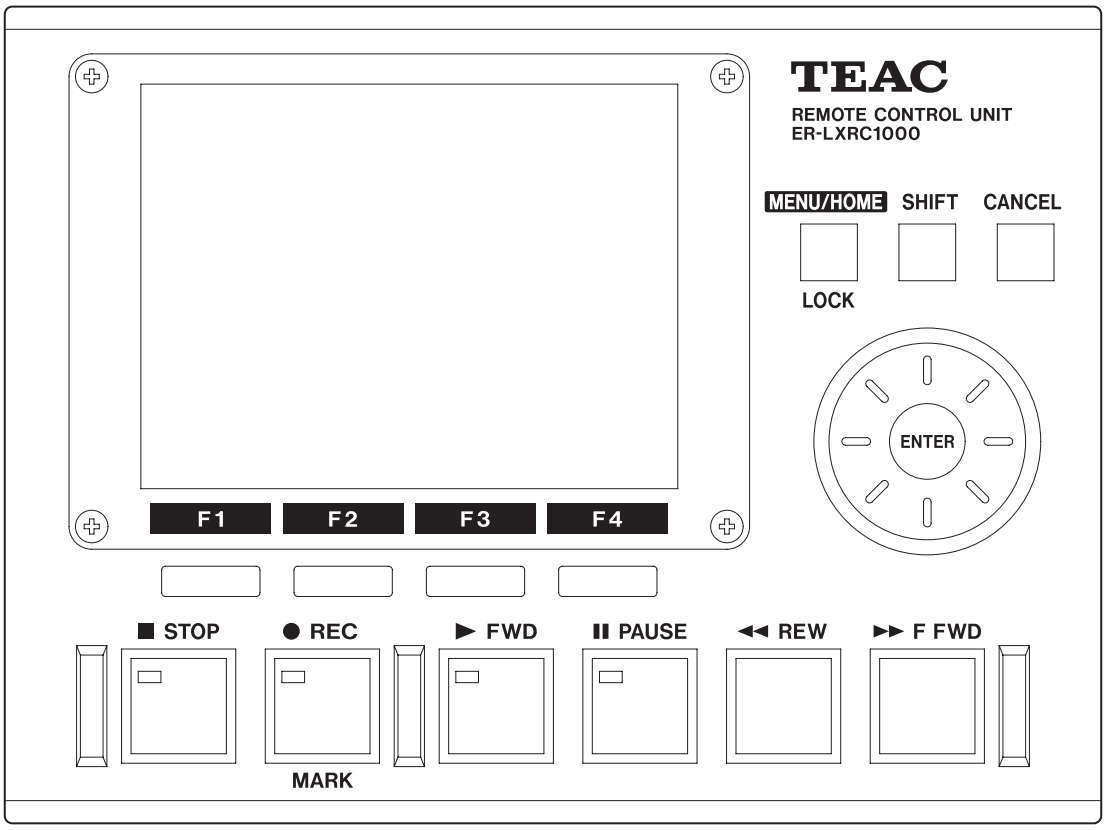
D01349910G

TEAC

ER-LXRC1000

Remote Control Unit
Instructions for Use



Contents

Model for USA

Supplier's Declaration of Conformity

Model number: ER-LXRC1000
Trade name: TEAC
Responsible party: TEAC AMERICA,INC.
Address: 10410 Pioneer Blvd. Unit #1, Santa Fe Springs, California 90670, U.S.A.
Telephone number: 1-323-726-0303
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Information

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. 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. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION

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

Model for Canada

Innovation, Science and Economic Development Canada's Compliance Statement:
This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Model for Europe

DECLARATION OF CONFORMITY

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

DECLARACIÓN DE CONFORMIDAD

Este producto cumple con las exigencias de las directivas europeas y con los reglamentos de la Comisión Europea.

DÉCLARATION DE CONFORMITÉ

Ce produit est conforme aux directives européennes et aux autres réglementations de la Commission européenne.

KONFORMITÄTSERKLÄRUNG

Dieses Produkt entspricht den Anforderungen europäischer Richtlinien sowie anderen Verordnungen der Kommission.

Model for UK

This product complies with the applicable UK regulations.

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

ATENCIÓN

Este es un producto de clase A. En un entorno no profesional, este aparato puede producir interferencias de radio, en cuyo caso el usuario será el responsable de tomar las medidas necesarias para solucionarlo.

AVERTISSEMENT

Il s'agit d'un produit de Classe A. Dans un environnement domestique, cet appareil peut provoquer des interférences radio, dans ce cas l'utilisateur peut être amené à prendre des mesures appropriées.

Warnung

Dies ist eine Einrichtung, welche die Funk-Entstörung nach Klasse A besitzt. Diese Einrichtung kann im Wohnbereich Funkstörungen versursachen; in diesem Fall kann vom Betrieber verlang werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen.

For European Customers

Disposal of electrical and electronic equipment

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

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

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

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

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

2. Introduction

Thank you for purchasing this remote control unit for the LX-1000.
Please read the Instructions for Use for this product and the main unit before using this product to maximize its performance and ensure safe and proper operation.

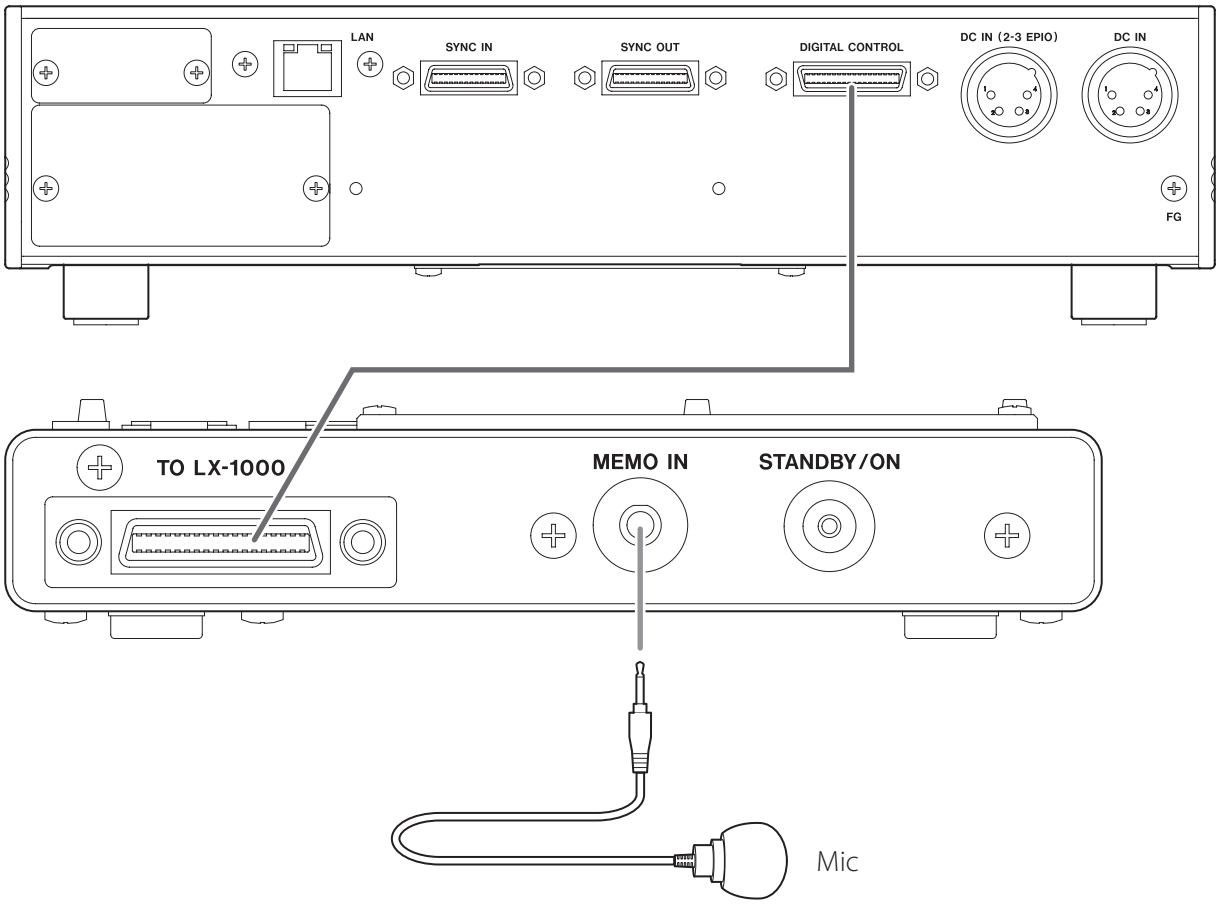
2-1. Disclaimers

Information is given about products in this manual only for the purpose of example and does not indicate any guarantees against infringements of third-party intellectual property rights and other rights related to them. TEAC Corporation will bear no responsibility for infringements on third-party intellectual property rights or their occurrence because of the use of these products.

2-2. Included accessories

If anything is missing or damaged, contact us. (For contact information, see the last page.)

For a list of included accessories, see “9. Specifications” on page 38.



Use the included cable to connect the DIGITAL CONTROL input/output connector on the back of the LX-1000 to the TO LX-1000 control input/output connector on the back of this unit.

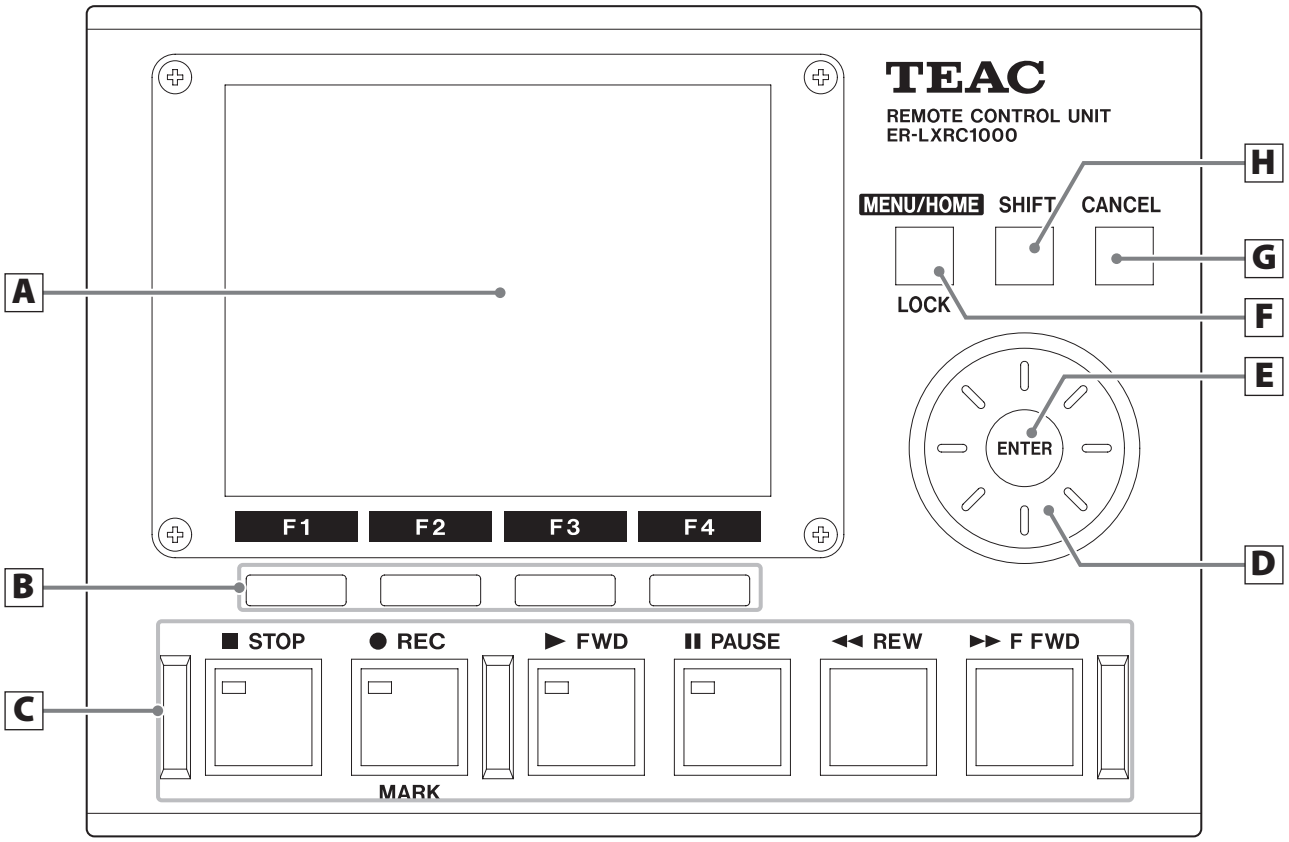
To use a microphone, connect the microphone included with the LX-1000 to the MEMO IN (mic input) jack.

ATTENTION

- When using the MEMO IN (mic input) jack on this unit, the MEMO IN (mic input) jack on the LX-1000 cannot be used.
- This unit and LXK Navi cannot be used at the same time.

4. Names and functions of parts

4-1. Top



A Display

This 3.5-inch TFT color display with 320×240 resolution shows various types of information.

NOTE

The display is produced with extremely high-precision manufacturing technologies. At least 99.99% of the pixels operate as specified. On rare occasions, a pixel might misfire or appear as a red or black dot, but this is not a malfunction.

B Function buttons (F1, F2, F3, F4)

C Transport buttons

■ STOP button

Press to stop recording and playback.

● REC button

Press when the LX-1000 is stopped to make it record ready.

MARK

Press when recording to set an event mark.

- A maximum of 200 event marks can be added to a single data file.

Play (► FWD) button

Press when the system is stopped or playback ready to start playback.

Press when the unit is record ready to start recording.

II PAUSE button

Press when the system is stopped or playing back to make it playback ready.

Press when recording to make it record ready.

Search (◄◄ REW/ ►► F FWD) buttons

Use to search playback files.

ATTENTION

Press the transport buttons when the Home Screen is open.

D VALUE dial

Turn when the selection position is shown to move it. When inputting parameters, you can also use these to increase or decrease values.

Turn clockwise while pressing the SHIFT button to increase the speaker volume.

Turn counterclockwise while pressing the SHIFT button to decrease the speaker volume.

E ENTER button

Press to select or confirm.

F MENU/HOME button

Press to open the Menu Screen or the Home Screen.

