Class 1 Sound Level Meter NL-53
Class 2 Sound Level Meter NL-43

Instruction Manual

Communication Guide

RION

Organization of the NL-43/NL-53 Instruction Manual

There are four types of instruction manuals for Class 2 Sound Level Meter NL-43 and Class 1 Sound Level Meter NL-53.

Quick Start Guide

This manual describes the basic handling of Sound Level Meter NL-43/NL-53.

Operation Guide

This manual describes how to use Sound Level Meter NL-43/NL-53, how to connect and use peripheral devices such as sound level recorders and printers, and what to do when using an SD card.

Communication Guide (This Document)

This manual describes communication between a computer and Sound Level Meter NL-43/NL-53 via a serial interface. It describes such topics as the communication protocol, commands for controlling the sound level meter, and data output from the sound level meter.

Technical Guide

This manual is a technical guide to the sound level meter and noise measurements, including the performance of Sound Level Meter NL-43/NL-53, microphone structure and characteristics, and how extension cables and windscreens affect measurements.

You can download the Instruction Manuals from our website:

https://svmeas.rion.co.jp/

Contents

1

Common

1.1   Outline

The Class 2 Sound Level Meter NL-43 and Class 1 Sound Level Meter NL-53 can control devices, transfer files, and use the web application by communicating via the RS-232C connection and the USB cable or LAN.
This document describes how to use each communication function.

1.2   States in which communication is not possible

When the device is in the following states, it cannot perform communication control and transfer data:

• When starting up

• When shutting down

• When in sleep mode

2

RS-232C Connection

2.1   Communication control

You can perform communication control and transfer data by connecting the device to a computer using the RS-232C serial I/O cable CC-42R (optional).
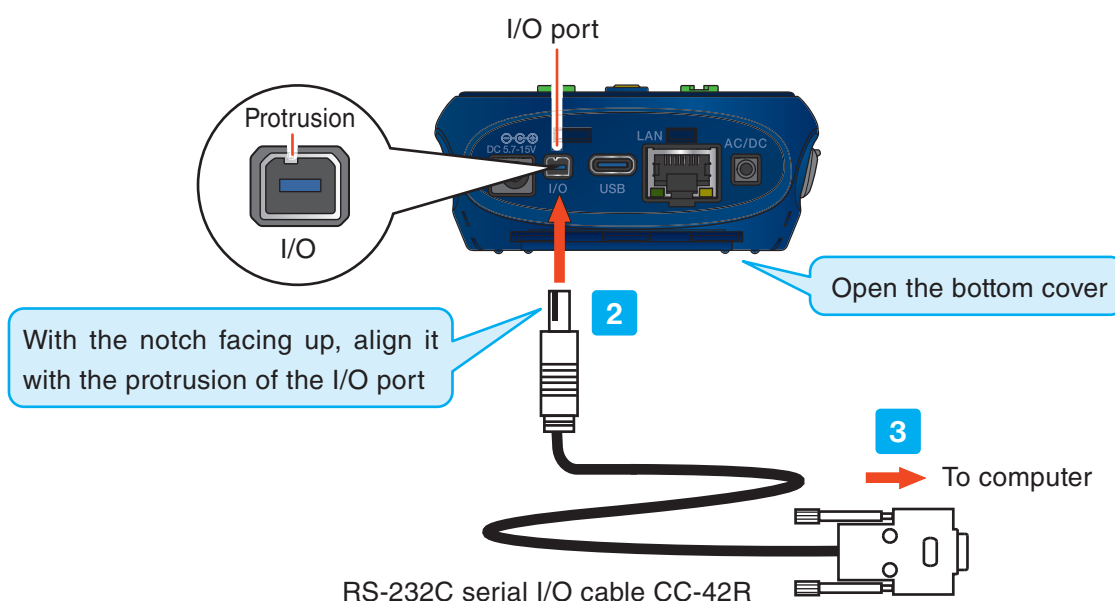For information about the commands, refer to Page 30 onward.

Important

• Make sure the orientation is correct when inserting the cable into the I/O port.

📄 **Note**

• When connecting the device and a computer, the measurement lower limit level of the device may rise due to noise from the computer.
• When using the RS-232C communication function, you cannot configure the USB connection or LAN TCP settings.

Set the communication function of the device by following the procedure below.

1   **Open the bottom cover of the device.**

2   **Insert the connector of the RS-232C serial I/O cable CC-42R into the I/O port of the device.**

3   **Plug the other end of the cable into the RS-232C port of the computer.**

I/O port

Protrusion

I/O

2

With the notch facing up, align it with the protrusion of the I/O port

Open the bottom cover

3

To computer

RS-232C serial I/O cable CC-42R

4 **Touch [Menu] on the measurement screen.**

The [Menu] screen appears.
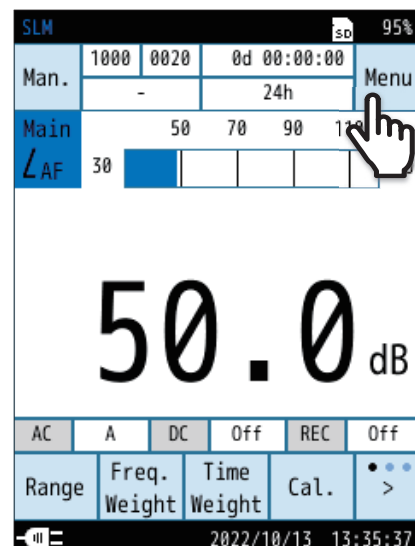
5 **Touch [I/O] on the [Menu] screen.**

The [I/O] screen appears.

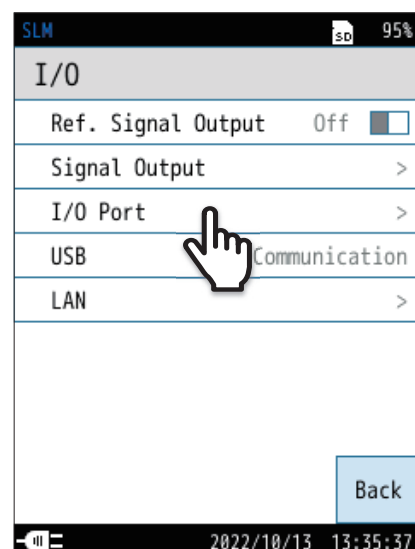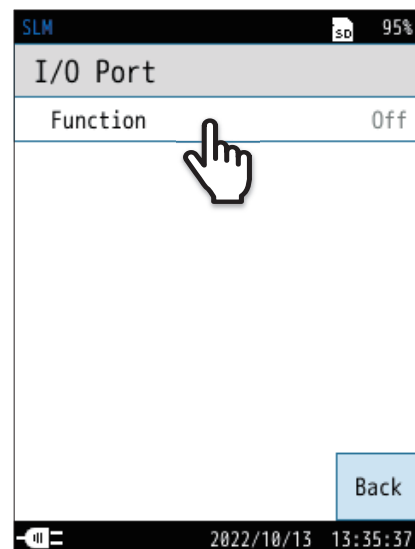**6** **Touch [I/O Port] on the [I/O] screen.**

The [I/O Port] screen appears.

7 **Touch [Function] on the [I/O Port] screen.**

```
SLM                          SD    95%
I/O Port
  Function                         Off

                              Back
-[Ⅲ]≡            2022/10/13  13:35:37
```

8 **Select [Communication], and touch [Apply].**

```
SLM                          SD    95%
I              Function
  │  Off                        ○    │f
  │  Communication              ●    │
  │  Printer                    ○
  │  Comparator                 ○


                                     k
             Apply
-[Ⅲ]≡            2022/10/13  13:35:37
```
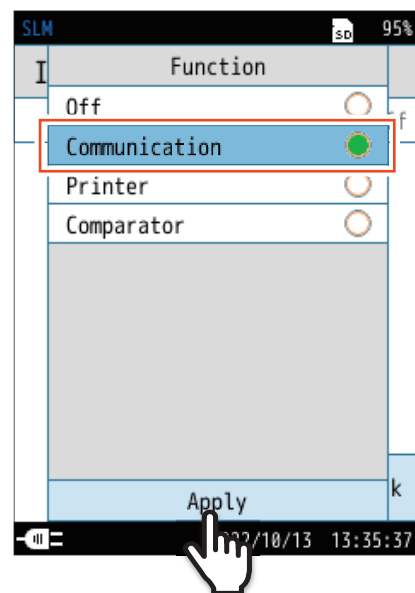
9 **Touch [UART Baud Rate] on the [I/O Port] screen.**

```
SLM                          SD    98%
I/O Port
  Function          Communication
  UART Baud Rate          9600bps




                              Back
-[Ⅲ]≡  IO         2022/01/01  02:27:01
```
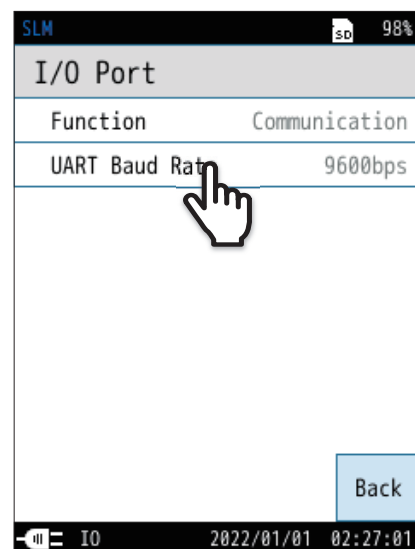
10 **Select a baud rate, and touch [Apply].**

UART Baud Rate can be selected from 9600 bps, 19200 bps, 38400 bps, 57600 bps, and 115200 bps.
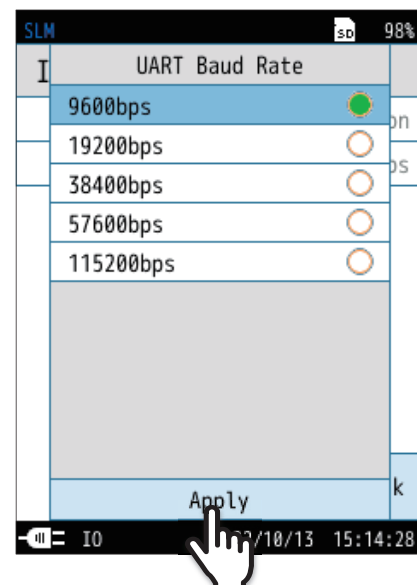
11 **Touch [Back] or press the START/STOP key to return to the measurement screen.**

Transmission method

The transmission method of the device is as follows.

Communication method	Full duplex
Synchronization method	Asynchronous
Communication speed	9600 bps, 19200 bps, 38400 bps, 57600 bps, 115200 bps
Data length	8 bit
Stop bit	1 bit
Parity	None
Flow control	None

3

USB Connection

3.1   Communication control

The device can communicate and transfer saved data files by way of a USB connection.
For information about the commands, refer to Page 30 onward.

Compatible OS

- Microsoft Windows 10 Pro (64 bit)
- Microsoft Windows 11 Pro (64 bit)

Important

- Directly connect the computer and the device with the USB cable. If you connect the computer and the device via the likes of a USB hub, there is a possibility that they may not operate normally.

📄 **Note**

- When connecting the device and a computer, the measurement lower limit level of the device may rise due to noise from the computer.
- When using the USB communication function, you cannot configure the RS-232C communication or LAN TCP settings.
- When using the USB communication function, it is not necessary to install the USB driver. The driver is installed automatically when you connect the device to a computer with a compatible operating system via a USB cable.

Set the communication function of the device by following the procedure below.

1 **Open the bottom cover of the device.**

2 **Insert the USB Type-C connector into the USB port of the device and computer.**
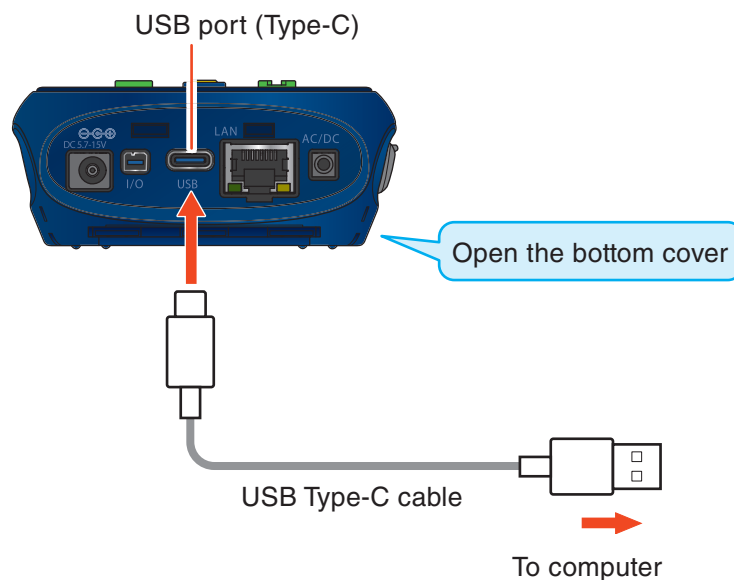
USB port (Type-C)

Open the bottom cover

USB Type-C cable

To computer

3 | **Touch [Menu] on the measurement screen.**

The [Menu] screen appears.
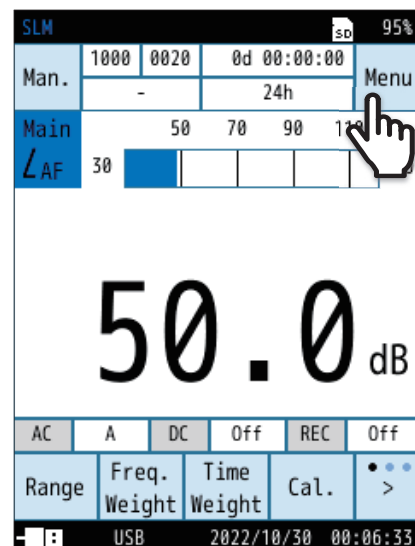
4 | **Touch [I/O] on the [Menu] screen.**

The [I/O] screen appears.

