

# MATRIX54

**Five0**  
Montarbo 

## MATRIX54

MIXER MULTIAREA

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**EN** OWNER'S MANUAL

Important Safety Instructions



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




TO REDUCE THE RISK OF ELECTRIC SHOCK PLEASE DO NOT REMOVE THE COVER OR THE BACK PANEL OF THIS EQUIPMENT.  
THERE ARE NO PARTS NEEDED BY USER INSIDE THE EQUIPMENT. FOR SERVICE, PLEASE CONTACT QUALIFIED SERVICE CENTERS.


**WARNING**  
To reduce the risk of electric shock and fire, do not expose this equipment to moisture or rain.



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



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.

1. Read this Manual carefully before operation.
2. Keep this Manual in a safe place.
3. Be aware of all warning reported with this symbol. 
4. Keep this Equipment away from water and moisture.
5. Clean it only with dry cloth. Do not use solvent or other chemicals.
6. Do not damp or cover any cooling opening. Install the equipment only in accordance with the Manufacturer's instructions.
7. Power Cords are designed for your safety. Do not remove Ground connections! If the plug does not fit your AC outlet, seek advice from a qualified electrician. Protect the power cord and plug from any physical stress to avoid risk of electric shock. Do not place heavy objects on the power. This could cause electric shock or fire.
8. Unplug this equipment when unused for long periods of time or during a storm.
9. Refer all service to qualified service personnel only. Do not perform any servicing other than those instructions contained within the User's Manual.
10. To prevent fire and damage to the product, use only the recommended fuse type as indicated in this manual. Do not short-circuit the fuse holder.

Before replacing the fuse, make sure that the product is OFF and disconnected from the AC outlet.

11. Move this Equipment only with a cart, stand, tripod, or bracket, specified by the manufacturer, or sold with the Equipment.  
When a cart is used, use caution when moving the cart/equipment combination to avoid possible injury from tip-over.




12. Permanent hearing loss may be caused by exposure to extremely high noise levels.  
The US. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible exposure to noise level.  
These are shown in the following chart:

Hours x day	SPL	Example
8	90	Small gig
6	92	Train
4	95	Subway train
3	97	High level desktop monitors
2	100	Classic music concert
1,5	102	
1	105	
0,5	110	
0.25 or less	115	Rock Concert

According to OSHA, an exposure to high SPL in excess of these limits may result in the loss of heat. To avoid the potential damage of heat, it is recommended that Personnel exposed to equipment capable of generating high SPL use hearing protection while such equipment is under operation.

The apparatus shall be connected to a mains socket outlet with a protective earthing connection.

The mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.



**CAUTION:** To reduce the risk of electric shock, do not connect the loudspeaker to a power outlet while the grille is removed.

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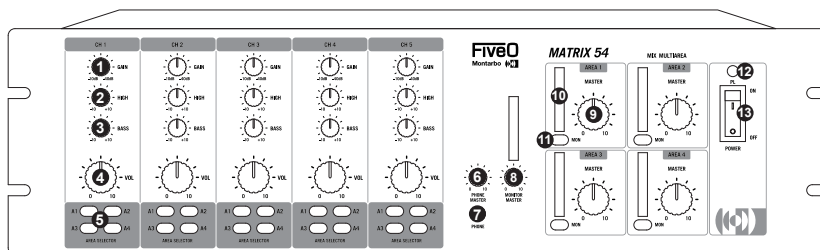
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## Control Element

### The Front panel



#### 1. Gain knob

this knob controls input gain. Turn the knob clockwise, then the input increases. Turn the knob counter-clockwise, then the input decreases.

#### 2. High knob

This is the treble control. You can use it to get rid of high frequency noises or to boost the sound of cymbals or the high harmonics of the human voice. The gain range goes from -10dB to 10dB with the central frequency 10kHz.

#### 3. Low knob

This is the Bass control. Boost male voice or kickdrum and bass guitar. Your system will sound much bigger than what it is. The gain range goes from -10dB to +10dB and the center frequency is 100 Hz.