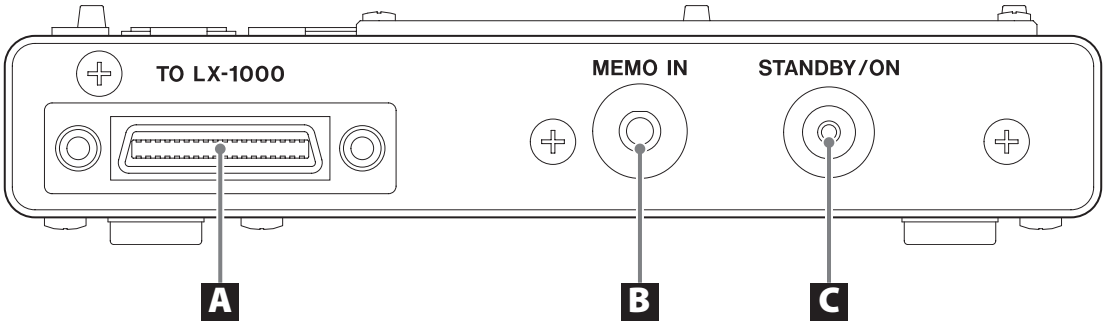
LOCK

Press for two seconds to lock the panel controls. Press for two seconds again to unlock the panel controls.

G CANCEL button

H SHIFT button

4-2. Back



A TO LX-1000 external control input/output connector

Use the included cable to connect this to the DIGITAL CONTROL input/output connector on the back of the LX-1000.

B MEMO IN (mic input) jack

Connect the included mic here to record voice memos.

C STANDBY/ON switch

Press and hold this switch to turn the system on. Press and hold it again to put the system into standby.
The light shows the status as follows.

Lit blue: Stopped
Blinking blue: Starting up
Unlit: In standby mode

4-3. Turning the power on

Check the connections between the LX-1000 and ER-LXRC1000 units, as well as their AC adapter connections. Then, press and hold the STANDBY/ON button on either of them to turn them on.
The Home Screen will appear on the display.

4-4. Putting the system into standby

After confirming that the SD card is not being accessed, press and hold the STANDBY/ON button on either the LX-1000 or this unit to put them into standby.

ATTENTION

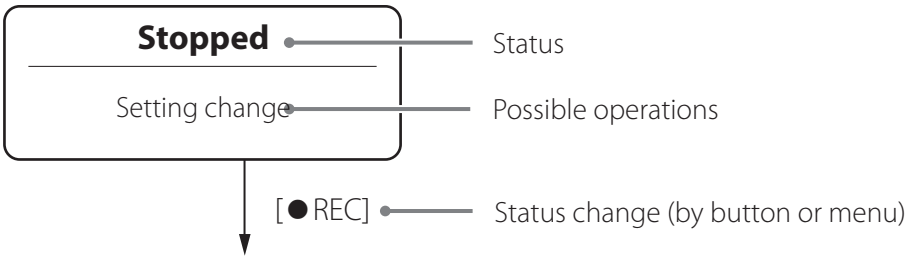
- If the system is put into standby while data is being written to the SD card, data recorded on it might become unreadable.
- Before moving this unit, stop power supply to the AC adapter and the DC IN connector on the LX-1000.

5. Basic operation

5-1. Status changes

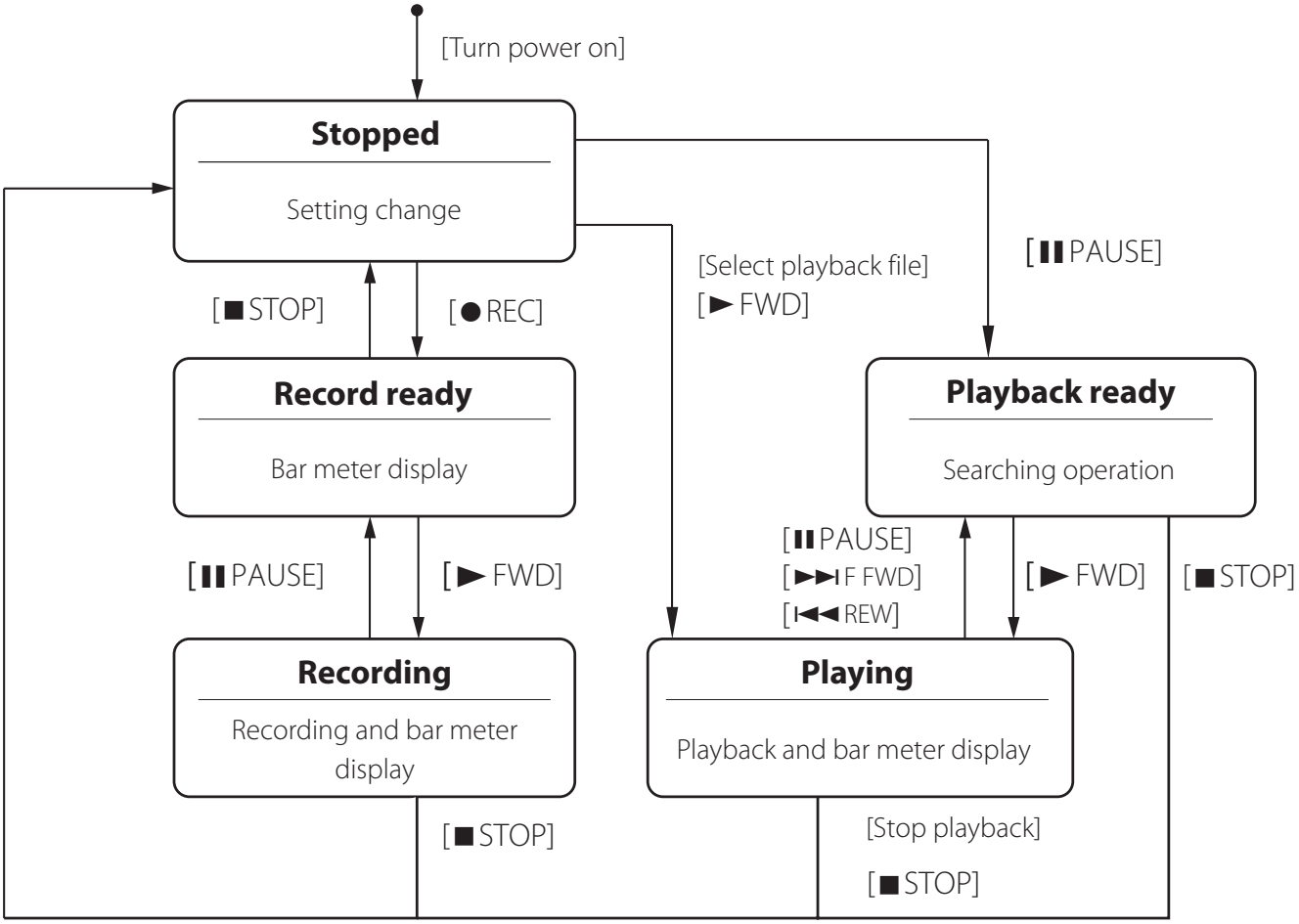
5-1-1. Explanation of status change diagram entry

Entries appear on the status change diagram in the following manner.

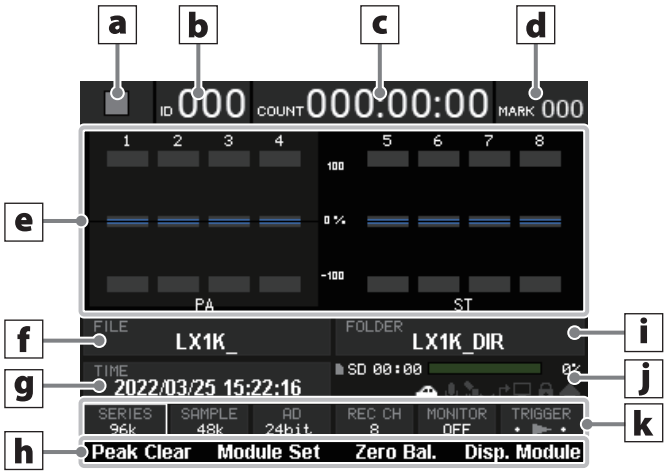


5-1-2. Status change diagram

The status of the LX-1000 will change in the following manner.



5-2. Home Screen



a Status icon

Icon	Status
■	Stopped (ready for use)
●II	Record ready
●	Recording
▶	Playing back
▶ II	Playback ready

b ID

This shows the ID when playing back or recording.
When playback ready, select the ID and press the ENTER button to conduct an ID search.

- IDs are consecutive file numbers inside playback and recording folders. 999 is the highest number that can be shown.
  These do not always match the file name suffixes (3 digits).
- The last recorded ID is shown when in a stopped state.

c Recording/playback time (COUNT)

When recording, this shows the elapsed time since recording started.
When playing back or playback ready, this shows the elapsed time from the beginning of the file.

d Event mark (MARK)

When recording, this shows the total number of event marks set in the data being recorded.
When playback ready, this shows the total number of event marks set during recording.

NOTE

- Press the ● REC button when recording to set an event mark.
- A maximum of 200 event marks can be added to a single data file.

e Data display

This shows recording data when playing, recording and record ready.
Bar meters or digital values can be shown depending on the DISPLAY DATA setting.
See "8-6. MISC" on page 35 for details about setting the data and number of channels shown.
When all channels are not visible on a single screen, the channels shown can be changed by pressing the Disp. Module (F4) button.
Press the Disp. Module (F4) button while pressing the shift button to reverse the display order.
The number of channels shown can be changed by selecting a bar meter, pressing the ENTER button and turning the VALUE dial. (The number of channels shown cannot be changed when digital values are shown.)

f File name

This shows the name of the file that will be recorded.
During playback and when playback ready, this shows the name of the playback file.

g Date and time

This shows the current time of the LX-1000.
When playing back and when playback ready, this shows when the recording was made.
See "8-6-2. SET TIME" on page 36 to set the display format.

h Function buttons

This shows the current assignments of the Function (F1, F2, F3, F4) buttons.
The functions shown change according to the open screen.

i Folder name

This shows the name of the recording folder.
When playing back and when playback ready, this shows the name of the playback folder.

Continued on the next page ➡

j Information

Recording media information

This shows media capacity use and the playback position (page 11).

Status indicators

 SHIFT button pressed

 Buttons locked

 LXK Navi connected

 GPS satellite signal captured

 Voice memo on

 CAN recording available, CAN data not received

 CAN recording available, CAN data received

 Battery charge high*

 Battery charge low*

 Battery voltage low*

 Using external power supply*

*These are shown when a BU-LX1000 battery unit is connected.

NOTE

Battery charge indications are estimates.

Synchronization status indicators

These show the synchronization mode setting and connection status.

 Master mode, status OK

 Master mode, status NG (not good)

 Slave 1 mode, status OK

 Slave 1 mode, status NG (not good)

 Slave 2 mode, status OK

 Slave 2 mode, status NG (not good)

 Slave 3 mode, status OK

 Slave 3 mode, status NG (not good)

k Settings

This shows setting values.

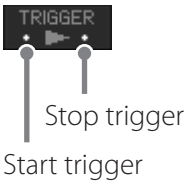
Item	Explanation
SERIES	Sampling series
SAMPLE	Sampling frequency
AD	Quantization bit depth
REC CH	Number of recording channels
MONITOR	Monitoring channel
TRIGGER	Trigger setting

Select an item and press the ENTER button to enable changing that setting value.

LXK Navi connection status

This is shown when LXK Navi is connected to an LX-1000. This unit and LXK Navi cannot be used at the same time. To use LXK Navi, turn the LX-1000 off once and disconnect this device.

5-3. Trigger settings display



The start and stop trigger settings are shown by icons.

- No trigger
- External trigger
- Level trigger
- Time
- Timeout

If the mode is set to trigger and multiple triggers are set, they are shown in the following order of priority.

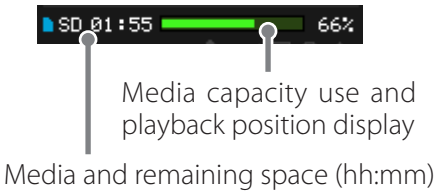
Start triggers

Priority	Trigger	
1		Level trigger
2		External trigger
3		Timeout

Stop triggers

Priority	Trigger	
1		Level trigger
2		External trigger
3		Time

5-4. Recording media information



Media capacity use and playback position display

The information shown changes according to the status of this unit.

When playing back or playback ready

the elapsed time from the beginning of the file is shown as a blue bar meter and as a %.

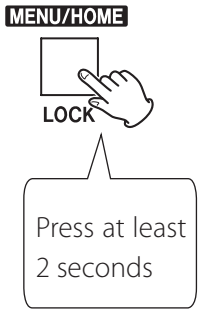
At all other times,

the amount of the current media space used is shown as a green bar meter and as a %.

Media and remaining space

This shows the type of recording media and amount of available recording time (hours: minutes).

5-5. Panel locking

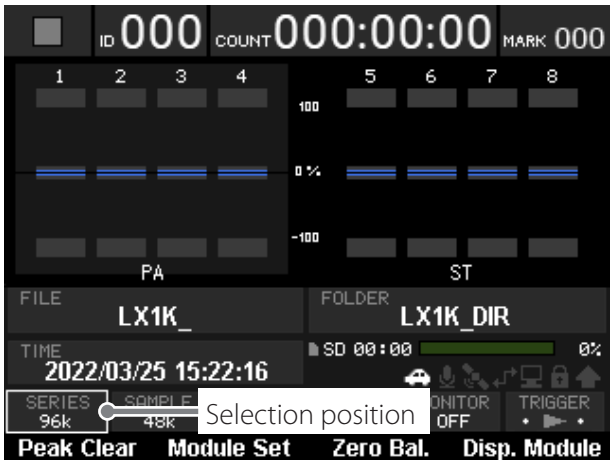


Press the MENU/HOME button for two seconds to lock the panel controls.
Press for two seconds again to unlock the panel controls.

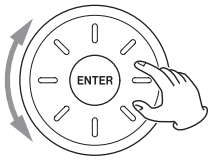
NOTE

The icon appears on the Home Screen in the information display area when the panel controls are locked.

5-6. Changing settings from the Home Screen



1 Turn the VALUE dial to change the selected position.

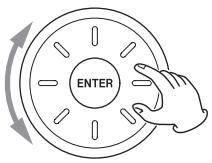


The selected position is outlined in white.

2 Press the ENTER button.

When a Menu Screen item that can be set is selected, a page for that item will open.

3 Turn the VALUE knob to select the setting value.



4 Press the ENTER button to confirm.

The settings of the following items can be changed from the Home Screen.