5 | **Touch [USB] on the [I/O] screen.**

The [USB] screen appears.

6   **Select [Communication], and touch [Apply].**

7   **Touch [Back] or press the START/STOP key to return to the measurement screen.**

3.2　Data file transfer

When using mass storage, you can view and copy SD card files on the computer.

> 📄 **Note**
> - When using mass storage, commands other than USB Class will not be accepted. When communicating, you need to switch to communication with a USB Class command again.

1 **Touch [Menu] on the measurement screen.**
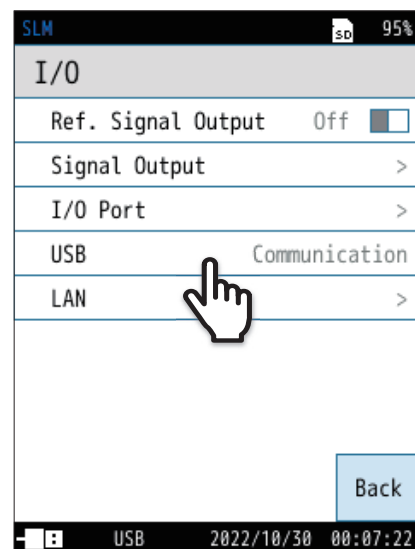
The [Menu] screen appears.

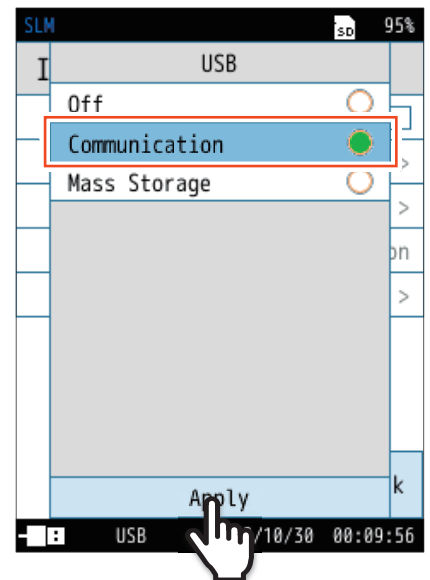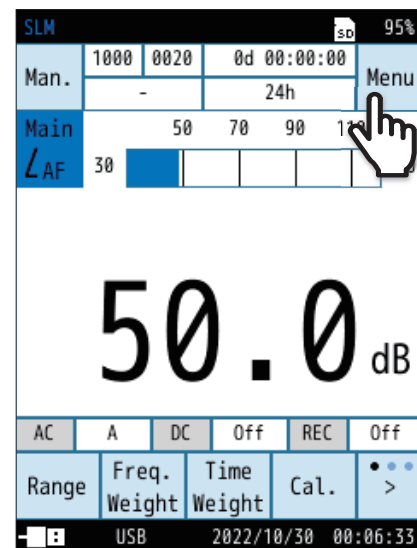**2** **Touch [I/O] on the [Menu] screen.**

The [I/O] screen appears.

3 **Touch [USB] on the [I/O] screen.**

The [USB] screen appears.
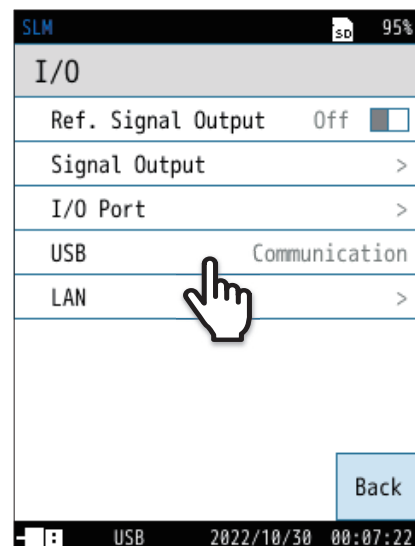
4 **Select [Mass Storage], and touch [Apply].**

The device and the computer are connected.

- Once recognized as a removable disk, measurement data, screen notes, calibration history data, setting conditions, etc. saved on the device can be displayed and checked in the USB drive folder.

- To remove the main unit, remove the main unit from the computer, and then touch [Remove Device] on the main unit display screen.
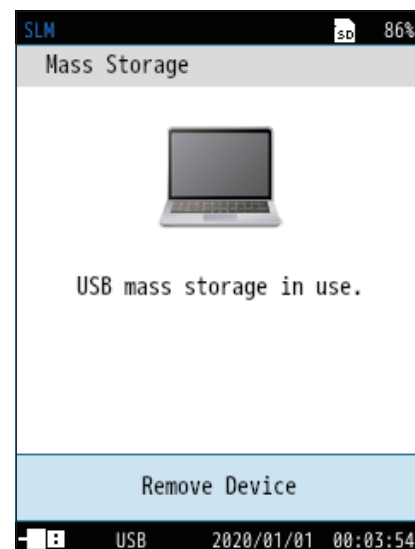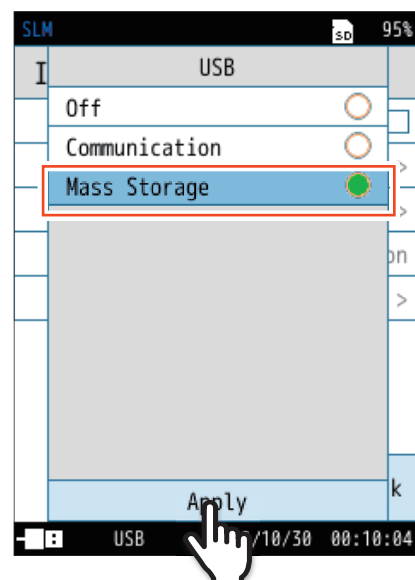
4

LAN Connection

By using a LAN cable, you can perform operations such as communication (TCP) and file transfers (FTP) like on the device but from the web application.
For details, refer to the "Operation Guide".

Important
• Directly connect the computer and the device with the LAN cable.

> 📄 **Note**
> • When connecting the device and a computer, the measurement lower limit level of the device may rise due to noise from the computer.
> • To use this function, you must first install the function extension program NX-43EX beforehand.

Set the communication function of the device by following the procedure below.

1 **Open the bottom cover of the device.**

2 **Insert the connector of the LAN cable into the USB ports of the device and computer.**
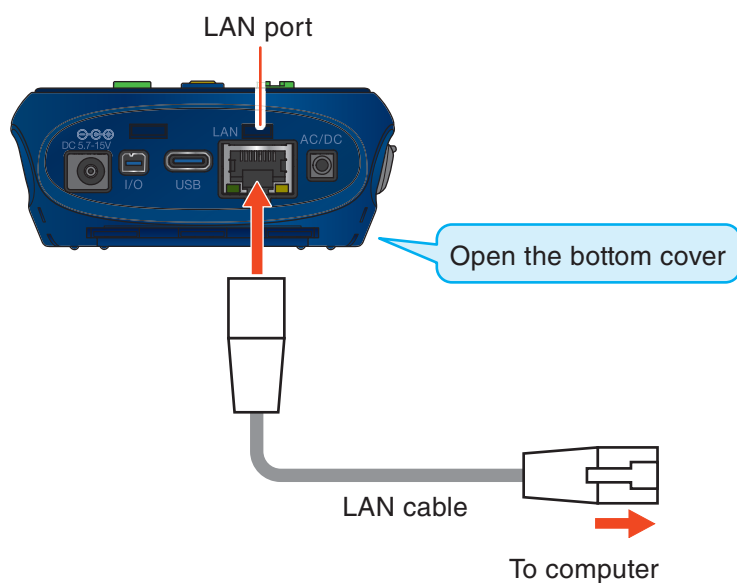
LAN port

Open the bottom cover

LAN cable

To computer

3 **Touch [Menu] on the measurement screen.**

The [Menu] screen appears.
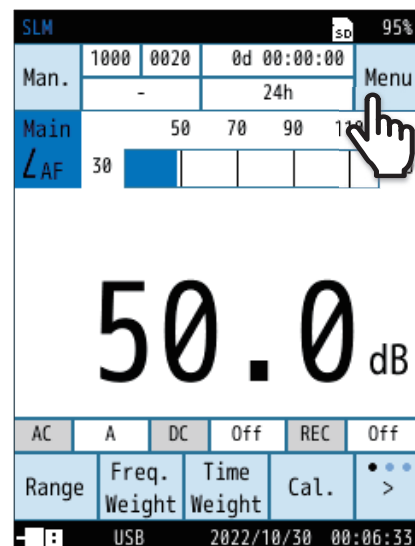
4 **Touch [I/O] on the [Menu] screen.**

The [I/O] screen appears.

5 **Touch [LAN] on the [I/O] screen.**

The [LAN] screen appears.
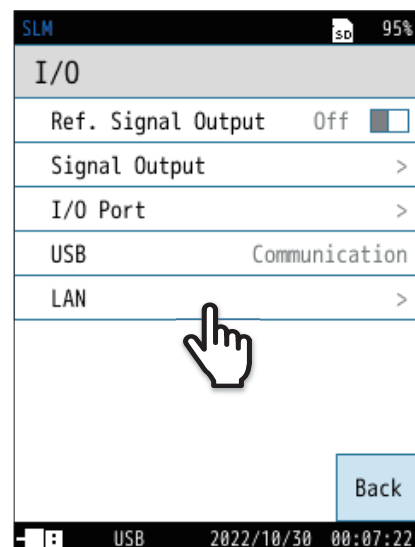
6 **Touch [Function] on the LAN screen to set it to [On].**

SLM	SD 75%
LAN	
Function	Off
	Back
USB	2022/11/09 12:33:56
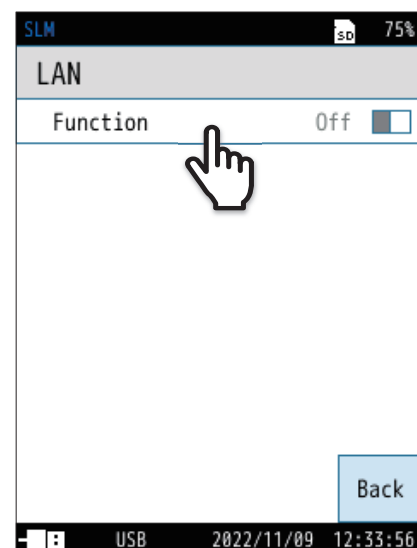
7 **Configure the LAN-related settings.**

Item	Description
Function	Turns on/off the LAN function.
DHCP	Automatically sets the IP address, subnet, and gateway of the device.
IP	Sets the IP address of the device and acquires the current settings.
Subnet	Sets the subnet mask and acquires the current setting.
Gateway	Sets the default gateway and acquires the current setting.
Web App	Turns on/off the web app.
FTP	Turns on/off file transferring.
TCP	Turns on/off communication control.

SLM	SD 95%
LAN	
Function	On
DHCP	Off
IP	192.168.0.2
Subnet	255.255.255.0
Gateway	192.168.0.1
Web App	Off
FTP	Off
TCP	Off
	Back
USB LAN	2022/12/20 10:03:48
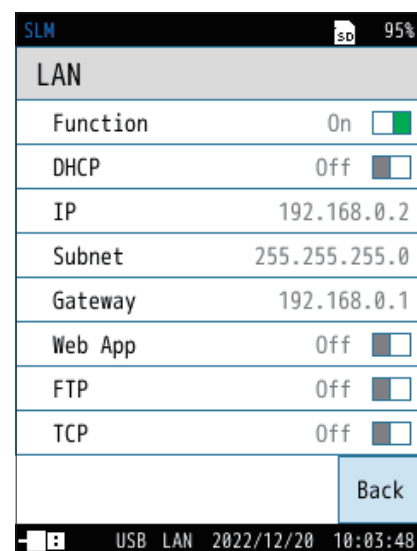
The IP address on the screen is an example.

8 **Manually set the IP address, subnet, and gateway as necessary.**

1. **Touch [IP] on the [LAN] screen.**
   The input screen for the IP address appears.

2. **Enter the IP address.**
   Touching [BE] deletes one character. Touching [AC] deletes all the entered characters.

3. **Touch [Apply].**

- Manually set the subnet and gateway in the same way.
- Configure the settings corresponding to communication.

The IP address on the screen is an example.

9 **Touch [Back] or press the START/STOP key to return to the measurement screen.**

4.1 Communication control (TCP)

Measurement values can be acquired and settings can be changed by using communication commands.

For information about the commands, refer to Page 30 onward.

The port number is 2255.

> 📄 **Note**
> • When using the LAN TCP function, you cannot configure I/O Port Communication or the USB connection settings.

4.2 Data transfer (FTP)

You can download data on the SD card by using the FTP client application. You can download data even while measuring.

The FTP client connects in Active mode.

The port number is 21.

> 📄 **Note**
> • When using the LAN TCP function, you cannot use USB mass storage.
> • Do not delete files via FTP.

4.3   Web application

By accessing from a web browser on a computer or smartphone, you can perform measurement operations of the device, check/change settings, and download data from the SD card. 80 and 8000 are used for the port numbers.

This section explains how to use the web application.

