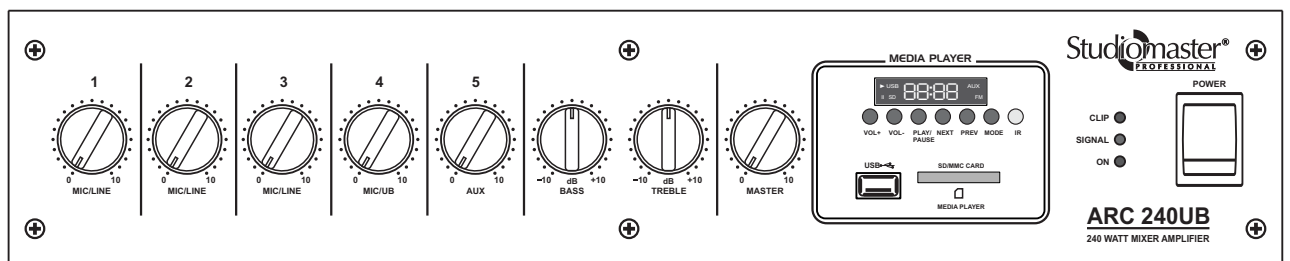
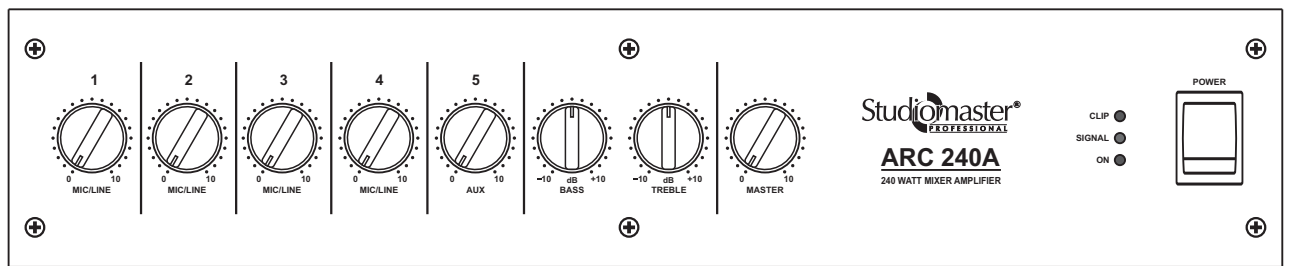
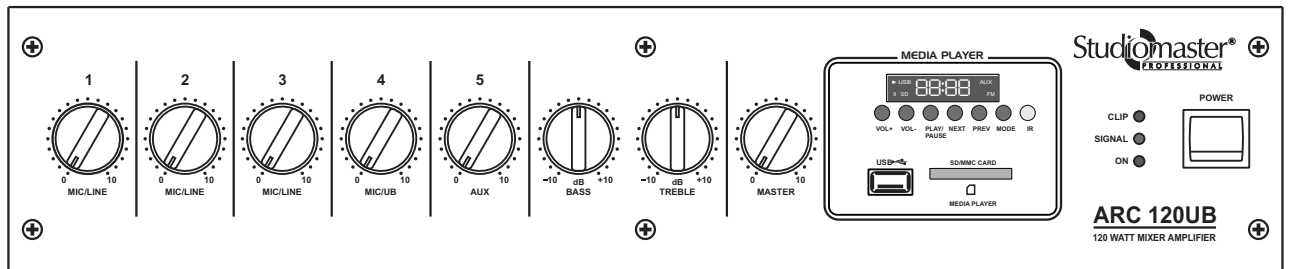
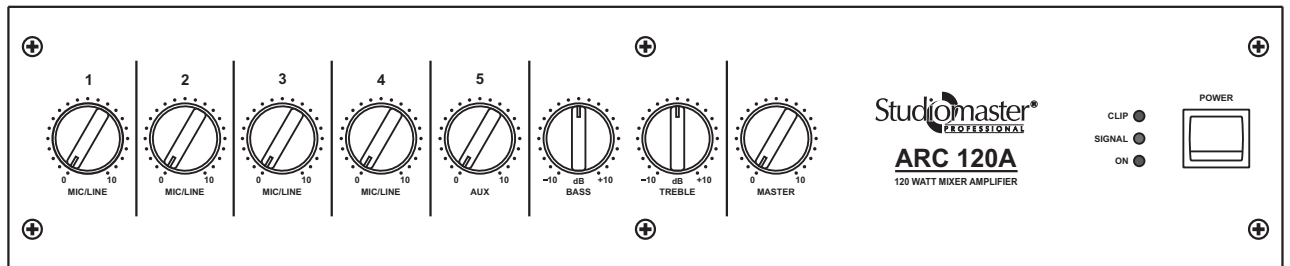


