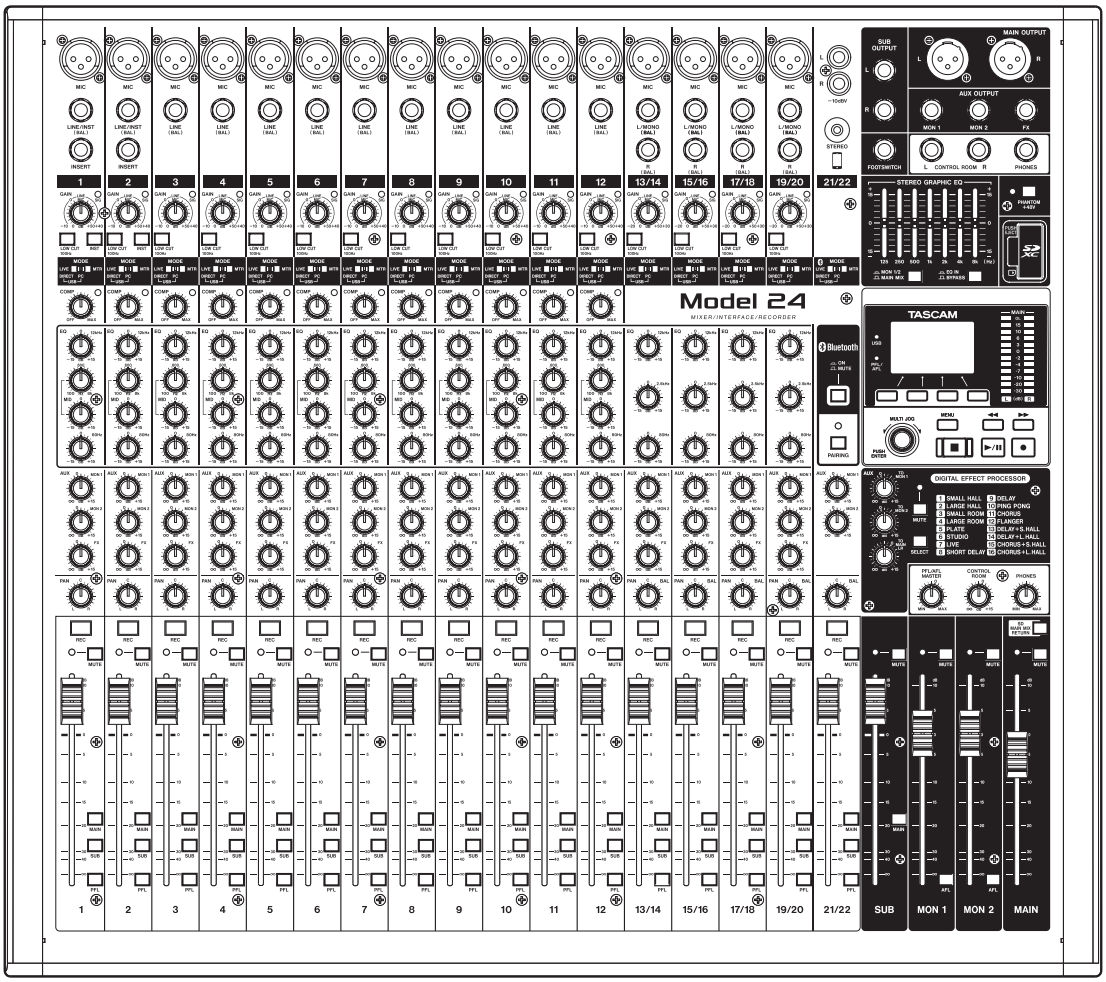
TASCAM

042862000

Model 24

Multitrack Live Recording Console

OWNER'S MANUAL



IMPORTANT SAFETY PRECAUTIONS

	CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
	The lightning flash with arrowhead symbol, within equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

For U.S.A.

Declaration of Conformity

Model Number: Model 24

Trade Name: TASCAM

Responsible party: TEAC AMERICA, INC.

Address: 10410 Pioneer Blvd., Unit #1 and #4, Santa Fe Springs, CA 90640, U.S.A.

Telephone number: 1-323-726-0303

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.

INFORMATION TO THE USER

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 instruction manual, 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.

a) Reorient or relocate the receiving antenna.

b) Increase the separation between the equipment and receiver.

c) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

d) Consult the dealer or an experienced radio/TV technician for help.

CAUTION

Changes or modifications to this equipment not expressly approved by TEAC CORPORATION for compliance could void the user's authority to operate this equipment.

IN USA/CANADA, USE ONLY ON 120 V SUPPLY.

For Canada

THIS CLASS B DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.

CET APPAREIL NUMERIQUE DE LA CLASSE B EST CONFORME A LA NORME NMB-003 DU CANADA.

CE This product complies with the European Directives request and the other Commission Regulations.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.



13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing isrequired when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

- The apparatus draws nominal non-operating power from the AC outlet with its POWER or STANDBY/ON switch not in the ON position.
- The mains plug is used as the disconnect device, the disconnect device shall remain readily operable.
- Caution should be taken when using earphones or headphones with the product because excessive sound pressure (volume) from earphones or headphones can cause hearing loss.
- If you are experiencing problems with this product, contact TEAC for a service referral. Do not use the product until it has been repaired.

CAUTION

- Do not expose this apparatus to drips or splashes.
- Do not place any objects filled with liquids, such as vases, on the apparatus.
- Do not install this apparatus in a confined space such as a book case or similar unit.
- The apparatus should be located close enough to the AC outlet so that you can easily grasp the power cord plug at any time.
- If the product uses batteries (including a battery pack or installed batteries), they should not be exposed to sunshine, fire or excessive heat.
- CAUTION for products that use replaceable lithium batteries: there is danger of explosion if a battery is replaced with an incorrect type of battery. Replace only with the same or equivalent type.

WARNING

- Products with Class I construction are equipped with a power supply cord that has a grounding plug. The cord of such a product must be plugged into an AC outlet that has a protective grounding connection.

Safety Information

CAUTIONS ABOUT BATTERIES

This product uses batteries. Misuse of batteries could cause a leak, rupture or other trouble. Always abide by the following precautions when using batteries.

- Never recharge non-rechargeable batteries. The batteries could rupture or leak, causing fire or injury.
- When installing batteries, pay attention to the polarity indications (plus/minus (+/–) orientation), and install them correctly in the battery compartment as indicated. Putting them in backward could make the batteries rupture or leak, causing fire, injury or stains around them.
- When you store or dispose batteries, isolate their terminals with insulation tape or something like that to prevent them from contacting other batteries or metallic objects.
- When throwing used batteries away, follow the disposal instructions indicated on the batteries and the local disposal laws.
- Do not use batteries other than those specified. Do not mix and use new and old batteries or different types of batteries together. The batteries could rupture or leak, causing fire, injury or stains around them.
- Do not carry or store batteries together with small metal objects. The batteries could short, causing leak, rupture or other trouble.
- Do not heat or disassemble batteries. Do not put them in fire or water. Batteries could rupture or leak, causing fire, injury or stains around them.
- If the battery fluid leaks, wipe away any fluid on the battery case before inserting new batteries. If the battery fluid gets in an eye, it could cause loss of eyesight. If fluid does enter an eye, wash it out thoroughly with clean water without rubbing the eye and then consult a doctor immediately. If the fluid gets on a person's body or clothing, it could cause skin injuries or burns. If this should happen, wash it off with clean water and then consult a doctor immediately.
- The unit power should be off when you install and replace batteries.
- Remove the batteries if you do not plan to use the unit for a long time. Batteries could rupture or leak, causing fire, injury or stains around them. If the battery fluid leaks, wipe away any fluid on the battery compartment before inserting new batteries.
- Do not disassemble a battery. The acid inside the battery could harm skin or clothing.

⚠ WARNING

DO NOT INGEST BATTERY, CHEMICAL BURN HAZARD

followed by:

[The remote control supplied with] This product contains a coin/ button cell battery. If the coin/ button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.

Keep new and used batteries away from children. If the battery compartment does not close securely, stop using the product and keep it away from children.

If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.

For European Customers

Disposal of electrical and electronic equipment and batteries and/or accumulators

(a) All electrical/electronic equipment and waste batteries/ accumulators should be disposed of separately from the municipal waste stream via collection facilities designated by the government or local authorities.

(b) By disposing of electrical/electronic equipment and waste batteries/accumulators correctly, you will help save valuable resources and prevent any potential negative effects on human health and the environment.

(c) Improper disposal of waste electrical/electronic equipment and batteries/accumulators can have serious effects on the environment and human health because of the presence of hazardous substances in the equipment.



(d) The Waste Electrical and Electronic Equipment (WEEE) symbols, which show wheeled bins that have been crossed out, indicate that electrical/electronic equipment and batteries/accumulators must be collected and disposed of separately from household waste.

If a battery or accumulator contains more than the specified values of lead (Pb), mercury (Hg), and/or cadmium (Cd) as defined in the Battery Directive (2006/66/EC), then the chemical symbols for those elements will be indicated beneath the WEEE symbol.



Pb, Hg, Cd

(e) Return and collection systems are available to end users. For more detailed information about the disposal of old electrical/electronic equipment and waste batteries/ accumulators, please contact your city office, waste disposal service or the shop where you purchased the equipment.

For China


“仅适用于海拔2000m以下地区安全使用”


“仅适用于非熱帶气候条件下安全使用”


“環境保護使用年限”

产品有毒有害物质或元素的名称及含量

机种: Model 24		有毒有害物质或元素					
	品名	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr6+)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
1	CHASSIS部份	○	○	○	○	○	○
2	FRONT PANEL部份	○	○	○	○	○	○
3	螺丝部份	○	○	○	○	○	○
4	线材部份	○	○	○	○	○	○
5	PCB Assy部份	×	○	○	○	○	○
6	电源部份	○	○	○	○	○	○
7	附属品部份	×	○	○	○	○	○
8	LABEL部份	○	○	○	○	○	○
9	包装部份	○	○	○	○	○	○

○: 表示该有毒有害物质在该部件所有均质材料中的含有量均在 GB/T26572 标准规定的限量要求以下。

×: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 GB/T26572标准规定的限量要求。
(针对现在代替技术困难的电子部品及合金中的铅)

Wireless equipment precautions

Compliance of radio transmitter and interference

Model for USA

Declaration of Conformity

Responsible party: TEAC AMERICA, INC.

Address: 10410 Pioneer Blvd., Unit #1 and #4, Santa Fe Springs, CA 90640, U.S.A.

Telephone number: 1-323-726-0303

This device complies with Part.15 of 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.

Labeling of authorization

FCC ID: XEG-MODEL24

Model for Canada

Compliance of radio transmitter

This device complies with Industry Canada RSS-210 standard(s).

Operation is subject to the following two conditions:

1) This device may not cause interference
2) This device must accept any interference, including interference that may cause undesired operation of the device.

Labeling of authorization

IC: 1559C-MODEL24

Modèle pour le Canada

Conformité de l'émetteur radio

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes :

1) Le dispositif ne doit pas produire de brouillage préjudiciable,et
2) Ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Étiquetage d'autorisation

IC: 1559C-MODEL24

Compliance of interference

This Class B digital apparatus complies with Canadian ICES-003.

This equipment complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that it deemed to comply without maximum permissive exposure evaluation (MPE). But it is desirable that it should be installed and operated keeping the radiator at least 20 cm or more away from person's body (excluding extremities: hands, wrists, feet and ankles).

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles les radioélectriques (RF) de la FCC lignes directrices d'exposition et d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'IC. Cet équipement émet une énergie RF très faible qui est considérée conforme sans évaluation de l'exposition maximale autorisée. Cependant, cet équipement doit être installé et utilisé en gardant une distance de 20 cm ou plus entre le dispositif rayonnant et le corps (à l'exception des extrémités : mains, poignets, pieds et chevilles).

Conformité de brouillage

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Marquage d'autorisation

CAN ICES-3(B)/NMB-3(B)

Model for EEA (European Economic Area)

This product has the function of broadband transmitter using 2.4GHz Band.

Use frequency range: 2400 MHz – 2480 MHz

Maximum output power: Bluetooth® Class 2 (less than 2.5 mW)

CE Hereby, TEAC Corporation declares that the radio equipment type is in compliance with Directive 2014/53/EU., and the other Directives, and Commission Regulations.

The full text of the EU declaration of conformity is available at the following internet address: Please contact us by e-mail.

http://tascam.eu/en/kontakt.html

EU Importer: TEAC Europe GmbH

Bahnstrasse 12, 65205 Wiesbaden-Erbenheim, Germany

CAUTION

Authorization of wireless devices are different in countries or regions. Please use only in the country where you purchased the product.

- Depending on the country, restrictions on the use of Bluetooth wireless technology might exist.

Confirm the laws and regulations of the country or region where you want to use the unit before use.

Radiation Exposure requirements

This equipment meets the regulation, which is recognized internationally, for the case of human exposure to radio waves generated by the transmitter.

Statement of compliance

Model for USA

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency Exposure Guidelines.

Model for Canada

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment.

Model for EEA (European Economic Area)

This equipment complies with EN.62311; Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields; the harmonised standard of DIRECTIVE 2014/53/EU.

CAUTION
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Information for interference (FCC requirements)

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 equipment and/or 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.

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1 – Introduction

Thank you very much for purchasing the
TASCAM Model 24 Multitrack Live Recording Console.
Before using this unit, read this Owner's Manual carefully so that you will be able to use it correctly and enjoy working with it for many years. After you have finished reading this manual, please keep it in a safe place for future reference.
You can also download this Owner's Manual from the TEAC Global Site (**http://teac-global.com/**).

Features

- 22 input analog mixer with 22 line and 16 mic inputs
- Multitrack recording and playback with 24-track recording (22 input channels and MAIN MIX L/R bus)
- USB audio interface functions built-in
  - 24 tracks (22 input channels and MAIN MIX L/R bus) can be input to the computer
  - 22 track outputs and computer outputs can be assigned to channel inputs
  - Supports USB 2.0 audio with resolutions up to 24-bit and 48kHz sampling frequency
- Analog compressors included on channel 1-12 inputs
- 100mm faders enable precise adjustments
- **LINE/INST (BAL)** input jacks that support high impedance (Hi-Z) on channels 1-2
- Channel inserts (INSERT) on channels 1-2
- Multiple buses include stereo main (MAIN MIX L/R bus), sub (SUB L/R bus) and monitor (MONITOR OUT 1/2)
- 3 AUX sends (MON 1/MON 2/FX)
- Input channels have 3-band semi-parametric EQs with adjustable mid frequencies
- Outputs have a 7-band stereo graphic EQs useful for adjusting the mix
- 16 TASCAM preset effects can be used for a variety of applications
- Multitrack recording and playback possible using SD cards
- Bluetooth® audio playback and recording supported
- Punching in and out function per track (including punching in and out automatically and with footswitches)
- SD/SDHC cards and SDXC cards (Class 10 or more)

Items included with this product

This product includes the following items.
Take care when opening the package to avoid damaging the items. Keep the packing materials for transportation in the future. Please contact the store where you purchased this unit if any of these items are missing or have been damaged during transportation.

- Main unit.....× 1
- Power cord.....× 1
- Owner's Manual (this document) including warranty.....× 1

Conventions used in this manual

In this manual, we use the following conventions:

- When we refer to buttons, connectors and other parts of this unit and other equipment, we use a bold font like this: **MENU** button.
- When we show characters that appear on the display, the typeface looks like this: MENU .
- The four buttons under the display are called the function buttons. From left to right, they are shown as buttons **F1**, **F2**, **F3** and **F4**. Moreover, the functions at the bottoms of the screens will be shown after the button names.
  Examples: **F1** METR button, **F4** FX button
- SD/SDHC/SDXC memory cards are referred to as "SD cards".
- Computers, portable audio devices and other equipment connected to this unit using Bluetooth are called "Bluetooth devices".
- Groups of recorded data are referred to as "songs".
- The song that is currently selected is called the "current song".
- Information shown on a computer display is written like this: ***OK*** .
- As necessary, additional information is provided under TIP, NOTE and CAUTION headings.

TIP

These are tips about how to use the unit.

NOTE

These provide additional explanations and describe special cases.

ATTENTION

Failure to follow these instructions could result in damage to equipment or lost data, for example.

⚠ CAUTION

Failure to follow these instructions could result in injury.

Trademarks

- TASCAM is a registered trademark of TEAC Corporation.
- SDXC Logo is a trademark of SD-3C, LLC.



- The Bluetooth® word mark and logo are the property of Bluetooth SIG, Inc. and are used by TEAC Corporation with permission.
- Supply of this product does not convey a license nor imply any right to distribute MPEG Layer-3 compliant content created with this product in revenue-generating broadcast systems (terrestrial, satellite, cable and/or other distribution channels), streaming applications (via Internet, intranets and/or other networks), other content distribution systems (pay-audio or audio-on-demand applications and the like) or on physical media (compact discs, digital versatile discs, semiconductor chips, hard drives, memory cards and the like). An independent license for such use is required. For details, please visit http://mp3licensing.com.
- Microsoft, Windows and Windows Vista are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Apple, Mac, Mac OS, macOS, iPad, iPod, iPod touch, Lightning, App Store and iTunes are trademarks of Apple Inc.
- ASIO is a trademark of Steinberg Media Technologies GmbH.



- Other company names, product names and logos in this document are the trademarks or registered trademarks of their respective owners.

Precautions for placement and use

- The operating temperature range of this unit is 5–35 °C.
- Do not install this unit in the following types of locations. Doing so could make the sound quality worse or cause malfunction.
  - Places with significant vibrations
  - Next to a window or in another location exposed to direct sunlight
  - Near heaters or other extremely hot places
  - Extremely cold places
  - Very humid or poorly ventilated places
  - Very dusty places
- To enable good heat dissipation, do not place anything on top of the unit.
- Do not place the unit on top of a power amplifier or other device that generates heat.

Notes about power supplies

- Insert the included power cord all the way into the AC IN connector.
- Do not connect a power supply other than one that is AC100V - 240V (50/60Hz).
- Hold the power cord by its plug when connecting or disconnecting it.

Beware of condensation

Condensation could occur if the unit is moved from a cold place to a warm place, it is used immediately after a cold room has been heated or it is otherwise exposed to a sudden temperature change.