1 **Touch Touch [I/O] - [LAN] on the [Menu] screen, and then configure the following settings.**

When manually setting the IP address

SLM	SD 95%
LAN	
Function	On
DHCP	Off
IP	192.168.0.2
Subnet	255.255.255.0
Gateway	192.168.0.1
Web App	Off
FTP	Off
TCP	Off
	Back
USB LAN 2022/12/20 10:03:48	
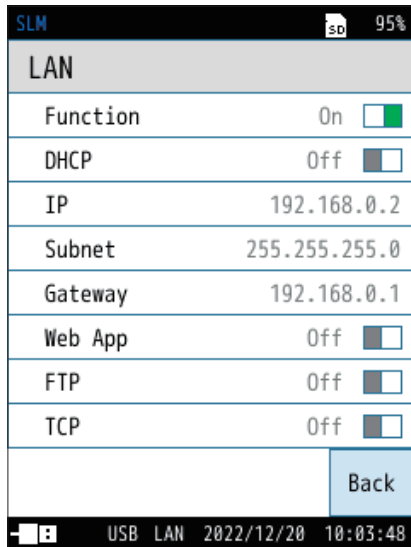
When automatically setting the IP address

SLM	SD 95%
LAN	
Function	On
DHCP	On
IP	192.168.0.2
Subnet	255.255.255.0
Gateway	192.168.0.1
Web App	Off
FTP	Off
TCP	Off
	Back
USB LAN 2022/12/20 10:03:48	
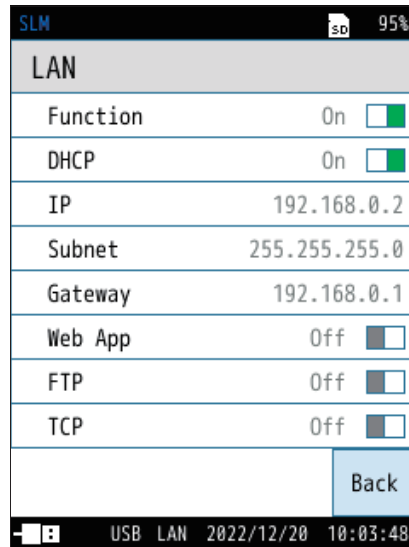
The IP address on the screen is an example.

2 **Turn on [Web App] on the [LAN] screen.**

The [Web App] screen appears.

SLM	SD 95%
LAN	
Function	On
DHCP	Off
IP	192.168.0.2
Subnet	255.255.255.0
Gateway	192.168.0.1
Web App	On
FTP	Off
TCP	Off
	Back
USB LAN 2022/12/20 10:03:48	

SLM	SD 86%
Web Application	
Web Application in use.	
Disconnect	
USB LAN 2022/12/20 10:02:38	
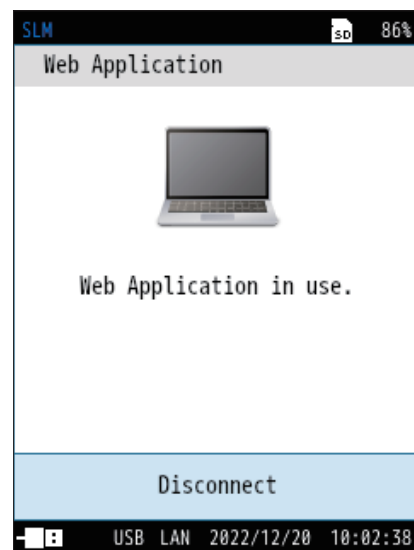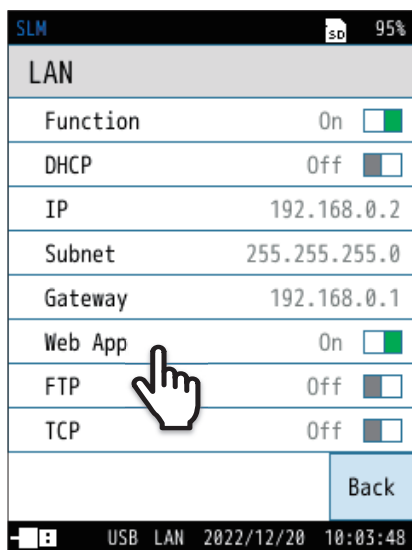
The IP address on the screen is an example.

> **Note**
>
> When using the web application, the following settings cannot be configured:
> - Timer Auto store
> - Trigger Mode
> - Delay Time
> - I/O Port Communication
> - USB Connection
> - LAN TCP
> - LAN FTP

3 **In your web browser, enter the IP address set on the device to access.**

The [Login] screen appears.

> **📄 Note**
> - It is recommended to use the web browser Google Chrome on a computer. The sound will not play on other web browsers.
> - The network settings must be configured on the computer that will be connected. Configure the network settings such as the computer's IP address so that you can connect with the device's network settings (IP address, subnet, gateway).
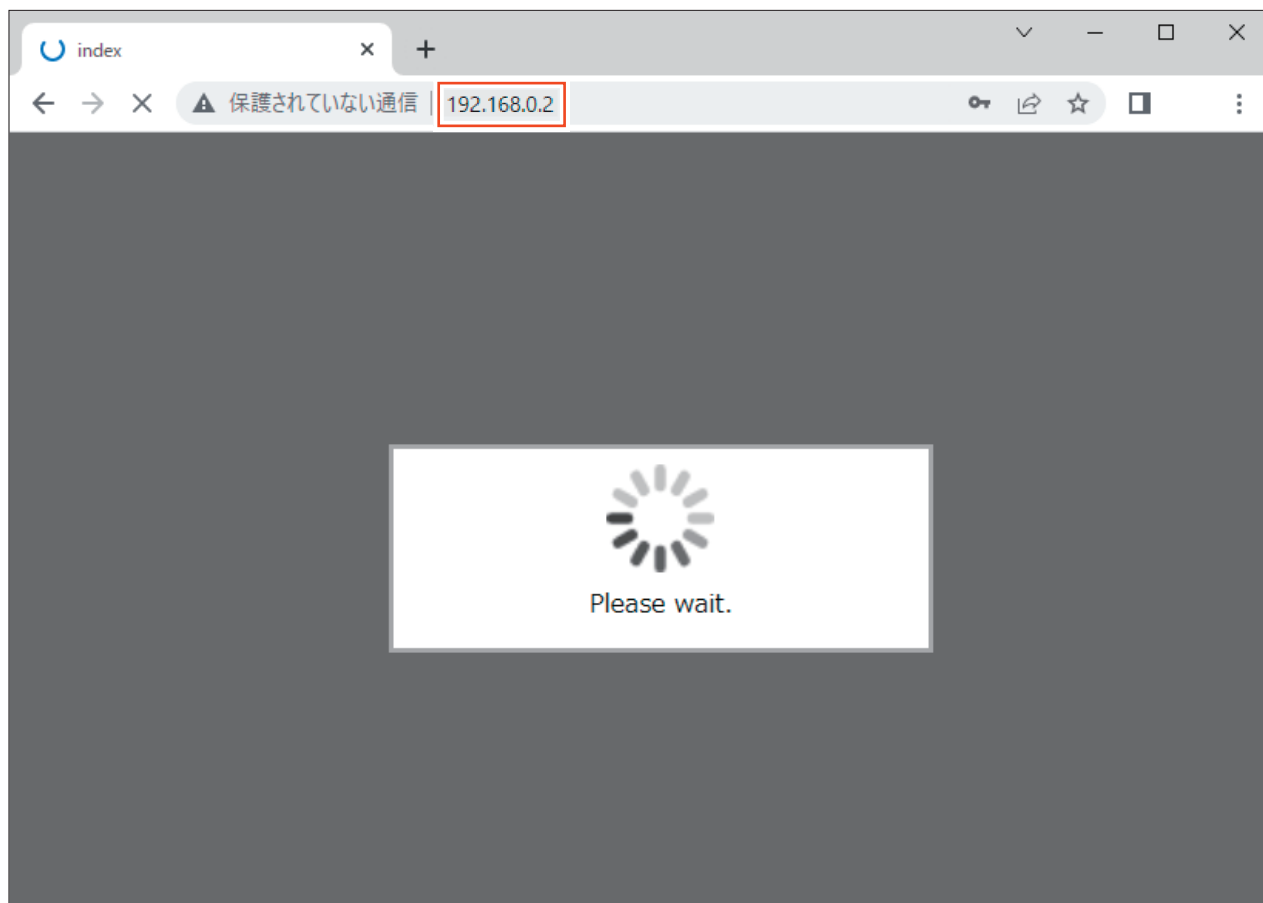
- Enter the IP address that was set in 4.3.
- The IP address on the screen is an example.

4 **Touch [Menu] - [System] - [Security] on the device, enter your User Name and Password, and then click [Login].**

The following measurement screen appears.
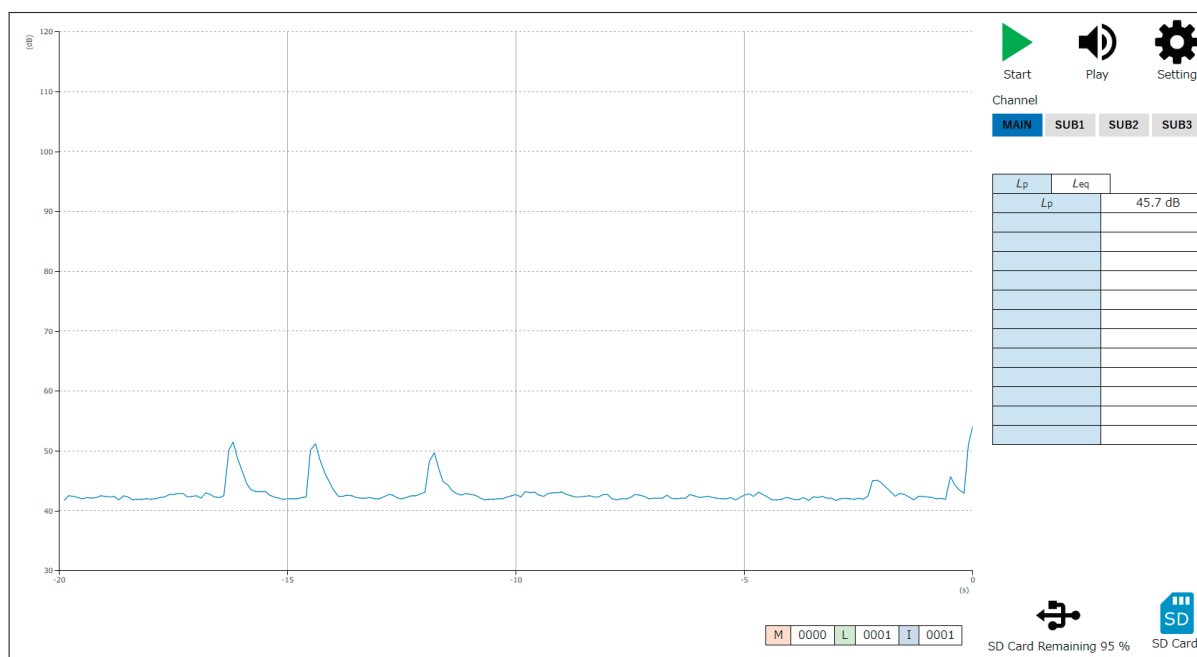
4.3.1   Reading the display

Measurement screen

This screen shows general measurement information. You can start, stop, and play measurements, display graphs, transfer SD card data, etc.

No.	Name	Description
1	Start measuring	Starts taking measurements.
2	Play	The playback function can be used only when the Waveform Recording Program NX-43WR is installed. Play the sound in real time. You need to set waveform recording (Total, Event) to [On]. Playback sound works in conjunction with the frequency weighting (waveform) and recording range. You can change the playback volume by accessing the web app, clicking [Settings] - [Display] - [Upper Range], and then making changes. The lower the value that is set, the louder the playing volume.
3	Setting	Displays each settings screen.
4	Display channel	When you select the channel you want to display, the L_p/L_{eq} and T-L graphs appear.
5	Switch calculation	Switches the display of the instantaneous values and calculated values.
6	Battery type	Acquires the type of batteries used in the device.
7	Marker buttons	When the L_p Store Interval is set in Store mode, you can mark data while measuring.
8	Recording number display	The number of files recorded in Total recording or Event recording (Manual recording, Level recording, Interval recording) is displayed.
9	SD card remaining capacity	Displays the remaining capacity of the SD card.
10	SD card	You can check the data saved on the SD card.

Settings screen

This screen is for configuring various settings. When you click ⚙ on the measurement screen, the settings screen appears.
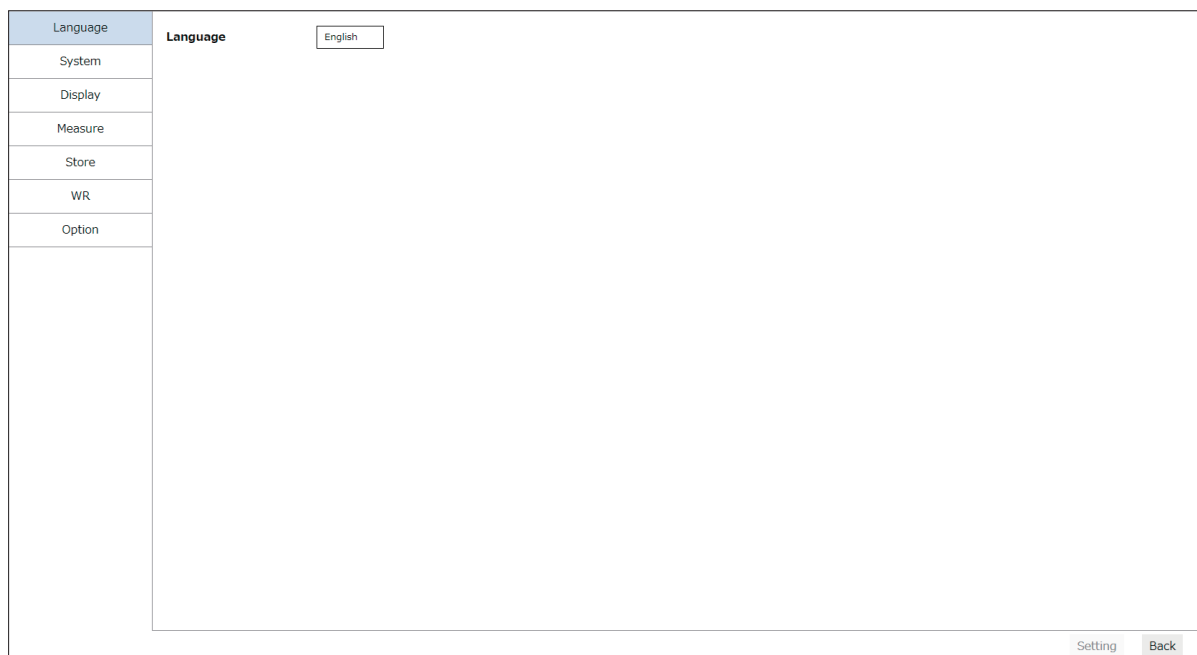
Select an item in the top left of the screen, and then enter the value you want to set.