- Sampling series (SERIES) (page 25)
- Sampling frequency (SAMPLE) (page 25)
- Analog-digital conversion bit depth (AD) (page 25)
- Monitor channel (MONITOR) (page 25)

5-7. Recording and playing data

Recording data can be saved on the LX-1000 SD card. Install AR-LXAO1000 analog output amplifiers into the LX-1000 as necessary.

ATTENTION

Data saved to an LX-1000 SD card can be played back. Data saved to a computer cannot be played back.

1 Turn the LX-1000 on.

Wait until the Home Screen appears on the display.

2 Set the measurement conditions or load them.

Press the MENU/HOME button to open the Menu Screen and make necessary settings (page 20).
To load measurement conditions saved on the SD card, select PARAMETER on the MISC screen. Then, select LOAD. To save the current setting values, select SAVE (page 35).

ATTENTION

If an input/output amplifier module is changed, the measurement conditions will be reset.

3 Record or play data.

Recording

Press the ● REC button to make the system record ready.
If a start trigger has been set, recording will start when a trigger condition is met.
If no start trigger has been set, press the ► FWD button to start recording (page 16).

Playback

Press the ► FWD button to start playback. This will start playback of the most recently recorded data. To play another file, press the MENU/HOME button, and select FILE. Then, select OPEN FILE to open the playback folder selection window and select a file for playback (page 18).

5-8. Synchronization function

For details about master and slave unit connections, refer to "Synchronization function" in the LX-1000 Instructions for Use.
See "8-3-5. SYNC SETTINGS" on page 33 for information about master and slave device settings.

5-8-1. Synchronized recording settings

If you set SAMPLING FREQ., AD BITS and DEVICE (recording destination) for the master unit, they will also be set for slave units automatically. These settings cannot be changed on the slave units.

The number of recording channels can be set separately for the master and slave units. An error will occur if recording is conducted at a transmission rate higher than the slave units can record.
Confirm that the numbers of recording channels on the slave units are suitable before starting recording.

- Setting triggers on the slave units is not possible.
- The following amount of time is necessary to start synchronized recording from a stopped state.

Sampling frequency	Starting delay
96 kHz – 12 kHz	About 2 seconds
6 kHz	About 3 seconds
3 kHz	About 4 seconds
1.5 kHz	About 5 seconds

- Level triggers and external triggers become effective ten seconds after the unit becomes record ready.
- If recording cannot be continued with the master unit because, for example, it does not have enough recording media capacity, recording will stop at that moment.
  If recording cannot be continued with a slave unit because, for example, it does not have enough recording media capacity, recording will stop only for that unit. Other units will continue recording, but pausing will stop recording.

5-8-2. Synchronized playback settings

After selecting files to play on the slave units, select the file to play on the master unit.
If you select the file to play on the master unit first, search by ID for the files to play on the slave units.

- It is not possible to search the slave units using methods other than ID search. Use the master unit for other search methods.

5-8-3. VR-24 sync

Preparation

1 Use a synchronization cable to connect the SYNC OUT connector of the LX-1000 to the VR-24/WX SYNC connector of the VR-24.

The VR-24 will operate as the slave unit.

2 Turn the VR-24 on.

3 Set the VR-24 Synchronization type to "WX sync".

4 Turn the LX-1000 on.

5 Use the LX-1000 Sync settings to set "MODE" to "MASTER" and "SYNC NUMBER" to "2". Then, conduct "CHECK CONNECT."

If there are no connection problems, the "Syncronization status" will be "OK".

6 Execute "ADJUST TIME" to set the time used by the VR-24 to that used by the LX-1000.

The error is ±1 second.

6. Recording

6-1. Order of procedures

Set recording conditions
↓
Set recording destination
↓
Calibration
↓
Set triggers
↓
Make other settings
↓
Start recording
↓
Stop recording

6-2. Setting recording conditions

On the Menu Screen, make settings for the sampling frequency, analog-digital conversion bit depth, voice memos and modules (page 25).

6-3. Setting recording destination

Set the file name for recording.
Set the recording destination on the FILE screen (page 34).

- Select FORMAT on the FILE screen to format the SD card loaded in the LX-1000.
- If the ID number exceeds 999, recording will stop.

6-4. Calibration

Set the value used to convert sensor output to physical quantities.

6-4-1. Equivalent input calibration

In the physical quantity conversion fields, set the rated output and rated capacity indicated in the sensor test report (page 26).

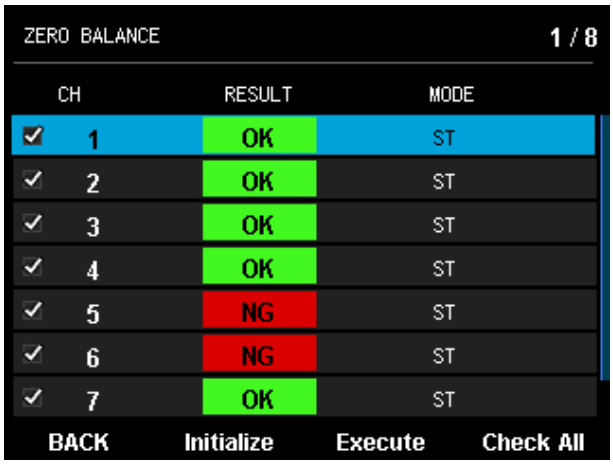
6-4-2. TEDS calibration

TEDS data is not read automatically when the power is turned on or when the TEDS sensor is changed.
TEDS data must be manually updated by pressing the Update button (page 25).

6-4-3. Zero balancing

Zero balance can be adjusted for channels with strain amplifiers that have the amplifier mode set to ST.

1 Press the Zero Bal. (F3) button on the Home Screen.



2 Turn the VALUE dial to change the selection position, and press the ENTER button to change channel selection for zero balancing.

3 Press the Execute (F3) button to conduct zero balancing.

- Press the Initialize (F2) button to cancel the zero balancing adjustment results.
- Press the Check All (F4) button to select or deselect all channels.

6-5. Setting triggers

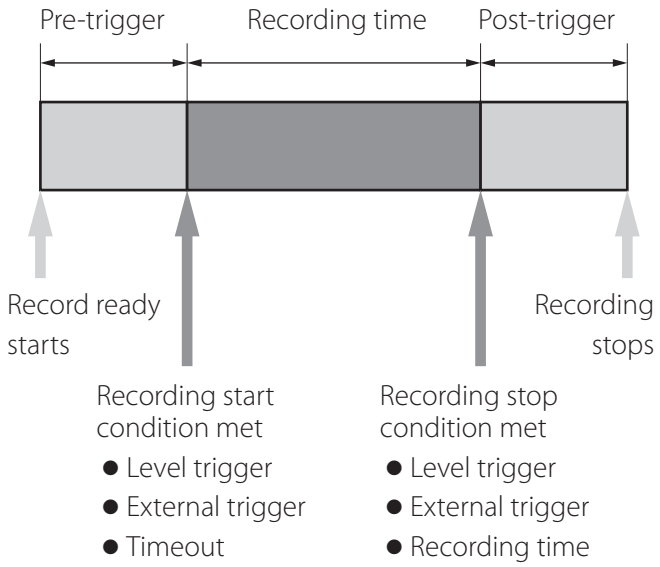
In addition to manually starting and stopping recording, you can also set the system to start and stop recording using triggers and intervals. Make these settings on the TRIGGER screen (page 35).
The trigger recording operations are explained below.

ATTENTION

When using triggers and intervals to start recording automatically, put the system into a record ready state. The system will not detect triggers if just in a stopped state.

6-5-1. Trigger recording

Example of one trigger recording repetition



For trigger recording, you can set a combination of recording starting conditions (level trigger, external trigger or timeout) and recording stopping conditions (level trigger, external trigger or recording time).

Recording starting conditions

Level trigger (LEVEL)

Use a level change for the set channel as a trigger.

External trigger (EXTERNAL)

Recording starts when the input through the external trigger signal input (TRIG IN) connector becomes the L level (0.4 V or less).

Timeout (TIMEOUT)

If the conditions set to start recording are not met within the set time, recording will be forced to start automatically.

Pre-trigger (PRE TRG)

By default, the system saves data from the time between when a recording starting condition occurs and when a recording stopping condition occurs. When a pre-trigger interval is set, data is recorded before a recording starting condition occurs, but only after the system is made record ready.

- During this interval, audio memos and CAN data will not be recorded.

Recording stopping conditions

Level trigger (LEVEL)

Use a level change for the set channel as a trigger.

External trigger (EXTERNAL)

Recording stops when the input through the external trigger signal input (TRIG IN) connector becomes the H level (open or 2 V or more).

Recording time (REC TIME)

Recording continues only for the set amount of time.
When set to 0, it will not stop at the recording time.

Post-trigger (POST TRG)

Even after recording stop conditions are met, recording will continue for the set amount of time.

- When recording is stopped manually, however, post-trigger recording will not occur.

Number of repetitions (REPETITIONS)

Set the number of repetitions.
If the number of repetitions is 2 or more, the system will become record ready after recording stops the first time. When the recording starting condition is realized, recording will start again. This will repeat for the number of repetitions. Then, recording will stop.
When set to 0, recording and pausing will repeat until the recording media is full, the file name suffix would exceed three digits or recording is stopped manually.

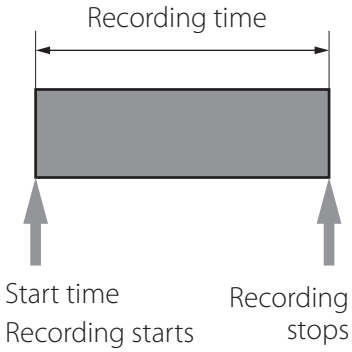
- When set to 0, if recording is repeated until the recording media becomes full, the recorded data for the last recording might not be as long as the recording time setting.

ATTENTION

Triggers cannot be monitored for two seconds after becoming record ready, or after recording starting or stopping conditions occur (10 seconds with synchronized recording).
During this time, nothing will happen even if trigger conditions occur.

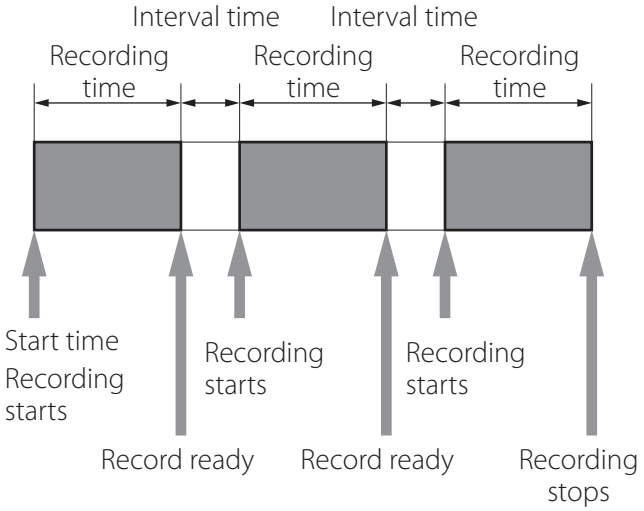
6-5-2. Interval recording

Example of one interval recording repetition



With interval recording, when the Number of repetitions is set to 1, recording will start at the Start time and stop after the set Recording time has elapsed.

Example of three interval recording repetitions



If the number of repetitions is set to 2 or more, recording will start at the Start time and stop after the set Recording time has elapsed. After the Interval time has elapsed, recording will start again, repeating for the set Number of repetitions. Then, recording will stop.
If the number of repetitions is set to 0, interval recording will repeat until the recording media is full, or recording is stopped manually.

Start time (START TIME)
Recording starts at the set time.

ATTENTION

If the set time has already passed when the system is made record ready, recording will not start.
The system might take some time to become record ready if, for example, there are already many recorded files. Considering this, set the start time with sufficient spare time.

Recording time (REC TIME)
Recording continues for the set amount of time.

Interval time (INTERVAL)
If the Number of repetitions is set to 2 or more recordings, this is the amount of time that the system stays in a record ready state from the time one recording ends until the next recording starts.

ATTENTION

- Set the Interval time to at least 6 seconds.
- Even if the system has manually been put in a record ready state during the recording time, the next recording will start after the originally set recording time and interval time have elapsed.

Number of repetitions (REPETITIONS)
Set the number of repetitions. When set to 0, interval recording will repeat until the recording media is full or recording is stopped manually.

- When set to 0, if recording is repeated until the recording media becomes full, the recorded data for the last recording might not be as long as the recording time setting.

6-6. Starting recording

Press the ● REC button to make the system record ready.
If a start trigger has been set, recording will start when a trigger condition is met.
If no start trigger has been set, press the ► FWD button to start recording.

6-6-1. Event mark

The ● REC button can be pressed when recording to set an event mark.

- A maximum of 200 event marks can be added to a single data file.

6-7. Stopping recording

If a stop trigger has been set, recording will stop when a trigger condition is met.
If no stop trigger has been set, press the ■ STOP button to stop recording.

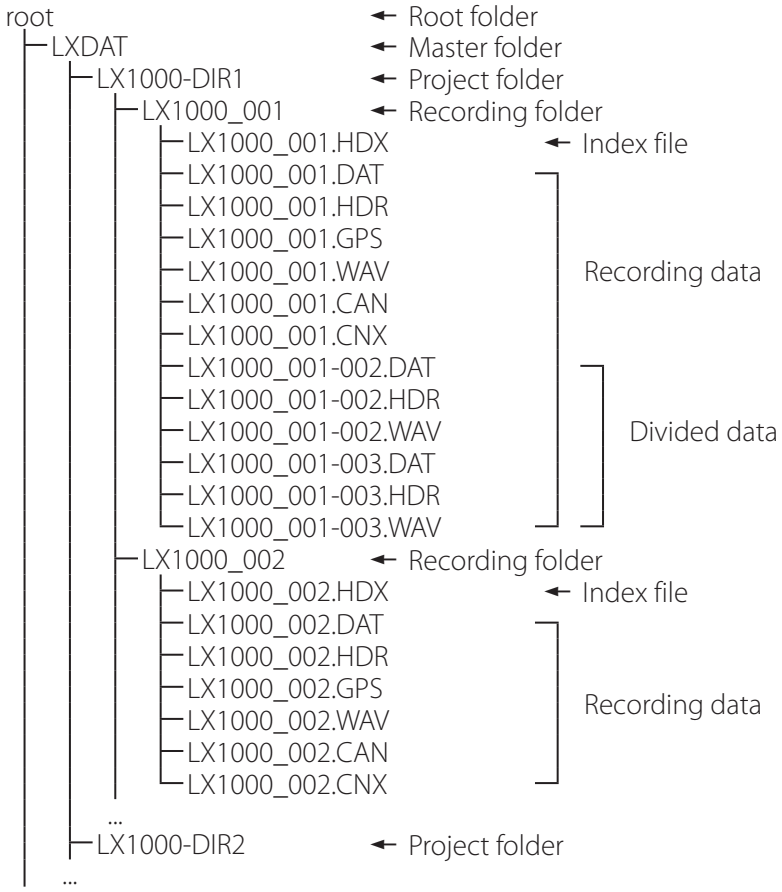
6-8. Recording format

The format used for recording data is TAFFmat.
See the LX-1000 Instructions for Use for details about the TAFFmat format.

