the echo effect.

④ SIGNAL INDICATOR LIGHT

When there is signal input, the SIG light lights up; when the signal input exceeds the input sensitivity, the CLIP light lights up

⑤ FREQUENCY RESPONSE SELECTION SWITCH

MIC	OUTDOOR	200Hz~8KHz
	INDOOR	150Hz~8KHz
LINE	OUTDOOR	170Hz~13KHz
	INDOOR	90Hz~13KHz

⑥ POWER SWITCH AND POWER INDICATOR

Press the power switch and the power indicator lights up when the power is turned on

CONTROL ELEMENTS

⑦ MASTER KNOB

Controls the overall volume output. Rotate left, the volume output is attenuated; rotate right, the volume output is enhanced.

⑧ INPUT 1-5VOL KNOBS

The knobs are used to adjust the gain of input 1-5 respectively. Adjust clockwise to increase the volume while adjust counter-clockwise to decrease the volume.

⑨ TREBLE(INPUT 1-5)

Use the knob to control the high frequency at the range of 10dB. Turn clockwise to boost and counterclockwise to attenuate the treble response. Tone is flat at centre.

⑩ BASS(INPUT 1-5)

Use the knob to control the low frequency at the range of 10dB. Turn clockwise to boost and counterclockwise to attenuate the bass response. Tone is flat at centre.

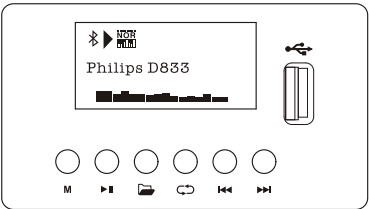
⑪ TEL VOLUME

Allows you to set the audio signal output volume from the phone line. When you don't use the phone line, we recommend to use the volume level to 0.

CONTROL ELEMENTS

2. MP3 Operation Instructions

The Functions Description of USB PLAYER



Control Keys

	USB	BT	FM	DAB
M	Mode selection	Mode selection	Mode selection	Mode selection
▶	1.Play pause 2. Start/pause recording in recording state (version with recording function) 3. File browsing status: Select	play / Pause	Start searching/ pause searching	Start searching/ pause searching
📁	1. Short press: browse song files 2. Long press: enter recording mode (version with recording function)	Long press: Disconnect Bluetooth connection	Manual frequency reduction	Manual frequency reduction
↻	Sound effect mode selection	NA	Manual FM Plus	Manual FM Plus
⏮	1. Short press: Previous song 2. Long press: volume decreases 3. File browsing status: last song	1. Short press: Previous song 2. Long press: volume decreases	Previous radio station	Previous radio station
⏭	1. Short press: next song 2. Long press: volume up 3. File browsing status: next song	1. Short press: next song 2. Long press: volume up	next station	next station

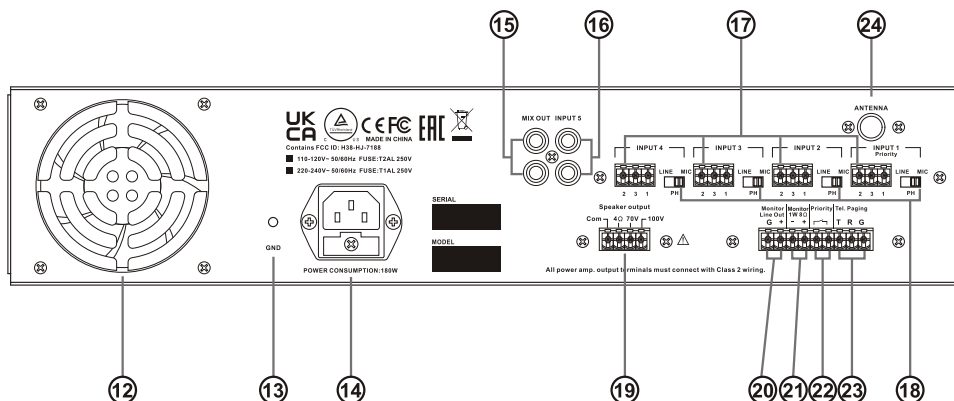
Bluetooth Connection

When using a Bluetooth connection between the amplifier and other devices like smartphones,search the RTL-29 matching name and valid the connection.

