TASCAM
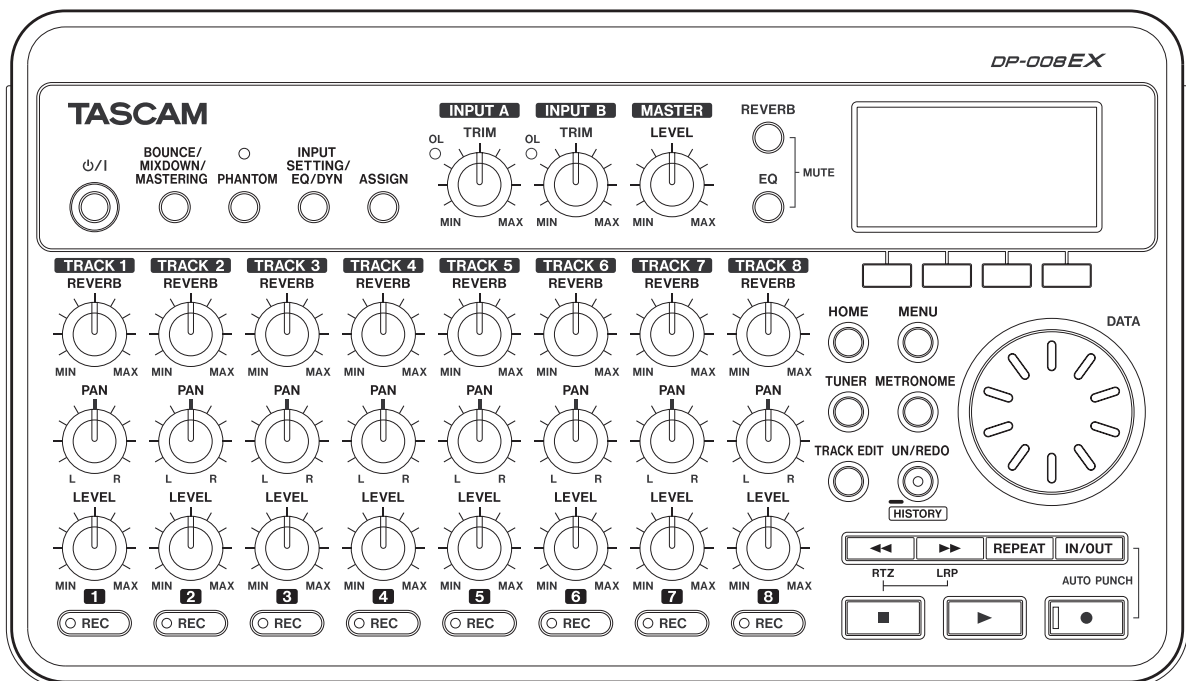
DP-008EX
Digital Multitrack Recorder

OWNER'S MANUAL

IMPORTANT SAFETY PRECAUTIONS

⚡ **CAUTION** RISK OF ELECTRIC SHOCK DO NOT OPEN	⚠	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.

■ For U.S.A

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.

Declaration of Conformity

Model Number	:	DP-008EX
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.

This appliance has a serial number located on the rear panel. Please record the model number and serial number and retain them for your records.

Model number   _____

Serial number   _____

■ For Canada

THIS CLASS B DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.
CET APPAREIL NUMÉRIQUE DE LA CLASSE B EST CONFORME À LA NORME NMB-003 DU CANADA.

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 is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

- 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.

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

■ For European Customers

Disposal of electrical and electronic equipment

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

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

(c) Improper disposal of waste equipment can have serious effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment.

(d) The crossed out wheeled dust bin symbol indicates that electrical and electronic equipment must be collected and disposed of separately from household waste.

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

Disposal of batteries and/or accumulators

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

(b) By disposing of waste batteries and/or 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 batteries and/or accumulators can have serious effects on the environment and human health as a result of the presence of hazardous substances in batteries and/or accumulators.

(d) The crossed out wheeled dust bin symbol indicates that batteries and/or accumulators must be collected and disposed of separately from household waste.

If the battery or accumulator contains more than the specified values of lead (Pb), mercury (Hg), and/or cadmium (Cd) defined in the Battery Directive (2006/66/EC), then the chemical symbols for lead (Pb), mercury (Hg) and/or cadmium (Cd) will be indicated beneath the crossed out wheeled dust bin symbol.

Pb, Hg, Cd

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

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 ($\oplus$ / $\ominus$) 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.

■ For China

产品有毒有害物质或元素的名称及含量

机种：DP-008EX		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	PCB Assy 部份	×	○	○	○	○	○
3	线材部份	○	○	○	○	○	○
4	附属品部份	×	○	○	○	○	○
5	SEAL 部份	○	○	○	○	○	○
6	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 ）

Contents

Contents

1 – Introduction

Thank you for your purchase of the TASCAM DP-008EX Digital Multitrack Recorder.

Before connecting and using the unit, please take time to read this manual thoroughly to ensure you understand how to properly set up and connect the unit, as well as the operation of its many useful and convenient functions. After you have finished reading this manual, please keep it in a safe place for future reference.

You can also download the Owner's Manual from the TEAC Global Site (http://teac-global.com/).

Features

Using this unit with an SD card, you can record two tracks simultaneously and work with up to 8 tracks in a multitrack project. In addition, you can use the unit's mixer, mastering (automatic and manual) and input dynamics functions to mix multitrack recordings down to stereo and create a stereo master track.

This stereo master track can then be transferred to a computer connected by USB. In addition to copying individual and stereo master tracks from this unit to a computer, song files can also be backed up to a computer.

- Portable 8-track recorder that can record 2 tracks simultaneously and play back 8 tracks
- CD-quality recording (16-bit, 44.1kHz)
- Built-in omnidirectional stereo condenser mic suppresses pickup of background noise (Low and High input gain settings)
- Guitars and basses can be directly connected to 2 mic/line inputs (**INPUT A/B**)
- Independent **LEVEL**, **PAN** and **REVERB** knobs for each track allow intuitive operation
- Wheel allows rapid location to specific points (direct location function)
- Set and use IN and OUT points as you like for repeat playback and editing
- Separate stereo master track in addition to 8 independent tracks
- Bounce function allows recording of more than 8 tracks
- Punch in/out function allows parts to be re-recorded as necessary
- Track editing functions include duplicating and deleting recorded tracks, partial clearing and deletion and silence insertion
- Recording and editing operations can be undone and redone
- Chromatic tuner with meters provides visual feedback during tuning
- Metronome
- Transfer files to computers connected by USB 2.0
- Backup and restore songs

- Import and export stereo WAV files to stereo tracks
- Export stereo masters as stereo WAV files
- Operates on four AA batteries or a TASCAM PS-P520E AC adaptor (sold separately)
- 2GB SD card included

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
- SD Card (inside unit) 1
- AA alkaline batteries 4
- USB cable (80cm) 1
- Warranty card 1
- Owner's Manual (this manual)............................. 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.
- The ► button is indicated as the Play (►) button, the ■ button as the Stop (■) button and the ● button as the Record (●) button.
- Selectable items and messages shown on the display are indicated like this: MENU
- The four buttons beneath the LCD display are called function buttons and are referred to as **F1**, **F2**, **F3** and **F4** from left to right. Their functions are shown above them at the bottom of the display and after the button name in brackets in this manual.

  Examples: **F2** [EXEC] button, **F4** [►] button

- SD memory cards are called "SD cards".
- Words that appear on the computer display are shown in quotation marks like this: "DP-008EX"
- The currently selected MTR partition is called the "active partition".
- Additional information is provided as necessary as tips, notes and cautions.

> **TIP**
>
> *These are tips about how to use the unit.*

> **NOTE**
>
> *These provide additional explanations and describe special cases.*

> **CAUTION**
>
> *Failure to follow these instructions could result in injury, damage to equipment or lost recording data, for example.*

Trademarks

- TASCAM is a registered trademark of TEAC Corporation.
- Microsoft, Windows, Windows Vista, and Windows 7 are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Apple, Macintosh, iMac, Mac OS and Mac OS X are trademarks of Apple Inc.
- Other company names, product names and logos in this document are the trademarks or registered trademarks of their respective owners.

Any data, including, but not limited to information, described herein are intended only as illustrations of such data and/or information and not as the specifications for such data and/or information. TEAC Corporation disclaims any warranty that any use of such data and/or information shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes no liability of whatsoever nature in the event of any such infringement, or arising from or connected with or related to the use of such data and/or information.

This product is designed to help you record and reproduce sound works to which you own the copyright, or where you have obtained permission from the copyright holder or the rightful licensor. Unless you own the copyright, or have obtained the appropriate permission from the copyright holder or the rightful licensor, your unauthorized recording, reproduction or distribution thereof may result in severe criminal penalties under copyright laws and international copyright treaties. If you are uncertain about your rights, contact your legal advisor. Under no circumstances will TEAC Corporation be responsible for the consequences of any illegal copying performed using the recorder.

1 – Introduction

About SD cards

This unit uses SD cards for recording and playback.
SD cards that meet SD/SDHC standards and are at least 512 MB can be used with this unit.

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 a card or the card slot, 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.

Precautions for installation

- The unit's nominal operating temperature is from 5º to 35º C (41º–95º F).
- Do not install in the following types of places. Doing so could degrade the sound quality or cause malfunctions.

    • Places with significant vibrations

    • Near windows or other places exposed to direct sunlight

    • Near heaters or other extremely hot places

    • Extremely cold places

    • Places with high humidity or bad ventilation

    • Dusty places

    • Places directly exposed to rain or other water

- Do not place this unit on top of a power amplifier or other device that generates heat.

Beware of condensation

If the unit is moved from a cold to a warm place, or used immediately after a cold room has been heated or otherwise exposed to a sudden temperature change, condensation could occur. Should this happen, leave the unit for one or two hours before turning the unit on.

Cleaning the unit

To clean the unit, wipe it gently with a soft dry cloth. Do not wipe with chemical cleaning cloths, paint thinner, ethyl alcohol or other chemical agents to clean the unit as they could damage the surface.

User registration

Customers in the USA, please visit the TASCAM website (https://tascam.com/us/) to register as a user online.

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.

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.

Playback and mixing

First, we will play the demo song on the included SD card. When the unit is purchased new, the SD card with the demo song is already in it, but we will start by explaining how to insert an SD card.

Preparing the unit

1. Open the SD card slot cover on the right side of the unit and insert the included SD card into the slot.

   Do not insert the card with the wrong orientation and apply unnecessary force. This could damage the SD card slot or the card itself.
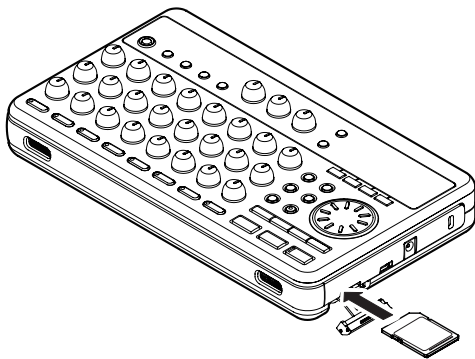
2. After inserting the SD card, close the SD card slot cover.

3. Insert four AA batteries into the battery compartment on the bottom of the unit according to the ⊕ and ⊖ indications inside the compartment. In addition to alkaline batteries, this unit can also use NiMH batteries.
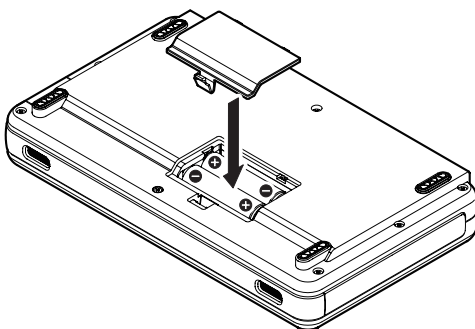
4. Close the battery compartment cover after installing the batteries.

5. Connect headphones to the **PHONES** connector on the back of the unit.

Headphone

6. Press and hold the ⏻/| button on the top of the unit until "TASCAM" appears on the display.

   After starting up, as shown below, the Home Screen appears on the display.
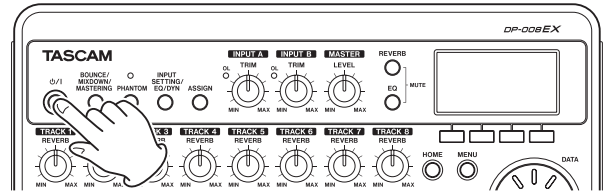
Startup screen   Home Screen

CAUTION

- *Do not remove or insert the SD card when the unit's power is ON.*
  Make sure the unit's power is OFF (in standby mode) before you remove or insert an SD card.

- *If you remove or insert an SD card when the unit's power is ON, the unit cannot shut down properly and all recorded data and setting changes since the last time the unit was shut down properly or the song was saved will be lost. These lost data and settings cannot be recovered.*

- *Do not remove the batteries or disconnect the power cord while the unit's power is ON.*

- *The included alkaline batteries are for confirming operation of the unit. For this reason, they might not last very long.*

- *Before turning the power ON or OFF (putting it in standby mode), minimize the volume on any connected external monitoring system (powered monitor speakers or an amplifier and speakers).*

- *Do not wear headphones connected to the unit when turning its power ON or OFF (putting it in standby mode). Doing so could cause loud noises that might harm your hearing.*

TIP

- *This unit can also be powered by a TASCAM PS-P520E power adaptor (sold separately). (See "Using an AC adaptor (sold separately)" on page 33")*

- *By connecting an external monitoring system (powered monitor speakers or an amplifier and speakers) to the LINE OUT jack on the back of the unit, you can monitor using speakers.*

Listening to the demo song

Before the unit is shipped, a demo song is stored on its SD card. We are now going to use basic playback and mixing features with this demo song.

1. Press the **HOME** button to open the Home Screen.
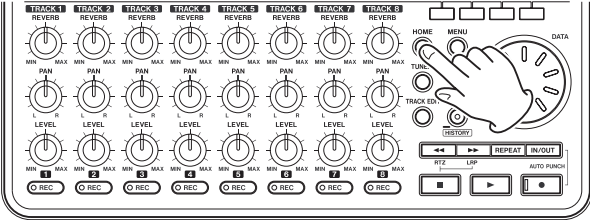
2. When the recorder is stopped, press the **MENU** button to open the MENU screen.
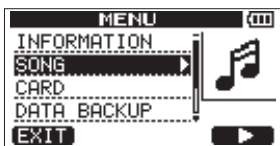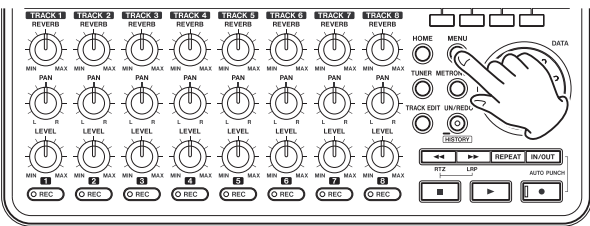
3. Use the **DATA** wheel to select (highlight) SONG, and press the **F4** [▶] button to open the SONG menu screen.
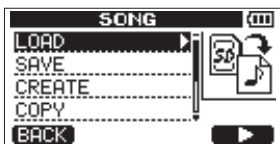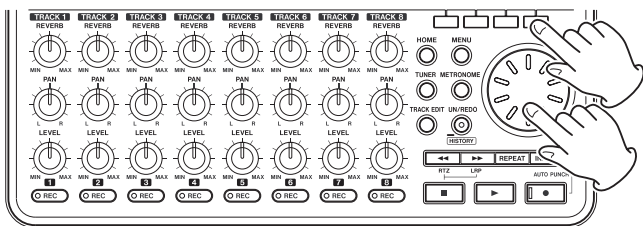
4. Use the **DATA** wheel to select (highlight) LOAD, and press the **F4** [▶] button to open the SONG LOAD screen that shows a list of songs.
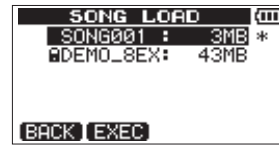
5. Use the **DATA** wheel to select (highlight) DEMO_8EX, and press the **F2** [EXEC] button.

   The demo song loads and the SONG screen reopens.
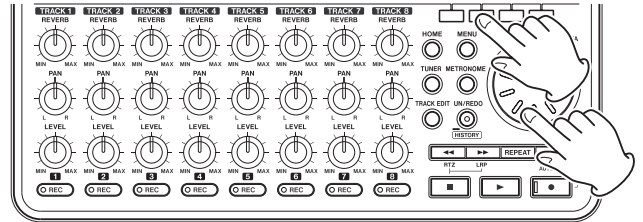
6. Press the **HOME** button to return to the Home Screen.

7. Press the Play (►) button and turn up the **TRACK 1–8 LEVEL** knobs, the **MASTER LEVEL** knob and the **VOLUME** dial on the back of the unit to until you can hear the demo song.

   The **MASTER LEVEL** knob adjusts the volume of all eight tracks at the same time. The standard position of this knob is around 2–3 o'clock.

   Use the **TRACK 1–8 LEVEL** knobs to adjust the balance among the tracks.

   Use the **VOLUME** dial on the back of the unit to adjust the final monitoring level.
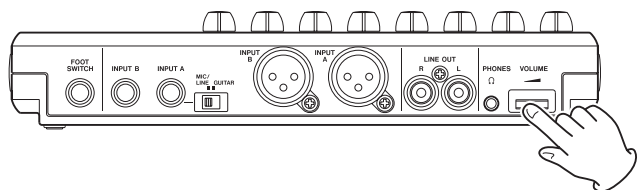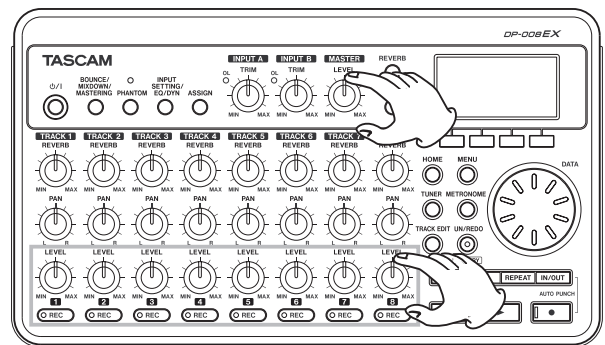
8. Use the **TRACK 1–8 PAN** knobs to adjust the stereo positions of each track.
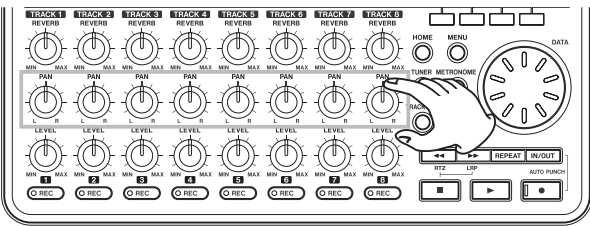
TIP

- *Press the ◀◀ [RTZ] button while pressing and holding the Stop (■) button to use the return to zero (RTZ) function to jump to the beginning of the song (00h00m00s00f).*
- *When using a menu, if you make a mistake pressing a button and the wrong screen appears, press the **HOME** button to return to the Home Screen.*

From recording to mastering

Next, we will make a multitrack recording.

In the following example, we will use a guitar to record a rhythm guitar part on track 1 and a lead guitar part on track 2. Then, we will use the built-in mic to record singing on track 3. Finally, we will mix the tracks down to a stereo track.

We assume that you have already followed the instructions in the previous "Playback and mixing" section and that you have already connected headphones and installed an SD card.

TIP

*This example uses the built-in mic for recording vocals, but you could also connect an external mic to an **INPUT A/B** connector on the back of the unit and record with it instead.*

Creating a new song

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.

2. Use the **DATA** wheel to select (highlight) the SONG menu, and press the **F4** [▶] button to open the SONG menu screen.
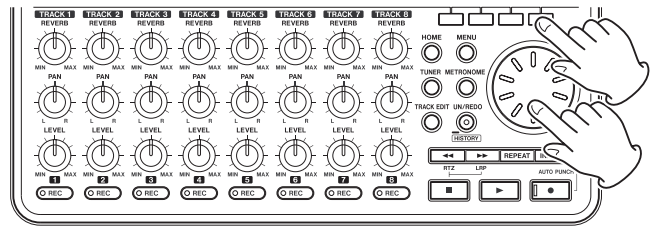
3. Use the **DATA** wheel to select (highlight) CREATE, and press the **F4** [▶] button to open the SONG CREATE screen.
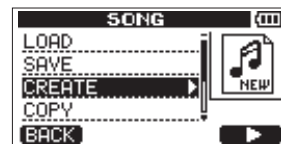
When a new song is created, it is given the name (title)"SONG***" (where ***is a number).

4. Change the song name as necessary. (See "Editing names" on page XX.)

5. Press the **F2** [EXEC] button to save the currently loaded song and create a new song.

6. Press the **HOME** button to return to the Home Screen.
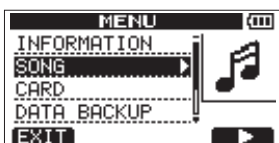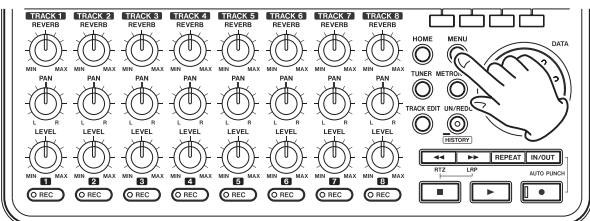
Connecting and setting input sources

1. Connect a guitar to the **INPUT A** jack on the rear panel.
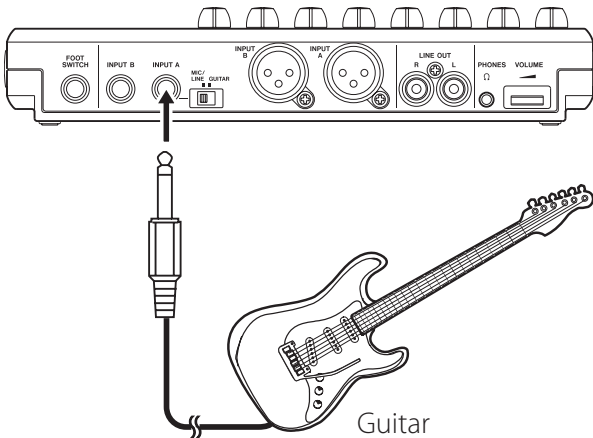
Guitar

2. Set the **MIC/LINE–GUITAR** switch on the rear panel to **GUITAR**.
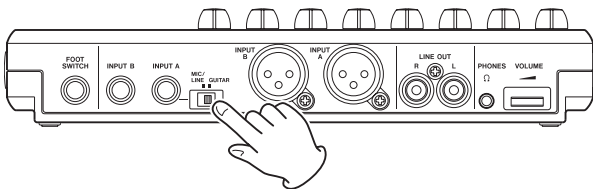
TIP

When connecting an electric-acoustic guitar with a built-in preamp or an active electric guitar, as well as when connecting an electric guitar with an effect box between it and this unit, for example, set the **MIC/LINE–GUITAR** *switch to* **MIC/LINE.**

3. Press the **INPUT SETTING/EQ/DYN** button to open the INPUT SETTING screen.

   On this screen you can set the input sources for both **INPUT A** and **INPUT B**.

   At first, the current input source for **INPUT A** is already selected (highlighted).
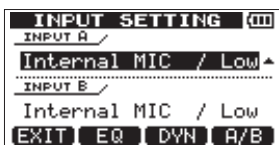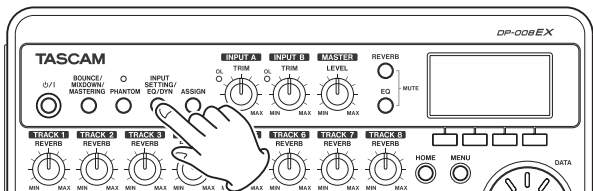
4. In order to use the external line input to record guitar to tracks 1 and 2, use the **DATA** wheel to set the **INPUT A** input source to Ext. Input, LINE/Low, Ext. Input/Mid or Ext. Input/High (out of five options). (See "Selecting the input source" on page 42.)
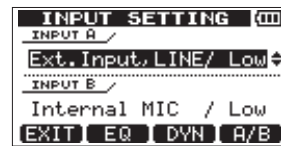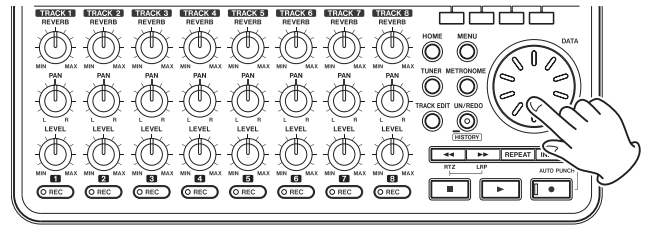
NOTE

- *The input level gain differs for the three settings (*Ext. Input, LINE/Low, Ext. Input/Mid *and* Ext. Input/High*). Set it according to the loudness of the input.*
  If you are not sure which setting to use, choose Ext.Input, LINE/Low. *If the input level is too low when adjusting it, return to the* INPUT SETTING *screen and change the setting to* Ext. Input/Mid. *If the input level is still too low, set it to* Ext. Input/High.

5. Press the **F4** [A/B] button to select (highlight) The current input for **INPUT B**.
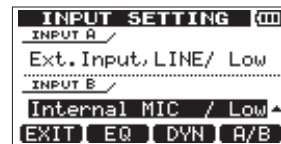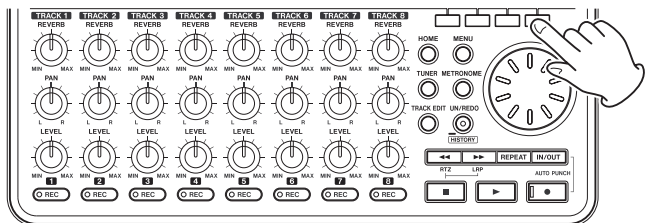
6. In order to use the built-in mic to record singing to track 3, use the **DATA** wheel to set the **INPUT B** input source to `Internal MIC/Low` or `Internal MIC/High`. (See "Selecting the input source" on page 42.)

   This sets the built-in mic on the right side of the front panel (**MIC B**) as the input source for **INPUT B**.

NOTE

> `Internal MIC/Low` *and* `Internal MIC/High` *change the input gain of the built-in mics. Set it according to the loudness of the input.*
> *If you are not sure which setting to use, choose* `Internal MIC/Low.` *If the input level is too low after adjusting it, return to the* `INPUT SETTING` *screen and change the setting to* `Internal MIC/High.`

7. After changing the setting, press the **HOME** button to return to the Home Screen.

Setting the guitar as the TRACK 1 recording source

When the recorder is stopped, press the **ASSIGN** button to open the `INPUT ASSIGN` screen, which has the following default values.

Recording track	Recording source	Default
TRACK 1, 3, 5, 7	**INPUT A**	`A`
TRACK 2, 4, 6, 8	**INPUT B**	`B`

In "Connecting and setting the input sources" above, we made a guitar the input source for **INPUT A** and a built-in mic (**MIC B**) the input source for **INPUT B** on the `INPUT SETTING` screen.

Therefore, the guitar is already set to record to tracks 1, 3, 5 and 7 and the built-in mic (**MIC B**) is ready to record to tracks 2, 4, 6 and 8.

As a result, there is no need to change the input source assignments to record the guitar to **TRACK 1** in this example.

Adjusting the input level and monitoring

1. Press the **HOME** button to return to the Home Screen.
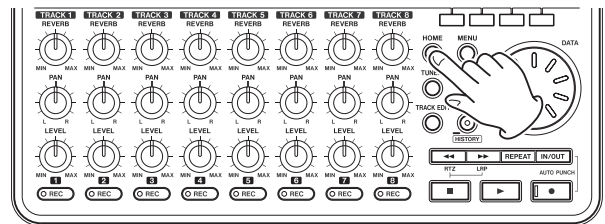
2. Press the **TRACK 1 REC** button to put the track into recording standby.

    The **REC** indicator blinks when in recording standby.
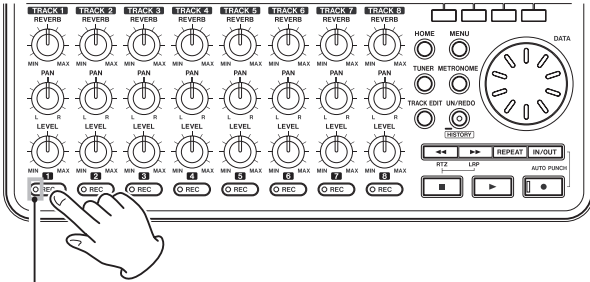
TRACK 1 REC indicator

3. Use the **INPUT A TRIM** knob to adjust the guitar input level.

    Set the **TRIM** knob so that the **INPUT A OL** indicator does not light even when the loudest sound to be recorded is input.
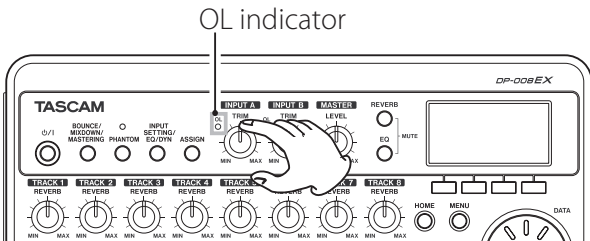
OL indicator

When you play the guitar, the input level is shown by the ▣ (**INPUT A**) and ▣ (**TRACK 1**) meters on the display.

Turn up the **TRACK 1 LEVEL** and **MASTER LEVEL** knobs and the **VOLUME** dial on the back of the unit to hear the guitar sound through the headphones. When doing so, the ▣ (left channel) and ▣ (right channel) meters on the display become active.

