



FULL DIGITAL 24bit 96kHz

10 CHANNEL DIGITAL MIXER
M-10DX

Owner's Manual

Before using this unit, carefully read the sections entitled: "USING THE UNIT SAFELY" and "IMPORTANT NOTES" (p. 3-4; p. 5-6).

These sections provide important information concerning the proper operation of the unit.

Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, Owner's manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

Copyright © 2007 ROLAND CORPORATION

All rights reserved. No part of this publication may be reproduced in any form without the written permission of ROLAND CORPORATION.

For the U.K.

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.
Under no circumstances must either of the above wires be connected to the earth terminal of a three pin plug.

For EU Countries



This product complies with the requirements of European Directive 89/336/EEC.

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

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 connected.
- Consult the dealer or an experienced radio/TV technician for help.

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.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.




USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠ WARNING and ⚠ CAUTION Notices








⚠ WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠ CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols





	The ⚠ symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
	The 🔞 symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
	The 🔌 symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING






⚠ WARNING

- Do not open (or modify in any way) the unit or its AC adaptor. 
- Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page. 
- Never use or store the unit in places that are:
 - Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are 
 - Damp (e.g., baths, washrooms, on wet floors); or are 
 - Humid; or are
 - Exposed to rain; or are
 - Dusty; or are
 - Subject to high levels of vibration.
- Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces. 
- Be sure to use only the AC adaptor supplied with the unit. Also, make sure the line voltage at the installation matches the input voltage specified on the AC adaptor's body. Other AC adaptors may use a different polarity, or be designed for a different voltage, so their use could result in damage, malfunction, or electric shock. 
- Use only the attached power-supply cord. Also, the supplied power cord must not be used with any other device. 







⚠ WARNING

- Do not excessively twist or bend the power cord, nor place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards! 
- This unit, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level, or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should immediately stop using the unit, and consult an audiologist. 
- Do not allow any objects (e.g., flammable material, coins, pins); or liquids of any kind (water, soft drinks, etc.) to penetrate the unit. 

- Immediately turn the power off, remove the AC adaptor from the outlet, and request servicing by your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page when:
 - The AC adaptor, the power-supply cord, or the plug has been damaged; or
 - If smoke or unusual odor occurs
 - Objects have fallen into, or liquid has been spilled onto the unit; or
 - The unit has been exposed to rain (or otherwise has become wet); or
 - The unit does not appear to operate normally or exhibits a marked change in performance.









WARNING

- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit. 
- Protect the unit from strong impact. (Do not drop it!) 
- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through. 
- Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page. 
- Batteries must never be recharged, heated, taken apart, or thrown into fire or water. 

CAUTION

- The unit and the AC adaptor should be located so their location or position does not interfere with their proper ventilation. 
- Always grasp only the plug on the AC adaptor cord when plugging into, or unplugging from, an outlet or this unit. 
- At regular intervals, you should unplug the AC adaptor and clean it by using a dry cloth to wipe all dust and other accumulations away from its prongs. Also, disconnect the power plug from the power outlet whenever the unit is to remain unused for an extended period of time. Any accumulation of dust between the power plug and the power outlet can result in poor insulation and lead to fire. 
- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children. 
- Never climb on top of, nor place heavy objects on the unit. 
- Never handle the AC adaptor or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit. 

CAUTION

- Before moving the unit, disconnect the AC adaptor and all cords coming from external devices. 
- Before cleaning the unit, turn off the power and unplug the AC adaptor from the outlet. 
- Whenever you suspect the possibility of lightning in your area, disconnect the AC adaptor from the outlet. 
- If used improperly, batteries may explode or leak and cause damage or injury. In the interest of safety, please read and observe the following precautions (p. 16). 
 - Carefully follow the installation instructions for batteries, and make sure you observe the correct polarity. 
 - Avoid using new batteries together with used ones. In addition, avoid mixing different types of batteries.
 - Remove the batteries whenever the unit is to remain unused for an extended period of time.
 - If a battery has leaked, use a soft piece of cloth or paper towel to wipe all remnants of the discharge from the battery compartment. Then install new batteries. To avoid inflammation of the skin, make sure that none of the battery discharge gets onto your hands or skin. Exercise the utmost caution so that none of the discharge gets near your eyes. Immediately rinse the affected area with running water if any of the discharge has entered the eyes.
 - Never keep batteries together with metallic objects such as ballpoint pens, necklaces, hairpins, etc.
- Used batteries must be disposed of in compliance with whatever regulations for their safe disposal that may be observed in the region in which you live. 
- Keep a screw (ground terminal) you may remove in a safe place out of children's reach, so there is no chance of them being swallowed accidentally. 
- Always turn the phantom power off when connecting any device other than condenser microphones that require phantom power. You risk causing damage if you mistakenly supply phantom power to dynamic microphones, audio playback devices, or other devices that don't require such power. Be sure to check the specifications of any microphone you intend to use by referring to the manual that came with it. 

This instrument's phantom power:
(per channel) 48 V DC, 5 mA Max

IMPORTANT NOTES

In addition to the items listed under “USING THE UNIT SAFELY” on page 3–4, please read and observe the following:

Power Supply: Use of Batteries

- Do not connect this unit to same electrical outlet that is being used by an electrical appliance that is controlled by an inverter (such as a refrigerator, washing machine, microwave oven, or air conditioner), or that contains a motor. Depending on the way in which the electrical appliance is used, power supply noise may cause this unit to malfunction or may produce audible noise. If it is not practical to use a separate electrical outlet, connect a power supply noise filter between this unit and the electrical outlet.
- The AC adaptor will begin to generate heat after long hours of consecutive use. This is normal, and is not a cause for concern.
- The use of an AC adaptor is recommended as the unit’s power consumption is relatively high. Should you prefer to use batteries, please use the alkaline type.
- When installing or replacing batteries, always turn off the power on this unit and disconnect any other devices you may have connected. This way, you can prevent malfunction and/or damage to speakers or other devices.
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Excessive heat can deform or discolor the unit.

- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.
- Depending on the material and temperature of the surface on which you place the unit, its rubber feet may discolor or mar the surface.
You can place a piece of felt or cloth under the rubber feet to prevent this from happening. If you do so, please make sure that the unit will not slip or move accidentally.

Maintenance

- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Repairs and Data

- Please be aware that all data contained in the unit’s memory may be lost when the unit is sent for repairs. Important data should always be written down on paper (when possible). During repairs, due care is taken to avoid the loss of data. However, in certain cases (such as when circuitry related to memory itself is out of order), we regret that it may not be possible to restore the data, and Roland assumes no liability concerning such loss of data.

Additional Precautions

- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of losing important data, we recommend that you periodically save a backup copy of important data you have stored in the unit’s memory written down on paper.
- Unfortunately, it may be impossible to restore the contents of data that was stored in the unit’s memory once it has been lost. Roland Corporation assumes no liability concerning such loss of data.

IMPORTANT NOTES

- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting to this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.
- Depending on the circumstances of a particular setup, you may experience a discomforting sensation, or perceive that the surface feels gritty to the touch when you touch this device, microphones connected to it, or the metal portions of other objects, such as guitars. This is due to an infinitesimal electrical charge, which is absolutely harmless. However, if you are concerned about this, connect the ground terminal (see figure) with an external ground. When the unit is grounded, a slight hum may occur, depending on the particulars of your installation. If you are unsure of the connection method, contact the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.
- The explanations in this manual include illustrations that depict what should typically be shown by the display. Note, however, that your unit may incorporate a newer, enhanced version of the system (e.g., includes newer sounds), so what you actually see in the display may not always match what appears in the manual.

Unsuitable places for connection

- Water pipes (may result in shock or electrocution)
- Gas pipes (may result in fire or explosion)
- Telephone-line ground or lightning rod (may be dangerous in the event of lightning)

Battery handling

- Incorrect handling of batteries, rechargeable batteries, or a battery charger can cause leakage, overheating, fire, or explosion. Before use, you must read and strictly observe all of the precautions that accompany the batteries, rechargeable batteries, or battery charger.
 - When using rechargeable batteries and a charger, use only the combination of rechargeable batteries and charger specified by the battery manufacturer.

Contents

USING THE UNIT SAFELY	3
IMPORTANT NOTES	5
Main features.....	9
Block diagram.....	10
Names of things and what they do	12
Front panel	12
Rear panel.....	15
Installing batteries	16
Basic use	17
Main connections.....	17
Example 1) Simple PA.....	17
Example 2) Computer music.....	18
Example 3) Editing sound for video	19
Turning the power on	20
Turning the power off	20
Basic operation	21
[SEL] buttons	21
Advanced use	22
Making detailed equalizer settings.....	22
Using the dedicated vocal/narration effect (Insert Effect)	23
Turning the insert effect on/off independently	23
Editing the effect settings.....	24
List of effects	25
Applying echo/reverb (FX)	27
Editing the effect settings.....	27
List of effects	28

Adjusting the output signal appropriately for your environment (Room Acoustic Control)	29
Automatic adjustment (Room Acoustic Auto Control).....	29
Manual adjustment.....	33
Calling up adjustment settings	33
Creating a well-balanced sound (Finalize)	34
Editing the effect settings.....	34
List of effects	35
Saving and calling up mixer settings (Scenes).....	36
Saving a scene	36
Calling up a scene	36
Clearing the settings of a scene	36

Other functions..... 37

Changing the system settings (UTILITY).....	37
Basic procedure	37
Adjusting the brightness of the screen (LCD Contrast)	37
Adjusting the brightness of the backlight (LCD Backlight).....	37
Reducing the battery consumption (LCD Power Save)	37
Specifying the M-10DX's sampling frequency (Sample Freq).....	38
Selecting the Room Acoustic Sensor (RAC Source)	38
Specifying the frequency range analyzed by Room Acoustic Auto Control (RAC Freq >= / RAC Freq <=)	38
Selecting the type of batteries (Battery)	38
Digitally outputting the pre-fader signal of channels 1 and 2 (REC to D.OUT).....	38
Initializing the settings (Initialize).....	39
Restoring the factory settings (Factory Reset).....	39

Troubleshooting 40

Main specifications 43

Index 45

Main features

The M-10DX is a 24-bit, 96 kHz full-digital 10-channel mixer.

It delivers high audio quality and sophisticated functionality at an amazing cost/benefit ratio, giving you the sound and operability of a full-digital mixer for an ideal mixing environment.

A rich array of input/output jacks

A full complement of input/output jacks are provided, including phone jacks and RCA pin type input/output jacks.

For mic input, the unit offers two XLR type connectors. Phantom power is also provided.

For digital output, both optical and coaxial jacks/connectors are provided.

Use dedicated effects to create the perfect sound

Also included are special “insert effects,” designed to be used on vocal sources input via microphone, such as narrations and announcements; a “finalize” effect, which improves the overall volume and loudness balance to create your final sound; and “FX,” which provides spatial-type effects, such as echo and reverb to simulate the acoustics of a club or hall.

Automatic compensation for room acoustics

The M-10DX’s “Room Acoustic Auto Control” function analyzes the acoustical characteristics of the room and automatically adjusts the output signal so that it will be appropriate for that room.

Graphic display

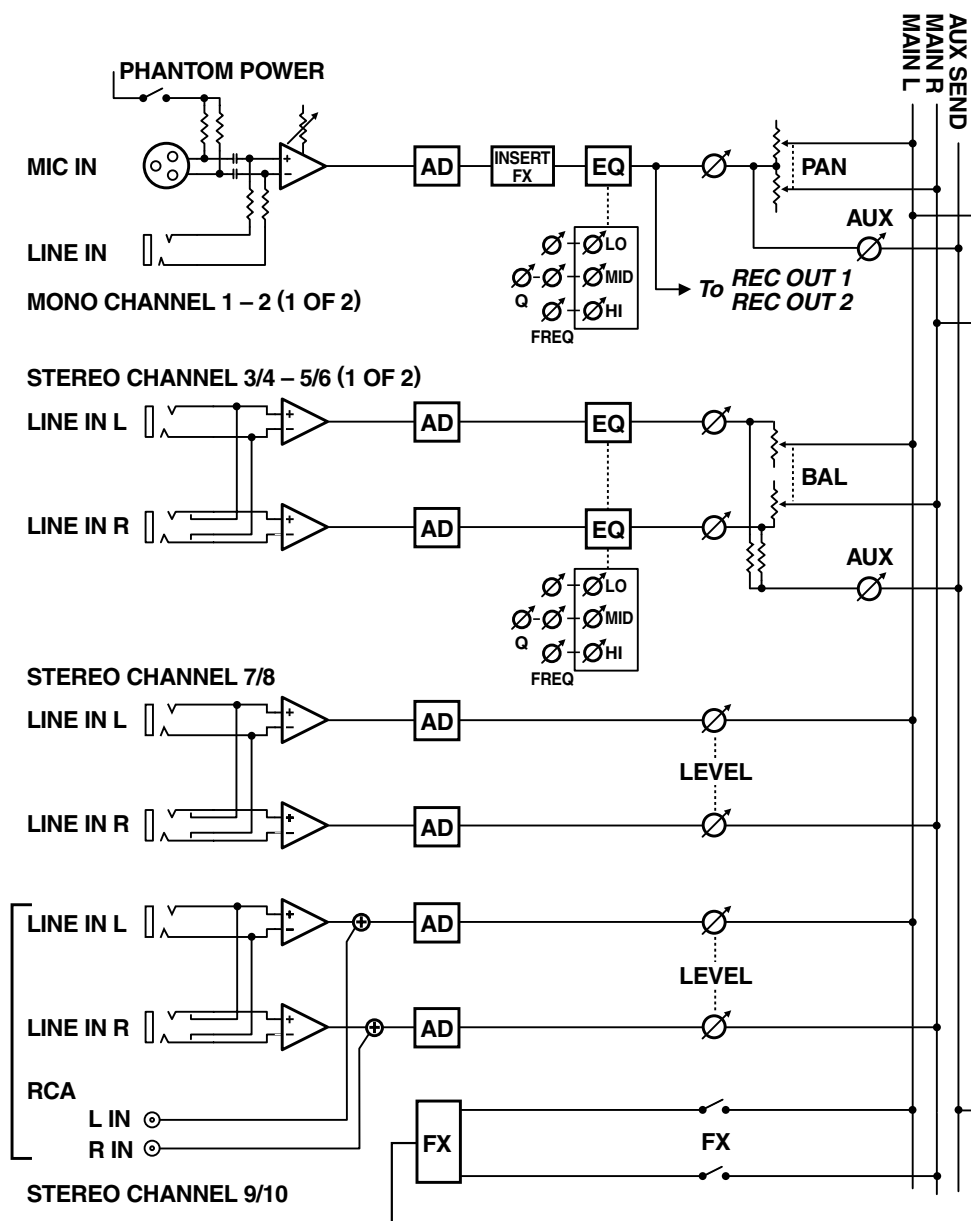
A backlit graphic LCD display is provided, letting you adjust the channel levels while viewing the settings in the display. The display also shows information about each channel and about the effect settings, giving you visual confirmation of the current status while you operate the mixer.