6-8-1. Media folder structures

Folder type	Name	Details
Master folder	LXDAT	This is created in the root folder. Data is managed inside it. The name is fixed.
Project folders	Characters as set (Example: LX1000-DIR1)	These are created in the master folder. Their names can be set as desired.
Recording folders	Characters as set (Example: LX1000_)	These are created in project folders. Their names can be set as desired. Each time recording starts, a recording folder is created with a 3-digit suffix added automatically.
Recording data	Same as recording folder	When a recording is divided at 4 GB, a - (hyphen) followed by a three-digit suffix will be added to the name.

Folder structure example



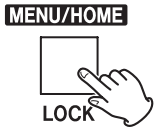
7. Playback

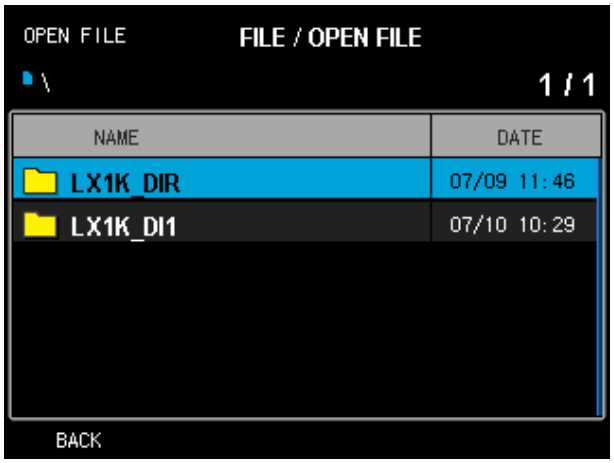
Install AR-LXAO1000 analog output amplifiers into the LX-1000 as necessary.

ATTENTION

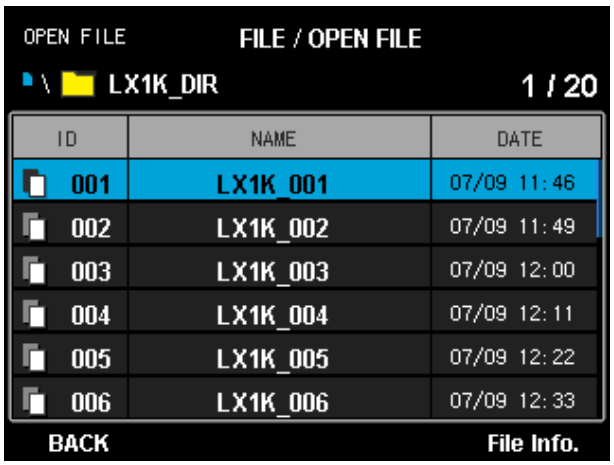
Data saved to an LX-1000 SD card can be played back. Data saved to a computer cannot be played back.

1 Press the MENU/HOME button, and select FILE, then OPEN FILE to open the playback folder selection window.





2 Select a folder, select the playback file, and press the ENTER button to start playback.



Playback will start and playback data will be shown on the Home Screen.

During playback, the following buttons are enabled.

⏮: Skip to previous recorded data

⏭: Skip to next recorded data

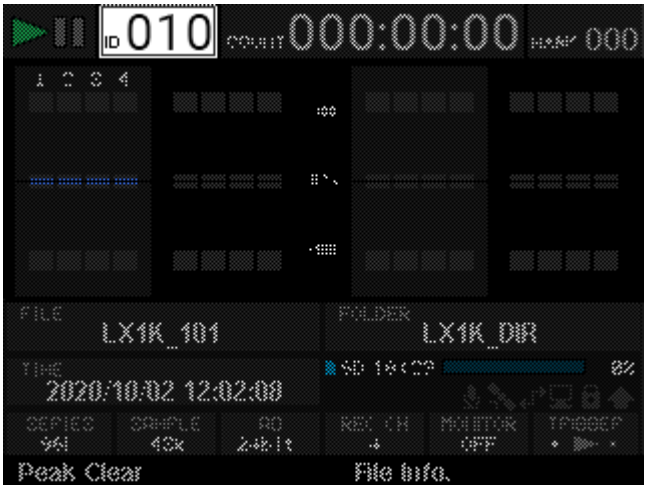
NOTE

To play the most recently recorded data, press the ► FWD button when the Home Screen is open without selecting a file.

3 Press the ■ STOP button to stop playback.

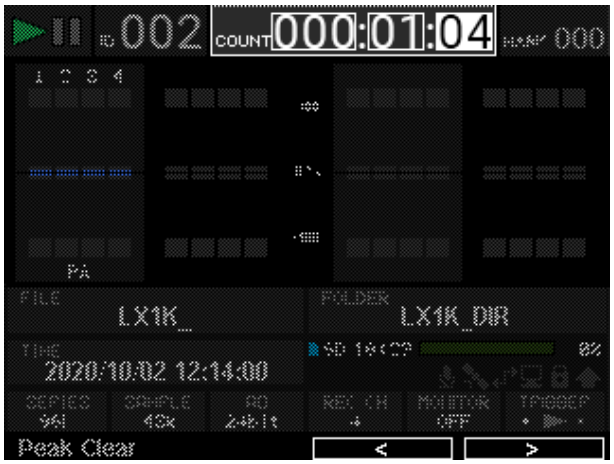
7-1. Searching by ID

When the unit is playback ready, select ID on the Home Screen and set the ID to search for. Then, press the ENTER button to search for the set ID position and start playback.



7-2. Searching by COUNT

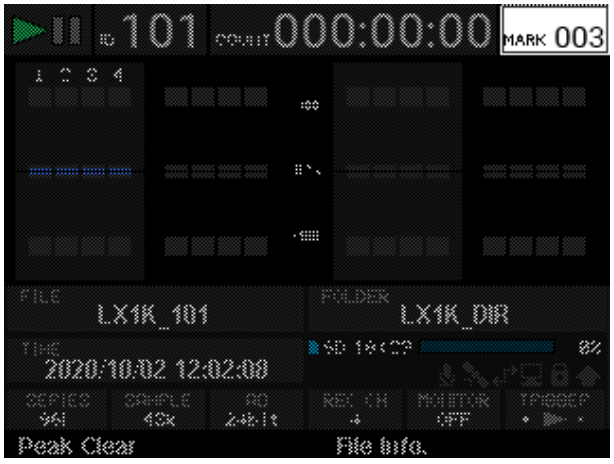
When the unit is playback ready, select the playback time (COUNT) on the Home Screen and set the playback time to search for. Then, press the ENTER button to start playback from the specified playback time position.



- Use the F3 and F4 buttons to switch between the hours, minutes and seconds.

7-3. Searching by event mark

When the unit is playback ready, select the event mark (MARK) on the Home Screen and set the mark to search for. Then, press the ENTER button to start playback from the specified mark position.



7-4. Searching by time

When the unit is playback ready, select the time display on the Home Screen and set the time to search for. Then, press the ENTER button to start playback from the specified time.

- Use the F3 and F4 buttons to switch between the year, month, day, hour, minute and second.

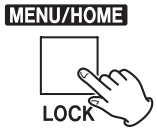
8. Settings

Settings can be changed on the Menu Screen. Settings that are used frequently can also be changed on the Home Screen.

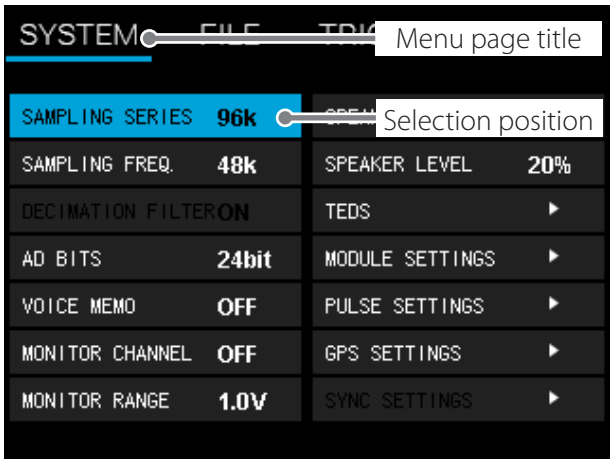
8-1. Basic operation

Follow these procedures to change settings using the Menu Screen.

1 Press the MENU/HOME button to open the Menu Screen.



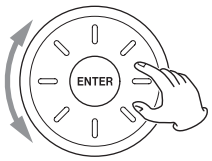
The title of the open menu page is underlined.



Press the MENU/HOME button to cycle through the Menu Screen pages in the following order.

SYSTEM → FILE → TRIGGER → MISC

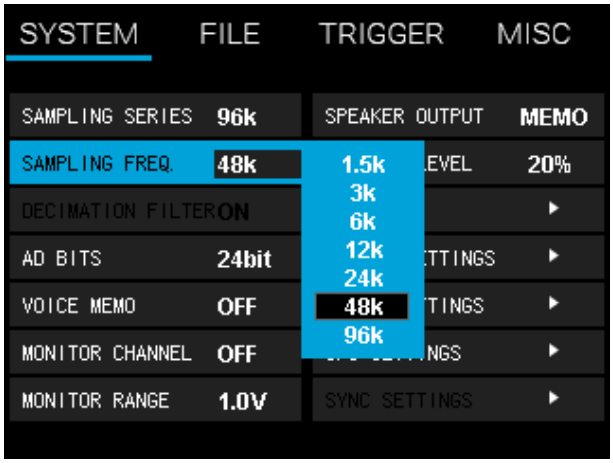
2 Turn the VALUE dial to change the selected position.



3 Press the ENTER button.

If you select an item that has its current value shown to its right, a list of values opens and you can change the selected item's setting.

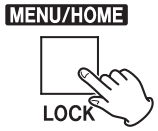
The following screen shows an example of a selection from the setting value options. See "8-2-1. SYSTEM menu structure" on page 23 for operation procedures.

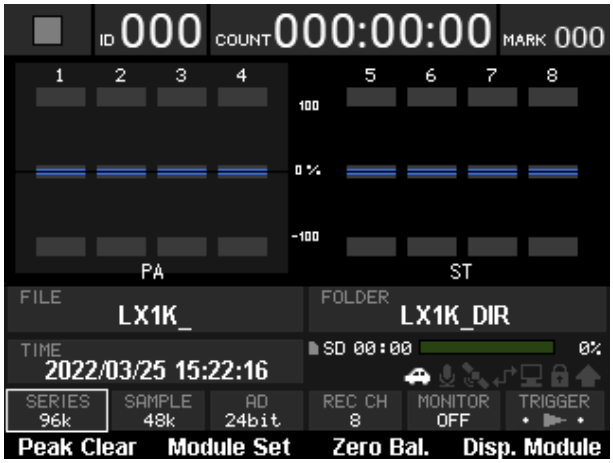


- See "8-2-1. SYSTEM menu structure" on page 23 for how to input characters for setting values.
- When special operations are required for a setting, they are explained together with its setting values.

When a setting item with a ▶ to its right is selected, a submenu will open. See "8-2-1. SYSTEM menu structure" on page 23.

4 When you are done changing settings, press the MENU/HOME button to return to the Home Screen.

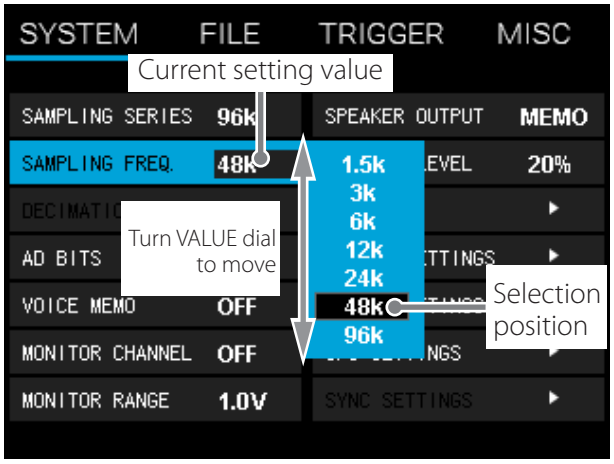




- When a submenu screen is open, press the MENU/HOME button to return to the Menu Screen page above it.
  You can also press the CANCEL button to return to the Menu Screen page above it.

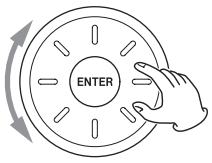
8-1-1. Selecting values from setting options

A value for a setting such as the sampling frequency can be selected by pressing the ENTER button to open a list of options to the right of the setting value.
The current setting value is shown to the right of the setting item.



1 Turn the VALUE dial to select the desired value.

Turn it clockwise to move down the list.
Turn it counterclockwise to move up the list.



- The options can be scrolled if they cannot all be shown on screen at the same time.

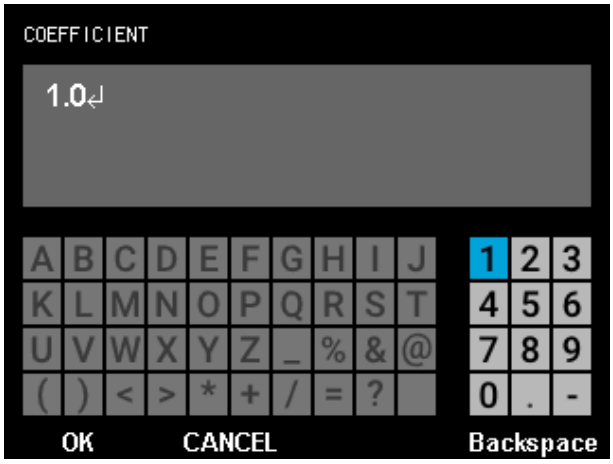
2 Press the ENTER button to confirm the setting value.

The selection screen will close.

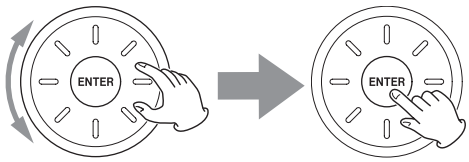
- Press the CANCEL button to cancel changing a setting.