Frequency range	Bluetooth: 2402-2480MHz
Maximum EIRP	Bluetooth: -4.07 dBm

CONTROL ELEMENTS

3. REAR PANEL



12 FAN

It is used to blow off heat and cool when the temperature rises during operation.

13 GND

It is ground connection.

14 POWER OUTLET

This connector is meant for connection of the supplied main cord.

Do not insert the power cord into this unit until voltage has been correctly set.

15 MIX OUT

Use a standard RCA cable to connect this output to the AUX input of another amplifier (such as another PAS amplifier).

16 INPUT 5

Use standard RCA cables to this unbalanced input

17 INPUT 1-4

Balanced input, 1: Connect to the signal source GND, 2: Connect to the positive phase of the signal source, 3: Connect to the negative phase of the signal source

18 MIC/PHANTOM/LINE SELECT SWITCH

This knob is used to adjust the ZONE I gain of the unit.

CONTROL ELEMENTS

⑲ OUTPUT TERMINALS

Connection for low impedance 4 speaker ;connections for constant voltage,70V or 100V speakers.

⑳ MONITOR LINE OUT

This terminal allows you to connect other device, such as amplifier, recorder, etc.

㉑ 1W80HM MONITOR

Use this terminal to connect small external speakers, which will be powered by an auxiliary power amplifier, offering a 1W of nominal output.

㉒ PRIORITY TERMINAL

When these terminals are in short circuit(e.g. Using an electrical switch), the audio signal from channels 2-5 are attenuated.

㉓ TEL PAGING INPUT

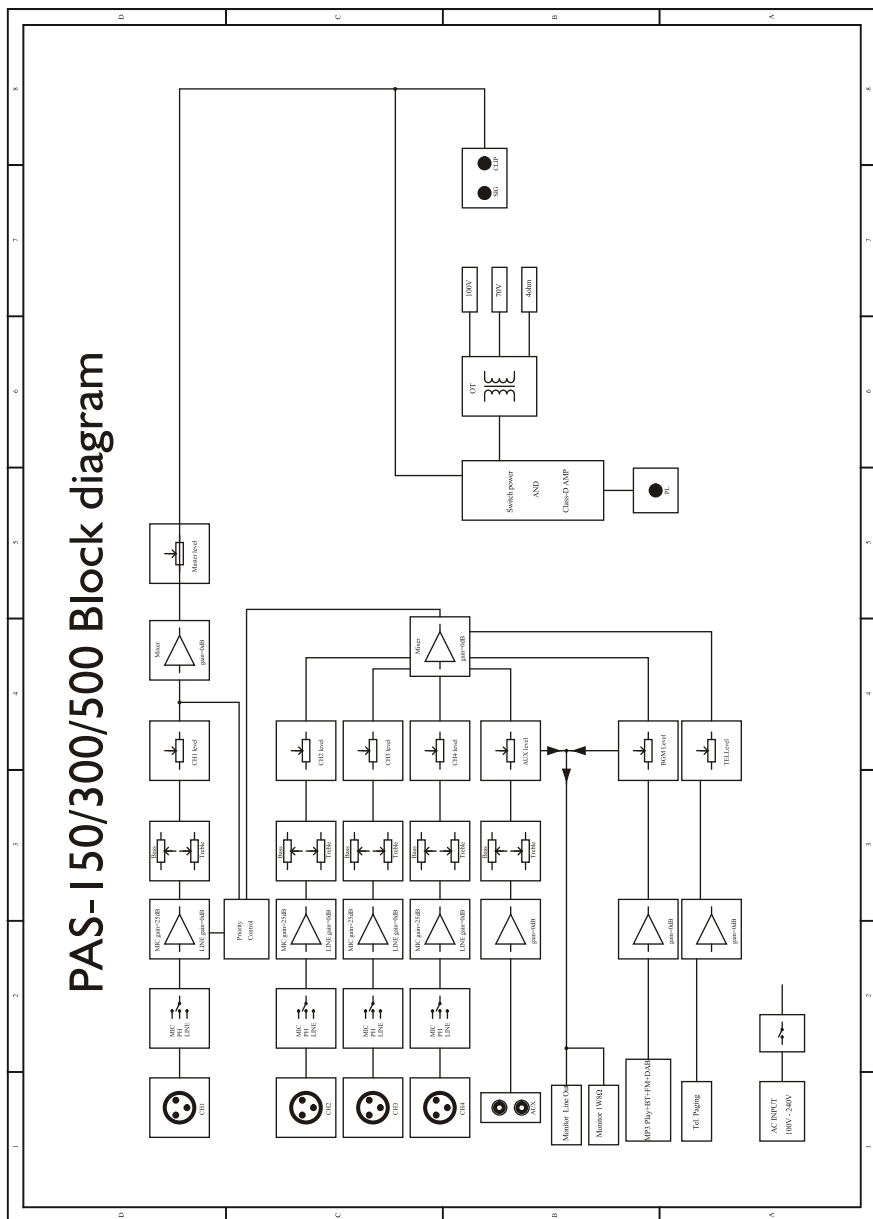
Use these terminals to connect an auxiliary signal. The input features of Voice Priority function, which overrides all other input signals once, an auxiliary message is sent.