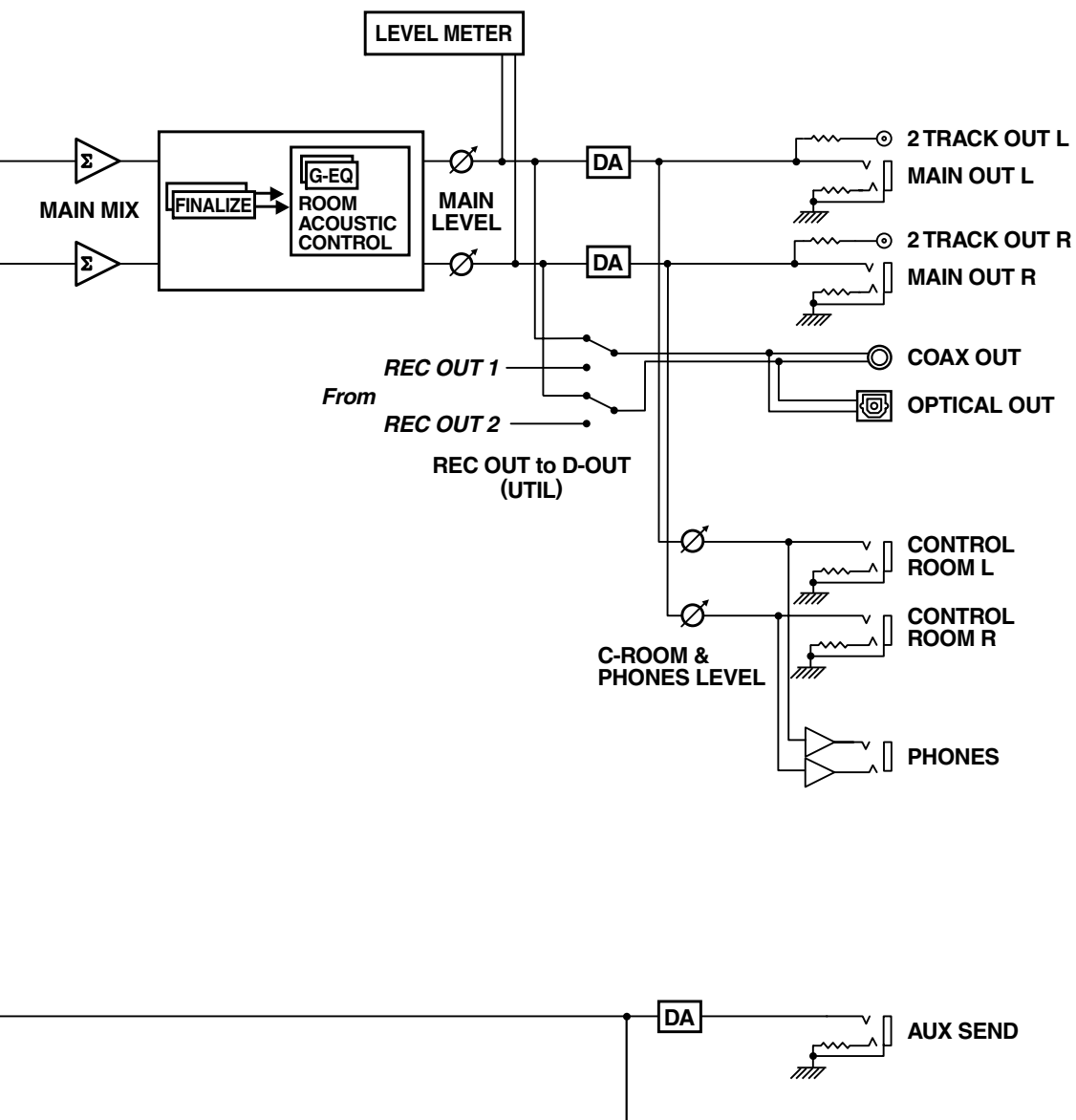
Two-way power for operation anywhere

The M-10DX can be powered using the included AC adaptor, or using batteries (eight AA batteries).

If you use batteries, you’ll be able to set up your system anywhere, including outdoors.

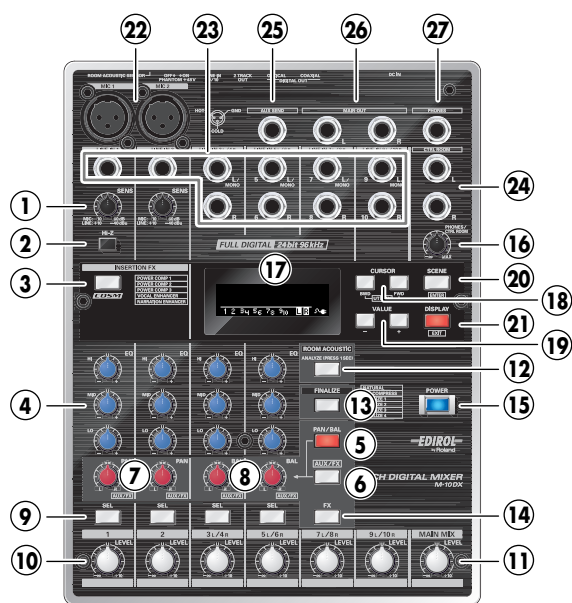
Block diagram





Names of things and what they do

Front panel




1. SENS Knobs (channels 1-2)

Allow you to adjust the sensitivity as appropriate for the level of the input signal.

Connector	Range of adjustment
MIC connector (XLR)	+10– +60 dB
LINE IN jack (TRS)	+10– -40 dBu

2. Hi-Z Switch (channel 1)

When switched on (), the corresponding LINE IN 1 jack becomes a high-impedance jack, allowing an electric guitar to be connected directly.

3. INSERTION FX Button

Press this when you want to edit the Insert Effect settings. When you press the button it will light, and the Insert Effect screen will appear.

→ “Using the dedicated vocal/narration effect (Insert Effect)” (p. 23)

For channels 1 and 2, you can independently select whether or not the insert effect is to be used.

→ “Turning the insert effect on/off independently” (p. 23)

4. EQ Knobs (HI, MID, LOW)

Provide for three-band equalization, with high, mid, and low frequency controls for each channel.

The corresponding frequency range will be boosted when you turn a knob toward the right, be cut when you turn it toward the left, and made flat when the knob is in the center (U) position.

When you turn a knob, the equalizer screen will appear in the display, showing the current settings both numerically and graphically.



You can change the center frequency of the high, mid, and low frequency ranges, and the width of the mid-frequency range (MID Q).

→ “Making detailed equalizer settings” (p. 22)

When you turn an EQ knob, the [SEL] button of that channel will light.

5. PAN/BAL Buttons

When you press this button so it's lit, the PAN knobs/BAL knobs will operate as knobs that adjust the pan or volume balance, respectively.

The pan screen will appear in the display, showing the pan for channels 1-2 and the volume balance of channels 3/4-5/6.

This is a convenient way to check the current pan and volume balance setting of each channel.



* Press the DISPLAY button to return to the level meter screen.

6. AUX/FX Button

If you press this button so it's lit, the PAN/BAL knobs will function in adjusting AUX levels.

* When the effect (FX) is on, turning an AUX/FX knob will simultaneously adjust the AUX level as well as the effect depth of the channel.

The display will show the AUX screen, indicating the AUX level of each channel.

This is convenient when you want to check the current AUX level of each channel.



* Press the DISPLAY button to return to the level meter screen.

7. PAN Knobs

Allow you to localize a mono input signal between L and R. The signal will be located in the center when a knob is in the (◀ ▶) position.

* If the AUX/FX button is lit, this knob operates as the AUX/FX knob to adjust the level of the signal sent from each channel to the AUX SEND bus.

8. BAL Knobs

Adjust the volume balance of a stereo input signal (channels 3–6). The left and right channels will be at the same volume when a knob is in the (◀ ▶) position.

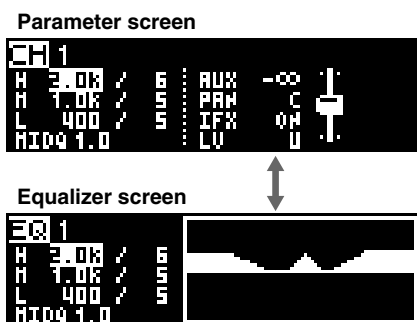
* If the AUX/FX button is lit, this knob operates as the AUX/FX knob to adjust the level of the signal sent from each channel to the AUX SEND bus.

9. SEL Buttons

If you press one of these buttons (the button will light), the parameters of the selected channel will appear in the display as the “parameter screen.”

When calling up a scene (p. 36), this is a convenient way to check the settings of each channel.

This button can be pressed at any time to toggle between the “parameter screen” and “equalizer screen.”



* Press the DISPLAY button to return to the level meter screen.

10. Channel LEVEL Knobs

Adjust the levels of the signals input to the channels.

* In order to reduce the amount of noise in your mix, channels you’re not using should be set to the minimum level.

11. MAIN MIX LEVEL Knob

Adjusts the level of the signal that is output from MAIN OUT jacks.

12. ROOM ACOUSTIC Button

The output from the M-10DX’s MAIN OUT jacks or CONTROL ROOM jacks can be automatically adjusted to optimize the frequency response for your acoustical environment.

→ “Adjusting the output signal appropriately for your environment (Room Acoustic Control)” (p. 29)

13. FINALIZE Button

Press this when you want to edit the Finalize settings. When you press the button it will light, and the Finalize screen will appear.

→ “Creating a well-balanced sound (Finalize)” (p. 34)

14. FX Button

If you press this button so it’s lit, FX (echo, reverb) will be turned on, and the signal processed by the effect will be sent to the MAIN bus.

→ “Applying echo/reverb (FX)” (p. 27)

15. POWER Switch

Turns the power on/off. When the power is on, this button will light.

Hold down this switch for at least one second.

16. PHONES/CTRL ROOM Knob

Adjusts the volume of the signal that is output to the PHONES jack and the CONTROL ROOM jacks.

17. Display

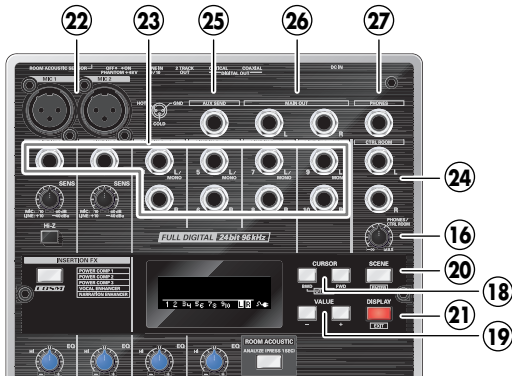
This graphically shows the input level of all channels and output level of MAIN OUT jacks, or displays parameters and their values.

BUS

A “bus” is a signal route to which multiple signals within the mixer are combined.

There are two buses—MAIN (L, R) and AUX SEND—and the signals combined to each bus are sent to the corresponding output route.

Names of things and what they do



18. CURSOR Buttons (BWD/FWD)

Use these buttons to move the cursor when you're editing parameters shown in the screen. Pressing the FWD button will move the cursor forward, and pressing the BWD button will move the cursor backward.

The parameter or value at the cursor location is highlighted. You can access the Utility screen by pressing the BWD button and FWD button simultaneously.

19. VALUE Buttons (-/+)

When editing parameters shown in the screen, use these buttons to modify the value.

MEMO

If you press the [+] button while holding down the [-] button, or press the [-] button while holding down the [+] button, the numerical value will change more quickly, allowing you to edit the value efficiently.

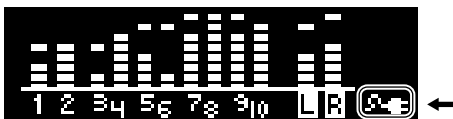
20. SCENE Button

Press this when you want to register the current settings as a "scene" or call up a previously registered scene.

→ "Saving and calling up mixer settings (Scenes)" (p. 36)

21. DISPLAY Button

When you press this button, a level meter screen will appear, showing the input levels (pre-fader) of all input channels and the output level of the MAIN OUT jacks.



An icon indicating the power supply currently in use is shown in the lower right of the screen.

	AC adaptor in use.
	Batteries in use. The remaining battery power is shown.

The DISPLAY button's light will go out when you press another button to switch to something other than the level meter screen.

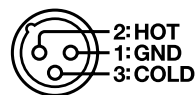
From any screen, you can press the DISPLAY button to access the level meter screen.

- * In order to mix with the least possible noise and distortion, adjust the SENS knob so that the top "□" of the level meter in the display does not light when the input signal is loudest.

22. MIC Connectors (channels 1-2)

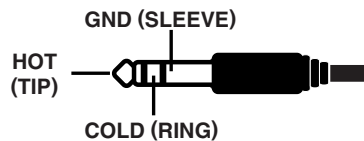
These are balanced (XLR) mic input jacks. 48V phantom power can be supplied via these jacks, allowing you to connect phantom powered condenser mics.

- * You may connect either balanced or unbalanced sources.
- * The MIC connectors are wired as follows. Check how your audio equipment is wired before you connect it.



23. LINE IN Jacks (channels 1-10)

These are 1/4" TRS balanced line input jacks.



- * You can also connect standard (unbalanced) 1/4" plugs to these jacks.

NOTE

You can't use the MIC connector and LINE IN jack of the same channel simultaneously. Connect only one or the other.

24. CONTROL ROOM Jacks (L, R)

These are 1/4" phone jacks that output the same sound as the PHONES jack.