#### 4. VOL knob

This knob controls volume. Turn the knob clockwise, and the volume increases. Turn the knob counter clockwise, and the volume decreases.

#### 5. AREA SELECTOR

A1, A2, A3, A4 can be considered as signal assignment switches. Press the button A1 down and signal will be assigned to AREA 1. Release the button and it stops Assigning signal to AREA 1. A2, A3, A4 can be operated in the same way.

#### 6. Phone Volume

This knob controls the volume of Phone (refer to 7). Turn the knob clockwise, and it increases the volume, and vice versa.

#### 7. Phone

The signals of amplifier can be sent to a pair of headphones through this socket.

#### 8. Monitor Volume

This knob controls the output signal level to monitor output.

#### 9. AREA 1 VOLUME

VOLUME controls the output signal level of AREA 1.

#### 10. LED VU-meter

This stereo LED-meter indicates the level of the overall output signal.



## Control Element

### 11. MONITOR selector

Push MONITOR button down, then it connects the signal from amplifier 1 to monitor volume. Release the button, then it cuts off the signal connection to monitor volume. The other three buttons are operated in the same way.

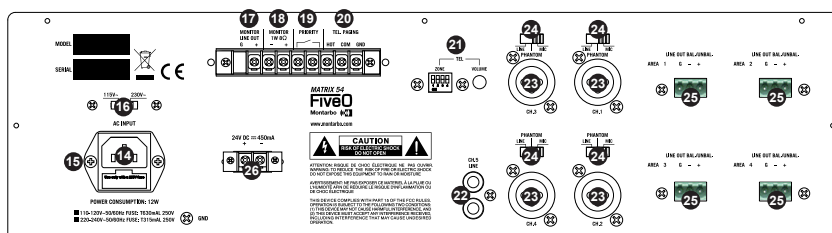
### 12. PL

This LED is the power indicator. When the amplifier is powered on, this LED lights up. When the amplifier is powered off, this LED lights off.

### 13. Power switch

When the switch is set in the position ON, the unit is powered on. When the switch is set in the position OFF, the unit is powered off.

## The Front panel



### 14. AC Input

Power inlet This inlet connects the unit with the main power.

### 15. AC fuse

The fuse protects the alternating current circuit of the unit, and the fuse can only be replaced in the event of fuse damage.

### 16. AC Voltage Selector

When the AC Voltage Selector is set to the left 115V, it selects the power at 100V to 127V. When the AC Voltage Selector is set to the right 230V, it selects the power at 220V to 240V.

### 17. Monitor Line Out

Monitor Line Out can be connected with other appliance, such as amplifier, recorder, etc.

### 18. Monitor 1W8Ω

The terminal is meant for the connection of a small external loudspeaker that gets driven by an internal auxiliary power amplifier, providing a nominal output 1Watt. Only the mixed audio signal coming from "AUX IN" are included in the outputted signal. In addition, the output signal is controlled only by the volume control of the "CH4", "CH5", music signal level control.

## Control Element

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### 19. "Priority" Terminal.

When these terminals are short-circuit (i.e. By means of using an electrical switch), the audio signals coming from "CH2", "CH3", "CH4", "CH5", are attenuated; when the short-circuit are removed all the signals appear again.

### 20. Input "AUX Paging"

The terminals input lets you connect to an auxiliary signal. The input features "Voice Priority" function, which overrides all other input signals once, an auxiliary message is sent. If you want to have this function disabled forever, please contact a distributor.

### 21. a. Zone

There are four dip switches here. Push the dip switch up, it switches off and Vice versa.

### b. Volume

It controls the volume of sound source that is connected to the "Tel Paging". Turning the knob clockwise increases the volume of the corresponding source. It is recommended to leave the control of momentarily not used input at their minimal setting "0".

### 22. "LINE IN" inputs

an audio source with a high level output signal, such as an AM/FM tuner, a cassette deck, a CD player, etc. Use input sensitivity switch suitable for different appliances. They are able to take RCA-type coaxial connectors, and unbalanced signals.