# Stu**di**omaster<sup>®</sup> PROFESSIONAL

## ARC SERIES



## MIXER AMPLIFIER

Models:- ARC 120A, ARC 120UB, ARC 240A, ARC 240UB

Thank you for your purchase of the STUDIOMASTER ARC Series mixer amplifier. This amplifier fully incorporates STUDIOMASTER's renowned technology and offers high reliability, rock solid stability and superb acoustic characteristics.

## Features of the Product

- Five inputs : 4 balanced microphone/line inputs, One auxiliary (stereo summing) line input (For ARC 120A & ARC 240A).
- Five inputs : 3 balanced microphone/line inputs and one microphone/UB input, One auxiliary (stereo summing) line input (For ARC 120UB & ARC 240UB).
- Switchable phantom power for all mic inputs.
- USB input with Play, Next, Previous keys & Remote control (For ARC 120UB & ARC 240UB).
- Speaker outputs consist of 70 V, 100 V, 4 ohm, 8 ohm & 16 ohm.
- An auxiliary line output can be used for recording or connection to an external mixer amplifier.
- Pre-amp & Amp-in RCA connectors to use external devices such as Equalizer.
- An Auto-Talk function provides voice-activated priority (VOX) for the Input 1 which overrides the remaining inputs.
- Other features include channel level, master volume controls and bass/treble controls, low cut, Level indicators, Power-On Indicator & On/off switch.
- 24V DC Operation – Instant transfer to DC Power (car battery) if AC power fails.

## 2 Safety Notes



The unit is supplied with hazardous mains voltage (240V~). Leave servicing to skilled personnel only. Inexpert handling may cause an electric shock hazard. Furthermore, any guarantee claim will expire if the unit has been opened.

Always switch off the unit before making or changing any connections.

Please observe the following terms in any case:

- The unit is suitable for indoor use only. Protect it against dripping water and splash water, high air humidity, and heat (admissible ambient temperature range 0-40°C).
- Do not place any vessel filled with liquid on the unit, e.g. a drinking glass.
- Do not operate the unit or immediately disconnect the plug from the mains socket.
  1. If there is visible damage to the unit or to the mains cable.
  2. If a defect might have occurred after the unit was dropped or suffered a similar accident.
  3. If malfunctions occur. In any case the unit must be repaired by skilled personnel.
- A damaged mains cable must be replaced by the manufacturer or authorized, skilled personnel only.
- Never pull the mains cable when disconnecting the mains plug from the socket, always seize the plug.
- For cleaning only use a dry, soft cloth; never use chemicals or water.
- No guarantee claims for the unit or liability for any resulting personal damage or material damage will be accepted if the unit is used for other purposes.
- If the unit is to be put out of operation definitively, take it to a local recycling plant for a disposal which is not harmful to the environment.
- The wires in the mains lead of the power supply unit are coloured in accordance with the following code:
  - green/yellow or green = earth**
  - blue or black = neutral**
  - brown or red = live**

As per the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug.

1. The wire which is coloured **green/yellow or green** must be connected to the terminal in the plug which is marked with the letter **E** or by the earth symbol  $\perp$ .
2. The wire which is coloured **blue/black** must be connected to the terminal which is marked with the letter **N** or coloured **black**.
3. The wire which is coloured **brown/red** must be connected to the terminal which is marked with the letter **L** or coloured **red**.