To prevent this, or if this occurs, let the unit sit for one or two hours at the new room temperature before using it.

Cleaning the unit

Use a dry soft cloth to wipe the unit clean. Do not wipe with chemical cleaning cloths, thinner, alcohol or other chemical agents. Doing so could damage the surface or cause discoloration.

About SD cards

This unit uses SD cards for recording and playback.

This unit can use SD cards that are Class 10 or higher and compatible with SD, SDHC or SDXC standards.

A list of SD cards that have been confirmed for use with this unit can be found on our web site. Please access to a product page of this product from the TEAC Global Site (**http://teac-global.com**) to find the list or contact the TASCAM customer support service.

Precautions for use

SD cards are delicate media.

In order to avoid damaging SD cards, please take the following precautions when handling them.

- Do not leave them in extremely hot or cold places.
- Do not leave them in extremely humid places.
- Do not let them get wet.
- Do not put things on top of them or twist them.
- Do not hit them.
- Do not remove or insert them during recording, playback, data transmission or other access.
- When transporting them, put them into cases, for example.

SD card write protection

This unit writes track information to the media in order to improve operation performance. Since, for example, setting information cannot be written to SD cards that are write-protected, settings will not be retained when the unit is restarted and performance will be otherwise affected.

Note about formatting

SD cards formatted by this unit are optimized to improve performance during recording. Use this unit to format the SD cards to be used with it. Errors might occur when recording with this unit using an SD card formatted by a computer or other device.

Bluetooth®

This unit has a built-in Bluetooth audio receiver, and can input sound played on a computer or portable audio device that supports Bluetooth (Bluetooth device).

ATTENTION

The Bluetooth function of this unit is not guaranteed to enable connection or operation with all Bluetooth devices.

Profiles

This unit supports the following Bluetooth profiles.

- A2DP (Advanced Audio Distribution Profile)

In order to transfer audio by Bluetooth, the Bluetooth device must support A2DP.

Even if a Bluetooth device supports the same profiles, though, its functions might differ according to its specifications.

Codecs

This unit supports the following codecs. It will automatically select one of them during audio transfer.

- SBC
- AAC

The unit will select the appropriate codec to use according to the codec compatibility of the other Bluetooth device and communication conditions.

NOTE

- You cannot select the codec to be used by pressing a button, for example.
- Due to characteristics of Bluetooth wireless technology, playback from this unit will be slightly delayed compared to playback from the Bluetooth device.

Content protection

This unit supports SCMS-T as a form of content protection when transmitting audio, so it can play protected audio.

Transmission security

This unit supports security functions during Bluetooth transmission in accordance with the Bluetooth standard specifications, but it does not guarantee the privacy of such transmissions.

TEAC CORPORATION will bear no responsibility should an information leak occur during transmission by Bluetooth.

Using the TEAC Global Site

You can download updates for this unit from the TEAC Global Site:

http://teac-global.com/

In the TASCAM Downloads section, select the desired language to open the Downloads website page for that language.

Product registration

Customers in the USA, please visit the following TASCAM website to register your TASCAM product online.

https://tascam.com/us/

About TASCAM customer support service

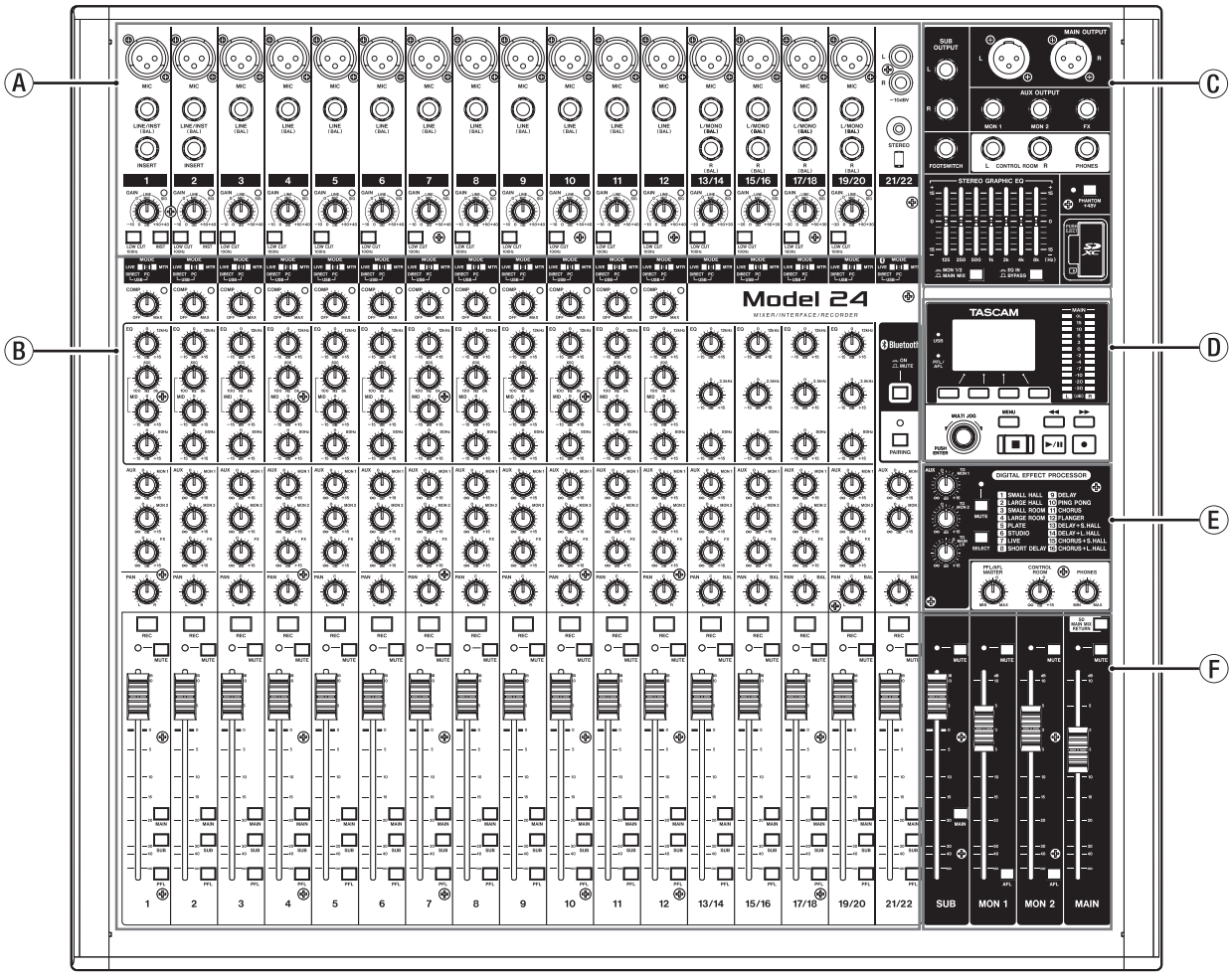
TASCAM products are supported and warrantied only in their country/region of purchase.

To receive support after purchase, on the TASCAM Distributors list page of the TEAC Global Site (**http:// teac-global.com/**), search for the local company or representative for the region where you purchased the product and contact that organization.

When making inquiries, the address (URL) of the shop or web shop where it was purchased and the purchase date are required.

Moreover, the warranty card and proof of purchase might also be necessary.

Top panel



Ⓐ Analog input jack section

Use this section to connect the input jacks for each channel and to adjust the input levels.

Ⓑ Input channel mixing section

Use this section to choose input sources for each channel, adjust compressors and equalizers, and set levels sent to each bus (MAIN MIX L/R, PFL/AFL L/R, MONITOR OUT 1/2, FX, SUB L/R).

Ⓒ Analog output jack section

Use this section to connect the output jacks and adjust the output equalizer.

Ⓓ Screen operation section

Use this section to operate the meter, home and MENU screens shown on the display.

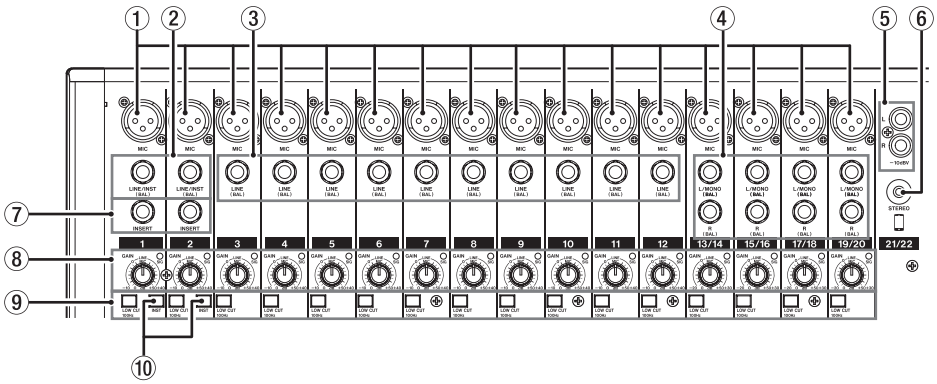
Ⓔ Built-in effects operation section

Operate the built-in effects and adjust the output levels for each output in this section.

Ⓕ Analog output adjustment section

Adjust the output levels from the **MAIN OUTPUT**, **SUB OUTPUT**, **OUTPUT MON 1** and **OUTPUT MON 2** jacks in this section.

Analog input jack section



① MIC input jacks (1-12, 13/14-19/20)
These are balanced XLR jacks for mic input.

- XLR (1: GND, 2: HOT, 3: COLD)

② LINE/INST (BAL) mono input jacks (1-2)
These standard TRS jacks are mono line inputs.
When directly connecting a guitar, bass or other instrument, set the **INST** switch to on (pushed in).

- TRS (Tip: HOT, Ring: COLD, Sleeve: GND)

③ LINE (BAL) input jacks (3-12)
These standard TRS jacks are line inputs.

- TRS (Tip: HOT, Ring: COLD, Sleeve: GND)

④ L/MONO (BAL)/R (BAL) stereo input jacks (13/14-19/20)
These standard TRS jacks are stereo line inputs.
If only the **L/MONO (BAL)** jack in a pair is connected, the same signal was be sent to both left and right channels.

- TRS (Tip: HOT, Ring: COLD, Sleeve: GND)

⑤ –10dBV (external input) jacks (21/22, RCA pin)
These RCA pin jacks are analog line outputs.

⑥ STEREO input jack (21/22, stereo mini)
This stereo mini jack is a line input jack.
Use this to connect with the line output jack of a tablet or other external device.

⑦ INSERT jacks (1-2, standard)
Use these standard TRS jacks to connect external devices (effects).

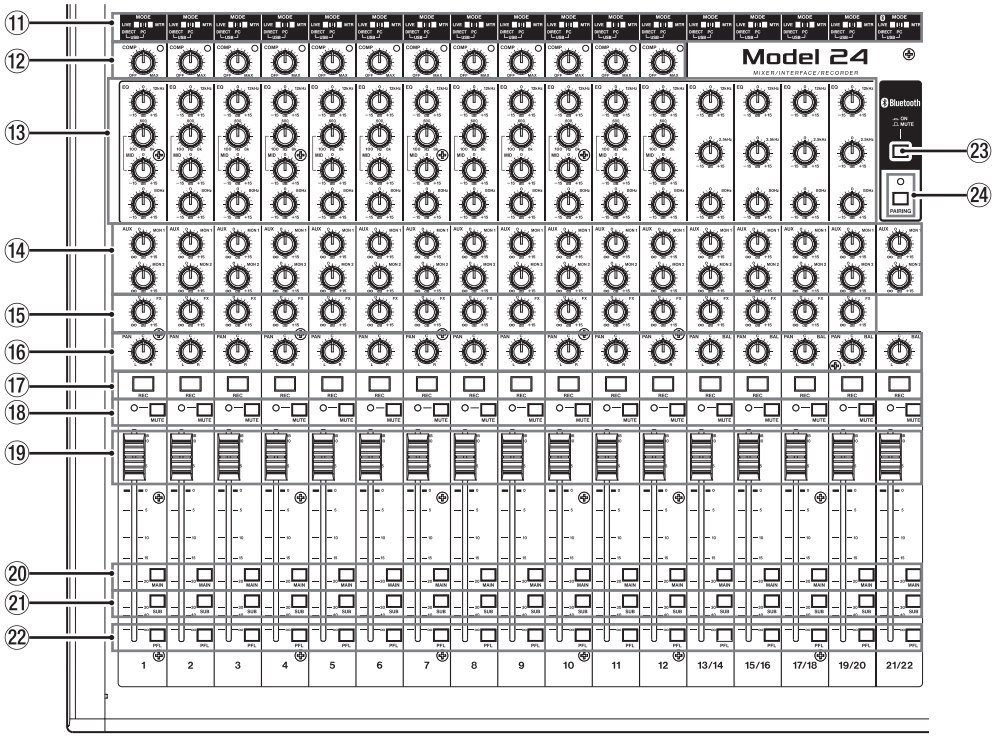
- TRS (Tip: SEND, Ring: RETURN, Sleeve: GND)

⑧ GAIN knobs and SIG indicators (1-12, 13/14-19/20)
Use the GAIN knobs to adjust the input levels of each channel.
its **SIG** indicator will light green when a signal is input (– 56dB or higher).
If a **SIG** indicator stays lit red continuously, lower the **GAIN** knob.

⑨ LOW CUT switches (1-12, 13/14-19/20)
Turn this switch on (pushed in) to enable low cut filters that cut noise and other sounds at low frequencies.

⑩ INST switches (1-2)
Set according to the **LINE/INST (BAL)** input jack input sources.
Turn the **INST** switch on (pushed in) when connecting an guitar, bass or other equipment with high output impedance.
Turn the **INST** switch off (not pushed in) when connecting electronic instruments, audio devices, mics and other equipment.

Input channel mixing section



⑪ MODE switches (1-12, 13/14-19/20, 21/22)

Use these to select the input source for each channel. (See "Setting the MODE switch" on page 29.)

⑫ COMP knobs and indicators (1-12)

Use these knobs to adjust the compression of the signals input to each channel.

When compression is activated, the **COMP** indicators light.

⑬ EQ knobs (1-12, 13/14-19/20)

- Use these to boost and attenuate the HIGH, MID and LOW bands of each channel.

  Setting range: ±15 dB
- The cutoff frequencies of the MID bands can be set for channels 1-12.

  Setting range: 100Hz – 8kHz (default: 700Hz)

⑭ MON 1/MON 2 knobs (1-12, 13/14-19/20, 21/22)

Use these to adjust the levels of signals sent to the MONITOR OUT 1/2 buses.

⑮ FX knobs (1-12, 13/14-19/20)

Use to adjust the levels of the signals sent to the FX bus.

⑯ PAN knobs (1-12, 13/14-19/20, 21/22)

Use to adjust the stereo positions of the signals input to each channel.

NOTE

- When **PAN** knobs are centered (**C**), signals are reduced by 3 dB and sent to both left and right MAIN MIX L/R buses.
- When a **PAN** knob is turned all the way to the left (**L**), that channel signal is sent only to the left MAIN MIX L/R bus. It is not sent to the right bus.
- When a **PAN** knob is turned all the way to the right (**R**), that channel signal is sent only to the right MAIN MIX L/R bus. It is not sent to the left bus.

⑰ REC buttons and indicators (1-12, 13/14-19/20, 21/22)

Use these to select the channels to record to the SD card.

⑱ MUTE switches and indicators (1-12, 13/14-19/20, 21/22)

When these switches are on (pushed in, **MUTE** indicator lit), those channels are muted.

⑲ Channel faders (1-12, 13/14-19/20, 21/22)

Use these to adjust the send levels of channel signals.

⑳ MAIN switches (1-12, 13/14-19/20, 21/22)

Turn these switches on (pushed in) to send channel signals to the MAIN MIX L/R bus.

㉑ SUB switches (1-12, 13/14-19/20, 21/22)

Turn these switches on (pushed in) to send channel signals to the SUB L/R bus.

㉒ PFL switches (1-12, 13/14-19/20, 21/22)

Turn these switches on (pushed in) to send channel signals to the PFL/AFL L/R bus.

㉓ ON/MUTE switches

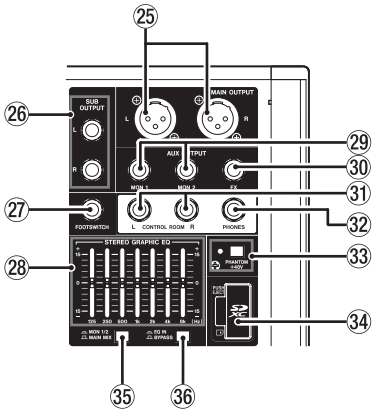
Turn this switch "**ON**" to input audio from a paired Bluetooth device.

㉔ PAIRING button and indicator

Press and hold this button to activate Bluetooth pairing mode.

Press when pairing to end pairing mode. (See "Connecting with Bluetooth devices" on page 23.)

Analog output jack section



㉕ MAIN OUTPUT L/R jacks

These analog outputs are XLR jacks.

- XLR (1: GND, 2: HOT, 3: COLD)

㉖ SUB OUTPUT L/R jacks

These standard TRS jacks are analog outputs.

- TRS (Tip: HOT, Ring: COLD, Sleeve: GND)

㉗ FOOTSWITCH jack

This standard TS jack is for connecting a footswitch.

- TS (Tip: HOT, Sleeve: GND)

NOTE

This unit was designed to be used with unlatched (momentary) footswitches that have to be pushed to function (shorted when pushed).

㉘ STEREO GRAPHIC EQ faders

This 7-band graphic equalizer affects signals output from the **MAIN OUTPUT** and **AUX OUTPUT MON 1/2** jacks.

㉙ AUX OUTPUT MON 1/2 jacks

These standard TRS jacks are analog outputs.

- TRS (Tip: HOT, Ring: COLD, Sleeve: GND)

㉚ FX OUTPUT jack

This standard TRS jack is an analog output.

When an external effect is connected, signals will not be sent to the built-in effect.

When using an external effect, turn the built-in effect off.

- TRS (Tip: HOT, Ring: COLD, Sleeve: GND)

㉛ CONTROL ROOM L/R jacks

These standard TRS jacks are analog outputs.

Use these to monitor signals from the MAIN MIX L/R bus or PFL/AFL L/R bus.