8-1-2. Inputting numbers as setting values

To input numbers as the value for a setting such as the COEFFICIENT, press the ENTER button to open the number input screen.
The currently set number is shown near the top of this screen.



1 Turn the VALUE dial to select the position for character input, and press the ENTER button.



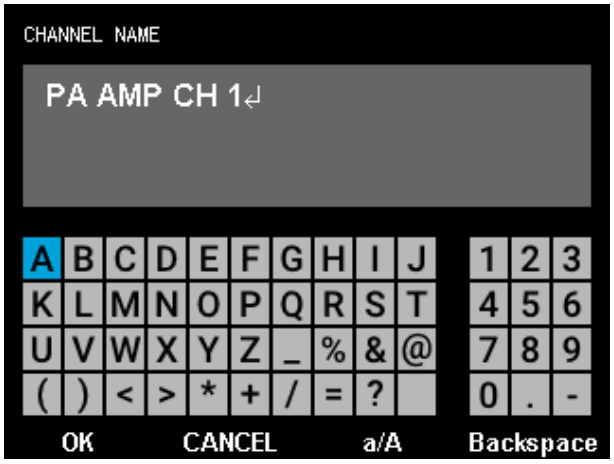
- Press the F2 (CANCEL) button to cancel changing the input characters.
- Press the F4 (Backspace) button to delete the rightmost character.
- On this screen, only numbers can be input.

2 Repeat 1 to input all the characters. When done, press the F1 (OK) button to return to the Menu Screen.

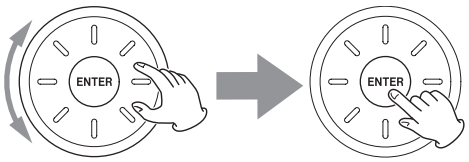
- The F1, F2 and F4 buttons correspond to the OK, CANCEL and Backspace commands.
  The selection cannot be moved to these items.

8-1-3. Inputting characters as setting values

To input characters for a setting value, such as for the CHANNEL NAME, press the ENTER button to open the character input screen.
The currently set characters are shown in the window near the top of this screen.



1 Turn the VALUE dial to select the position for character input, and press the ENTER button.



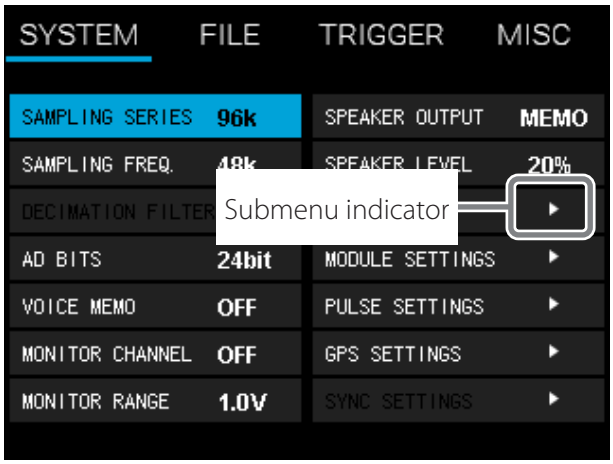
- Press the F2 (CANCEL) button to cancel changing the input characters.
- Press the F3 (a/A) button to input a lowercase letter (only when it is possible to input lowercase letters).
- Press the F4 (Backspace) button to delete the rightmost character.

2 Repeat 1 to input all the characters. When done, press the F1 (OK) button to return to the Menu Screen.

- The F1–F4 buttons correspond to the OK, CANCEL, a/A and Backspace commands.
  The selection cannot be moved to these items.

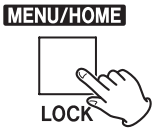
8-1-4. Opening submenu screens

The menu screen has a multilevel structure. When a setting item with a ▶ to its right is selected and the ENTER button is pressed, a submenu will open. The structure of the menus is shown in "8-2. Menu structure" on page 23.



8-1-5. Opening higher-level Menu Screen pages

- When a submenu screen is open, press the MENU/HOME button to return to the Menu Screen page above it.
  You can also press the CANCEL button to return to the Menu Screen page above it.



8-2. Menu structure

- Settings
  - SYSTEM
  - FILE
  - TRIGGER
  - MISC

8-2-1. SYSTEM menu structure

- SYSTEM
  - SAMPLING SERIES
    - SAMPLING FREQ.
    - SAMPLING BANDW.
    - DECIMATION FILTER
  - AD BITS
  - MONITOR CHANNEL
  - MONITOR RANGE
  - SPEAKER OUTPUT
  - SPEAKER LEVEL
  - VOICE MEMO
  - TEDS
    - Update
  - MODULE SETTINGS
    - PA Amp settings
      - INPUT V RANGE
      - COUPLING
      - IEPE CURRENT
      - WEIGHTING
      - HPF
      - CHANNEL NAME
      - UNIT
      - COEFFICIENT
      - OFFSET
      - TEDS INFO.
      - Set All
    - ST Amp settings
      - MODE
      - INPUT RANGE
      - BRIDGE V
      - LPF
      - CHANNEL NAME
      - UNIT
      - COEFFICIENT
      - OFFSET
      - Set All
    - CAN MODULE settings
      - BAUD RATE
      - SAMPLING POINT
      - SJW
      - CAN FD
      - LISTEN ONLY
      - TERMINATOR
      - THINNING OUT
      - MAX REC. RATE
      - ID FILTER
      - SIGNALS
    - AO Amp settings
      - OUTPUT V RANGE
      - SELECT OUTPUT CH.
      - CHANNEL NAME
      - Set All
  - PULSE SETTINGS
    - MODE
    - EDGE
    - THRESHOLD
    - DIV. RATIO
    - MOVING AVG. NUM.
    - RANGE
    - PPR
  - GPS SETTINGS
    - USE
    - BAUD RATE
    - DATA RECORD
    - TIME ZONE
    - TIME DIF.
    - ADJUST TIME
    - GPS INFORMATION
  - SYNC SETTINGS
    - MODE
    - SYNC NUMBER
    - CHECK CONNECT.
    - ADJUST TIME

8-2-2. FILE menu structure

- FILE
  - RECORDING FILE
    - DEVICE
    - FOLDER
    - FILE
    - COMMENT
  - OPEN FILE
    - File info.
  - DELETE FILE
  - FORMAT
    - QUICK FORMAT
    - ERASE FORMAT
  - SD card status

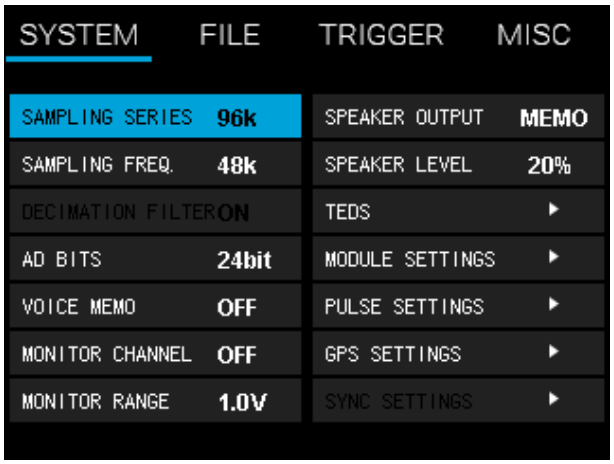
8-2-3. TRIGGER menu structure

- TRIGGER
  - MODE
    - NONE
    - TRIGGER
      - START CONDITION
        - LEVEL
          - LEVEL
          - LOGIC
          - EDGE
          - COUNT
        - EXTERNAL
        - TIMEOUT
      - PRE TRG
      - STOP CONDITION
        - LEVEL
          - LEVEL
          - LOGIC
          - EDGE
          - COUNT
        - EXTERNAL
        - REC TIME
      - POST TRG
      - REPETITIONS
    - INTERVAL
      - START TIME
      - REC TIME
      - INTERVAL
      - REPETITIONS

8-2-4. MISC menu structure

- MISC
  - DISPLAY DATA
  - DISPLAY CH
  - PARAMETER
    - LOAD
    - SAVE
    - INITIALIZE
  - NOTATION
  - LANGUAGE (言語)
  - SET TIME
  - LCD
    - BACKLIGHT OFF
    - BRIGHTNESS
  - BEEP
    - BUTTON
    - WARNING
    - OVER MAX
  - VERSION

8-3. SYSTEM



SAMPLING SERIES

Set the sampling frequency series.

SAMPLING FREQ.*

Set the sampling frequency.

SAMPLING BANDW.*

Set the sampling frequency bandwidth.

ATTENTION

The number of recording channels is limited according to the sampling frequency. See the "Number of channels that can be recorded simultaneously" in the Specifications of the LX-1000 Instructions for Use.

DECIMATION FILTER

When using a low-speed sampling frequency series, set whether or not to use a decimation filter to prevent aliasing.

ON: Use.

OFF: Do not use. Aliasing will occur, but delay will not.

AD BITS

Set the analog-digital resolution (quantization bit depth).

VOICE MEMO

Set voice memo recording.

OFF: Not recorded

ON: Recorded

- Voice memos are not recorded during the pre-trigger interval.
- When playing data recorded using the pre-trigger function, the beginning of the voice memo will be lined up with the recording data, so the voice memo and recorded data playback positions will be shifted by the amount of pre-trigger data.

ATTENTION

The maximum file size of voice memo data is 4 GB. Voice memo data in excess of 4 GB will not be recorded, but normal recording will not be interrupted. (For voice memo data to exceed 4 GB, it would take about 6 days.)

MONITOR CHANNEL

The signals of monitored channels are output from the MONITOR OUT connector.

MONITOR RANGE

Set the monitoring output range.

SPEAKER OUTPUT

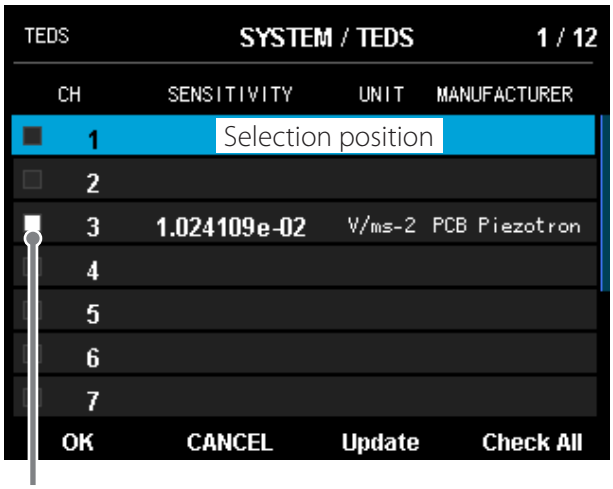
Select the signal output from the speaker.

SPEAKER LEVEL

Set the speaker volume.

*Select which is shown with the NOTATION setting (see "8-6. MISC" on page 35).

8-3-1. TEDS



Selection mark

This shows TEDS data for connected sensors.
On this screen, TEDS data from selected channels can be manually loaded at once.

- On the MODULE SETTINGS page (page 26), TEDS data can be manually loaded for individual channels.

1 Turn the VALUE dial to change the selection, and press the ENTER button to change channel selection.

Channels shown with white squares are selected.

2 Press the Update (F3) button to manually load the TEDS data for the selected channel.

3 Press the OK (F1) button to set TEDS data as the physical quantity conversion values.

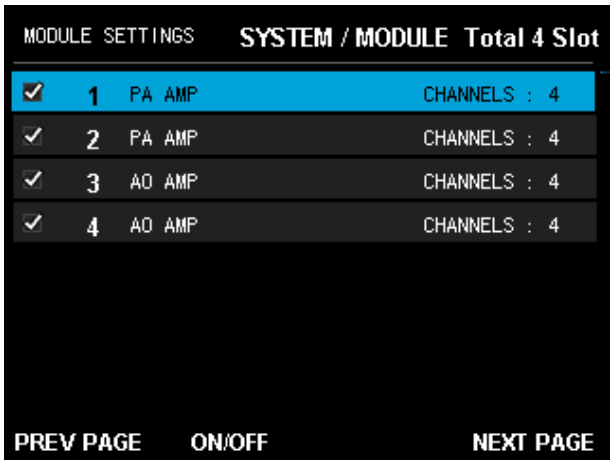
Press the CANCEL button (F2) instead to cancel the setting change.

8-3-2. MODULE SETTINGS

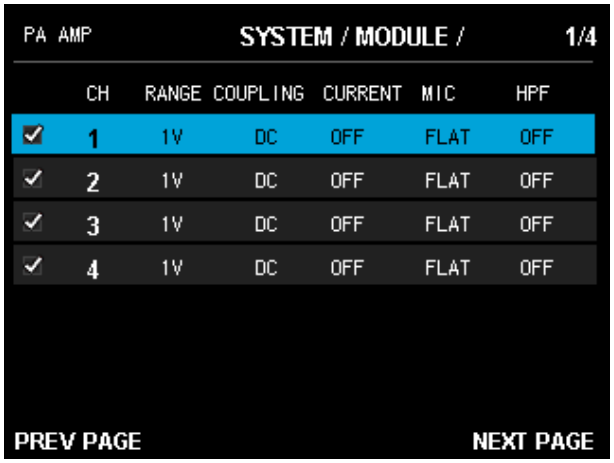
1 Turn the VALUE dial to select MODULE SETTINGS, and press the ENTER button to open the MODULE SETTINGS screen.

2 Use the VALUE dial and the ON/OFF (F2) button to put check marks next to the modules to use for measurement.

The data for modules that do not have check marks will not be measured.



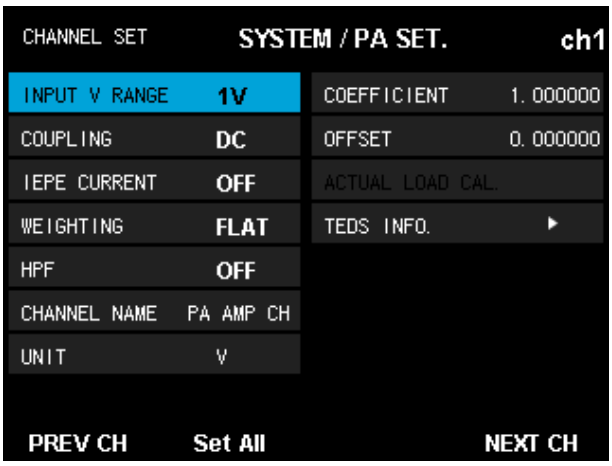
3 Select the module to set first and press the ENTER button to open the settings screen.