MULTI TRACK 00ₕ00ₘ00ₛ00f

NOTE

- *If the OL indicator continues to light even when the **TRIM** knob is turned down, the guitar signal itself is too loud. In this case, if the input source is set to* Ext. Input/High*, change it to* Ext. Input/Mid *or* Ext.Input, LINE/Low*. If the input source is set to* Ext. Input/Mid*, change it to* Ext. Input, LINE/Low*.
    If the OL indicator lights even when set to* Ext. Input, LINE/Low*, lower the volume output from the guitar.*

- *You can use the **TRACK 1 PAN** knob to adjust the stereo position of the signal when monitoring.*

- *The input signal cannot be heard if the **TRACK 1 REC** indicator is not lit.*

Recording guitar to TRACK 1

1. Press the Play (▶) button while pressing and holding the Record (●) button to start recording, and the play the rhythm guitar part.

    The Record (●) indicator lights and the **TRACK 1 REC** indicator stops blinking and stays lit.
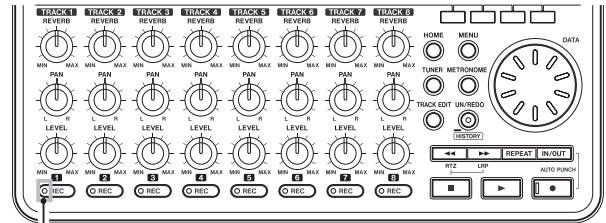
TRACK 1 REC indicator

2. When you are finished playing, press the Stop (■) button to stop recording.

3. Press the **TRACK 1 REC** button to turn its **REC** indicator off.

Playing back the recording

1. Press the ◄◄ [RTZ] button while pressing and holding the Stop (■) button to use the return to zero (RTZ) function to jump to the beginning of the song (00h00m00s00f).

2. Press the Play (►) button to play the **TRACK 1** recording.

3. Use the **TRACK 1 LEVEL** and **MASTER LEVEL** knobs to adjust the monitoring level.

   Use the **VOLUME** dial on the back of the unit to adjust the final monitoring volume.
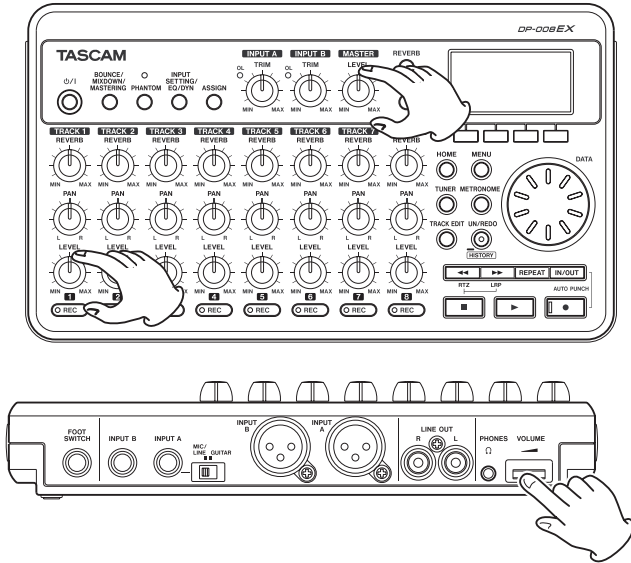
TIP

You can use the **TRACK 1 PAN** *knob to adjust the stereo position of the signal when monitoring.*

4. When you are done listening to the recording, press the Stop (■) button to stop playback.

Record guitar to TRACK 2

Now, you will record the lead guitar on **TRACK 2** while listening to the rhythm guitar on **TRACK 1**.

Use the following procedures to change the recording source for **TRACK 2**.

1. When the recorder is stopped, press the **ASSIGN** button to open the INPUT ASSIGN screen.
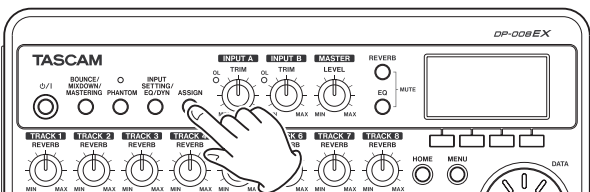
2. Press the **TRACK 2 REC** button to set the TRACK 2 SOURCE to A.
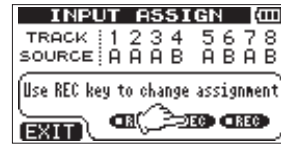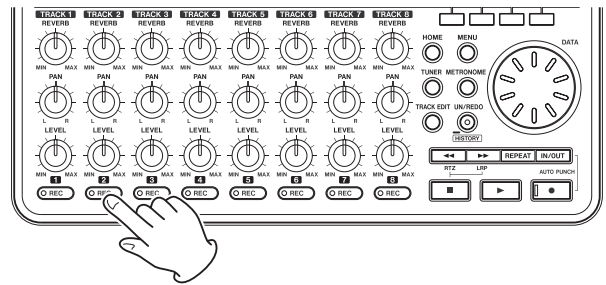
3. Press the **HOME** button to return to the Home Screen.
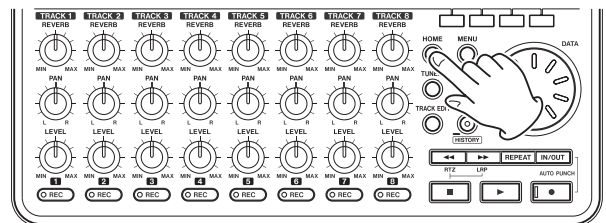
4. Press the **TRACK 2 REC** button to put the track into recording standby.

   The **REC** indicator blinks when in recording standby.

   When you play the guitar, the input level is shown by the ▣ (**INPUT A**) and ▣ (**TRACK 2**) meters on the display.

   Turn up the **TRACK 2 LEVEL** to hear the guitar sound through the headphones. When doing so, the ▣ (left channel) and ▣ (right channel) meters on the display become active.
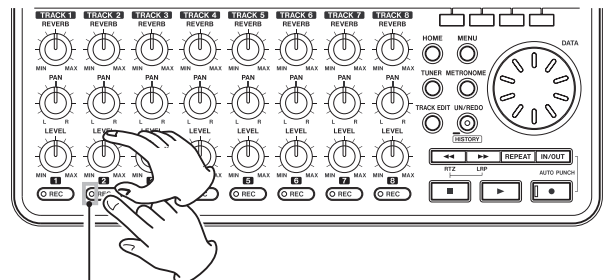
TRACK 2 REC indicator

5. Return to the beginning of the song (00h00m00s00f) and press the Play (►) button to begin playback of the recording on **TRACK 1**. Play the lead guitar part along with the already recorded rhythm guitar.

    You can hear both **TRACK 1** playing back and the sound of the input guitar through the headphones.

6. As necessary, use the **TRACK 1** and **2 LEVEL** and **PAN** knobs, the **MASTER LEVEL** knob and the **VOLUME** dial on the back of the unit to adjust the monitoring levels and balance.
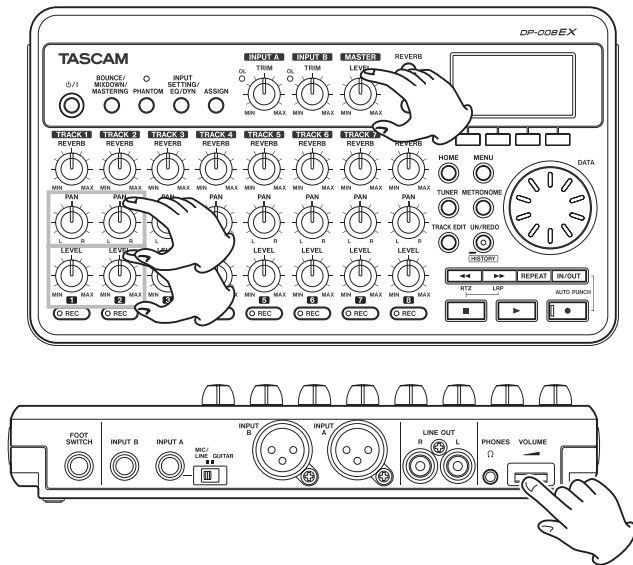
7. When you are finished checking, press the Stop (■) button to stop playback.

8. Return to the beginning of the song (00h00m00s00f) and press the Play (►) button while pressing and holding the Record (●) button to begin recording. Play the lead guitar part.

    The Record (●) indicator lights and the **TRACK 2 REC** indicator stops blinking and stays lit.

9. When you are finished playing, press the Stop (■) button to stop recording.

10. Press the **TRACK 2 REC** button to turn its **REC** indicator off.

NOTE

If the indicator continues to light even when the **TRIM** *knob is turned down, the guitar signal itself is too loud. In this case, if the input source is set to* `Ext. Input/High`*, change it to* `Ext. Input/Mid` *or* `Ext.Input, LINE/Low` *If the input source is set to* `Ext. Input/Mid`*, change it to* `Ext. Input, LINE/Low` *If the OL indicator lights even when set to* `Ext. Input, LINE/Low`*, lower the volume output from the guitar.*

Record vocals on TRACK 3

1. Press the ASSIGN button to open the `INPUT ASSIGN` screen.
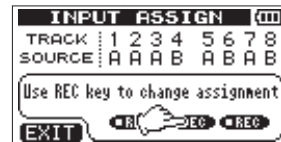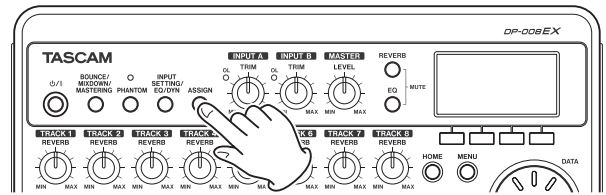
2. Press the **TRACK 3 REC** button to set the `TRACK 3 SOURCE` to `B`.
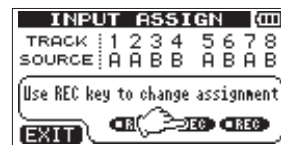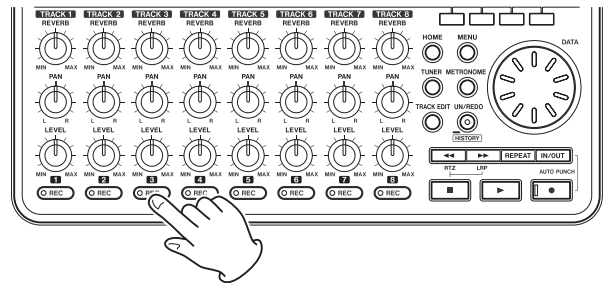
3. Press the **HOME** button to return to the Home Screen.
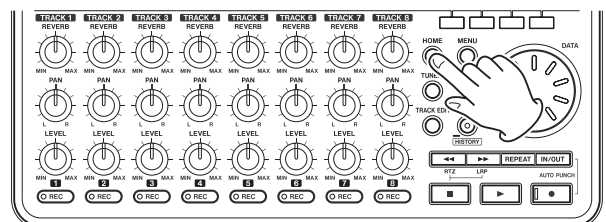
4. Press the **TRACK 3 REC** button to put the track into recording standby.

   The **REC** indicator blinks when in recording standby.

TRACK 3 REC indicator
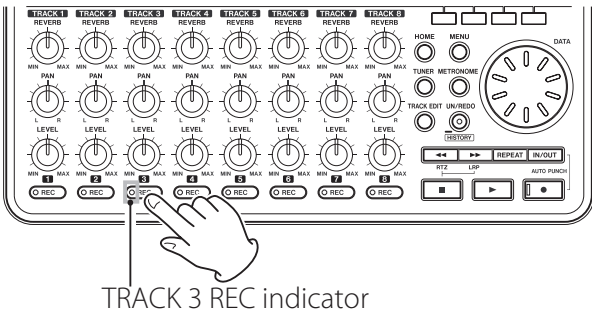
5. Use the **INPUT B TRIM** knob to adjust the mic input level.

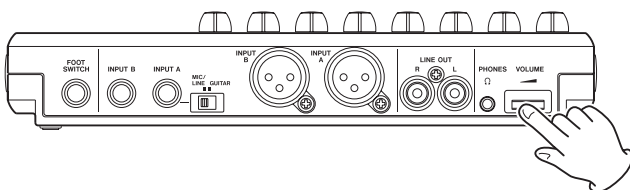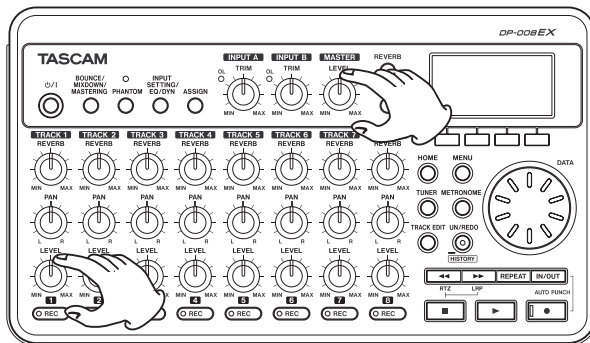   Set the **TRIM** knob so that the INPUT B OL indicator does not light even when the loudest sound to be recorded is input.

OL indicator
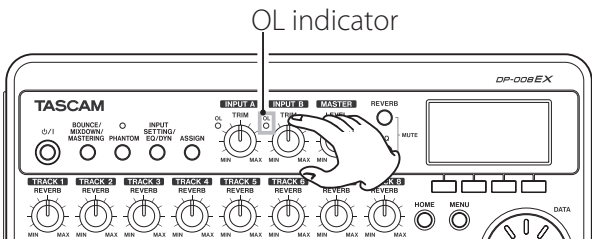
When you input sound into the built-in mic (**MIC B**), the input level is shown by the ▤ (INPUT B) and ▥ (**TRACK 3**) meters as well as the ▤ (left channel) and ▥ (right channel) meters on the display.

With the **MASTER LEVEL** knob and the **VOLUME** dial on the back of the unit already turned up, turn up the **TRACK 3 LEVEL** knob to hear the mic sound through the headphones
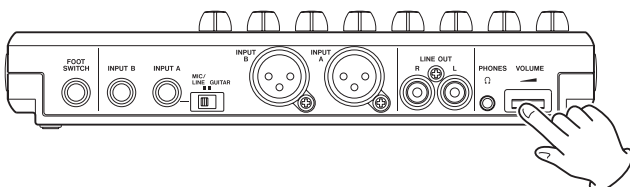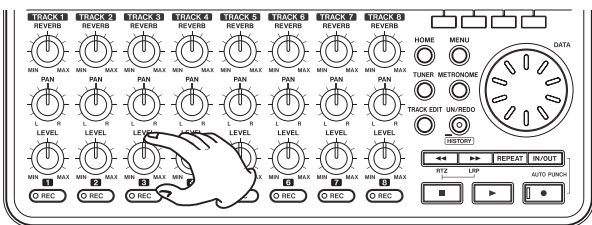

NOTE

- *If the OL indicator continues to light even when the* **TRIM** *knob is turned down, the mic signal itself is too loud. In this case, if the input source is set to* `Internal MIC/High`*, change it to* `Internal MIC/Low`
  If the OL indicator lights even when set to `Internal MIC/Low`*, move the sound source away from the mic or lower the volume at the sound source.*

- *When the input source is a built-in mic, if the* **REC** *indicator for the* **TRACK** *that has the built-in mic set as its input source is not lit, the input sound cannot be heard through the headphones or connected monitoring system.*

CAUTION

Always monitor through headphones when using a mic. If you monitor through speakers, feedback could occur.

6. Return to the beginning of the song (00h00m00s00f) and press the Play (►) button to begin playback of the recordings on **TRACK 1** and **TRACK 2**. Sing along with the already recorded rhythm and lead guitar parts.

   You can hear the guitars on **TRACK 1** and **TRACK 2** playing back and your singing through the headphones.

7. As necessary, use the **TRACK 1** and **2 LEVEL** and **PAN** knobs, the **MASTER LEVEL** knob and the **VOLUME** dial on the back of the unit to adjust the monitoring levels and balance.
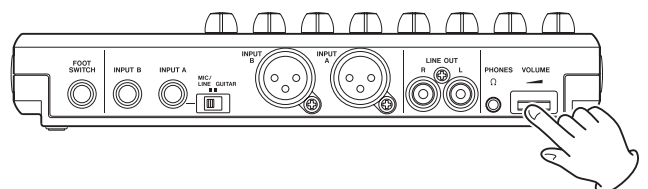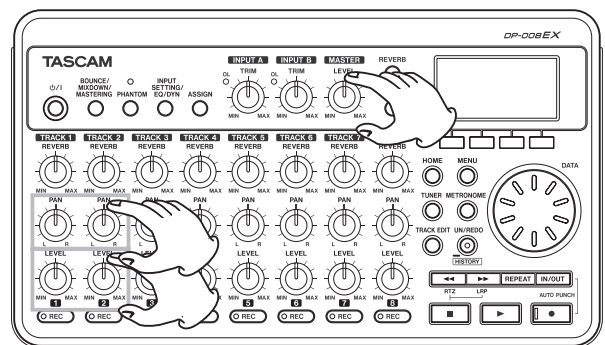
8. When you are finished checking, press the Stop (■) button to stop playback.
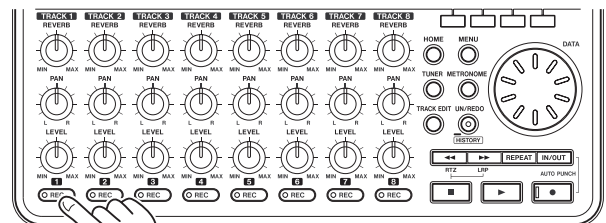
9. Return to the beginning of the song (00h00m00s00f) and press the Play (►) button while pressing and holding the Record (●) button to begin recording. Play the lead guitar part.

   The Record (●) indicator lights and the **TRACK 3 REC** indicator stops blinking and stays lit.

10. When you are finished playing, press the Stop (■) button to stop recording.

11. Press the **TRACK 3 REC** button to turn its **REC** indicator off.
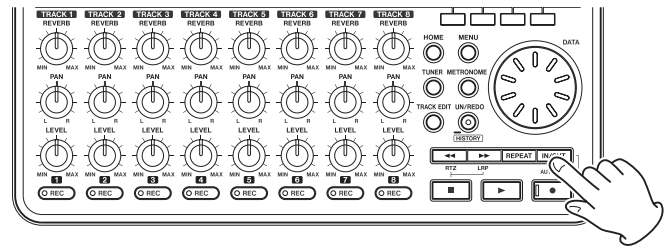
Creating a stereo master track

After finishing the recording, we will mix down the tracks and create a stereo master track

1. Use the **TRACK 1-3 LEVEL** knobs to adjust the level. Use the **MASTER LEVEL** knob to adjust the overall level.
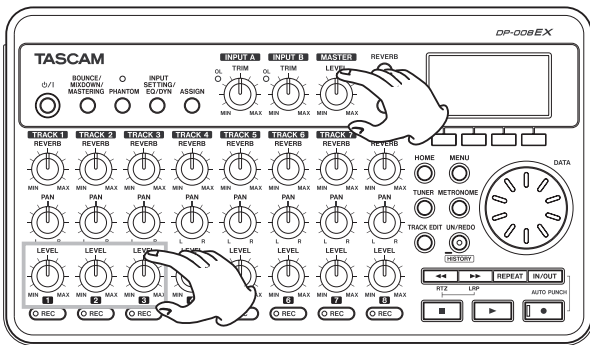
2. Use the **TRACK 1-3 PAN** knobs to adjust the stereo positions.

    Watch the ◼ (left channel) and ◼ (right channel) level meters on the display as you make these adjustments.

3. Press the **IN/OUT** button to open the I/O SETTING screen.
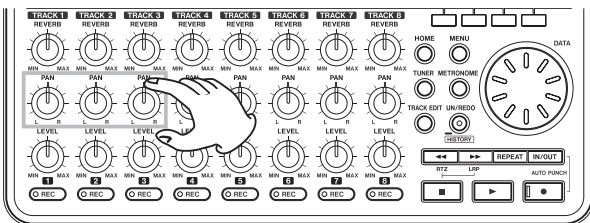
4. Press the Play (►) button to start playing the song back, and press the **F3** [IN] button to set the IN point at the point where you want to start the mix down for the stereo master track.

    A `SET IN!` pop-up message appears.
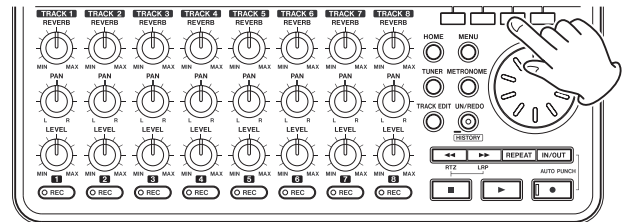
NOTE

The stereo master track will be created by mixing down the audio between the IN and OUT points.

5. Press the **F4** [OUT] button to set the OUT point at the point where you want to end the mix down for the stereo master track.

A `SET OUT!` pop-up message appears.
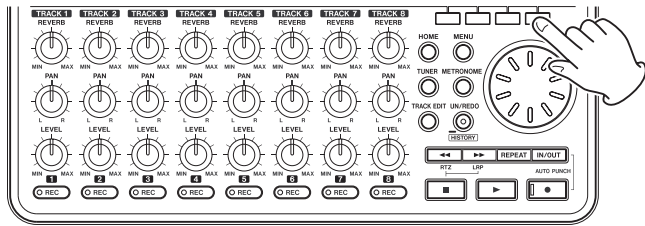
TIP

*You can also use the **F3** [IN] and **F4** [OUT] buttons to set the IN and OUT points when playback is stopped.*

6. When you are done setting the IN and OUT points, press the Stop (■) button to stop playback of the song.

7. When the recorder is stopped, press the **BOUNCE/MIXDOWN/MASTERING** button to open the `RECORDER MODE` screen.
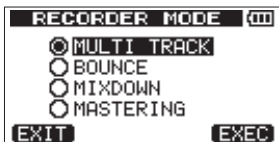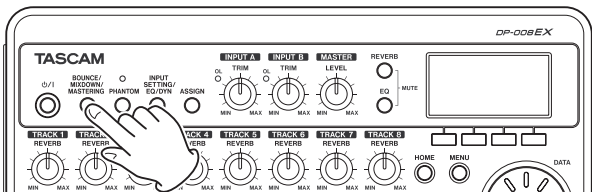
8. Use the data wheel to select (highlight) `MIXDOWN`.
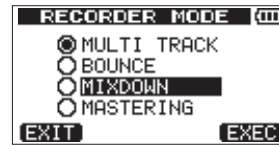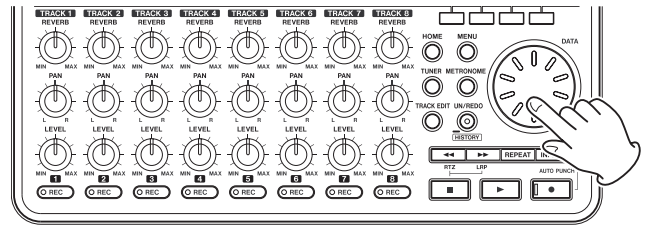
9. Press the **F4** [EXEC] button to put the unit into `MIXDOWN` mode.

After a `Mixdown!` pop-up message appears, the Home Screen reopens.
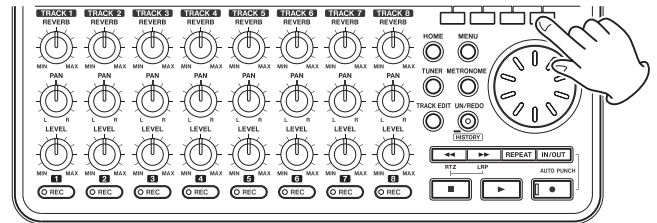
NOTE

When the recorder is in MIXDOWN mode, "MIXDOWN" appears highlighted at the top left of the Home Screen

10. Press the Record (●) button while pressing and holding the Play (►) button to start recording the stereo master track from the IN point.

Recording automatically ends at the OUT point.

NOTE

• *The IN and OUT points must be at least four seconds apart. If they are less than four seconds apart, a* `Trk Too Short` *(track is too short) pop-up message appears and you will not be able to change the recorder to* `MIXDOWN` *mode.*

• *You can use the **LEVEL** knobs to adjust the track and overall levels as you record.*

Mastering the stereo master track

You can adjust the stereo master track that you created to make it sound even more to your liking. This process is called mastering. In this example, we will use this unit's automatic mastering feature to master your songs.

1. When the recorder is stopped, press the **BOUNCE/MIXDOWN/MASTERING** button to open the `RECORDER MODE` screen.
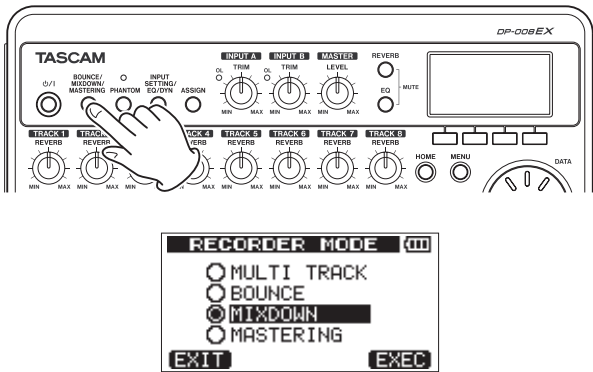
2. Use the **DATA** wheel to select (highlight) `MASTERING`.
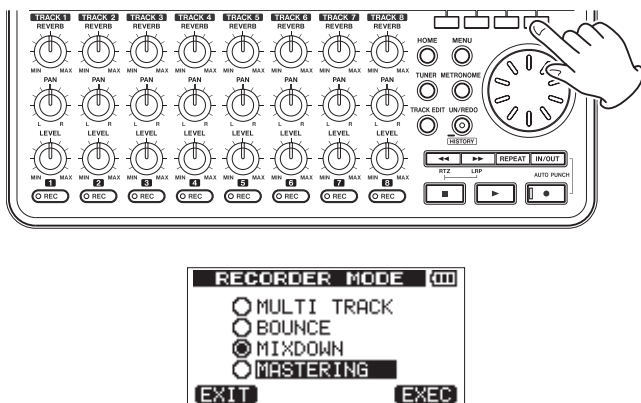
3. Press the **F4** [EXEC] button to open the `MASTERING` mode selection screen.
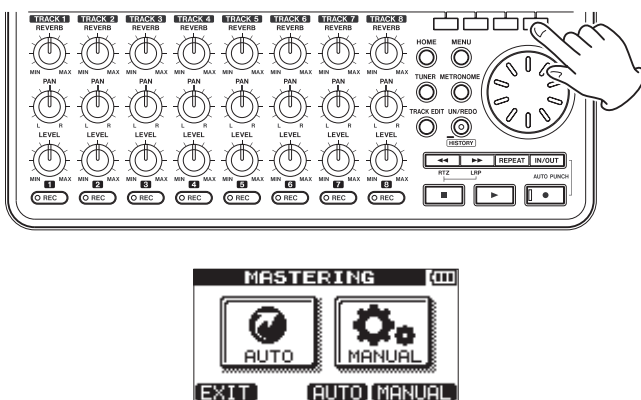
If there is no stereo master track, a `No Master Trk` *pop-up message appears and you will not be able to switch to* `MASTERING` *mode.*

4. Press the **F3** [AUTO] button to switch the recorder to `MASTERING` mode. After a `Mastering!` pop-up message appears, the `AUTO MASTERING` screen opens.

5. Press the **F1** [TYPE] button to set the automatic mastering type to one of the following.

   NATURAL SOUND
   This setting raises the sound pressure gently.

   MAXIMUM SOUND
   This setting raises the sound pressure as much as possible.

6. After setting the automatic mastering type, press the **F2** [RHSL] (Rehearsal) button to start playback so you can listen to how it sounds.

   After checking the effect of automatic mastering, press the Stop (■) button to stop playback.

7. Press the **F3** [EXEC] button to start automatic mastering.

```
AUTO MASTERING    ▮ ⫿⫿⫿
  ●  00ₕ00ₘ25ₛ16ₑ
.........................
         TYPE
   MAXIMUM SOUND
 ⎡TYPE⎤⎡RHSL⎤⎡EXEC⎤  ⫿L⫿R⫿
```

NOTE

If off-line peak detection has not yet been conducted for the stereo master track that is being automatically mastered, a `Peak Detect` *pop-up message appears to show that off-line peak detection is being conducted.*

```
AUTO MASTERING    ▮ ⫿⫿⫿
      Peak Detect        f
         🎵🎵
 ⎡TYPE⎤⎡RHSL⎤⎡EXEC⎤  ⫿L⫿R⫿
```

When off-line peak detection completes, the following pop-up message appears. Press the **F3** [YES] button to start automatic mastering.

```
AUTO MASTERING    ▮ ⫿⫿⫿
   Start Mastering
    Are you sure?

           ⎡YES⎤⎡NO⎤
```

Press the **F4** [NO] button to cancel automatic mastering and return to the `AUTO MASTERING` screen.

8. When automatic mastering completes, the `AUTO MASTERING` screen reopens with the `TYPE` set to `OFF`.

9. When you are done mastering, press the **BOUNCE/MIXDOWN/MASTERING** button to open the `RECORDER MODE` screen.

10. Use the **DATA** wheel to select (highlight) `MULTI TRACK`, and press the **F4** [EXEC] button to return to the `MULTI TRACK` recorder mode.

Transferring the stereo master track to a computer

You can connect this unit to a computer using the included USB cable and transfer the stereo master track that you created in "Creating stereo master tracks" on page 62 in order to, for example, burn it to a CD.

For instructions about how to transfer a stereo master track to a computer, see "Exporting stereo master tracks" on page 81.

Shutting down the unit

When you are finished, shut down the unit.

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

2. Press and hold the ⏻/| button. Release it when `POCKETSTUDIO` appears on the screen.
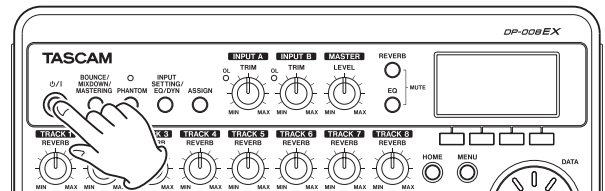
The power turns OFF automatically after the unit completes its shutdown process (saving various information about operations conducted until now).

Always follow this procedures to shut down the unit properly.

CAUTION

If you remove the batteries, disconnect the power cord or otherwise interrupt the power, the unit cannot shut down properly and all recorded data and settings that have been changed since the last shutdown or song saving operation will be lost. These data and settings cannot be recovered.