- TRS (Tip: HOT, Ring: COLD, Sleeve: GND)

㉜ PHONES jack

Use this standard stereo jack to connect stereo headphones. Use an adapter to connect headphones with a mini plug.

Use this to monitor signals from the MAIN MIX L/R bus or PFL/AFL L/R bus.

㉝ PHANTOM +48V switch and indicator

Use this switch to supply +48V phantom power to the **1-2**, **3-12** and **13/14-19/20 MIC** input jacks on the top of the unit.

The indicator lights when the **PHANTOM +48V** switch is set to on (pushed in). (See "Setting phantom power" on page 29.)

㉞ SD card slot

Insert SD cards in these slots. (See "Inserting and removing SD cards" on page 24.)

㉟ MON 1/2/MAIN MIX switch

Set which output signals are affected by the equalizer.

MANI MIX: Equalizer is applied to signals sent from the MAIN MIX L/R bus.

MON 1/2: Equalizer is applied to signals sent from the MONITOR OUT 1/2 buses.

NOTE

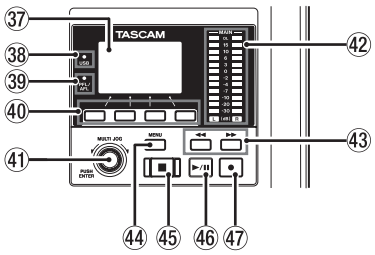
Set the **EQ IN**/**BYPASS** switch to **EQ IN** also.

㊱ EQ IN/BYPASS switch

When this switch is **EQ IN**, the equalizer will affect the output signals set with the **MON 1/2/MAIN MIX** switch.

When **BYPASS**, the equalizer will not be applied regardless of the **MON 1/2**/**MAIN MIX** switch setting.

Screen operation section



㊲ Display

Shows a variety of information.

㊳ USB indicator

This lights when the USB connection is working.

㊴ PFL/AFL indicator

This indicator lights when either at least one channel **PFL** switch is on (pushed in) or when the **MON 1**/**MON 2** fader **AFL** switch is on (pushed in).

㊵ Function buttons

The functions of these buttons change depending on the screen shown on the display. The functions shown at the bottom of the display are the currently assigned functions.

NOTE

For convenience, the four buttons under the display are called the function buttons in this manual. From left to right, they are called the **F1**, **F2**, **F3** and **F4** buttons.

㊶ MULTI JOG dial

This dial functions as a dial when turned and as a button when pressed.

Dial functions

- Turn when the Home Screen is open to move the file playback position. (See "Locate function" on page 33.)
- When a MENU Screen is open, turn to select items and change setting values. (See "Basic MENU screen operations" on page 21.)

Button function

- Press when the Home Screen is open to designate a locate point. (See "Locate function" on page 33.)
- When a Menu Screen is open, press to confirm selections and settings (ENTER button function).

㊷ Output level indicators

These are output level indicators for the MAIN OUTPUT jacks.

㊸ ◄◄/►► buttons

- When stopped and during playback, press and hold these buttons to search backward/forward.
- When the Home Screen is open, press the ◄◄ button to locate to the beginning of the current song (00:00:00, which is the zero point).
- When the Home Screen is open, press the ►► button to locate to the end of the current song.
- If the current song has auto punch in or out points set, you can also locate to those points.
- While pressing the ■ button, press the ◄◄ button to locate to the point where recording last started.
- While pressing the ■ button, press the ►► button to locate to the point where recording last stopped.
- When the SD PLAY Screen is in playback state, press to skip a file. (See "Playing WAV files on SD cards (SD PLAY mode)" on page 39.)

㊹ MENU button

- When the Meter Screen is open, press to open the Home Screen.
- When the MENU Screen or a menu item settings screen is open, press to return to the Home Screen.
- When the Home Screen is open, press to open the MENU Screen. (See "Menu structure" on page 20.) and (See "Basic MENU screen operations" on page 21.)

㊺ ■ button/indicator

Press to stop playback or recording.

This button lights when stopped.

Press this button when paused to return to the beginning of the song or file.

㊻ ►/❚❚ button/indicator

Press this button to start playback.

This button lights during playback and recording.

This button blinks when paused.

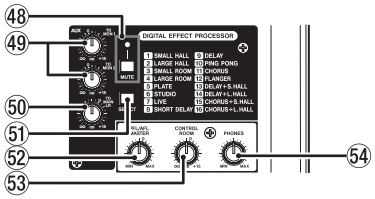
㊼ ● button/indicator

Press this button to start recording.

This button lights during recording.

Press this button during playback to start recording (Manual punch in).

Built-in effects operation section



㊽ MUTE switch/indicator

When the **MUTE** switch is on (pushed in, **MUTE** indicator lit), the signal from the built-in effect is muted.

㊾ TO MON 1/TO MON 2 knobs

Use these to adjust the levels of signals sent from the built-in effects to the MONITOR OUT 1/2 buses.

㊿ TO MAIN LR knob

Use these to adjust the levels of signals sent from the built-in effects to the MAIN MIX L/R buses.

51 SELECT button

Open the EFFECT Screen and make built-in effect settings. (See "Using the built-in effects" on page 31.)

The built-in effect return signal is return to the MAIN MIX L/R bus and MONITOR OUT 1/2 buses.

52 PFL/AFL MASTER knob

Use these to adjust the send level from the PFL/AFL L/R bus.

53 CONTROL ROOM knob

Use to adjust the output levels of the **CONTROL ROOM L/R** jacks.

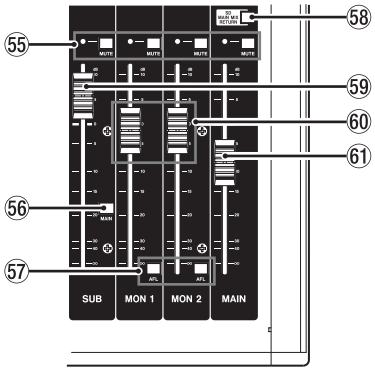
54 PHONES knob

Use this to adjust the headphone output level.

⚠ CAUTION

Before connecting headphones, minimize the volume with the **PHONES** knob. Failure to do so could result in a sudden loud noise that could harm hearing, for example.

Analog output adjustment section



⑤⑤ MUTE switches and indicators (SUB, MON 1, MON 2, MAIN)

When **MUTE** switches are on (pushed in, **MUTE** indicators lit), signals to the corresponding output jacks are muted.

⑤⑥ MAIN switch (SUB)

When this switch is on (pushed in), the **SUB OUTPUT L/R** jack output signal is sent to the MAIN MIX L/R bus.

⑤⑦ AFL switches (MON 1/MON 2)

When these switches are on (pushed in), the **AUX OUTPUT MON 1/2** jack output signals are sent to the PFL/AFL L/R bus.

⑤⑧ SD MAIN MIX RETURN switch

When this switch is on (pushed in), playback of stereo master files recorded on the SD card is output from the **MAIN OUTPUT** and **AUX OUTPUT MON 1**/**2** jacks.

ATTENTION

Be aware that when this switch is on (pushed in), the sound of the MAIN MIX L/R bus is not output.

⑤⑨ SUB fader

Use to adjust the output level of the **SUB OUTPUT** jacks.

⑥⓪ MON 1/MON 2 fader

Use to adjust the output levels of the **AUX OUTPUT MON 1/2** jacks.

⑥① MAIN fader

Use to adjust the output level of the **MAIN OUTPUT** jacks.

Rear panel



⑥② USB port

This is a B-type USB port. Use a USB cable (Type-A to Type-B) to connect the unit to a computer. (See "Connecting with a Computer" on page 40.)

ATTENTION

The unit should be connected directly to the computer, not through a USB hub. Moreover, noise could be picked up if the cable is too long.

⑥③ AC IN connector

Connect the included power cord here.

⑥④ POWER switch

Press to turn the unit on and off.

⚠ CAUTION

Before turning the unit on, lower the volumes of connected equipment to their minimum levels.

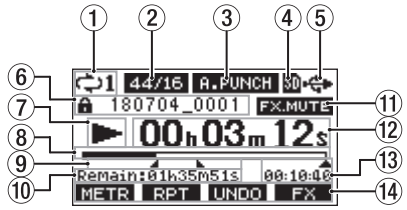
Failure to do so might cause sudden loud noises, which could harm your hearing or result in other trouble.

NOTE

Do not do this when the unit is operating (including recording, playing back or writing data to an SD card). Doing so could cause proper recording to fail and recorded data to be lost.

Home Screen

When the Meter Screen is open, press the **MENU** button to open the Home Screen.



① **Repeat playback status**
An icon appears when the repeat playback function is on. (See "Repeat playback function" on page 33.)

② **Song format**
This shows the current song file format.
44/16 44.1kHz, 16bit
44/24 44.1kHz, 24bit
48/16 48kHz, 16bit
48/24 48kHz, 24bit

NOTE
If no song is loaded, the operation format of the unit will be shown like 44/24 or 48/24.

③ **Automatic punch in/out function on/off status**
The A.PUNCH icon appears when the automatic punch in/out function is on. (See "Automatic punch in/out function" on page 34.)

④ **SD card present status**
When an SD card is loaded, the SD icon appears.
When an SD card is protected, the icon appears.
Since system files cannot be updated when the icon appears, automatic punch in/out settings will not be retained and previously loaded songs will not be loaded when the unit is turned on again.

⑤ **USB connection status**
During USB connection, the icon appears.

⑥ **Song name**
This shows the name of the current song.
If a song is protected, an icon appears before the file name. (See "Protecting/unprotecting songs" on page 28.)

⑦ **Transport status**
This icon shows the recorder operation status.

Indicator	Meaning
■	Stopped at the beginning of the file
❚❚	Paused
●	Recording
►	Playback

⑧ **Playback position**
The current playback position is shown by a bar.

⑨ **Automatic punch in/out point setting status**
When the automatic punch in/out function is on, these show the status of automatic punch in/out point setting.
Punch in point
Punch out point

⑩ **Remaining time**
The remaining time available for recording on the SD card is shown (in hours: minutes: seconds).

NOTE
The remaining recordable time on an SD card depends on the number of recording channels and SD card capacity.

⑪ **Built-in effect on/off status**
When the built-in effect is on, the FX.MUTE icon appears. (See "Using the built-in effects" on page 31.)

⑫ **Recorder time counter**
This shows the elapsed time from the beginning of the song.

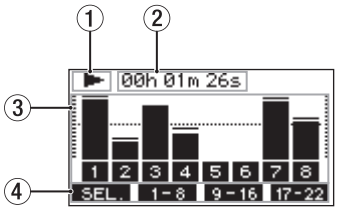
⑬ **Song length**
This shows the length of the current song (in hours: minutes: seconds).

⑭ **Function button functions**
This shows the functions assigned to the function button on the Home Screen.
- **F1** METR button: This opens the Meter Screen.
- **F2** RPT button: This turns the repeat playback function on/off.
- **F3** UNDO button: This returns to the state before the previous operation.
- **F3** REDO button: This restores the state after the previous operation.
- **F4** FX button: This turns the built-in effect on/off.

NOTE
The **F3** button UNDO and REDO indicators appear when those operations are possible.

Meters Screen

This shows the levels of the signals being input to the unit.



① **Transport status**
This icon shows the recorder operation status.

② **Recorder time counter**
This shows the elapsed time from the beginning of the song.

③ **Track level meters**
These show the signal levels of each channel.

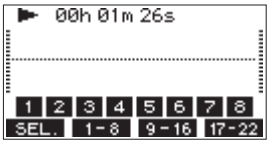
④ **Function button functions**
This shows the functions assigned to the function button on the Meter Screen.
- **F1** SEL. Press to change the input sources shown on the Meter Screen.
- **F2** 1-8 Press to show the level meters for channel 1–8 signals on the Meter Screen.
- **F3** 9-16 Press to show the level meters for channel 9–16 signals on the Meter Screen.
- **F4** 17-22 Press to show the level meters for channel 17–22 and MAIN MIX L/R bus signals on the Meter Screen.

Meter Screen details

When the Meter Screen is open, press the **F4** SEL. button to change the signal sources shown by the meters.

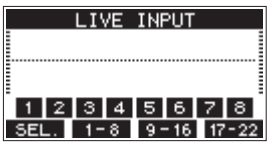
Channel input level screens

The levels of signals input on each channel are shown depending on their **MODE** switch settings.



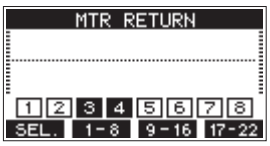
LIVE INPUT Screen

This shows the levels of signals being input to the input jacks.



MTR RETURN Screen

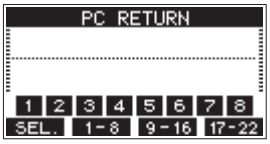
This shows the playback signal levels of songs recorded on SD cards.



1 2 3 4 Channels that have recording data in the song
1 2 3 4 Channels that do not have recording data in the song

PC RETURN Screen

This shows the levels of signals output from a computer when used as a USB audio interface.



NOTE

Outputs from computers such as Windows Media Player and iTunes are sent to channels 1-2.

Menu structure

When the Home Screen is open, press the **MENU** button to open the MENU Screen.

The various menu items are as follows.

Menu item	Function	Page
SONG	Work with songs on an SD card	page 26
TRACK CLEAR	Clear specific tracks or all tracks	page 36
AUTO PUNCH	Set the auto punch in/out function	page 34
A.PUNCH PRE ROLL	Set the pre-roll point	page 35
IMPORT	Import chosen WAV files to song tracks	page 36
SD PLAY	Play WAV files on an SD card	page 39
STORAGE	SD cards can be accessed from a computer	page 40
SYSTEM	Open the SYSTEM Screen	See below

On the MENU Screen, select SYSTEM to open the SYSTEM Screen.

The menu items on the SYSTEM Screen are as follows.

Menu item	Function	Page
INFORMATION	View SD card information, song information and the firmware version	page 37
DATE/TIME	Date and time settings	page 25
SONG NAME	Set the song name format	page 37
DISPLAY	Adjust the display	page 25
FOOTSW	Make footswitch settings	page 34
INITIALIZE	Restore factory default settings	page 38
MEDIA FORMAT	Format the SD card	page 38

NOTE

The settings for all menu items are retained even when the unit is turned off.

Basic MENU screen operations

After using the **MENU** button to open the MENU Screen, it can be operated in the following manner.

This is an overview of basic operations. Function button assignments differ according to the screen shown on the display.

Selecting items (moving vertically on a page):

Turn the **MULTI JOG** dial.

Opening a submenu from a page:

Press the **MULTI JOG** dial.

Confirming a selected item:

Press the **MULTI JOG** dial (ENTER button function).

Going back one step in a menu:

Press the **F1** EXIT button.

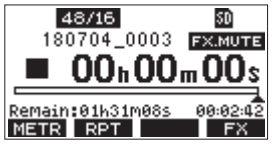
Returning to the Home Screen from a MENU Screen:

Press the **F1** HOME button.

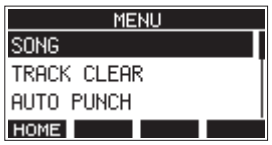
Menu operation procedures

This explanation uses an example of setting the pre-roll point.

1. Press the **MENU** button to open the Home Screen.



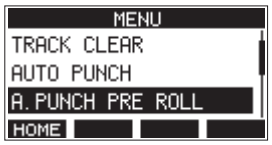
2. Press the **MENU** button to open the MENU Screen.



NOTE

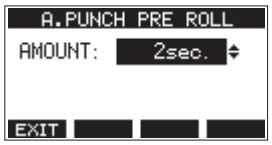
Press the **F1** HOME button to return to the Home Screen.

3. Turn the **MULTI JOG** dial to select the menu item.



A.PUNCH PRE ROLL selected

4. Press the **MULTI JOG** dial to open the settings screen.



A.PUNCH PRE ROLL Screen open

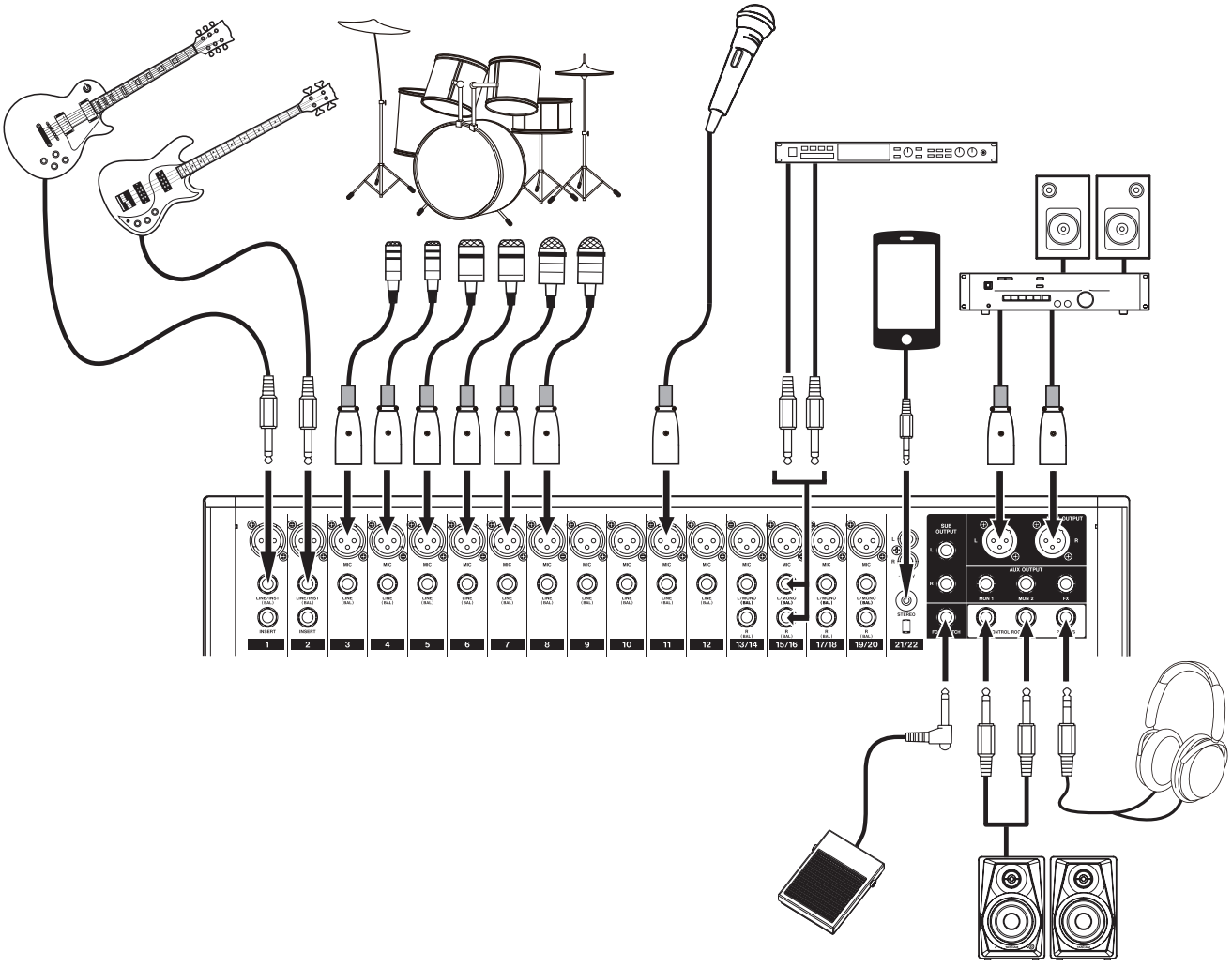
5. Turn the **MULTI JOG** dial to change the setting.
6. To set another item on the same screen, press the **MULTI JOG** dial to move the cursor to the next setting.
7. Repeat steps **5** to **6** as necessary to set other items.
8. Press the **F1** EXIT button to return to the MENU Screen.