Connect to these if you're using nearfield powered monitors instead of headphones.

25. AUX SEND Jack

This is a balanced TRS 1/4" output jack that you can connect to an external effects processor or other device.

- * You can also connect standard 1/4" (unbalanced) plugs.

26. MAIN OUT Jacks (L, R)

These are balanced TRS 1/4" output jacks that output the final signal produced by mixing.

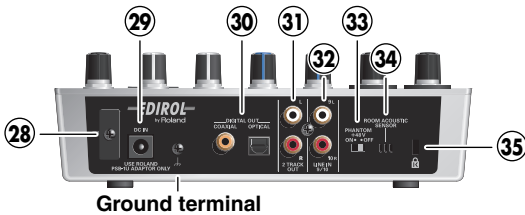
Connect these jacks to your power amp or other device.

- * You can also connect standard 1/4" (unbalanced) plugs.

27. PHONES Jack

This is a stereo 1/4" phone jack for connecting stereo headphones.

Rear panel



28. Cord Hook

Wrap the AC adaptor cord around this hook.

- * To prevent the inadvertent disruption of power to your unit (should the plug be pulled out accidentally), and to avoid applying undue stress to the AC adaptor jack, anchor the power cord using the cord hook, as shown in the illustration.



29. DC IN (AC adaptor) Jack

Connect the included AC adaptor to this jack.

- * If the AC adaptor plug is inserted in this jack, you won't be able to use the batteries even if batteries are installed.

30. DIGITAL OUT Connector/Jack

These digitally output the same signal as the MAIN OUT jacks.

Both optical and coaxial-type connectors are provided, and both can be used simultaneously.

- * You can output the pre-fader signals (from before passing through the channel LEVEL knob) of channels 1 and 2.

→ "Digitally outputting the pre-fader signal of channels 1 and 2 (REC to D.OUT)" (p. 38)

31. 2 TRACK OUT Jacks (L, R)

You can connect these RCA pin-type output jacks to a cassette deck or other recording device.


32. LINE IN Jacks (9L, 10R)

These are RCA pin-type line input jacks.

They can be used simultaneously with the front panel LINE IN 9L/10R jacks.

If they are used simultaneously, the input signal will be mixed.

33. PHANTOM Switch

If you turn this switch on (), phantom power will be supplied to the MIC connectors (1-2).

NOTE

You must leave phantom power turned off unless you've connected a condenser mic that requires a phantom power supply. Supplying phantom power to a dynamic mic or an audio playback device will cause malfunctions.

For details on the specifications for your mic, refer to the instruction manual that came with the mic you're using.

- * The M-10DX's phantom power:
(per channel) DC 48 V, 5 mA Max

34. ROOM ACOUSTIC SENSOR

This sensor detects the frequency response of the room acoustic auto control.

→ "Automatic adjustment (Room Acoustic Auto Control)" (p. 29)

- * A mic connected to channel 1 can also be used as the sensor.

→ "Selecting the Room Acoustic Sensor (RAC Source)" (p. 38)

35. Security Slot ()

<http://www.kensington.com/>

Installing batteries

Types of batteries you can use

- AA alkaline batteries (LR6)
- AA nickel metal-hydride (HR15/51)

(The M-10DX cannot recharge nickel metal-hydride batteries. You must use a separate charger.)

NOTE

You'll need to set the system setting "Battery" (p. 38) to specify the type of batteries you're using. If you don't make this setting, the remaining battery power will not be shown correctly, and battery life may be affected.

1. Make sure that the M-10DX's power is OFF, then disconnect the AC adaptor plug from the DC IN jack.

** If the AC adaptor plug is inserted in the DC IN jack, you can't use batteries even if they are installed.*

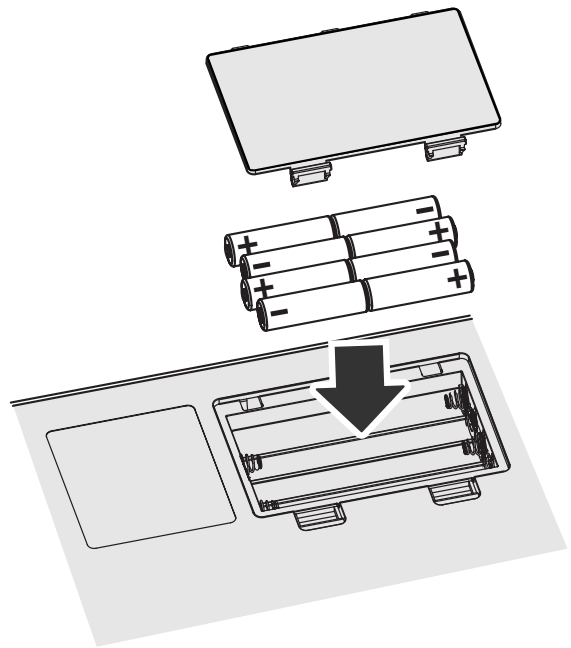
2. Detach the battery cover from the bottom panel of the M-10DX.

** When turning the unit upside-down, get a bunch of newspapers or magazines, and place them under the four corners or at both ends to prevent damage to the buttons and controls. Also, you should try to orient the unit so no buttons or controls get damaged.*


** When turning the unit upside-down, handle with care to avoid dropping it, or allowing it to fall or tip over.*

3. Insert eight AA batteries into the battery compartment, making sure to observe the correct polarity (+ and - symbols).

4. Replace the battery cover.



Caution when using battery power on the M-10DX

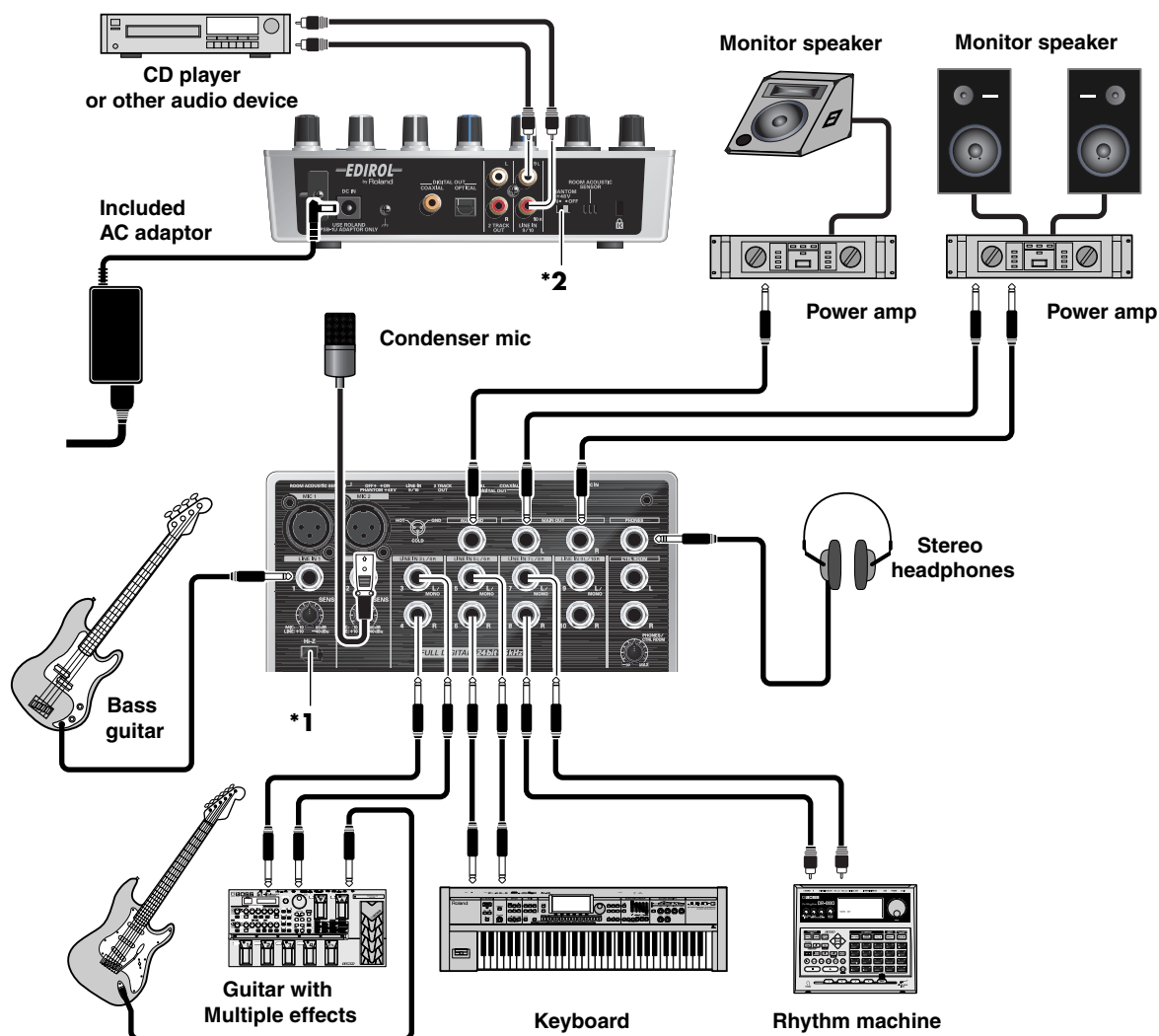
- If you operate on battery power for an extended time, the batteries will become hot. Be careful not to burn yourself.
- Do not mix new batteries with used batteries nor mix batteries of differing types.
- If you will not be using the M-10DX for an extended time, we recommend that you remove the batteries to prevent leakage or other accidents.
- If you insert the AC adaptor plug while the M-10DX is operating on batteries, the power will turn off. This can cause malfunctions, so be sure to press the [POWER] switch to turn off the power before connecting the AC adaptor.
- If the battery indication in the level meter screen shows  (little capacity remaining), replace the batteries as soon as possible.
- If the batteries have run low, the power may fail to turn on when you press the [POWER] switch immediately after turning the power off. Please wait several tens of seconds before you press the [POWER] switch.

Basic use

Main connections

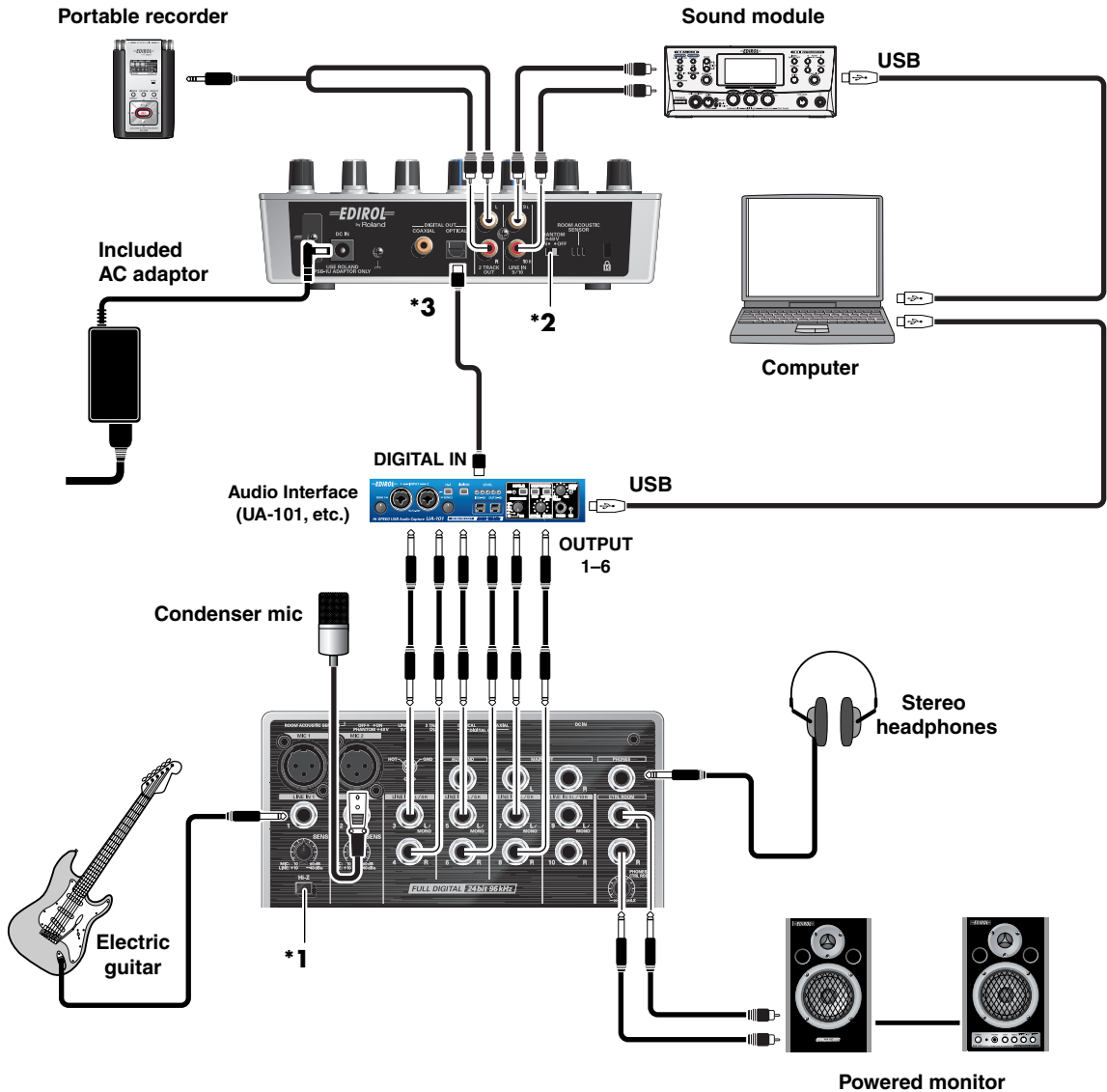
To prevent malfunction and/or speaker damage, you must turn down the volume on all equipment and switch off their power before making connections.