Top Panel
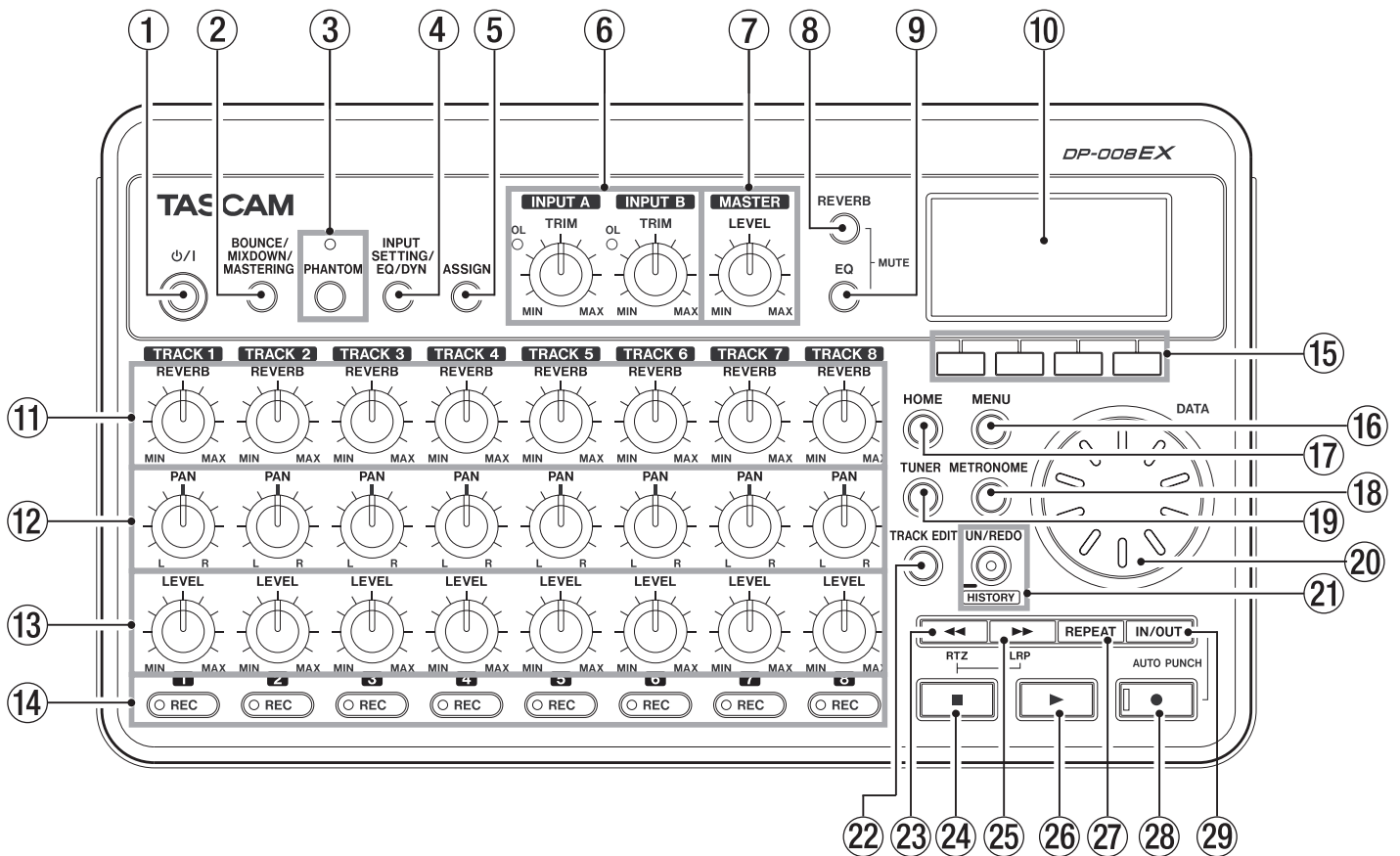
① ⏻/❘ **button / indicator**
Press and hold this button to turn the unit ON and OFF. (See "Start-up & shutdown" on page 33.)

② **BOUNCE / MIXDOWN / MASTERING boutton**
Press this button to open the `RECORDER MODE` screen where you can set the recorder mode. (See "Recorder modes" on page 34.)

③ **PHANTOM button/indicator**
Press this button to open the `PHANTOM` screen where you can turn phantom power ON and OFF. The **PHANTOM** indicator lights when phantom power is ON. (See "Phantom power" on page 42.)

CAUTION

• *Use the MASTER LEVEL knob to turn the unit's output volume down before turning phantom power ON or OFF. Depending on the mic, a loud noise could occur, damaging equipment and harming people's hearing.*

• *Do not connect or disconnect a mic when phantom power is ON.*

• *Turn phantom power ON only when using a condenser microphone that requires phantom power.*

• *Do not supply phantom power to an unbalanced dynamic microphone.*

• *Supplying phantom power to some types of ribbon microphones could break them. Do not supply phantom power to a ribbon microphone if you are in doubt.*

④ **INPUT SETTING / EQ / DYN button**
Press this button to open the `INPUT SETTING` screen where you can set input sources. (See "Selecting the input source" on page 42.)
Press the **F2** [EQ] button when the `INPUT SETTING` screen is open to open the `INPUT EQ` screen where you can set the input equalizer
Press the **F3** [DYN] button when the `INPUT SETTING` screen is open to open the `INPUT DYNAMICS` screen where you can set the input dynamic effects.

⑤ **ASSIGN button**
Use this to assign (set) the **TRACK** inputs (**INPUT A/B**). Press this button to open the `INPUT ASSIGN` screen on the display. Signals from assigned inputs become the recording sources. (See "Assigning inputs" on page 44.)

⑥ **INPUT A/B TRIM knobs and OL indicators**
Use the **TRIM** knobs to adjust the input levels for **INPUT A/B**. (See "Making the first recording" on page 47.)

If an input source level is too high its **OL** (overload) indicator lights. If a **TRIM** knob is set too high (higher than 2–3 o'clock usually), the **OL** indicator could light even if the volume of the input source signal is suitable.

⑦ **MASTER LEVEL knob**
Adjusts the level of the stereo signal output from the **PHONES** and **LINE OUT** jack.

This knob also adjusts the recording level when bouncing tracks, mixing down and mastering.

⑧ **REVERB button**
Press this button to open the REVERB SETTING screen. (See "Reverb" on page 61.)

Press this button and the **EQ** button at the same time to open the TRACK MUTE screen. (See "Muting tracks" on page 62.)

⑨ **EQ button**
Press to open the EQ SETTING screen where you can set the track equalizer. (See "Track equalizers" on page 61.)

Press this button and the **REVERB** button at the same time to open the TRACK MUTE screen. (See "Muting tracks" on page 62.)

⑩ **Display**
This shows various information.

⑪ **REVERB knobs (TRACK 1–TRACK 8)**
Use the **REVERB** knob for a track to adjust the level (volume) of its playback signal or assigned input signal that is sent to the reverb effect.

⑫ **PAN knobs (TRACK 1–TRACK 8)**
Use to adjust the stereo position of the track playback signal. (See "Stereo position (panning)" on page 61.)

⑬ **LEVEL knob (TRACK 1–TRACK 8)**
Use to adjust the level of the track. (See "Level and balance" on page 61.)

⑭ **REC buttons/indicators (TRACK 1–TRACK 8)**
Use to turn the track record function ON (arm for recording) and OFF. To monitor the input signals of the internal mics using headphones or an external monitoring system (powered monitor speakers or an amplifier and speakers), press that track's **REC** button. When a **REC** button is ON, its **REC** indicator blinks when the recorder is stopped, and lights when it is recording.

On the INPUT ASSIGN screen, press this button to change the assignment.

On the TRACK MUTE screen, press this button to turn track muting ON and OFF.

⑮ **Function buttons**
The functions of these buttons depend on the current screen. The functions currently assigned to these buttons are shown at the bottom of the display screen.

NOTE
- *In this manual, the four function buttons are referred to as **F1**, **F2**, **F3** and **F4** in order from the left.*
- *The function buttons are assigned the following functions on the Home Screen.*

  *Stop (■) + **F1** buttons: jump to the IN point*
  *Stop (■) + **F2** buttons: jump to the OUT point*
  ***F3**: Set IN point*
  ***F4**: Set OUT point*

⑯ **MENU button**
Press to open the MENU screen. (See "Menu structure" on page 30.)

⑰ **HOME button**
Press to open the the Home Screen. (See "Home Screen" on page 29.)

When the unit is stopped and the Home Screen is open, use this button to move the cursor between time counter divisions. (See "Direct locate function" on page 52.)

⑱ **METRONOME button**
Press this button to open the METRONOME screen. (See "Metronome" on page 69.)

⑲ **TUNER button**
Press this button to open the TUNER screen. (See "Tuner" on page 69.)

⑳ **DATA wheel**
Use this to select items and change values on the setting screens.. When the unit is stopped and the Home Screen is open, turn to change the record/ playback position. (See "Direct locate function" on page 52.)

㉑ **UN/REDO [HISTORY] button / indicator**
Press this button to undo the previous action or to redo the last undone action. (See "Undoing operations (undo)" on page 49.)

Press and hold this button to open the HISTORY screen. Use the screen to undo multiple operations at once (multi-undo).

This indicator lights when one or more operations that have been undone can still be redone.

㉒ **TRACK EDIT button**
Press this button when the recorder is stopped to open the TRACK EDIT screen.

㉓ **◄◄ [RTZ] button**
Press when stopped or playing back to search backward. Press it again to change the speed from 10x to 50x, again for 100x and 1000x.

Press while pressing and holding the Stop (■) button to locate to the beginning of the song (00h00m00s00f) using the Return To Zero function (RTZ). (See "Returning to the song beginning (RTZ function) or the point where recording was last started (LRP function)" on page 52.)

㉔ **Stop (■) button**
Press to stop playback, recording and searching backward/forward. Press together with the ◄◄ [RTZ] button or the ►► [LRP] button to locate to the beginning of the song (00h00m00s00f) or the last recording point (LRP). (See "Returning to the song beginning (RTZ function) or the point where recording was last started (LRP function)" on page 52.)

㉕ **►► [LRP] button**
Press when stopped or playing back to search forward. Press it again to change the speed from 10x to 50x, again for 100x and 1000x.

Press while pressing and holding the Stop (■) button to locate to the point when recording last started using the Last Recording Position (LRP) function. (See "Returning to the song beginning (RTZ function) or the point where recording was last started (LRP function)" on page 52.)

㉖ **Play (►) button**
Press this button to start playback. While pressing the Record (●) button, press this button to start recording. Press this button again when recording to stop recording and start playback (punch out).

㉗ **REPEAT button**
Turns the repeat playback mode ON and OFF. (See "Repeat playback" on page 53.)

㉘ **Record (●) button / indicator**
Press the PLAY (►) button while pressing this button to start recording. The indicator lights when recording.

Press when any of the **TRACK REC** indicators is blinking, or during playback, to start recording (punch in). (See "Punching in and out" on page 54.)

Press the **IN/OUT** button while pressing and holding this button to start or end auto punch in/out mode. (See "Using automatic punching in/out" on page 55.)

㉙ **IN/OUT button**
Press this button to open the I/O SETTING screen, and to set IN (starting) and OUT (ending) points for repeat playback and track editing. (See "Setting IN and OUT points" on page 53.)

The IN and OUT points are also used as the starting and ending points when creating stereo master tracks.

Press this button while pressing and holding the Record (●) button to start or end auto punch in/out mode. (See "Using automatic punching in/out" on page 55.)

Front panel
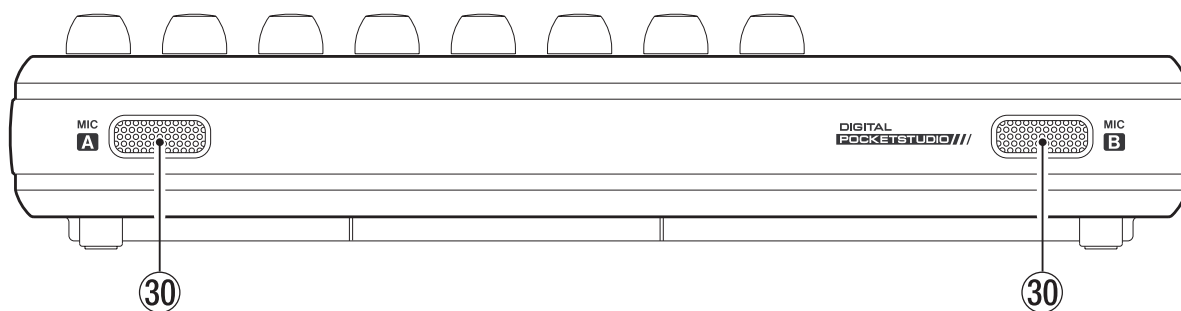
㉚ **MIC A / MIC B**
These are built-in omnidirectional microphones. They can be used as input sources for **INPUT A/B** when set to Internal MIC/Low or Internal MIC/High.

Rear panel
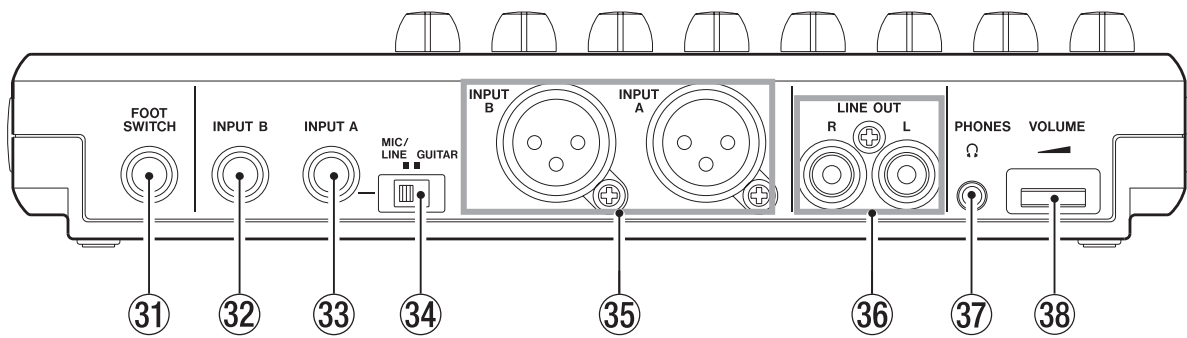
㉛ FOOT SWITCH jack
You can use a foot switch to punch in and out (start and stop recording).

㉜ INPUT B (standard unbalanced TS)
Use this jack for a line level or mic signal (unbalanced connection).

Use this as an input source by setting `IN-B` (**INPUT B**) on the `INPUT SETTING` screen for a line level input (`LINE`, `LINE Mid` or `LINE High`) or an external mic (`MIC`).

㉝ INPUT A (standard unbalanced TS)
Use this jack for a guitar, line level or mic signal (unbalanced connection).

Use this as an input source by setting `IN-A` (**INPUT A**) on the `INPUT SETTING` screen for a guitar or line level input (`GUITAR/LINE`, `GUITAR/LINE M` or `GUITAR/LINE H`) or an external mic (`MIC`).

Set the **MIC/LINE-GUITAR** switch on the left side of the unit according to the input source.

㉞ MIC/LINE-GUITAR switch
Set this switch to match the input signal to the **INPUT A** jack on the rear panel. For mic or line signals, set it to **MIC/LINE**. For electric guitars and basses that are connected directly, set it to **GUITAR**.

> **TIP**
>
> *When connecting an electric-acoustic guitar with a built-in preamp or an active electric guitar, as well as when connecting an electric guitar with effect boxes between it and this unit, set the **MIC/LINE-GUITAR** switch to **MIC/LINE**.*

㉟ INPUT A/ B jacks (balanced XLR)
These are balanced XLR mic/line input jacks. Condenser microphones that require phantom power can be connected to these. (1: GND, 2: HOT, 3: COLD)

> **NOTE**
>
> *If devices are connected to both the XLR and the standard TS jacks, the TS jacks are given precedence (the XLR jacks are disabled).*

㊱ LINE OUT jacks (unbalanced RCA)
Use these to connect a monitoring system (powered speakers or an amplifier with speakers).

㊲ PHONES jack (stereo mini)
Use this mini jack to connect stereo headphones. Use the **VOLUME** dial next to it to adjust the volume.

> **CAUTION**
>
> *Before connecting headphones, use the **VOLUME** dial next to it to minimize the volume. Failure to do so could cause sudden loud noises that might harm your hearing, for example.*

㊳ VOLUME dial
Use this to adjust the volume output from the **PHONES** jack.

Right side panel
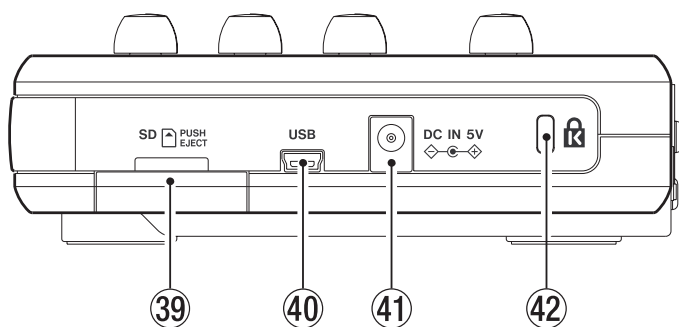
㊴ **SD card slot**
Insert SD cards into this slot.

㊵ **USB connector**
Connect the unit to a computer using the included USB cable. This allows to sharing, importing and exporting files between the unit and the computer, including backup of the song files. (See "Connecting with a computer" on page 75.)

㊶ **DC IN 5V connector**
Connect a dedicated power adaptor (PS-P520E, sold separately).

㊷ **Kensington security slot**

Bottom panel
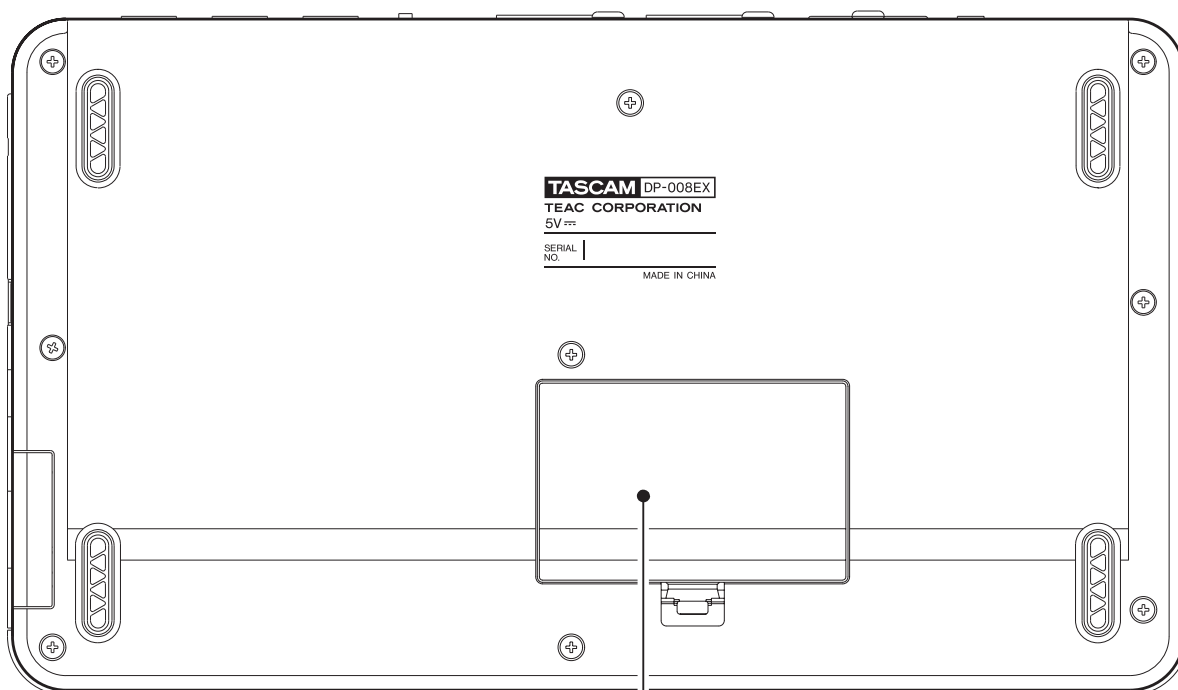
㊸ **Battery compartment cover**

㊹ **Battery compartment**
The batteries (four AA) that power the unit are inserted here.
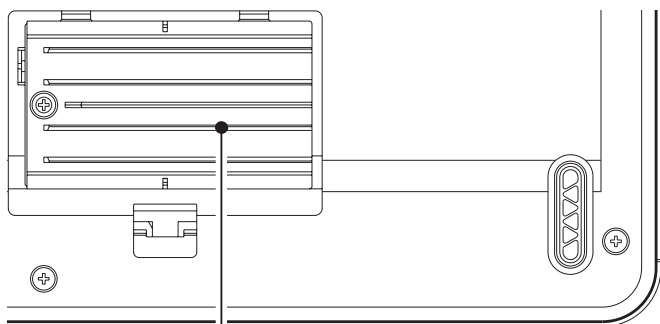
Home Screen
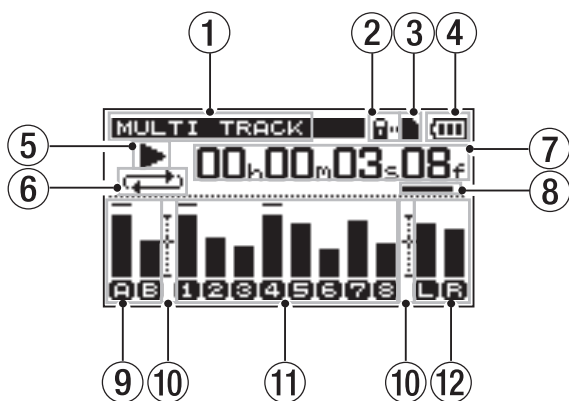
① **Recorder mode**
Shows the current recorder mode.

Indication	Recoder mode
MULTI TRACK	Multitrack recording mode
BOUNCE	Bounce mode
MIXDOWN	Mixdown mode
MASTERING	Mastering mode

② **SD card write-protection indicator**
If the SD card write-protection switch is set to "Lock", the 🔒 icon appears here.

③ **SD card insertion status**
When an SD card is loaded in the unit, the icon appears here. (The icon appears when no card is loaded in the unit.)

④ **Battery status**
A battery icon appears when the unit is being powered by batteries.

When a battery is being used, a battery icon shows the amount of power remaining in bars (▯▯▯, ▯▯, ▯).

When the batteries are almost dead and the power will soon turn off, an icon with no bars appears blinking.

When using the AC adapter (sold separately) appears.

⑤ **Recorder transport state**
One of the following icons appears depending on the status of the recorder.

Indicator	Meaning
■	Stopped
▶	Playing back
●	Recording
◀◀	Searching backward
▶▶	Searching forward

⑥ **Repeat playback / auto punch mode indicator**
When repeat playback is active ⇄ appears.

The icon appears when auto punch in/out mode is active.

⑦ **Recorder time counter**
Shows the elapsed time from the start of the song.

⑧ **Cursor that shows time increment being edited**
When the unit is stopped press the **HOME** button to move the cursor between time counter divisions.

Turn the **DATA** wheel to change the value of the underlined time increment.

⑨ **INPUT A and B level meters, muting and input equalizer ON/OFF status**
These show this input source signal levels of **INPUT A** (🅐) and **INPUT B** (🅑).

Icons appear as follows according to whether their input equalizers are ON or OFF.

Input equalizer	Level meter icons
OFF	🅐, 🅑
ON	🄰, 🄱

⑩ **Level meter guide**
This guideline for adjusting input and output levels indicates –12 dB.

⑪ **TRACK 1-8 level meters, muting and track equalizer ON/OFF status**
Shows the input level when recording and the playback signal level when playing back.

When a track is muted, its number is shown as a dark number on a light background.

Track muting	Level meter icons
OFF	🄰, 🄱
ON	1, 2

Icons appear as follows according to whether their track equalizers are ON or OFF.

Track equalizer	Level meter icons
OFF	1, 2
ON	🄰, 🄱

⑫ **Level meter for stereo outputs (L, R)**
Shows the level of the signal output from the **LINE OUT** and **PHONES** jacks.

Menu structure

Press the **MENU** button to open the MENU screen.
The menu items are as follows.

Menu item	Function	Reference
INFORMATION	View information about files, SD card and the system.	page 71
SONG	Manage songs, including loading and saving them and creating new ones.	page 37
CARD	Format SD card, etc.	page 72
DATA BACKUP	Back up and restore songs.	page 77
IMPORT/EXPORT	Import and export tracks and export master tracks.	page 79
PREFERENCE	Adjust the repeat playback interval, contrast, backlight, auto power save and foot switch settings and initialize the backup memory, for example.	page 36 page 54 page 55 page 70 page 71

Dedicated buttons can be used to directly access some setting screens as follows.

Button	Function	Reference
BOUNCE/MIXDOWN/MASTERING	Bounce tracks and create and refine stereo master tracks.	page 51 page 62
PHANTOM	Turn phantom power ON/OFF.	page 42
INPUT SETTING/EQ/DYN	Select input sources and set input equalizers and dynamic effects.	page 42 page 44
ASSIGN	Assign **INPUT A** and **INPUT B** as the recording sources for tracks.	page 44
REVERB	Set reverb.	page 61
EQ	Set track equalizers.	page 61
TUNER	Use when tuning instruments.	page 69
METRONOME	Make metronome settings.	page 69
TRACK EDIT	Edit tracks.	page 56
UN/REDO [HISTORY]	Undo the last action and redo the last undo.	page 49
Press and hold UN/REDO [HISTORY]	Show the undo/redo history and select operations.	page 49
REPEAT	Repeat playback between the set IN and OUT points.	page 53
IN/OUT	Set the IN and OUT points.	page 53
Record (●) + IN/OUT	Enable and disable auto punch in/out mode.	page 55

Screen operations

After using the **MENU** button or a dedicated button to open a screen, use the screen in the following manner.

This section describes the basic operation procedures. Depending on the screen that is open the assignments of the function buttons might differ.

NOTE

During playback or recording, you cannot open screens that might access the SD card. If you try to open one of these screens, a Not Stopped *(the recorder is not stopped) pop-up message will appear.*

Function buttons

The currently assigned function of each button is shown above it at the bottom of the screen. In this manual, for convenience, we refer to the function buttons as **F1**, **F2**, **F3** and **F4** in order from the left.

BACK appears above the **F1** button, showing that this is the function assigned to this button on the screen. In this manual, we write this as "**F1** [BACK] button".

In a similar manner the assignments for the **F2**, **F3** and **F4** buttons are EXEC, INS and DEL in that order.

● Use the **DATA** wheel to select (highlight) items you want to access.
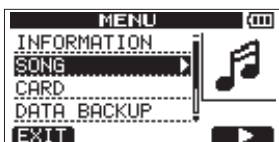
This example shows the MENU screen.

On the screen, the SONG item is selected (highlighted).

● When there are more items in the menu list above (below) those currently shown, a ▲ and ▼ icon appears at the top (bottom) of the scrollbar in the right half of the screen. (In the MENU screen shown above, the ▼ shows that there is at least one more item below DATA BUCKUP.)

● If an item has a submenu (as on the MENU screen, for example), an ▶ appears to its right, and pressing the **F4** [▶] button will open it.

● In a submenu, you can press the **F1** [BACK] button to return to the previous screen.
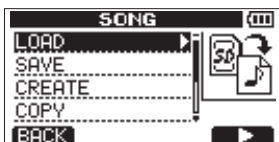
● To execute an operation, press the function button that has EXEC assigned to it.
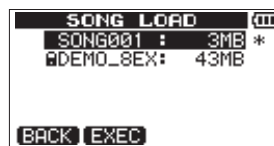
This example shows the SONG LOAD screen.

Press the **F2** [EXEC] button to load the selected (highlighted) song.

● When a setting value is selected (highlighted), use the **DATA** wheel to change the value.

To select (highlight) different item press the function button that has ▲ or ▼ assigned to it.
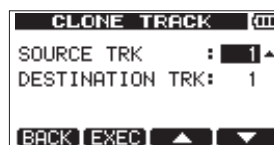
This example shows the CLONE TRACK screen.

Use the **DATA** wheel to change the SOURCE TRK (the track that is being copied) value.

Use the **F3** [▲] and **F4** [▼] buttons to move up and down to change the selected (highlighted) item.

Press the **F2** [EXEC] button to clone the track using the settings that you made.

● When moving left or right is possible, use the ◄◄ [RTZ] and ►► [LRP] buttons. When this operation is possible, an illustration on the screen shows the assignment of the ◄◄ and ►► buttons to cursor movement.

● To continue to the next operation, press the **F4** [NEXT] button.

● To leave a screen that was accessed using a dedicated button, press the **F1** [EXIT] button.
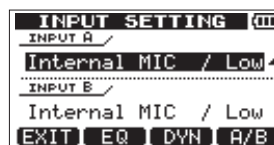
● To return to the Home Screen, press the **HOME** button.

4 – Preparations

Inserting and removing SD cards

Inserting an SD card

1. Open the SD card slot cover on the right side of the unit.
2. Insert the SD card into the slot in the direction shown in the illustration until it clicks into place.
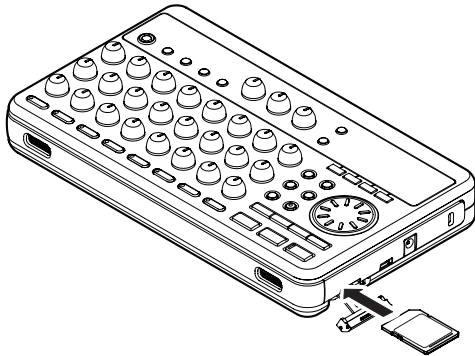
3. After inserting the SD card, close the SD card slot cover.