Connecting other equipment

This is an example of Model 24 connections.

Precautions before making connections

- Carefully read the operation manuals of the devices to be connected and then connect them correctly.
- Before making connections, turn this unit and all equipment to be connected off (standby).
- Install all connected devices, including this unit, so that they are powered from the same line. When using a power strip or similar device, be sure to use one that has high current capacity (thick cable) in order to minimize fluctuations in power voltage.
- Before connecting audio equipment, set the following knobs and faders to their lowest values. Failure to do so could cause sudden loud noises from monitoring equipment, and this could damage the equipment or harm hearing.
  - **GAIN** knobs (channels 1-12, 13/14-19/20)
  - Channel faders (channels 1-12, 13/14-19/20, 21/22)
  - **SUB** fader
  - **MON 1/MON 2** faders
  - **MAIN** fader
  - **CONTROL ROOM** knob
  - **PHONES** knob



Examples of connections to a Model 24

Connecting microphones

Dynamic mics

Connect to **MIC** input jacks.

Condenser mics

When using a condenser microphone that requires phantom power, connect it to a **MIC** input jack and then turn the **PHANTOM +48V** switch on (pushed in). (See "Setting phantom power" on page 29.)

The **PHANTOM +48V** indicator lights when the **PHANTOM +48V** switch is on (pushed in).

Guitars

When connecting a guitar or bass directly to this unit, use the **LINE/INST (BAL)** jacks on channels 1-2 and turn the **INST** switch on (pushed in) for that jack.

Connecting electronic devices and other audio equipment

Use the following inputs to connect electronic devices and other audio equipment.

- **LINE/INST (BAL)** input jacks*
- **LINE (BAL)** input jacks
- **L/MONO (BAL)/R (BAL)** input jacks
- **–10dBV** input jacks
- **STEREO** input jack

* When an **INST** switch is on (pushed in), input through the **LINE/INST (BAL)** input jack will be unbalanced.

Connecting monitor speakers

Connect monitor speakers (powered speakers or an amplifier and speaker system) to the **CONTROL ROOM L/R** jacks.

Depending on the **PFL** switch and **AFL** switch settings, signals from the MAIN MIX L/R bus and PFL/AFL L/R bus can be monitored

Use the **CONTROL ROOM** knob to adjust the speaker volume.

Connecting headphones

Connect headphones to the **PHONES** jack (standard stereo).

Depending on the **PFL** switch and **AFL** switch settings, signals from the MAIN MIX L/R bus and PFL/AFL L/R bus can be monitored

⚠ CAUTION

Before connecting headphones, minimize the volume with the **PHONES** knob. Failure to do so could result in a sudden loud noise that could harm hearing, for example.

Computer connections

Use a commercially-available Type-A-Type-B USB cable to connect the unit to a computer USB 2.0 port.

When the USB connection is working, the **USB** indicator in the screen operation section lights.

ATTENTION

The unit should be connected directly with the computer instead of via a USB hub. Moreover, noise could be picked up if the cable is too long.

Connecting with Bluetooth devices

This unit can input sound from a computer, portable audio device or other equipment that supports Bluetooth (A2DP).

Pairing

Follow the procedures below to enable communication with a Bluetooth device.

NOTE

Pairing also requires operation of the Bluetooth device.

Refer to the operation manual of the Bluetooth device for procedures.

1. Press the **ON**/**MUTE** switch to set it to **ON**.
2. Confirm that the **PAIRING** indicator on this unit is blinking. If it is unlit, press the **PAIRING** button.



NOTE

When the unit is turned on, it automatically becomes ready for pairing. If 2 minutes pass in pairing mode, it will end. Press this button to reactivate pairing mode when it is disabled.

3. Select "Model 24" (this unit) on the other Bluetooth device.

   When pairing succeeds, the **PAIRING** indicator will stop blinking and remain lit, and connection with the other device will be complete.

NOTE

- Some older Bluetooth devices require the input of a passkey. Enter "0000" in such cases.
- Pairing will automatically end if connection is not confirmed within two minutes.
- When this unit is turned on, it will automatically try to connect with the Bluetooth device to which it was previously connected. At this time, pairing will automatically end after five minutes if connection is not possible because that Bluetooth device is not turned on or its Bluetooth function is turned off.

Unpairing

The Bluetooth device that is currently connected can be unpaired from the unit.

1. Press and hold the **PAIRING** button for at least two seconds.
2. This ends the pairing. The **PAIRING** indicator will start blinking and the unit will be ready to pair.

Inserting and removing SD cards

Inserting SD cards

Insert an SD card into an SD card slot on the top of the unit to enable playback and recording by this unit.

NOTE

SD cards can be inserted whether or not the unit is on or off.

1. Open the SD card slot cover.
2. The SD card should be inserted with its label facing left.
3. Close the SD card slot cover.

Removing SD cards

Turn the unit off or stop operation before removing an SD card.

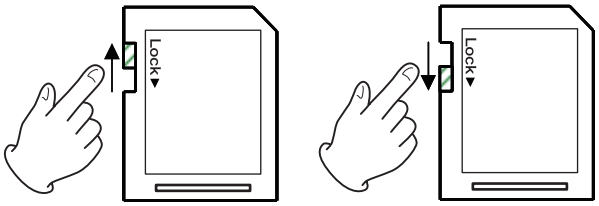
⚠ CAUTION

Never remove an SD card when the unit is operating (including recording, playing back, or writing data to the SD card). Doing so could cause proper recording to fail, data to be lost, and sudden loud noises from monitoring equipment, which might damage the equipment, harm hearing or cause other trouble.

1. Press the SD card in gently to make it to come up.
2. Pull the SD card out.

SD card write protection switches

SD cards have write-protection switches that prevent writing new data to them.



If you slide the write-protection switch to the "LOCK" position, writing will not be possible. Move the write-protection switch to the unlocked position in order to record, erase and otherwise edit data on the card.

Turning the power on and off

⚠ CAUTION

- Turn down the volume of the sound system connected to the unit before starting up or shutting down the unit.
- Do not wear connected headphones when turning the unit on and off. Loud noises could damage the speakers or harm your hearing.

Before turning the power on

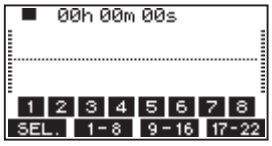
1. Make the following settings on the top of the unit.
   - Other knobs → all the way left
   - Faders → all the way down
   - Switches → off (not pushed in)
2. Minimize the output levels of audio sources and input levels of amplifiers connected to this unit.

Turning the power on

1. Use the **POWER** switch on the back of the unit to turn its power on.



Startup screen



Meter Screen

After the unit starts and the Startup Screen is shown, the Meter Screen will open.

NOTE

After the unit is turned on, the **PAIRING** indicator will blink for a set amount of time.

2. Turn connected input audio source devices on.
3. Finally turn amplifiers on.

Turning the power off

Follow the procedures above in reverse when turning the power off.

Failure to follow the correct order could result in clicking noises, for example, that might damage equipment.

⚠ CAUTION

Do not disconnect the power cord when the unit is operating (including recording, playing back, or writing data to an SD card). Doing so could cause proper recording to fail, recorded data to be lost, and sudden loud noises from monitoring equipment, which might damage the equipment, harm hearing or cause other trouble.

NOTE

When the unit is started up for the first time (or when the built-in clock is reset after being left unused without power for a long time), the DATE/TIME Screen appears before the Start-up Screen to allow the date and time of the built-in clock to be set. (See "Setting the built-in clock date and time" on page 25.)

Setting the built-in clock date and time

Using its internal clock, this unit includes the date and time when a file is recorded.

1. On the SYSTEM Screen, select DATE/TIME to open the DATE/TIME Screen. (See "Menu operation procedures" on page 21.)



2. Turn the **MULTI JOG** dial to change a value, and press the **MULTI JOG** dial to confirm it and move the cursor to the next item.

NOTE

Use the **F2** ← and **F3** → buttons to move the cursor.

3. Change the year, month, day, hour and minute in order, and complete the date and time setting.
4. Press the **F4** SET button to confirm the setting and return to the SYSTEM Screen.

NOTE

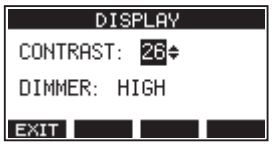
- When making a setting, you can press the **F1** EXIT button to cancel the changes and return to the SYSTEM Screen.
- When setting the time, the time display will be stopped.
- By setting the TYPE item to "DATE" on the SONG NAME Screen, the date and time set here can be used for song names. (See "Setting the song name format" on page 37.)

Adjusting the display

The display contrast and brightness can be adjusted.

Adjusting the display contrast

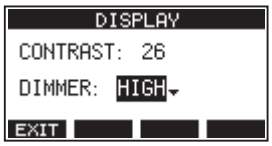
1. On the SYSTEM Screen, select DISPLAY to open the DISPLAY Screen. (See "Menu operation procedures" on page 21.)
2. Select CONTRAST, and press the **MULTI JOG** dial.



3. Adjust the display contrast.
   Options: 10–40 (default: 26)
4. Press the **MULTI JOG** dial to confirm the setting.
5. Press the **F1** EXIT button to return to the MENU Screen.

Adjusting the display brightness

1. On the SYSTEM Screen, select DISPLAY to open the DISPLAY Screen. (See "Menu operation procedures" on page 21.)
2. Select DIMMER, and press the **MULTI JOG** dial.



3. Adjust the display brightness.
   Options: HIGH (default), LOW
4. Press the **MULTI JOG** dial to confirm the setting.
5. Press the **F1** EXIT button to return to the MENU Screen.

Preparing an SD card for use

In order to make an SD card usable in this unit, whether for recording or playback, this unit must be used to create a system file on it first.

ATTENTION

In order to record, this unit must be used to format it first. (See "Formatting SD cards" on page 38.)

1. "No sys file. Make sys file. Are you sure?" appears in a pop up when a new card or a card formatted by another device is inserted into the unit.
2. Press the **MULTI JOG** dial to create a system file.
   When system file creation is complete, the Home Screen will reopen.

4 – Managing Songs

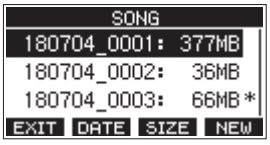
This recorder treats each recording data group as one song and manages data by song.
For one song, WAV files are saved for 22 tracks and a stereo master file.
To record or produce music, a song that has already been created needs to be loaded or a new song needs to be created.
This chapter describes functions that range from basic operations such as procedures for loading songs and creating new songs to various song management functions.

NOTE

The maximum recording time for a single song is 23:59:59.

Viewing the song list

To open a list of songs saved on an SD card, select SONG on the MENU Screen, and press the **MULTI JOG** dial to open the SONG Screen. (See "Menu operation procedures" on page 21.)



On the SONG Screen, the following functions are assigned to the function buttons.

- Press the **F1** EXIT button to return to the MENU Screen.
- Press the **F2** DATE button to show the date on the SONG Screen.
- Press the **F3** SIZE button to show the size on the SONG Screen.
- Press the **F4** NEW button to open the NEW Screen where you can create a new song. (See "Creating a New Song" on page 26.)

Song Operation

Select the desired song file on the SONG Screen and press the **MULTI JOG** dial to open a pop-up menu list with possible song operations.



To use a song operation, turn the **MULTI JOG** dial to select the desired item, and press the **MULTI JOG** dial.

LOAD

Loads the selected song.

INFORMATION

View information about the selected song.

DELETE

Deletes the selected song.

PROTECT

Protect the selected song.

UNPROTECT

Stop protection of the selected song.

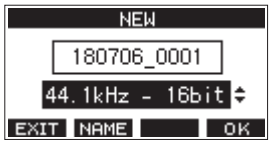
RENAME

Edits the name of the selected song.

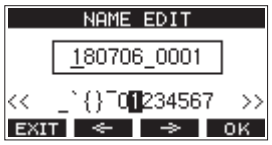
Creating a New Song

To record or play with this unit, you must create and load a song. The following procedure can be used to create a new song.

1. Open the SONG Screen when the recorder is stopped. (See "Menu operation procedures" on page 21.)
2. Press the **F4** NEW button to open the NEW Screen.



3. Turn the **MULTI JOG** dial to select the recording file format.
   Options: 44.1kHz - 16bit (default), 44.1kHz - 24bit, 48kHz - 16bit, 48kHz - 24bit
4. Edit the name of the song as necessary.
   To edit the name of the song, press the **F2** NAME button to open the NAME EDIT Screen.



   For details about how to edit song names, see "Editing text" on page 28.

TIP

The song name can also be edited later using the RENAME Screen.

5. Press the **F4** OK button to save the currently loaded song and create a new song.
   When song creation completes, the SONG Screen reopens.

NOTE

- To cancel song creation, press the **F1** EXIT button.
- A maximum of 100 songs can be created on a single SD card.
- Songs are created in the ***MTR*** folder on the SD card.

Loading Songs

Use the following procedure to load the song you want.

1. Open the SONG Screen when the recorder is stopped. (See "Menu operation procedures" on page 21.)

NOTE

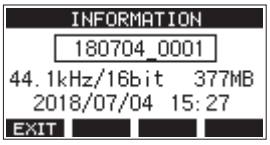
The * icon appears for a song currently being loaded. An 🔒 icon will appear before protected songs.

2. Select the song that you want to load and press the **MULTI JOG** dial to open the menu list pop-up.
3. Select LOAD, and press the **MULTI JOG** dial.
   After the selected song loads, the SONG Screen will reopen.

Viewing song information

You can check the song name (title), sampling frequency, bit rate, size, and date and time last written.

1. Open the SONG Screen when the recorder is stopped. (See "Menu operation procedures" on page 21.)
2. Select the song with information that you want to check and press the **MULTI JOG** dial to open the menu list pop-up.
3. Select INFORMATION, and press the **MULTI JOG** dial.
   The INFORMATION Screen will open.



   The song name, sampling frequency, bit rate, size, date and time last written will be shown.
4. After checking, press the **F1** EXIT button to return to the SONG Screen.

Deleting songs

You can delete songs.
Deleting unnecessary songs when the SD card space is low can create more open space.

1. Open the SONG Screen when the recorder is stopped. (See "Menu operation procedures" on page 21.)
2. Select the song that you want to delete and press the **MULTI JOG** dial to open the menu list pop-up.
3. Select DELETE, and press the **MULTI JOG** dial.
   The DELETE Screen will open.



4. Press the **F4** YES button to confirm deletion.
   When song deletion completes, the SONG Screen reopens.

ATTENTION

Deleted songs cannot be restored.

NOTE

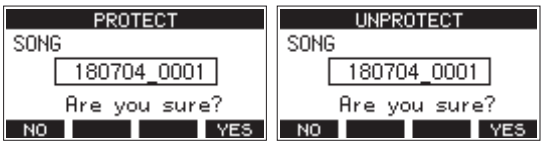
- To cancel song deletion, press the **F1** NO button.
- The current song cannot be deleted. To delete the current song, load another song first.

Protecting/unprotecting songs

By protecting a song, you can disable editing, recording and deletion operations for that song.

You can protect and stop protecting songs.

1. Open the SONG Screen when the recorder is stopped. (See "Menu operation procedures" on page 21.)
2. Select the song that you want to protect or unprotect and press the **MULTI JOG** dial to open the menu list pop-up.
3. Select PROTECT or UNPROTECT, and press the **MULTI JOG** dial.
   The PROTECT or UNPROTECT screen will open.



4. Pres the **F4** YES button to protect or unprotect the song.

NOTE

To cancel protection or unprotection, press the **F1** NO button.

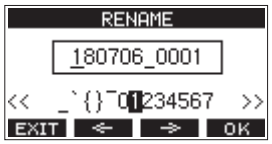
5. When song protection completes, the SONG Screen reopens.

NOTE

- icons appear before songs that are protected in the song list shown for copying, deletion and other operations.
- If you try to execute a prohibited operation (editing, recording, deletion) on a protected song, "Song is protected." will appear in a pop-up message on the display.

Editing song names

1. Open the SONG Screen when the recorder is stopped. (See "Menu operation procedures" on page 21.)
2. Select the song with name that you want to change and press the **MULTI JOG** dial to open the menu list pop-up.
3. Select RENAME, and press the **MULTI JOG** dial.
   The RENAME Screen will open.



4. Edit the song name.
   For details about how to edit song names, see "Editing text" below.

NOTE

To cancel song name editing, press the **F1** EXIT button.

5. When finished editing the song name, press the **F4** OK button to confirm the song name.
   When song name editing is complete, the SONG Screen reopens.

Editing text

Use these operations to edit text.

Changing the cursor (editing point) position

Use the **F2** ◄ and **F3** ► buttons.