4 Select the channel to set first and press the ENTER button to open the settings screen.

Refer to the following explanations for each of the input/output module settings.

8-3-2-1. PA Amp settings



INPUT V RANGE

Select a range that covers the input signal changes.

COUPLING

The options are DC and AC.

DC: Use when recording signals that include direct currents

AC: Use when recording signals of 1 Hz or more

- When using an IEPE sensor current, set Coupling to AC.

IEPE CURRENT

Set the IEPE sensor current.

WEIGHTING

Select the weighting filter.

- When using HPF, set WEIGHTING to FLAT.

HPF

Set the high pass filter.

CHANNEL NAME

Set the input channel signal name.

UNIT

This is the unit after physical quantity conversion. This can be set to the desired characters.

COEFFICIENT

Set the parameters used to convert signals to physical quantities.

Continued on the next page ➡

OFFSET

Set for the unit after physical quantity conversion.

NOTE

Physical value = Input voltage × Coefficient + Offset

TEDS INFO.

This shows TEDS data for connected sensors.

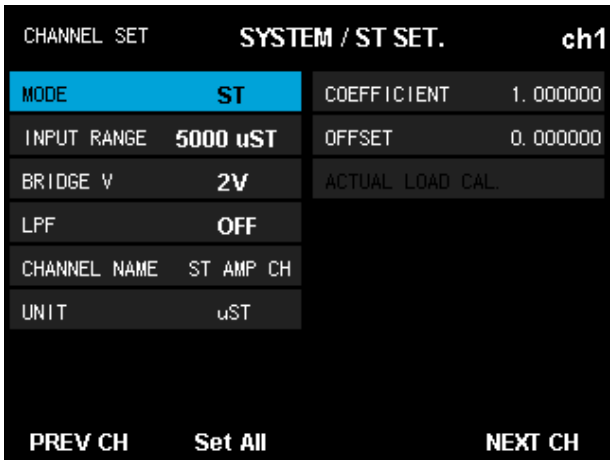
- Physical quantity conversion values can also be set by loading TEDS data from connected sensors.

Set All

Set the input voltage range, coupling, IEPE current, weighting, and HPF for every PA amp.

- When a setting for one of the above items is selected, press the ENTER button while pressing the SHIFT button to set all PA amplifiers to the same value for that item only.

8-3-2-2. ST Amp settings



MODE

ST: Function as a strain amplifier.

DC: Function as a DC amplifier.

INPUT RANGE

Select a range that covers the input signal changes.

BRIDGE V

Set the bridge voltage.

- This appears only when the mode is ST.

LPF

Set the low pass filter.

CHANNEL NAME

Set the input channel signal name.

UNIT

This is the unit after physical quantity conversion. This can be set to the desired characters.

COEFFICIENT

Set the parameters used to convert signals to physical quantities.

OFFSET

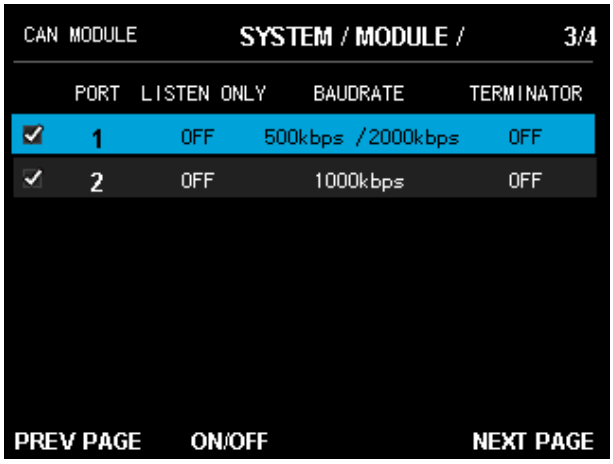
Set for the unit after physical quantity conversion.

Set All

This sets the mode, input range, bridge voltage and LPF settings for all the ST amplifiers.

When a setting for one of the above items is selected, press the ENTER button while pressing the SHIFT button to set all ST amplifiers to the same value for that item only.

8-3-2-3. CAN MODULE settings

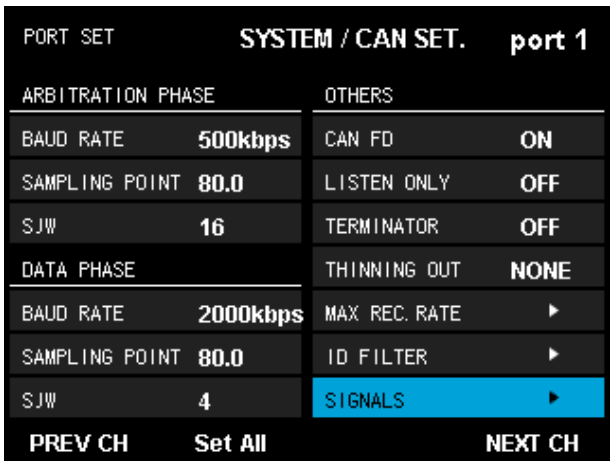


ON/OFF

Put a check next to a CAN port to use it for measurements.

NOTE

Regardless of other settings, terminators will be OFF for ports that do not have checks.



BAUD RATE

Set the transmission speed.

SAMPLING POINT

Set the sampling timing.

SJW

Set the resynchronization jump width.

CAN FD

ON: Record CAN and CAN FD.
OFF: Record CAN only. Do not record CAN FD.

LISTEN ONLY

OFF: Return ACK when data frame received.
ON: Do not return ACK when data frame received.

TERMINATOR

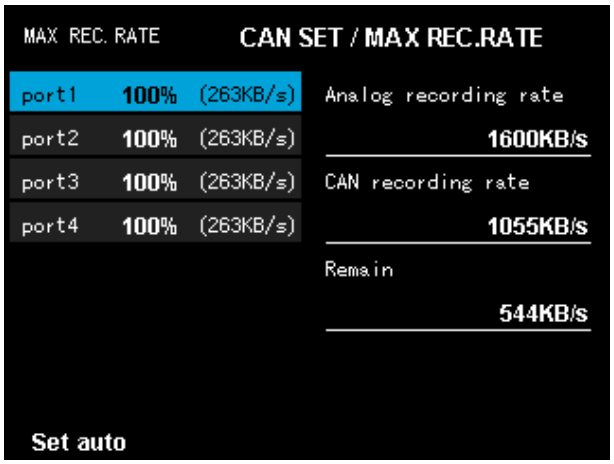
Set the terminator to ON/OFF for the CAN bus built into the CAN module.

THINNING OUT

Limit to 1 received data frame during the set time window for each ID.

MAX REC. RATE

Set the maximum recording rate for each CAN port separately.
Data that exceeds the set rate will be discarded.
Set to 100% for no maximum limit.



- The analog recording rate is determined by the sampling frequency, channel count and AD bits. The CAN recording rate is determined by the baud rate and the maximum recording rate.
- Automatic setting is a function that deducts the analog recording rate from the settable recording rate and divides the remainder evenly among all ports.

ID FILTER

Receive only specified ID data frames.
Up to 32 IDs can be added for each port.

SIGNALS

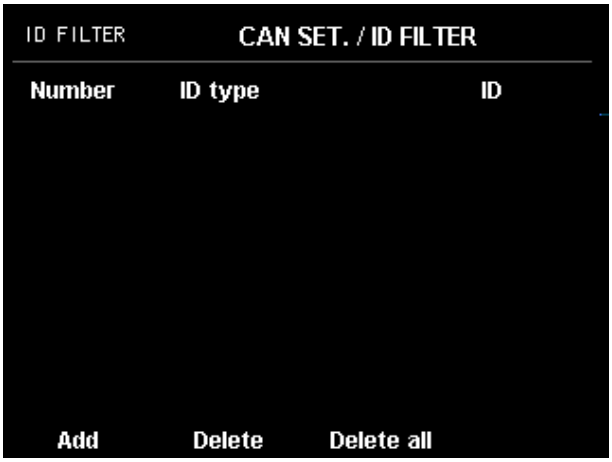
Make settings related to monitor signals.

Set All

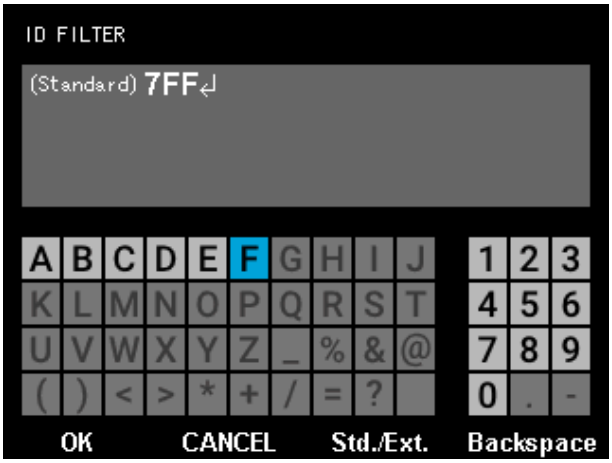
This will apply the same baud rate, sampling point, SJW, CAN FD, listen only and thinning out settings to all ports. This does not affect terminator, ID filter and maximum recording rate settings.

8-3-2-3-1. Adding ID filters

1 Press the Add (F1) button.



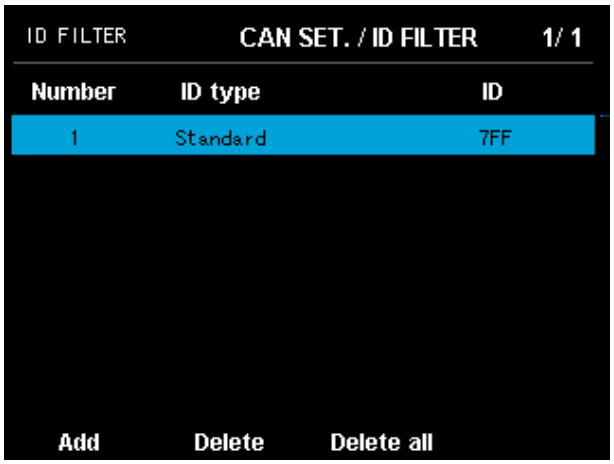
This opens a character input screen.



2 To use an extended ID, press the Std./Ext. (F3) button.

3 Use hexadecimal to input the ID.

4 Press the OK (F1) button.



NOTE

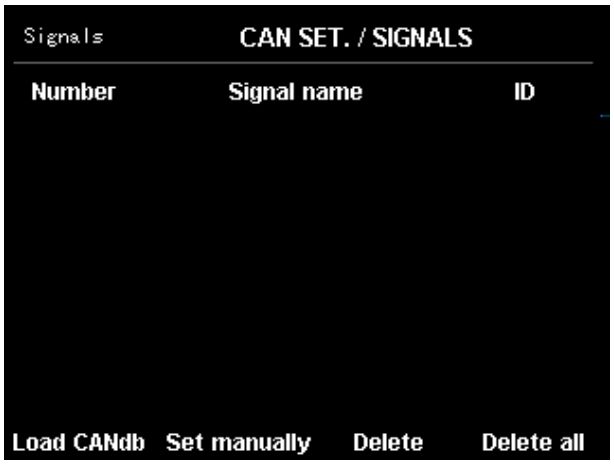
To change an ID filter that has already been added, select it and press the ENTER button.

8-3-2-3-2. Deleting ID filters

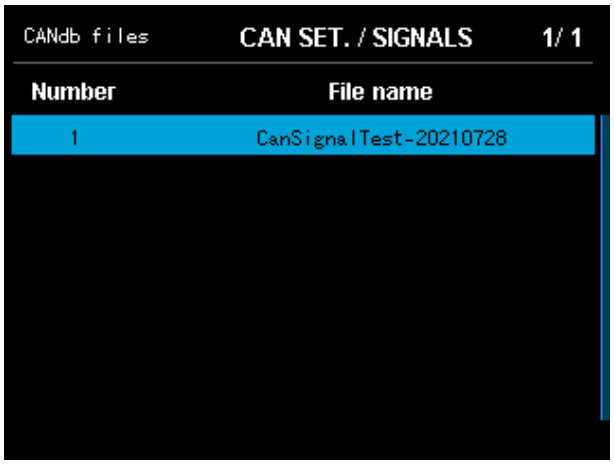
Press the Delete all (F3) button to delete all.
To delete one filter, turn the VALUE dial to select it, and press the Delete (F2) button.

8-3-2-3-3. Adding signals from CANdb files

1 Press the Load CANdb (F1) button.



A list of CANdb files on the SD card will be shown.



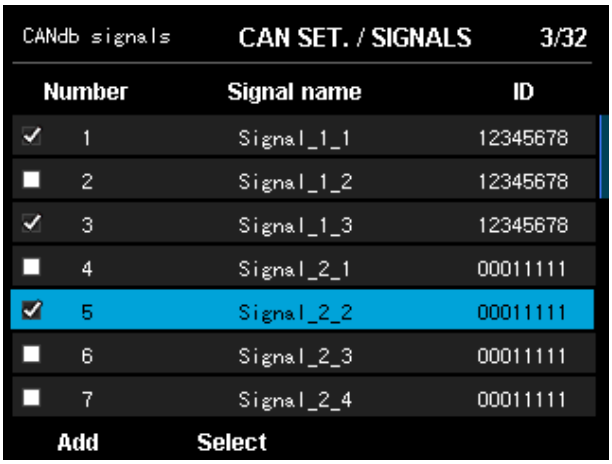
NOTE

Using a computer, create a "CANdb" folder at the root level of the SD card and save the CANdb files (dbc extension) in it in advance.

Example when the SD card is the D drive
D:\CANdb

2 Select the file to load, and press the ENTER button.

3 Select a signal to load, and press the Select (F2) button to put a check in its box.

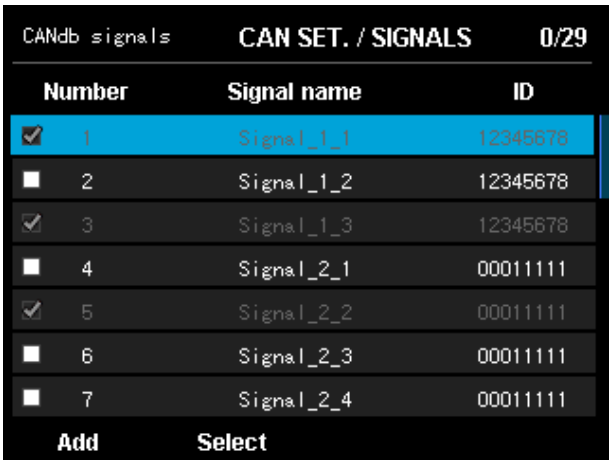


4 After putting checks next to all the signals to load, press the Add (F1) button to add them.

To return to the Signal Screen without adding any signals, press the CANCEL button.