Removing an SD card

Push a loaded SD card in further to eject it.
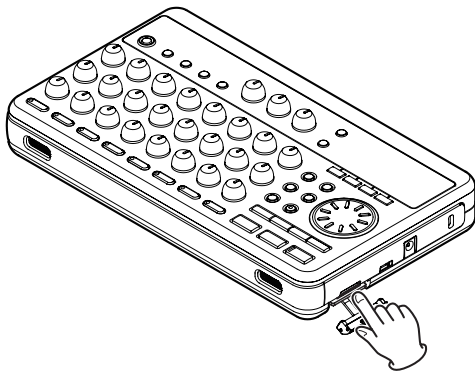
CAUTION
- *Always turn the power OFF (standby) before removing or inserting an SD card. Failure to power off properly first will cause and recordings and settings made since the last power off and song save to be lost. This data cannot be recovered.*
- *SD cards that meet SD/SDHC standards and are at least 512 MB can be used with this unit.*
- *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.*

SD card write-protection switches

SD cards have write-protection switches.

Writing possible   Write-protected
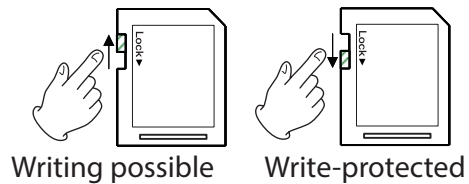
When a write-protection switch is set to the "LOCK" position, you will not be able to write files to the card or edit files on it. To record on a card or erase files on it, for example, disable its write-protection.

Preparing the power

This unit can be powered either by 4 AA batteries or using a TASCAM PS-P520E AC adaptor (sold separately).

Alkaline or NiMH AA batteries can be used with this unit.

Using batteries

Open the cover of the battery case on the bottom of the unit. Insert 4 AA batteries in the box according to the ⊕ and ⊖ indications.
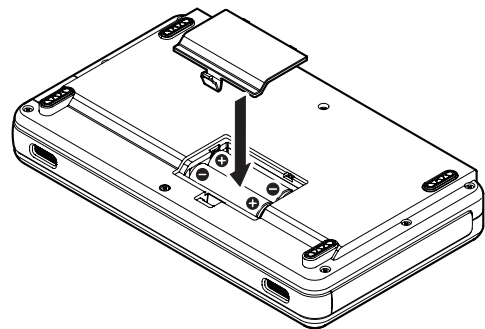
CAUTION
- *Manganese AA batteries cannot be used with this unit.*
- *This unit cannot charge nickel-metal hydride batteries. Use a commercially-available recharger.*
- *The included alkaline batteries are for confirming the operation of the unit and might not last very long.*
- *Remove the batteries if you do not plan to use the unit for some time. Leaving the batteries in could cause them to be used gradually and lose their charge or even to leak.*

Using an AC adaptor (sold separately)

Connect a TASCAM PS-P520E AC adaptor (sold separately) to the **DC IN 5V** connector as shown in the illustration.

TASCAM
PS-P520E
(sold separately)

AC wall socket

DC plug

SD PUSH EJECT   USB   DC IN 5V
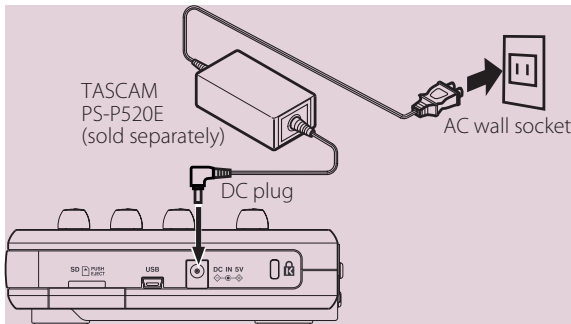
CAUTION

- *Use only the PS-P520E AC adaptor (sold separately). Using any other AC adaptor could cause malfunction, fire or electric shock.*
- *This unit can be powered by batteries or an AC adaptor. Power cannot be supplied to this unit over USB.*

NOTE

The adapter powers the unit if the adapter is connected even if batteries are installed.

Start-up & shutdown

Starting up the unit

Press and hold the ⏻/⏽ button on the top panel until "TASCAM" appears.

After the start-up screen, the Home Screen appears.

TASCAM
POCKETSTUDIO

MULTI TRACK
00ₕ00ₘ00ₛ00f

08 12345678 LR

Start-up screen   Home Screen

This unit always starts up in MULTI TRACK recorder mode regardless of the mode used last before shutting down.

CAUTION

- *Before turning the power ON or OFF (putting it into standby), minimize the volume on any connected external monitoring system (powered monitor speakers or an amplifier and speakers).*
- *Do not wear headphones when turning the power ON or OFF (putting it into standby) because noise at such times could harm your hearing.*

Shutting down

Make the following preparations before shutting down the unit.

- Stop the recorder. (The unit cannot be shut down during recording, playback, search forward, etc.)
- Return to the Home Screen.
- If the unit is connected to computer, disconnect the USB cable after conducting the necessary procedures on the computer to unmount the unit.

After making these preparations, press and hold the ⏻/⏽ button until the following screen appears.

POCKETSTUDIO

The power turns off after the unit completes its shutdown process, including saving various information from your session.

CAUTION

- *Do not remove the batteries or disconnect the power cable accidently while the unit is operating. If you do so, the unit cannot shut down properly and all unsaved data will be lost. Lost data cannot be restored. We recommend that you also save the data manually often.*
- *When the power is turned OFF (put in standby mode), the operation history of the currently loaded song will be completely erased. You will not be able to undo or redo past song operations when you turn the power back ON.*

4 – Preparations

Preparing SD cards for use

To use a new SD card with this unit, it is necessary to format it first. SD cards formatted by the unit are divided into MTR partitions and FAT partitions. SD cards with high capacities can be formatted with multiple partitions.

For more information about partitions see "11 – SD Card Management" on page 72.

NOTE

The included SD card is already formatted so formatting is not necessary. If you format this card the demo song on it will be erased.

1. The first time you insert a new SD card in this unit, the following pop-up message prompting you to format it appears.

```
INVALID CARD
┌─────────────────────┐
│  Invalid card found │
│   Format this card  │
│    Are you sure?    │
│             YES  NO │
└─────────────────────┘
```

NOTE

The pop-up message prompting you to format it also appears if you insert an SD card that has been formatted by any device other than this unit.

CAUTION

If you format it, all data saved by the other device will be erased and you will not be able to recover it.

2. Press the **F3** [YES] button to format the SD card with the standard number of partitions for the card capacity.

    The Home Screen appears after the format completes correctly.

NOTE

- *To cancel formatting press the **F4** [NO] button.*
- *Depending on the SD card capacity, the partition setting can be changed in some cases. To do so, set the partition size using the* FORMAT *item in the* CARD *menu before formatting. (See "11 – SD Card Management" on page 72.)*

Recorder modes

This unit has four recorder modes.

MULTI TRACK

Use the unit as a multitrack recorder.

BOUNCE

Use to bounce tracks. (See "Bouncing tracks" on page 51.)

MIXDOWN

Use this mode to create a stereo master track from a mix of all the tracks. (See "Mixdown" on page 61.), (See "Creating stereo master tracks" on page 62.)

MASTERING

Use this mode to play stereo master tracks that have been created and apply effects to and adjust them. (See "Checking stereo master tracks" on page 64.) (See "Mastering stereo master tracks" on page 64.)

When the power is turned ON, the unit always starts in MULTI TRACK mode.

When in recorder modes other than MULTI TRACK mode, many screen operations are disabled.

In this Owner's Manual, unless otherwise noted, the recorder mode explained is assumed to be the MULTI TRACK mode.

Connecting with other equipment

This section shows examples of connections that can be made with this unit.

■ Precautions before making connections

- Turn the power OFF (or put in standby) for this unit and all other equipment that you will connect to it.
- Set up all the equipment so that all units are powered from the same line. When using a power strip, for example, use a thick cable with a high current capacity to reduce fluctuation of the power voltage.

Rear panel connections

Headphone

Footswitch
(standard jack)

Drum machine

Powered speakers or
amplifier and speakers

Keyboard to INPUT A/B

Mic to INPUT A/B

Guitar/bass to INPUT A
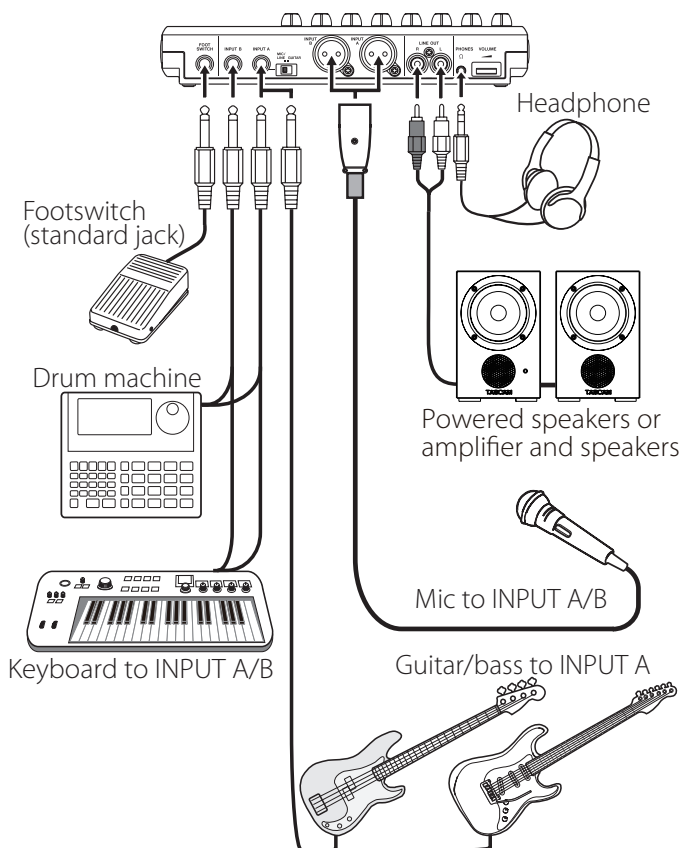
NOTE

*Before outputting sound, use the **VOLUME** dial of any external monitoring system (powered monitor speakers or an amplifier and speakers) connected to the unit. Failure to do so could cause loud noises that might harm your hearing.*

Right side panel connections

TASCAM
PS-P520E
(sold separately)

AC wall socket

DC plug

Mini-B USB plug

Computer

USB
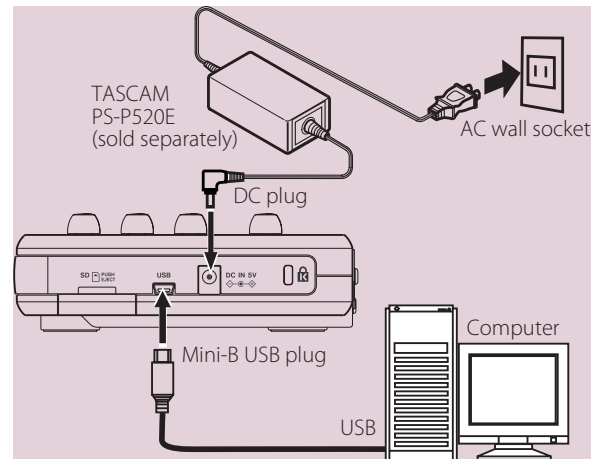
NOTE

- *Recorder functions cannot be used when connected to a computer by USB.*
- *This unit can only be connected to a computer by USB when the recorder mode is set to* MULTI TRACK.

Adjusting the contrast

You can adjust the contrast of the display.
Follow these steps to adjust the contrast.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the PREFERENCE item, and press the **F4** [▶] button to open the PREFERENCE screen.

3. Use the **F3** [▲] and **F4** [▼] buttons to select the Contrast item, and use the **DATA** wheel to to adjust the display contrast.
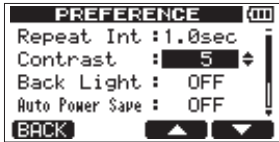
   The setting values are 1–10 (default value: 5).

   Lower values make the display lighter while higher values make it darker.

   The display appears different depending on the angle from which you view it, so adjust it while the unit is in the actual position that you plan to use it in. Adjusting the contrast might make it easier to read.

4. After completing the setting, press the **HOME** button to return to the Home Screen.

Setting the backlight

You can set the amount of time that the backlight stays lit.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the PREFERENCE item, and press the **F4** [▶] button to open the PREFERENCE screen.

3. Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) the Back Light item setting value, and use the **DATA** wheel to set the amount of time that the backlight stays lit.
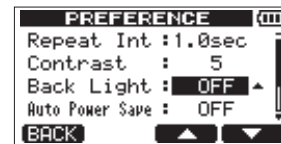
   Setting options: OFF (default value), 5sec, 10sec, 15sec, 30sec

   When set to OFF (default value), the backlight always stays lit.

4. After making the setting, press the **HOME** button to return to the Home Screen.

This unit manages data in units called "songs". Ordinarily, each real song is one "song" unit. The first step when using this recorder is to load the song that you want. (You can load an existing song or create a new song.)

The recorded multitrack (**TRACK 1–8**) and stereo master track are saved in each song.

This chapter starts with an explanation of the two types of SD card partitions, and then covers basic operations, including song loading and creation, as well as various song management functions.

Partitions and songs

This unit uses SD cards to record songs. SD cards formatted by the unit are divided into two (or more) partitions.

This unit uses an "MTR partition" to store song data and a "FAT partition" that can be read by computers. SD cards with high capacities might be formatted with multiple MTR partitions.

When you want to record, playback or edit a song, select an MTR partition to make it the active partition and load a song on it or create a new song.

Selecting the active partition

If you want to use a file that is on a partition other than the currently active partition in order to load an existing song or create a new song on it, you must change the partition.

Follow these steps to select a partition on an SD card that has multiple MTR partitions.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the CARD item, and press the **F4** [▶] button to open the CARD menu screen.
3. Use the **DATA** wheel to select (highlight) the PARTITION item, and press the **F4** [▶] button to open the PARTITION screen.

This screen shows a list of the MTR partitions.

The active partition is shown with an asterisk (*) on the right side. The sizes of the MTR partitions are shown (not available space).

SD card with one MTR partition
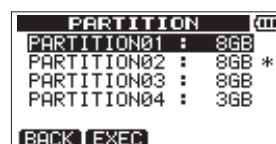
SD card with multiple MTR partitions

4. Use the **DATA** wheel to select the desired partition, and press the **F2** [EXEC] button.

   Are you sure? appears as a confirmation pop-up message.

5. Press the **F3** [YES] button.

   The unit saves the current song before changing partitions. It then loads the last used song on that partition.

Editing names

You can edit names (titles) on the following screens.

When saving, creating or editing the name of a song

> SONG SAVE, SONG CREATE and NAME EDIT screens

When backing up a song

> SONG BACKUP screen

When exporting WAV files

> EXPORT TRACK screen and EXPORT MASTER screen

NAME EDIT screen

You can edit the name as follows.

- Use the ◀◀ [RTZ] button and ▶▶ [LRP] button to move the cursor (underline) position. The cursor position is where editing occurs.
- Use the **DATA** wheel to change the underlined character.
  On the SONG SAVE, SONG CREATE and NAME EDIT screens, ordinary symbols, numerals and upper and lower case English letters can be input.
  On the SONG BACKUP, EXPORT TRACK and EXPORT MASTER screens, lower case English letters can not be input.
- On the SONG SAVE, SONG CREATE and NAME EDIT screens, press the **F3** [INS] button to insert a blank at the cursor position.
  On the SONG BACKUP, EXPORT TRACK and EXPORT MASTER screens, press the **F3** [INS] button to insert the letter A at the cursor position.
- Press the **F4** [DEL] button to delete the character at the cursor position.
- When finished inputting or editing a name (title), press the **F2** [EXEC] button to save it.

Loading a saved song

Follow these steps to load the song that you want from the active partition.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the SONG item, and press the **F4** [▶] button to open the SONG menu screen.
3. Use the **DATA** wheel to select (highlight) the LOAD item, and press the **F4** [▶] button to open the SONG LOAD screen.

A list of the songs on the active MTR partition is shown.

The currently loaded song is shown with an asterisk (*) to the right of the song size. An 🔒 icon appears on the left side of a protected song.

4. Use the **DATA** wheel to select (highlight) the desired song, and press the **F2** [EXEC] button.
   The current song is saved, and the selected song is loaded.
5. Press the **HOME** button to open the Home Screen.

Creating a new song

Follow these steps to create a new song in the active partition.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the SONG item, and press the **F4** [▶] button to open the SONG menu screen.
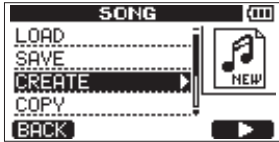
3. Use the **DATA** wheel to select (highlight) the CREATE item, and press the **F4** [▶] button to open the SONG CREATE screen.

   The default song name (title) given to new songs is "SONG***". (The asterisks indicate a number. In the example above the name is "SONG005".)
4. Change the song name as necessary. (See "Editing names" on page 38.)

   TIP

   You can rename a song later by selecting NAME EDIT *item from the* SONG *menu screen. You can also edit the song name when saving it.*

5. Press the **F2** [EXEC] button to save the currently loaded song and create a new song.
6. Press the **HOME** button to open the Home Screen.

Saving a song

This unit automatically saves the current song when loading another song and during shutdown (when it stores various information about operations conducted to that point). You can also save a song at any time using the following procedures.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the SONG item, and press the **F4** [▶] button to open the SONG menu screen.

3. Use the **DATA** wheel to select (highlight) the SAVE item, and press the **F4** [▶] button to open the SONG SAVE screen.

4. Change the song name as necessary. (See "Editing names" on page 38.)

   To save it as is, press the **F2** [EXEC] button.

   A Storing Song pop-up message appears while the song is being saved. A SONG Save Complete pop-up message appears when it is done, and the SONG menu screen reopens.
5. Press the **HOME** button to open the Home Screen.

Viewing song information

You can check the name (title), MTR partition and remaining recording time of the currently loaded song on the SONG (1/3) page of the INFORMATION screen. (See "Viewing information" on page 71.)

   NOTE

   The INFORMATION *screen has four pages, including* SONG *(1/3),* CARD *(2/3), and* F/W *(3/3). Use the* **F3** *[PREV] and* **F4** *[NEXT] buttons to change the page. (See "Viewing information" on page 71.)*

Copying songs

Songs in the currently active partition can be copied to the same and different MTR partitions. Multiple songs can also be copied at once.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the SONG item, and press the **F4** [▶] button to open the SONG menu screen.
3. Use the **DATA** wheel to select (highlight) the COPY item, and press the **F4** [▶] button to open the SONG COPY screen.
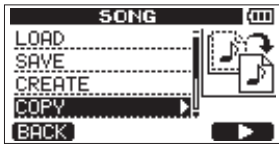
A list of songs on the active partition is shown.
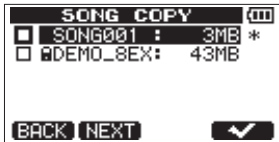
4. Use the **DATA** wheel to select (highlight) the song you want copy, and press the **F4** [✔] button.
   The song is selected as a copy source and a check appears in the checkbox.
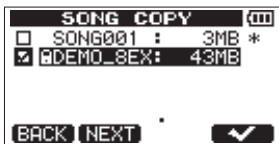
NOTE

To remove a ✔ from the checkbox, press the **F4** *[✔] button while the song is selected.*

5. To copy multiple songs, repeat step 4.
6. After selecting all the songs to copy (by putting ✔ marks in their checkboxes), press the **F2** [NEXT] button.

In addition, the amount of open space on the selected MTR partition (Free) and the size of the song data (Total) are shown.

If the open space (Free) is less than the song data, copying is not possible. (If you try to execute it, a No Disk Space pop-up message appears to warn you that there is not enough free space in the partition.)

7. Use the **DATA** wheel to select the copy destination MTR partition, and press the **F4** [EXEC] button.
   When copying completes, the SONG menu screen reopens.

NOTE

To cancel song copying, press the **F1** *[BACK] button.*

8. Press the **HOME** button to open the Home Screen.

Erasing songs

Songs can be erased. You can also erase multiple songs at once. You might want to erase unneeded songs if the SD card starts to run out of open space.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the SONG item, and press the **F4** [▶] button to open the SONG menu screen.
3. Use the **DATA** wheel to select (highlight) the ERASE item, and press the **F4** [▶] button to open the SONG ERASE screen.

A list of songs on the active partition is shown.
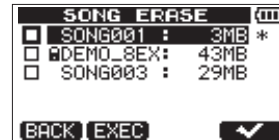
4. Use the **DATA** wheel to select (highlight) the song you want to delete, and press the **F4** [✔] button.
   A check appears in the checkbox.

NOTE

To remove a ✔ from the checkbox, press the **F4** *[✔] button while the song is selected.*

5. To erase multiple songs, repeat step 4.

6. After selecting all songs that you want to erase (adding ✔ to their checkboxes), press the **F2** [EXEC] button.

   A confirmation pop-up message appears.

   SONG ERASE
   Erasing song.
   Are you sure?
   YES NO

7. Press the **F3** [YES] button.

   After the songs are erased, the SONG menu screen reopens.

   NOTE

   *To cancel song erasing, press the **F4** [NO] button.*

8. Press the **HOME** button to open the Home Screen.

   NOTE

   Every MTR partition must always have at least one song, so if you erase all the songs on a partition, a new song is created automatically.

Protecting songs

If you protect a song, editing, recording, and erasing of that song is prohibited.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.

2. Use the **DATA** wheel to select (highlight) the SONG item, and press the **F4** [▶] button to open the SONG menu screen.

   SONG
   COPY
   ERASE
   NAME EDIT
   PROTECT
   BACK ▶

3. Use the **DATA** wheel to select (highlight) the PROTECT item, and press the **F4** [▶] button to open the SONG PROTECT screen where you can turn song protection ON and OFF.

   SONG PROTECT
   SONG NAME
   ♫ SONG001

   PROTECT : OFF ▲
   BACK EXEC

4. Use the **DATA** wheel to set the PROTECT item to ON, and press the **F2** [EXEC] button.

   After song protection is turned ON, the SONG menu screen reopens.

   NOTE

   - *When the song list is used to, for example, copy or erase, a ▐ icon appears next to protected songs.*
   - *If you try to execute a prohibited operation (edit, record, erase) on a protected song, pop-up message* Song Protected *appears and the operation is prevented.*
   - *To remove protection from a song, follow the above procedures but set* PROTECT *item to* OFF *in step 4.*

6 – Basic Recording

Selecting the input source

This unit has two inputs (**INPUT A/B**) that can be selected separately as input sources.

The built-in microphones (front panel MIC A/B) and external input signals (input through the rear panel **INPUT A/B** jacks) can be selected as input sources.

In addition to mic/line signals, you can input guitar and bass through the **INPUT A** standard jack.

When connecting a guitar, set the **MIC/LINE-GUITAR** switch on the back of the unit to **GUITAR**.

1. When the recorder is stopped, press the **INPUT SETTING/EQ/DYN** button to open the INPUT SETTING screen.
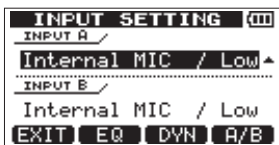
   Use the IN A and IN B items to set the input sources for **INPUT A** and **INPUT B**.

2. Use the **F4** [A/B] button to select (highlight) the INPUT A or INPUT B setting, and turn the **DATA** wheel to select the input source.

   INPUT A/B options

Option	Description
Internal MIC / Low (default)	Built-in MIC A/B (low input gain)
Internal MIC / High	Built-in MIC A/B (high input gain)
Ext. Input, LINE / Low	External line input A/B (low input gain)
Ext. Input / Mid	External line input A/B (medium input gain)
Ext. Input / High	External line input A/B (high input gain)

3. After making the setting, press the **HOME** button to return to the Home Screen.

4. If a source that uses the **INPUT A** connector is selected as the **INPUT A** input source in step 2 above, set the **MIC/LINE-GUITAR** switch on the left side panel appropriately. Set it to **GUITAR** when connecting an electric guitar or electric bass directly. Set it to **MIC/LINE** when inputting a mic or line signal.
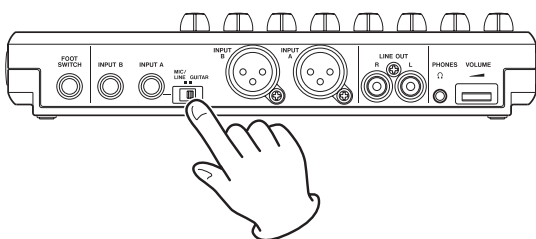
> **TIP**
> *When connecting an electric-acoustic guitar with a built-in preamp or an active electric guitar, as well as when connecting an electric guitar with effect boxes between it and this unit, set the **MIC/LINE-GUITAR** switch to **MIC/LINE**.*

Phantom power

When connecting a condenser microphone that requires phantom power, follow the procedures below to turn phantom power ON. When ON, phantom power is provided to both **INPUT A** and **INPUT B** XLR jacks.

1. When the recorder is stopped, press the **PHANTOM** button to open the PHANTOM screen.
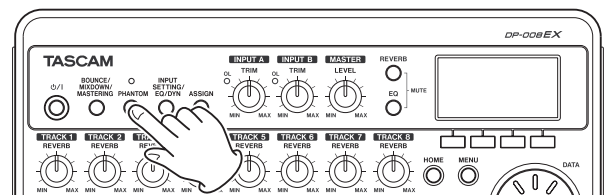
2. Press the **F4** [ON] button to turn phantom power ON. The indicator above the **PHANTOM** button lights, and the Home Screen reopens.

   To turn phantom power OFF, press the **F1** [OFF] button.

> **CAUTION**
> - *Use the **MASTER LEVEL** knob to turn the unit's output volume down before turning phantom power ON or OFF. Depending on the mic, a loud noise could occur, damaging equipment and harming people's hearing.*
> - *Do not connect or disconnect a mic when phantom power is ON.*
> - *Turn phantom power ON only when using a condenser microphone that requires phantom power.*
> - *Do not supply phantom power to an unbalanced dynamic microphone.*
> - *Supplying phantom power to some types of ribbon microphones could break them. Do not supply phantom power to a ribbon microphone if you are in doubt.*
> - *Battery consumption is faster when phantom power is ON.*

Monitoring input signals

To monitor an input signal press the **REC** button for the **TRACK** set to record that signal. This will light/blink its **REC** indicator.

> **NOTE**
>
> *When recording, the playback and input signals are mixed and output from the **PHONES** and **LINE OUT** jacks and can be heard through connected headphones or a connected external monitoring system (powered speakers or an amplifier with speakers).*

OL indicators and level meters

The audio levels of this unit can be checked using the **INPUT A/B OL** indicators and the level meters on the display.

The level meters allow the signal levels to be checked, and they can also be used to confirm whether signals are being input into the unit. For example, if the 🅐 and 🅑 level meters are moving a signal is being input into the unit even if you cannot hear anything when you are monitoring with headphones or an external monitoring system (powered monitor speakers or an amplifier and speakers). In this case, something other than this unit is probably the reason that sound is not being output.

As shown below, if a "–" appears at the top of a level meter, the input is overloading (these "–" indicators will automatically disappear after a while). In this case, the sound might be distorted, so lower the level until the "–" stops appearing.

If an **OL** indicator lights, the input source signal could be too loud or the **LEVEL** knob set too high.

If the **OL** indicator lights even if the **LEVEL** knob is set to **MIN**, the input source signal is too high, so lower the volume on the input source.

Overload indicators ———
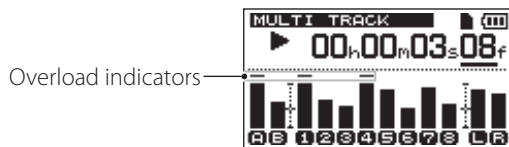
■ Input level meters (A/B)

The 🅐 and 🅑 level meters on the display show the input levels of this unit's **INPUT A** and **INPUT B**.

Use the **INPUT A/B LEVEL** knobs, `INPUT SETTING` screen settings and the output volume controls of the input sound source to adjust the levels.

> **NOTE**
>
> *If an **INPUT A/B OL** indicator lights even though the **INPUT A/B** level meters shows a suitable level, the input signal is too strong and the sound is distorted. Lower the output volume of the input sound source.*

■ TRACK level meters (1–8)

These meters show either playback signal levels or the track input signal levels, depending on the operation status, as shown below.

REC indicator	Transport status	Signals shown by level meters
Unlit	Playing back	Track playback
Blinking (recording standby)	Playing back	Track playback
Blinking (recording standby)	Stopped	Track input
Lit (recording)	Recording	Track input

> **NOTE**
>
> *When the playback signal is shown, the level of the recorded signal of the track is shown, so the level shown by the meters cannot be changed. When the input signal is being shown, the **INPUT A/B LEVEL** knobs can change the levels shown by the level meters.*

■ Stereo level meters (L/R)

These show the stereo bus output level of this unit. Adjust the output level with the **MASTER LEVEL** knob.

Assigning inputs

When using this unit, "assigning inputs" means setting the recording source for each track to either **INPUT A** or **INPUT B** on the `INPUT ASSIGN` screen.

```
INPUT ASSIGN
TRACK  1 2 3 4  5 6 7 8
SOURCE A B A B  A B A B

Use REC key to change assignment
EXIT   REC    REC  REC
```

NOTE

- *The illustration above shows the default values.*
- *Assignment settings are saved when songs are saved and when the power is turned OFF (put into standby). Moreover, assignment settings are loaded when songs are loaded.*

This unit can simultaneously record a maximum of two tracks. You can also record one input channel to two tracks simultaneously (in this case, you cannot use the other input channel).

You cannot assign two inputs to the same track.

1. When the recorder is stopped, press the **ASSIGN** button to open the `INPUT ASSIGN` screen.
2. Use the **REC** buttons of each track to set their input sources.

    Settings:

    A (INPUT A, default value for tracks 1, 3, 5 and 7)

    B (INPUT B, default value for tracks 2, 4, 6 and 8)

3. When finished making settings, press the **HOME** button to return to the Home Screen.

Using the input equalizers

INPUT A and **INPUT B** each have a two-band equalizer (EQ).

Use the `INPUT SETTING` screen to set the input equalizers.