When you click `Setting` in the bottom right of the screen, each entered value will be set.

When you click `Back` in the bottom right of the screen, the measurement screen appears.

For more information about the setting details, see the Operation Guide instruction manual as they are the same as the settings of the device.

Important
• Do not click the back button on the browser. The network will disconnect.   To go back, click [Back] in the bottom right of the application.

• Language

Language		
Language	Language	English
System		
Display		
Measure		
Store		
WR		
Option		

Setting   Back

• System

Click [Update Time] to sync the sound level meter time with the time on the linked computer.
Clicking [Update Time] does not cause any reaction on the screen, but the time is updated.

Language	**Time and Date**	Current Time	2022/10/30 03:13:00		Update Time
System	**SD Card**	SD Card Capacity	1.8GB	Free Space	1.7GB
Display					Format SD Card
Measure	**System Information**	Model	NL-53	Serial Number	00005310
Store				Index	0001
WR		Program Information	NL-53		00.00
Option			NX-43EX		00.00
			NX-43WR		00.00

Setting   Back

• **Display**

Decrease the [Upper Range] setting to make the sound louder.
Increase the [Upper Range] setting to make the sound quieter.

Language				
System	**Upper Range**	130dB	dB	**Lower Range**	30dB	dB
Display	**Time-Level**	20s				
Measure						
Store						
WR						
Option						

Setting   Back

• **Measure**

Language					
System	**Sub Channel Settings**		Sub1 On	Sub2 On	Sub3 On
Display	**Frequency Weighting**	Main A	Sub1 C	Sub2 Z	Sub3 A
Measure	**Time Weighting**	Main F	Sub1 F	Sub2 F	Sub3 F
Store	**Windscreen Correction**	Off			
WR	**Diffuse S.F. Corr.**	Off			
Option					

Setting   Back

26

• Store

Store mode can only be set to Manual or Auto. Timer Auto cannot be set.

Language	**Store Mode**	Auto	Store Name	1000
System	**Auto**			
Display	Total Meas. Time	1h		
Measure	L_p Store Interval	100ms		
Store	L_{eq} Calc.Interval	1m		
WR	L_{eq},mov Interval	1h		
Option	**LN Mode**			
	Sampling Data	Lp		

Percentile1 [5.0] Percentile2 [10.0] Percentile3 [50.0] Percentile4 [90.0] Percentile5 [95.0]

Setting   Back

• WR (Waveform recording) (can be set only when NX-43WR is installed)

If the NX-43WR is not installed and the recording function is set to anything other than [OFF], an error will be displayed.

Language	**Wave Rec. Mode**	Event		
System	Sampling Frequency	48kHz	Bit Length	24bit
Display	Rec. Lev. Range	120dB	dB	
Measure	Frequency Weighting	Z		
Store	**Manual Rec.**	Off		
WR	**Level Rec.**	On		
Option	Channel	Main	Trigger Level	70 dB
	Pre-time	Off	Maximum Recording Time	Off
	Time 1	Off		
	Time 2	Off		
	Time 3	Off		
	Time 4	Off		
	Interval Rec.	On		
	Rec. Interval	10m	Rec. Time	15s

Setting   Back

• Option

Displays the model and name of the connected sound level meter.

Language	**Option**	NL-53 Sound Level Meter
System		
Display		
Measure		
Store		
WR		
Option		

Setting   Back

4.3.2   Data download

Data saved in the SD card of the device can be downloaded to a computer.

1   **Click** 🆂🅳 **on the measurement screen.**
           SD Card

A list of the data stored on the SD card is displayed.

2   **Mark the data to be downloaded with ☑ , and then click 📥 .**
                                                                    Download

Data starts to be downloaded onto the computer. File operations can be performed for one file only. It is not possible to mark a folder or multiple files with ☑ .
Mark the data to be deleted with ☑ , and then click 🗑 .
                                                                 Delete

5

Commands

5.1　Command types and formats

> 📄 **Note**
> • You should wait for a "$" response after sending a communication command before sending another. It is recommended to wait for at least one second.

There are two types of commands: setting commands and request commands.

Settings command

This is a command for setting/changing the status of the device or various setting conditions.
There may or may not be responses from the device.
If there is a response, after executing the processing of settings, a response will come back.

• **Format**

Command = "$" + "Command name" + "," + "Parameter" + [CR] + [LF]

> 📄 **Note**
> • The part enclosed in " " (quotation marks) represents the character string. The " " (quotation marks) are not actually sent or received.

The fundamental components of setting commands are the command name and parameter.
The "$" at the beginning of the command represents the command's processing status and appears automatically.
It does not appear when the command is being processed, and commands cannot be entered.
The "," (comma) to divide the command name and parameter and the [CR] + [LF] (carriage return + line feed) to indicate the end of the setting command are required.

• **Prohibited items**

- Omitting the spaces included in the command name
- Entering two or more consecutive spaces in the command name
- Omitting the "," (comma) after the command name
- Using double-byte characters

• **Acceptable items**

- Using lowercase characters instead of uppercase characters
- Using uppercase characters instead of lowercase characters

• Examples of commands

LCD ␣ Auto ␣ Off, Short [CR] [LF]	✓	You can omit the space after the ",".
lcd ␣ auto ␣ off, ␣ short ␣ [CR] [LF]	✓	You can make all the characters lowercase if you want to.
LCDAuto ␣ ␣ Off, ␣ Short [CR] [LF]	✕	The command name must not include spaces.
LCD ␣ Auto ␣ Off ␣ Short [CR] [LF]	✕	There is no "," after the command name.

* The symbol "␣" means a space.

Request command

Request commands request the status and various settings of the device or request measurement data such as display data and store data.
The device responds with data.

• Format

Command = "Command name" + "?" + [CR] + [LF]

Request commands have a "?" added after the command name. [CR] + [LF] (carriage return + line feed) to indicate the end of the setting command are required.

• Prohibited items

- Omitting the spaces included in the command name
- Entering two or more consecutive spaces in the command name

• Acceptable items

- Using lowercase characters instead of uppercase characters
- Using uppercase characters instead of lowercase characters

5.2   Communication echo

When communication echo is turned on, the sent command string is sent back from where it was sent, allowing you to check whether the command has been entered correctly.

Use the Echo command to check whether communication echo is ON/OFF or the current settings.

5.3   Result code

This is the response data that indicates the command execution result. The result code is structured as follows:

Result code = "R+" + "4 digits"

The meanings of the 4-digit numbers after the prefix "R+" are as follows.

No.	Description
0000	Completed successfully The command was executed (setting/request) successfully.
0001	Command error The specified command could not be recognized.
0002	Parameter error The number and format of parameters allowed for the specified command do not match.
0003	Specification error Settings were made in relation to a command that can only request, or a request made in relation to a command that can only be set.
0004	Status error The device is not in a state where the command can be executed (set/requested).

5.4   Transmission code

The codes (control codes) used for communication with the device are shown below.

Code name	Hexadecimal notation	Meaning
[CR]	$0D_H$	First terminator character
[LF]	$0A_H$	Second terminator character
[SUB]	$1A_H$	Stop request

5.5 Control value

Guaranteed value

Case	Control value	Remarks
The time until the device gives a response	Within 3 sec	For processing reasons, the device responds with result code 0004 (status error)
Time between sent characters	Within 100 msec	–
The time from when the device sends out data until it enters an idle state	Within 200 msec	You should wait for a "$" response after sending a communication command before sending another. It is recommended to wait for at least one second.

Control value

Case	Control value	Remarks
Wait for the completion of block generation after receiving <STX>	No restriction	–
Time-out between receiving characters	No restriction	–

5.6 List of commands

S: Setting command (for making the unit settings)

R: Request command (for obtaining information on the unit status and measurement results)

	Commands	Function	See page
Communication	Echo	Communication echo (S/R)	38
System	System Version	Version information (R)	38
	Serial Number	Serial number (R)	38
	Type	Type information (R)	38
	Clock	Current time (S/R)	39
	Language	Display language (S/R)	39
	Index Number	Index (S/R)	39
	Key Lock	Key lock (S/R)	40
	Backlight	Backlight status (S/R)	40
	Backlight Auto Off	Backlight auto off (S/R)	40
	LCD	LCD status (S/R)	40
	LCD Auto Off	LCD auto off (S/R)	41
	Backlight Brightness	Backlight brightness (S/R)	41
	Battery Type	Battery type (S/R)	41
	Battery Level	Battery level (S/R)	42
	SD Card Total Size	Total SD card capacity (R)	42
	SD Card Free Size	SD card free space (R)	42
	SD Card Percentage	SD card free space ratio (R)	42
Display	Display Leq	L_{eq} display (S/R)	43
	Display LE	L_E display (S/R)	43
	Display Lpeak	L_{peak} display (S/R)	43
	Display Lmax	L_{max} display (S/R)	43
	Display Lmin	L_{min} display (S/R)	44
	Display LN1	L_5 display (S/R)	44
	Display LN2	L_{10} display (S/R)	44
	Display LN3	L_{50} display (S/R)	44
	Display LN4	L_{90} display (S/R)	45
	Display LN5	L_{95} display (S/R)	45
	Display LIeq	L_{Ieq} display (S/R)	45
	Display Ltm5	L_{tm5} display (S/R)	45
	Display Leqmov	$L_{eq,mov}$ display (S/R)	46
	Time-Level Time Scale	Time-Level time scale (S/R)	46
	Output Level Range Upper	Bar graph upper range (S/R)	46
	Output Level Range Lower	Bar graph lower range (S/R)	46

	Commands	Function	See page
I/O	AC OUT	AC output (S/R)	47
	DC OUT	DC output (S/R)	47
	Output Range Upper	Electrical output full scale (S/R)	47
	Reference Signal Output	Reference signal output (S/R)	48
	IO Func	I/O port (S/R)	48
	Baud Rate	RS-232C communication speed (S/R)	48
	Comparator Level	Comparator level (S/R)	49
	Comparator Channel	Comparator channel (S/R)	49
	USB Class	USB communication (S/R)	49
	Ethernet	LAN function (S/R)	50
	Ethernet DHCP	DHCP (S/R)	50
	Ethernet IP	IP address (S/R)	50
	Ethernet Subnet	Subnet mask (S/R)	50
	Ethernet Gateway	Default gateway (S/R)	51
	Web	Web app (S/R)	51
	FTP	File transfer (FTP) (S/R)	51
	TCP	Communication control (TCP) (S/R)	52
Store	Store Mode	Store mode (S/R)	53
	Store Name	Storage name (S/R)	53
	Manual Address	Manual storage address (S/R)	53
	Measure	Measurement (S/R)	53
	Pause	Pause (S/R)	54
	Manual Store	Manual storage (S)	54
	Overwrite	Storage overwriting check (S/R)	54
	Measurement Time Preset Manual	Manual storage measurement time (S/R)	55
	Measurement Time Manual (Num)	Manual storage measurement time (user setting: time) (S/R)	55
	Measurement Time Manual (Unit)	Manual storage measurement time (user setting: unit) (S/R)	55
	Measurement Time Preset Auto	Auto storage total measurement time (S/R)	56
	Measurement Time Auto (Num)	Auto storage total measurement time (user setting: time) (S/R)	56
	Measurement Time Auto (Unit)	Auto storage total measurement time (user setting: unit) (S/R)	56
	Lp Store Interval	L_p store interval (S/R)	57
	Leq Calculation Interval Preset	L_{eq} calculation interval (S/R)	57
	Leq Calculation Interval (Num)	L_{eq} calculation interval (user setting: time) (S/R)	57
	Leq Calculation Interval (Unit)	L_{eq} calculation interval (user setting: unit) (S/R)	58
	Delay Time	Delay measurement (S/R)	58

	Commands	Function	See page
Store (Continued)	Back Erase	Back erase (S/R)	58
	Timer Auto Start Time	Timer Auto start time (S/R)	59
	Timer Auto Stop Time	Timer Auto stop time (S/R)	59
	Timer Auto Interval	Timer Auto measurement interval (S/R)	60
	Sleep Mode	Sleep mode (S/R)	60
	Trigger Mode	Trigger mode (S/R)	60
	Level Trigger Level	Trigger level (S/R)	61
	Moving Leq Interval Preset	Moving L_{eq} interval (S/R)	61
	Moving Leq Interval (Num)	Moving L_{eq} Interval (Num) (S/R)	61
	Moving Leq Interval (Unit)	Moving L_{eq} Interval (Unit) (S/R)	62
	TRM	L_N mode, Sampling Data (S/R)	62
	Percentile 1 Percentile 2 Percentile 3 Percentile 4 Percentile 5	L_N mode, Percentile (S/R)	62
Measure	Display Sub Channel 1 Display Sub Channel 2 Display Sub Channel 3	Sub channels (S/R)	63
	Windscreen Correction	Windscreen correction (S/R)	63
	Diffuse Sound Field Correction	Diffuse sound field correction (S/R)	63
	Frequency Weighting Frequency Weighting (Main)	Main frequency weighting (S/R)	64
	Frequency Weighting (Sub1) Frequency Weighting (Sub2) Frequency Weighting (Sub3)	Sub frequency weighting (S/R)	64
	Time Weighting Time Weighting (Main)	Main time weighting (S/R)	64
	Time Weighting (Sub1) Time Weighting (Sub2) Time Weighting (Sub3)	Sub time weighting (S/R)	65
Data output	DOD	Output displayed value (R)	67
	DRD	Continuous output (R)	68
	DRD? status	Continuous output (attaching status information) (R)	69
	DLC	Final calculation result output (R)	70

	Commands	Function	See page
Waveform recording	Wave Rec Mode	Recording function (S/R)	71
	Wave Sampling Frequency	Sampling frequency (S/R)	71
	Wave Bit Length	Bit length (S/R)	71
	Frequency Weighting (Wave)	Frequency weighting (waveform recording) (S/R)	72
	Wave Rec Range Upper	Output full scale (S/R)	72
	Wave Rec State	Recording status (S/R)	72
	Wave Splitting Interval	File splitting interval (S/R)	72
	Wave Manual Rec	Manual recording (S/R)	73
	Wave Manual Pre-time	Manual recording pre-time (S/R)	73
	Wave Level Rec	Level recording (S/R)	73
	Wave Level Trigger Channel	Trigger channels level (level recording) (S/R)	74
	Wave Level Trigger Level	Start level (level recording) (S/R)	74
	Wave Level Pre-time	Pre-time (level recording) (S/R)	74
	Wave Level Maximum Recording Time	Maximum recording time (S/R)	75
	Wave Level Reference Time Interval 1 Wave Level Reference Time Interval 2 Wave Level Reference Time Interval 3 Wave Level Reference Time Interval 4	Threshold Per Time Zone (S/R)	75
	Wave Level Reference Time 1 Wave Level Reference Time 2 Wave Level Reference Time 3 Wave Level Reference Time 4	Threshold Per Time Zone Time (S/R)	75
	Wave Level Reference Time 1 Level Wave Level Reference Time 2 Level Wave Level Reference Time 3 Level Wave Level Reference Time 4 Level	Threshold Per Time Zone Level (S/R)	76
	Wave Interval Rec	Interval recording (S/R)	76
	Wave Interval Rec Interval	Interval Recording_Recording interval (S/R)	76
	Wave Interval Rec Time	Interval Recording_Recording time (S/R)	77

5.7 Command description

5.7.1 Sound level meter commands

Communication

Echo	
Function	Communication echo
Description	Sets ON/OFF of communication echo
Setting command	Echo, p1
Parameter	p1="Off" p1="On"
Request command	Echo?
Response data	d1
Return value	Same as the settings parameter

System

System Version	
Function	Version information
Description	Acquires version information
Request command	System ␣ Version?p1
Response data	d1="xx.xx.xxxx" (x represents numbers 0 to 9)
Remarks	There is no setting command.