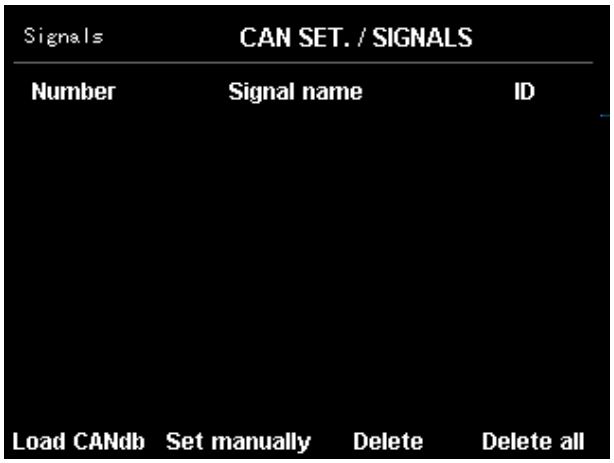
NOTE

Signals that have been added already will appear gray and cannot be added a second time.

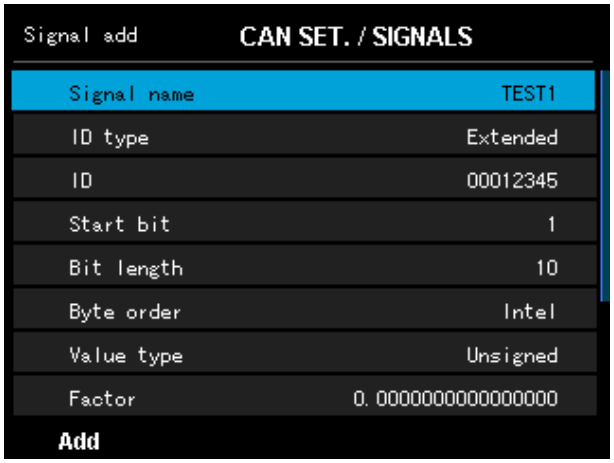


8-3-2-3-4. Adding signals manually

1 Press the Set manually (F2) button.

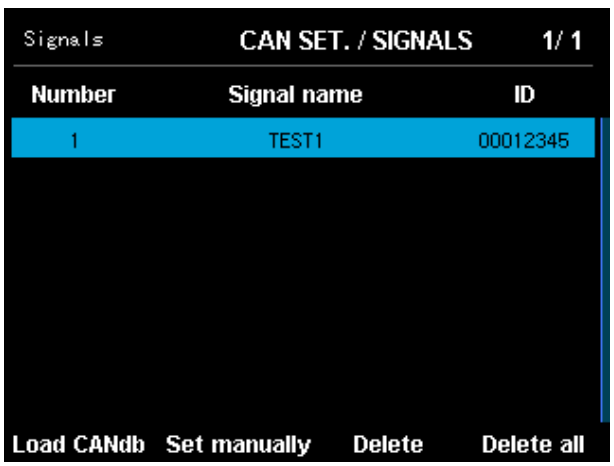


2 Set the value of each item, and press the Add (F1) button.



3 Repeat steps 1 and 2 as necessary to add signals.

To return to the Signal Screen without adding any signals, press the CANCEL button.



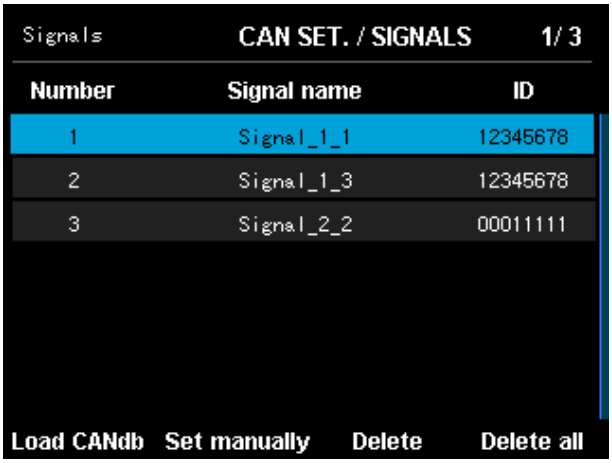
NOTE

- Use hexadecimal to input the ID and decimal to input the starting bit and bit length.
- For different bit arrangements due to the byte order, see "CAN signal start bit explanation" on page 39.

8-3-2-3-5. Deleting signals that have been added

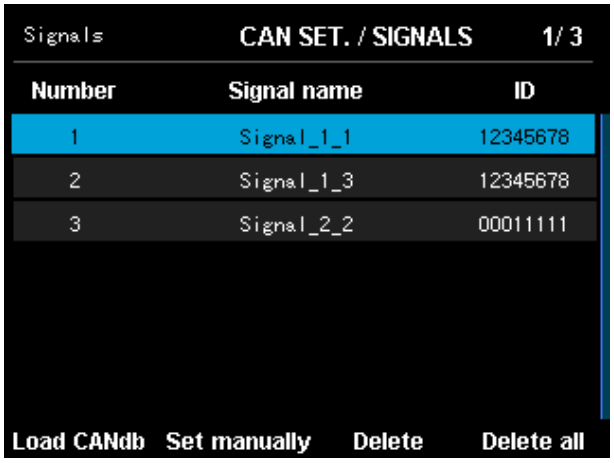
Press the Delete all (F4) button to delete all.

To delete one signal, turn the VALUE dial to select it, and press the Delete (F3) button.

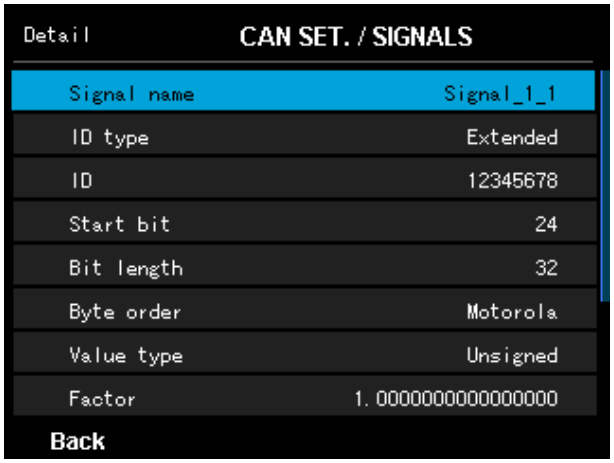


8-3-2-3-6. Editing signals that have been added

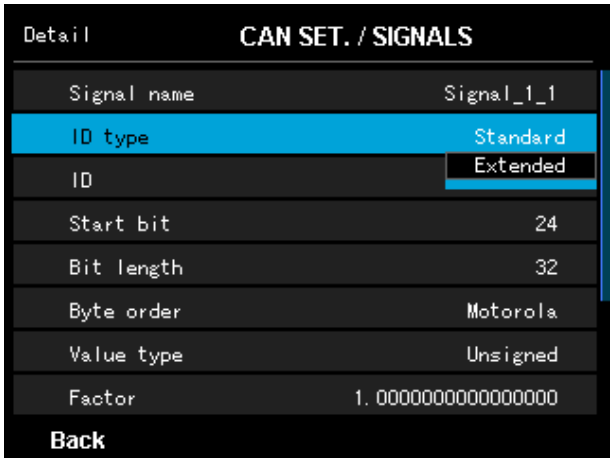
1 Select the signal to be edited, and press the ENTER button.



The signal details will be shown.

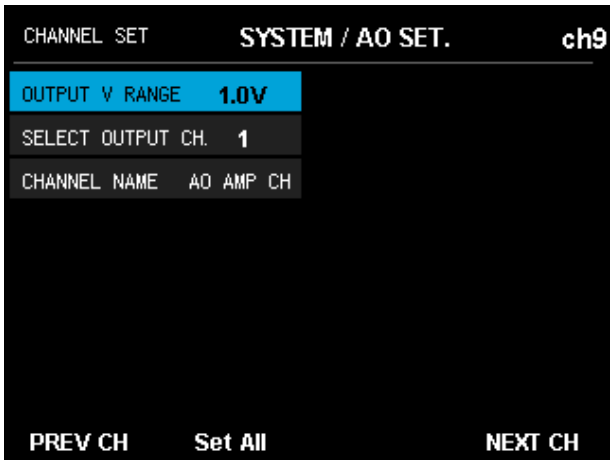


2 To change the settings of an item, select it and press the ENTER button.



3 After changing the necessary settings, press the Back (F1) button to end editing.

8-3-2-4. AO Amp settings



OUTPUT V RANGE

This sets the voltage output when the input of the selected channel is 100% of the input range.

SELECT OUTPUT CH.

Measured values of the specified channel are converted from digital to analog and output.

CHANNEL NAME

Set the output channel signal name.

Set All

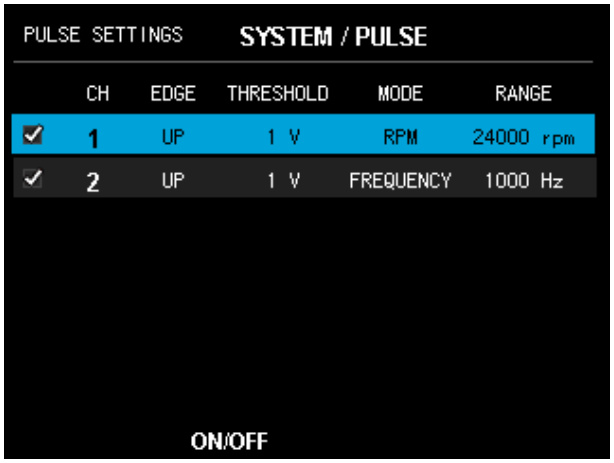
Set the output voltage range and output channel selections for every AO amp.

- When a setting for one of the above items is selected, press the ENTER button while pressing the SHIFT button to set all AO amplifiers to the same value for that item only.

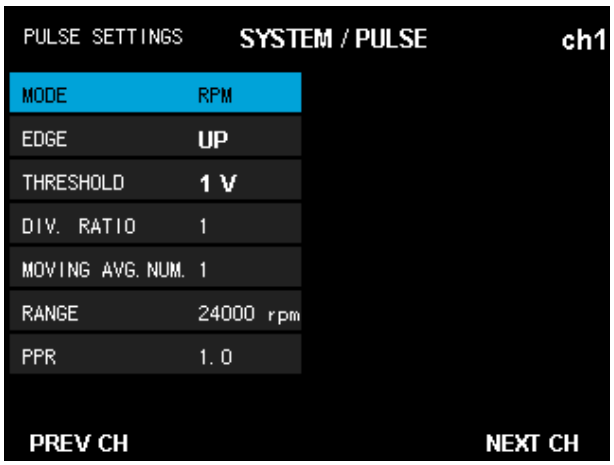
8-3-3. PULSE SETTINGS

Set the pulse input (PULSE IN) on the front panel.
The setting procedure is the same as for module settings.

1 Use the VALUE dial and the ON/OFF (F2) button to put check marks next to the modules to use for measurement.



2 Select the module to set first and press the ENTER button to open the settings screen.



MODE

Select the pulse mode.

GATE

The pulse count is recorded during the gate time.

TOTAL

The total pulse count is recorded from the record ready state.

PERIOD

The pulse period is recorded.

FREQUENCY

The pulse frequency is recorded.

RPM

The number of revolutions per minute is recorded.

EDGE

This sets the timing for counting pulses.

THRESHOLD

This sets the voltage level for counting.

DIV. RATIO

This sets the division ratio when dividing before counting pulses. Set to 1 to not divide.

MOVING AVG. NUM.

This sets the number of data to use for the moving average. Set to 1 to not use a moving average.

RANGE

Select the measurement range.

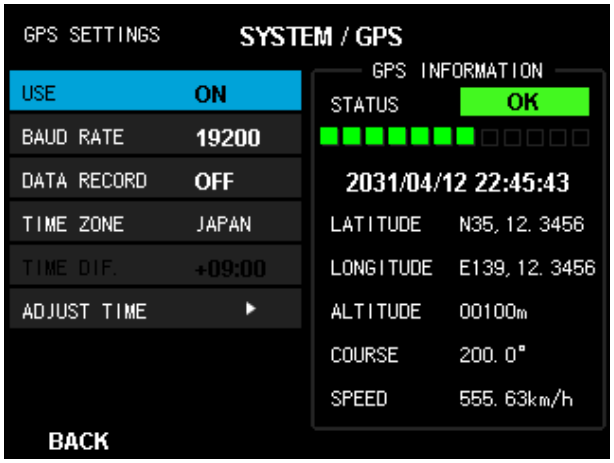
- The units shown depend on the mode selected.

PPR

This is shown when the mode is set to RPM.
Set the number of pulses per revolution.

8-3-4. GPS SETTINGS

Set when using the optional GPS receiver (LXGPS18X (5Hz)).



USE

Select ON to use the GPS.

BAUD RATE

Set the transmission speed between the LX-1000 and the GPS. Set this to 19200 usually.

DATA RECORD

When ON, GPS location information will be recorded in recording data.

TIME ZONE

Set the time zone for showing the time.

To set a time zone other than Japan or UTC, select USER.

TIME DIF.

When TIME ZONE is set to USER, set the time difference from UTC.

ADJUST TIME

Use to set the LX-1000 clock to the GPS time data.

- To set the time without using GPS, input it using the SET TIME item on the MISC screen (page 36).

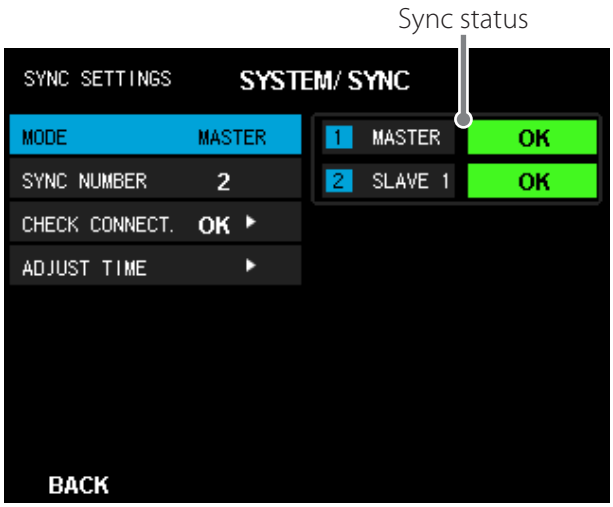
GPS INFORMATION

If the STATUS is "NG", a GPS unit is not connected or no signal is being received from a satellite.