You can also press the **MULTI JOG** dial to move to the next character.

Deleting the character at the cursor position:

Turn the **MULTI JOG** dial.

You can input up to 11 characters, including symbols, numbers, and uppercase and lowercase letters.

Leaving a single space open:

Turn the **MULTI JOG** dial to select a blank space at the left end of any row, and press the **MULTI JOG** dial.

Canceling edits:

Press the **F1** EXIT button.

Confirming the changes:

Press the **F4** OK button.

Selecting the input source

This unit has 22 inputs (22 line/16 mic inputs) with separate **MIC** and standard jacks.

The **LINE/INST (BAL)** input jacks on channels 1–2 support high impedance input, including direct guitar input.

Turn the **INST** switch on (pushed in) when connecting an guitar or similar instrument directly.

ATTENTION

Do not connect to both the **MIC** jack and the standard input jack (**LINE/INST (BAL)**, **LINE (BAL)**, **L/MONO (BAL)** or **R (BAL)**) on a channel at the same time.

TIP

Set the **INST** switch to off (not pushed in) when connecting an electric-acoustic guitar with a built-in preamp or an active electric guitar, as well as when an effect is connected between an guitar and this unit.

Setting the MODE switch

Using the **MODE** switch settings of each channel to select their input sources individually.

LIVE: Use the signal from the input jack as the input source.

PC: Use a signal from a computer connected to the **USB** port as the input source.

MTR: Use a playback signal from the SD card as an input source.

When a **MODE** switch is set to "**MTR**", the signal from the input jack on that channel will be recorded.

This function is useful when recording and playing back repeatedly because the monitored sound is automatically switched according to the recording or playback status.

Sounds on channels when in MTR mode

Transport status	REC button off	REC button on
Stop	Muted	Sound from input jack
Playing back	Playback sound only	Playback sound only + sound from input jack
Recording	Playback sound only	Sound from input jack

Setting phantom power

When connecting a condenser mic that requires phantom power, press the **PHANTOM +48V** switch when the recorder is stopped to turn phantom power on/off.

When phantom power is on, the **PHANTOM +48V** indicator lights, and phantom power is supplied to the **MIC** input jacks (**1-12**, **13/14**-**19/20**).

⚠ CAUTION

Set the following knobs and faders to their minimum values before changing the **PHANTOM +48V** switch on/off setting. Depending on the connected mics, sudden loud noises from monitoring equipment could occur, and this could damage the equipment or harm hearing.

- **GAIN** knobs
- Channel faders
- **SUB** fader
- **MON 1**/**MON 2** faders
- **MAIN** fader
- **CONTROL ROOM** knob
- **PHONES** knob

ATTENTION

- Before connecting condenser mics, turn this unit and all equipment to be connected off (standby).
- The **PHANTOM +48V** switch turns it on/off for the input channels (**1-12**, **13/14**-**19/20**) simultaneously. Do not turn the **PHANTOM +48V** switch on (pushed in) when connecting a mic that does not require phantom power.
- Do not connect or disconnect mics when the **PHANTOM +48V** switch is on (pushed in). Doing so could cause a loud noise and might damage this unit and connected equipment.
- Turn the **PHANTOM +48V** switch on (pushed in) only when using a condenser microphone that requires phantom power. Turning the **PHANTOM +48V** switch on (pushed in) when a dynamic mic or other mic that does not require it is connected could damage this unit and connected equipment.
- When using condenser mics that require phantom power and dynamic mics together, be sure to use balanced dynamic mics. Unbalanced dynamic mics cannot be used when phantom power is enabled.
- Supplying phantom power to some ribbon mics could break them. If you are unsure, do not supply phantom power to a ribbon mic.

Monitoring

Monitoring is important when recording and mastering.

With this unit, monitoring is possible using an external monitoring system (powered monitor speakers or an amp and speakers) or using stereo headphones.

Use the **CONTROL ROOM** and **PHONES** knobs to adjust the level of the monitoring system.

SIG indicators and level meters

The channel 1-12, 13/14-19/20 **SIG** indicators and level meters shown on the Meter Screen can be used to check the levels of this unit's audio signals.

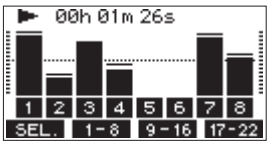
The level meters are for visually checking signal levels and can also be used to check whether or not signals are being input to this unit. For example, even when you cannot hear anything monitoring,

If the Meter Screen level meters are moving, signals are being input to this unit.

The **SIG** indicators light green when signals (of at least –56 dB) are input through their channels.

If a **SIG** indicator lights red, the input source signal is too loud or the **GAIN** knob is turned up too far.

If the **SIG** indicator lights red even when the **GAIN** knob is turned all the way to the left, the input source signal is to loud. Lower its volume.



Track level meters (1-12, 13/14-21/22)

The show track playback signal or truck input signal levels.

Channels for which the **MODE** switch is set to "**MTR**" will show the following signal levels according to the operation status.

REC button	Transport status	Level meter display
Unlit	PLAY	Track playback signal
Blinking (recording standby)	PLAY	Playback signal Track input + playback signal
	Stop	Track input signal
Blinking (recording)	Record	Track input signal

NOTE

When the playback signal is shown, the level of the recorded signal on the track is being shown, so the levels of the level meters cannot be changed.

When the input signal is shown, adjusting channel 1-12, 13/14-19/20 **GAIN** knobs will change the levels of the level meters.

MAIN MIX L/R level meters (MAIN)

These show the MAIN MIX L/R bus levels.

Recording

This unit can simultaneously record up to 24 tracks, including 22 channel inputs and the MAIN MIX L/R bus.

The following recording operations assume that mics, guitars and other things to record have been connected to the unit, input signals have been assigned as track recording sources, monitoring equipment has been connected and a song has been loaded.

1. Press the **REC** buttons for channel to record.
   Press the **REC** button to start recording standby. It will blink red.
   When a **MODE** switch is set to "**MTR**", the signal from the input jack on that channel will be recorded. (See "Setting the MODE switch" on page 29.)

NOTE

- The MAIN MIX L/R bus does not have a **REC** button, but it is always in recording standby. The signals of the MAIN MIX L/R bus will always be recorded if the ● button is pressed.
- When the **REC** buttons of tracks that already have recordings is blinking, press them to make them unlit.

2. Set the recording levels.
   Use the **GAIN** knobs of each channel to adjust their input levels.
   Watch the **SIG** indicators above and to the right of the **GAIN** knobs, and set the levels suitably.
   At the same time, check that the sound heard through headphones or a monitoring system is not distorted and that an unintended effect has not been set.

NOTE

If an input is too loud, the **SIG** indicator will light red.

If the **SIG** indicator lights red even when its **GAIN** knob is turned all the way to the left, lower the volume of the input source.

3. Press the ● button.
   Recording will start and the ● and ►/❚❚ buttons will light.
   The **REC** buttons for tracks to record will stop blinking and stay lit.
4. When recording has completed, press the ■ button.
5. Use the ◄◄/►► buttons and ■ button, for example to locate to a position you want to check.

TIP

For details about the locate function, see "Locate function" on page 33.

6. Press the ►/❚❚ button to play the recorded tracks.
   Use the channel and **MAIN** faders to adjust the playback levels.
   Use the volume of the monitoring system to adjust the final monitoring level.
   Use the **PAN** knobs of each channel to set the position of each track signal between left and right speakers.

NOTE

- The channel **PAN** knobs and channel faders control the playback output signals of already recorded tracks or the monitoring volume of input signals. They do not control signals to be recorded.
- If you are not satisfied with a recording, repeat the above procedure from the beginning.

Undoing operations

If you make a mistake operating the unit or want to do a recording over, for example,the operation last conducted can be undone. Editing, recording and other operations can be undone.

The following types of operations can be undone.

- Recording operations
- Auto punch in/out operations
- Track clearing operations

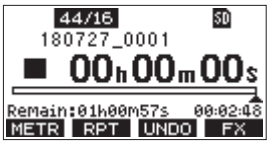
If a song is loaded or the unit is turned off, Information used for undoing and redoing will be lost, so undoing and redoing previous operations will no longer be possible.

NOTE

Files used for undoing are saved on the SD card. If you want to delete those files to make more space on the ST card, reload the current song on the SONG Screen.

Undoing the previous operation

1. When the Home Screen is open, press the **F3** UNDO button.



The following confirmation pop-up message will appear.



2. Press the **F4** YES button to return to the state before the previous operation.

NOTE

To cancel undoing, press the **F1** NO button.

Redoing an undone operation

1. After undoing, when the " REDO " appears on the Home Screen, press the **F3** REDO button.
   The following confirmation pop-up message will appear.



2. Press the **F4** YES button to restore the previous operation and return to the state before undoing.

NOTE

To cancel redoing, press the **F1** NO button.

Using the built-in effects

This unit has built in effects, so you can apply effects without an external effect device.

Channels **1-12** and **13/14-19/20** can have an effect applied. Their signals are sent to the built-in effect by the FX bus.

The return signal is returned to the MAIN MIX L/R and MONITOR OUT 1/2 buses.

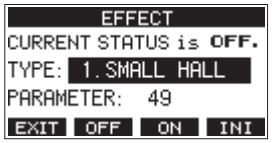
1. Use the **FX** knobs of each channel to adjust the levels of signals sent to the FX bus.
2. Use the EFFECT Screen to select the type of effect. (See "Setting the built-in effect" on page 31.)
3. Use the **TO MAIN LR** and **TO MON 1**/**TO MON 2** knobs to adjust the return levels for the MAIN MIX L/R and MONITOR OUT 1/2 buses.
4. When the **AFL** switch is on (pushed in), use the **CONTROL ROOM**/**PHONES** knob to adjust the return level.

NOTE

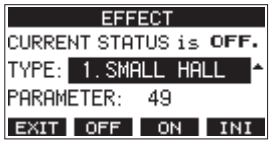
The sound with the effect applied can be monitored from the **CONTROL ROOM L**/**R** jacks or **PHONES** jack.

Setting the built-in effect

1. Press the **SELECT** button to open the EFFECT Screen.

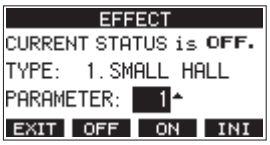


2. Select TYPE, and press the **MULTI JOG** dial.



3. Set the built in effect type.
   Options: 1.SMALL HALL (default), 2.LARGE HALL, 3.SMALL ROOM, 4.LARGE ROOM, 5.PLATE, 6.STUDIO, 7.LIVE, 8.SHORT DELAY, 9.DELAY, 10.PING PONG, 11.CHORUS, 12.FLANGER, 13.DELAY+SHALL, 14.DELAY+LHALL, 15.CHORUS+SHALL, 16.CHORUS+LHALL

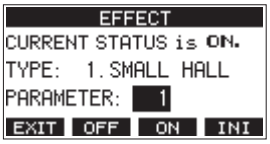
4. Select PARAMETER, and adjust the amount of the set effect.
   You can check the effect as you change it.
   Options: 1 (default), 100



NOTE

Press the **F4** INI button to set the currently selected TYPE item PARAMETER item value to its default.

5. Press the **F3** ON button to turn the built-in effect on.
   The CURRENT STATUS will change from OFF to ON.



NOTE

Press the **F2** OFF button to turn the built-in effect off.

6. Press the **F1** EXIT button to return to the Home Screen.

Locate function

When the Home Screen is open, you can use the **MULTI JOG** dial to set the locate point.

On the Home Screen, the current position of the recorder is shown as a time in hours (h), minutes (m) and seconds (s).

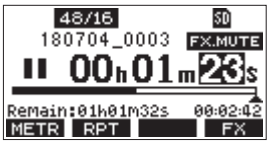
By setting the time in this display area, you can change the current position of the recorder.

Changing the playback position

When the Home Screen is open and the recorder is stopped or playing back, you can use the **MULTI JOG** dial to set the locate point.

Using the direct locate function to locate

1. When the Home Screen is open and the recorder is stopped, press the **MULTI JOG** dial to enable direct locate mode. A cursor will appear at the location to be changed in the recorder counter.



2. Turn the **MULTI JOG** dial to change a value, and press the **MULTI JOG** dial to confirm it and move the cursor to the next item.
3. Change the seconds, minutes and hours in that order to move to that time as the current recorder position.
4. Press the ►/❚❚ button to start playback or the ● button to start recording from that position.

Repeat playback function

The repeat playback function can be used to play something over and over.

When the Home Screen is open, press the **F2** RPT button to set the repeat playback function.

Nothing shown: The current song will keep playing regardless of whether the area is recorded or not.

S1: The current song will play and then stop.

↻1: The current song will play repeatedly.

Punch in/out function

Punching in and out is a technique used to replace parts of already recorded tracks.

You can start playback of a recording, switch to recording when it reaches the part to be replaced (punch in), and then switch back to playback when the end of that part is reached (punch out) and stop after two seconds.

1. Determine the part you want to replace in advance.
   Select a point where the replacement audio can be combined well with the original track audio.
2. Press the **REC** button for the track with the part to be replaced to enter recording standby (REC button blinks).

NOTE

- Set the punch in and out points at least one second apart.
- Punch in recording is not possible when the **REC** button is on for eight or more channels.

3. Start playback before the part to be replaced.
4. When the part to be replaced is reached, press the ● button, and perform the part.
   Recording will start (punch in).
5. When the end of the part to be replaced is reached, press the ■ button.
   The unit will switch to playback and then stop after two seconds.

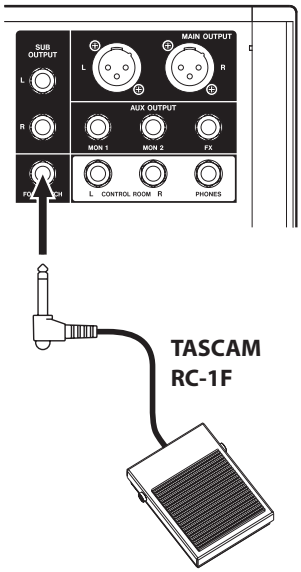
Using the footswitch to punch in/out

By connecting the recommended TASCAM RC-1F footswitch (sold separately) to the **FOOTSWITCH** jack on the top of the unit, you can use it to punch in/out.

To use a footswitch to punch in/out, you must set the foot switch function assignment to "PUNCH IN/OUT" in advance. (See "Setting up the footswitch" on page 34.)



At step **4** above, press the footswitch instead of the ● button, and at step **5** press it again instead of the ■ button.



NOTE

This unit was designed to be used with unlatched (momentary) footswitches that have to be pushed to function (shorted when pushed).

Setting up the footswitch

Use the FOOTSW Screen to set the footswitch.

1. Open the FOOTSW Screen when the recorder is stopped. (See "Menu operation procedures" on page 21.)



2. Turn the **MULTI JOG** dial to select the function to assign to the footswitch.

Option	Meaning
PLAY / PAUSE (default)	Press to start playback when stopped or paused. Press to pause when playing.
PUNCH IN / OUT	Press during playback to punch in. Press when recording to punch out.
FX MUTE	Mute the built-in effect signal.

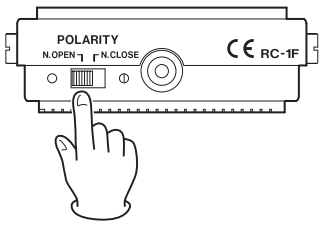
3. Press the **MULTI JOG** dial to confirm the assigned function.
   A * appears next to the selected function.
4. Press the **F1** EXIT button to return to the MENU Screen.

Setting the footswitch polarity

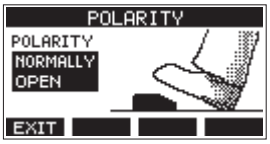
The setting of this unit can be changed according to the polarity of the footswitch being used.
Select "NORMALLY OPEN" or "NORMALLY CLOSE" so that the actual footswitch movement matches that shown by the illustration on the screen.

NOTE

When using a TASCAM RC-1F, set the **POLARITY** switch to **N. OPEN**.



1. Open the FOOTSW Screen when the recorder is stopped. (See "Menu operation procedures" on page 21.)
2. Press the **F4** POL button to open the POLARITY Screen, and turn the **MULTI JOG** dial to set the footswitch polarity.



Options: NORMALLY OPEN (default), NORMALLY CLOSE

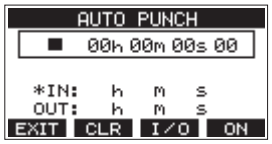
3. Press the **F1** EXIT button to return to the FOOTSW Screen.

Automatic punch in/out function

Using the automatic punch in/out function, you can automatically record between punch in and out points set in advance.
To use the automatic punch in/out functions, start playback from a pre-roll point before the punch in point where recording will start.
Recording will stop when the punch out point is reached, but playback will continue for two seconds before stopping.

Setting the punch in/out points

1. Open the AUTO PUNCH Screen when the recorder is stopped. (See "Menu operation procedures" on page 21.)

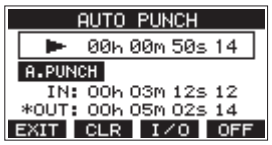


2. Press the ►/❚❚ button to start playback.
3. Press the **MULTI JOG** dial to set the punch in and out points.
   The set points are shown next to the IN and OUT items.

NOTE

- You can also turn the **MULTI JOG** dial to set the points.
- Set the punch in and out points at least one second apart.
- Press the **F2** CLR button to clear set punch in and out points.
- Press the **F3** I/O button to select either the punch in or out point. An * will appear next to the selected item.

4. Press the ■ button to stop playback.
5. Press the **F4** ON button to turn the automatic punch in/out function on.
   The A.PUNCH icon appears on the AUTO PUNCH Screen.



6. Press the **F1** EXIT button to return to the MENU Screen.

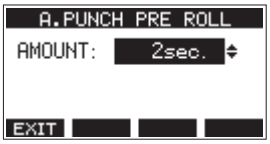
TIP

- By setting only the punch in point, you can start recording with automatic punch in and then continue recording until you press the ■ button to stop.
- By setting only the punch out point, you can start recording by pressing the ● button and then stop recording with automatic punch out.

Setting a pre roll point

When using automatic punch in, the amount of playback time before the punch in point can be set (pre roll point).

1. Select A.PUNCH PRE ROLL on the MENU screen to open the A.PUNCH PRE ROLL screen. (See "Menu operation procedures" on page 21.)