Example 1) Simple PA



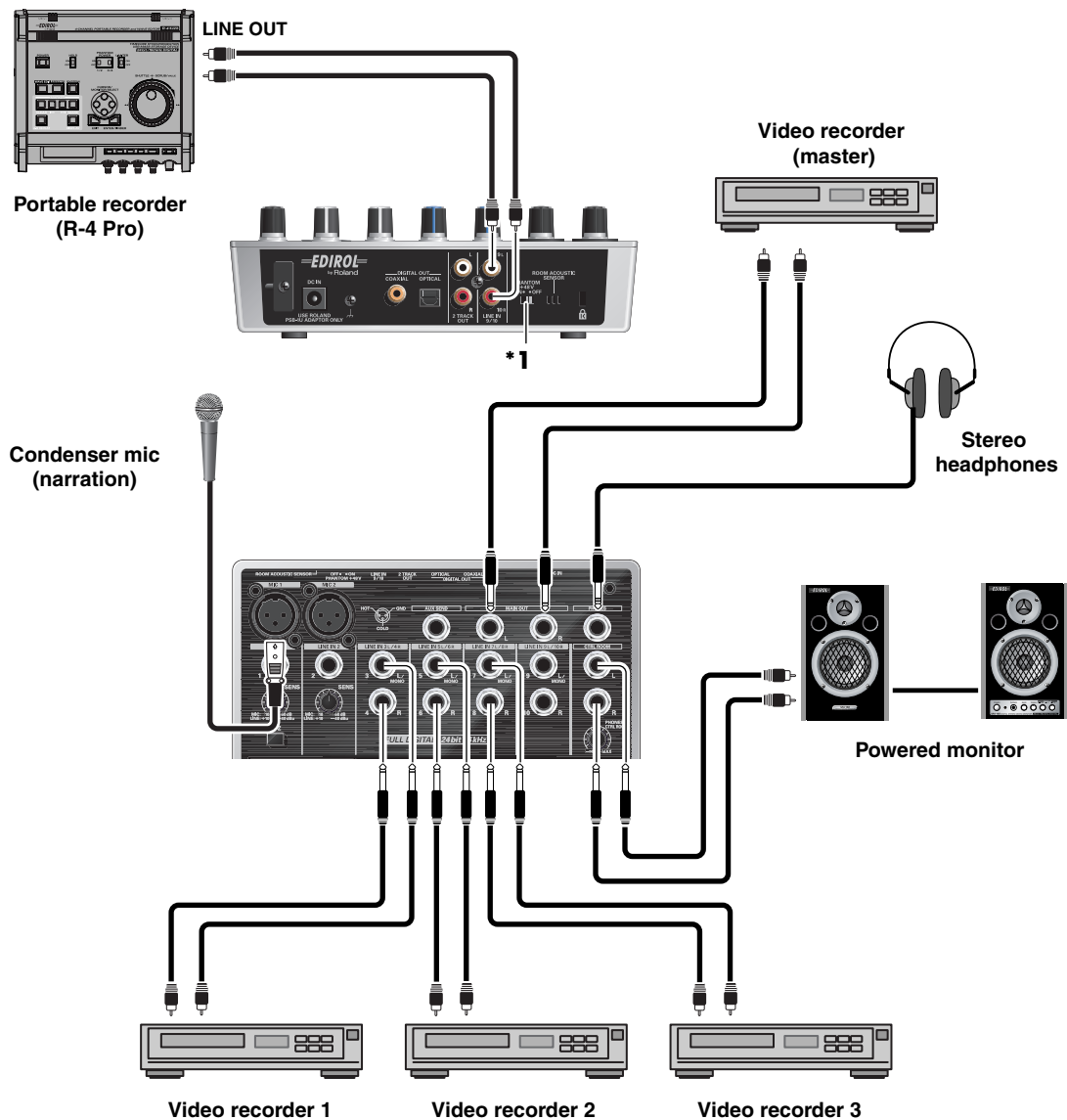
- *1 If you're connecting a bass guitar directly, turn the [Hi-Z] switch on. If you've connected an effects processor between the bass guitar and the LINE IN jack, turn the [Hi-Z] switch off.
- *2 If you're connecting a condenser mic that requires phantom power, turn the [PHANTOM] switch on.

Example 2) Computer music



- *1** If you're connecting a electric guitar directly, turn the [Hi-Z] switch on. If you've connected an effects processor between the electric guitar and the LINE IN jack, turn the [Hi-Z] switch off.
- *2** If you're connecting a condenser mic that requires phantom power, turn the [PHANTOM] switch on.
- *3** Change the system settings so that the channel 1 and 2 pre-fader signals (i.e., from before passing through the channel LEVEL knob) will be output from the M-10DX's DIGITAL OUT (p. 38).

Example 3) Editing sound for video



***1** If you connect a condenser mic that does not require phantom power, turn the [PHANTOM] switch off.

Turning the power on

Once the connections have been completed (p. 17–p. 18), turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

1. Set the channel LEVEL knobs to the “U” position.



2. Set the MAIN MIX LEVEL knob and PHONES/CTRL ROOM knob to the “-∞” position.

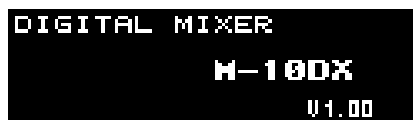
* Minimize the MAIN MIX LEVEL and PHONES/CTRL ROOM volume controls before you turn the power on. Even if the volume is minimized, you may hear some noise when you turn on the power, but this is not a malfunction.



3. Switch on the power to your digitally connected equipment.
4. Switch on the power to your analog-connected equipment (musical instruments, sound modules, effects processors, mics, CD players, etc.).

5. Hold down the [POWER] switch until the display indicates “DIGITAL MIXER.”

When the power turns on, the [POWER] switch will light. The setup screen will appear, and then after a brief time, the level meter screen will appear.



6. Switch on the power to your amp and powered monitors.

Turning the power off

1. Make sure you’ve done the following before you turn off the power.

- The M-10DX’s MAIN MIX LEVEL knob has been set to the “-∞” position.
- The volume of the connected equipment has been minimized.

2. Switch off the power to your amp and powered monitors.

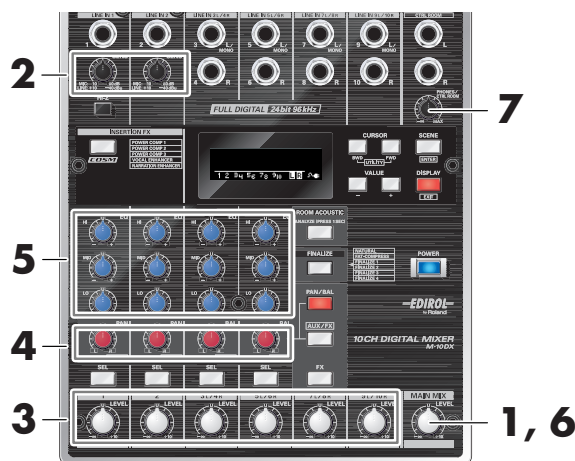
3. Hold down the [POWER] switch until the display indicates “Power OFF.”

After a while, the power will turn off and the [POWER] switch’s light will go out.

4. Switch off the power to your analog-connected equipment (musical instruments, sound modules, effects processors, mics, CD players, etc.).

5. Switch off the power to your digitally connected equipment.

Basic operation



1. Slowly turn the **MAIN MIX LEVEL** knob toward the right to an appropriate position.

2. Use the **SENS** knobs to adjust the input sensitivity of channels 1–2.

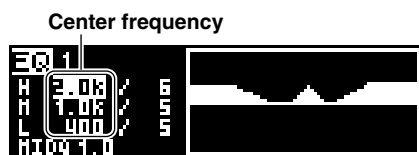
* In order to mix with the least possible noise and distortion, adjust the **SENS** knob so that the top "▣" of the level meter in the LCD does not light when the input signal is loudest.

3. Use the channel **LEVEL** knobs to adjust the volume of each channel.

4. For channels 1–2, use the **PAN** knobs to adjust the pan. For channels 3–6, use the **BAL** knobs to adjust the L/R volume balance.

5. Use the **EQ** knobs to adjust the high, mid, and low-frequency ranges.

When you turn these knobs, the equalizer screen will appear in the display, showing the current settings numerically and graphically.



Width of the mid-range band

MEMO

You can change the center frequency of the high, mid, and low ranges, and also change the width of the mid-range band (MID Q).

→ "Making detailed equalizer settings" (p. 22)

6. When you've finished adjusting the level of all connected devices, raise the **MAIN MIX LEVEL** knob until the overall volume is at an appropriate level.

7. If you want to listen to the sound through headphones or monitors connected to the **CONTROL ROOM** jacks, use the **PHONES/CTRL ROOM** knob to adjust the volume.

[SEL] buttons

If you press this button (lit), the "parameter screen" of the selected channel will appear in the display.

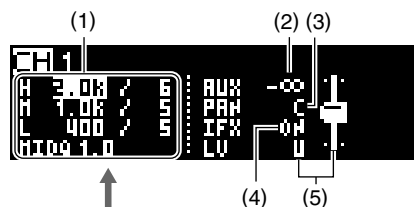
This button can be pressed at any time to toggle between the "parameter" screen and the "equalizer" screen.

The screen will show the current settings of the selected channel.

In this screen you can edit the settings while watching the numerical values.

* You can return to the level meter screen by pressing the [DISPLAY] button.

Parameter screen



Equalizer screen



(1)	Equalizer settings
(2)	AUX setting
(3)	Channels 1–2: Pan setting Channels 3–6: Volume balance setting
(4)	Insert Effect on/off (channels 1 and 2 only)
(5)	Channel LEVEL knob setting

MEMO

This is a convenient way to check the settings of each channel when you call up a scene (p. 36).

Advanced use

Making detailed equalizer settings

In addition to adjusting the equalizer's high, mid, and low-frequency levels, you can also change its Mid Q and the frequency of each band.

1. Press the [SEL] button several times for the channel whose equalizer settings you want to edit, until the equalizer screen appears.



2. Use the CURSOR [BWD] [FWD] buttons to select the parameter you want to edit.

The selected parameter is highlighted.



3. Use the VALUE [-] [+] buttons to edit the value.

Parameter	Description
H	Center frequency of the high range
M	Center frequency of the mid range
L	Center frequency of the low range
MIDQ	Width of the mid-frequency range

Using the dedicated vocal/narration effect (Insert Effect)

The M-10DX provides five types of dedicated vocal/narration insert effects based on COSM technology. These effects can be applied directly to channels 1 and 2.

You can edit the settings of the insert effect to obtain the result that's appropriate for your input source or situation.

MEMO

The edited settings are remembered even when the power is off.

What is COSM (Composite Object Sound Modeling)?

This is Roland's proprietary modeling technology, which analyzes the various elements that affect sound—such as electrical circuits, structures, and materials—and assembles them to reconstruct the desired sound.

Turning the insert effect on/off independently

For channels 1 and 2, you can independently specify whether the insert effect will be on (used) or off (not used).

In the case of channels 1 and 2, the parameter screen that appears when you press the [SEL] button will show the insert effect setting (IFX).

Use the CURSOR [FWD] button to move the cursor there, and use the VALUE [-] [+] buttons to turn the insert effect on/off.



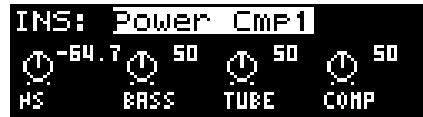
Editing the effect settings

1. Press the [INSERTION FX] button so it's lit, turning the insert effect on.

The insert effect screen will appear.

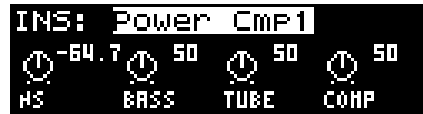
- * If a different screen is shown even though the [INSERTION FX] button is lit, pressing the [INSERTION FX] button will display the insert effect screen.

If the insert effect screen is already shown, pressing the [INSERTION FX] button will turn off the insert effect and turn off the button's illumination.



Selecting an effect type

2. Use the CURSOR [BWD] [FWD] buttons to move the cursor to the effect type.
3. Use the VALUE [-] [+] buttons to select an effect type.



Editing the parameters

4. Use the CURSOR [BWD] [FWD] buttons to move the cursor to the parameter you want to edit.
5. Use the VALUE [-] [+] buttons to edit the value.



MEMO

If you press the [+] button while holding down the [-] button, or press the [-] button while holding down the [+] button, the value will change more rapidly, allowing you to edit more efficiently.

MEMO

If the [INSERTION FX] button is lit, you can hold down the [DISPLAY] button and press the [INSERTION FX] button to turn the insert effect off at any time.

List of effects

■ Power Cmp1

This controls a COSM effect that simulates a vacuum tube amp, and a compressor. It boosts thin sounds that are lacking in low range, giving them greater weight and power.

■ Power Cmp2

This controls a COSM effect that simulates a vacuum tube amp, and a compressor. It boosts the mid-range, creating a fat-sounding vocal.

■ Power Cmp3

This controls a COSM effect that simulates a vacuum tube amp, and a compressor. It boosts the high range. This is ideal for delicate acoustic guitar sounds.

This is also a way to obtain greater clarity for sounds that tend to be buried by other loud sounds around them.

Parameter	Range	Explanation
NS	-90.0– -40 dB	Cuts the noise that occurs at low volumes in the background of the voice. With higher values for this setting, louder noises will be cut. <i>* If you apply this too strongly, the beginning (attack) and end (decay) of the voice may be cut off unnaturally, or the voice may be less intelligible.</i>
(Power Cmp1) BASS	0–100	Mainly adjusts the loudness of the low-frequency range. Raising this setting will boost the low-frequency range.
(Power Cmp2) TONE	0–100	Mainly adjusts the loudness of the mid-frequency range. Raising this setting will boost the mid-frequency range.
(Power Cmp3) BRIGHT	0–100	Mainly adjusts the loudness of the high-frequency range. Raising this setting will boost the high-frequency range.
TUBE	0–100	This is a COSM effect that simulates a vacuum tube amp. It produces the natural-sounding distortion typical of a vacuum tube. Raising this setting will increase the distortion. <i>* Since this models the subtle characteristics of a vacuum tube amp, it may be difficult to notice the result in some cases.</i>
COMP	0–100	Lowers the threshold of the compressor (i.e., the volume level at which the compressor begins to operate), and simultaneously raises the volume. The result is to even out the volume levels of the loud and soft sounds, raising the overall loudness. Raising this setting will increase the level. Unlike simply raising the volume, this produces a thicker and heavier sound. NOTE The compressor threshold is common to channels 1 and 2. This means that you can use COMP either in stereo for channels 1 and 2, or for just one or the other channel.