If the STATUS is "OK", the GPS data being received will be shown.

- The ■ icons show the number of satellites being received.

8-3-5. SYNC SETTINGS



MODE

This sets the synchronized operation mode of the unit.

SYNC NUMBER*

This sets the number of units operating with synchronization.

CHECK CONNECT.*

Use to check connections between master and slave units.

ADJUST TIME*

This sets the time used by slave units to that used by the master unit.

*This is shown when the MODE is set to MASTER.

NOTE

For information about synchronized operation, see "5-8. Synchronization function" on page 13.

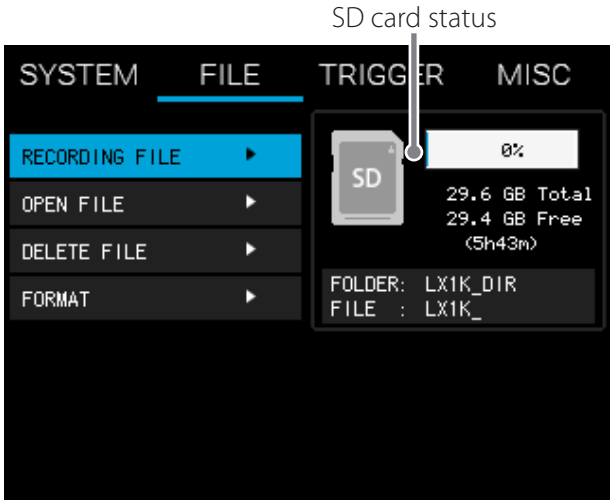
MODE settings

Assign the number of units that will be synchronized, starting with the master, followed by the slave units in order from number 1.

For example, when synchronizing three units, set one as Master and the other two as Slave 1 and Slave 2.

Synchronized operation is not possible if a unit is set as Slave 2 but no unit is set as Slave 1 or if two units are both set as Slave 1.

8-4. FILE



SD card status

If an SD card is loaded in the LX-1000, its capacity and open space are shown.
"NO MEDIA" will be shown if no SD card is loaded.

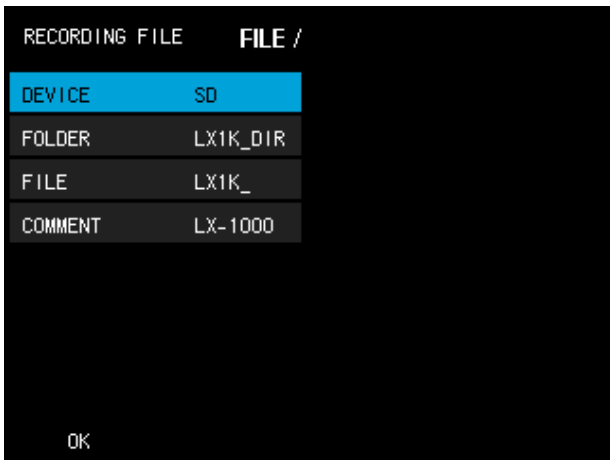
FOLDER

This shows the folder name setting value.

FILE

This shows the file name setting value.

8-4-1. RECORDING FILE



DEVICE

When operated by remote control, only the SD card can be selected.

FOLDER

Use these to set the name of the folder where recorded data is saved.
Input characters for the folder name as desired.

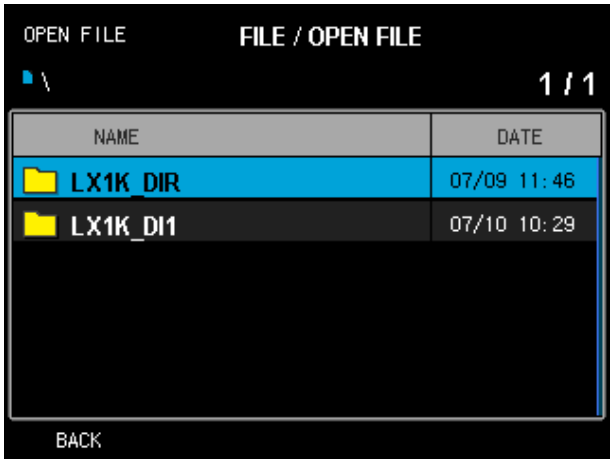
FILE

Set the beginning of the names given to recorded data files.

COMMENT

Input a comment for recorded data.

8-4-2. OPEN FILE



After selecting a folder, select a file to start playing it. See "7. Playback" on page 18 for details.

8-4-3. DELETE FILE

The most recently recorded file (only) can be deleted. Deletion is not possible after the media has been changed or the unit turned off.

8-4-4. FORMAT

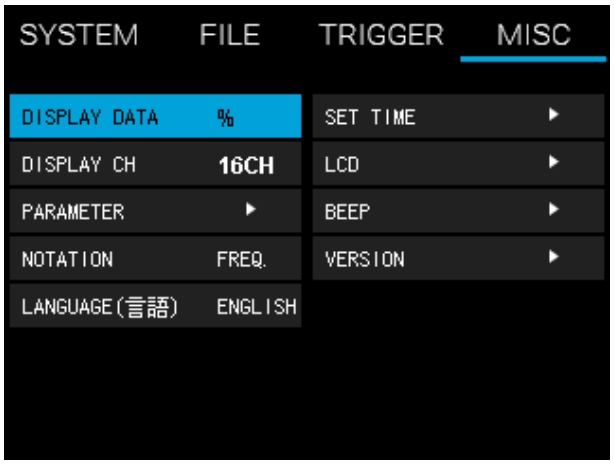
This formats the SD card in the LX-1000.

Usually, QUICK FORMAT should be selected.
Using ERASE FORMAT could improve writing performance that has decreased due to repeated use.

8-5. TRIGGER

When the mode is Trigger or Interval, setting items for the mode are shown.
See "6-5. Setting triggers" on page 15 for details about Trigger settings.

8-6. MISC



DISPLAY DATA

This sets the unit and display format for the data shown.
Bar meters will be shown if % or dB is selected. Digital values will be shown if Digit is selected.
CAN data can only be shown if Digit is selected.

DISPLAY CH

This sets the number of channels shown on one screen when bar meters are shown.

NOTATION

Select what is shown for sampling.
FREQ.: The frequency is shown.
BANDW.: The bandwidth is shown.

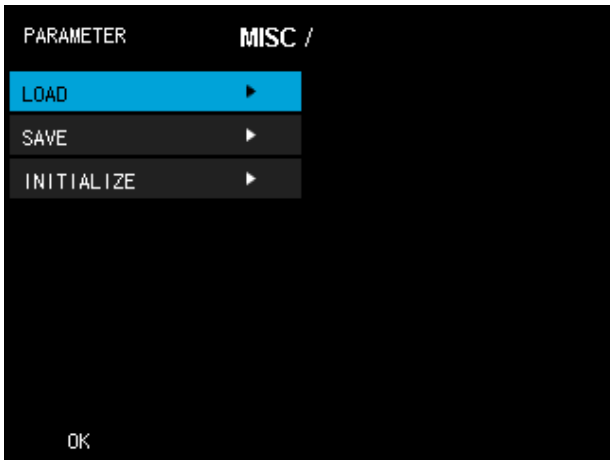
- See "Sampling frequencies and bandwidths" in the Specifications of the LX-1000 Instructions for Use for information about the relationship between sampling frequencies and bandwidths.
- Regardless of this setting, the sampling frequency will be written to the header files of recording data.

LANGUAGE (言語)

Select the display language.
日本語: Japanese wil be used.
ENGLISH: English will be used.

8-6-1. PARAMETER

- Parameters can be loaded from and saved to SD cards.



LOAD

Load the parameters saved on the SD card.
The 5 most recent parameter files will be shown.

SAVE

Save the parameters to the SD card.

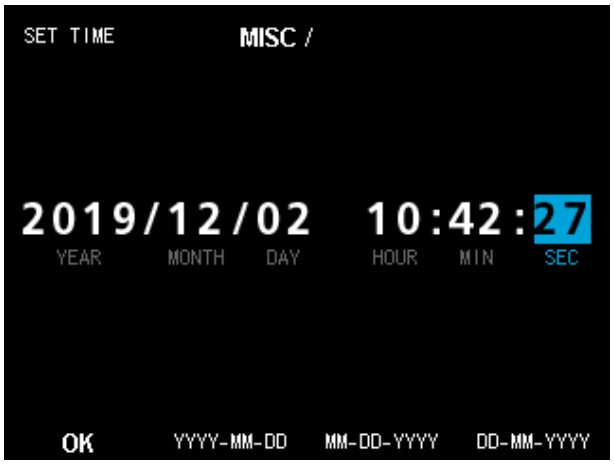
NOTE

To overwrite an existing file, select the file and press the ENTER button. This saves the settings and returns to the PARAMETER screen.

INITIALIZE

Initialize the parameter settings.

8-6-2. SET TIME



Set the date and time of the LX-1000 clock.

- Use the F2–F4 function buttons to change the date format.

8-6-3. LCD

BACKLIGHT OFF

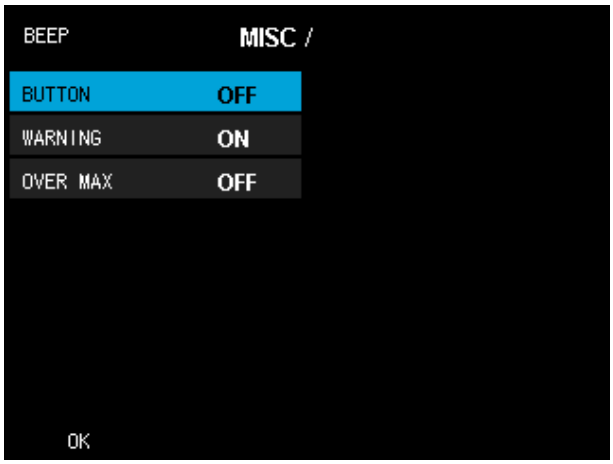
Set the time until the backlight turns off automatically if no buttons are used.

NEVER: The backlight will always stay lit.
1min: The backlight will turn off after 1 minute without operation.
5min: The backlight will turn off after 5 minutes without operation.
30min: The backlight will turn off after 30 minutes without operation.

BRIGHTNESS

Adjust the display brightness.
Use the F3 and F4 buttons to adjust the brightness.

8-6-4. BEEP



BUTTON

Set whether or not the system beeps when buttons are used.

WARNING

Set whether or not the system beeps when error messages are shown.

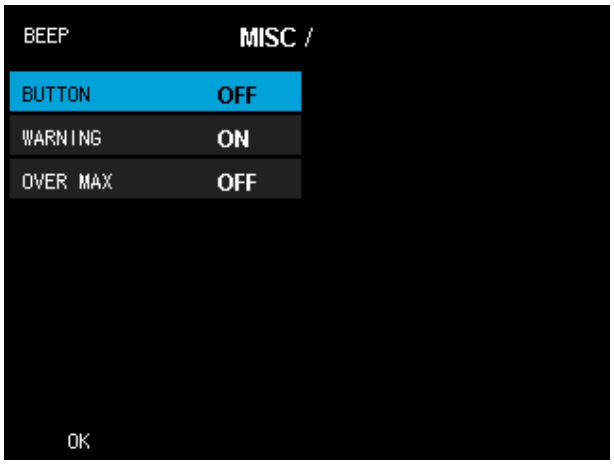
OVER MAX

Set whether or not the system beeps when analog data or pulse data exceeds the range maximum.

8-6-5. VERSION

This shows the different program versions and the serial number of the LX-1000.

8-6-6. BEEP



BUTTON

Set whether or not the system beeps when buttons are used.

WARNING

Set whether or not the system beeps when error messages are shown.

OVER MAX

Set whether or not the system beeps when analog data or pulse data exceeds the range maximum.

8-6-7. VERSION

This shows the different program versions and the serial number of the LX-1000.

9. Specifications

General

External dimensions ..... 145 × 24 × 108 mm
(W × H × D, not including protrusions)
Weight ..... 0.34 kg

Included accessories

Connection cable (about 5 m) 1
CD-ROM..... 1
Contents: Instructions for Use (this document)

- In order to improve the products, specifications and appearance could be changed at any time without warning.
- Weight and dimensions are approximate.
- Illustrations in this document might differ in part from actual products.

10. Warranty explanation

- The warranty period for this device is one year from the date of purchase.

- Be aware that repairs will require payment in the following cases even during the warranty period.
  1) Malfunction or damage due to misuse
  2) Malfunction or damage caused by modifications or repairs conducted by any party other than our company or a service person designated by our company
  3) Malfunction or damage caused by dropping, transportation or similar handling after product delivery
  4) Malfunction or damage caused by fire, earthquake, water, lightning or other natural disaster
  5) Malfunction or damage caused by external factors, including power supplies and equipment environmental conditions, that deviate from the operation requirements of this product
  6) Malfunction or damage if the product was not purchased from our company or an agent designated by our company

- We offer paid service after the conclusion of the warranty period. For details, please contact the retailer where you purchased the unit or a contact on the back cover of this manual.

- Be aware that our company will bear no responsibility for any secondary damages resulting from the operation of this device or related to data.

- Be aware that our company will bear no responsibility if data recorded by this device is deleted as a result of misoperation or unexpected incident, for example.

- Information is given about products in this manual only for the purpose of example and does not indicate any guarantees against infringements of third-party intellectual property rights and other rights related to them. TEAC Corporation will bear no responsibility for infringements on third-party intellectual property rights or their occurrence because of the use of these products.

CAN signal start bit explanation

The counting method for the bit arrangement differs according to whether the byte order is Intel or Motorola.
The start bit setting value of the LX-1000 is compatible with CANdb++ Editor made by Vector Informatik GmbH.

Example
When setting the start bit of a 9-bit CAN signal (DLC = 3)

	Byte	0								1								2							
Intel	bit	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
(LSB first)	Total bits	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Motorola	bit	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
(MSB first)	Total bits	7	6	5	4	3	2	1	0	15	14	13	12	11	10	9	8	23	22	21	20	19	18	17	16

9-bit length

Start bit setting value

Intel	LX-1000/CANdb++Editor	bit13
Motorola	LX-1000/CANdb++Editor	bit18

- If the byte order is Motorola, when creating CANdb (when using the CANdb++ Editor), DLC is not determined, so an irregular order as shown above is used.

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