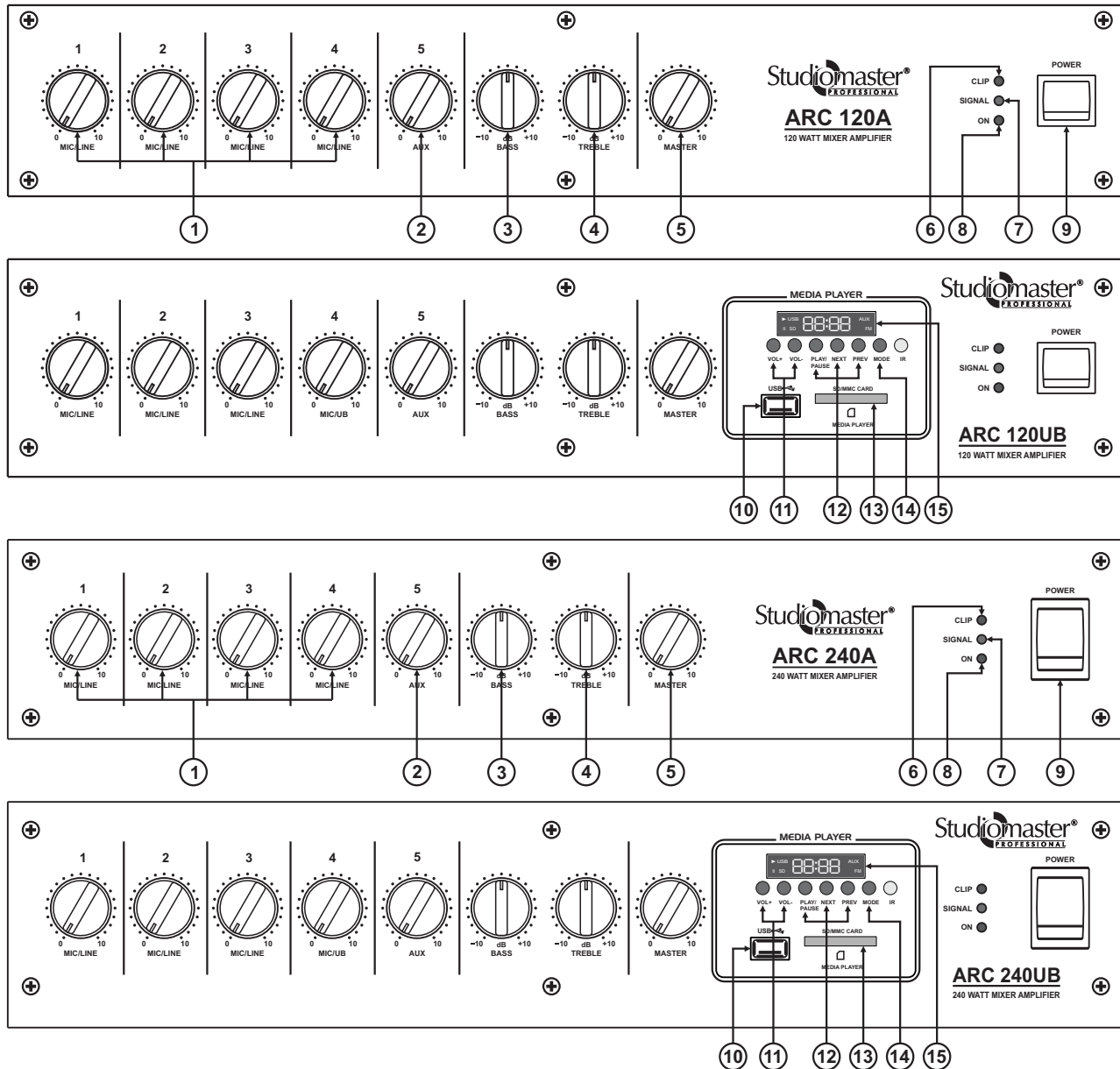
**Warning - This appliance must be earthed.**

## 3 Protective Circuit

The protective circuit is provided to prevent damage to the amplifier.

1. In case of a short circuit at a speaker output.
2. In case of an overheating of the amplifier.
3. In case there is DC at the output terminal.

## Front Panel (ARC 120A, ARC 240A, ARC 120UB & ARC 240UB)



## FRONT PANEL CONTROLS AND FEATURES

- 1) Controls:
  - 1.1. Control for adjusting the pre-amplification for the first 4 channel INPUT 1 to 4 in Mic or Line mode (For ARC 120A & ARC 240A).
  - 1.2. Controls for adjusting the pre-amplification for the first 3 channel INPUT 1 to 3 in Mic or Line mode & 4th Channel use for Mic or UB mode in ARC 120UB & ARC 240UB.
- 2) Control for adjusting the pre-amplification for the AUX channel.
- 3) Bass - Low frequency can be cut or boosted by this control @100Hz.
- 4) Treble - High frequency can be cut or boosted by this control @10KHz.
- 5) Control MASTER VOLUME for all the Input channel.
- 6) CLIP LED, light up in case of overload.
- 7) Signal LED shows the presence of signal.
- 8) Power on LED.
- 9) Power Switch:- Used for switching the unit on and off.
- 10) USB INPUT: Use this connector to plug in your pen drive. (USB Mp3 flash memory)
 

**Terms of use :** Studiomaster Professional respects intellectual property rights and we request our users to do the same. Please use Mp3 downloads only for program which you have legally purchased. PLEASE DO NOT USE PIRATED MUSIC OR PROGRAM.