1. Press the **INPUT SETTING/EQ/DYN** button to open the `INPUT SETTING` screen.

```
INPUT SETTING
INPUT A /
Internal MIC / Low
INPUT B /
Internal MIC / Low
EXIT   EQ   DYN   A/B
```
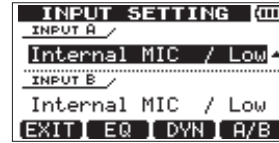
2. Press the **F2** [EQ] button to open the `INPUT EQ` screen.

```
INPUT EQ
EQ-SWITCH    Off      Off
Hi-F  5.0kHz
Hi-G  0.0 dB
Lo-F  350 Hz
Lo-G  0.0 dB   A        B
BACK
```
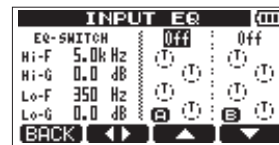
The input equalizer has the following setting items.

Item	Value
EQ-SWITCH (input equalizer switch)	ON/OFF (default: OFF)
Hi-F (high frequency range)	1.7 kHz – 18 kHz (default: 5 kHz)
Hi-G (high range gain)	±12 dB (default: 0.0 dB)
Lo-F (low frequency range)	32 Hz – 1.6 kHz (default: 350 Hz)
Lo-G (low range gain)	±12 dB (default: 0.0 dB)

Use the **F2** [◄ ►] button to switch between **INPUT A** and **B**.

Use the **F3** [▲] and **F4** [▼] buttons to select setting items, and use the **DATA** wheel to adjust them.

Press the **F1** [BACK] button to return to the **INPUT SETTING** screen.

3. After making the settings, press the **HOME** button to return to the Home Screen.

NOTE

When the equalizer for an input is ON, that input is shown on the Home Screen as in the illustration below.

```
MULTI TRACK
■ 00h00m00s00f

AB 12345678 LR
```
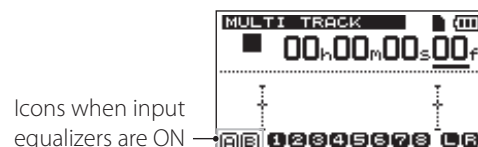
Icons when input equalizers are ON →

Using input dynamics effects

This unit has three dynamics effects: a compressor, an exciter and a de-esser. One can be used at a time with **INPUT A** and/or **B**.

COMPRESSOR

This effect compresses the sound, reducing the dynamic range.

EXCITER

By emphasizing the harmonics of high frequencies, this effect gives a sense of liveliness to the sound and makes tones more distinct without upsetting the volume balance.

DE-ESSER

This effect suppresses sibilant "s" sounds.

Applying dynamics effects

1. Press the **INPUT SETTING/EQ/DYN** button to open the `INPUT SETTING` screen.
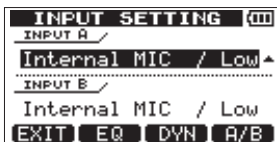
2. Press the **F3** [DYN] button to open the `INPUT DYNAMICS` screen.
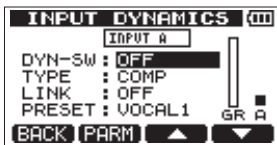
NOTE

Press the **F1** *[BACK] button to return to the* `INPUT SETTING` *screen.*

3. Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) the following parameters, and use the **DATA** wheel to adjust their values.

   INPUT A or INPUT B

   Select the input that the dynamics effect is used on.

   DYN-SW (dynamics switch)

   Set to "ON" to apply the selected effect (default: OFF).

   TYPE

   Select which dynamics effect to use.
   Options: COMP (default), EXCITER, DE-ESSER

4. After making the settings, press the HOME button to return to the Home Screen.

Using the compressor

Set the `TYPE` on the `INPUT DYNAMICS` screen to `COMP` to use the compressor.

1. When the `INPUT DYNAMICS` screen is open, use the **F3** [▲] and **F4** [▼] buttons to select (highlight) the `TYPE` item.

2. Use the `DATA` wheel to select (highlight) `COMP`.
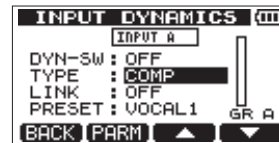
3. Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) the following parameters, and use the **DATA** wheel to adjust their values.
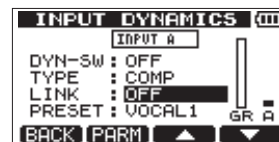
   LINK

   When `ON`, **INPUT A** and **INPUT B** are linked (default: OFF). When linked, the compressor responds to and affects both inputs.

PRESET

This effect has 13 presets.

Options	Application
VOCAL1 (default)	Vocals
VOCAL2	Vocals
A_GUITAR	Acoustic guitar
EGUITAR1	Electric guitar
EGUITAR2	Electric guitar
ELECBASS	Electric bass guitar
WOODBASS	Acoustic bass
SLAPBASS	Slap bass
SYNBASS1	Synthesizer bass
SYNBASS2	Synthesizer bass
BRASS	Brass
SNARE	Snare drum
NARRATE	Spoken word

GR (gain reduction)

This meter shows how much the compressor is affecting the input signal.

A B (INPUT A/B level meters)

These level meters are for **INPUT A** and **INPUT B**.

When LINK is set to ON, level meters for both **INPUT A** and **B** are shown.

4. Press the **F2** [PARM] button to open a screen with specific compressor parameters.
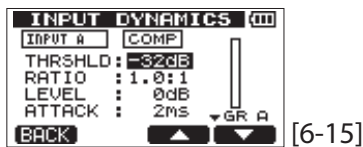
 [6-15]

5. Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) the following parameters, and use the **DATA** wheel to adjust their values.

When a setting is at its default value, i appears to the right of the value.

The options for each parameter are as follows.

THRSHLD

Set the threshold value that causes the compressor to activate when exceeded.
Range: -32dB (default) – 0dB

RATIO

Set the compression ratio.
Options: 1.0:1, 1.1:1, 1.3:1, 1.5:1, 1.7:1, 2.0:1, 2.5:1, 3.0:1, 3.5:1, 4.0:1, 5.0:1, 6.0:1, 8.0:1, 16.0:1, inf:1

LEVEL

Set the output level.
Range: 0dB – 32dB

ATTACK

Set the attack time.
Range: 2ms – 200ms (in 2ms steps)

RELEASE

Set the release time.
Range: 10ms – 1000ms (in 10ms steps)

6. After making the settings, press the **HOME** button to return to the Home Screen.

Using the exciter

Set the TYPE on the INPUT DYNAMICS screen to EXCITER to use the exciter.

1. When the INPUT DYNAMICS screen is open, use the **F3** [▲] and **F4** [▼] buttons to select (highlight) the "TYPE" item.

2. Use the **DATA** wheel to select (highlight) EXCITER.
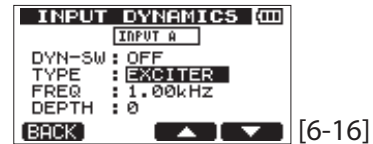
 [6-16]

3. Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) the following parameters, and use the **DATA** wheel to adjust their values.

FREQ

Set the frequency.
Options: 1.00kHz (default), 1.07kHz, 1.15kHz, 1.23kHz, 1.32kHz, 1.41kHz, 1.52kHz, 1.62kHz, 1.74kHz, 1.87kHz, 2.00kHz, 2.14kHz, 2.30kHz, 2.46kHz, 2.64kHz, 2.83kHz, 3.03kHz, 3.25kHz, 3.48kHz, 3.73kHz, 4.00kHz

DEPTH

Set the amount of the effect.
Range: 0 – 100 (default: 0)

4. After making the settings, press the **HOME** button to return to the Home Screen.

Using the de-esser

Set the TYPE on the INPUT DYNAMICS screen to DE-ESSER to use the de-esser.

1. When the INPUT DYNAMICS screen is open, use the **F3** [▲] and **F4** [▼] buttons to select (highlight) the TYPE item.

2. Use the **DATA** wheel to select (highlight) DE-ESSER.
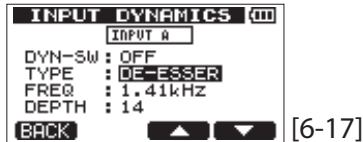
```
INPUT DYNAMICS
       INPUT A
DYN-SW: OFF
TYPE  : DE-ESSER
FREQ  : 1.41kHz
DEPTH : 14
BACK         ▲    ▼
```
[6-17]

3. Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) the following parameters, and use the **DATA** wheel to adjust their values.

   FREQ

   Set the frequency.

   Options: 1.00kHz, 1.07kHz, 1.15kHz, 1.23kHz, 1.32kHz, 1.41kHz (default), 1.52kHz, 1.62kHz, 1.74kHz, 1.87kHz, 2.00kHz, 2.14kHz, 2.30kHz, 2.46kHz, 2.64kHz, 2.83kHz, 3.03kHz, 3.25kHz, 3.48kHz, 3.73kHz, 4.00kHz

   DEPTH

   Set the amount of the effect.
   Range: 0 – 100 (default: 0)

4. After making the settings, press the **HOME** button to return to the Home Screen.

Making the first recording

Before beginning the following recording procedures, connect a recording source (guitar, keyboard, etc.) to an input, assign that input as the recording source for a track and connect headphones or an external monitoring system (powered monitor speakers or an amplifier and speakers).

1. Press the **REC** button of a track to put it into recording standby.

   Its **REC** indicator blinks.

   A maximum of two tracks can be recorded simultaneously.

   If you press a different **REC** button when the **REC** indicators of two tracks are already blinking, the track that was put into record standby first will become inactive and the **REC** indicator will turn off.

   For example, if you press the **REC** buttons for **TRACK 1**, **TRACK 2** and **TRACK 3** in that order, **TRACK 1**, which was pressed first, will no longer be in record standby, but **TRACK 2** and **TRACK 3**, which were pressed afterwards, will be in record standby.

2. Set the recording level.

   Use the **INPUT A/B TRIM** knobs to adjust the input levels.

   Watch the display ▣ and ▣ level meters and the **OL** indicators above and to the left of the **TRIM** knobs while setting their levels suitably.

   At the same time, confirm that the sound you hear from the headphones or an external monitoring system (powered monitor speakers or an amplifier and speakers) is not distorted.

   NOTE

   *The level meters of tracks with assigned input sources move in the same way as the **INPUT A/ B** level meters (▣ and ▣). The **OL** indicator lights if the input is too loud. If the **OL** indicator stays lit even when you lower the **TRIM** knob, lower the output level on the signal source connected to the input.*

3. While pressing and holding the Record (●) button, press the Play (►) button.

   The Record (●) button indicator lights red when recording starts, and the **TRACK REC** indicators stop blinking and stay lit.

4. Press the Stop (■) button to end recording.

6 – Basic Recording

5. Use ◄◄ **[RTZ]** button, for example, to locate to a point that you want to check.

    TIP

    Use the RTZ and LRP Functions to easily locate to the beginning of the song (00h00m00s00f) or the last point where recording started. For more information about searching backward/forward and locating, see "Locate and search functions" on page 52.

6. Press the Play (►) button to play the recorded track.

    Use the track **LEVEL** knob and the **MASTER LEVEL** knob to adjust the playback level.

    Use the **TRACK PAN** knobs to set the left and right stereo position of each track.

    Use the **VOLUME** dial on the back of the unit or the volume control of the external monitoring system (powered monitor speakers or an amplifier and speakers) to set the final monitoring volume.

    NOTE

    *   *Use the **TRACK PAN** and **LEVEL** knobs to adjust the levels and stereo positions of the output playback signals of tracks that have already been recorded.*
    *   *If you are not satisfied with the recorded sound, follow the procedures above again from the beginning.*

Multitrack recording

You can record new audio to different tracks while playing back already recorded tracks.

Setting the recording tracks

● Press the **REC** buttons of tracks that have already been recorded to turn their **REC** indicators OFF.

● Press the **TRACK REC** buttons of tracks to be recorded to put them into recording standby (**REC** indicators blink).

Setting TRACK PAN and LEVEL values

Use the **PAN** and **LEVEL** knobs for already recorded tracks to adjust their playback levels and stereo positions when monitoring during recording.

Input selection and assignment

Use the procedures described earlier in this chapter to assign input sources to tracks for recording.

Setting input levels

Just as though you were recording, you can monitor the sound of already recorded tracks playing back and the input sources of the tracks for recording, allowing you to check the monitoring balance and volume.

Recording additional tracks

While pressing and holding the Record (●) button, press the Play (►) button.

While listening to the playback tracks, make new recordings on other tracks.

Undoing operations (undo)

This unit allows you to undo, for example, unwanted operations and recordings that were unsuccessful. Undo can be used on many ordinary operations, including editing and recording operations. This unit has two types of undo functions. Single undo can be used with a simple button press, while multi-undo allows you to return to and undo a specific past operation.

> **NOTE**
>
> *The **UN/REDO [HISTORY]** indicator lights when a single undo or multi-undo has been conducted.*

Undoing the last operation (single undo)

Press the **UN/REDO [HISTORY]** button to return to the state before the last operation was conducted. After doing this, the **UN/REDO [HISTORY]** indicator lights, showing that redo (see below) is possible.
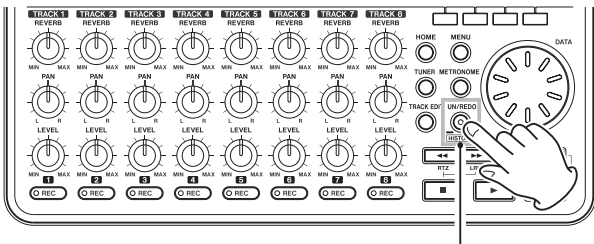
UN/REDO [HISTORY] indicator

■ Cancelling an undo operation (redo)

Press the **UN/REDO [HISTORY]** button when it is lit to return to the state of the last operation. The **UN/REDO [HISTORY]** indicator turns OFF.

> **NOTE**
>
> *If single undo is used when multi-undo (described below) has already been used to return the unit to a previous state, it will go one more step backward. If you press the **UN/REDO [HISTORY]** button again to redo the step, the single undo operation is cancelled, and the previous multi-undo state is restored. In this case, the unit is not restored to the most recently conducted operation, so the **UN/REDO [HISTORY]** indicator remains lit because further redo operations are possible.*

Undoing a previous operation (multi-undo)

1. Press and hold the **UN/REDO [HISTORY]** button to open the HISTORY screen.
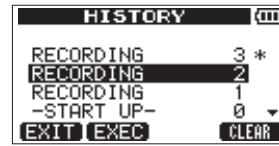
   The HISTORY screen shows the operation history as a list.

   Each operation in the list is called an "event" .

   The event list starts at the bottom with event number 0 (-START UP-).

   The most recent event has an asterisk (*) to its right.

   All events that occurred after a selected event can be undone at once. This operation is called "multi-undo" because it allows you to undo multiple events and return to an earlier state.

2. Use the **DATA** wheel to select the event that you want to return to (all events after the selected event will be undone).

3. Press the **F2** [EXEC] button to execute the multi-undo and restore the state just after the selected event was conducted.

   In this state, the **UN/REDO [HISTORY]** indicator lights.

   The unit has been returned to a previous state, but the event information undone through the above operation is not erased. On the HISTORY screen, a * appears to the right of current event after undoing.

   If you make a new recording or new edits after using multi-undo (**UN/REDO [HISTORY]** indicator lit), the event history after the current event is cleared and the last operation conducted becomes the most recent event.

> **NOTE**
>
> *When the HISTORY screen is open, the **UN/REDO [HISTORY]** button does not function, so single undo and redo cannot be used.*

CAUTION

- *When undo has been used and there are one or more undone operations, the **UN/REDO [HISTORY]** indicator lights.*
  *The **UN/REDO [HISTORY]** indicator does not light if there are no undone operations (the current state is that of the last operation).*
  *When the **UN/REDO [HISTORY]** indicator is lit (because there are undone operations), if you make a new recording or edit, the last operation conducted becomes the most recent event, and you will no longer be able to redo previously undone operations.*
- *When saving a song, a maximum of 500 items can be saved in the operation history as song files. If the operation history exceeds 500 items, the oldest events in the history are erased when the song is saved. Erased events cannot be restored.*
- *When the power is turned OFF (in standby) the operation history is completely erased. The operation history is not restored when the power is turned ON again.*

Erasing the operation history

When the power is turned OFF(in standby), the operation history of the currently loaded song is erased (cleared). The operation history is not restored, so past operations cannot be undone or redone when the power is turned ON again.

You can also erase the operation history of the currently loaded song without turning the power OFF by using the following procedures.

NOTE

Turning the power OFF (putting it in standby) does not erase the operation history of songs that are not loaded.

1. While pressing and holding the Stop (■) button, press the **UN/REDO [HISTORY]** button to open the HISTORY screen.

2. Press the **F4** [CLEAR] button.
   A confirmation pop-up message appears.

3. Press the **F3** [YES] button.
   Another confirmation pop-up message appears.

4. Press the **F3** [YES] button to erase the operation history and delete unused data.
   The Home Screen reopens when this operation completes.

NOTE

To cancel erasing the operation history, press the F4 [NO] button.

TIP

- *If you open the HISTORY screen immediately after erasing the operation history, the event (operation) that appears is 0 (−START UP−), showing that the operation history has been cleared.*
- *If you want to keep the operation history even when you power OFF(in standby), turn song protect ON before turning the power OFF(in standby). (See "Protecting songs" on page 41.)*

CAUTION

You cannot undo erasing the operation history! Only do it if you are certain about it.

Bouncing tracks

Use this unit's bounce function to mix already recorded tracks (1–8) down to one or two tracks.

Multitrack tape recorders can only bounce to an open track (in other words, they can not record to a track that is also a source of the mix). For example, tracks 1–7 could be bounced to track 8, but tracks 1–8 could not be bounced to track 1. This unit, however, does not have this limitation.

You can mix down tracks 1–8 as a stereo mix to tracks 1 and 2 (stereo bounce), or bounce tracks 1–8 as a mono mix to track 1 (mono bounce).

Track 1 Drum L	Track 2 Drum R	Track 3 Perc. L	Track 4 Perc. R	Track 5 Bass	Track 6 Piano L	Track 7 Piano R	Track 8 SE

Tracks 1–8 are mixed down to stereo and bounced to tracks 1–2

Track 1 and 2 Rhythm, Bass, Piano, SE		Track 3 Perc. L (can be overwritten)	Track 4 Perc. R (can be overwritten)	Track 5 Bass (can be overwritten)	Track 6 Piano L (can be overwritten)	Track 7 Piano R (can be overwritten)	Track 8 SE (can be overwritten)

New recordings can be made to tracks 3–8

Track 1 and 2 Rhythm, Bass, Piano, SE		Track 3 Guitar L	Track 4 Guitar R	Track 5 Lead Guitar	Track 6 Lead Vocal	Track 7 Chorus L	Track 8 Chorus R

Source tracks are erased when they are bounce destinations. (In the illustration above the drum parts are overwritten by the stereo mix). However, you can use the unit's (undo) function to return to the previous state if you make a mistake. (See "Undoing operations (undo)" on page 49.)

Using the bounce function

1. When the recorder is stopped, press the **BOUNCE/MIXDOWN/MASTERING** button to open the RECORDER MODE screen.
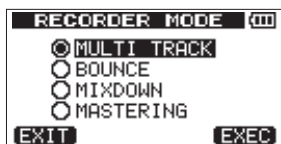
2. Use the **DATA** wheel to select (highlight) the BOUNCE item.
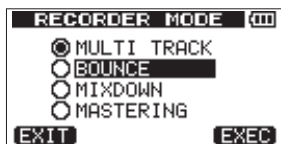
3. Press the **F4** [EXEC] button.

   After a Bounce! pop-up message appears, the recorder enters BOUNCE mode, and the Home Screen reopens.

   NOTE

   When the recorder is in BOUNCE mode, BOUNCE appears highlighted at the upper left of the Home Screen.

4. Press the **TRACK REC** buttons for the bounce destination tracks to blink their indicators.

   For a stereo bounce, press the **REC** buttons for two tracks.

   For a mono bounce (bouncing to a single track) press the **REC** button for any one track.

5. Adjust the **LEVEL** and **PAN** knobs for the bounce source tracks.

   For a stereo bounce, adjust the bounce source tracks according to their types as follows to maintain left and right channel separation.

6. After locating to the point where the bounce will start, while pressing and holding the Record (●) button, press the Play (►) button to bounce the track.

   Press the Stop (■) button at the point where you want to stop the bounce.

Confirming the result

Raise the bounce destination **TRACK LEVEL** knob (turn other **TRACK LEVEL** knobs all the way down) and the **MASTER LEVEL** knob, and start playback from the beginning of the song. If you are not satisfied with the result because, for example, the balance between instruments is poor, or the pan settings are wrong, use the undo function. (See "Undoing operations (undo)" on page 49.)

If you are satisfied with the result, when the recorder is stopped press the **BOUNCE/MIXDOWN/MASTERING** button to open the `RECORDER MODE` screen and select `MULTI TRACK`.

After bouncing tracks, you can record again on (overwrite) tracks other than the bounce tracks.

> **TIP**
>
> *If it is possible that you might need the original tracks at some later time, back-up the track data to a computer or copy the song before bouncing(See "Copying songs" on page 40.) (See "Connecting with a computer" on page 75.)*

Locate and search functions

Direct locate function

The current recorder position is shown at the top of the Home Screen in "hours: minutes: seconds: frames" (30 frames per second).

You can move the current recorder position to a specific time by inputting it here.

1. On the Home Screen, use the **HOME** button to move the cursor (underline) between time counter divisions.

   You can edit the value at the cursor positions.

   The seconds are selected in the following figure.

2. Use the **DATA** wheel to change the value above the cursor(underlined).

   When adjusting, the value will carry over automatically when it reaches the highest or lowest value in a field. For example, when using the **DATA** wheel to increase the value in the seconds field, the number will change from 59 to 0 and the minutes value will increase by one.

> **NOTE**
>
> *When the **DATA** wheel is being turned, the following pop-up message appears.*

3. Press the **HOME** button to move to a different time division and use the **DATA** wheel to change the value.

4. After setting the desired time value, press the Play (►) button to start playback from that position.

Returning to the song beginning (RTZ function) or the point where recording was last started (LRP function)

Use simple button operations to return to the beginning of a song (00h00m00s00f) or to locate to the position where recording last started.

RTZ is short for "Return To Zero," and LRP is short for "Last Recording Position."

Return To Zero (song beginning at 00h00m00s00f)

Press the ◄◄ [RTZ] button while pressing and holding the Stop (■) button.

Last Recording Position (the position recording last started)

Press the ►► [LRP] button while pressing and holding the Stop (■) button.

This function is useful when you want to record the same passage again.

Search backward/forward

When stopped, press the ◄◄ [RTZ] button/►► [LRP] button to search backward/forward.

Each time you press one of these keys, the speed increases from 10x to 50x, 100x and 1000x.

During playback, press and hold the ◄◄ [RTZ] button/►► [LRP] button to search backward/forward. During playback, the search backward/forward speed is fixed at 10x.

Repeat playback

Use the repeat playback function to play the same part again and again. The repeated passage is time between the IN and OUT points.

Setting IN and OUT points

In addition to using them for setting the repeat playback passage, the IN and OUT points are also used for interval setting for track editing. Moreover, the IN and OUT points are used as the start and end points when making stereo master tracks.

You can set these points when recording, playing back and stopped.

NOTE

In the following cases, IN and OUT points cannot be captured or edited.
- *During repeat playback*
- *When the recorder mode is set to* MIXDOWN *or* MASTERING

■ Capturing IN and OUT points

1. Press the **IN/OUT** button to open the I/O SETTING screen.

2. Press the **F3** [IN] button or **F4** [OUT] button at the desired position (whether the unit is stopped, playing or recording) to set the IN/OUT point. SET IN! or SET OUT! and the captured time appear in a pop-up message.

SET IN   SET OUT

NOTE

*When the Home Screen is open, you can also use the **F3** and **F4** buttons to set IN and OUT points even though these **F3/F4** button assignments do not appear.*
The set times will be shown with a SET IN! *or* SET OUT! *message as above.*

■ Editing IN/OUT points

1. When the I/O SETTING screen is open, press the **F2** [EDIT] button to enable editing.

2. Edit the values of IN and OUT points using the following guidelines.
   - Use the **F3** [▲] and **F4** [▼] buttons to move the cursor (underlined) between the IN and OUT items.
   - Use the ◄◄ [RTZ] and, ►► [LRP] buttons to move the cursor (underlined) between time fields.
   - Use the **DATA** wheel to change the value at the cursor position (underlined).
3. When finished editing, press the **HOME** button to return to the Home Screen.

Using repeat playback

1. Set the starting (IN) and ending (OUT) points for the time that you want to repeat, and then return to the Home Screen.
2. Press the **REPEAT** button to start repeat playback.
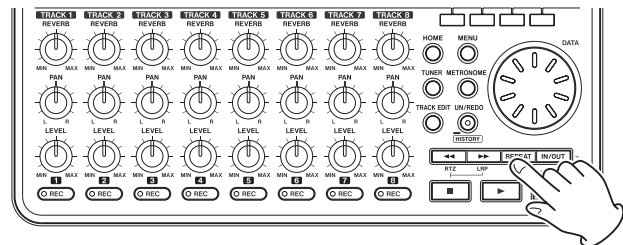
The ⇄ icon appears on the Home Screen during repeat playback.

Repeat icon
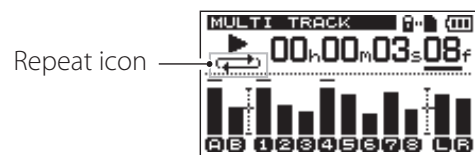
Playback starts from the IN point. When the OUT point is reached, after the set repeat interval elapses, playback starts again from the IN point.

Playback continues to repeat between the IN and OUT points.

3. Press the **REPEAT** button again to stop repeat playback. The ⇄ icon on the Home Screen disappears.

    The next section explains how to set the repeat interval that determines the amount of time until playback starts again after the OUT point is reached.

    NOTE

    If the time between the IN and OUT points is less than 2 frames, an I/O Too Short *pop-up message appears when you press the* **REPEAT** *button and repeat playback will not occur.*

Setting the time between repetitions (repeat interval)

The time between repetitions (repeat interval) can be set from 0.5 to 9.9 seconds.

1. Press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the PREFERENCE menu item, and press the **F4** [▶] button to open the PREFERENCE screen.

    ```
    PREFERENCE
    Repeat Int :1.0sec
    Contrast   :   5
    Back Light :   OFF
    Auto Power Save :  OFF
    BACK           ▲    ▼
    ```

3. Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) the Repeat Int item setting value, and use the **DATA** wheel to set the value between 1.0sec (default value) and 9.9sec (in 0.1-second increments).
4. After making the setting, press the **HOME** button to return to the Home Screen.

Locating to IN and OUT points

When the home screen is open, press the **F1** button while pressing and holding the Stop (■) button to locate to the IN point. Press the **F2** button while pressing and holding the Stop (■) button to locate to the OUT point.

Punching in and out

Punching in/out is a technique to replace a part of an already recorded track.

Start playback and when you reach the part that you want to replace, switch to record (punch in), then switch back to the Play (or stop) when you finish the part that you want to replace (punch out).

1. Decide what part of the track you plan to replace and choose a point to begin where the new recording can sit well with the existing recording.
2. Press the **REC** button of the **TRACK** that you plan to replace part of to start record standby (**REC** indicator blinks).
3. Start playback before the part of the track that you want to replace.
4. Press the Record (●) button to start recording (punch in) when you reach the part. Play or sing what you want to record.
5. Press the Play (▶) button to switch to playback (punch out) when you finish the replacement recording.

    TIP

    You can also press the Stop (■) button to punch out at the end of the replacement recording.

Using a foot switch to punch in/out

You can use a foot switch (standard plug) connected to the **FOOT SWITCH** jack on the rear panel to punch in and out.

In step 4 above, press the foot switch instead of the Record (●) button. In step 5, press the foot switch again instead of the Play (▶) button.

Foot switch (standard jack)
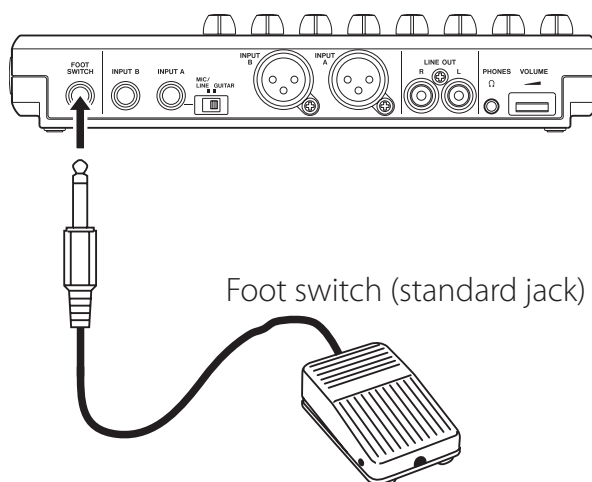
Setting the foot switch polarity

Set the foot switch polarity on the PREFERENCE screen.

Connect the foot switch, and, without pressing it, set FootSW Polarity to OFF. This will set the unit to operate properly for the polarity of the connected foot switch.

1. Connect a foot switch to the **FOOT SWITCH** jack on the rear panel.

2. When the recorder is stopped and the Home Screen is open, press the **MENU** button to open the MENU screen.

3. Use the data wheel to select (highlight) PREFERENCE, and press the F4 [▶] button to open the PREFERENCE screen.

4. Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) FootSW Polarity.

5. While not pressing the foot switch, use the data wheel to select OFF.

6. After making the setting, press the **HOME** button to return to the Home Screen.

Using automatic punching in/out

When IN and OUT points are set, press the Record (●) button and the **IN/ OUT** button at the same time to enter auto punch in/out mode. The [A.Punch] icon appears near the top of the Home Screen when in this mode.

auto punch in/out mode
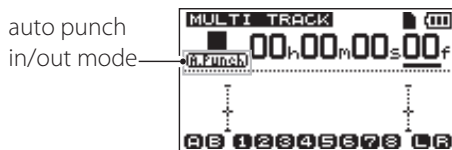
Auto punch in/out mode has a rehearsal function. When using this function, you can monitor between the IN and OUT points as though recording without actually recording.