Serial Number	
Function	Serial number
Description	Acquires the serial number
Request command	Serial Number?
Response data	d1= xxxxxxxx (xxxxxxxx represents numbers 00000000 to 99999999)
Return value	p1

Type	
Function	Type information
Description	Acquires the type information
Request command	Type?
Response data	"NL-43" (when NL-43 is used) "NL-53" (when NL-53 is used)
Remarks	There is no setting command.

Clock

Function	Current time
Description	Sets the current time
Setting command	Clock, p1/ p2/ p3 ␣ p4: p5: p6
Parameter	P1="2022–2079" (year setting) P2="1–12" (month setting) P3="1–31" (day setting) P4="0–23" (hour setting) P5="0–59" (minute setting) P6="0–59" (second setting)
Request command	Clock?
Response data	d1/ d2/ d3 ␣ d4: d5: d6
Return value	Same as the settings parameter

Language

Function	Display language
Description	Sets the display language
Setting command	Language, p1
Parameter	p1="Japanese" p1="English" p1="Germany" p1="Spanish" p1="French" p1="Simplified Chinese" p1="Korean"
Request command	Language?
Response data	d1
Return value	Same as the settings parameter

Index Number

Function	Index
Description	Sets the index number
Setting command	Index ␣ Number, p1
Parameter	p1=0000–9999
Request command	Index ␣ Number?
Response data	d1
Return value	Same as the settings parameter

Key Lock	
Function	Key lock
Description	Sets ON/OFF of the key lock
Setting command	Key ␣ Lock, p1
Parameter	p1="Off" p1="On"
Request command	Key ␣ Lock?
Response data	d1
Return value	Same as the settings parameter

Backlight	
Function	Backlight status
Description	Sets ON/OFF of the backlight lighting
Setting command	Backlight, p1
Parameter	p1="Off" p1="On"
Request command	Backlight?
Response data	d1
Return value	Same as the settings parameter

Backlight Auto Off	
Function	Backlight Auto Off
Description	Sets the Backlight Auto Off time
Setting command	Backlight ␣ Auto ␣ Off, p1
Parameter	p1="Cont" p1="30s" p1="3m"
Request command	Backlight ␣ Auto ␣ Off ?
Response data	d1
Return value	Same as the settings parameter

LCD	
Function	LCD status
Description	Sets ON/OFF of the LCD lighting
Setting command	LCD, p1
Parameter	p1="Off" p1="On"
Request command	LCD?
Response data	d1
Return value	Same as the settings parameter

LCD Auto Off	
Function	LCD Auto Off
Description	Sets the LCD Auto Off time
Setting command	LCD ⎵ Auto ⎵ Off, p1
Parameter	p1="30s" p1="1m" p1="2m" p1="5m" p1="Cont"
Request command	LCD ⎵ Auto ⎵ Off?
Response data	d1
Return value	Same as the settings parameter

Backlight Brightness	
Function	Backlight brightness
Description	Sets the backlight brightness
Setting command	Backlight ⎵ Brightness, p1
Parameter	p1="1" p1="2" p1="3" p1="4"
Request command	Backlight ⎵ Brightness?
Response data	d1
Return value	Same as the settings parameter

Battery Type	
Function	Battery type
Description	Sets the battery type
Setting command	Battery ⎵ Type, p1
Parameter	p1="Alkaline" (alkaline battery) p1="Nickel" (Ni-MH rechargeable battery)
Request command	Battery ⎵ Type?
Response data	d1
Return value	Same as the settings parameter

Battery Level

Function	Battery level
Description	Acquires the battery level
Setting command	Battery ␣ Level, p1
Parameter	p1="Full" p1="Mid" p1="Low" p1="Danger" p1="Empty"
Request command	Battery ␣ Level?
Response data	d1
Return value	Same as the settings parameter
Remarks	<table><tr><td>F</td><td>(Full)</td></tr><tr><td>M</td><td>(Mid)</td></tr><tr><td>L</td><td>(Low)</td></tr><tr><td>D</td><td>(Danger)</td></tr><tr><td>E</td><td>Flashing (Empty)</td></tr></table>

SD Card Total Size

Function	Total SD card capacity
Description	Acquires the total SD card capacity
Request command	SD ␣ Card ␣ Total ␣ Size?
Response data	d1=0 (Mbyte) and upward
Remarks	There is no setting command.

SD Card Free Size

Function	SD card free space
Description	Acquires the SD card free space
Request command	SD ␣ Card ␣ Free ␣ Size?
Response data	d1=0 (Mbyte) and upward
Remarks	There is no setting command

SD Card Percentage

Function	SD card free space ratio
Description	Acquires the SD card free space percentage
Request command	SD ␣ Card ␣ Percentage?
Response data	d1=0–100
Remarks	There is no setting command

Display

Display Leq

Function	L_{eq} display
Description	Sets ON/OFF of the L_{eq} display
Setting command	Display ⎵ Leq, p1
Parameter	p1="Off" p1="On"
Request command	Display ⎵ Leq?
Response data	d1
Return value	Same as the settings parameter

Display LE

Function	L_E display
Description	Sets ON/OFF of the L_E display
Setting command	Display ⎵ LE, p1
Parameter	p1="Off" p1="On"
Request command	Display ⎵ LE?
Response data	d1
Return value	Same as the settings parameter

Display Lpeak

Function	L_{peak} display
Description	Sets ON/OFF of the L_{peak} display
Setting command	Display ⎵ Lpeak, p1
Parameter	p1="Off" p1="On"
Request command	Display ⎵ Lpeak?
Response data	d1
Return value	Same as the settings parameter

Display Lmax

Function	L_{max} display
Description	Sets ON/OFF of the L_{max} display
Setting command	Display ⎵ Lmax, p1
Parameter	p1="Off" p1="On"
Request command	Display ⎵ Lmax?
Response data	d1
Return value	Same as the settings parameter

Display Lmin	
Function	L_{min} display
Description	Sets ON/OFF of the L_{min} display
Setting command	Display ⎵ Lmin, p1
Parameter	p1="Off" p1="On"
Request command	Display ⎵ Lmin?
Response data	d1
Return value	Same as the settings parameter

Display LN1	
Function	L_5 display
Description	Sets ON/OFF of the L_5 display
Setting command	Display ⎵ LN1, p1
Parameter	p1="Off" p1="On"
Request command	Display ⎵ LN1?
Response data	d1
Return value	Same as the settings parameter

Display LN2	
Function	L_{10} display
Description	Sets ON/OFF of the L_{10} display
Setting command	Display ⎵ LN2, p1
Parameter	p1="Off" p1="On"
Request command	Display ⎵ LN2?
Response data	d1
Return value	Same as the settings parameter

Display LN3	
Function	L_{50} display
Description	Sets ON/OFF of the L_{50} display
Setting command	Display ⎵ LN3, p1
Parameter	p1="Off" p1="On"
Request command	Display ⎵ LN3?
Response data	d1
Return value	Same as the settings parameter

Display LN4

Function	L_{90} display
Description	Sets ON/OFF of the L_{90} display
Setting command	Display ␣ LN4, p1
Parameter	p1="Off" p1="On"
Request command	Display ␣ LN4?
Response data	d1
Return value	Same as the settings parameter

Display LN5

Function	L_{95} display
Description	Sets ON/OFF of the L_{95} display
Setting command	Display ␣ LN5, p1
Parameter	p1="Off" p1="On"
Request command	Display ␣ LN5?
Response data	d1
Return value	Same as the settings parameter

Display Lleq
(only when the optional program NX-43EX is installed)

Function	L_{leq} display
Description	Sets ON/OFF of the L_{leq} display
Setting command	Display ␣ Lleq, p1
Parameter	p1="Off" p1="On"
Request command	Display ␣ Lleq?
Response data	d1
Return value	Same as the settings parameter

Display Ltm5

Function	L_{tm5} display
Description	Sets ON/OFF of the L_{tm5} display
Setting command	Display ␣ Ltm5, p1
Parameter	p1="Off" p1="On"
Request command	Display ␣ Ltm5?
Response data	d1
Return value	Same as the settings parameter

Display Leqmov
(only when the optional program NX-43EX is installed)

Function	$L_{eq,mov}$ display
Description	Sets ON/OFF of the $L_{eq,mov}$ display
Setting command	Display ␣ Leqmov, p1
Parameter	p1="Off" p1="On"
Request command	Display ␣ Leqmov?
Response data	d1
Return value	Same as the settings parameter

Time Level Time Scale

Function	Time-Level time scale
Description	Sets the Time-Level time scale
Setting command	Time ␣ Level ␣ Time ␣ Scale, p1
Parameter	p1="Off" p1="20s" p1="1m" p1="2m"
Request command	Time ␣ Level ␣ Time ␣ Scale?
Response data	d1
Return value	Same as the settings parameter

Output Level Range Upper

Function	Bar graph upper range
Description	Sets the bar graph's upper range value
Setting command	Output ␣ Level ␣ Range ␣ Upper, p1
Parameter	P1=70–130 (the setting value increase in 10 dB increments)
Request command	Output ␣ Level ␣ Range ␣ Upper?
Response data	d1
Return value	Same as the settings parameter

Output Level Range Lower

Function	Bar graph lower range
Description	Sets the bar graph's lower range value. The lower limit value cannot be the same or more than the Output Level Range Upper value.
Setting command	Output ␣ Level ␣ Range ␣ Lower, p1
Parameter	p1=20–60 (the setting value increase in 10dB increments)
Request command	Output ␣ Level ␣ Range ␣ Lower?
Response data	d1
Return value	Same as the settings parameter

I/O

AC OUT

Function	AC output
Description	Sets the AC output channel
Setting command	AC ␣ OUT, p1
Parameter	p1="Off" p1="Main" p1="Sub1" p1="Sub2" p1="Sub3" p1="A" p1="C" p1="Z"
Request command	AC ␣ OUT?
Response data	d1
Return value	Same as the settings parameter

DC OUT

Function	DC output
Description	Sets the DC output
Setting command	DC ␣ OUT, p1
Parameter	p1="Off" p1="Main" p1="Sub1" p1="Sub2" p1="Sub3"
Request command	DC ␣ OUT?
Response data	d1
Return value	Same as the settings parameter

Output Range Upper

Function	Electrical output full scale
Description	Sets the maximum electrical output value
Setting command	Output ␣ Range ␣ Upper, p1
Parameter	p1=70–130 p1="Interlocking"
Request command	Output ␣ Range ␣ Upper?
Response data	d1
Return value	Same as the settings parameter

Reference Signal Output

Function	Reference signal output
Description	Sets the reference signal output settings
Setting command	Reference ⌴ Signal ⌴ Output, p1
Parameter	p1="Off" p1="On"
Request command	Reference ⌴ Signal ⌴ Output?
Response data	d1
Return value	Same as the settings parameter

IO Func

Function	IO port
Description	Sets the port used for RS-232C communication
Setting command	IO ⌴ Func, p1
Parameter	p1="Off" p1="Communication" [1] [2] p1="Printer" [1] p1="Comparator" [1] [3]
Request command	IO ⌴ Func?
Response data	d1
Remarks	[1] The I/O Port function cannot be used when using an external trigger for the measurement in trigger mode. [2] When using Communication (TCP), if you turn off the communication control or turn on the USB connection, LAN TCP, or web application, the communication will be disconnected. [3] The comparator can be used only when NX-43EX is installed.

Baud Rate

Function	RS-232C communication speed
Description	Sets the RS-232C communication speed
Setting command	Baud ⌴ Rate, p1
Parameter	p1="9600" p1="19200" p1="38400" p1="57600" p1="115200"
Request command	Baud ⌴ Rate?
Response data	d1
Return value	Same as the settings parameter

Comparator Level

Function	Comparator level
Description	Sets the comparator level
Setting command	Comparator ␣ Level, p1
Parameter	p1=30–130 (the setting value increases in 1-step increments)
Request command	Comparator ␣ Level?
Response data	d1
Return value	Same as the settings parameter

Comparator Channel

Function	Comparator channel
Description	Sets the comparator channel
Setting command	Comparator ␣ Channel, p1
Parameter	p1="Main" p1="Sub1" p1="Sub2" p1="Sub3"
Request command	Comparator ␣ Channel?
Response data	d1
Return value	Same as the settings parameter

USB Class

Function	USB communication
Description	Sets the USB communication
Setting command	USB Class, p1
Parameter	p1="Off" p1="CDC" (communication)[*1] p1="CDC/MSC" (mass storage)[*2]
Request command	USB ␣ Class?
Response data	d1
Return value	Same as the settings parameter
Remarks	*1 When using CDC (Communication), if you turn off the communication or turn on I/O Port Communication, LAN TCP, or Web App, the communication will be disconnected. *2 Only this command can be used when setting CDC/MSC. When using MSC (Mass Storage), the I/O Port Communication, LAN TCP, and LAN FTP functions cannot be used.