2. Set the pre-roll point.

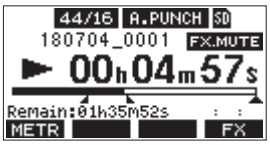
Option	Meaning
OFF	Do not locate to a point before the punch in point. Manually moving to somewhere before the punch in point beforehand will be necessary.
1sec. – 10sec. (default: 2sec.)	Locate to a pre roll point the set time before the punch in point and start playback.

3. Press the **F1** EXIT button to return to the MENU Screen.

Rehearsing punching in and out

You can rehearse before punch in/out recording. In rehearsal, recording will not occur, but monitoring will be the same as if recording.

1. Press the **MENU** button when the recorder is stopped to open the Home Screen.
   Confirm that the A.PUNCH icon appears on the Home Screen.



2. Press the **REC** buttons for the tracks you want to record using automatic punch in/out.

NOTE

Punch in recording is not possible when the **REC** button is on for eight or more channels.

3. Press the ►/❚❚ button.
   Auto punch in/out rehearsal starts.
   - The transport starts playback from the pre-roll point. Both track playback and input source signals can be monitored. (See "Setting a pre roll point" on page 35.)
   - When the punch in point is reached, only the input source signal will be monitored. The ● button will blink showing that it is rehearsal mode.
   - When the punch out point is reached, both track playback and input source signals will be monitored. The ● button will become unlit.
   - Playback will automatically stop two seconds after the punch out point. The ►/❚❚ button will blink.

   Rehearsal can be repeated.

Using automatic punching in and out

Follow these procedures to punch in and out automatically and record.

1. Confirm that the A.PUNCH icon appears on the Home Screen.
2. Press the **REC** buttons for the tracks you want to record using automatic punch in/out.

NOTE

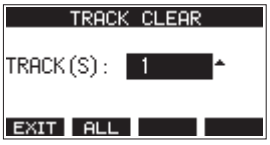
Punch in recording is not possible when the **REC** button is on for eight or more channels.

3. Press the ● button.
   - The transport starts playback from the pre-roll point. Both track playback and input source signals can be monitored. (See "Setting a pre roll point" on page 35.)
   - When the punch in point is reached, only the input source signal will be monitored. The ● button will light.
   - When the punch out point is reached, both track playback and input source signals will be monitored. The ● button will become unlit.
   - Playback will automatically stop two seconds after the punch out point. The ►/❚❚ button will blink.

Clearing tracks

The selected track will be cleared.

1. Open the TRACK CLEAR Screen when the recorder is stopped. (See "Menu operation procedures" on page 21.)



2. Turn the **MULTI JOG** dial to select the track to clear, and press the **MULTI JOG** dial.
   A confirmation message will appear.



NOTE

Press the **F2** ALL button to open a message confirming that you want to clear all tracks.



3. Press the **F4** YES button to clear the track(s).

NOTE

- To cancel clearing tracks, press the **F1** NO button.
- Undoing is possible only for the last cleared track.

4. After clearing tracks completes, the TRACK CLEAR Screen will reopen.

Importing tracks

You can import audio files that you have to tracks in the current song.

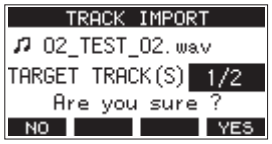
Files that can be imported to tracks must be WAV (BWF) format ("***.WAV***" extension).

To import an audio file with a different format (.mp3, etc.) to this unit, it must be converted to a WAV file that matches the format of the song it will be imported into beforehand.

1. Connect this unit with a computer. (See "Connecting with a Computer" on page 40.)
2. Use the computer to copy WAV files on it to this unit's ***MUSIC*** folder.
3. Follow the proper disconnection procedures on the computer before disconnecting the USB cable. (See "Disconnecting" on page 40.)
4. Open the TRACK IMPORT Screen when the recorder is stopped. (See "Menu operation procedures" on page 21.)
   WAV files in the ***MUSIC*** folder will be shown.



5. Select a WAV file to import.
   - Turn the **MULTI JOG** dial to select a WAV file.
   - Press the **MULTI JOG** dial when a folder is selected to show its contents.
   - Press the **F1** EXIT button to return to the MENU Screen.
   - Press the **F2** ← button to move up one level.
6. Press the **F4** OK button.
   On the TRACK IMPORT Screen, the name of the file to be imported and the TARGET TRACK(S) item with the names of open tracks are shown.



NOTE

- If there are no openings for tracks to import, an "Import error. No track" pop-up message will appear.
- To cancel importing a track, press the **F1** NO button.
- Importing is not possible under the following conditions.
  - Not enough open space is available on the SD card
  - There are no empty tracks
  - The characteristics (sampling frequency or bit rate) of the WAV file you are trying to import differ from the current song.
    Example: Trying to import a 48kHz WAV file when the current song is 44.1kHz
- If there is no file that can be imported, a "No File" pop-up message will appear.
- If the imported WAV file is stereo, selection will be of two consecutive tracks. It cannot be put into a single mono track.

7. Select the track to import, and press the **F4** YES button to import it.

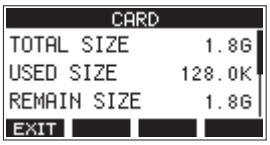


8. When importing completes, the TRACK IMPORT Screen reopens.

Viewing information

Use the INFORMATION screen to view various types of information about the unit. Follow the procedures below to view the INFORMATION screen.

1. On the SYSTEM Screen, select INFORMATION to open the Information Screen. (See "Menu operation procedures" on page 21.)

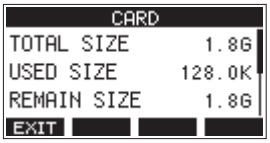


   The Information Screen has 3 pages. The CARD page opens first.

2. Turn the **MULTI JOG** dial to cycle through the CARD, SONG and FIRMWARE screens.
   CARD Screen
   Shows the use status of the currently loaded SD card
   SONG Screen
   Shows the number of songs on the loaded SD card
   FIRMWARE Screen
   Shows the unit's system firmware version.
3. Press the **F1** EXIT button to return to the MENU Screen.

CARD Screen

The CARD Screen shows the status of the currently loaded SD card.



TOTAL SIZE

Shows the total amount of space on the SD card.

USED SIZE

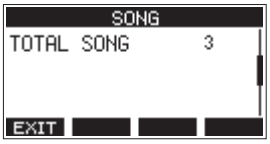
Shows the amount of space used on the SD card.

REMAIN SIZE

Shows the amount of space unused on the SD card.

SONG Screen

The SONG Screen shows the use status of the ***MTR*** folder.

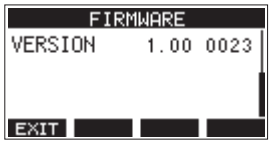


TOTAL SONG

This shows the total number of songs in the ***MTR*** folder.

FIRMWARE Screen

The FIRMWARE Screen shows the firmware version.



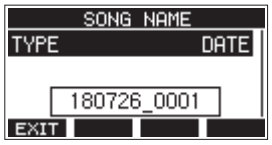
VERSION

This shows the system firmware version of this unit.

Setting the song name format

Set the name format is used by the unit for creative songs.

1. On the SYSTEM Screen, select SONG NAME to open the SONG NAME Screen. (See "Menu operation procedures" on page 21.)



2. Set the file name format.

Option	Meaning
DATE (default)	Use the date for the song name. (Example: 180101_0001)
WORD	Use the 6-character song name set on the EDIT screen. (Example: TASCAM_0001)

NOTE

The date is set using the unit's internal clock. (See "Setting the built-in clock date and time" on page 25.)

Setting the WORD item

To set the characters, select WORD on the TYPE Screen. An EDIT item will appear on the SONG NAME Screen that can open the WORD EDIT Screen.



For details about how to set characters, see "Editing text" on page 28.

Restoring factory default settings

You can restore the various settings stored in the memory of the unit to their factory default values.

Use the following menu procedures to do so.

1. On the SYSTEM Screen, select INITIALIZE to open the INITIALIZE Screen. (See "Menu operation procedures" on page 21.)



2. Press the **F4** YES button to restore the factory default settings.
3. When the setting completes, the SYSTEM Screen will reopen.

NOTE

- Press the **F1** NO button to cancel execution.
- The date and time setting is not initialized.

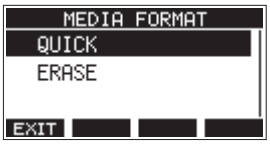
Formatting SD cards

Formatting erases all music files on the SD card and automatically creates new ***MTR***, ***MUSIC*** and ***UTILITY*** folders as well as a ***tascam_m.sys*** file.

ATTENTION

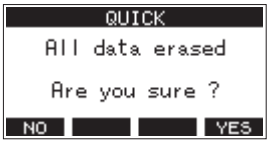
- Formatting an SD card erases all the data on it. This cannot be undone.
- Always use this unit to format media to be used with it. Operation of this unit might be affected when using an SD card that has been formatted by a computer or other device.

1. On the SYSTEM Screen, select MEDIA FORMAT to open the MEDIA FORMAT Screen. (See "Menu operation procedures" on page 21.)



QUICK: Execute quick formatting.
ERASE (Recommendation): Erase and format the card.

2. Select the format method, and press the **MULTI JOG** dial.
   A confirmation message will appear on the QUICK or ERASE Screen.



Shown when QUICK selected

NOTE

Press the **F1** NO button to cancel formatting and return to the previous screen.

3. Press the **F4** YES button to start formatting.
4. When formatting is complete, the SYSTEM Screen will reopen.

NOTE

The writing speeds to SD cards and other storage media that use flash memory tend to decrease after writing occurs repeatedly.

If the writing speed decreases, this could have a negative impact on recording.

Using the ERASE function of this unit should restore the writing speed of the SD card.*

For this reason, we recommend using the ERASE function at the following times.

- Whenever the card has been written to until it became completely full
- On a regular schedule (about once per month)
- Before starting important recordings

* Writing speed might not be restored depending on the SD card condition (including malfunction and age).

Playing WAV files on SD cards (SD PLAY mode)

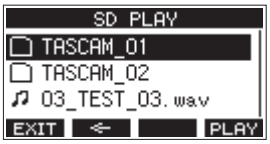
The WAV files in the ***MUSIC*** folder on an SD card can be played back. (See "Loading WAV files from a computer" on page 41.)
The following audio file formats can be played back in SD PLAY mode.

WAV: 44.1/48kHz, 16/24-bit
BWF: 44.1/48kHz, 16/24-bit

NOTE

Playback signal is sent from channels 21 and 22.

1. Set the channel 21/22 **MODE** switch to "**MTR**".
2. Set the channel 21/22 **MON 1**/**MON 2** and **BAL** knobs and the channel fader to their middle positions
3. Open the SD PLAY Screen when the recorder is stopped. (See "Menu operation procedures" on page 21.)

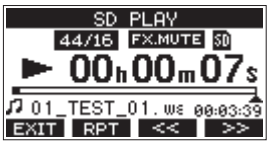


4. Select a file to play back
   - Turn the **MULTI JOG** dial to select a WAV file.
   - Press the **MULTI JOG** dial when a folder is selected to show its contents.
   - Press the **F1** EXIT button to return to the MENU Screen.
   - Press the **F2** ⇦ button to move up one level.

NOTE

Only WAV files can be played back. Unsupported files will not be shown.

5. Press the **F4** PLAY button or ►/❚❚ button to start WAV file playback.
   The SD PLAY Screen will show playback status.



   - Press the **F1** EXIT button to return to the file selection screen.
   - Press the **F2** RPT button to turn the repeat playback function on and select the repeat playback mode.

Display	Meaning
No indicator	The folder that contains the currently playing WAV file will play back, and then playback will stop.
🔁1	The currently playing WAV file will play back repeatedly.
🔁ALL	The folder that contains the currently playing WAV file will play back repeatedly.

   - Press the **F3** (<<) button to skip to the beginning of the WAV file. Press near the beginning of the WAV file to skip to the beginning of the track before it.
   - Press the **F4** (>>) button to skip to the beginning of the next WAV file.

6. Press the **F1** EXIT button twice to return to the MENU Screen.

9 –Using a computer to transfer data

By connecting this unit with a computer using a commercially-available USB cable, you can back up song data on the SD card in the unit to the computer, as well restore backed up song data to the unit. You can also export track and stereo master files from songs to the computer and import audio files from the computer.

Backed up data can be restored to other Model 24 units. Since this allows you to freely move files between Model 24 units, you can easily conduct additional recording or mixing at different locations.

ATTENTION

You can conduct the same operations by removing the SD card from the unit and connecting it directly to a computer or by using a card reader instead of using USB to connect the unit and the computer. Turn the unit's power off or stop operation before removing the SD card.

This unit can transfer the following data to a computer.

Entire songs

This unit can transfer all the data for a song from the ***MTR*** folder to a computer. This operation is called "backing up". Data backed up to a computer can also be transferred to the ***MTR*** folder, and restored as a song file. This operation is called "restoring".

ATTENTION

Do not change names, delete or otherwise alter individual files inside the ***MTR*** folder. Doing so could prevent loading data as a song and make proper recording and playback operations impossible.

WAV files

By placing WAV files from the computer into the ***MUSIC*** folder, you can import them to song tracks. Moreover, WAV files in the ***MUSIC*** folder can be played back in SD PLAY mode.

Connecting with a Computer

You cannot use this unit's recording, playback and other recorder functions when it is connected to a computer by USB.

To connect with a computer, use a Type-A to Type-B USB2.0 cable to connect the **USB** port on the back of this unit to a USB port on the computer.

The USB cable can be connected either before or after turning this unit on.

1. Use a USB cable (Type-A to Type-B) to connect the computer to this unit's USB port.

ATTENTION

The unit should be connected directly with the computer instead of via a USB hub. Moreover, noise could be picked up if the cable is too long.

2. On the MENU Screen, select STORAGE to open the STORAGE Screen. (See "Menu operation procedures" on page 21.)



3. To connect with the computer, press the **F4** YES button.
The unit enters USB storage mode and connects with the computer.



Make sure that the SD card is inserted properly.

4. This unit appears on the computer as an external drive named "***TASCAM_M***" (if the card was formatted by this unit).

NOTE

Follow these procedures to open ***This PC***.

Windows 10

Left-click the Windows Start button, and from Windows System select ***PC.***

Windows 8.1

Left-click the Windows Start button, click the down arrow icon on the Start screen, and select This ***PC*** under Windows System in the application list.

Windows 7

Left-click the Windows Start button, and select ***Computer*** in the Start menu.

5. Click the ***TASCAM_M*** drive on the computer to show the ***MTR***, ***MUSIC*** and ***UTILITY*** folders.



ATTENTION

- This unit receives power through its power cord. It cannot be powered by USB.
- Do not disconnect the power cord or turn off the power during data transfer. Data will be lost if the power is interrupted during transfer. Lost data cannot be restored.
- Do not change the names of folders in ***TASCAM_M***.

NOTE

- Do not change names, delete or otherwise alter individual files inside the ***MTR*** folder.
- The ***UTILITY*** folder is used when updating the unit system, for example.

6. Press the **F1** EXIT button to return to the Meter Screen.

Disconnecting

Before disconnecting the USB cable, use the proper procedures for your computer to unmount the unit (as an external drive).

See the computer's operation manual for instructions about how to unmount an external volume.

Press the **F1** EXIT button to disconnect from the computer and return to the Home Screen.

Loading WAV files from a computer

1. Use a USB cable (Type-A to Type-B) to connect the computer to this unit's USB port. (See "Connecting with a Computer" on page 40.)
2. Click the "***Model 24***" drive on the computer to show the ***MTR***, ***MUSIC*** and ***UTILITY*** folders.
3. Drag and drop files on the computer that you want to transfer to the unit to the ***MUSIC*** folder.

ATTENTION

- The ***UTILITY*** folder is used when updating the unit system, for example.
- Do not change names, delete or otherwise alter individual files inside the ***MTR*** folder. Doing so could prevent loading data as a song and make proper recording and playback operations impossible.

TIP

- You can manage the content of ***MTR*** or ***MUSIC*** folders from the computer.
- You can create subfolders in the ***MUSIC*** folder up to the second level for use with this unit. The Model 24 cannot recognize sub-folders and files located at the third layer level or below. The unit cannot recognize subfolders and audio files on the third level or below.

Installing the dedicated software (Windows only)

To use this unit as a USB audio interface with a Windows computer, dedicated software must be installed on the computer.
Download the latest software from the TEAC Global Site (**http://teac-global.com**/).
Installing the dedicated software will install a driver and a Settings Panel application.

ATTENTION

- Before starting to install software, quit other applications.
- With a Mac, the standard OS driver will be used, so there is no need to install any software.

Installing the Windows dedicated software

Follow the procedures below to install the Windows dedicated software.

ATTENTION

- Complete installation of the Windows dedicated software on the computer before connecting the unit to it with the USB cable.
- If you connected the unit to the computer using the USB cable before installing the Windows dedicated software and the "***Found New Hardware Wizard***" launched, close the Wizard and disconnect the USB cable.

Windows dedicated software installation procedures

1. Download the latest Windows dedicated software from the TEAC Global Site (**http://teac-global.com/**) and save it on the computer to be used with the unit.
2. Uncompress the saved software (zip file) on the computer desktop or another location.
3. Double-click the "***TASCAM_Model_Mixer_Installer_x.xx.exe***" file in the folder that appears after uncompression to launch the installation software.

ATTENTION

If you open a zip file without decompressing it and double-click the "***TASCAM_Model_Mixer_Installer_x.xx.exe***" file in the folder that opens, installation will not start. Right-click the zip file and select "***Extract All***", for example, to decompress it and then try again.

4. When a ***Security Warning*** or ***User Account Control*** screen appears, click the ***Yes*** button.
5. Read the contents of the User License Agreement, and select "***I accept the agreement***" if you agree to the terms. Then, click the ***Next*** > button.



6. Next, click the ***Install*** button.



7. Next, click the ***Install*** button to start installation. (Windows 7 only)



8. The following screen appears when installation has completed. The following screen appears when installation has completed.
   Click the ***Finish*** button.



The installer will quit and the Windows Settings Panel will launch.