Rehearsing with auto punch in/out

Before punching in and out to record, you can rehearse. When rehearsing, you can monitor as though recording without recording.

1. Press **TRACK REC** buttons to use auto punch in/out with those tracks.

2. After setting the IN and OUT points, press the Record (●) and **IN/OUT** buttons at the same time to enter auto punch in/out mode.
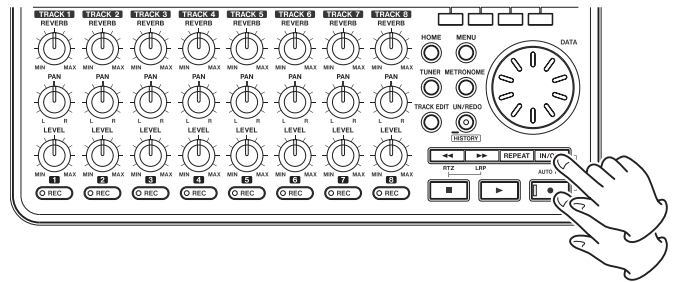
3. Press the Play (▶) button.

Playback begins two seconds before the IN point, and the monitored sound switches at the IN point from the track playback sound and the input sound to just the input sound. The Record (●) indicator blinks when between the IN and OUT points.

When playback reaches the OUT point, the monitored sound includes the track playback sound with the input sound again, and the Record (●) indicator stops blinking and turns off. Playback automatically stops one second after the OUT point.

You can rehearse again until you are satisfied.

Recording with auto punch in/out

When you are done rehearsing, you can use auto punch in/out to record.

1. While in auto punch in/out mode, press and hold the Record (●) button, and press the Play (▶) button.

In the same way as during rehearsal, playback begins two seconds before the IN point.

Recording occurs and the Record (●) indicator lights between the IN and OUT points.

2. One second after reaching the OUT point, the recorder automatically stops, auto punch in/out mode ends and the transport locates to two seconds before the IN point.

NOTE

- *Auto punch in/out mode cannot be activated when in repeat mode or if no REC button has been pressed.*
- *Auto punch in/out can be undone.*

8 – Editing Tracks

Editing on a conventional tape recorder in the past required advanced techniques, but with this unit editing tracks is easy and accurate. Moreover, with a tape recorder, an editing error could not be undone, but this unit uses nondestructive editing, allowing you to edit without altering the original data. This means that the undo function can be used to correct an edit easily. (See "Undoing operations (undo)" on page 49.)

Overview of track editing

This unit has the following track editing functions.
- COPY/PASTE
- COPY/INSERT
- MOVE/PASTE
- MOVE/INSERT
- OPEN (insert a silent section)
- CUT (remove part of a track)
- SILENCE (erase part of a track)
- CLONE TRACK (duplicate a track)
- CLEAN OUT (erase a track)

Track editing points

Among the track editing functions, COPY/ PASTE, COPY/INSERT, MOVE/PASTE and MOVE/INSERT use the IN and OUT points as editing points. As an additional editing point, they also use the current position when the editing operation is begun as the TO point.

Among track editing functions, SILENCE, CUT and OPEN use the IN and OUT points for editing. These are the same as the IN and OUT points used for repeat playback.

For instructions about how to set IN and OUT points, see "Setting IN and OUT points" on page 53.

Use the I/O SETTING screen to edit IN and OUT points. (See "Setting IN and OUT points" on page 53.)

IN point

The IN point is the beginning of the part of the track that will be edited.

Press the **IN/OUT** button to open the I/O SETTING screen, and press the **F3** [IN] button at the time where you want to set the IN point.

OUT point

The OUT point is the end of the part of the track that will be edited.

Press the **IN/OUT** button to open the I/O SETTING screen, and press the **F4** [OUT] button at the time where you want to set the OUT point.

TO point

The TO point is used as the paste and move destination point for COPY and MOVE operations.

The position where playback is currently stopped before opening the TRACK EDIT screen is set as the TO point.

> **NOTE**
>
> *These IN, OUT and TO points can also be changed on various editing screens.*

Basic track editing procedures

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

2   When the recorder is stopped, press the **TRACK EDIT** button to open the TRACK EDIT screen where you can select editing options.

3.   Use the **DATA** wheel to select (highlight) the desired track editing function, and press the **F4** [▶] button to open that editing function's screen.

4.   Select the setting item value.

    When there are multiple setting items, use the **F3** [▲] and **F4** [▼] buttons to select the items, and use the **DATA** wheel to set the values. For details about the settings, see the explanations of the functions on the following pages.

5.   Press the **F2** [EXEC] button to execute the function.

> **NOTE**
>
> *Press the **F1** [BACK] button to return to the TRACK EDIT screen.*

Track editing function setting items

In this section, we explain the setting items that appear on the various track editing function screens.

SOURCE TRK (copy source track)

CLEAN OUT TRK (track to be deleted)

SILENCE TRK (track partially silenced)

CUT TRK (track partially deleted)

OPEN TRK (track to have silence inserted)
These items are used to select the tracks to be edited. The options depend on the editing function.

- 1 to 8:   Individual tracks
- 1/2, 3/4, 5/6, 7/8: Track pair
- 1-8:   All tracks
- MST: Stereo master track
- ALL: Tracks 1-8 and stereo master track

Example of SOURCE TRK item
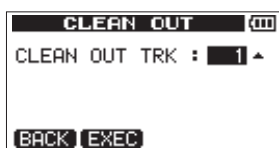
Example of CLEAN OUT TRK item

IN/OUT/TO
These show the starting/ending points when it is necessary to define a part of a recording for editing.

However, you cannot change the IN, OUT and TO points when using a track editing function. Set these points on the I/O SETTING screen, which you can open by pressing the **IN/OUT** button. ("Setting IN and OUT points" on page 53.)

Editing the IN point

Editing the OUT point

Editing the TO point

DESTINATION TRK (copy destination track)
Use this to set the track that will be the destination of a copy, insert or clone edit.

When a mono track has been set as the SOURCE TRK (track that is being copied from), mono tracks will be shown as options for the DESTINATION TRK (track that is being copied to).

When a pair of tracks or stereo master track has been set as the SOURCE TRK (tracks/track that are/is being copied from), a pair of tracks will be shown as options for the DESTINATION TRK (tracks that are being copied to).

Example of DESTINATION TRK item

COPY TIMES
Set the number of times that the copied track data will be pasted.

Set the number between 1 and 99.
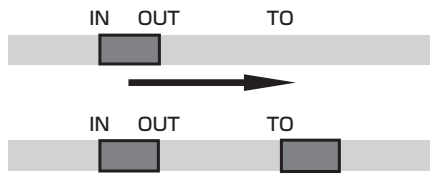
COPY/PASTE

This function copies the audio data from between the IN and OUT points on the copy source track, and pastes it on the COPY destination track starting from the TO point.

This operation overwrites recorded data on the copy destination track. Therefore, the length of the copy destination track is not changed.

You can paste multiple copies in a single operation. In other words, you can overwrite the copy destination track from the TO point with the copied track data for the set number of times.

This operation uses the following parameters.

- SOURCE TRK   ("1"–"8", "1/2", "3/4", "5/6", "7/8", "1–8")
- IN/OUT/TO
- DESTINATION TRK
- COPY TIMES

COPY/INSERT
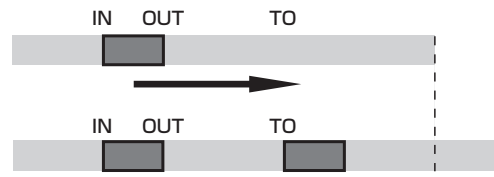
This function copies the audio data from between the IN and OUT points on the copy source track, and inserts it on the copy destination track starting from the TO point.

This operation inserts recorded data into the copy destination track. The recorded data on the copy destination track after the TO point is shifted backward by the inserted audio data. Therefore, the copy destination track becomes longer.

You can insert multiple copies in a single operation. In other words, you can insert the copied track data a set number of times into the copy destination track from the TO point.

This operation uses the following parameters.

- SOURCE TRK   ("1"–"8", "1/2", "3/4", "5/6", "7/8", "1–8")
- IN/OUT/TO
- DESTINATION TRK
- COPY TIMES

MOVE/PASTE
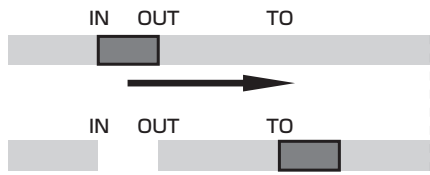
The audio data between the IN and OUT points on the move source track is removed and pasted in the move destination track starting from the TO point.

This operation leaves a silence between the IN and OUT points on the move source track.

This operation overwrites recorded data on the move destination track. Therefore, the length of the move destination track is not changed.

This operation uses the following parameters.

- SOURCE TRK　("1"–"8", "1/2", "3/4", "5/6", "7/8", "1–8")
- IN/OUT/TO
- DESTINATION TRK

MOVE/INSERT
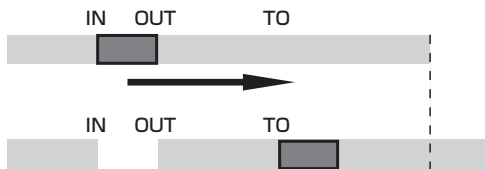
The audio data between the IN and OUT points on the move source track is removed and inserted in the move destination track from the TO point.

This operation leaves a silence between the IN and OUT points on the move source track.

This operation inserts recorded data into the move destination track starting from the TO point. Therefore, the move destination track becomes longer.

This operation uses the following parameters.

- SOURCE TRK　("1"–"8", "1/2", "3/4", "5/6", "7/8", "1–8")
- IN/OUT/TO
- DESTINATION TRK

OPEN (insert silence)
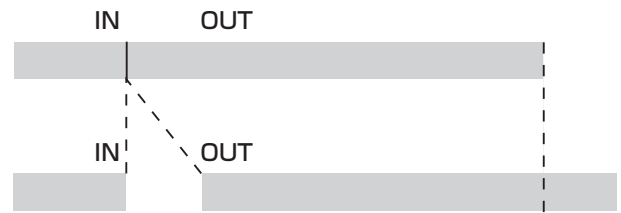
A silent passage is inserted between the IN and OUT points on the selected track. This operation splits a track at the IN point and the beginning of the part after the IN point is shifted to the OUT point. As a result, the length of the track becomes longer.

The parameters that can be set are as follows.

- OPEN TRK ("1"–"8", "1/2", "3/4", "5/6", "7/8", "1–8", "ALL")
- IN/OUT

CUT (remove part)
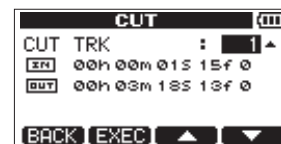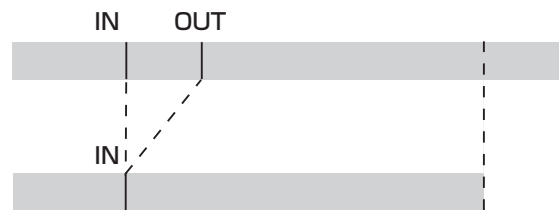
The part of the track between the IN and OUT points on the selected track is CUT (deleted), and the rest of the track after the OUT point is moved forward to the IN point. As a result, the length of the track becomes shorter.

The parameters that can be set are as follows.

- CUT TRK ("1"–"8", "1/2", "3/4", "5/6", "7/8", "1–8", "ALL")
- IN/OUT

SILENCE (part erase)
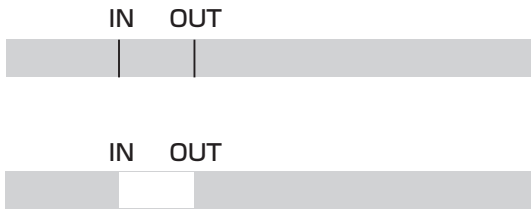
This erases the selected track between the IN and OUT points. This has the same effect as recording a silent signal between the IN and OUT points. This operation does not change the track length.

The parameters that can be set are as follows.

- SILENCE TRK   ("1"–"8", "1/2", "3/4", "5/6", "7/8", "1–8")
- IN/OUT

> **TIP**
>
> *This function can be used to remove short noises, for example.*

CLONE TRACK (track duplication)
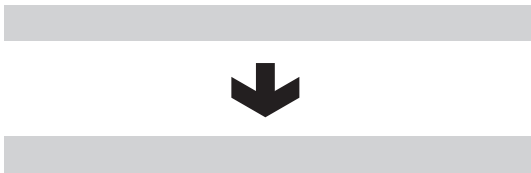
Using CLONE TRACK you can create a copy of a single track, a track pair or a master track on a different track (or tracks).

This copies the entire track, so the IN and OUT points have no effect.

The parameters that can be set are as follows.

- SOURCE TRK ("1"–"8", "1/2", "3/4", "5/6", "7/8", "1–8", "MST")
- DESTINATION TRK

> **NOTE**
>
> *If you choose the same track for both the SOURCE TRK item and the DESTINATION TRK item and press the F2 [EXEC] button, a Same Track pop-up message appears and the operation is cancelled.*

CLEAN OUT (track erase)
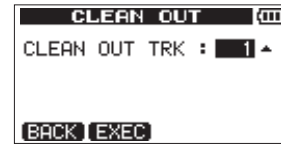
This completely erases the selected track. This erases the entire track, so the IN and OUT points have no effect.

The parameters that can be set are as follows.

- CLEAN OUT TRK ("1"–"8", "1/2", "3/4", "5/6", "7/8", "1–8")

Mixdown

Adjusting the volumes and stereo positions of the recorded tracks to create a well-balance stereo mix is called mixdown.

Level and balance

Use the **TRACK 1–8 LEVEL** knobs to adjust the relative balance between tracks. Then, use the **MASTER LEVEL** knob to adjust the overall level.

Watching the ▣ and ▣ level meters on the display, adjust the levels until they are suitable. If the volume is too loud, the sound will be distorted.

NOTE

*The track level meters on the display show the recorded signal levels on the tracks. Therefore, these meters do not change even when the **TRACK LEVEL** knobs are adjusted.*

TIP

You do not need to keep the entire song at the same volume. For example, you could gradually increase the volume during a guitar solo.

Stereo position (panning)

Use the **TRACK PAN** knobs to adjust the stereo positions of tracks .

Track equalizers

Each track has a two band equalizer.

Use the `EQ SETTING` screen to set the track equalizers.

1. Press the **EQ** button to open the `EQ SETTING` screen.
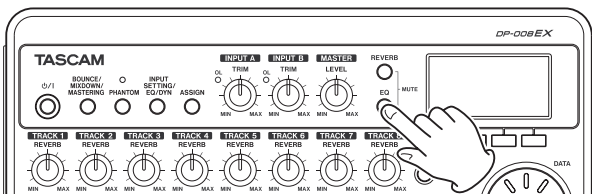
2. Set the following parameters for the track equalizers.

Parameter	Settings
EQ-SWITCH (track equalizer switch)	On/Off (default: Off)
Hi-F (high frequency range)	1.7 kHz – 18 kHz (default: 5 kHz)
Hi-G (high range gain)	±12 dB (default: 0.0 dB)
Lo-F (low frequency range)	32 Hz – 1.6 kHz (default: 350 Hz)
Lo-G (low range gain)	±12 dB (default: 0.0 dB)

Use the **F1** [◀] and **F2** [▶] button to switch the track being set.

Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) parameters, and use the **DATA** wheel to adjust their values.

3. After making track equalizer settings, press the **HOME** button to return to the Home Screen.

NOTE

When a track equalizer is ON, that track is shown on the Home Screen as in the illustration below.

Icons when track equalizers are ON
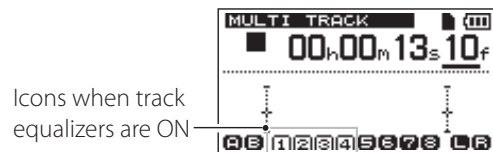
Example showing track equalizers active on tracks 1-4

Reverb

This unit has six types of reverb effects.

Adjust the level of the signal sent to the reverb effect from each track by using their **REVERB** knobs.

The signals are sent to the reverb effect after the track equalizer.

1. Press the **REVERB** button to open the `REVERB SETTING` screen.
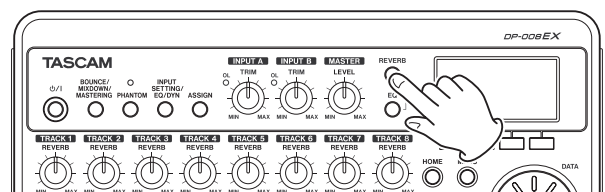
2. Adjust the reverb settings for the following parameters.

Parameters		Settings
TYPE	Reverb character	Hall 1 (default), Hall 2, Room, Studio, Plate 1, Plate 2
TIME	Time (depth)	0.2 (0.8 for Plate) – 3.2 Sec*
LEVEL	Amount (volume)	0 – 100*

*The default values for the TIME and LEVEL items are explained in the NOTE after step 4.

Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) parameters, and use the **DATA** wheel to adjust their values.

The signal after the reverb effect (return signal) is mixed with the stereo signal.

3. After making the reverb settings, press the **HOME** button to return to the Home Screen.

4. Use the **TRACK REVERB** knobs to adjust the amount of signal sent to the reverb effect from each track.
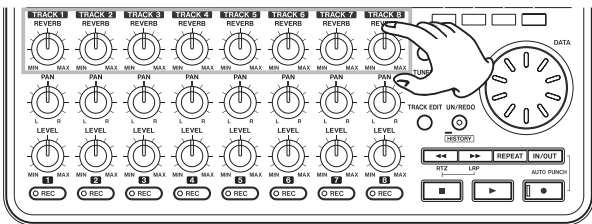
NOTE

The default values for the different reverb types are as follows.

TYPE	Default	
	TIME	LEVEL
Hall 1	1.8	80
Hall 2	2.2	80
Room	1.4	10
Studio	0.6	20
Plate 1	1.4	60
Plate 2	1.8	60

"INI" appears below a setting value when it is the same as the default value for the TYPE.

Muting tracks

1. Press the **EQ** and **REVERB** buttons at the same time to open the TRACK MUTE screen.
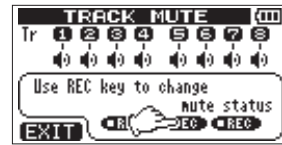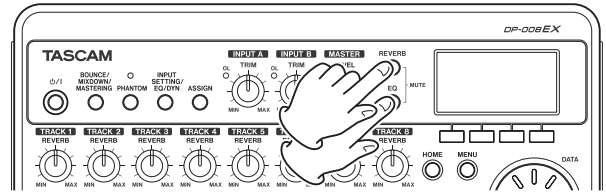
2. Press a **TRACK REC** button to mute/unmute that track.

When a track is muted, its track number appears as a dark number on a light background.

Example showing tracks 3-8 muted

3. After muting the tracks, press the **HOME** button to return to the Home Screen.

NOTE

When a track is muted, the track number is shown on the Home Screen as below (dark number on light background).

TRACK 3-8
Mute ON indication
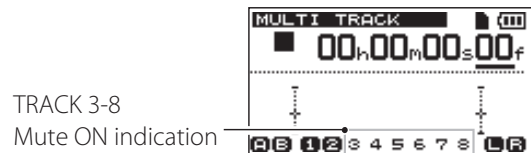
Creating stereo master tracks

When you are satisfied with the mix of your tracks, you can mix them down to a stereo master track.

A stereo master recorded by this unit is saved as part of the song, and can be recorded by an external stereo recorder. It can also be converted by the unit into a WAV file and exported to a computer where the sound can be processed further or combined with other recordings. (See "Exporting stereo master tracks" on page 81.)

NOTE

Only one stereo master can be made in a song at a time.

Setting the starting and ending points

Before you start creating a stereo master track, you must set the starting and ending points. The part of the song between the IN and OUT points will be recorded as the stereo master track. Ordinarily, the beginning of the song is set as the IN point and the end of the song is set as the OUT point.

Press the **F3** [IN] button at the point where you want to start the stereo master track to set the IN (starting) point and press the **F4** [OUT] button at the point where you want to end it to set the OUT (ending) point.

For details about adjusting IN and OUT points, see "Setting IN and OUT points" on page 53.

Creating a stereo master track

After setting the IN and OUT points, you can make the stereo master track.

1. When the recorder is stopped, press the **BOUNCE/MIXDOWN/MASTERING** button to open the RECORDER MODE screen.
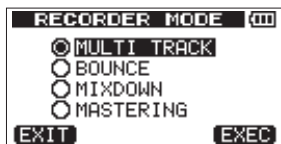
2. Use the **DATA** wheel to select (highlight) the MIXDOWN item.
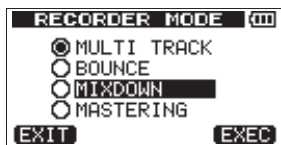
3. Press the **F4** [EXEC] button.

   After a Mixdown! pop-up message appears, the recorder switches to master recording mode and the Home Screen reopens.

   At this point, if you start playback or recording, you will be able to hear the mixed track signals (including signals that will be recorded) through headphones or an external monitoring system (powered monitor speakers or an amplifier and speakers).

NOTE

- *When in master recording mode,* MIXDOWN *appears highlighted at the top left of the Home Screen.*
- *If you try to switch to* MIXDOWN *mode when the length of the interval between IN and OUT points is less than four seconds, a* Trk Too Short *(track is too short) pop-up message appears and* MIXDOWN *mode will not be activated.*
- *You cannot change the IN and OUT points when in* MIXDOWN *mode.*
- *Playback and some other functions do not work when the unit is in* MIXDOWN *mode. If you try to use one of these functions, an* In Mixdown Mode *pop-up message appears.*

4. While pressing and holding the Record (●) button, press the Play (►) button to start creating a stereo master track. The Record (●) indicator lights.

   Regardless of the prior position of the recorder, recording starts from the IN point.

   As necessary, use the **LEVEL** and **PAN** knobs to adjust the mix. These adjustments will affect the recorded stereo master track.

   Creating a stereo master track automatically ends when the recorder reaches the OUT point.

5. If you want to redo creation of the stereo master track, press the Play (►) button again while pressing and holding the Record (●) button.

   This will create a new stereo master track, overwriting and deleting the previous one.

NOTE

- *After recording a stereo master track, you can play it back to check it. (See "Checking stereo master tracks" on page 64.)*
- *You can undo the creation of a stereo master track. So, after re-recording the stereo master track several times, you can go back and choose one that was previously recorded.*

6. Press the **BOUNCE/MIXDOWN/MASTERING** button to open the RECORDER MODE screen, and use the **DATA** wheel to return the recorder to MULTI TRACK mode.

9 – Mixdown and mastering

Checking stereo master tracks

After creating a stereo master track, you can listen to it by following these procedures.

1. When the recorder is stopped, press the **BOUNCE/MIXDOWN/MASTERING** button to open the RECORDER MODE screen.
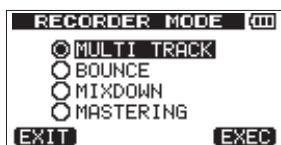
2. Use the **DATA** wheel to select (highlight) the MASTERING item.

3. Press the **F4** [EXEC] button to open the MASTERING mode selection screen.

> **NOTE**
>
> *If there is no stereo master track, a* No Master Trk *pop-up message will appear and the recorder mode will not change to* MASTERING.

4. Press the **F4** [MANUAL] button.

   After a Mastering! pop-up message appears, the recorder switches to mastering mode and the MASTERING screen opens.
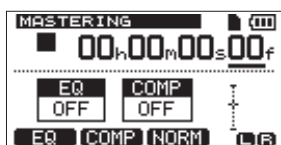
5. In this mode, press the Play (►) button to play the stereo master track.

   The stereo master track signal is output from the **LINE OUT** jack, so it can also be dubbed to an external stereo recorder.

6. After you have created a stereo master track that you are satisfied with, press the **BOUNCE/ MIXDOWN/MASTERING** button to open the RECORDER MODE screen, and use the **DATA** wheel to return the recorder to MULTI TRACK mode.

   If you are not satisfied with the stereo master track, you can create a new one. A new stereo master track will overwrite the previous one.

> **NOTE**
>
> *To listen to the recorded stereo master track of a saved song, load that song, set the recorder mode to* MASTERING *and then press the Play (►) button to start playback.*

> **TIP**
>
> - *When this recorder is in* MULTI TRACK *mode, you can transfer a stereo master mix created on this unit as a file that can be played back on a computer. (See "Exporting stereo master tracks" on page 81.)*
> - *When this recorder is in* **MULTI TRACK** *mode, you can copy a stereo master track to a pair of adjacent tracks (1-2, 3-4, 5-6 or 7-8) by cloning the track. (See "CLONE TRACK (track duplication)" on page 60.)*

Mastering stereo master tracks

This unit has mastering tools specifically for use with stereo master tracks. You can use equalization, compression and normalization to adjust the overall sound pressure and character of master tracks.

You can use these mastering tools on a stereo master track when the unit is in one of the two MASTERING modes.

■ AUTO MASTERING mode

In this mode, after you set the character of the effect (MAXIMUM or NATURAL), the unit automatically masters the stereo master track.

■ MANUAL MASTERING mode

In this mode, you can adjust the mastering equalization, compression and normalization individually when mastering stereo master tracks.

Using automatic mastering

1. When the recorder is stopped, press the **BOUNCE/MIXDOWN/MASTERING** button to open the RECORDER MODE screen.

2. Use the **DATA** wheel to select (highlight) MASTERING, and press the **F4** [EXEC] button to open the MASTERING mode selection screen.
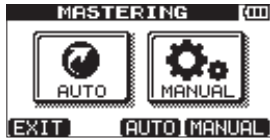
If there is no stereo master track, a No Master Trk *pop-up message appears and you will not be able to switch to* MASTERING *mode.*

3. Press the **F3** [AUTO] button to switch the recorder to MASTERING mode. After a Mastering! pop-up message appears, the AUTO MASTERING screen opens.

NOTE

The Record (■) and Play (▶) buttons do not function when the unit is in auto mastering mode.

4. Press the **F1** [TYPE] button to set the automatic mastering type to one of the following.

NATURAL SOUND

This setting raises the sound pressure gently.

MAXIMUM SOUND

This setting raises the sound pressure as much as possible.

5. After setting the TYPE of automatic mastering, press the **F2** [RHSL] button and check the effect that it has on the playback sound.

After checking the sound, press the **F2** [STOP] button to stop playback.

6. Press the **F3** [EXEC] button to start automatic mastering.

NOTE

If off-line peak detection has not yet been conducted for the stereo master track that is being automatically mastered, a Peak Detect *pop-up message appears to show that off-line peak detection is being conducted.*

When off-line peak detection completes, the following pop-up message appears. Press the **F3** [YES] button to start automatic mastering.

Press the **F4** [NO] button to cancel automatic mastering and return to the AUTO MASTERING screen.

7. When automatic mastering completes, the AUTO MASTERING screen reopens with the TYPE set to OFF.

NOTE

Undoing and redoing are not possible in AUTO MASTERING *mode. Switch to* MULTI TRACK *or* MIXDOWN *mode to undo or redo.*

Using manual mastering

Follow these procedures to master a track manually

1. Activate manual mastering mode.

    When the `MASTERING` mode selection screen is open, press the **F4** [MANUAL] button to activate manual mastering mode.

    After a `Mastering!` pop-up message appears, the `MASTERING` screen opens.

    NOTE

    If there is no stereo master track, a `No Master Trk` *pop-up message appears and you will not be able to switch to* `MASTERING` *mode.*

2. Use the mastering tools to adjust the track.

    Press the **F1** [EQ] button, **F2** [COMP] button or **F3** [NORM] button to open the desired tool screen.

    There is a screen for the equalizer (MASTERING EQ), the compressor (MASTERING COMP), and the normalizer (NORMALIZE screen).

    In addition, you can choose either a multiband or single-band compressor from the library.

    When using a multiband compressor, the `MASTERING COMP` screen parameters include `LOW BAND`, `MID BAND` and `HIGH BAND` frequency ranges.

    Make settings on each of the tool screens. (For details, see the following "Using the mastering compressor", "Using the mastering equalizer" and "Normalizing master tracks" sections.)

    When the unit is in mastering mode, you can use the Play (►), Stop (■), ◄◄ [RTZ] and ►► [LRP] transport buttons, so you can set the tools while listening to the track playing back.

3. Re-recording with the mastering effects.

    After setting the mastering tools, press the Play (►) button while pressing and holding the Record (●) button to start re-recording the stereo master track with the master effects.

    During recording, the Record (●) indicator lights.

    Recording always starts from the beginning of the song (00h00m00s00f) regardless of the current playback position.

    When in `MASTERING` mode, recording overwrites the stereo master track.

    NOTE

    If the unit is stopped in the middle of recording, a stereo master track to that point will be created.

4. Checking the results.

    Turn the equalizer and compressor off and then play back the recording to check the results of using the mastering effects.

    You can undo and redo at this point, so you can compare the sound before and after using the mastering effects.

■ If you are not satisfied

Undo to restore the stereo master track to how it was before applying the mastering effects, and then repeat these procedures from step 1.

NOTE

You cannot undo or redo in `AUTO MASTERING` *mode. Switch to* `MULTI TRACK` *or* `MIXDOWN` *mode to undo or redo.*

Using the mastering equalizer

1. When in `MASTERING` mode, press the **F1** [EQ] button to open the `MASTERING EQ` screen.
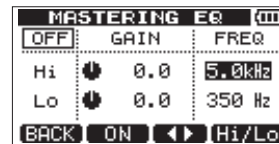
2. Set the mastering equalizer, which has the following parameters.

	GAIN	FREQ
Hi	High range gain value: ±12dB (default: 0.0dB)	High frequency range value: 1.7kHz – 18kHz (default: 5kHz)
Lo	Low range gain value: ±12dB (default: 0.0dB)	Low frequency range value: 32Hz – 1.6kHz (default: 350Hz)

    Use the **F3** [◄ ►] button to switch between GAIN and FREQ.