Ethernet (only when the optional program NX-43EX is installed)	
Function	LAN function
Description	Sets ON/OFF of the LAN Function
Setting command	Ethernet, p1
Parameter	p1="Off" p1="On"
Request command	Ethernet?
Response data	d1
Return value	Same as the settings parameter

Ethernet DHCP (only when the optional program NX-43EX is installed)	
Function	IP address automatic setting
Description	Sets ON/OFF of IP address automatic setting
Setting command	Ethernet ⌴ DHCP, p1
Parameter	p1="Off" p1="On"
Request command	Ethernet ⌴ DHCP?
Response data	d1
Return value	Same as the settings parameter

Ethernet IP (only when the optional program NX-43EX is installed)	
Function	IP address
Description	Sets the IP address of this device
Setting command	Ethernet ⌴ IP, p1
Parameter	p1=0.0.0.0–255.255.255.255
Request command	Ethernet ⌴ IP?
Response data	d1
Return value	Same as the settings parameter

Ethernet Subnet (only when the optional program NX-43EX is installed)	
Function	Subnet mask
Description	Sets the subnet mask
Setting command	Ethernet ⌴ Subnet, p1
Parameter	p1=0.0.0.0–255.255.255.255
Request command	Ethernet ⌴ Subnet?
Response data	d1
Return value	Same as the settings parameter

Ethernet Gateway
(only when the optional program NX-43EX is installed)

Function	Default gateway
Description	Sets the default gateway
Setting command	Ethernet ␣ Gateway, p1
Parameter	p1=0.0.0.0–255.255.255.255
Request command	Ethernet ␣ Gateway?
Response data	d1
Return value	Same as the settings parameter

Web
(only when the optional program NX-43EX is installed)

Function	Web app
Description	Sets whether the web app is ON/OFF
Setting command	Web, p1
Parameter	p1="Off" p1="On"
Request command	Web?
Response data	d1
Return value	Same as the settings parameter
Remarks	The Timer Auto store, Trigger Mode, Delay Time, I/O Port Communication, USB Connection, LAN TCP, and LAN FTP functions cannot be used when using the web application.

FTP
(only when the optional program NX-43EX is installed)

Function	File transfer (FTP)
Description	Sets ON/OFF of FTP
Setting command	Web, p1
Parameter	p1="Off" p1="On"
Request command	Web?
Response data	d1
Return value	Same as the settings parameter
Remarks	When using FTP (file transfer function), if you turn off the communication or turn on the USB mass storage or web application, communication will stop.

TCP	
(only when the optional program NX-43EX is installed)	
Function	Communication control (TCP)
Description	Sets ON/OFF of communication control
Setting command	Web, p1
Parameter	p1="Off" p1="On"
Request command	Web?
Response data	d1
Return value	Same as the settings parameter
Remarks	When using TCP (communication control), if you turn off the communication or turn on I/O Port Communication, USB connection, or Web App, communication will stop.

Store

Store Mode

Function	Store Mode
Description	Sets the store mode
Setting command	Store ⌴ Mode, p1
Parameter	p1="Manual" p1="Auto" (when NX-43EX is installed) p1="Timer Auto" (when NX-43EX is installed)
Request command	Store ⌴ Mode?
Response data	d1
Return value	Same as the settings parameter

Store Name

Function	Store name
Description	Sets the store name
Setting command	Store ⌴ Name, p1
Parameter	p1=0000–9999
Request command	Store ⌴ Name?
Response data	d1
Return value	Same as the settings parameter

Manual Address

Function	Manual storage address
Description	Sets the manual storage address
Setting command	Manual ⌴ Address, p1
Parameter	p1=1–1000
Request command	Manual ⌴ Address?
Response data	d1
Return value	Same as the settings parameter

Measure

Function	Measure
Description	Starts/stops measuring
Setting command	Measure, p1
Parameter	p1="Start" p1="Stop"
Request command	Measure?
Response data	d1
Return value	Same as the settings parameter

Pause	
Function	Pause
Description	Temporarily pauses measuring
Setting command	Pause, p1
Parameter	p1="Clear" p1="Pause"
Request command	Pause?
Response data	d1
Return value	Same as the settings parameter

Manual Store	
Function	Manual storage
Description	Saves the manual storage calculation result
Setting command	Manual ⌴ Store, p1
Parameter	p1="Start" (executes storing)
Remarks	There is no request command. This is the command that saves the result of the executed manual store.

Overwrite	
Function	Storage overwriting check
Description	It is possible to acquire whether saved data exists in the set store target (store mode/store name/store address) By acquiring this information before storing, you can prevent accidentally overwriting data.
Setting command	Overwrite, p1
Parameter	p1="None" p1="Exist"
Request command	Overwrite?
Response data	d1
Return value	Same as the settings parameter

Measurement Time Preset Manual

Function	Manual storage measurement time
Description	Sets the manual storage measurement time
Setting command	Measurement ␣ Time ␣ Preset ␣ Manual, p1
Parameter	p1="10s" p1="1m" p1="5m" p1="10m" p1="15m" p1="30m" p1="1h" p1="8h" p1="24h" p1="Manual" (user settings)
Request command	Measurement ␣ Time ␣ Preset ␣ Manual?
Response data	d1
Return value	Same as the settings parameter

Measurement Time Manual (Num)

Function	Manual storage measurement time (user setting: numeral)
Description	Sets the numerals when the manual storage measurement time is set to a user setting
Setting command	Measurement ␣ Time ␣ Manual ␣ (Num), p1
Parameter	p1=1–59 (when the time unit is "s" or "m") p1=1–24 (when the time unit is "h")
Request command	Measurement ␣ Time ␣ Manual ␣ (Num)?
Response data	d1
Return value	Same as the settings parameter

Measurement Time Manual (Unit)

Function	Manual storage measurement time (user setting: unit)
Description	Sets the time unit when the manual storage measurement time is set to a user setting
Setting command	Measurement ␣ Time ␣ Manual ␣ (Unit), p1
Parameter	p1="s" p1="m" p1="h"
Request command	Measurement ␣ Time ␣ Manual ␣ (Unit)?
Response data	d1
Return value	Same as the settings parameter

Measurement Time Preset Auto
(only when the optional program NX-43EX is installed)

Function	Auto storage total measurement time
Description	Sets the auto storage total measurement time
Setting command	Measurement ⌴ Time ⌴ Preset ⌴ Auto, p1
Parameter	p1="10s" p1="1m" p1="5m" p1="10m" p1="15m" p1="30m" p1="1h" p1="8h" p1="24h" p1="Manual" (user settings) p1="Unlimited"
Request command	Measurement ⌴ Time ⌴ Preset ⌴ Auto?
Response data	d1
Return value	Same as the settings parameter

Measurement Time Auto (Num)
(only when the optional program NX-43EX is installed)

Function	Auto storage total measurement time (user setting: time)
Description	Sets the numerals when the auto storage total measurement time is set to a user setting
Setting command	Measurement ⌴ Time ⌴ Auto ⌴ (Num), p1
Parameter	p1=1–59 (when the time unit is "s" or "m") p1=1–1000 (when the time unit is "h")
Request command	Measurement ⌴ Time ⌴ Auto ⌴ (Num)?
Response data	d1
Return value	Same as the settings parameter

Measurement Time Auto (Unit)
(only when the optional program NX-43EX is installed)

Function	Auto storage total measurement time (user setting: unit)
Description	Sets the time unit when the auto storage total measurement time is set to a user setting
Setting command	Measurement ⌴ Time ⌴ Auto ⌴ (Unit), p1
Parameter	p1="s" p1="m" p1="h"
Request command	Measurement ⌴ Time ⌴ Auto ⌴ (Unit)?
Response data	d1
Return value	Same as the settings parameter

Lp Store Interval
(only when the optional program NX-43EX is installed)

Function	L_p store interval
Description	Sets the L_p store interval
Setting command	Lp ␣ Store ␣ Interval, p1
Parameter	p1="Off" p1="10ms" p1="25ms" p1="100ms" p1="200ms" p1="1s"
Request command	Lp ␣ Store ␣ Interval?
Response data	d1
Return value	Same as the settings parameter

Leq Calculation Interval Preset
(only when the optional program NX-43EX is installed)

Function	L_{eq} calculation interval
Description	Sets the L_{eq} calculation interval
Setting command	Leq ␣ Calculation ␣ Interval ␣ Preset, p1
Parameter	p1="Off" p1="10s" p1="1m" p1="5m" p1="10m" p1="15m" p1="30m" p1="1h" p1="8h" p1="24h" p1="Manual" (user settings)
Request command	Leq ␣ Calculation ␣ Interval ␣ Preset?
Response data	d1
Return value	Same as the settings parameter

Leq Calculation Interval (Num)
(only when the optional program NX-43EX is installed)

Function	L_{eq} calculation interval (user setting: time)
Description	Sets the numerals when the L_{eq} calculation interval is set to the user setting
Setting command	Leq ␣ Calculation ␣ Interval ␣ (Num), p1
Parameter	p1=1–59 (when the time unit is "s" or "m") p1=1–24 (when the time unit is "h")
Request command	Leq ␣ Calculation ␣ Interval ␣ (Num)?
Response data	d1
Return value	Same as the settings parameter

Leq Calculation Interval (Unit) (only when the optional program NX-43EX is installed)	
Function	L_{eq} calculation interval (user setting: unit)
Description	Sets the time unit when the L_{eq} calculation interval is set to a user setting
Setting command	Leq ␣ Calculation ␣ Interval ␣ (Unit), p1
Parameter	p1="s" p1="m" p1="h"
Request command	Leq ␣ Calculation ␣ Interval ␣ (Unit)?
Response data	d1
Return value	Same as the settings parameter

Delay Time	
Function	Delayed measurement
Description	Sets the calculation delay time
Setting command	Delay ␣ Time, p1
Parameter	p1="Off" p1="1s" p1="3s" p1="5s" p1="10s"
Request command	Delay ␣ Time?
Response data	d1
Return value	Same as the settings parameter

Back Erase	
Function	Back erase
Description	Sets the back erase time
Setting command	Back ␣ Erase, p1
Parameter	p1="Off" p1="1s" p1="3s" p1="5s"
Request command	Back ␣ Erase?
Response data	d1
Return value	Same as the settings parameter

Timer Auto Start Time
(only when the optional program NX-43EX is installed)

Function	Timer Auto start time
Description	Sets the Timer Auto start time
Setting command	Timer ␣ Auto ␣ Start ␣ Time, p1/ p2/ p3 ␣ p4: p5: p6
Parameter	p1=2022–2079 (year setting) p2=1–12 (month setting) p3=1–31 (day setting) p4=0–23 (hour setting) p5=0–59 (minute setting) p6=0 (second setting: this numeral can only be 0)
Request command	Timer ␣ Auto ␣ Start ␣ Time?
Response data	d1/ d2/ d3 ␣ d4: d5: d6
Return value	Same as the settings parameter

Timer Auto Stop Time
(only when the optional program NX-43EX is installed)

Function	Timer Auto end time
Description	Sets the Timer Auto end time
Setting command	Timer ␣ Auto ␣ Stop ␣ Time, p1/ p2/ p3 ␣ p4: p5: p6
Parameter	p1=2022–2079 (year setting) p2=1–12 (month setting) p3=1–31 (day setting) p4=0–23 (hour setting) p5=0–59 (minute setting) p6=0 (second setting: this numeral can only be 0)
Request command	Timer ␣ Auto ␣ Stop ␣ Time?
Response data	d1/ d2/ d3 ␣ d4: d5: d6
Return value	Same as the settings parameter

Timer Auto Interval
(only when the optional program NX-43EX is installed)

Function	Timer Auto measurement interval
Description	Sets the Timer Auto measurement interval
Setting command	Timer ⌴ Auto ⌴ Interval, p1
Parameter	p1="Off" p1="5m" p1="10m" p1="15m" p1="30m" p1="1h" p1="8h" p1="24h"
Request command	Timer ⌴ Auto ⌴ Interval?
Response data	d1
Return value	Same as the settings parameter

Sleep Mode
(only when the optional program NX-43EX is installed)

Function	Sleep mode
Description	Sets ON/OFF of the sleep mode
Setting command	Sleep ⌴ Mode, p1
Parameter	p1="Off" p1="On"
Request command	Sleep ⌴ Mode?
Response data	d1
Return value	Same as the settings parameter

Trigger Mode
(only when the optional program NX-43EX is installed)

Function	Trigger mode
Description	Sets the trigger mode
Setting command	Trigger ⌴ Mode, p1
Parameter	p1="Off" p1="Level" p1="External"
Request command	Trigger ⌴ Mode?
Response data	d1
Return value	Same as the settings parameter
Remarks	When using the I/O Port function, an external trigger cannot be used.