### 23. The mono MIC/LINE channels

These are the channels from Channel1 to Channel4. You can connect balanced, low impedance microphones to the XLR socket. On the 1/4" phone jack you can connect either a microphone or a line level instrument. You shall never connect an unbalanced microphone to the XLR socket if you do not want to damage both the Microphone and the Mixer.

### 24. CH1, CH2, CH3 and CH4 inputs sensitivity and XLR phantom switch

By turning the switch onto the "LINE" position the CH1, CH2, CH3 input can be connected to an audio source with high level signal output. By turning these switches onto the MIC position, CH1, CH2, CH3 input can be connected to a dynamic microphone with low impedance. By turning the switch onto the "Phantom" position it connects phantom supply for XLR pin2 and pin3 of CH1, CH2, CH3, which is necessary to operate condenser microphone which requires this type of external supply. It is recommended to use this switch with the general volume set on minimum.

### 25. Line Out Bal/Unbal

These terminals can be connected with other appliance, such as amplifier, recorder, etc.

### 26. Power Amp Output

pre-amplifier can also operate using 24V DC power supply. When both the AC and DC source is connected, it shall operate using AC main whereas the DC supply shall be only consumed whenever the former failed.

## Installation

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### INSTALLATION NOTES

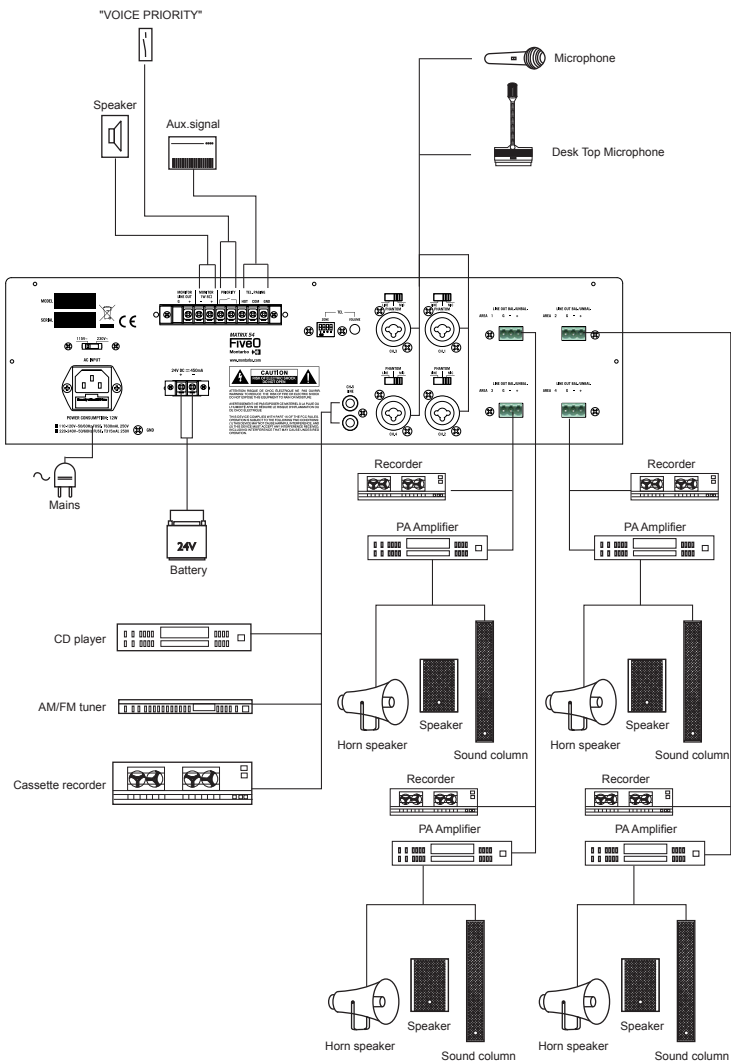
At all times, the amplifier has to be operated under appropriate conditions. This includes that the operation location provided sufficient ventilation and the device can not be exposed to direct sunlight or the direct radiation or reflection from any heat source. Installing the loudspeaker systems choose a location that gets not affected by extreme and /or constant vibration or other mechanical oscillation . Also make sure that the speakers are installed at locations that are free from dust and /or moisture.