    Use the **F4** [Hi/Lo] button to select (highlight) `Hi` or `Lo`.

    Use the data wheel to set the item selected using the **F3** [◄ ►] and **F4** [Hi/Lo] buttons.

    At the top left of the `MASTERING EQ` screen, an indicator shows whether the mastering equalizer is ON or OFF. When OFF, press the **F2** [ON] button to turn it ON. When ON, press the **F2** [OFF] button to turn it OFF.
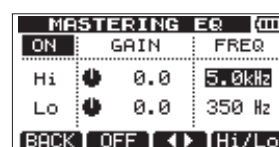
3. After making the settings, press the **F1** [BACK] button to return to the MASTERING screen.
4. The EQ item on the MASTERING screen shows whether the mastering equalizer is ON or OFF.

Using the mastering compressor

You can use either a single-band or multiband mastering compressor.

Since using a multi-brand compressor allows you to separate the low, medium and high frequency bands of a stereo master track and independently process them with different settings, you can adjust the overall sound pressure balance. By doing this, you can suppress unwanted peaks, raise the overall gain to increase the sound pressure and achieve a sound with greater impact.

1. When in MASTERING mode, press the **F2** [COMP] button to open the MASTERING COMP screen.

2. Press the **F3** [LIB] button to open the MASTERING COMP library.
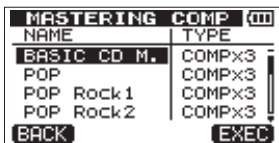
COMPx3 as the TYPE indicates a multiband compressor. COMPx1 indicates a single-band compressor.

3. Use the data wheel to select (highlight) a preset in the library, and press the **F4** [EXEC] button.

After loading the preset, the MASTERING COMP screen reopens.

4. Press the **F4** [PARM] button to open the MASTERING COMP parameter setting screen.

Multiband compressor example

Single-band compressor example

At this time, the selected band is shown in the upper left.

When using a multiband compressor, press the **F2** [BAND] button to cycle through the bands that can be set in order: LOW BAND → MID BAND → HIGH BAND (→ LOW BAND).

When using a single band compressor, press the **F2** [BAND] button to switch between BAND and A.MAKEUP screens.

5. Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) a parameter you want to set, and use the **DATA** wheel to adjust its value.

When a setting is at its default value, i appears to the right of the value.

The ranges for each parameter are as follows.

THRSHLD
Set the threshold value that causes the compressor to activate when exceeded.
Range: -32dB (default) – 0dB

RATIO
Set the compression ratio.
Options: 1.0:1, 1.1:1, 1.3:1, 1.5:1, 1.7:1, 2.0:1, 2.5:1, 3.0:1, 3.5:1, 4.0:1, 5.0:1, 6.0:1, 8.0:1, 16.0:1, inf:1

LEVEL
Set the output level.
Options: -20dB – +20dB

6. Press the **F2** [BAND] button when using a multiband compressor to change the frequency band to LOW BAND, MID BAND or HIGH BAND, and set the parameters for that band.

Press the **F2** [BAND] button when using a single-band compressor to show the A.MAKEUP setting.

Turn the automatic makeup function ON or OFF. When ON, the unit will automatically adjust the volume after compression so that it is not decreased.

When this setting is at its default value, i appears to the right of the value.

7. After making the settings, press the **F1** [BACK] button to return to the MASTERING COMP screen.

8. Press the **F2** [ON] button to turn the compressor ON/OFF. The MASTERING COMP screen shows whether the mastering compressor is ON or OFF.

Compressor ON/OFF indicator ⟶
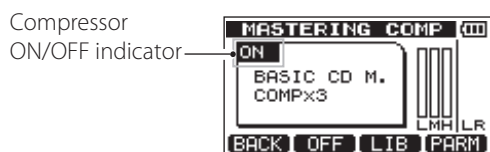
9. After making the settings, press the **F1** [BACK] button to return to the MASTERING screen.

For details about the compressor settings, see "13 – Mastering compressor settings" on page 82.

Normalizing master tracks

You can normalize to automatically adjust the volume. The unit determines the highest volume level of the track and then increases the volume of the entire track so that the highest level is the maximum possible.

CAUTION

If you use the mastering equalizer or compressor after normalization, distortion could occur. Always normalize after using the mastering equalizer and compressor to adjust the sound.

1. When in MASTERING mode, press the **F3** [NORM] button to open the NORMALIZE screen.

2. Press the **F4** [EXEC] button to normalize the track.

3. After normalization completes, press the **F1** [BACK] button to return to the MASTERING screen.

Copying a stereo master track

You can use the clone track function to copy a stereo master track to another track. (See "CLONE TRACK (track duplication)" on page 60.)

Exiting mastering mode

Press the **BOUNCE/MIXDOWN/MASTERING** button to exit MASTERING mode and return to MULTI TRACK mode.

Metronome

This unit has a built-in metronome function that can be used when the recorder is operating. You can set it to function during both playback and recording or only during recording.

1. When the recorder is stopped, press the **METRONOME** button to open the `METRONOME` screen.
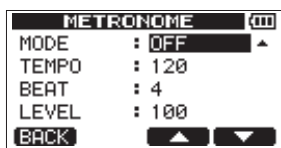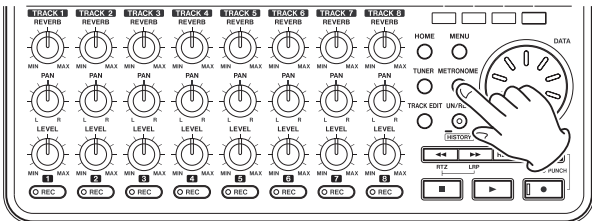
2. Set the following items.
   Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) items, and use the **DATA** wheel to set their values.

   MODE

   Select one of the following modes.

Mode	Meaning
OFF (default value)	metronome OFF
REC&PLAY	Metronome functions during both recording and playback
REC ONLY	Metronome functions only during recording

   TEMPO

   Set the speed between 20 and 250 BPM (default value: 120).

   BEAT

   Set the number of beats between 1 and 12 (default value: 4).
   The accent falls on the first beat.

   LEVEL

   Set the metronome volume between 0 and 127 (default value: 100).

3. After completing the setting, press the **HOME** button to return to the Home Screen.
   The metronome will now function according to the `MODE` setting made in step two.
   Even if the metronome is active during recording, the its sound will not be recorded directly.

   NOTE

   - *If you record using a mic while monitoring the metronome sound through connected speakers, the metronome sound could be recorded.*
   - *When the metronome is operating, you can adjust the* `LEVEL` *item, but other items on the* `METRONOME` *screen cannot be changed.*
   - *You can use the metronome to provide a click when making the first recording of, for example, a rhythm guitar or bass part.*
   - *If you want to use the metronome when practicing, you can either play a song that does not have any recordings or turn the* **TRACK LEVEL** *knobs all the way down during playback.*

Tuner

Use the built-in chromatic tuner to tune guitars and other instruments.

In addition to the chromatic tuner mode, which allows you to tune an instrument while looking at the tuning meter, this unit's tuner also has an oscillator mode that outputs a standard pitch.

Chromatic tuner mode

1. Connect a guitar or bass to **INPUT A**.
   INPUT B cannot be used for tuning.
   Use built-in MIC A to tune other instruments such as wind instruments.

2. On the `INPUT SETTING` screen, set the `IN A` input source to `Ext. Input`, `LINE/ Low`, `Ext. Input / Mid` or `Ext. Input / High`. (See "Selecting the input source" on page 42.)

   NOTE

   When using the built-in mic, select `Internal MIC /Low` *or* `Internal MIC /High` *on the* `INPUT SETTING` *screen.*

10 – Miscellaneous Functions

3. When the recorder is stopped, press the **TUNER** button to open the TUNER screen. The CALIB item (standard frequency) value is selected (highlighted) when it opens.
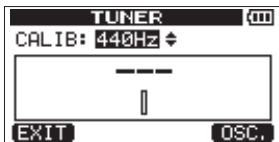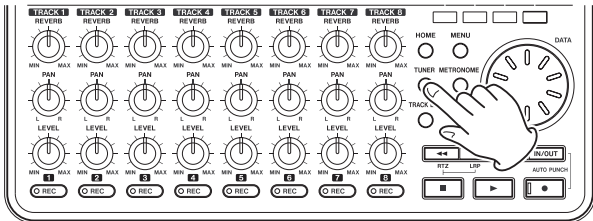
4. Use the **DATA** wheel to set the standard frequency of the A note between 435 and 445 Hz. (default value: "440Hz")

5. Play the instrument and tune it.

   The pitch name closest to the string appears above the meters. Tune the string roughly until the sound name that you want appears. Then, fine tune the string until the rectangle at the middle of the meter darkens, showing that the string is in tune. If the pitch is too low, a bar extends to the left of the middle and if it is too high it extends to the right. The longer the bar is the more out of tune the string is.
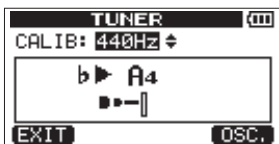
   When the pitch is just right, the ▶ and ◀ to the left and right of the pitch name appear unblinking.
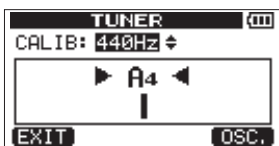
6. When you are finished tuning, press the **HOME** button to open the Home Screen.

   NOTE

   If you want to monitor the input signal, press the REC button of the track that has IN A *(INPUT A) assigned to it. (See "Assigning inputs" on page 44.)*

Oscillator mode

1. When the recorder is stopped, press the **TUNER** button to open the TUNER screen.

2. Press the **F4** [OSC.] button to show the oscillator mode on the TUNER screen.

3. Make the following oscillator mode settings on the TUNER screen.

   CALIB

   Use this to adjust the standard frequency of A4 (la) between 435 Hz and 445 Hz (default: 440 Hz).

   NOTE

   Use this to set the note output between C3 and B5 (default: A4).

   LEVEL

   Use this to set the output level between a minimum value of 10 and a maximum of 100 (default: 50).

   Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) parameters, and use the **DATA** wheel to set their values.

   Use the **F2** [ON] button to turn the output ON and OFF.

   Use the **F1** [CHROM.] key to switch to chromatic tuner mode.

4. When you are finished tuning, press the **HOME** button to return to the Home Screen.

Automatic power saving function

You can set the amount of time until the unit automatically turns OFF (enters standby) after its last activity or operation.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.

2. Use the **DATA** wheel to select (highlight) the PREFERENCE item and press the **F4** [▶] button to open the PREFERENCE screen.

3. Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) the Auto Power Save item setting value, and use the **DATA** wheel to set it to one of the following values.

   Options: OFF (does not turn off automatically), 3min, 5min, 10min, 30min (default value)

4. After completing the setting, press the **HOME** button to return to the Home Screen.

Restoring preferences to default values

You can restore PREFERENCE screen settings and backup memory items (See page 88.) to their initial values (values set when the unit was shipped from the factory). This operation is called initialization.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the PREFERENCE item and press the **F4** [▶] button to open the PREFERENCE screen.
3. Use the **F3** [▲] and **F4** [▼] buttons to select (highlight) Exec next to Initialize, and press the **F2** [EXEC] button.

4. When a confirmation pop-up message appears, press the **F3** [YES] button.

After initialization completes, the PREFERENCE screen reopens.

NOTE

*Press the **F4** [NO] button to cancel initialization.*

5. After completing initialization, press the **HOME** button to return to the Home Screen.

Viewing information

You can view information about the current song (currently loaded song), the SD card and the firmware.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the INFORMATION item, and press the **F4** [▶] button to open the SONG (1/3) page of the INFORMATION screen.
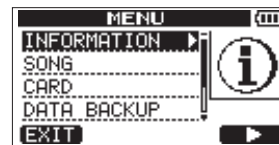
The INFORMATION screen has three pages including this one.

3. Use the **F3** [PREV] and **F4** [NEXT] buttons to change the page.
The pages contain the following information.

SONG (1/3) page

For the MTR partition that holds the currently loaded song, the partition number, the name (title) of that song and the remaining recording time are shown

CARD (2/3) page

MTR partitions and capacities, FAT partition capacity

F/W (3/3) page

system firmware version

Overview of partitions

As described in "Partitions and songs" (page 37), SD cards formatted by this unit are divided into partitions. MTR partitions are for recording data while the FAT partition can be accessed with a personal computer. High-capacity cards can have multiple MTR partitions. In this case, you can use the MTR partitions for different songs, for example, or copy songs to a different MTR partitions to save their information. The FAT partition is FAT32 format and can be accessed by a computer connected to this unit by USB. This FAT partition is used to save songs and export stereo masters to computers, as well as to allow this unit to import audio files into songs, for example. For this reason, two steps are necessary to copy from a MTR partition and a computer. You can also format an entire card or individual partition as well as change the divisions between partitions (repartition) as necessary.

> **CAUTION**
>
> *Formatting and repartition operations cannot be undone!*

> **NOTE**
>
> • *The FAT (File Allocation Table) format is a disk format that can be read by a computer.*
> • *SD cards that meet SD/SDHC standards and are at least 512 MB can be used with this unit. 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.*
> • *See "Selecting the active partition" on page 37 for how to change the active partition.*

Formatting SD cards

This operation formats the entire card and allows you set MTR partition sizes for high-capacity cards.

> **CAUTION**
>
> *This operation erases all the data on the card and cannot be undone! Confirm that you will not lose important data before formatting a card.*

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the CARD item, and press the **F4** [▶] button to open the CARD screen.

3. Use the **DATA** wheel to select the FORMAT item, and press the **F4** [▶] button to open the FORMAT screen.

MTR partition size
FAT partition size
Size of entire SD card
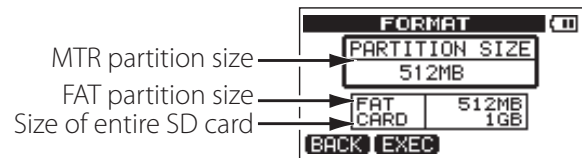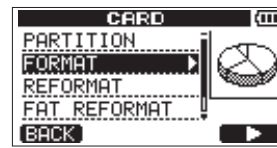
The following table shows the FAT and MTR partition sizes for different SD card capacities. The FAT partition size is set automatically according to card capacity. The size of the MTR partition on cards 4 GB or smaller is also fixed, but cards that are 8 GB or larger have multiple MTR partitions and their sizes can be chosen. However, the last MTR partition is set to fill the remaining space on the card automatically, so its size cannot be chosen.

SD card capacity and partition size

SD card capacity	FAT partition size	MTR partition size
32GB	4GB	2GB, 4GB, 8GB or 16GB
16GB	4GB	2GB, 4GB or 8GB
8GB	2GB	2GB or 4GB
4GB	2GB	2GB fixed
2GB	1GB	1GB fixed
1GB	512MB	512MB fixed
512MB	256MB	256MB fixed

> **NOTE**
>
> • *The unit can handle a maximum of 4 MTR partitions, no matter how small you make them.*
> • *When you insert an unformatted SD card, the unit will ask you to format it. At this time, however, you cannot choose the size of the MTR partitions. If you want to change the sizes, follow the procedures above to format the card.*

4. If the capacity of the SD card is less than 8 GB, press the **F2** [EXEC] button.

   If the capacity of the SD card is 8 GB or more, use the **DATA** wheel to set the size of the MTR partition, and press the **F2** [EXEC] button.

   A pop-up message warning that all songs will be erased appears.

5. Press the **F3** [YES] button to format the SD card.

   For example, if you format a 16 GB SD card with 4GB MTR partitions, 12 GB are left for MTR partitions after 4 GB is used for the FAT partition. Three partitions are created. Two are 4 GB and the last one is 3 GB. (Since 1GB is actually 1024 MB, the total size of the partitions does not always match the SD card size.)
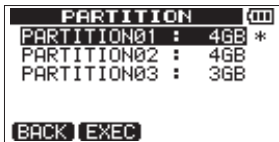
NOTE

- **When formatting finishes the** CARD **menu screen reopens.**
- **After formatting, one song is automatically created in each MTR partition.**
- **To cancel formatting, press the F4 [NO] button.**

Reformatting MTR partitions

You can reformat any MTR partition if you want. Use this function when you just want to format a specific partition without changing its size.

CAUTION

You cannot undo this operation! All the data on the selected partition will be erased, so be certain that you will not lose anything important when reformatting.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the CARD item, and press the **F4** [▶] button to open the CARD screen.
3. Use the **DATA** wheel to select (highlight) the REFORMAT item, and press the **F4** [▶] button to open the REFORMAT screen.
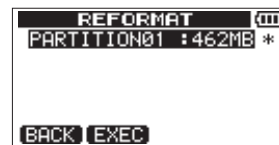
   A list of the MTR partitions and their sizes (not open capacities) appear.

   The currently selected MTR partition has an asterisk (*) on its right.

4. Use the **DATA** wheel to select (highlight) the MTR partition that you want to reformat, and press the **F2** [EXEC] button.

   A pop-up message appears warning you that this will delete all the data on the MTR partition.

5. Press the **F3** [YES] button to reformat the MTR partition.

NOTE

- **When reformatting finishes the** CARD **menu reopens.**
- **After reformatting, one song is automatically created in the MTR partition.**
- **To cancel reformatting, press the F4 [NO] button.**

Reformatting FAT partitions

You can also reformat just the FAT partition. The size of the FAT partition cannot be changed.

CAUTION

You cannot undo this operation! All data on the FAT partition will be erased, so be certain that you will not lose anything important when reformatting.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the CARD item, and press the **F4** [▶] button to open the CARD screen.
3. Use the **DATA** wheel to select (highlight) the FAT REFORMAT item, and press the **F4** [▶] button.

A pop-up message warning that all data on the FAT partition will be erased appears.

4. Press the **F3** [YES] button to reformat the FAT partition.

NOTE

- *When reformatting finishes the CARD menu screen reopens.*
- *To cancel reformatting, press the **F4** [NO] button.*

Initializing SD cards

If you want to use an SD card that was used with this unit to other equipment, we recommend that you initialize it.

When you initialize an SD card, the entire card is formatted as FAT32.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the CARD item, and press the **F4** [▶] button to open the CARD screen.
3. Use the **DATA** wheel to select (highlight) the SD INITIALIZE item, and press the **F4** [▶] button.

A pop-up message warning that all data on the card will be erased appears.

4. Press the **F3** [YES] button to initialize the entire SD card and format it in FAT32 format.

NOTE

- *To cancel initialization, press the **F4** [NO] button.*
- *After initializing an SD card, it must be formatted again to be used with this unit. (See "Formatting SD cards" on page 72.)*

By connecting this unit with a computer using the included USB cable you can backup song data on this unit's SD card to the computer and restore backed-up song data from the computer. Moreover, you can export track files and stereo master files from a song to a computer and import audio files on the computer to the unit.

Backed-up data can be restored to a different DP-008EX unit than the one that created it. In this way, files can be freely exchanged between DP-008EX units, making it easy to add additional recordings or mix existing recordings in a different location.

> **CAUTION**
>
> *Instead of using the USB connection, if you want to remove an SD card from this unit and back-up its data by connecting it directly to a computer (or using a card reader), always turn the unit's power off (put in standby) before removing the card.*

> **NOTE**
>
> • *The MTR partitions where song files are stored cannot be directly accessed from a computer.*
> • *In this chapter, "computer" refers to a Windows or Macintosh computer connected to this unit. (See "Supported operating systems" on page 75.)*

The following types of data can be transferred from this unit to a computer.

■ Entire songs

You can transfer the data for an entire song from the unit's BACKUP directory on the FAT partition to a computer. This operation is called "backup." In addition, data backed-up on a computer can be transferred to the BACKUP directory on the FAT partition, and then restored as song data. This operation is called "restore."

■ WAV format tracks

You can convert tracks to WAV files and export them to a computer. You can also import WAV files from a computer.

These WAV files are stored on the WAVE directory of this unit's FAT partition.

■ Stereo master files

Stereo master files can be transferred as stereo WAV files from the WAVE directory on the FAT partition of this unit to a computer.

Only export is possible.

Supported operating systems

You can connect this unit to computers with the following operating systems.

■ Windows

Windows XP, Windows Vista, Windows 7

■ Mac OS X

Mac OS X 10.2 or later

When this unit is connected to a computer, the computer recognizes it as a removable disk. There is no need for a special driver.

> **NOTE**
>
> *Data transfer between this unit and a computer occurs at USB 2.0 speed (maximum). Data can still be transferred if the computer connection is USB1.1, but it will be slower. In addition, to assure USB 2.0 speed, use the included cable or a cable that meets USB 2.0 standards.*

Connecting with a computer

To use the FAT partition of this unit, the unit must be connected to a computer by USB. When connected by USB, this unit's record, playback and other recorder operations cannot be used.

To connect with a computer, connect the USB port on the right side panel of the unit with a USB port on the computer using the included USB cable. It does not matter whether you turn the unit's power ON before or after the USB connection is made.

If the USB connection is made while this unit's power is ON, the currently loaded song is saved before the USB connection becomes active and the following screen appears on the display.

If you turn the unit's power ON after making the USB connection, the screen above appears right away.

The unit appears as an external drive named "DP-008EX" on the computer's display.

Click the "DP-008EX" drive on the computer to view the "BACKUP", "WAVE " and "UTILITY" folders in the FAT partition of the DP-008EX.

CAUTION

- *This unit receives power from batteries or a TASCAM PS-P520E AC adaptor. It cannot be powered over USB.*
- *Do not make a USB connection when the remaining battery level is low. If the power turns OFF during data transfer, all the data will be lost. This lost data cannot be restored.*
- *Do not change the names of the three folders in "DP-008EX".*
- *The total number of files and folders that this unit can recognize on a FAT partition is 100. If the number exceeds 100, transfer them to a computer hard drive, for example.*

NOTE

- *This unit can only be connected to a computer by USB when the recorder mode is set to* MULTI TRACK.
- *Before connecting the unit and the computer by USB, confirm that you have exported or backed up to the FAT partition all the files that you want to transfer to the computer.*
- *The "UTILITY" folder is used to update the unit's system software, for example.*

Disconnecting

Follow these steps to properly end the USB connection.

CAUTION

When transferring data, do not disconnect the unit or remove the USB cable. Doing so could cause data on the computer or this unit to be damaged.

NOTE

The procedure on the computer for disconnecting might be called "eject" or "unmount".

Disconnecting from Windows XP/Windows Vista/ Windows 7

Follow the procedures below to disconnect computers that use Windows XP, Windows Vista, or Windows 7 operating systems.

A PC card icon and arrow appear in the taskbar (usually at the bottom right of the screen).
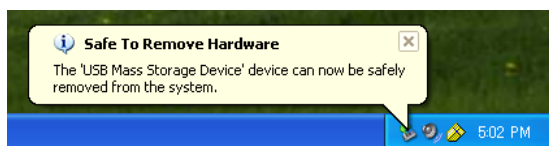
1. Left-click on this icon to open a pop-up bar. Click this pop-up bar to disconnect this unit from the computer.

2. After a pop-up message appears on the computer display saying that the unit can be disconnected, remove the USB cable.

   The unit restarts automatically and the Home Screen opens on its display.

NOTE

Do not remove the USB cable if a pop-up message warning that the unit cannot be disconnected safely appears on the computer display. Close all the computer programs and windows that are accessing (reading or writing) files on the unit, and then try the operation again.

Disconnecting from Mac OS X

1. Drag the "DP-008EX" icon that represents this unit to the Trash, or type Command-E to disconnect the DP-008EX.

2. After the DP-008EX icon disappears from the desktop, remove the USB cable.

   This unit restarts and the Home Screen appears on the display.

TIP

Depending on the OS version or OS settings you might also be able to eject the "DP-008EX" icon by clicking an eject button next to it in the Finder window or by using a control key.

Song backup and restoration

Song backup saves not only audio tracks, but also backs up editing data and other song data. Song restoration is the reverse of this process. In short, song files are transferred from the computer to the FAT partition of the unit and then used to restore the song.

Backing-up songs

Before starting a backup, check that the MTR partition that has the song that you want to backup is selected. (See "Selecting the active partition" on page 37.)

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.
2. Use the **DATA** wheel to select (highlight) the DATA BACKUP item, and press the **F4** [▶] button to open the DATA BACKUP screen.
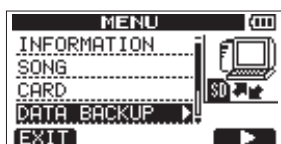
3. Use the **DATA** wheel to select (highlight) the SONG BACKUP item, and press the **F4** [▶] button to open the SONG BACKUP screen.

    A list of songs in the currently selected MTR partition appears.
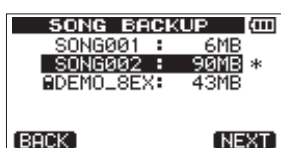
4. Use the **DATA** wheel to select (highlight) the song you want to back up, and press the **F4** [NEXT] button.

    A screen appears that allows you to edit the file name (title) of the song selected on the SONG BACKUP screen.

5. Edit the name (title) of the song being backed up as necessary. (See "Editing names" on page 38.)

6. After setting the name (title), press the **F2** [EXEC] button.

    A backup copy of the song on the active partition is made on the FAT partition (".001" is added as an extension).

    A Writing File pop-up message appears on the display while backing up.

    When the backup is complete, the DATA BACKUP screen reopens.

NOTE

If the open space necessary to back up a song is not available on the FAT partition, a It's too Large *(the file is larger than the available open space) pop-up message appears. In this case, connect this unit and a computer, and erase unnecessary files on the partition using the computer to make enough open space.*

7. Connect this unit to a computer using the USB cable. (See "Connecting with a computer" on page 75.)
8. Use the computer to copy backup files from the BACKUP directory on the FAT partition of the unit to the computer.
9. When done backing up, end the USB connection. (See "Disconnecting" on page 76.)

CAUTION

- *If you use a computer to change the name of a song file that has been backed up, use no more than eight ordinary English letters and numbers.*
- *Do not change the file extension.*

Restoring songs

Basically, restoring is the reverse of backing up. In short, transfer a backup file on a computer to this unit to restore a song.

1. Connect this unit to a computer using the USB cable. (See "Connecting with a computer" on page 75.)

2. Use the computer to copy backup files from the computer to the BACKUP directory on the FAT partition of the unit.

3. When done copying, remove the USB cable using the proper procedures and disconnect the unit from the computer. (See "Disconnecting" on page 76.)

4. After this unit restarts automatically, press the **MENU** button to open the MENU screen.

5. Use the **DATA** wheel to select (highlight) the DATA BACKUP item, and press the **F4** [▶] button to open the DATA BACKUP screen.
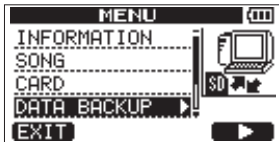
6. Use the **DATA** wheel to select (highlight) the SONG RESTORE item, and press the **F4** [▶] button to open the SONG RESTORE screen.

This screen shows the backup files on the FAT partition.

NOTE

A File Not Found *(the file cannot be found) pop-up message appears if there are no files on the FAT partition.*

7. Use the **DATA** wheel to select (highlight) the file that you want to restore, and press the **F2** [EXEC] button.

The actual song name and an Are you sure? confirmation pop-up message appear.

NOTE

If the file name is short, spaces appear after the file name on the FAT partition, but those spaces are not included in the actual file name.

8. Press the **F3** [YES] button.

After the currently loaded song is saved, the song selected in step 7 is restored and loaded.

NOTE

If there is not enough open space on the SD card, a Card Full *pop-up message appears.*

9. Press the **HOME** button to reopen the Home Screen.

Track import and export

You can import and export individual tracks between a computer and this unit's FAT partition.

Files that can be imported/exported as tracks must be in the WAV format (with the ".WAV" extension).

You can import and export both mono and stereo files.

If you want to import an audio file that is of a different format, you must first convert it to a 16-bit, 44.1kHz mono/stereo WAV file.

Importing to tracks

Before importing a track, first select the partition with the song that you want to import it into as the active partition. Then, load the song that you want to import tracks into. (See "Selecting the active partition" on page 37.)

1. Connect the unit to a computer using the included USB cable. (See "Connecting with a computer" on page 75.)

2. Use the computer to copy WAV files on its drive to the WAVE directory in this unit's FAT partition.

> **NOTE**
>
> *The files to be copied must have single-byte alpha-numeric character names (8 characters or less). If you try to copy a file with double-byte characters, it cannot be imported because the file name will not appear on the display in step 6 below.*

3. After you have imported the track files from the computer, remove the USB cable using the proper procedures and disconnect the unit from the computer. (See "Disconnecting" on page 76.)

4. After this unit restarts automatically, press the **MENU** button to open the MENU screen.

5. Use the **DATA** wheel to select (highlight) the IMPORT/EXPORT item, and press the **F4** [▶] button to open the IMPORT/EXPORT screen.

IMPORT/EXPORT screen appears.

6. Use the **DATA** wheel to select (highlight) the IMPORT TRACK item, and press the **F4** [▶] button.

Song files on the FAT partition are shown.

> **NOTE**
>
> - *This unit does not support WAV files with sampling frequencies other than 44.1 kHz. Such files are not displayed even if they have been imported. If no files that can be imported are on the FAT partition, an Import File Not Found pop-up message appears.*
> - *If the file name is short, spaces appear after the file name on the FAT partition, but those spaces are not included in the actual file name.*

7. Use the **DATA** wheel to select the WAV file that you want to import, and press the **F2** [NEXT] button.

   The amount of open space on the MTR partition and the size of the selected WAV file appear on the display.

8. Use the **DATA** wheel to select the track to which you want to import the WAV file, and press the **F4** [EXEC] button to start importing.

> **NOTE**
>
> - *If there is not enough open space, an Import File Too Large (the file to be imported is too large) warning pop-up message appears.*
> - *The track that is the destination for the import must be empty. This unit reads the file from the FAT partition, and imports it to the designated track. The beginning of the file is set at the start of the song (00h00m00s00f). In the same way as other recording tracks, you can edit the track that has received the imported file. (See "8 – Editing Tracks" on page 56.)*
> - *When importing stereo WAV files, it is necessary to have an open pair of tracks or a stereo track.*

9. When done importing, press the **HOME** button to return to the Home Screen.

Exporting tracks

You can export the tracks that you want as 16-bit, 44.1kHz mono and stereo WAV files.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.