* You should be careful not to over-apply effects. Doing so may increase noise, or cause the sound to be muffled when loud sounds are excessively suppressed.

■ Vocal Enh. (Vocal Enhancer)

This effect controls a four-band equalizer to give the voice brightness and clarity.

It works on the basic components of a voice as well as the components that define its character, boosting or reducing these components. This can be used to emphasize or modify the character of spoken lines in a stage play, or when recording a vocal.

Parameter	Range	Explanation
NS	-90.0– -40 dB	Cuts any low-volume noises that occur in the background of the vocal. Raising this setting will cut progressively louder noises. <i>* If you apply this too strongly, the beginning (attack) and end (decay) of the voice may be cut off unnaturally, or the voice may be less intelligible.</i>
TONE	0–100	Boosts the frequency range that is the basic component of the voice. Raise this value to make the vocal more rich-sounding, or lower it to reduce unwanted resonance or loudness.
BRIGHT	0–100	Increases the brightness. The higher the value, the brighter the sound.

■ Narration

This effect controls a de-esser and enhancer to give the voice greater clarity and intelligibility.

It will minimize the sibilants (*1) that are heard when vocalizing into a mic, making the voice more listenable. When editing video, it's convenient to use this while recording a voice-over, narration, or reading.

(*1) Sibilants are the “s” sounds within words.

Parameter	Range	Explanation
NS	-90.0– -40 dB	Cuts the low-volume noises that occur in the background of the voices. Raising this setting will cut progressively louder noises. <i>* If you apply this too strongly, the beginning (attack) and end (decay) of the voice may be cut off unnaturally, or the voice may be less intelligible.</i>
ATTACK	0–100	Emphasize the sense of attack for the voice. Raising this setting will produce a stronger sense of attack.
CLARITY	0–100	Specifies the strength of the effect that clarifies the voice. Raising this setting will apply the effect more strongly. <i>* If this effect is applied excessively to a voice that is already clear, the sound may become unpleasant or distorted.</i>
DEESSER	0–100	Cuts the sibilance. Raising this setting will apply the effect more strongly.

Applying echo/reverb (FX)

As effects that process the output signal, the M-10DX provides two types of echo and five types of reverb.

You can edit the parameters of the echo/reverb effect to your needs and taste.

Use the AUX/FX knobs to adjust the depth of echo/reverb for each input (p. 12).

MEMO

The edited settings are remembered even when the power is off.

Editing the effect settings

1. Press the [FX] button so it's lit, turning the effect on.

The FX screen will appear.

* If a different screen is displayed even though the [FX] button is lit, you can press the [FX] button to access the echo/reverb screen.

If you press the [FX] button when the FX screen is already displayed, the effect will be turned off and the button's light will go out.



Selecting the effect type

2. Use the CURSOR [BWD] [FWD] buttons to move the cursor to the effect type.
3. Use the VALUE [-] [+] buttons to select the effect type.



Editing the parameters

4. Use the CURSOR [BWD] [FWD] buttons to move the cursor to the parameter you want to edit.
5. Use the VALUE [-] [+] buttons to edit the value.



MEMO

If you press the [+] button while holding down the [-] button, or press the [-] button while holding down the [+] button, the value will change more rapidly, allowing you to edit the value more efficiently.

MEMO

If the [FX] button is lit, you can hold down the [DISPLAY] button and press the [FX] button to turn the effect off at any time.

List of effects

■ SHORT ECHO

This is an echo effect that repeats the sound at short intervals.

Parameter	Range	Explanation
DELY	10–200 (ms)	Adjusts the spacing of the repetitions.
REPT	0.0–6.0 (s)	Adjusts the length (time) of the repetitions.

■ ECHO

This is an echo effect that repeats the sound at longer intervals.

Parameter	Range	Explanation
TIME	0.0–6.0 (s)	Adjusts the length (time) of the repetitions.
DAMP	315–8k (Hz), BYP	Specifies the frequency at which the repeated sound will begin to be attenuated. With the “BYP” setting, the repeated sound will not be attenuated.

■ ROOM

This simulates the reverberation of a room such as a live house or club.

■ SMALL HALL

This simulates the reverberation of a small concert hall.

Parameter	Range	Explanation
P.DLY	0.0–160 (ms)	Adjusts the time at which the reverberation starts being heard.
TIME	0.0–6.0 (s)	Adjusts the length (time) of reverberation.
DAMP	315–8k (Hz), BYP	Specifies the frequency at which the reverberation will begin to be attenuated. With the “BYP” setting, the reverberation will not be attenuated.

■ LARGE HALL

This simulates the reverberation of a large space such as a concert hall or gymnasium.

Parameter	Range	Explanation
P.DLY	0.0–160 (ms)	Adjusts the time at which the reverberation starts being heard.
TIME	0.0–6.0 (s)	Adjusts the length (time) of reverberation.
DAMP	315–8k (Hz), BYP	Specifies the frequency at which the reverberation will begin to be attenuated. With the “BYP” setting, the reverberation will not be attenuated.

Adjusting the output signal appropriately for your environment (Room Acoustic Control)

“Room acoustics” refers to the overall acoustical characteristics of the environment in which you’re reproducing sound, including the response of the speakers you’re using.

The M-10DX provides a “Room Acoustic Auto Control” function, which automatically compensates for the acoustics of a room. At the touch of a single button, this function performs the following operations:

- (1) **Outputs a test signal from the M-10DX, and plays this signal through the connected monitors.**
- (2) **Detects the sound played by the monitors with the Room Acoustic Sensor, and analyzes its frequency response.**
- (3) **Based on the results of the analysis, automatically adjusts the response of the output signal.**

The results of this automatic adjustment can be further edited manually if you wish.

NOTE

Depending on the environment in which you are located, the automatic adjustment may not be enough to provide the optimal response. In this case, you can perform manual adjustments in conjunction with the automatic adjustment.

MEMO

You can use a mic connected to channel 1 as the room acoustics sensor.

→ “Selecting the Room Acoustic Sensor (RAC Source)” (p. 38)

MEMO

You can specify the upper and lower limits of the frequencies that will be automatically adjusted.

→ “Specifying the frequency range analyzed by Room Acoustic Auto Control (RAC Freq \geq / RAC Freq \leq)” (p. 38)

Automatic adjustment (Room Acoustic Auto Control)

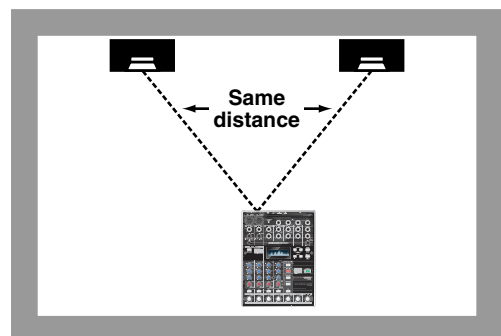
In order to obtain the best possible results from this function, please observe the following points.

- Place your equipment so that the room acoustic sensor or mic (if the RAC Source (p. 38) is set to CH1) is at the listening point.
- Place your equipment so that the left and right monitors (speakers) are the same distance to the sensor/mic.
- To the extent possible, place the sensor/mic at the height of your ears at the listening point.
- Do not place obstructions near the sensor/mic.
- While the adjustments are being performed, do not place the M-10DX or mic on an object that could resonate easily (such as a hollow box or stand).

* Such an object could resonate with the test signal, causing slight vibrations that might interfere with accurate measurement.

NOTE

With monitors (speakers) that have a low output level, the test signal may not be detected, and the analysis may fail to start. In this case we recommend that you perform the analysis manually (p. 33).



1. Using the MAIN MIX LEVEL knob and the volume controls of your amp or speakers, adjust the volume of the sound from the speakers so it's at a suitable level.

Adjust the volume as you would for normal playback when listening to the music.

NOTE

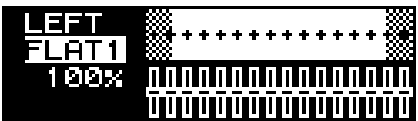
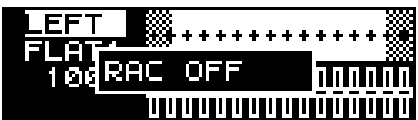
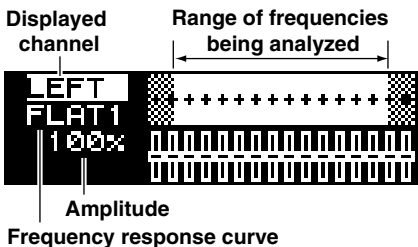
If the speaker volume is too high the test signal will be produced at a loud volume, and if the volume is too low the sensor will be unable to detect the test signal. Either situation will prevent the automatic adjustment from occurring correctly.

2. Press the [ROOM ACOUSTIC] button.

The [ROOM ACOUSTIC] button will light, and the Room Acoustic Control screen will appear.

** In the system settings (p. 38) you can change the range of frequencies that will be analyzed.*

If you press the [ROOM ACOUSTIC] button while this screen is displayed, the Room Acoustic Control function will turn off and the button's light will go out.



3. Use the CURSOR [BWD] [FWD] buttons to move the cursor to the response curve.

4. Use the VALUE [-] [+] buttons to select the response curve that will be the index for the adjustment.

FLAT 1-4	Flat response.
BUMPY 1-4	Response curves that boost the low and high-frequency regions, producing the so-called "scooped" sound.
WARMY 1-4	Response curves that boost the mid-range, producing a rich and warm sound.

** You can create four variations for each frequency response curve. With the factory settings, 1-4 all have the same settings. You can adjust the amplitude of the curves as suitable for different uses.*

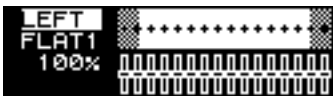
The room acoustic control function uses four screens to display a variety of information.

To switch screens, use the CURSOR [BWD] [FWD] buttons to move the cursor to the display channel, and use the VALUE [-] [+] buttons to select the desired screen.

** You can't modify the amplitude of the response curve while "FREQ" is selected.*

** The next time you access the Room Acoustic Control screen, the last-selected display will appear.*

LEFT



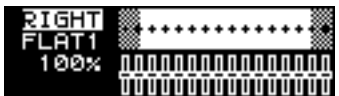
View the L channel's frequency response and graphic equalizer settings

L&R



View the graphic equalizer settings of both L and R

RIGHT



View the R channel's frequency response and graphic equalizer settings

FREQ



View the frequency response of both L and R channels

5. Press the CURSOR [BWD] [FWD] buttons to move the cursor to the amplitude of the response curve.

6. Use the VALUE [-] [+] buttons to adjust the amplitude of the response curve.



* If you've selected FLAT as the response curve, you won't be able to adjust the amplitude.

Range
70–100–130%

MEMO

If the [ROOM ACOUSTIC] button is lit, you can hold down the [DISPLAY] button and press the [ROOM ACOUSTIC] button to turn off room acoustic control at any time.

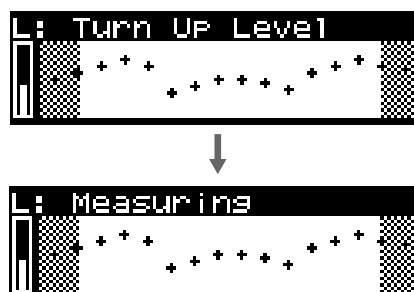
Analysis and automatic adjustment

7. Hold down the [ROOM ACOUSTIC] button for at least one second to start the analysis.

The [ROOM ACOUSTIC] button will blink, and all input channels of the mixer will be muted.

A test signal will be output. Raise the output level if the screen indicates "Turn Up Level," or lower the output level if it indicates "Turn Down Level."

When the sensor/mic detects the test signal, the screen will indicate "Measuring," and analysis of the L channel will start automatically.



* If you decide to cancel the operation, press the [DISPLAY] (EXIT) button.

If the screen does not indicate "Measuring" (i.e., if the test signal cannot be detected), check or adjust the following settings.

- **Could the MAIN MIX LEVEL knob be set too low?**

Ideally, the knob should be set near the "U" position.

- **Could the amp or speaker volume be set too low?**

Adjust the playback volume to the level you would normally use when listening to music.

* Raising the volume too high may cause your speakers to malfunction. Keep the volume setting within the range of normal playback volume.

- **Could the sensor/mic be positioned too far away from the speakers?**
- **Is the sensor/mic pointing toward the speakers?**

If analysis still fails to start automatically, the test signal cannot be detected in your setup.

Press the [DISPLAY] button to end the analysis. We suggest that you perform the analysis manually.

Press the [ROOM ACOUSTIC] button so it's lit, and then perform the procedure described in "Graphic equalizer settings" (p. 33).

Advanced use

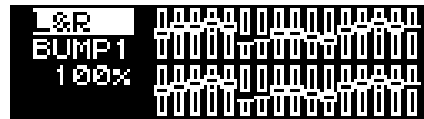
When the L channel analysis and adjustment have been completed, the analysis will proceed to the R channel. Raise the output level if the screen indicates "Turn Up Level," or lower the output level if it indicates "Turn Down Level."

When the sensor/mic detects the test signal, the screen will indicate "Measuring," and analysis of the R channel will start.



Finishing the adjustment

When analysis and adjustment have been completed for both channels, the [ROOM ACOUSTIC] button will change from blinking to lit, and the screen will show the result of the adjustment.



When the adjustment has been completed, the input channels will be unmuted, and the M-10DX will return to normal operation.

8. Listen to the adjusted sound.

MEMO

The frequency response curve and its amplitude is stored together with the adjustment results (graphic equalizer settings) as a set. (This is remembered even when the power is turned off.)

* If you want to return to the default settings, execute the Initialize operation.

→ "Initializing the settings (Initialize)" (p. 39)

Manual adjustment

Depth of the adjustment results

9. Use the **CURSOR [BWD] [FWD]** buttons to move the cursor to the percentage indication, and use the **VALUE [-] [+]** buttons to change the percentage by which the results of the automatic adjustment will be applied.

Range	Explanation
70–100–130%	With a setting of 100%, the adjustment results will be applied without further change. Settings below 100% will reduce the effect of the adjustment results, and settings above 100% will apply the results more strongly.