**CAUTION** We strongly recommend that you leave the connection of the appliance to the qualified and experienced service technician who is specialized in connecting electrical and electronic equipment. Do not take the risk of Electro-shock hazard. To reduce the risk of Electro-shock, all connections have to be accomplished before it is permissible to connect the amplifier with the main supply. Before connecting the appliance to the mains supply, once again make sure that all connections are carried out correctly and that no short-circuit exist. The overall sound reinforcement installation has to be in accordance to the laws, regulations, standards, and guidelines that are relevant and applicable in that country where the equipment is going to be operated.

### AC POWER SUPPLY

Before using the amplifier for the first time, make sure that the appliance voltage is correct. Connect the amplifier only to grounded mains outlets. Connecting the amplifier to the mains supply (115/230Vac) has to be accomplished by inserting the supplied mains cord into the corresponding socket .

Connection Description



## Trouble Shooting

Symptom	Likely Cause	What to do
No sound	Amplifier not connected	Verify that speaker is connected and that the circuit is on
	Power not switched on	Switch on power and verify that power Led is on
No sound, amplifier is connected	Amplifier power cable is faulty or improperly connected.	*Re-seat the power cable at both ends; *Substitute a known-good power cable
	Blown fuse	*Check fuse & replace with same type "spare fuse in holder"
No sound Speaker comes on	Signal source (mixer, Amp instrument) is not sending	*Check if the signal LED indicators are lit on *Verify that the tape or CD is playing; *Use headphones to verify that the instrument is actually sending an audio signal
	Faulty cables & connections	*Disconnect and re-seat signal cables; *Replace suspected cable with a known-good cable
No sound with microphone connected to MIC / LINE input	Microphone requires phantom power	The MATRIX 54 supplies phantom power with the switch position in phantom.
Signal sounds distorted and very loud, LIMIT light is lit most of the time	Excessive input signal, trying to exceed the capabilities of the speakers	*Reduce the output level of the source; *Turn down the level controls on the speaker; *Use additional MONTARBO speakers
Lots of hiss in sound, mixer controls are at very low settings.	Improper gain adjustment or settings	*Make sure that the MIC / LINE switch is in the LINE(disengaged) position; *Reduce the level settings at speaker, Review the Owner's Manual for your mixer and adjust controls as needed; *Input sensitivity(gain); *Channel faders; *Master faders;
Hum or Buzz	Improper A/Cgrounding, ground loops	*"lift" audio ground by using XLR/F to XLR/M adapter on one end *Re-route audio cables away from AC power and lighting cables.
	Excessively long unbalanced cable run	*Use the balanced outputs(if available)of your mixer or source equipment to drive your MONTARBO speakers. *Use"DI"(direct injection) box to convert unbalanced equipment output to a balanced output.
	Improper system gain settings	Reduce the INPUT level controls and increase the output level of your source devices.
Speakers feed back and howl when the microphone volume is turned up	Microphone are pointed into the speakers	Move the speakers so they do not point at the microphone's pickup pattern.
	Incorrect Equalizer settings	Locate the feedback frequency and reduce it using the mixer EQ or an external equalizer.
	Excessive gain	Reduce the gain at the mixer and move the microphone closer to the sound source.

**EN** *The information contained in this manual have been carefully drawn up and checked. However no responsibility will be assumed for any incorrectness. This manual cannot cover all the possible contingencies which may arise during the product installation and use. Should further information be desired, please contact us or our local distributor. Elettronica Montarbo srl can not be considered responsible for damages which may be caused to people and things when using this product. Specifications and features are subject to change without prior notice.*