Disclaimer: Your acceptance and use of this product will be treated as your agreement to the following clause: Studiomaster Professional, Audioplus & all associated companies & sellers are indemnified from liability the end-user may incur by using illegally procured material or immoral content or any other such similar program selection.
- 11) Vol + & - : Use these switches to decrease or increase music volume from USB, SD/MMC Card or Bluetooth.
- 12) USB/BT function switches: Use these switches to either play, pause or to go to the previous or next track.
- 13) SD/MMC Card: To plug in SD/MMC card (For mini SD card use SD adaptor).
- 14) MODE SELECTION: Mode switch is used to switch between USB, Bluetooth and SD/MMC card operation.
- 15) USB/BT DISPLAY: It Indicates track number from USB, Bluetooth, SD MMC card input.

**24V DC**

24V~50Hz, 265VA  
T: 1.6A/230V

GND

**OUTPUT**

COM 4Ω 8Ω 16Ω

COM 70V 100V

**CAUTION**  
RISK OF ELECTRIC SHOCK,  
DO NOT OPEN

LOW OUT  
PRE OUT  
LINE OUT  
INPUT 5  
AUX IN  
AMP IN

**WARNING:** TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER.  
SERVICING TO QUALIFIED SERVICING PERSONNEL. THIS APPLIANCE MUST BE EARTHED.  
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.  
**CAUTION:** TO REDUCE THE RISK OF FIRE, REPLACE FUSE ONLY WITH SAME TYPE OF FUSE AS SPECIFIED.