㉔ ANTENNA SOCKET

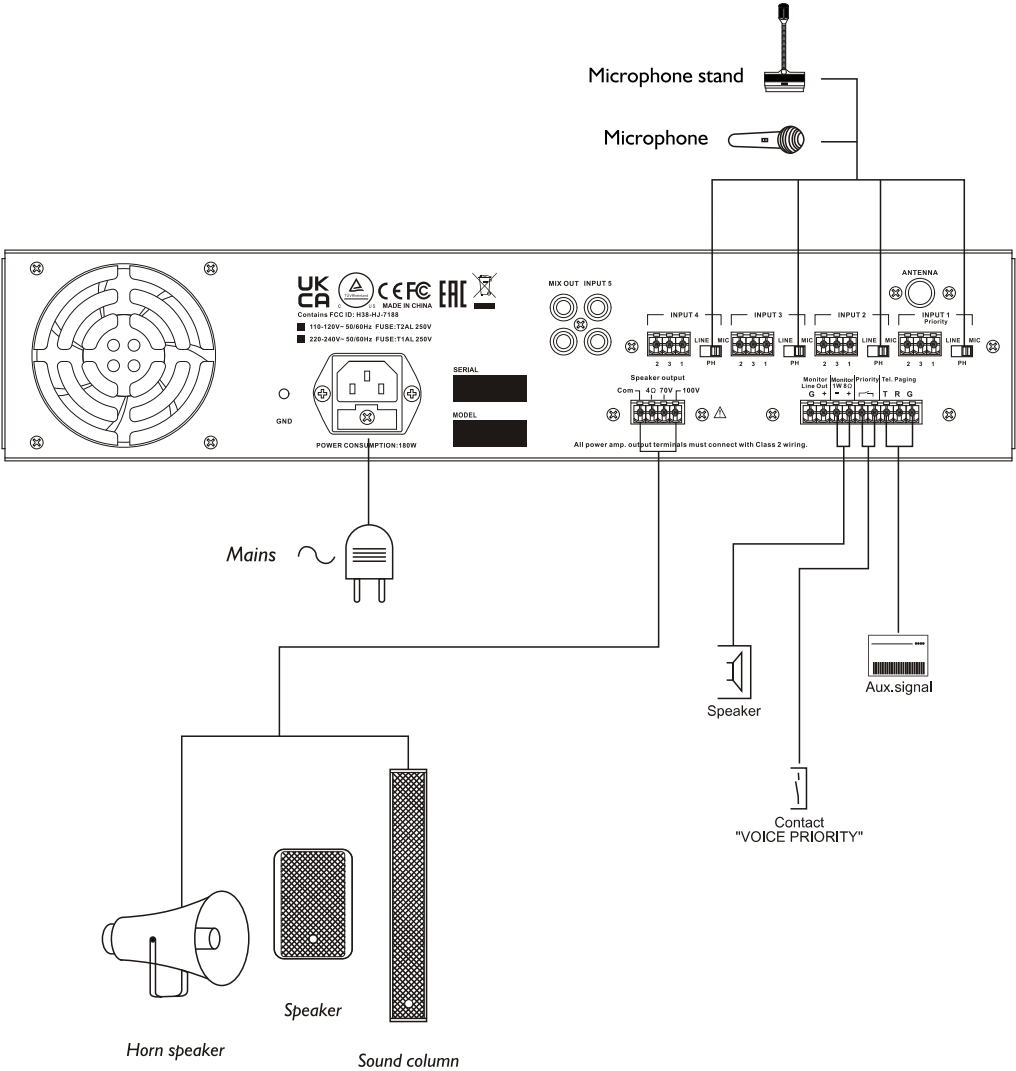
Plug in the antenna to receive digital broadcast signals for DAB or FM signals for FM radio