The graphic equalizer settings will also change according to the percentage you specify.



Graphic equalizer settings

While you actually listen to the sound, make corrections to the frequency response by (for example) lowering levels that had been raised excessively.

1. Use the **CURSOR [BWD] [FWD]** buttons to select a frequency.
2. Use the **VALUE [-] [+]** buttons to adjust the level.

The selected frequency and its level are shown in the left of the screen.



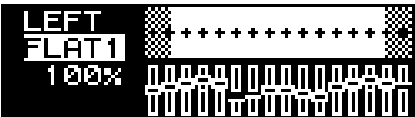
Calling up adjustment settings

When you press the **[ROOM ACOUSTIC]** button so it's lit and turn the Room Acoustic Control function on the most recently selected settings will be called up.

At this point, use the **CURSOR [BWD] [FWD]** buttons to move the cursor to the frequency response curve, and use the **VALUE [-] [+]** buttons to switch curves; the amplitude and adjustment result (graphic equalizer settings) stored as a set with the response curve will be called up.

TIP

You can use this as a sixteen-memory preset equalizer.



Creating a well-balanced sound (Finalize)

After you've mixed the sounds from each channel, you can create a well-balanced sound by making the overall volume and loudness more consistent.

This process is called "finalizing," and is done using a multi-band compressor and an enhancer.

The M-10DX provides six types of Finalize effects.

You can adjust the Finalize settings to create the result that's suitable for your needs.

MEMO

The edited settings are remembered even when the power is off.

Editing the effect settings

1. Press the [FINALIZE] button so it's lit, turning the effect on.

The Finalize screen will appear.

- * If a different screen is displayed even though the [FINALIZE] button is lit, you can press the [FINALIZE] button to access the Finalize screen.

If you press the [FINALIZE] button when the Finalize screen is already displayed, the effect will turn off and the button's light will go out.



Selecting an effect type

2. Use the CURSOR [BWD] [FWD] buttons to move the cursor to the effect type.
3. Use the VALUE [-] [+] buttons to select an effect type.



Editing the parameters

4. Use the CURSOR [BWD] [FWD] buttons to move the cursor to the parameter you want to edit.
5. Use the VALUE [-] [+] buttons to edit the value.



MEMO

The value will change more rapidly if you press the [+] button while holding down the [-] button, or press the [-] button while holding down the [+] button, allowing you to edit more efficiently.

MEMO

If the [FINALIZE] button is lit, you can hold down the [DISPLAY] button and press the [FINALIZE] button to turn off the effect at any time.

List of effects

■ Natural

This effect adds a natural finish that does not impair the original character of the sound.

Parameter	Range	Explanation
CROSS	10.0–14k (Hz)	Specifies the frequency at which the low and high ranges will be divided.
COMPRESS	0–100	Lowers the threshold of the multi-band compressor (the volume at which the compressor begins to apply), and simultaneously raises the volume. The result is that the level differences between high volume and low volume will be smoothed out, making the overall volume more consistent and raising the overall loudness. Increasing this value will intensify the result. Unlike simply raising the volume, this produces a thicker and denser sound.
CLARITY	0–100	Controls the enhancer to specify the degree to which the sound is clarified. Higher settings will produce a stronger effect. <i>* If you excessively apply this to a sound that is already clear, it will make the sound unpleasant or distorted.</i>

■ FAT Comp

This effect produces a thick, robust sound.

Parameter	Range	Explanation
L COMPRESS	0–100	Lowers the low-frequency threshold for the multi-band compressor, and simultaneously increases the volume. This will thicken the sound of the low-frequency range. Increasing this value will set this to a higher level. Unlike simply raising the volume, this produces a thicker and denser low-frequency range.
H COMPRESS	0–100	Lowers the high-frequency threshold for the multi-band compressor, and simultaneously increases the volume. This will thicken the sound of the high-frequency range. Increasing this value will set this to a higher level. Unlike simply raising the volume, this produces a thicker and denser high-frequency range.

■ Final 1/2/3/4

These effects let you make more detailed settings as necessary. With the factory settings, these effects are set as follows.

Final 1	Improves the overall balance.
Final 2	Boosts the low-frequency range.
Final 3	Clarifies muddy sound.
Final 4	Smooths out inconsistencies in the sound.

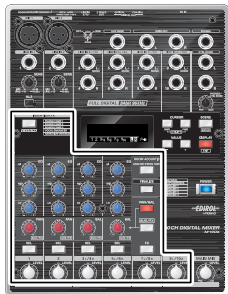
Parameter	Range	Explanation
Cross	10.0–14k (Hz)	Specifies the frequency at which the multi-band compressor's low and high frequency ranges will be divided.
ThrsL	-50–0	Specifies the volume at which the low-frequency range compressor begins to apply.
GainL	-50–24	Specifies the amount of boost or cut for the low-frequency range.
ThrsH	-50–0	Specifies the volume at which the high-frequency range compressor begins to apply.
GainH	-50–24	Specifies the amount of boost or cut for the high-frequency range.
Clarity	0–100	Controls the enhancer to adjust the strength of the effect that clarifies the sound. Increasing this value will produce a stronger effect. <i>* If you excessively apply this to a sound that is already clear, it will make the sound unpleasant or distorted.</i>

Saving and calling up mixer settings (Scenes)

The M-10DX lets you save eight different sets of mixer settings including the effects. Each set of mixer settings is called a “scene,” and can be called up instantly whenever needed.

MEMO

A scene saves the settings of the enclosed area shown in the illustration below.



NOTE

Room acoustic control stores only the response curve and the amplitude.

2. If you want to change scenes, use the CURSOR [BWD] [FWD] buttons to select the scene you want to call up.

The settings of the selected scene will be called up immediately.

NOTE

Depending on the settings of the scene you call up, the volume may be higher than the current setting. Use this function with caution, and be aware of the volume of your speakers or headphones.

NOTE

If the [SCENE] button is lit, only the settings of the called up scene are valid. Panel operations won't be reflected in the sound. If you operate the panel knobs or other controls, a message will appear in the screen.



MEMO

By holding down the [DISPLAY] button and turning the LEVEL knob of a channel, you can adjust the volume of that channel.

MEMO

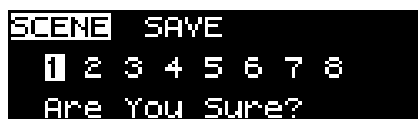
By pressing the following buttons you can check the settings you've called up.

[SEL], [INSERTION FX], [FINALIZE], [PAN/BAL], [AUX/FX], [FX]

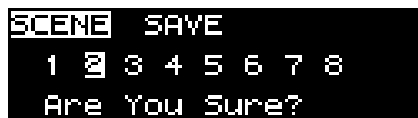
Saving a scene

1. Hold down the [SCENE] button for at least one second.

The button will blink, and the Scene Save screen will appear.



2. Use the CURSOR [BWD] [FWD] buttons to select the scene number that you want to save.



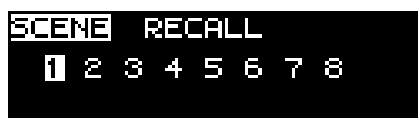
3. Press the [SCENE] button to write the settings into memory.

The settings will be saved, the screen will indicate “Save Complete,” and you'll be returned to the level meter screen.

Calling up a scene

1. Press the [SCENE] button so it's lit.

The settings of scene 1 will be called up.



Clearing the settings of a scene

If you press the [SCENE] button so its light is turned off, all settings of the currently selected scene will be cleared, and you'll be returned to the normal operating state (the position of the panel knobs and the state of the switches will be reflected in the sound).

MEMO

If the [SCENE] button is lit, you can hold down the [DISPLAY] button and press the [SCENE] button to turn the scene off at any time.

NOTE

Depending on the settings of the front panel, the volume may be higher than the current setting. Use this function with caution, and be aware of the volume of your speakers or headphones.

Other functions

Changing the system settings (UTILITY)

You can change various system settings in order to perform mixing operations more conveniently and efficiently.

You can also restore the settings of the M-10DX to their original state.

Basic procedure

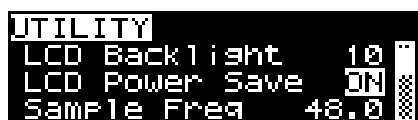
1. Press the CURSOR [BWD] and [FWD] buttons simultaneously.

The Utility screen will appear.



2. Use the CURSOR [BWD] [FWD] buttons to select the setting you want to change.

The value of the selected parameter will be highlighted.



3. Use the VALUE [-] [+] buttons to change the setting.

Adjusting the brightness of the screen (LCD Contrast)

You can adjust the contrast (brightness) of the LCD display.

Range

0–19

Adjusting the brightness of the backlight (LCD Backlight)

You can adjust the brightness of the display backlight.

Particularly when operating the M-10DX on batteries, you can reduce battery consumption by turning down the brightness of the backlight.

Range

0–10

Reducing the battery consumption (LCD Power Save)

The M-10DX provides a “Power Save” function, which reduces the current consumption when operating on batteries.

If the Power Save function is on, the backlight will darken when you have not operated the panel knobs or buttons for a certain interval of time. By reducing the brightness of the backlight, you can reduce the battery consumption.

The mixer exits the Power Save state as soon as you operate a panel knob or button.

Setting

ON, OFF

* The Power Save function is not active if you're using the AC adaptor.

Specifying the M-10DX's sampling frequency (Sample Freq)

You can specify the M-10DX's sampling frequency.

If you're outputting a digital signal from the M-10DX's DIGITAL OUT jack, the M-10DX's sampling frequency and the sampling frequency of the device receiving that digital signal must be set to the same setting.

Setting
44.1, 48, 96 (kHz)

Selecting the Room Acoustic Sensor (RAC Source)

You can select the sensor used by the Room Acoustic Control function.

NOTE

Before you switch from CH1 to Built-in, you must disconnect the mic that's connected to channel 1. If you fail to disconnect the mic, a feedback loop may occur, possibly damaging your speakers.

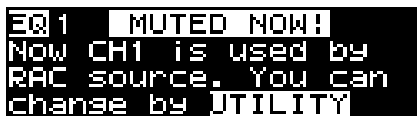
Setting	Explanation
Built-in	Use the sensor built into the M-10DX.
CH1	Use the mic connected to channel 1 as the sensor.

If you select CH1, channel 1 will not function as a mixer channel.

In this case, the indication "RAC" is shown in the channel 1 position of the level meter screen.



If you turn the channel 1 EQ knobs or press the [SEL] button, the following message will appear.



Specifying the frequency range analyzed by Room Acoustic Auto Control (RAC Freq >= / RAC Freq <=)

You can specify the lower and upper limits of the frequency range that is automatically analyzed by Room Acoustic Control.

If you're using a mic connected to channel 1 as the sensor for Room Acoustic Control, adjusting this setting as appropriate for the frequency response of your mic will allow the adjustment to occur more optimally.

Parameter	Range
RAC Freq >= (lower limit)	25, 40, 63, 100 Hz
RAC Freq <= (upper limit)	10, 16, 20 kHz

* If the function switch is set to "INT," use the following settings:

RAC Freq >= 40 Hz

RAC Freq <= 16 kHz

Selecting the type of batteries (Battery)

If you're operating the M-10DX on batteries, you must specify the type of batteries you're using.

NOTE

If you've specified a type of battery that's different than the batteries actually installed in the M-10DX, the remaining battery power will not be shown correctly, and battery life may be affected.

Setting	Explanation
Alkaline	Alkaline battery
Ni-MH	Nickel metal-hydride

Digitally outputting the pre-fader signal of channels 1 and 2 (REC to D.OUT)

The pre-fader signals (from before the channel LEVEL knob) of channels 1 and 2 can be output to DIGITAL OUT.

Setting	Explanation
OFF	The same signal as the output of MAIN OUT jacks will be sent from the digital output.
ON	The pre-fader signal of channels 1 and 2 will be sent from the digital output.

Initializing the settings (Initialize)

Here's how you can return various settings to their initial state.

1. Use the **CURSOR [BWD] [FWD]** buttons to select "Initialize."

The [SCENE] (ENTER) button will blink.

2. Press the [SCENE] (ENTER) button.

The Initialize screen will appear.



3. Use the **CURSOR [BWD] [FWD]** buttons to select the settings you want to initialize.

Setting	Explanation
ALL	All settings of the M-10DX * Except for UTILITY settings
Ins	Insert effect (*)
FX	Echo/reverb (*)
GEQ/RAC	Graphic equalizer/ Room Acoustic Control
Finalize	Finalize (*)
Scene	Scene

(*) The effect type is not initialized; only the parameters are initialized.

4. Press [SCENE] (ENTER) button.

A confirmation message will appear in the screen.



5. To execute the initialization, press [SCENE] (ENTER) button.

* If you decide to cancel, press the [DISPLAY] (EXIT) button.

When initialization is finished, the display will indicate "COMPLETE."

Restoring the factory settings (Factory Reset)

This operation will restore all settings, including the UTILITY settings, to their factory-set state.

This is called "Factory Reset."

1. Turn the power off.
2. While holding down the [FINALIZE] button and [ROOM ACOUSTIC] button, press the [POWER] switch to turn the power on.

The screen will indicate "Factory Reset" and the factory reset will be executed.

After the factory reset is completed, the level meter screen will appear.

Troubleshooting

If you experience problems, read this chapter first/ It contains tips for solving most problems.

Power does not turn on (when using the AC adaptor)

☐ Is the AC adaptor connected correctly?

Check the connections, and make sure that the AC adaptor plug is inserted firmly into the DC IN jack.

Power does not turn on (when using batteries)

☐ Are the batteries installed correctly?

Make sure that the batteries are installed correctly. Check that they are oriented correctly, and that they have not popped up out of their place.

☐ Could the batteries be exhausted?

Install fresh batteries.

If the battery indication in the level meter screen shows  (little capacity remaining), replace the batteries as soon as possible.

☐ Is the AC adaptor connected to the DC IN jack?

If the AC adaptor's plug is connected to the DC IN jack, the M-10DX cannot operate on batteries even if batteries are installed. Unplug the AC adaptor if you want use batteries.

Sound is crackly or distorted

☐ Could the input volume be too high?