Level Trigger Level
(only when the optional program NX-43EX is installed)

Function	Trigger level
Description	Sets the trigger level
Setting command	Level ␣ Trigger ␣ Level, p1
Parameter	p1="30–130" * Can be set in 1-step increments
Request command	Level ␣ Trigger ␣ Level?
Response data	d1
Return value	Same as the settings parameter

Moving Leq Interval Preset
(only when the optional program NX-43EX is installed)

Function	Moving L_{eq} interval
Description	Sets the Moving L_{eq} interval preset
Setting command	Moving ␣ Leq ␣ Interval ␣ Preset, p1
Parameter	p1="10s" p1="1m" p1="5m" p1="10m" p1="15m" p1="30m" p1="1h" p1="Manual" (user settings)
Request command	Moving ␣ Leq ␣ Interval ␣ Preset?
Response data	d1
Return value	Same as the settings parameter

Moving Leq Interval (Num)
(only when the optional program NX-43EX is installed)

Function	Moving L_{eq} interval (user setting: time)
Description	Sets the numerals when the Moving L_{eq} interval is set to the user setting
Setting command	Moving ␣ Leq ␣ Interval ␣ (Num), p1
Parameter	p1=1–59 (when the time unit is "s" or "m") p1=1 (when the time unit is "h")
Request command	Moving ␣ Leq ␣ Interval ␣ (Num)?
Response data	d1
Return value	Same as the settings parameter

Moving Leq Interval (Unit)
(only when the optional program NX-43EX is installed)

Function	Moving L_{eq} interval (user setting: unit)
Description	Sets the time unit when the Moving L_{eq} interval is set to a user setting
Setting command	Leq ␣ Calculation ␣ Interval ␣ (Unit), p1
Parameter	p1="s" p1="m" p1="h"
Request command	Moving ␣ Leq ␣ Interval ␣ (Unit)?
Response data	d1
Return value	Same as the settings parameter

TRM
(only when the optional program NX-43EX is installed)

Function	L_N mode, Sampling Data
Description	Sets the Sampling Data of the L_N mode
Setting command	TRM, p1
Parameter	p1="Lp" p1="Leq_1s"
Request command	TRM?
Response data	d1
Return value	Same as the settings parameter

Percentile 1
Percentile 2
Percentile 3
Percentile 4
Percentile 5
(only when the optional program NX-43EX is installed)

Function	L_N mode, Percentile
Description	Sets the percentile numerals of the L_N mode
Setting command	Percentile 1, p1
Parameter	P1=0–999 (increases in 0.1 dB increments)
Request command	Percentile 1?
Response data	d1
Return value	Same as the settings parameter

* Display Percentile 1 is used as an example.

Measure

Display Sub Channel 1	
Display Sub Channel 2	
Display Sub Channel 3	
Function	Sub channel settings
Description	Sets whether the sub channels are ON/OFF
Setting command*	Display ⌣ Sub ⌣ Channel 1,p1
Parameter	p1="Off" p1="On"
Request command*	Display ⌣ Sub ⌣ Channel 1?
Response data	d1
Return value	Same as the settings parameter

* Display Sub Channel 1 is used as an example.

Windscreen Correction	
Function	Windscreen correction
Description	Sets the windscreen correction
Setting command	Windscreen ⌣ Correction, p1
Parameter	p1="Off" p1="WS-10" p1="WS-15" p1="WS-16"
Request command	Windscreen ⌣ Correction?
Response data	d1
Return value	Same as the settings parameter

Diffuse Sound Field Correction	
Function	Diffuse sound field correction
Description	Sets ON/OFF of the diffuse sound field correction
Setting command	Diffuse ⌣ Sound ⌣ Field ⌣ Correction, p1
Parameter	p1="Off" p1="On"
Request command	Diffuse ⌣ Sound ⌣ Field ⌣ Correction?
Response data	d1
Return value	Same as the settings parameter

Frequency Weighting Frequency Weighting (Main)	
Function	Main frequency weighting
Description	Sets the frequency weighting of the main channel
Setting command	Frequency ␣ Weighting, p1
Parameter	p1="A" p1="C" p1="Z"
Request command	Frequency ␣ Weighting?
Response data	d1
Return value	Same as the settings parameter

Frequency Weighting (Sub1) Frequency Weighting (Sub2) Frequency Weighting (Sub3)	
Function	Sub frequency weighting
Description	Sets the frequency weighting of the sub channels
Setting command*	Frequency ␣ Weighting ␣ (Sub1), p1
Parameter	p1="A" p1="C" p1="Z"
Request command*	Frequency ␣ Weighting ␣ (Sub1)?
Response data	d1
Return value	Same as the settings parameter

* Frequency Weighting (Sub1) is used as an example.

Time Weighting Time Weighting (Main)	
Function	Main channel time weighting
Description	Sets the time weighting of the main channel
Setting command	Time ␣ Weighting, p1
Parameter	p1="F" p1="S" p1="I" (when NX-43EX is installed)
Request command	Time ␣ Weighting?
Response data	d1
Return value	Same as the settings parameter

Time Weighting (Sub1) Time Weighting (Sub2) Time Weighting (Sub3)	
Function	Sub time weighting
Description	Sets the time weighting of the sub channels
Setting command[*]	Time ␣ Weighting ␣ (Sub1), p1
Parameter	p1="F" p1="S" p1="I" (when NX-43EX is installed)
Request command[*]	Time ␣ Weighting ␣ (Sub1)?
Response data	d1
Return value	Same as the settings parameter

* Time Weighting (Sub1) is used as an example.

Data output

The return value format of each data output command (DOD, DRD, DLC) is of a fixed length.
Therefore, (invalid) channels for which calculation is not performed are output as invalid values.
Invalid values are as follows.

> Value   : ␣ ␣ -.-
> OV/UN : -

"xxx.x" is right-aligned and the missing digits are filled with spaces.

> <Examples>
>   100.0
>   ␣67.3
>   ␣-3.3

* The symbol "␣" means a space.

> DOD: calculation or instantaneous OV/UN
> DRD: instantaneous OV/UN
> DLC: calculation OV/UN

DOD	
Function	Output displayed value
Description	Leave a sending interval of at least one second.
Request command	DOD?
Response data	d0, d1, d2, ..., d63
Return value	d0 "xxx.x" Main channel L_p d32 "xxx.x" Sub2 channel L_p d1 "xxx.x" Main channel L_{eq} d33 "xxx.x" Sub2 channel L_{eq} d2 "xxx.x" Main channel L_E d34 "xxx.x" Sub2 channel L_E d3 "xxx.x" Main channel L_{max} d35 "xxx.x" Sub2 channel L_{max} d4 "xxx.x" Main channel L_{min} d36 "xxx.x" Sub2 channel L_{min} d5 "xxx.x" Main channel L_{N1} d37 "xxx.x" Sub2 channel L_{N1} d6 "xxx.x" Main channel L_{N2} d38 "xxx.x" Sub2 channel L_{N2} d7 "xxx.x" Main channel L_{N3} d39 "xxx.x" Sub2 channel L_{N3} d8 "xxx.x" Main channel L_{N4} d40 "xxx.x" Sub2 channel L_{N4} d9 "xxx.x" Main channel L_{N5} d41 "xxx.x" Sub2 channel L_{N5} d10 "xxx.x" Main channel L_{peak} d42 "xxx.x" Sub2 channel L_{peak} d11 "xxx.x" Main channel L_{leq} d43 "xxx.x" Sub2 channel L_{leq} d12 "xxx.x" Main channel $L_{eq\,mov}$ d44 "xxx.x" Sub2 channel $L_{eq\,mov}$ d13 "xxx.x" Main channel L_{tm5} d45 "xxx.x" Sub2 channel L_{tm5} d14 "0"/"1" Main channel instantaneous/calculation Over d46 "0"/"1" Sub2 channel instantaneous/calculation Over d15 "0"/"1" Main channel instantaneous/calculation Under d47 "0"/"1" Sub2 channel instantaneous/calculation Under d16 "xxx.x" Sub1 channel L_p d48 "xxx.x" Sub3 channel L_p d17 "xxx.x" Sub1 channel L_{eq} d49 "xxx.x" Sub3 channel L_{eq} d18 "xxx.x" Sub1 channel L_E d50 "xxx.x" Sub3 channel L_E d19 "xxx.x" Sub1 channel L_{max} d51 "xxx.x" Sub3 channel L_{max} d20 "xxx.x" Sub1 channel L_{min} d52 "xxx.x" Sub3 channel L_{min} d21 "xxx.x" Sub1 channel L_{N1} d53 "xxx.x" Sub3 channel L_{N1} d22 "xxx.x" Sub1 channel L_{N2} d54 "xxx.x" Sub3 channel L_{N2} d23 "xxx.x" Sub1 channel L_{N3} d55 "xxx.x" Sub3 channel L_{N3} d24 "xxx.x" Sub1 channel L_{N4} d56 "xxx.x" Sub3 channel L_{N4} d25 "xxx.x" Sub1 channel L_{N5} d57 "xxx.x" Sub3 channel L_{N5} d26 "xxx.x" Sub1 channel L_{peak} d58 "xxx.x" Sub3 channel L_{peak} d27 "xxx.x" Sub1 channel L_{leq} d59 "xxx.x" Sub3 channel L_{leq} d28 "xxx.x" Sub1 channel $L_{eq\,mov}$ d60 "xxx.x" Sub3 channel $L_{eq\,mov}$ d29 "xxx.x" Sub1 channel L_{tm5} d61 "xxx.x" Sub3 channel L_{tm5} d30 "0"/"1" Sub1 channel instantaneous/calculation Over d62 "0"/"1" Sub3 channel instantaneous/calculation Over d31 "0"/"1" Sub1 channel instantaneous/calculation Under d63 "0"/"1" Sub3 channel instantaneous/calculation Under
Remarks	• There is no setting command. • d14, d15, d30, d31, d46, d47, d62 and d63 are sent with fixed 1-digit length. • The rest are sent with a fixed 5-digit length and padded with spaces if necessary.

DRD	
DRD (only when the optional program NX-43EX is installed)	
Function	Continuous output
Description	Data is sent to the computer continuously every 100 ms. To stop data being transferred, send the stop request transmission code <SUB> (hexadecimal notation: 1AH).
Request command	DRD?
Response data	d0, d1, d2, ..., d32
Return value	d0 "xxx" counter (1–600) d1 "xxx.x" Main channel L_p d2 "xxx.x" Main channel L_{eq} d3 "xxx.x" Main channel L_{max} d4 "xxx.x" Main channel L_{min} d5 "xxx.x" Main channel L_{peak} d6 "xxx.x" Main channel L_{leq} d7 "0"/"1" Main channel instantaneous Over d8 "0"/"1" Main channel instantaneous Under d9 "xxx.x" Sub1 channel L_p d10 "xxx.x" Sub1 channel L_{eq} d11 "xxx.x" Sub1 channel L_{max} d12 "xxx.x" Sub1 channel L_{min} d13 "xxx.x" Sub1 channel L_{peak} d14 "xxx.x" Sub1 channel L_{leq} d15 "0"/"1" Sub1 channel instantaneous Over d16 "0"/"1" Sub1 channel instantaneous Under d17 "xxx.x" Sub2 channel L_p d18 "xxx.x" Sub2 channel L_{eq} d19 "xxx.x" Sub2 channel L_{max} d20 "xxx.x" Sub2 channel L_{min} d21 "xxx.x" Sub2 channel L_{peak} d22 "xxx.x" Sub2 channel L_{leq} d23 "0"/"1" Sub2 channel instantaneous Over d24 "0"/"1" Sub2 channel instantaneous Under d25 "xxx.x" Sub3 channel L_p d26 "xxx.x" Sub3 channel L_{eq} d27 "xxx.x" Sub3 channel L_{max} d28 "xxx.x" Sub3 channel L_{min} d29 "xxx.x" Sub3 channel L_{peak} d30 "xxx.x" Sub3 channel L_{leq} d31 "0"/"1" Sub3 channel instantaneous Over d32 "0"/"1" Sub3 channel instantaneous Under
Remarks	• There is no setting command. • This can be used when the baud rate is set to 19,200 bps or higher with RS-232C.

DRD? status
(only when the optional program NX-43EX is installed)

Function	Continuous output (attaching status information)
Description	Data is sent to the computer continuously every 100 ms. Adds various status information to the end of the response data. To stop data being transferred, send the stop request transmission code <SUB> (hexadecimal notation: 1AH).
Request command	DRD?status
Response data	d0, d1, d2, ..., d37
Return value	d0 "xxx" counter (1–600) d1 "xxx.x" Main channel L_p d2 "xxx.x" Main channel L_{eq} d3 "xxx.x" Main channel L_{max} d4 "xxx.x" Main channel L_{min} d5 "xxx.x" Main channel L_{peak} d6 "xxx.x" Main channel L_{leq} d7 "0"/"1" Main channel instantaneous Over d8 "0"/"1" Main channel instantaneous Under d9 "xxx.x" Sub1 channel L_p d10 "xxx.x" Sub1 channel L_{eq} d11 "xxx.x" Sub1 channel L_{max} d12 "xxx.x" Sub1 channel L_{min} d13 "xxx.x" Sub1 channel L_{peak} d14 "xxx.x" Sub1 channel L_{leq} d15 "0"/"1" Sub1 channel instantaneous Over d16 "0"/"1" Sub1 channel instantaneous Under d17 "xxx.x" Sub2 channel L_p d18 "xxx.x" Sub2 channel L_{eq}	d19 "xxx.x" Sub2 channel L_{max} d20 "xxx.x" Sub2 channel L_{min} d21 "xxx.x" Sub2 channel L_{peak} d22 "xxx.x" Sub2 channel L_{leq} d23 "0"/"1" Sub2 channel instantaneous Over d24 "0"/"1" Sub2 channel instantaneous Under d25 "xxx.x" Sub3 channel L_p d26 "xxx.x" Sub3 channel L_{eq} d27 "xxx.x" Sub3 channel L_{max} d28 "xxx.x" Sub3 channel L_{min} d29 "xxx.x" Sub3 channel L_{peak} d30 "xxx.x" Sub3 channel L_{leq} d31 "0"/"1" Sub3 channel instantaneous Over d32 "0"/"1" Sub3 channel instantaneous Under d33 "YYYY/MM/DD hh:mm:ss.sss" time stamp d34 "I"/"E"/"U" Power supply type d35 "F"/"M"/"L"/"D"/"E" Battery level d36 "xxxxx" SD card remaining capacity (MB) d37 "M"/"S" Measurement status (Measure, Stop)

Remarks	• There is no setting command. • This can be used when the baud rate is set to 38,400 bps or higher with RS-232C. **• Power supply type** These letters show the type of power supply type used by the device. **• Battery level** These letters show the remaining battery capacity.