**MADE IN INDIA**

**INPUT 4**  
**INPUT 3**  
**INPUT 2**  
**INPUT 1**

COM

24V DC  
70V  
100V

**24V DC**

AUTO TALK  
+12V PHANTOM POWER

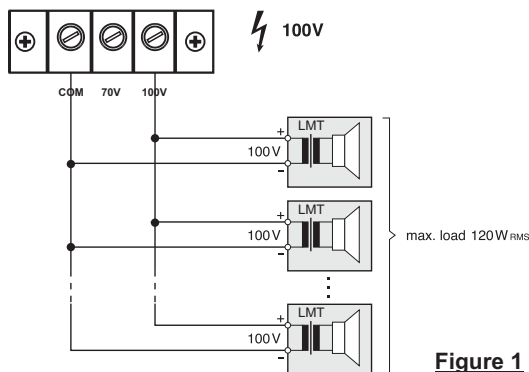
**MADE IN INDIA**

**CONTACT INFORMATION:**  
+91-22-4286900 / 001  
info@audiopipe-india.com  
91-988887040

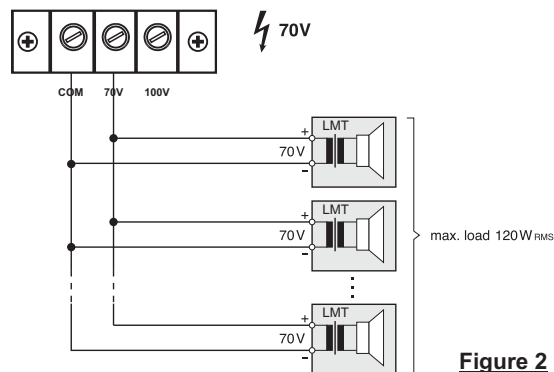
Sr. No. \_\_\_\_\_

- 1) Controls:
  - 1.1. Combi jack inputs for connecting microphones or line input (CH 1 to 4) with line output. (For ARC 120A & ARC 240A)
  - 1.2. Combi jack inputs for connecting microphones or line input (CH 1 to 3) with line output & CH 4 use for Mic/UB mode. (For ARC 120UB & ARC 240UB)
- 2) Switch Selection:
  - 2.1. Mic/Line Selectable switches use for Channel 1 to 4 for ARC 120A & ARC 240A.
  - 2.2. Mic/Line Selectable switches use for Channel 1 to 3 & Channel 4 switch use for Mic/UB in ARC 120UB & ARC 240UB.
- 3) RCA jack connectors for Auxiliary input.
- 4) Line Output for connecting further amplifiers. The output level is independent of Master volume control.
- 5) & 6) Feed-through connection PRE OUT and AMP IN for inserting a unit (e.g. equalizer); the output level of jack PRE OUT is independent of control MASTER VOLUME.
- 7) Low cut switch cuts the low frequency @ 80Hz.
- 8) Auto talk when pressed gives vox priority to channel 1.
- 9) Phantom power switch when pressed gives 21V supply at the input of Mic channels.
- 10) Screw terminal for constant voltage line connection to the speaker.
- 11) Terminals for the connection to the speakers directly (Low impedance speakers).
- 12) Mains socket for connection to a mains (240V~50 Hz) via the supplied mains cable, replace a blown fuse only by same type and rating.
  - 12.1. Fuse Rating for ARC 120A & ARC 120UB is T1.6A/250V
  - 12.2. ARC 240A & ARC 240UB is T3.15A/250V.
- 13) Terminals for an external 24V DC, in case if Mains power fails.
- 14) External earth terminal: For a possible ground connection (e.g. in case of hum problems).
- 15) Mic/UB Switch: When switch pressed will give UB output (For ARC 120UB & ARC 240UB).

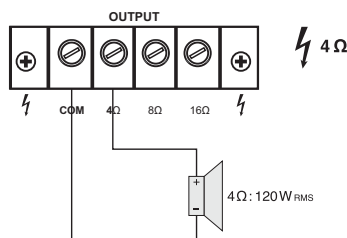




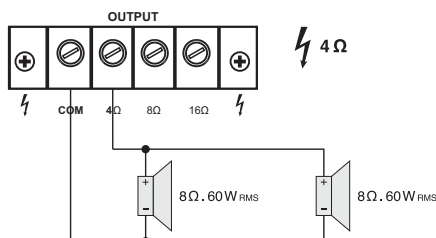
**Figure 1**



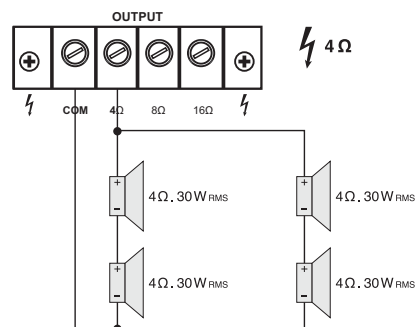
**Figure 2**



**Figure 3**



**Figure 4**



**Figure 5**

## ⚠ CAUTION

- When 70/100V line is being used, no speakers / driver units should be connected to 4Ω or 8Ω or 16Ω (Low Impedance) Tap.
- Loudspeaker / driver unit should be connected to either COM-100V or COM-70V terminals, but never to more than one set of terminals.

## 1 Applications

The amplifier has especially been designed for use in PA systems. It can deliver 120<sub>WRMS</sub> (For Arc 120A & 120UB) & 240<sub>WRMS</sub> (For Arc 240A & 240UB) to 100V & 70V speakers or to a speaker group with a total impedance of 4Ω, 8Ω or 16Ω.

- 1.1** To the five input channels which can be mixed with one another, microphones (CH 1-4) or units with line level (CH 1-4 & AUX) can be connected.
- 1.2** To the five input channels which can be mixed with one another, microphones (CH 1-3) or units with line level (CH 1-3 & AUX & CH 4 UB) can be connected. Channel 1 is equipped with a talkover function which attenuates the volume of the other channels by about 40 dB in case of an announcement.

## 2 Setting up the Amplifier

The amplifier has been designed for installation into a rack (482mm/19"), however, it can also be used as a table top unit. In any case, air must be allowed to pass through all air vents without obstruction to ensure sufficient cooling of the mixer amplifier.

### 2.1 Rack installation

For rack installation screw on the 2 supplied mounting brackets to the sides of the unit. In the rack 2 rack spaces are required for the amplifier. To prevent top-heaviness of the rack, the amplifier must be inserted into the lower part of the rack. The front panel alone will not be able to secure the unit. Side rails or a base plate must additionally be provided.

## 3 Connecting the Mixer Amplifier

All connections should only be made by qualified, specialized personnel and with the amplifier switched off in any case!