2. Use the **DATA** wheel to select (highlight) the IMPORT/EXPORT item, and press the **F4** [▶] button to open the IMPORT/EXPORT screen.

3. Use the **DATA** wheel to select (highlight) the EXPORT TRACK item, and press the **F4** [▶] button to open the EXPORT TRACK screen.

   On this screen, song tracks that have audio files are shown in a list.
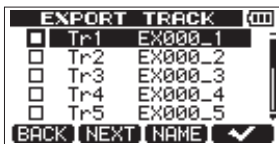
   You can tell the original track number by the file name.

   Press the **F3** [NAME] button to open the NAME EDIT screen where you can edit the file name. (See "Editing names" on page 38.)

NOTE

   Song tracks that do not have audio files are not shown in the file list.

4. Use the **DATA** wheel to select (highlight) a track to export, and press the **F4** [✔] button to put a ✔ in its checkbox.
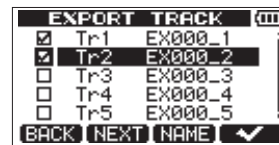
   By putting ✔ marks in multiple checkboxes, you can export multiple tracks at the same time.

NOTE

   To remove a ✔ from a checkbox select (highlight) that track and press the **F4** [✔] button.

5. When you finish selecting (putting a ✔ next to) the tracks that you want to export, press the **F2** [NEXT] button.

   The amount of open space on the FAT partition (which is the destination for the exported tracks) and the total number of tracks to be exported is shown.
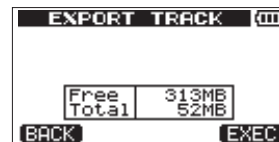
TIP

   In step 4 above, after selecting (highlighting) a track (but before adding any ✔ marks), if you press the **F2** [NEXT] button the selected track alone will be exported.

6. Press the **F4** [EXEC] button.

   The selected tracks are exported to the FAT partition with the edited file name with the ".WAV" extension added as the track file name.

   If you have previously exported a track file with the same name (title), a Duplicate name Are you sure? (A file with the same name already exists. Are you sure that you want to overwrite it?) confirmation pop-up message appears.

   Press the **F3** [YES] button to overwrite the old file.

   Press the **F4** [NO] button to cancel the export and return to the file list screen.

7. Press the **HOME** button to reopen the Home Screen.

8. Connect this unit to a computer. (See "Connecting with a computer" on page 75.)

9. Use the computer to copy track files from the WAVE folder on the FAT partition to the computer.

10. After exporting track files to the computer, remove the USB cable using the proper procedures and disconnect the unit from the computer. (See "Disconnecting" on page 76.)

NOTE

- *You can change the name of an exported track file on the computer. If you do so, use no more than 8 English letters and numbers for the name and always follow them with the ".WAV" extension. Furthermore, do not use special symbols, for example.*

- *Exported files are given names according to their source tracks in the following manner.*

TRACK 1:	*"EX000_1.WAV"*
TRACK 2:	*"EX000_2.WAV"*
TRACK 3:	*"EX000_3.WAV"*
TRACK 4:	*"EX000_4.WAV"*

Exporting stereo master tracks

When you create a new stereo master track for a song, the existing stereo master track is overwritten, so if you want to keep multiple different stereo master tracks, you should save them to a computer.

Before starting the following export procedures, make sure that the song for which you want to export a stereo master track is currently loaded and that you have already created a stereo master track for it.

1. When the recorder is stopped, press the **MENU** button to open the MENU screen.

2. Use the **DATA** wheel to select (highlight) the IMPORT/EXPORT item, and press the **F4** [▶] button to open the IMPORT/EXPORT screen.
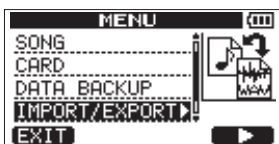
3. Use the **DATA** wheel to select (highlight) the EXPORT MASTER item, and press the **F4** [▶] button to open the EXPORT MASTER screen.

NOTE

A Master Track Not Found *warning pop-up message appears if there is no stereo master track.*

4. Edit the name (title) of the stereo master file as necessary. (See "Editing names" on page 38.)

5. When done editing the file name, press the **F2** [EXEC] button to export a stereo master track as a single 16-bit, 44.1kHz stereo WAV file to the FAT partition.

The file name of the exported file is the name set in step 4 above plus the ".WAV" extension.

If you have previously exported a stereo master track with the same name (title), a Duplicate name Are you sure? (A file with the same name already exists. Are you sure that you want to overwrite it?) confirmation pop-up message appears.

Press the **F3** [YES] button to overwrite the old file.

Press the **F4** [NO] button to cancel the export and return to the previous screen where you can edit the name (title).

6. Press the **HOME** button to reopen the Home Screen.

7. Connect this unit to a computer using a USB cable. (See "Connecting with a computer" on page 75.)

8. Use the computer to copy the stereo master file from the WAVE directory on the FAT partition of the unit to the computer.

9. After copying finishes, remove the USB cable using the proper procedures and disconnect the unit from the computer. (See "Disconnecting" on page 76.)

13 – Mastering compressor settings

Mastering compressor preset library

The mastering compressor preset library contains the following presets.

■ Multiband compressor presets

Preset name	Description
Basic CD M.	Good for basic CD mastering
POP	Makes the sound quality more showy, bringing out low frequencies and especially emphasizing high frequencies
POP Rock1	While bringing out the high frequencies, this also increases the impact of mid-range frequencies
POP Rock2	Applies even more compression than the "POP Rock1" setting
Rock1	Brings out a full low end suitable for rock
Rock2	Emphasizes low and high frequencies even more than "Rock1" for a sound that stands out
Classic	Smooth compression suitable for classical music
Dance	Suitable for dance music, this preset emphasizes very high and very low frequencies
R&B Hip Hop	Good for R&B and hip-hop, this puts strong compression on high frequencies and adds punch to low frequencies

■ Singleband compressor presets

Preset name	Description
Basic Comp	Basic setting for evening out the level
Basic Limit	Basic limiter setting
Hard Comp	Results in fairly deep compression
Hard Limit	Deep limiter setting

If distortion occurs when using the compressor, lower the gain of the compressor bands or mix down the tracks again, making sure that the maximum levels are just low enough so that the overload (OL) indicators do not light. By making these adjustments, you should be able to increase the sound pressure effectively with good balance.

Mastering compressor preset default parameter settings

The default settings of the mastering compressor presets are as follows.

Lib	TYPE	Threshold			Ratio			Level			Auto Makeup
		High	Mid	Low	High	Mid	Low	High	Mid	Low	
BASIC CD M.	3Band	-16dB	-11dB	-15dB	3.0:1	3.0:1	3.0:1	+6dB	+5dB	+6dB	–
POP	3Band	-13dB	-13dB	-11dB	4.0:1	4.0:1	4.0:1	+8dB	+2dB	+6dB	–
POP Rock 1	3Band	-13dB	-13dB	-11dB	4.0:1	4.0:1	4.0:1	+7dB	+2dB	+6dB	–
POP Rock 2	3Band	-15dB	-13dB	-11dB	6.0:1	6.0:1	6.0:1	+7dB	+2db	+5dB	–
Rock 1	3Band	-17dB	-13dB	-11dB	2.0:1	2.0:1	3.0:1	+4dB	+2dB	+3dB	–
Rock 2	3Band	-17dB	-13dB	-11dB	2.0:1	2.0:1	4.0:1	+8dB	+2dB	+3dB	–
Classic	3Band	-15dB	-13dB	-15dB	1.5:1	1.5:1	1.5:1	+3dB	+5dB	+3dB	–
Dance	3Band	-14dB	-13dB	-16dB	4.0:1	1.5:1	4.0:1	+8dB	+2dB	+5dB	–
R&B HipHop	3Band	–20dB	-13dB	-19dB	8.0:1	2.0:1	6.0:1	+11dB	+1dB	+8dB	–
Basic Comp	1Band	-16dB			2.0:1			+2dB			On
Basic Limit	1Band	-18dB			16:1			+2dB			On
Hard Comp	1Band	-24dB			2.5:1			+2dB			On
Hard Limit	1Band	-24dB			16:1			+1dB			On

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 purchased this unit or TASCAM customer support service. If an error message appears on the display, see "15 – Message Lists" on page 84.

The unit will not turn on

- Are the batteries dead?
- Are the batteries inserted backwards (⊕ / ⊖ orientation reversed)?
- Is the TASCAM PS-P520E AC adaptor (sold separately) plugged in completely?

The unit turns off automatically

- Is the automatic power saving function enabled? (See "Automatic power saving function" on page 70.)
- This product is compliant with the European ErP standby power regulations. For this reason, the automatic power saving function will operate whether it is running on batteries or using the AC adaptor. Set the automatic power saving function setting to OFF if you want to disable it. (The factory default setting is 30 minutes.)

Why can't I hear any sound when I play back?

- Are the **LEVEL** knobs of the tracks set to high enough?
- Is the **MASTER LEVEL** knob set to high enough?
- Have you properly connected the **PHONE** or **LINE OUT** jack to headphones or an external monitoring system (powered monitor speakers or an amplifier and speakers)?
  Is the external monitoring system set up correctly?
- Has the **VOLUME** dial on the back of the unit been raised to a suitable level?

Why does the sound I'm recording sound distorted?

- Are the **LEVEL** knobs of the **INPUT A** or **INPUT B** on the top panel of the unit set too high? Is the input source too loud?
- Is the monitoring level too high, causing distortion from the external monitoring system (powered monitor speakers or an amplifier and speakers)?

Why can't I record?

- When you press the Play (►) button while pressing and holding the Record (●) button to start recording, is at least one track in recording standby (**REC** indicator lit)?
- Are inputs assigned to tracks? (See "Assigning inputs" on page 44.)

Why can't my computer "see" the unit files?

- Is the unit connected to the computer via the USB terminal? (See "Connecting with a computer" on page 75.)
- Before making the USB connection, songs, tracks, or stereo masters are backed up or exported to the FAT partition?
  Files on an MTR partition cannot be directly accessed from a computer

When using the AC adaptor, noise occurs if I connect a passive guitar or bass directly.

- Connecting another device to the unit's **LINE OUT** jack might reduce the noise.
- This might be caused by interference noise from another device. If there is a power amplifier or other device that uses a large transformer, a fluorescent light or something similar nearby, you might be able to reduce the noise by changing the distance and orientation of this unit in relation to such equipment.

15 – Message Lists

The following popup messages alert you to conditions that may arise while you are using the unit. Consult this table if you see something you do not understand.

Messages	Meaning and remedy
Battery Empty	The batteries have no remaining charge. This appears when the batteries have no remaining charge. Replace the batteries with new ones or use a TASCAM PS-P520E AC adapter (sold separately).
Battery Low	The batteries have little remaining charge. This appears if you try to start recording when the batteries are low. Replace the batteries with new ones or use a TASCAM PS-P520E AC adapter (sold separately).
Card Full	The SD card is full during recording. Export or delete unneeded data to make room on the card or use a different SD card.
Empty Export Track	There is no recorded data for the export track. This appears if you tried to export a track from the song that does not have any recordings. (See "Track import and export" on page 79.) Export tracks from songs with recordings.
File Not Found	The file cannot be found. This appears if you try to restore a song when the FAT Partition does not have any backed up songs. (See "Song backup and restoration" on page 77.)
I/O Too Short	The IN and OUT points are too close together. This appears if you try to activate repeat playback mode when the IN and OUT points are too close together. Make sure the IN and OUT points are at least 2 frames apart. (See "Using repeat playback" on page 53.)
Import File Not Found	The file you are trying to import cannot be found. You are trying to import a WAV file from the FAT partition when there are no WAV files there. (See "Importing to tracks" on page 79.) Connect the unit to a PC and transfer some files to the FAT partition for import.
Import File Too Large	The file you are trying to import is too large. You are trying to import a WAV file from the FAT partition that is too large for the remaining space on the partition. Free up some space on the (native) partion and try again.
In Bounce Mode	The unit is in BOUNCE mode. You tried to perform an action that cannot be done while in BOUNCE mode.
In Mixdown Mode	The unit is in MIXDOWN mode. You tried to perform an action that cannot be done while in MIXDOWN mode.
In Master Mode	The unit is in MASTERING mode. You tried to perform an action that cannot be done while in MASTERING mode.
In Punch Mode	The unit is in punch in/out mode. You tried to use a function that is not allowed when punch in/out mode is active.
In Repeat Mode	The unit is in repeat playback mode. You tried to perform an action that cannot be done while in Repeat mode.
Invalid Card	The SD card installed in the card slot is in a format that cannot be used by this unit. Insert another SD card after turning the unit OFF or format the card (put in standby) by opening the MENU, selecting CARD and then selecting FORMAT.

Messages	Meaning and remedy
It's too Large	The song file is too large. You are trying to backup a song file that is larger than the open space available on the FAT partition. (See "Song backup and restoration" on page 77.) Format the FAT partition (see "Reformatting FAT partitions" on page 74) or connect the unit to a computer and make more space on the partition by deleting unneeded files, for example.
Master Track Not Found	The stereo master track cannot be found. This appears if you try to export a stereo master track from a song that does not have one recorded. (See "Exporting stereo master tracks" on page 81.) Create a stereo master track and then export it.
Master Track Too Large	The stereo master track is too large. You tried to export a stereo master track that is larger than the open space available on the FAT partition. (See "Exporting stereo master tracks" on page 81.) Reformat the FAT partition (See "Reformatting FAT partitions" on page 74.) or connect the unit to a computer and delete unneeded files, for example, to make more space available.
No Armed Track	There is no track in recording standby (armed). You tried to switch to auto punch in/out mode without putting one or more tracks into recording standby. (See "Using automatic punching in/out" on page 55.) Switch to auto punch in/out mode after putting one or more tracks into recording standby.
No Disk Space	There is not enough space. This appears if you try to create or copy a song when the MTR partition does not have enough space. Delete songs (See "Erasing songs" on page 40.) or format the SD card (See "Formatting SD cards" on page 72.), for example, to make more space available.
No Master Trk	There is no master track. This appears if you try to select a stereo master track that does not exist as the source track when cloning tracks. (See "CLONE TRACK (track duplication)" on page 60.) Create a stereo master track or select a different source track.
No Song	There is no song. You are trying to load a song from a partition that has no songs on it. (See "Loading a saved song" on page 38.) Change partitions. (See "Selecting the active partition" on page 37.)
No Undo Histry	There is no undo operation history. There are no actions to be undone. (See "Erasing the operation history" on page 50.)
No SD Card	No SD card has been loaded. Turn OFF the unit (put it in standby) and then insert an SD card.
Not Stopped	The recorder is not stopped. This appears when the recorder is not stopped and you push the **UN/REDO [HISTORY]** button or any other button that only functions when the recorder is stopped.
Now Recording	The unit is currently recording. This appears when you try to perform a menu action while recording. There are also other operations that cannot be done while recording.
Protected Card	The SD card installed in the unit is write-protected. To record or edit, turn off (in standby) the unit and un-protect the SD card.
Same Track	You have set the same track. In the clone track settings you have set the same track for both SOURCE TRK and DESTINATION TRK.
SD Size Error	The capacity of the SD card installed in the unit is too small for this unit to use. Use an SD card larger than 512 MB.

Messages	Meaning and remedy
Song Protected	The song is protected. This message appears when you try to record to, edit or otherwise change a protected song. Remove protection from the song before trying to change it. (See "Protecting songs" on page 41.)
Too Many songs	It is not possible to create any more songs. You have 250 songs on one partition. You must delete some before you can create another song.
Track Full	Tracks have already been recorded. This appears if you try to import when all the tracks have been recorded. (See "Importing to tracks" on page 79.)
Trk Edit Fail	Track editing failed. After saving the song, restart the unit's power and conduct the edit again.
Trk Too Short	The track is too short. This appears if you try to change the recorder to MIXDOWN mode when the IN and OUT points are less than four seconds apart. Set the IN and OUT points at least four seconds apart. (See "Setting IN and OUT points" on page 53.)
Work Memory Full	The built-in work memory has become full. Even if the SD card has enough remaining memory space, this error may occur when you record a long song or edit a lot. You might be able to continue the work if you clear the operation history to increase the open work memory. (See "Erasing the operation history" on page 50.) You might also be able to continue work by turning the unit OFF (putting it into standby) once to increase the open work memory.
Audio Rst Fail	
Device Error	
FileErr	
FX Busy	
FX Rx Failed	If any of these errors occur, turn the the unit power OFF and restart it.
I/F Error	
Mount Error	If the error message continues to appear frequently, please contact the store where you purchased this unit or a TASCAM customer support service.
SaveParam Fail	
SD-Card Error!	
SD Not Found	
SD Read Busy	
SD Write Busy	

Media and file systems

Recording media
SD card (512 MB–2 GB)
SDHC card (4 GB–32 GB)

File system
MTR partition: TASCAM original
FAT partition: FAT32

Inputs and outputs

Analog audio input and output

INPUT A connectors
- **XLR [BALANCED]**
  Connector: XLR-3-31 (1: GND, 2: HOT, 3: COLD)
  Input impedance: 2.4 kΩ
  Standard input level: −8 dBu
  Maximum input level: +8 dBu

- **Standard jack [UNBALANCED]**
  Connector: 6.3mm (1/4") TS standard jack
  Input impedance:
      10 kΩ or more
      (when INPUT A switch set to MIC/LINE)
      1 MΩ
      (when INPUT A switch set to GUITAR)
  Standard input level: −10 dBV
  Maximum input level: +6 dBV
  Headroom: 16 dB

INPUT B connectors
- **XLR [BALANCED]**
  Connector: XLR-3-31 (1: GND, 2: HOT, 3: COLD)
  Input impedance: 2.4 kΩ
  Standard input level: −8 dBu
  Maximum input level: +8 dBu

- **Standard jack [UNBALANCED]**
  Connector: 6.3mm (1/4") TS standard jack
  Input impedance: 10 kΩ or more
  Standard Input level: −10 dBV
  Maximum Input level: +6 dBV
  Headroom: 16dB

Built-in microphones
Omnidirectional x2

LINE OUT jacks
Connector: RCA pin jacks
Standard output level: −10 dBV
Maximum output level: +6 dBV

PHONES jack
Connector: 3.5 mm (1/8") stereo mini jack
Maximum output level: 20mW+20mW (THD+N 0.1%, 32Ω)

Data input and output

USB jack
Connector: USB Mini-B 4-pin
Format: USB 2.0 HIGH SPEED mass storage class

Audio performance

Frequency response
INPUT(**MIC/LINE**) → LINE OUT: 20Hz–20kHz, +1dB/−3dB

Distortion
INPUT(**LINE**) → LINE OUT: Less than 0.05%

S/N ratio
INPUT(**MIC/LINE**) → LINE OUT: More than 81dB

Operating requirements

For the latest information on compatible operating systems, check the TEAC Global Site (http://teac-global.com/).

Supported operating systems
Windows XP, Windows Vista and Windows 7
Mac OS X 10.2 and later

General

Power
Four AA batteries (alkaline or nickel-metal hydride) or
TASCAM PS-P520E AC adaptor (sold separately)

Power consumption
2.4W (maximum)

16 – Specifications

Continuous battery operation time (continuous use)

- When using alkaline batteries (EVOLTA)

Continuous operation	Note
About 5.5 hours	Using line input and recording
About 6.0 hours	Using headphones and playing back

(JEITA standards used for recording and playback)

- When using nickel-metal hydride batteries (eneloop)

Continuous operation	Note
About 6.5 hours	Using line input and recording
About 7.0 hours	Using headphones and playing back

(JEITA standards used for recording and playback)

Dimensions (W x H x D) (including protrusions)

221 x 44.3 x 126.5 mm

8.7 x 1.74 x 4.98 in.

Weight (w/o batteries)

610g / 1.34lbs

Operating temperature range

5–35°C

Backup memory

This unit backs up the following settings and retains them even when OFF (in standby).

- INPUT SETTING screen items (not including input equalizers)
- The following PREFERENCE screen items
  - Repeat Int
  - Contrast
  - Back Light
  - Auto Power Save
  - FootSW Polarity

Dimensions
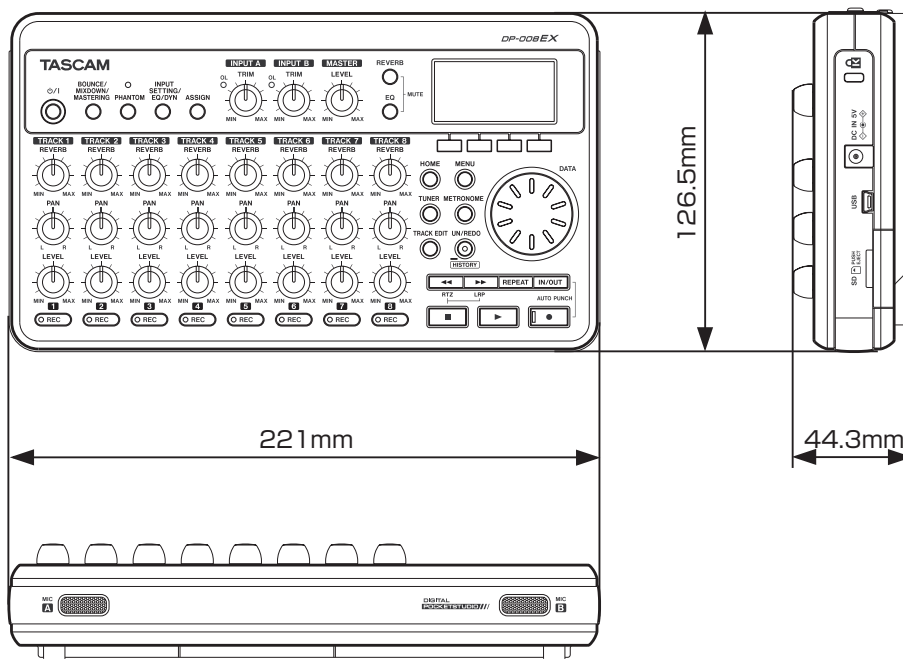
- Illustrations and other depictions may differ in part from the actual product.
- Specifications and external appearance may be changed without notification to improve the product.

Block diagram

LINE OUT

PHONES

Stereo L
Stereo R

D/A
D/A

STEREO METER

REC MODE
Multi/
Bounce/
MixDown
Mastering

MASTERING EFFECTS
MULTI BAND COMP
2BAND EQ

REC MODE
Mastering
Multi/
Bounce/
MixDown

MASTER LEVEL

REVERB

REVERB LEVEL

Fx SEND

ST   R
        L

METRONOME
ON

METRONOME

Input A
(to INPUT ASSIGN)

Input B
(to INPUT ASSIGN)

2BAND EQ

2BAND EQ

TUNER
On

Tuner

INSERT
(Dynamics Effects)

INSERT
(Dynamics Effects)

OL

OL

A/D

A/D

GAIN

GAIN

INPUT SETTEING

IN A
GUITAR/LINE/MIC
INT MIC

IN B
LINE/MIC
INT MIC

TRIM

TRIM

PHANTOM
+48V

+48V

GUITAR

LINE

MIC A

INPUT A

MIC B

INPUT B

INTERNAL MIC

TRACK 1-8

PAN
REVERB

LEVEL

2BAND EQ

TRACK MUTE
OFF
ON

METER

REC FUNCTION
OFF(PLAY)
ON(PLAY)
ON(REC)

METER

PLAY

TRACK

REC

METER

MASTER TRACK L/R

REC MODE
Mastering
Multi/
Bounce/
MixDown

PLAY

TRACK

REC

REC MODE
MixDown/
Mastering(Rec)
Multi/
Bounce/
Mastering(Play)

L
R

odd Track

even Track

REC MODE
Multi /
Bounce
MixDown/
Mastering

INPUT
ASSIGN

Mult

Bounce/
MixDown/
Mastering

A
Input A
Input B
B
Stereo L

A
Input A
Input B
B
Stereo R

17 – Commonly-used Functions

This section is a brief guide to some operations on the DP-008EX which may not be immediately obvious from looking at the panel controls.

- Button names are indicated like this: **REPEAT**.
- **MENU➡CARD➡FORMAT**, meaning "press the **MENU** button, select the `CARD` menu, and then the FORMAT action".
- Indications such as **REVERB + EQ** mean, "press the **EQ** button while pressing and holding the **REVERB** button".
- Complex operations are not shown completely in this table.

How to	Execution method (buttons used)	For details see
Format the FAT partition	**MENU➡CARD➡FAT REFORMAT**	"Reformatting FAT partitions" on page 74
Set the IN point /OUT point	**IN/OUT**, **F3**, **F4**	"Setting IN and OUT points" on page 53
Edit the IN and OUT points	**IN/OUT➡F2**	"Setting IN and OUT points" on page 53
Use the USB connection	Connect the unit and a PC with the USB cable.	"Connecting with a computer" on page 75
Remove the USB connection	Disconnect the unit from a PC	"Disconnecting" on page 76
Import a WAV file to a track	**MENU➡IMPORT/EXPORT ➡IMPORT TRACK**	"Importing to tracks" on page 79
Choose another partition as the active partition	**MENU➡CARD➡PARTITION**	"Selecting the active partition" on page 37
Tune a guitar or bass	**TUNER**	"Tuner" on page 69
Find out the current partition	**MENU➡INFORMATION**	"Viewing song information" on page 39
Make all of an SD card usable by a PC	**MENU➡CARD➡SD INITIALIZE**	"Initializing SD cards" on page 74
Format an SD card	**MENU➡CARD➡FORMAT**	"Formatting SD cards" on page 72
Create a new song	**MENU➡SONG➡CREATE**	"Creating a new song" on page 39
Create a stereo master track	**BOUNCE/MIXDOWN/MASTERING ➡MIXDOWN**	"Creating stereo master tracks" on page 62
Export a stereo master track to a computer	**MENU➡IMPORT/EXPORT ➡EXPORT MASTER**	"Exporting stereo master tracks" on page 81
Redo one operation	**UN/REDO[HISTORY]**	"Undoing operations (undo)" on page 49
Undo one operation	**UN/REDO[HISTORY]**	"Undoing operations (undo)" on page 49
Name a song	**MENU➡SONG➡NAME EDIT**	"Editing names" on page 38
Protect a song	**MENU➡SONG➡PROTECT**	"Protecting songs" on page 41
Un-protect a song	**MENU➡SONG➡PROTECT**	"Protecting songs" on page 41
Display the song name (title)	**MENU➡INFORMATION**	"Viewing song information" on page 39
Copy a song	**MENU➡SONG➡COPY**	"Copying songs" on page 40
Delete a song	**MENU➡SONG➡ERASE**	"Erasing songs" on page 40
Back up a song to a PC	**MENU➡DATA BACKUP ➡SONG BACKUP**	"Song backup and restoration" on page 77
Save a song	**MENU➡SONG➡SAVE**	"Saving a song" on page 39
Load a song	**MENU➡SONG➡LOAD**	"Loading a saved song" on page 38
Delete the whole of a track	**TRACK EDIT➡CLEAN OUT**	"CLEAN OUT (track erase)" on page 60
Insert silence at a point in a track	**TRACK EDIT➡OPEN**	"OPEN (insert silence)" on page 59

How to	Execution method (buttons used)	For details see
Cut and close up part a track	**TRACK EDIT➡CUT**	"CUT (remove part)" on page 59
Remove a section of a track and replace it with silence	**TRACK EDIT➡SILENCE**	"SILENCE (part erase)" on page 60
Make a copy of a track	**TRACK EDIT➡CLONE TRACK**	"CLONE TRACK (track duplication)" on page 60
Export a track's contents to PC	**MENU➡IMPORT/EXPORT ➡EXPORT TRACK**	"Exporting tracks" on page 80
Bounce tracks	**BOUNCE/MIXDOWN/MASTERING ➡BOUNCE**	"Bouncing tracks" on page 51
Format one partition	**MENU➡CARD➡REFORMAT**	"Reformatting MTR partitions" on page 73
Restore a song from a computer	**MENU➡DATA BACKUP➡SONG RESTORE**	"Song backup and restoration" on page 77
Ping-pong (bounce) to ohter tracks	**BOUNCE/MIXDOWN/MASTERING ➡BOUNCE**	"Bouncing tracks" on page 51
Metronome settings	**METRONOME**	"Metronome" on page 69
Use the metronome	**METRONOME**	"Metronome" on page 69
Find out how much time is left for recording	**MENU➡INFORMATION**	"Viewing song information" on page 39
Playback a created stereo master track	**BOUNCE/MIXDOWN/MASTERING ➡MASTERING**	"Checking stereo master tracks" on page 64
Use mastering effects on a stereo master track	**BOUNCE/MIXDOWN/MASTERING ➡MASTERING**	"Mastering stereo master tracks" on page 64
Use the built-in mic	**INPUT SETTING/EQ/DYN**	"Selecting the input source" on page 42
Record a guitar	**INPUT SETTING/EQ/DYN**	"Selecting the input source" on page 42
Change the track to which INPUT A/B is assigned	**ASSIGN**	"Assigning inputs" on page 44
Change the repeat interval used during repeat playback	**MENU➡PREFERENCE**	"Setting the time between repetitions (repeat interval)" on page 54
Use the automatic power saving function	**MENU➡PREFERENCE**	"Automatic power saving function" on page 70
Change the display contrast	**MENU➡PREFERENCE**	"Adjusting the contrast" on page 36
Use reverb	**REVERB**	"Reverb" on page 61
Use equalizer on an input signal	**INPUT SETTING/EQ/DYN➡F2**	"Using the input equalizers" on page 44
Use a dynamics effect on an input sound	**INPUT SETTING/EQ/DYN➡F3**	"Using input dynamics effects" on page 45
Use equalizer on a track	**EQ**	"Track equalizers" on page 61
Use phantom power	**PHANTOM**	"Phantom power" on page 42
Mute the track playback sound	**REVERB + EQ**	"Muting tracks" on page 62

TASCAM

DP-008EX