BLOCK DIAGRAM

PAS-150/300/500 Block diagram



CONNECTION DESCRIPTION



TECHNICAL SPECIFICATIONS

Models		PAS-150	PAS-300	PAS-500
AC Power supply	110-120V~ ,220-240V~ 50Hz/60Hz			
Rated power consumption	sine wave 1kHz, THD $\leq$ 1%, LOAD 4 Ω	180W	350W	600W
Rated output power	sine wave 1kHz, THD $\leq$ 1%, LOAD 4 Ω	150W	300W	500W
Sensitivity/ Impedances	MIC 1~4(balanced)	-45dBV ($\pm$ 2dB)	-45dBV ($\pm$ 2dB)	-45dBV ($\pm$ 2dB)
	LINE 1~4(balanced)	-5dBV ($\pm$ 2dB)	-5dBV ($\pm$ 2dB)	-5dBV ($\pm$ 2dB)
	AUX(unbalanced)	-5dBV ($\pm$ 2dB)	-5dBV ($\pm$ 2dB)	-5dBV ($\pm$ 2dB)
	TEL	-15dBV ($\pm$ 2dB)	-15dBV ($\pm$ 2dB)	-15dBV ($\pm$ 2dB)
S/N ratio	MIC	>65dB	>65dB	>65dB
	LINE	>75dB	>75dB	>75dB
	AUX	>75dB	>75dB	>75dB
Bandwidth	MIC+OUTDOOR	178Hz-7.96KHz	178Hz-7.96KHz	178Hz-7.96KHz
	MIC+INDOOR	132Hz-7.96KHz	132Hz-7.96KHz	132Hz-7.96KHz
	LINE+OUTDOOR	138Hz-12.6KHz	138Hz-12.6KHz	138Hz-12.6KHz
	LINE+INDOOR	70Hz-12.6KHz	70Hz-12.6KHz	70Hz-12.6KHz
	AUX+OUTDOOR	144Hz-17KHz	144Hz-17KHz	144Hz-17KHz
	AUX+INDOOR	76Hz-17KHz	76Hz-17KHz	76Hz-17KHz
THD+N	1/10 Rated Out/ 1W	$\leq$ 1W	$\leq$ 1W	$\leq$ 1W
Tone control	BASS @ 100 Hz	$\pm$ 10dB	$\pm$ 10dB	$\pm$ 10dB
	TREBLE @ 10kHz	$\pm$ 0dB	$\pm$ 0dB	$\pm$ 0dB
Phantom supply	condenser microphone	18V	18V	18V
Priority Sensitivity	MIC+TEL	-60dBv/3S	-60dBv/3S	-60dBv/3S
CMRR	balance input	>60dB	>60dB	>60dB
Noise	all VR MAX	<30mv	<30mv	<30mv



User Manual



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