The sound may be crackly or distorted if the input volume (level) is too high. If you're inputting audio from an input jack, adjust the M-10DX's input volume (level).

→ "Basic use" (p. 17)

☐ Are you mixing multiple channels?

Even if the input volume (level) of a single channel is appropriate, the sound may be louder when you mix several channels, possibly causing crackling or distortion. Please re-adjust the input level of each channel.

☐ Are the equalizer levels appropriate?

If you turn an EQ knob (HI/MID/LO) too far toward the right, the sound may be crackly or distorted. Use the EQ knobs (HI/MID/LO) of each channel to re-adjust the equalizer levels.

☐ Are the insert effect, finalize, room acoustic control, and FX settings appropriate?

Depending on the settings of each effect, the level may increase, causing the sound to be crackly or distorted. Check these settings and re-adjust them if necessary.

Noise can be heard

☐ Could you have raised the level of unused channels?

For the channels you're not using, minimize the input level by turning the SENS knob or the channel LEVEL knob all the way to the left.

☐ Could numerous audio devices be connected?

Noise may occur if a large number of audio devices are connected. Don't connect audio devices that you're not using.

Loud noises such as "howls," "whines," or "buzzes" occur

☐ Is a mic connected?

Depending on the position of the mic and speakers, acoustic feedback (a whine or howl) may occur. In this case, take the following steps.

1. Change the direction of the mic
2. Move the mic away from the speakers
3. Lower the volume

☐ Is an audio device connected to the M-10DX?

If the input and output of the audio device are both connected to the M-10DX, the signal may be creating a feedback loop. Please check the connections.

A low-volume buzz or hum is heard

☐ Is other equipment connected?

This noise is called "hum." The M-10DX and the connected equipment may pick up electromagnetic interference and emit this noise as a result. This noise can be caused by the power supply frequency (50/60 Hz) or by high-output motors. Try moving your equipment away from the device that contains a motor, or connecting the M-10DX to a different AC outlet. You can also try connecting your equipment to a different input jack on the M-10DX.

Insert effect is not applied

☐ Could the insert effect setting for channels 1 and 2 be turned off?

Even if the [INSERTION FX] button is on (lit), the insert effect will not be applied unless the channel 1 and 2 "IFX" setting (p. 23) is on.

FX (echo/reverb) is not applied

☐ Could the send level be too low?

The effect may not be applied if the send level is too low. Turn the AUX/FX button (lit), and then turn the PAN/BAL knob toward the right to gradually increase the level.

Volume of a device connected to the LINE IN jacks is too low

- ☐ **Could you be using a connection cable that contains a resistor?**

Use a connection cable that does not contain a resistor.

Can't hear the sound from a mic connected to a MIC connector (1-2)

- ☐ **Could you have connected a condenser mic that requires phantom power?**

If you're connecting a condenser mic that requires phantom power, turn the [PHANTOM] switch on.

An input sound is heard only from the left or right

- ☐ **Could the PAN knob or BAL knob be set all the way to the left or right?**

Set the PAN knob or BAL knob to the center position.

Main specifications

M-10DX	
Number of Input Channels	10 channels
AD/DA Conversion	Sample Rate: 44.1/48.0/96.0 kHz Signal Processing: 24 bits
Frequency Response	96.0 kHz: 20 Hz to 40 kHz (+3/-3 dB) 48.0 kHz: 20 Hz to 22 kHz (+3/-3 dB) 44.1 kHz: 20 Hz to 20 kHz (+3/-3 dB)
Residual Noise Level (IHF-A, typ.)	MAIN MIX LEVEL knob = $-\infty$, Channel LEVEL knobs = $-\infty$ MAIN MIX LEVEL knob = U, Channel LEVEL knobs = $-\infty$ -88 dBu MAIN MIX LEVEL knob = U, Channel LEVEL knobs = U -82 dBu
Nominal Input Level	MIC connectors 1-2: -60 to -10 dBu LINE IN jacks 1-2: -40 to +10 dBu * <i>Maximum input level: Nominal input level + 22 dB</i> LINE IN jacks 3-10: +0 dBu LINE IN jacks 9-10 (RCA pin type): -10 dBu * <i>Maximum input level: Nominal input level + 18 dB</i>
Input Impedance	MIC connectors 1-2: 2.7 k Ω LINE IN jacks 1-2: 28 k Ω LINE IN jacks 3-8: 20 k Ω LINE IN jacks 9-10 (RCA pin type): 20 k Ω
Nominal Output Level	+0 dBu * <i>Maximum output level: Nominal Output Level + 22 dB</i>
Output Impedance	MAIN OUT jacks / AUX SEND jack / CTRL ROOM jacks: 120 Ω 2 TRACK OUT jacks L-R: 1 k Ω
Recommended Load Impedance	10 k Ω or greater
Display	Graphic LCD 122 x 32 dot (with back-light)
Connectors	MIC connectors 1-2: XLR type (balanced / phantom power +48 V) LINE IN jacks 1-10: 1/4 inch TRS phone type (balanced) * <i>LINE IN jack 1: supports use of hi-impedance</i> LINE IN jacks 9-10: RCA pin type MAIN OUT jacks L-R: 1/4 inch TRS phone type (impedance balanced) AUX SEND jack: 1/4 inch TRS phone type (impedance balanced) 2 TRACK OUT jacks L-R: RCA pin type DIGITAL OUTPUT jack/connector: Optical type, Coaxial type PHONES jack: Stereo 1/4 inch phone type CTRL ROOM jacks L-R: 1/4 inch phone type (impedance balanced)

Main specifications

DSP processing	Room Acoustic Control (built-in microphone) Finalize: Enhancer/Multi-band Compressor-Limiter Insertion effects: Power compressor/Vocal enhancer/Narration enhancer Echo/Reverb: Short echo/Echo/Room reverb/Small hall reverb/Large hall reverb
Power Supply	DC 9 V (AC adaptor), Alkaline dry battery LR6 (AA) type x 8 or Nickel metal-hydride battery (HR15/51) x 8
Current Draw	950 mA * <i>Expected battery life under continuous use:</i> <i>Nickel metal-hydride: 3 hours</i> <i>Alkaline: 1.5–2 hours</i> <i>These figures will vary depending on the actual conditions of use.</i>
Phantom Power	+48 V/5 mA (each input)
Dimensions	198.6 (W) x 262.2 (D) x 60.9 (H) mm 7-7/8 (W) x 10-3/8 (D) x 2-7/16 (H) inches
Weight	1.3 kg / 2 lbs 14 oz (only this unit)
Accessories	Owner's manual AC adaptor

* $0\text{ dBu} = 0.775\text{ V rms}$

NOTE

In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

Index

Numerics

2 TRACK OUT 15

A

Alkaline 38
ALL 39
ATTACK 26
AUX SEND 14
AUX/FX 12

B

BAL 13, 21
BASS 25
Battery 14, 16, 37–38
BRIGHT 25–26
Built-in 38
BUMPY 30
BUS 13
BWD 14
BYP 28

C

CH1 38
Channel LEVEL 13, 20–21
CLARITY 26, 35
Clarity 35
COMP 25
COMPRESS 35
CONTROL ROOM 14
Cord Hook 15
COSM 23
CROSS 35
Cross 35
CURSOR 14

D

DAMP 28
DC IN 15
DEESSER 26
DELY 28
DIGITAL OUT 15
DISPLAY 14
Display 13

E

ECHO 28
Echo 27
ENTER 39
EQ 12, 21
EXIT 39

F

Factory Reset 39
FAT Comp 35
Final 35
FINALIZE 13, 34
Finalize 34, 39
FLAT 30
FWD 14
FX 13, 27, 39

G

GainH 35
GainL 35
GEQ/RAC 39

H

H 22
H COMPRESS 35
HI 12
Hi-Z 12

I

IFX 21, 23
Initialize 39
Ins 39
Insert Effect 23
INSERTION FX 12, 24

L

L 22
L COMPRESS 35
LARGE HALL 28
LCD Backlight 37
LCD Contrast 37
LCD Power Save 37
LEVEL 13
LINE IN 14–15
LOW 12

M

M 22
MAIN MIX 13
MAIN MIX LEVEL 13, 20–21
MAIN OUT 14
Measuring 31–32
MIC 14
MID 12
MIDQ 22

N

Narration	26
Natural	35
Nickel Metal-Hydride	16, 38
Ni-MH	38
NS	25–26

P

P.DLY	28
PAN	13, 21
PAN/BAL	12
PHANTOM	15
PHONES	15
PHONES/CTRL ROOM	13, 20
POWER	13, 20
Power Cmp1	25
Power Cmp2	25
Power Cmp3	25
Power OFF	20

R

RAC	38
RAC Freq	38
RAC Freq >=	38
RAC Source	38
REC to D.OUT	38
REPT	28
Reverb	27
ROOM	28
ROOM ACOUSTIC	13, 30, 33
Room Acoustic Auto Control	29
Room Acoustic Control	29, 38
ROOM ACOUSTIC SENSOR	15
Room Acoustic Sensor	38
Room acoustics	29

S

Sample Freq	38
Sampling Frequency	38
SCENE	14, 36
Scene	36, 39
SEL	13, 21
SENS	12, 21
SHORT ECHO	28
SMALL HALL	28

T

ThrsH	35
ThrsL	35
TIME	28
TONE	25–26
TUBE	25
Turn Down Level	31–32
Turn Up Level	31–32

U

UTILITY	37
---------------	----

V

VALUE	14
Vocal Enh.	26
Vocal Enhancer	26

W

WARMY	30
-------------	----



- UK** This symbol indicates that in EU countries, this product must be collected separately from household waste, as defined in each region. Products bearing this symbol must not be discarded together with household waste.
- DE** Dieses Symbol bedeutet, dass dieses Produkt in EU-Ländern getrennt vom Hausmüll gesammelt werden muss gemäß den regionalen Bestimmungen. Mit diesem Symbol gekennzeichnete Produkte dürfen nicht zusammen mit den Hausmüll entsorgt werden.
- FR** Ce symbole indique que dans les pays de l'Union européenne, ce produit doit être collecté séparément des ordures ménagères selon les directives en vigueur dans chacun de ces pays. Les produits portant ce symbole ne doivent pas être mis au rebut avec les ordures ménagères.
- IT** Questo simbolo indica che nei paesi della Comunità europea questo prodotto deve essere smaltito separatamente dai normali rifiuti domestici, secondo la legislazione in vigore in ciascun paese. I prodotti che riportano questo simbolo non devono essere smaltiti insieme ai rifiuti domestici.
Ai sensi dell'art. 13 del D.Lgs. 25 luglio 2005 n. 151.
- ES** Este símbolo indica que en los países de la Unión Europea este producto debe recogerse aparte de los residuos domésticos, tal como esté regulado en cada zona. Los productos con este símbolo no se deben depositar con los residuos domésticos.
- PT** Este símbolo indica que nos países da UE, a recolha deste produto deverá ser feita separadamente do lixo doméstico, de acordo com os regulamentos de cada região. Os produtos que apresentem este símbolo não deverão ser eliminados juntamente com o lixo doméstico.
- NL** Dit symbool geeft aan dat in landen van de EU dit product gescheiden van huishoudelijk afval moet worden aangeboden, zoals bepaald per gemeente of regio. Producten die van dit symbool zijn voorzien, mogen niet samen met huishoudelijk afval worden verwijderd.
- DK** Dette symbol angiver, at i EU-lande skal dette produkt opsamles adskilt fra husholdningsaffald, som defineret i hver enkelt region. Produkter med dette symbol må ikke smides ud sammen med husholdningsaffald.
- NO** Dette symbolet indikerer at produktet må behandles som spesialavfall i EU-land, iht. til retningslinjer for den enkelte regionen, og ikke kastes sammen med vanlig husholdningsavfall. Produkter som er merket med dette symbolet, må ikke kastes sammen med vanlig husholdningsavfall.
- SE** Symbolen anger att i EU-länder måste den här produkten kasseras separat från hushållsavfall, i enlighet med varje regions bestämmelser. Produkter med den här symbolen får inte kasseras tillsammans med hushållsavfall.
- FI** Tämä merkintä ilmaisee, että tuote on EU-maissa kerättävä erillään kotitalousjätteistä kunkin alueen voimassa olevien määräysten mukaisesti. Tällä merkinnällä varustettuja tuotteita ei saa hävittää kotitalousjätteiden mukana.
- HU** Ez a szimbólum azt jelenti, hogy az Európai Unióban ezt a terméket a háztartási hulladéktól elkülönítve, az adott régióban érvényes szabályozás szerint kell gyűjteni. Az ezzel a szimbóllal ellátott termékeket nem szabad a háztartási hulladék közé dobni.
- PL** Symbol oznacza, że zgodnie z regulacjami w odpowiednim regionie, w krajach UE produktu nie należy wyrzucać z odpadami domowymi. Produktów opatrzonych tym symbolem nie można utylizować razem z odpadami domowymi.
- CZ** Tento symbol udává, že v zemích EU musí být tento výrobek sbírán odděleně od domácího odpadu, jak je určeno pro každý region. Výrobky nesoucí tento symbol se nesmí vyhazovat spolu s domácím odpadem.
- SK** Tento symbol vyjadruje, že v krajinách EÚ sa musí zber tohto produktu vykonávať oddelene od domového odpadu, podľa nariadení platných v konkrétnej krajine. Produkty s týmto symbolom sa nesmú vyhazovať spolu s domovým odpadom.
- EE** See sümbol näitab, et EL-i maades tuleb see toode olemprügist eraldi koguda, nii nagu on igas piirkonnas määratletud. Selle sümboliga märgitud tooteid ei tohi ära visata koos olmeprügiga.
- LT** Šis simbolis rodo, kad ES šalyse šis produktas turi būti surenkamas atskirai nuo buitinių atliekų, kaip nustatyta kiekvienoje regione. Šiuo simboliu paženklinoti produktai neturi būti išmetami kartu su buitinėmis atliekomis.
- LV** Šis simbols norāda, ka ES valstīs šo produktu jāievāc atsevišķi no mājsaimniecības atkritumiem, kā noteikts katrā reģionā. Produktus ar šo simbolu nedrīkst izmest kopā ar mājsaimniecības atkritumiem.
- SI** Ta simbol označuje, da je treba proizvod v državah EU zbirati ločeno od gospodinskih odpadkov, tako kot je določeno v vsaki regiji. Proizvoda s tem znakom ni dovoljeno odlagati skupaj z gospodinskimi odpadki.
- GR** Βχφς φπ ζεμβλπλ δζλζνεη ζφ ζφγτ ζσςετ φζτ ΕΕ, φπ ρςπγν βχφς ρςΕρεη νβ ζλλλΕρεφβφζ οεζςςφγφβς βρς φβ φκζκβκς βρςςζζμμβφβ, ζεμζςνβ με φζ νπμμεζζζβ φζτ κβζε ρςςπλζΟτ. Φβ ρςπγνφβ ρπκ ζΕςπκν βχφς φπ ζεμβλπλ δζν ρςΕρεη νβ βρςςζζρφπφβφζ μβζζ με φβ φκζκβκς βρςςζζμμβφβ.