NOTE

The first time you connect the unit by USB to the computer after installing the software, installation of the device driver will be executed. Some time might be necessary before the unit is recognized because Windows Update will be automatically searched at this time. If the unit is still not recognized after a while, open the software installation screen from the notification area at the bottom right of the computer display, and click "***Skip obtaining driver software from Windows Update***" to stop the search.

Uninstalling the Windows dedicated software

Uninstalling from the Programs and Features Control Panel

NOTE

Normally, there is no need to uninstall the dedicated software. Follow these procedures if a problem occurs or you no longer intend to use the unit with the computer.

1. From the ***Start*** menu, open the ***Control Panel*** and launch ***Programs and Features***.

NOTE

- In Windows 10, right-click the Start button and click ***Control Panel*** when it appears.
- In Windows 8.1, click the button that appears at the bottom left of the Start screen to open the Apps screen, and click ***Control Panel***.

2. If ***View by:*** is set to ***Category***, click ***Uninstall a program*** under the ***Program*** item.
   If ***View by:*** is set to ***Large icons*** or ***Small icons***, click ***Programs and Features***.
3. Select "***TASCAM Model_Mixer x.xx***" from the list, and double-click it.
4. Then, follow the instructions that appear on the screen.

Opening the Settings Panel (Windows only)

Open the Settings Panel in the following manner.

Windows 10

● Click the Windows Start button and select ***All Programs*** → ***TASCAM*** → ***ModelMixer Settings Panel***.

Windows 8.1

● Right-click the Windows Start button and select ***Control Panel***.

NOTE

You can also left-click the Start button to open the Start Screen. Click the button to open the ***Apps*** screen, and select ***ModelMixer Settings Panel*** under ***TASCAM***.

Windows 7

● Click the Windows Start button and select ***All Programs*** → ***TASCAM*** → ***ModelMixer Settings Panel***.

Windows Settings Panel overview



① Status display area

This shows the current status of the software.

Item displayed	Meaning
Software Ver	This is the software version.
Firmware Ver	This is the firmware version used by the connected unit.
Device	This is the name of the connected unit. (***No Device*** is shown when no device is connected.)
Sample Rate	This shows the sampling frequency of the current song. If an SD card is not loaded, this shows the sampling frequency set by the computer.

② Buffer Size

You can adjust the size of the buffer used to handle the audio input and output signals transferred to and from the computer.

Smaller buffer sizes result in less audio signal delay (latency), but require high-speed processing by the computer.

If the processing cannot keep up, for example, due to other system operations, clicking and popping noises might occur and the audio signal might even drop out.

Increasing the buffer size will stabilize operation and suppress negative effects on audio signals, but the delay in audio signals sent to the computer will increase.

You can use the slider on the panel to adjust the buffer size for this unit according to the use conditions.

Options

64, ***128***, ***256*** (default), ***512***,***1024***, ***2048***

Setting Sound Properties

1. Open the OS Control Panel.

NOTE

Follow these procedures to open the Control Panel.

Windows 10

Left-click the Windows Start button, and from ***Windows System*** select ***Control Panel***.

Windows 8.1

Right-click the Windows Start button, and select ***Control Panel***.

Windows 7

Left-click the Windows Start button, and select ***Control Panel*** in the Start menu.

2. Double-click ***Sound*** in the Control Panel.

NOTE

If the Control Panel is set to be viewed as icons, a ***Sound*** icon will appear.

3. On the ***Playback*** page, right-click ***Model 24***, and click ***Set as Default Device*** in the pop-up menu that appears.
   When you do this, the green check mark appears next to the selected device.



Windows 7 screen

NOTE

Set the default device according to the ASIO device being used on the ***Recording*** tab in the same manner as on the ***Playback*** tab.

4. After completing the setting, click the ***OK*** button.
5. Launch Windows Media Player and start playback to input the playback sound from the computer to channels 1 and 2 on the Model 24. (**MODE** switches: ***PC***)

NOTE

- If you change the setting while Windows Media Player is running, the software will not recognize that the device has been changed. In this case, restart Windows Media Player.
- If you still cannot hear sound after making the settings and completing the procedures above, restart the computer.
- If you make this setting, sound will be output through this unit, but no sound will be output from the computer's speakers or headphone jack.

Simultaneous ASIO/WDM playback

The driver for this unit can simultaneously play ASIO output from a DAW and WDM output from Windows Media Player, for example. The sample rates of both sources must be set to the same value for simultaneous playback to be possible. Moreover, the sample rate must also be set to the same value for both playback and recording in the Windows Sound Properties.

When the sample rates are the same

Example: Windows (WDM) at 44100 Hz, ASIO at 44100 Hz

The Windows audio and ASIO sound are mixed and played simultaneously.

When the sample rates are different

Example: Windows (WDM) at 48000 Hz, ASIO at 44100 Hz

Only sound from a DAW and other ASIO sources are output. Sound from Windows Media Player and other WDM sources are not output.
When the DAW is shut down, for example, and output from ASIO sources stops, sound from Windows Media Player and other WDM sources will become audible.

11 – Messages

The following is a list of messages that appear in pop-up windows.
Refer to this list if one of these pop-up messages appears on the Model 24 and you want to check the meaning or determine a proper response.

Message	Meaning and response
Card Error	The SD card cannot be recognized properly. Replace the SD card.
Card Full	The SD card has no remaining capacity. Erase unnecessary files or transfer them to a computer.
Dup File Name	A file with the same name already exists. Change the file name.
File Not Found	The file cannot be found or the file may be damaged. Check the relevant file.
No sys file Make sys file	The system file is missing. This unit requires a system file for operation. When this message appears, press the **MULTI JOG** dial to create a system file.
Song Protected	This operation is not possible because the song is protected. Remove protection.
Invalid Card Change Card	Something might be wrong with the SD card. Change the SD card.
I/O Too Short	The time between the punch in and out points is too short. Set them with at least 1 second between them.
MBR error Init card	The SD card is not formatted properly or the card is broken. Change the SD card or press the **MULTI JOG** button while this message is being shown to format the card. Formatting will erase all the data on the SD card.
No Card	A SD card is not set. Insert a recordable SD card.
Non-supported	The file format is not supported. Please see "Playing WAV files on SD cards (SD PLAY mode)" on page 39 for file formats that this unit can use.
Card Protected	The SD card is write-protected. Disable SD card write-protection.
USB Fs mismatch	The sampling rate of the current song and the USB audio interface are not the same. Change the sampling rate of one so that they are the same.
Current Song	The current song cannot be deleted. To delete the current song, load another song first.
Invalid I/O point	The punch in/out point settings on the AUTO PUNCH Screen are not set correctly. Automatic punching in/out occurred at an invalid position for the punch in or out point. Start the automatic punch operation from a valid point.
Write error REC continue	Writing to the SD card timed out. This has caused audio to be interrupted and noise to occur.
REC stop Card slow	Writing to the SD card timed out, and recording stopped. SD card writing performance has become worse. Execute the erase format function or change the SD card.
Need to set I/O point.	Neither the punch in or out points are set for the automatic punch in/out function. Either the punch in or out point must be set.
Sample rate Unmatch	The sampling frequency of the WAV file to be imported does not match the current song. Select a WAV file with the same sampling frequency as the current song or convert the sampling frequency before importing.
Bit length Unmatch	The bit rate of the WAV file to be imported does not match the current song. Select a WAV file with the same bit rate as the current song or convert the bit rate before importing.
Remain time is not enough	The SD card does not have enough open space, so importing is not possible. Erase unnecessary files or transfer them to a computer.
8 track punch in limit	The maximum number of tracks for punch in recording is eight. Press **REC** buttons to reduce the number of recording tracks to eight or less.
Song is not loaded	No song is loaded. Create a new song or load a song.
Song number full	The maximum number of songs that can be created on an SD card is 100. Erase unnecessary songs.
SD PLAY: cannot record	SD PLAY mode is for playback only. Recording is not possible.
SD CARD cluster size error	Recording is not possible because the SD card cluster size is not right. Back up the contents of the SD card on a computer and then format it with this unit. Then, restore the data from the computer.
Import error. No track	Importing is not possible because there are no open tracks. Use TRACK CLEAR to clear a track. (See "Clearing tracks" on page 36.)
Already protected	The selected song is already protected.

11 – Messages

Message	Meaning and response
Already unprotected	The selected song is already unprotected.
Can't Save Data	If any of these errors occurs, turn the unit off and restart it. If these error messages continue to appear frequently, please contact the store where you purchased this unit or TASCAM customer support.
Device Error	
File Error	
Not Continued	
Player Error	
UNDO not available	
Writing Failed	
Sys Rom Err	
System Err XX (XX is a number.)	

12 – Troubleshooting

If you are having trouble with the operation of this unit, please try the following before seeking repair.
If these measures do not solve the problem, please contact the store where you bought the unit or TEAC customer support (see the back cover).

The unit will not turn on.

- Confirm that the power plug and other connectors are inserted completely.

The SD card is not recognized.

- Confirm that the SD card is inserted completely.

No sound is output

- Are the input sources and **MODE** switches set properly?
- Are that channel faders raised to suitable levels?
- Is the **MAIN** fader raised to a suitable level?
- Is a monitoring system correctly connected to the **PHONES** jack or **CONTROL ROOM L**/**R** jacks?
  Is the monitoring system set up correctly?
- Is the **PHONES** knob or **CONTROL ROOM** knob place to a suitable level?
- Is the SD MAIN MIX RETURN switch on (pushed in, during playback of anything other than a stereo master file)?

The sound I want to record is distorted

- Are the channel **GAIN** knobs set too high?
  Are the input source levels to high?
- Is the EQ set too high?
- Are any channel faders or the **MAIN** fader raised too high?
- Is the monitoring level too high, causing the monitoring system to distort?

Noise occurs when a passive guitar or bass is connected directly

- Connecting another device to the unit's **SUB OUTPUT** jacks (stereo output) could reduce noise.
- It could be affected by interference noise from another device, for example. If a power amplifier or other device with a large transformer, or a fluorescent light, for example, is nearby, changing the distance or orientation of such devices could reduce noise.

Playback is not possible.

- If you are trying to play a WAV file, confirm that it uses a sampling frequency (44.1/48 kHz) and a bit depth (16/24-bit) that are supported by this unit.

There is noise.

- Confirm that the connection cables do not have contact issues.

Sound via Bluetooth breaks up or is noisy.

- Are there any wireless LAN devices, other Bluetooth devices, microwave ovens or similar equipment nearby?
  Keep such devices as far away as possible during use.
- Try reducing the distance between this unit and the other Bluetooth device. Try changing the positions of this unit and the other Bluetooth device.
- The operation of apps other than for music playback on the smartphone could cause the sound to break up. In this case, stop operation of apps other than the one used for music playback.

Cannot connect or communication is interrupted when using Bluetooth.

- Confirm that the other Bluetooth device power is on and that its Bluetooth function is on.
- Confirm that the other Bluetooth device is not too far away.
  Are there walls or other obstacles, for example, between this unit and the other Bluetooth device?
  Try changing the positions of this unit and the other Bluetooth device.
- Turn OFF and restart the Model 24.
- Remove the "Model 24" pairing record from the other Bluetooth device, and try pairing the unit with that Bluetooth device again. (See "Connecting with Bluetooth devices" on page 23.)

Cannot pair with another Bluetooth device.

- Confirm that the other Bluetooth device supports A2DP.
- Confirm that the other Bluetooth device is in a state that allows transmission. For details, check the operation manual of that Bluetooth device.
- Turn the power off for both this unit and the other Bluetooth device once, turn them both on again and try pairing them.
- Turn off Bluetooth devices other than the one that you are trying to pair with.
- Remove the "Model 24" pairing record from the other Bluetooth device, and try pairing the unit with that Bluetooth device again. (See "Connecting with Bluetooth devices" on page 23.)

A computer does not recognize the unit when connected by USB.

- Has the dedicated software been installed? (See "Installing the dedicated software (Windows only)" on page 42.)
- This unit cannot be used with USB 1.1. Use a USB 2.0 or USB 3.0 port.
- Do not use a USB hub with this unit. Always connect the unit directly to a USB port on the computer.
- If the above methods do not resolve the problem, connect the unit to a different USB port on the computer.

When connected by USB, sound breaks up or noise occurs.

- The processing load on the computer causes sound to break up and noise to occur.
- If a wireless LAN or background software, including antivirus software, is running, turn it off during use of this unit. In addition, please use "computer's power option" as "high performance setting".
- Use the shortest USB cable possible.
- Use a USB port built into the computer because the computer USB port affects the USB connection.

General

Supported media

SD cards (Class 10 or more)
SDHC cards (Class 10 or more)
SDXC cards (Class 10 or more)

File System

SD card: FAT16
SDHC card: FAT32
SDXC card: exFAT

Recording file formats

WAV (BWF): 44.1/48kHz, 16/24-bit (Maximum file size: 2 GB)

Playback file formats

WAV (BWF): 44.1/48kHz, 16/24-bit

Recordable Channel

Max. 24 channels (22ch + 2 stereo mix)

Inputs and outputs

Analog audio input and output ratings

MIC input jacks (1-12, 13, 15, 17, 19)

Connectors: XLR-3-31 (1: GND, 2: HOT, 3: COLD)
Maximum input level: +10 dBu
Nominal input level: -8 dBu
Minimum input level: -58 dBu
Gain adjustment range: 0 - 50 dB
Input impedance: 1.8 kΩ

LINE/INST (BAL) input jacks (1-2)

Connectors: 6.3mm (1/4") standard TRS jacks
(Tip: HOT, Ring: COLD, Sleeve: GND)
Maximum input level: +22 dBu
Nominal input level: +4 dBu
Gain adjustment range: -0 - +40 dB
Input impedance: 22 kΩ (LINE)/1 MΩ (INST)

LINE (BAL) input jacks (3-12)

Connectors: 6.3mm (1/4") standard TRS jacks
(Tip: HOT, Ring: COLD, Sleeve: GND)
Maximum input level: +22 dBu
Nominal input level: +4 dBu
Gain adjustment range: -0 - +40 dB
Input impedance: 22 kΩ

L/MONO (BAL) / R (BAL) input jacks (13/14-19/20)

Connectors: 6.3mm (1/4") standard TRS jacks
(Tip: HOT, Ring: COLD, Sleeve: GND)
Maximum input level: +22 dBu
Nominal input level: +4 dBu
Gain adjustment range: -20 - +30 dB
Input impedance: 22 kΩ

INSERT jacks (1-2)

Connectors: 6.3mm (1/4") standard TRS jacks
(Tip: HOT, Ring: COLD, Sleeve: GND)

RETURN (Ring)

Nominal input level: 0 dBu
Maximum input level: +18 dBu
Input impedance: 10 kΩ

SEND (Tip)

Nominal input level: 0 dBu
Maximum input level: +18 dBu
Input impedance: 100 Ω

–10dBV input jack (21/22)

Connectors: RCA pin jacks
Maximum input level: +8 dBV
Nominal input level: -10 dBV
Input impedance: 10 kΩ

STEREOinput jacks (21/22)

Connector: 3.5m stereo mini jack
Maximum input level: +8 dBV
Nominal input level: -10 dBV
Input impedance: 10 kΩ

MAIN OUTPUT connectors

Connectors: XLR-3-32 (1: GND, 2: HOT, 3: COLD)
Rated output level: +4 dBu
Maximum output level: +22 dBu
Output impedance: 100 Ω

SUB OUTPUT connectors

Connectors: 6.3mm (1/4") standard TRS jacks
(Tip: HOT, Ring: COLD, Sleeve: GND)
Rated output level: -2 dBu
Maximum output level: +16 dBu
Output impedance: 100 Ω

MON 1 / MON 2 AUX OUTPUT connectors

Connectors: 6.3mm (1/4") standard TRS jacks
(Tip: HOT, Ring: COLD, Sleeve: GND)
Rated output level: -2 dBu
Maximum output level: +16 dBu
Output impedance: 100 Ω

FX AUX OUTPUT connectors

Connectors: 6.3mm (1/4") standard TS jacks
(Tip: HOT, Sleeve: GND)
Rated output level: -2 dBu
Maximum output level: +16 dBu
Output impedance: 100 Ω

CONTROL ROOM L/R connectors

Connectors: 6.3mm (1/4") standard TRS jacks
(Tip: HOT, Ring: COLD, Sleeve: GND)
Rated output level: -2 dBu
Maximum output level: +16 dBu
Output impedance: 100 Ω

PHONES jack

Connectors: 6.3mm (1/4") standard stereo jack
Maximum output: 80mW + 80mW (32Ω load)

Control input/output

FOOTSWITCH jack

Connectors: 6.3mm (1/4") standard TS jacks (Tip: HOT, Sleeve: GND, Unlatch type correspondence)

USB port

Connector: 4-pin USB B-type

Protocol: USB 2.0 HIGH SPEED (480 Mbps)

Computer system requirements

Check the TEAC Global Site (http://teac-global.com/) for the latest information about supported operating systems.

Windows

Supported operating systems

Windows 10 32-bit

Windows 10 64-bit

Windows 8.1 32-bit

Windows 8.1 64-bit

Windows 7 32-bit SP1 or later

Windows 7 64-bit SP1 or later

(Windows 8, Windows Vista and Windows XP are not supported)

Computer hardware requirements

Windows computer with a USB 2.0 port

CPU/processor speed

2 GHz or faster dual core processor (x86)

Memory

2 GB or more

ATTENTION

Operation of this unit was confirmed using standard computers that meet the above requirements. This does not guarantee operation with all computers that meet the above requirements. Even computers that meet the same system requirements might have processing capabilities that differ according to their settings and other operating conditions.