• Power supply type
These letters show the type of power supply type used by the device.

I	(Internal) Battery
E	DC power supply (AC adapter or battery pack)
U	USB

• Battery level
These letters show the remaining battery capacity.

F		(Full)
M		(Mid)
L		(Low)
D		(Danger)
E		Flashing (Empty)

DLC	
Function	Final calculation result output
Description	Data of the final calculation result is sent to the computer. <E.g.: When acquiring calculation results sequentially without stopping measuring while in Auto Store mode> (1) Leq Calc.Interval = measurement starts in 10 s (2) Send DLC? approximately every 10 s
Request command	DLC?
Response data	d0, d1, d2, ..., d63
Return value	d0 ""xxx.x"" Main channel L_p d1 ""xxx.x"" Main channel L_{eq} d2 ""xxx.x"" Main channel L_E d3 ""xxx.x"" Main channel L_{max} d4 ""xxx.x"" Main channel L_{min} d5 ""xxx.x"" Main channel L_{N1} d6 ""xxx.x"" Main channel L_{N2} d7 ""xxx.x"" Main channel L_{N3} d8 ""xxx.x"" Main channel L_{N4} d9 ""xxx.x"" Main channel L_{N5} d10 ""xxx.x"" Main channel L_{peak} d11 ""xxx.x"" Main channel L_{leq} d12 ""xxx.x"" Main channel $L_{eq\ mov}$ d13 ""xxx.x"" Main channel L_{tm5} d14 ""0""/""1"" Main channel calculation Over d15 ""0""/""1"" Main channel calculation Under d16 ""xxx.x"" Sub1 channel L_p d17 ""xxx.x"" Sub1 channel L_{eq} d18 ""xxx.x"" Sub1 channel L_E d19 ""xxx.x"" Sub1 channel L_{max} d20 ""xxx.x"" Sub1 channel L_{min} d21 ""xxx.x"" Sub1 channel L_{N1} d22 ""xxx.x"" Sub1 channel L_{N2} d23 ""xxx.x"" Sub1 channel L_{N3} d24 ""xxx.x"" Sub1 channel L_{N4} d25 ""xxx.x"" Sub1 channel L_{N5} d26 ""xxx.x"" Sub1 channel L_{peak} d27 ""xxx.x"" Sub1 channel L_{leq} d28 ""xxx.x"" Sub1 channel $L_{eq\ mov}$ d29 ""xxx.x"" Sub1 channel L_{tm5} d30 ""0""/""1"" Sub1 channel calculation Over d31 ""0""/""1"" Sub1 channel calculation Under	d32 ""xxx.x"" Sub2 channel L_p d33 ""xxx.x"" Sub2 channel L_{eq} d34 ""xxx.x"" Sub2 channel L_E d35 ""xxx.x"" Sub2 channel L_{max} d36 ""xxx.x"" Sub2 channel L_{min} d37 ""xxx.x"" Sub2 channel L_{N1} d38 ""xxx.x"" Sub2 channel L_{N2} d39 ""xxx.x"" Sub2 channel L_{N3} d40 ""xxx.x"" Sub2 channel L_{N4} d41 ""xxx.x"" Sub2 channel L_{N5} d42 ""xxx.x"" Sub2 channel L_{peak} d43 ""xxx.x"" Sub2 channel L_{leq} d44 ""xxx.x"" Sub2 channel $L_{eq\ mov}$ d45 ""xxx.x"" Sub2 channel L_{tm5} d46 ""0""/""1"" Sub2 channel calculation Over d47 ""0""/""1"" Sub2 channel calculation Under d48 ""xxx.x"" Sub3 channel L_p d49 ""xxx.x"" Sub3 channel L_{eq} d50 ""xxx.x"" Sub3 channel L_E d51 ""xxx.x"" Sub3 channel L_{max} d52 ""xxx.x"" Sub3 channel L_{min} d53 ""xxx.x"" Sub3 channel L_{N1} d54 ""xxx.x"" Sub3 channel L_{N2} d55 ""xxx.x"" Sub3 channel L_{N3} d56 ""xxx.x"" Sub3 channel L_{N4} d57 ""xxx.x"" Sub3 channel L_{N5} d58 ""xxx.x"" Sub3 channel L_{peak} d59 ""xxx.x"" Sub3 channel L_{leq} d60 ""xxx.x"" Sub3 channel $L_{eq\ mov}$ d61 ""xxx.x"" Sub3 channel L_{tm5} d62 ""0""/""1"" Sub3 channel calculation Over d63 ""0""/""1"" Sub3 channel calculation Under
Remarks	There is no setting command.

5.7.2 Waveform recording NX-43WR commands

> **📄 Note**
> • These can be used only when the optional program NX-43WR is installed.

Wave Rec Mode	
Function	Recording function
Description	Sets the recording function
Setting command	Wave ␣ Rec ␣ Mode, p1
Parameter	p1="Off" p1="Event" p1="Total"
Request command	Wave ␣ Rec ␣ Mode?
Response data	d1
Return value	Same as the settings parameter

Wave Sampling Frequency	
Function	Sampling frequency
Description	Sets the sampling frequency
Setting command	Wave ␣ Sampling ␣ Frequency, p1
Parameter	p1="12000" p1="24000" p1="48000"
Request command	Wave ␣ Sampling ␣ Frequency?
Response data	d1
Return value	Same as the settings parameter

Wave Bit Length	
Function	Bit length
Description	Sets the bit length
Setting command	Wave ␣ Bit ␣ Length, p1
Parameter	p1="16bit" p1="24bit"
Request command	Wave ␣ Bit ␣ Length?
Response data	d1
Return value	Same as the settings parameter

Frequency Weighting (Wave)	
Function	Frequency weighting (waveform recording)
Description	Sets the frequency weighting of waveform recording
Setting command	Frequency ⎵ Weighting ⎵ (Wave), p1
Parameter	p1="A" p1="C" p1="Z"
Request command	Frequency ⎵ Weighting ⎵ (Wave)?
Response data	d1
Return value	Same as the settings parameter

Wave Rec Range Upper	
Function	Recording level range
Description	Sets the recording level range upper value
Setting command	Wave ⎵ Rec ⎵ Range ⎵ Upper, p1
Parameter	P1=70–130 (increases in 10dB increments) p1="Interlocking"
Request command	Wave ⎵ Rec ⎵ Range ⎵ Upper?
Response data	d1
Return value	Same as the settings parameter

Wave Rec State	
Function	Recording status
Description	Acquires the recording mode
Request command	Wave ⎵ Rec ⎵ State?
Response data	d1
Return value	d1=0: Stop d1=1: Interval d1=2: Level d1=3: Manual d1=4: Total

Wave Splitting Interval	
Function	File splitting interval
Description	Sets the file splitting interval
Setting command	Wave ⎵ Splitting ⎵ Interval, p1
Parameter	p1="1m" p1="10m" p1="1h"
Request command	Wave ⎵ Splitting ⎵ Interval?
Response data	d1
Return value	Same as the settings parameter

Wave Manual Rec	
Function	Manual recording
Description	Sets ON/OFF of the manual recording
Setting command	Wave ␣ Manual ␣ Rec, p1
Parameter	p1="Off" p1="On"
Request command	Wave ␣ Manual ␣ Rec?
Response data	d1
Return value	Same as the settings parameter

Wave Manual Pre-time	
Function	Manual recording pre-time
Description	Sets the manual recording pre-time
Setting command	Wave ␣ Manual ␣ Pre-time, p1
Parameter	p1="Off" p1="1s" p1="5s" p1="10s" p1="30s" p1="1m"
Request command	Wave ␣ Manual ␣ Pre-time?
Response data	d1
Return value	Same as the settings parameter

Wave Level Rec	
Function	Level recording
Description	Sets ON/OFF of the level recording
Setting command	Wave ␣ Level ␣ Rec, p1
Parameter	p1="Off" p1="On"
Request command	Wave ␣ Level ␣ Rec?
Response data	d1
Return value	Same as the settings parameter

Wave Level Trigger Channel

Function	Trigger channel (level recording)
Description	Sets the level recording trigger channel
Setting command	Wave ␣ Level ␣ Trigger ␣ Channel, p1
Parameter	p1="Main" p1="Sub1" p1="Sub2" p1="Sub3"
Request command	Wave ␣ Level ␣ Trigger ␣ Channel?
Response data	d1
Return value	Same as the settings parameter

Wave Level Trigger Level

Function	Start level (level recording)
Description	Sets the level recording trigger level
Setting command	Wave ␣ Level ␣ Trigger ␣ Level, p1
Parameter	p1=30–130 (the setting value increases in 1-step increments)
Request command	Wave ␣ Level ␣ Trigger ␣ Level?
Response data	d1
Return value	Same as the settings parameter

Wave Level Pre-time

Function	Pre-time (level recording)
Description	Sets the level recording pre-time
Setting command	Wave ␣ Level ␣ Pre-time, p1
Parameter	p1="Off" p1="1s" p1="5s" p1="10s" p1="30s" p1="1m"
Request command	Wave ␣ Level ␣ Pre-time?
Response data	d1
Return value	Same as the settings parameter

Wave Level Maximum Recording Time	
Function	Maximum recording time
Description	Sets the maximum recording time of level recording
Setting command	Wave ⌴ Level ⌴ Maximum ⌴ Recording ⌴ Time, p1
Parameter	p1="Off" p1="10m"
Request command	Wave ⌴ Level ⌴ Maximum ⌴ Recording ⌴ Time?
Response data	d1
Return value	Same as the settings parameter

Wave Level Reference Time Interval 1 Wave Level Reference Time Interval 2 Wave Level Reference Time Interval 3 Wave Level Reference Time Interval 4	
Function	Threshold Per Time Zone
Description	Sets ON/OFF of the Threshold Per Time Zone Time
Setting command*	Wave ⌴ Level ⌴ Reference ⌴ Time ⌴ Interval ⌴ 1, p1
Parameter	p1="Off" p1="On"
Request command*	Wave ⌴ Level ⌴ Reference ⌴ Time ⌴ Interval ⌴ 1?
Response data	d1
Return value	Same as the settings parameter

* Wave Level Reference Time Interval 1 is used as an example.

Wave Level Reference Time 1 Wave Level Reference Time 2 Wave Level Reference Time 3 Wave Level Reference Time 4	
Function	Threshold Per Time Zone Time
Description	Sets the start time of Time Zone 1 to 4 for the Threshold Per Time Zone of level recording
Setting command*	Wave ⌴ Level ⌴ Reference ⌴ Time ⌴ 1, p1
Parameter	p1=00–23
Request command*	Wave ⌴ Level ⌴ Reference ⌴ Time ⌴ 1?
Response data	d1
Return value	Same as the settings parameter

* Wave Level Reference Time 1 is used as an example.

Wave Level Reference Time 1 Level **Wave Level Reference Time 2 Level** **Wave Level Reference Time 3 Level** **Wave Level Reference Time 4 Level**	
Function	Threshold Per Time Zone Level
Description	Sets the Level of Time Zone 1 to 4 for the Threshold Per Time Zone Time of level recording
Setting command[*]	Wave ␣ Level ␣ Reference ␣ Time ␣ 1 ␣ Level, p1
Parameter	p1=30–130 (the setting value increases in 1-step increments)
Request command[*]	Wave ␣ Level ␣ Reference ␣ Time ␣ 1 ␣ Level?
Response data	d1
Return value	Same as the settings parameter

* Wave Level Reference Time 1 Level is used as an example.

Wave Interval Rec	
Function	Interval recording
Description	Sets ON/OFF of the interval recording
Setting command	Wave ␣ Interval ␣ Rec, p1
Parameter	p1="Off" p1="On"
Request command	Wave ␣ Interval ␣ Rec?
Response data	d1
Return value	Same as the settings parameter

Wave Interval Rec Interval	
Function	Interval recording_Recording interval
Description	Sets the recording interval of interval recording
Setting command	Wave ␣ Interval ␣ Rec ␣ Interval, p1
Parameter	p1="10m" p1="1h"
Request command	Wave ␣ Interval ␣ Rec ␣ Interval?
Response data	d1
Return value	Same as the settings parameter

Wave Interval Rec Time	
Function	Interval recording_Recording time
Description	Sets the recording time of interval recording
Setting command	Wave ␣ Interval ␣ Rec ␣ Time, p1
Parameter	p1="15s" p1="1m" p1="2m"
Request command	Wave ␣ Interval ␣ Rec ␣ Time?
Response data	d1
Return value	Same as the settings parameter

5.8　Examples of communication commands

Examples of settings with communication commands are shown below.
After setting, it is recommended to check the details of the settings with a request command.

Basic settings

Setting frequency weighting to "A"	Frequency ⌣ Weighting, A
Setting time weighting to "F (Fast)"	Time ⌣ Weighting, F

When using auto store

Setting the store mode to "Auto"	Store ⌣ Mode, Auto
Setting the store name to "0100"	Store ⌣ Name, 0100
Setting the total measurement time to "10 m"	Measurement ⌣ Time ⌣ Preset ⌣ Auto, 10m
Setting the Lp store interval to "100 ms"	Lp ⌣ Store ⌣ Interval, 100ms
Setting Leq calculation interval to "1 m"	Leq ⌣ Calculation ⌣ Interval ⌣ Preset, 1m
Starting/stopping measurement (saves)	Measure, Start *There is no overwrite confirmation. Measure, Stop
Acquiring the measurement value	DOD?

When using manual store

Setting the store mode to "Manual"	Store ⌣ Mode, Manual
Setting the store name to "0200"	Store ⌣ Name, 0200
Setting the measurement time to "15 m"	Measurement ⌣ Time ⌣ Preset ⌣ Manual, 15m
Starting/stopping measurement	Measure, Start * There is no overwrite confirmation. 　　　　Messages are not displayed during communication, and priority is given to executing the function of the said command. Measure, Stop
Saving the storage result	Manual ⌣ Store, Start
Acquiring the measurement value	DOD?

* The symbol "⌣" means a space.

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