Information

When you need repair service, call your nearest EDIROL/Roland Service Center or authorized EDIROL/Roland distributor in your country as shown below.

EDIROL

EUROPE

EDIROL (Europe) Ltd.
Studio 3.4 114 Power Road
London W4 5PY
U. K.
TEL: +44 (0)20 8747 5949
FAX: +44 (0)20 8747 5948
http://www.edirol.com/europe

Deutschland
TEL: 0700 33 47 65 20
Italia
TEL: 02 93778329

Roland

NORTH AMERICA

CANADA

Roland Canada Ltd.
(Head Office)
5480 Parkwood Way Richmond
B. C., V6V 2M4 CANADA
TEL: (604) 270 6626

Roland Canada Ltd.
(Toronto Office)
170 Admiral Boulevard
Mississauga On L5T 2N6
CANADA
TEL: (905) 362 9707

U. S. A.

Roland Corporation U.S.
5100 S. Eastern Avenue
Los Angeles, CA 90040-2938,
U. S. A.
TEL: (323) 890 3700

AFRICA

EGYPT

Al Fanny Trading Office
9, EBN Hagar A1 Askalany
Street,
ARD El Golf, Heliopolis,
Cairo 11341, EGYPT
TEL: 20-2-417-1828

REUNION

Maison FO - YAM Marcel
25 Rue Jules Hermann,
Chaudron - BP79 97 491
Ste Clotilde Cedex,
REUNION ISLAND
TEL: (0262) 218-429

SOUTH AFRICA

Paul Bothner(Pty)Ltd.
Royal Cape Park, Unit 24
Londonderry Road, Ottery 7800
Cape Town, SOUTH AFRICA
TEL: (021) 799 4900

ASIA

CHINA

Roland Shanghai Electronics Co.,Ltd.
5F, No.1500 Pingliang Road
Shanghai 200090, CHINA
TEL: (021) 5580-0800

Roland Shanghai Electronics Co.,Ltd.
(BEIJING OFFICE)
10F, No.18 3 Section Anhuaxili
Chaoyang District Beijing
100011 CHINA
TEL: (010) 6426-3050

HONG KONG

Parsons Music Ltd.
8th Floor, Railway Plaza, 39
Chatham Road South, T.S.T,
Kowloon, HONG KONG
TEL: 2333 1863

INDIA

Rivera Digitec (India) Pvt. Ltd.
409, Nirman Kendra
Mahalaxmi Flats Compound
Off. Dr. Edwin Moses Road,
Mumbai-400011, INDIA
TEL: (022) 2493 9051

INDONESIA

PT Citra IntiRama
Jl. Cideng Timur No. 15J-150
Jakarta Pusat
INDONESIA
TEL: (021) 6324170

KOREA

Cosmos Corporation
1461-9, Seocho-Dong,
Seocho Ku, Seoul, KOREA
TEL: (02) 3486-8855

MALAYSIA/ SINGAPORE

Roland Asia Pacific Sdn. Bhd.
45-1, Block C2, Jalan PJU 1/39,
Dataran Prima, 47301 Petaling
Jaya, Selangor, MALAYSIA
TEL: (03) 7805-3263

PHILIPPINES

G.A. Yupango & Co. Inc.
339 Gil J. Puyat Avenue
Makati, Metro Manila 1200,
PHILIPPINES
TEL: (02) 899 9801

TAIWAN

ROLAND TAIWAN ENTERPRISE CO., LTD.
Room 5, 9fl. No. 112 Chung
Shan N.Road Sec.2, Taipei,
TAIWAN, R.O.C.
TEL: (02) 2561 3339

THAILAND

Theera Music Co., Ltd.
330 Soi Verng NakornKasem,
New Road, Sumpantawongse,
Bangkok 10100, THAILAND
TEL: (02) 224-8821

AUSTRALIA/ NEW ZEALAND

AUSTRALIA/ NEW ZEALAND

Australia/ New Zealand Roland Corporation Australia Pty.,Ltd.
38 Campbell Avenue
Dee Why West. NSW 2099
AUSTRALIA

For Australia
Tel: (02) 9982 8266
For New Zealand
Tel: (09) 3098 715

CENTRAL/LATIN AMERICA

ARGENTINA

Instrumentos Musicales S.A.
Av.Santa Fe 2055
(1123) Buenos Aires
ARGENTINA
TEL: (011) 4508-2700

BARBADOS

A&B Music Supplies LTD
12 Webster Industrial Park
Wilkey, St.Michael, Barbados
TEL: (246)430-1100

BRAZIL

Roland Brasil Ltda.
Rua San Jose, 780 Sala B
Chatham Industrial San Jose
Cotia - Sao Paulo - SP, BRAZIL
TEL: (011) 4615 5666

CHILE

Comercial Fancio II S.A.
Rut.: 96.919.420-1
Nataliel Cox #739, 4th Floor
Santiago - Centro, CHILE
TEL: (02) 688-9540

COLOMBIA

Centro Musical Ltda.
Cra 43 B No 25 A 41 Bododega 9
Medellin, Colombia
TEL: (574)3812529

CURACAO

Zeelandia Music Center Inc.
Orionweg 30
Curacao, Netherland Antilles
TEL:(305)3926866

DOMINICAN REPUBLIC

Instrumentos Fernando Giraldez
Calle Proyecto Central No.3
Ens.La Esperilla
Santo Domingo,
Dominican Republic
TEL:(809) 683 0305

ECUADOR

Mas Musica
Rumichaca 822 y Zaruma
Guayaquil - Ecuador
TEL:(593-4)2302364

GUATEMALA

Casa Instrumental
Calzada Roosevelt 34-01,zona 11
Ciudad de Guatemala
Guatemala
TEL:(502) 599-2888

HONDURAS

Honduras Pajaro Azul S.A. de C.V.
BO.Paz Barahona
3 Ave.11 Calle S.O
San Pedro Sula, Honduras
TEL: (504) 553-2029

MARTINIQUE

Musique & Son
Z.I.Les Mangle
97232 Le Lamantin
Martinique F.W.I.
TEL: 596 596 426860

Gigamusic SARL
10 Rte De La Folie
97200 Fort De France
Martinique F.W.I.
TEL: 596 596 715222

MEXICO

Casa Veerkamp, s.a. de c.v.
Av. Toluca No. 323, Col. Olivar
de los Padres 01780 Mexico
D.F. MEXICO
TEL: (55) 5668-6699

NICARAGUA

Bansbach Instrumentos
Musicales Nicaragua
Altamira D'Este Calle Principal
de la Farmacia Sta.Avenida
1 Cuadra al Lago.#503
Managua, Nicaragua
TEL: (505)277-2557

PERU

Audionet
Distribuciones Musicales SAC
Juan Fanning 530
Miraflores
Lima - Peru
TEL: (511) 4461388

TRINIDAD

AMR Ltd
Ground Floor
Maritime Plaza
Barataria Trinidad W.I.
TEL: (868)638 6385

URUGUAY

Todo Musica S.A.
Francisco Acuna de Figueroa 1771
C.P.: 11.800
Montevideo, URUGUAY
TEL: (02) 924-2335

VENEZUELA

Instrumentos Musicales
Allegro,C.A.
Av.las industrias edf.Guitar
import
#7 zona Industrial de Turumo
Caracas, Venezuela
TEL: (212) 244-1122

EUROPE

AUSTRIA

Roland Elektronische
Musikinstrumente HmbH.
Austrian Office
Eduard-Bodem-Gasse 8,
A-6020 Innsbruck, AUSTRIA
TEL: (0512) 26 44 260

BELGIUM/FRANCE/ HOLLAND/ LUXEMBOURG

Roland Central Europe N.V.
Houtstraat 3, B-2260, Oevel
(Westerlo) BELGIUM
TEL: (014) 575811

CROATIA

ART-CENTAR
Degenova 3,
HR - 10000 Zagreb
TEL: (1) 466 8493

CZECH REP.

CZECH REPUBLIC
DISTRIBUTOR s.r.o
Votárova 247/16
CZ - 180 00 PRAHA 8,
CZECH REP.
TEL: (2) 830 20270

DENMARK

Roland Scandinavia A/S
Nordhavnsvej 7, Postbox 880,
DK-2100 Copenhagen
DENMARK
TEL: 3916 6200

FINLAND

Roland Scandinavia As, Filial
Finland
Elanontie 5
FIN-01510 Vantaa, FINLAND
TEL: (09) 68 24 020

GERMANY

Roland Elektronische
Musikinstrumente HmbH.
Oststrasse 96, 22844
Norderstedt, GERMANY
TEL: (040) 52 60090

GREECE/CYPRUS

STOLLAS S.A.
Music Sound Light
155, New National Road
Patras 26442, GREECE
TEL: 2610 435400

HUNGARY

Roland East Europe Ltd.
Warehouse Area 'DEPO' Pf.83
H-2046 Torokbalint,
HUNGARY
TEL: (23) 511011

IRELAND

Roland Ireland
G2 Calmount Park, Calmount
Avenue, Dublin 12
Republic of IRELAND
TEL: (01) 4294444

ITALY

Roland Italy S. p. A.
Viale delle Industrie 8,
20020 Arese, Milano, ITALY
TEL: (02) 937-78300

NORWAY

Roland Scandinavia Avd.
Kontor Norge
Lilleakerveien 2 Postboks 95
Lilleaker N-0216 Oslo
NORWAY
TEL: 2273 0074

POLAND

ROLAND POLSKA SP. Z O.O.
U.L. Gibraltarska 4,
PL-03664 Warszawa POLAND
TEL: (022) 679 44 19

PORTUGAL

Roland Iberia, S.L.
Portugal Office
Cais das Pedras, 8/9-1 Dto
4050-465, Porto, PORTUGAL
TEL: 22 608 00 60

ROMANIA

FBS LINES
Piata Libertatii 1,
535500 Gheorgheni,
ROMANIA
TEL: (266) 364 609

RUSSIA

MuTek
Dorozhnaya ul.3,korp.6
117 545 Moscow, RUSSIA
TEL: (095) 981-4967

SLOVAKIA

DAN Acoustic s.r.o.
Povazská 18,
SK - 940 01 Nové Zámky
TEL: (035) 6424 330

SPAIN

Roland Iberia, S.L.
Paseo Garcia Faria, 33-35
08005 Barcelona SPAIN
TEL: 93 493 91 00

SWEDEN

Roland Scandinavia A/S
SWEDISH SALES OFFICE
Danvik Center 28, 2 tr.
S-131 30 Nacka SWEDEN
TEL: (08) 702 00 20

SWITZERLAND

Roland (Switzerland) AG
Landstrasse 5, Postfach,
CH-4452 Itingen,
SWITZERLAND
TEL: (061) 927-8383

UKRAINE

EURHYTHMICS Ltd.
P.O.Box: 37-a
Nedexy Str. 30
U/A - 89600 Mukachevo,
UKRAINE
TEL: (03131) 414-40

UNITED KINGDOM

Roland (U.K.) Ltd.
Atlantic Close, Swansea
Enterprise Park, SWANSEA
SA7 9PJ,
UNITED KINGDOM
TEL: (01792) 702701

MIDDLE EAST

BAHRAIN

Moon Stores
No.16, Bab Al Bahrain Avenue,
P.O.Box 247, Manama 304,
State of BAHRAIN
TEL: 17 211 005

IRAN

MOCO INC.
No.41 Nike St., Dr.Shariyati Ave.,
Roberoye Cerahe Mirdamad
Teheran, IRAN
TEL: (021) 285-4169

ISRAEL

Halilit P. Greenspoon & Sons Ltd.
8 Retzif Ha'aliya Hashnya St.
Tel-Aviv-Yafo ISRAEL
TEL: (03) 6823666

JORDAN

MUSIC HOUSE CO. LTD.
FREDDY FOR MUSIC
P. O. Box 922846
Amman 11192 JORDAN
TEL: (06) 5692696

KUWAIT

EASA HUSAIN AL-YOUSIFI
& SONS CO.
Abdullah Salem Street,
Safat, KUWAIT
TEL: 243-6399

LEBANON

Chahine S.A.L.
Gerge Zeidan St., Chahine
Bldg., Achrafieh, P.O.Box: 16-
5857
Beirut, LEBANON
TEL: (01) 20-1441

OMAN

TALENTZ CENTRE L.L.C.
Malatan House No.1
Al Noor Street, Ruwi
SULTANATE OF OMAN
TEL: 2478 3443

QATAR

Badie Studio & Stores
P.O. Box 62,
Doha, QATAR
TEL: 423554

SAUDI ARABIA

aDawiah Universal
Electronics APL
Corniche Road, Aldossary
Bldg., 1st Floor, Alkhobar,
SAUDI ARABIA
P.O.Box 2154, Alkhobar 31952
SAUDI ARABIA
TEL: (03) 898 2081

SYRIA

Technical Light & Sound
Center
Rawda, Abdul Qader Jazairi St.
Bldg. No. 21, P.O.BOX 13520,
Damascus, SYRIA
TEL: (011) 223-5384

TURKEY

ZUHAL DIS TICARET A.S.
Galip Dede Cad. No.37
Beyoglu - Istanbul / TURKEY
TEL: (0212) 249 85 10

U.A.E.

Zak Electronics & Musical
Instrumentns Co. L.L.C.
Zabeel Road, Al Sheroq Bldg.,
No. 14, Grand Floor, Dubai,
U.A.E.
TEL: (04) 3360715