Mac

Supported operating systems

macOS High Sierra (10.13 or later)

macOS Sierra (10.12 or later)

OS X El Capitan (10.11 or later)

Computer hardware requirements

Mac with a USB 2.0 port

CPU/processor speed

2 GHz or faster dual core processor

Memory

2 GB or more

Supported audio drivers

Windows

ASIO2.0, WDM

Mac

Core Audio

Audio performance

Noise

Residual output noise (22kHz, A-weighted)

MAIN MIX OFF: -100 dBu

MAIN MIX -0dB, 1ch-0dB: -80 dBu

Equivalent input noise (EIN)

-128 dBu (Rs=150 Ω, MIC IN ➝ INSERT SEND, gain knob at MAX, A-weighted)

Total harmonic distortion ratio (THD+N)

(gain knob at MIN, 1kHz)

MIC IN ➝ MAIN OUT: 0.01% or less

MIC IN ➝ MAIN OUT: 0.004% @+4dBu

Frequency response

(All **GAIN** knobs minimized, 1 kHz)

20Hz to 30kHz (+0.5/–1.0dB: Analog)

20Hz to 20kHz (+0.5/–1.0dB: Digital)

Crosstalk

(**PAN** knobs turned completely left or right, 1 kHz)

Between channels: -80 dB

Between input and output: -80 dB

Maximum gain

(All **GAIN** knobs maximized, **PAN** knobs turned completely left or right, **EQ** knobs and **STEREO GRAPHIC EQ** faders at middle positions)

MIC ➝ MAIN OUT: 74 dB

MIC ➝ INSERT OUT: 54 dB

MIC ➝ SUB OUT: 74 dB

MIC ➝ CONTROL ROOM OUT: 79 dB

MIC ➝ MONITOR OUT: 75 dB

MIC ➝ FX OUT: 75 dB

USB/SD ➝ MAIN OUT: 24 dB

Phantom Power

+48V

Bluetooth

Bluetooth version: 4.0

Output class: 2 (about 10m* unobstructed transmission distance)

Supported profiles: A2DP

Supported A2DP codecs: SBC, AAC

Supported A2DP content protection: SCMS-T

* The transmission distance is only an estimate and might vary depending on the surrounding environment and radio wave conditions.

Other

Power

AC100-240V, 50-60 Hz

Power consumption

52W

Dimensions

With side panels

576.0 × 513.0 × 117.4 mm (W x H x D, including protrusions)

Without side panels

540.0 × 503.0 × 117.4 mm (W x H x D, including protrusions)

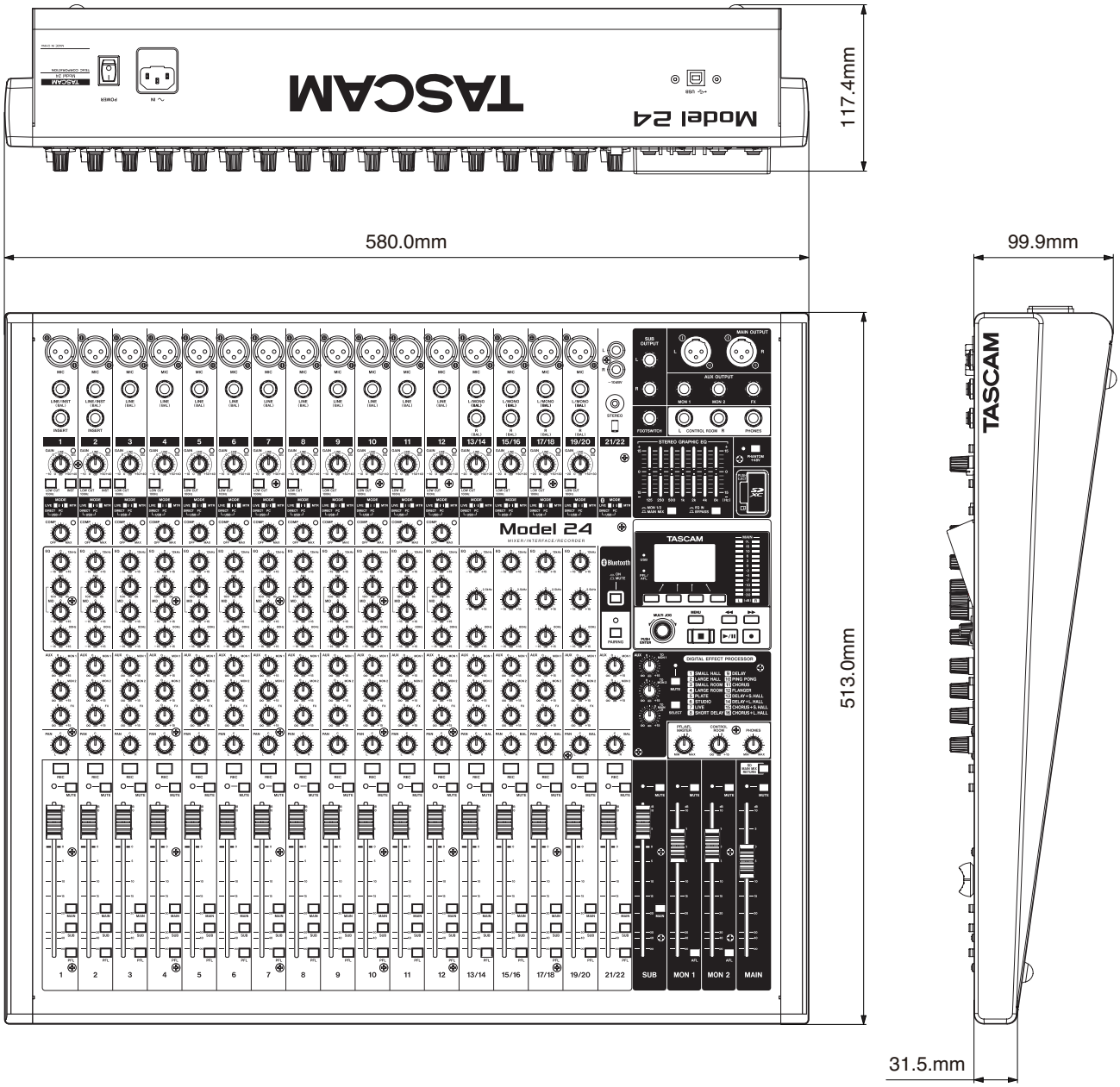
Weight

10kg

Operating temperature range

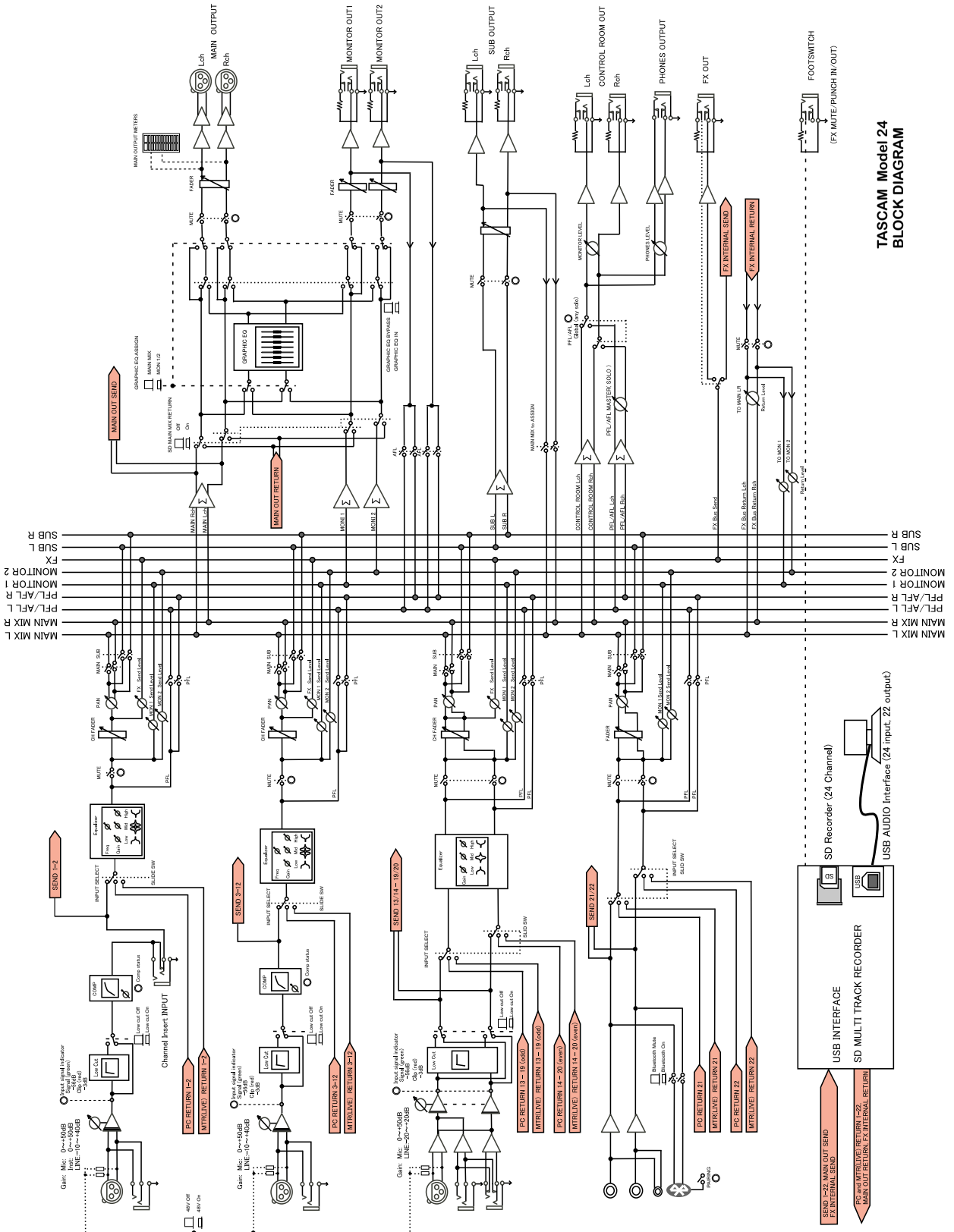
5°C – 35°C

Dimensional drawings

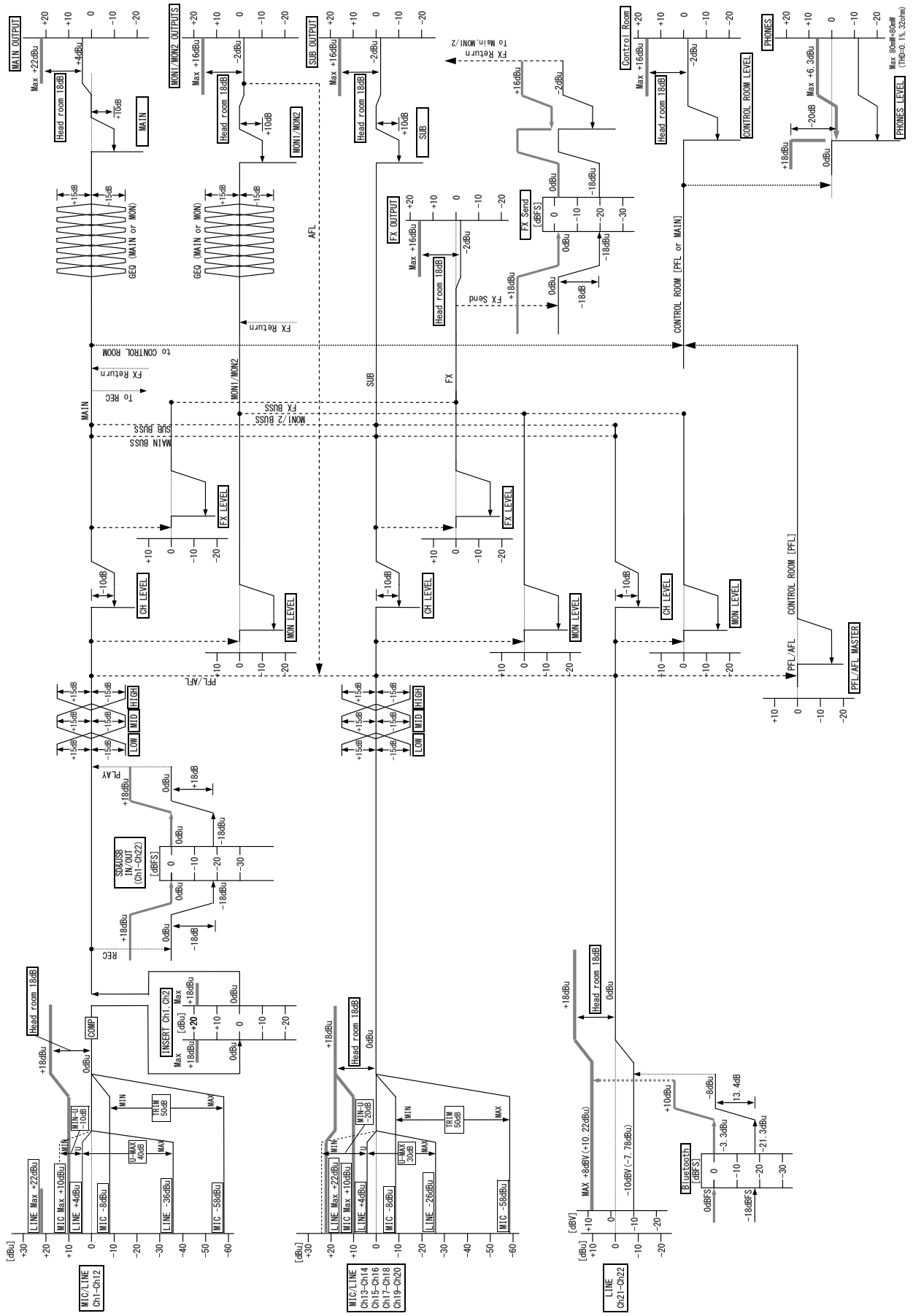


- Illustrations in this manual might differ in part from the actual product.
- Specifications and external appearance might be changed without notification to improve the product.

Block diagram



Level diagram



WARRANTY

< In the United States >

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. This warranty is only valid within the country the unit was originally purchased.

WHAT IS AND IS NOT COVERED

Except as specified below, this warranty covers all defects in materials and workmanship in this product. The following are not covered by the warranty:

1. **Damage to or deterioration of the external cabinet.**
2. **Damages resulting from accident, misuse, abuse or neglect.**
3. **Damage resulting from failure to perform basic daily maintenance and/or calibration or otherwise resulting from failure to follow instructions contained in your owner's manual.**
4. **Damage occurring during shipment of the product. (Claims must be presented to the carrier)**
5. **Damage resulting from repair or attempted repair by anyone other than TEAC or an authorized TASCAM service station.**
6. **Damage resulting from causes other than product defects, including lack of technical skill, competence, or experience of the user.**
7. **Damage to any unit which has been altered or on which the serial number has been defaced, modified or is missing.**

WHO IS COVERED UNDER THE WARRANTY

This warranty may be enforced only by the original purchaser. This warranty is not valid if the product was purchased through an unauthorized dealer.

LENGTH OF WARRANTY

All parts except heads and disk drives are warranted for one (1) year from the date of original purchase. Heads and disk drives are warranted to ninety (90) days from date of original purchase. Labor is warranted for ninety (90) days from date of original purchase.

WHAT WE WILL PAY FOR

We will pay all labor and material expenses for items covered by the warranty. Payment of shipping charges is discussed in the next section of this warranty.

HOW YOU CAN GET WARRANTY SERVICE

Your unit must be serviced by an authorized TASCAM service station in the United States. (This warranty is not enforceable outside the U.S.) If you are unable to locate an authorized TASCAM service station in your area, please contact us. We either will refer you to an authorized service station or instruct you to return the unit to the factory. Whenever warranty service is required, you must present a copy of the original dated sales receipt from an Authorized TASCAM Dealer.
You must pay any shipping charges if it is necessary to ship the product to service. However, if the necessary repairs are covered by the warranty, we will pay return surface shipping charges to any destination within the United States.

LIMITATION OF IMPLIED WARRANTIES

Any implied warranties, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

TEAC's liability for any defective product is limited to repair or replacement of the product, at TEAC's option. TEAC shall not be liable for:

1. **Damages based upon inconvenience, loss of use of the product, loss of time interrupted operation or commercial loss; or**
2. **Any other damages, whether incidental, consequential or otherwise.**

Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

To locate an Authorized Service Center in Your Area

CALL 1-800-447-8322

< Europe >

This product is subject to the legal warranty regulations of the country of purchase. In case of a defect or a problem, please contact the dealer where you bought the product.

Ce produit est sujet aux réglementations concernant la garantie légale dans le pays d'achat. En cas de défaut ou de problème, veuillez contacter le revendeur chez qui vous avez acheté le produit.

Dieses Gerät unterliegt den gesetzlichen Gewährleistungsbestimmungen des Landes, in dem es erworben wurde. Bitte wenden Sie sich im Gewährleistungsfall an den Händler, bei dem sie das Gerät erworben haben.

Questo apparecchio è conforme alle norme sulla garanzia vigenti nel rispettivo Paese in cui esso è stato acquistato. Si prega di rivolgersi al proprio commerciante, presso il quale è stato acquistato l'apparecchio, nel caso in cui si voglia richiedere una prestazione in garanzia.

Las condiciones de garantía de este aparato están sujetas a las disposiciones legales sobre garantía del país en el que ha sido adquirido. En caso de garantía, debe dirigirse al establecimiento donde adquirió el aparato.

< In other countries/areas >

This warranty gives you specific legal rights, and you may also have other rights that vary by country, state or province.
If you have a warranty claim or request, please contact the dealer where you bought the product.

该保证书赋予了顾客特定的合法权利，并且因国家，州或省等地域的不同，顾客可能拥有其他权利。如需申请或要求保修，请与购买本产品的销售店进行联系。

If you require repair services for your **TASCAM** equipment, please contact the dealer where the product was purchased from or the **TASCAM** Distributor in your country. A list of **TASCAM** Distributors can be found on our website at: **http://teac-global.com/**

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WARRANTY

Model/Modèle/Modell
Modello/Modelo/型号

Model 24

Owner's name/Nom du possesseur/Name des Eigentümers
Nome del proprietario/Nombre del propietario/顾客姓名

Serial No./No de Série/Seriennummer
Numero di serie/Número de serie/序列号

Address/Adresse/Adresse
Indirizzo/Dirección/顾客地址

Date of purchase/Date de [illegible]chat/Dat[illegible]es Kau[illegible]
Data dell'acquisto/Fecha d[illegible]compra/购买[illegible]

Dea[illegible]e/N[illegible]m d[illegible]e[illegible]illant/Nam[illegible] des Händlers
on[illegible]del c[illegible]nn[illegible]cia[illegible]n[illegible]bre del e[illegible]tablecimiento/销售店名

[illegible]/Adresse des Händlers
Indirizzo del commerciante/Dirección del establecimiento/销售店地址

Sample

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http://teac-global.com/