### 3.1 Speakers

It is possible to connect PA speakers or speakers/speaker groups with a total impedance of at least 4Ω. The possibilities of connection for the speakers are shown in figures 1-5. Depending on the speaker type, use the corresponding contacts of the terminal strip SPEAKER OUTPUT. When connecting, observe the correct individual or total impedance of the speakers and their correct polarity (positive & negative connections as shown in figs. 1-5). The positive connection of the speakers is always especially coded.

### 3.2 Microphones

Up to four microphones may be connected to the inputs INPUT 1 to INPUT 4.

- 1) When connecting a microphone, release the corresponding switch MIC/LINE IN ARC 120A & ARC 240A.
- 2) When using phantom-powered microphones, switch on the 21 V phantom power with the button +21 V PHANTOM POWER.

### 3.3 Units with line output

**3.3.1.** Up to four units with a line output (e. g. CD player, cassette recorder) can be connected to the Inputs 1 to 4 & to the input 'AUX IN'. When connecting to the Inputs 1 to 4, lock the corresponding switch MIC/LINE for ARC 120A & 240A.

**3.3.2.** Up to three units with a line output (e. g. CD player, cassette recorder) can be connected to the Inputs 1 to 3 & to the input AUX IN. When connecting to the Inputs 1 to 3, lock the corresponding switch MIC/LINE for ARC 120UB & 240UB.

### 3.4 Inserting an equalizer or another unit

For external effects on the sound, an equalizer can e. g. be inserted via the jacks PRE OUT & AMP IN.

- 1) Remove the jumper between the connections PRE OUT and AMP IN. Thus, the preamplifier & the mixer amplifier are separated.
- 2) Connect the input of the unit to the jack PRE OUT.
- 3) Connect the output of the unit to the jack AMP IN.

**Note:** the amplifier does not emit a signal if the unit inserted is not switched on, if it is defective or not correctly connected.

#### Notes

- 1) With a voltage of 24V applied, the amplifier will be in operation immediately & the LED ON will light up. It will not be possible to switch off the amplifier with the POWER switch.
- 2) With emergency power supply, the amplifier will deliver less power than with mains supply.

## 4 Operation

- 1) Prior to switching on the amplifier for the first time, set the controls INPUT 1 to 4 & the controls AUX and MASTER VOLUME to position "0" for the time being.
- 2) Switch on the amplifier with the POWER switch. After switching-on, the LED ON lights up. With an emergency power supply connected, the indication LED ON lights permanently and the amplifier is always in operation. With the POWER switch it is only possible to switch between mains supply & emergency power supply in this case. For normal operation set the POWER switch to position "On". In case of mains failure the amplifier automatically switches to emergency power supply if external battery is connected to +24V terminal.
- 3) Turn up the control MASTER VOLUME) so that the next adjustments are audible.
- 4) Adjust the input controls INPUT 1 to 4 and the control AUX to the desired value.
- 5) Adjust the tone controls BASS & TREBLE to optimum sound.
- 6) Adjust the total volume with the main control MASTER VOLUME. The 5-step row shows the output level. For an optimum level adjust the control so that the red LED +3 does not yet light up.

### 4.1 Talkover function of channel 1

Via channel INPUT 1 announcements can be made during a musical programme. Then the volume of the other channels is automatically attenuated by about 40 dB. To switch on this function, lock the button AUTOTALK.

## 5. Bluetooth Operation & Indication

ACTION	INDICATION
1) When Power On	It displays 'ON' and then blue.
2) Bluetooth mode	blue on display.
3) USB mode (Default mode)	----
4) SD/MMC mode	88.88

### 5.1 Setting up your Bluetooth Connection

- USB is default setting when powering ON the unit.
- From your phone or any of the Bluetooth device turn Bluetooth ON & search for device "SM UB". Pair & connect to it.
- Now any music or audio you play on your device will be played through the music can be controlled (Play, Pause, Volume+ & Volume -, Reverse & Forward) by either your device or controls on the panel.

### 5.2 Reconnecting Your Device

If you move out of range or turn off the Bluetooth feature on your mobile device, the Bluetooth Receiver will get disconnected from your device. To reconnect, click on the device name (SM UB) on your paired device list.

### 5.3 Changing Connected Device

If you want to switch from one device to another, follow these steps:

- 1) End the existing Bluetooth connection from your device by either disconnecting within your "settings" or turning off Bluetooth.
- 2) The "SM UB" Bluetooth can now be connected to a different BT device.
- 3) Follow the directions in "Setting up your Bluetooth Connection".

**ATTENTION:** 1) Please ensure that there isn't any obstruction between Bluetooth Transmitter (Mobile phones, Laptops, Tablet phones etc.) & Receiver (ARC Series Amplifier).

### 5.4 Out of Range or Lost Signal

If the music device (Mobile phones, Laptops, Tablet phones etc.) is out of range (beyond 17 feet) of the Bluetooth Receiver (ARC Series Amplifier) or if there is something blocking the Bluetooth signal, which shall be indicated by loss of audio or audio intermittency. To avoid a lost connection, move the music device back into range (within 17 feet), or reduce obstruction between the receiver and your smart phone. The connection will automatically be reestablished and audio signal will be through. If the connection does not restore you will need to establish it again as mentioned in "Setting up your Bluetooth Connection".

### 5.5 Troubleshooting Bluetooth Connection

PROBLEM	POSSIBLE SOLUTION
Paired Bluetooth device does not connect	Already connected to other BT device. Disconnect from it and pair & connect again.
No or poor audio from Bluetooth connection	Move your BT device away from devices that generate electromagnetic interference, such as microwave ovens, cordless phones, WIFI networks or other Bluetooth device.
	Make sure that the BT module on the ARC Series amplifier is not muted and the volume is up.
	Make sure your Bluetooth transmitting device is playing audio & the volume is up.
	Your Bluetooth device may be out of the specified range, try moving it closer to the Amplifier.
	Make sure that you work within the Bluetooth range of 17 feet, taking care that there is no metal or human body interference.
Amplifier cannot pair directly with your Bluetooth device	Make sure you select "SM UB" in the pairing list on your device to finalize the connection. (Required by some devices)
	Your Bluetooth device may be out of range-try moving it closer to the Amplifier.
	Already paired to other BT device. Unpair from it and then pair & connect again.



## Specifications

Models	ARC 120A / ARC 120UB		ARC 240A / ARC 240UB	
Outputs				
Output power	120W RMS At 1% THD, 150W MAX At 5% THD, 160W RMS At 10% THD, 200W Max		240W RMS At 1% THD, 300W RMS At 5% THD, 325W RMS At 10% THD, 400W Max	
* Outputs Speakers	Min 4 Ω, 8 Ω, 16 Ω, 70V, 100V			
Line Out	1V/600 Ω			
Pre Out	1V/600 Ω			
Inputs				
Input 1–4, USB / BT (UB)	Mic 1.5 mV/1.1kΩ 300mV/14kΩ; XLR, balanced			
Aux	300mV/50kΩ; RCA, unbalanced			
Amp In	1V/14kΩ; RCA, unbalanced			
Frequency range	80 –15000Hz, ±3dB			
THD	1% at 120WRMS		1% at 240WRMS	
S/N ratio	> 75dB			
Low Cut	80Hz			
Tone control				
Bass	+6dB/-10dB/100Hz			
Treble	±10dB/10kHz			
Operating temperature	0 – 40 °C			
Power Supply				
Mains voltage	240V~/50Hz			
Fuse Rating	T 1.6A/250V		T 3.15A/250V	
Emergency Power Supply External	24V-/9A		24V-/13A	
Power consumption	265 Watts		630 Watts	
Dimensions (W x H x D)	482 x 305 x 95mm, 2 rack spaces		482 x 320 x 95mm, 2 rack spaces	
Weight	10.6kg		11.7kg	

\* **Note:-** Use either 70V or 100V or 4 $\Omega$  or 8 $\Omega$  or 16 $\Omega$  output !

Do not attempt to make any repairs yourself. This would void your warranty.

Do not make any changes to the unit. This would also void your warranty.

The warranty is not applicable in case of accidents or damages caused by inappropriate use or disrespect of the warnings contained in this manual. **StuDiomaster Professional** can not be held responsible for personal injuries caused by a disrespect of the safety recommendations and warnings. This is also applicable to all damages in whatever form.

\* Design and specification are subject to change without notice.

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A1/A2, Giriraj Industrial Estate, Mahakali Caves Road, Andheri (East), Mumbai - 400 093. India  
Tel.: +91-22-42869000 / 001 Fax: +91-22-26871453 Whats App : +91-8888887049  
E info@audioplus-india.com W www.audioplus-india.com/www.stuDiomasterprofessional.com