ONO SOKKI

LA-4240/4350 (Precision Sound Level Meter)
LA-1220/1240/1250/1350 (Sound Level Meter)

Precision Sound Level Meter · Sound Level Meter

Instruction Manual

— RS-232C —

ONO SOKKI CO., LTD.

Warranty

1. This product is covered by a warranty for a period of one year from the date of purchase.

2. This warranty covers free-of-charge repair for defects judged to be the responsibility of the manufacturer, i.e., defects occurred while the product is used under normal operating conditions according to descriptions in this manual and notices on the unit label.

3. For free-of-charge repair, contact either your sales representative or our sales office nearby.

4. The following failures will be handled on a fee basis even during the warranty period.

    (a) Failures occurring through misuse, mis-operation, or modification

    (b) Failures occurring through mishandling (dropping) or transportation

    (c) Failures occurring through natural calamities (fires, earthquakes, flooding, and lightening), environmental disruption, or abnormal voltage.

    * For repairs after the warranty period expired, contact your sales representative or our sales office nearby.

Introduction

The LA-1220/1240/1250/1350/4240/4350 sound level meter allows transmission of data and commands with a personal computer through the RS-232C interface.

This manual describes the RS-232C interface commands. Please read this manual to utilize the RS-232C interface functions according to your measurement application and purpose.

For handling and operating procedures of the sound level meter, refer to the Operating Manual (Basic Operations).

Memo : Ono Sokki offers dedicated RS-232C cables for connection of the sound meter with a personal computer. Using a cable not specified by Ono Sokki may cause malfunction or failure.

Be sure to use the following cables specified by Ono Sokki.

AX-5021 (25 pins, Dsub connector)

AX-5022 (9 pins, Dsub connector)

Contents

1. Overview and Setup

1.1 Specifications

Communication mode	asynchronous full-duplex mode
Transmission rate [bps]	4800/9600/19200/38400/57600/115200
Terminator	CR+LF/CR/LA-200
Data length	8 bits
Stop bit	1 bit
Parity bit	None
Flow control	ON/OFF

* Terminator (LA-200)

This setting allows some commands to be compatible with the LA-200 series commands.

The actual terminator setting is CR+LF.

* Flow control

Communication break request code:13H (CTRL+S key)
- When the personal computer sends this command to the sound meter to request communication break, command execution is suspended.

Communication restart request code:11H (CTRL+Q key)
- When the personal computer sends this command to the sound meter to request communication restart, command execution is restarted.

1.2 Connector Appearance/ Specifications
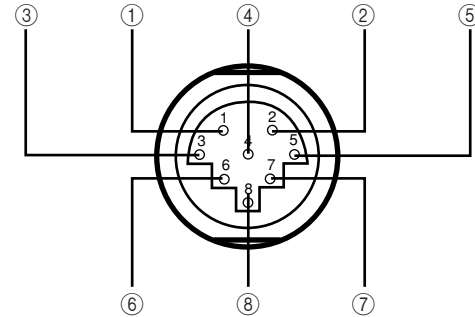
Pin No.	Signal name	Function	I/O
①	FG (AA)	Not connected	-
②	RxD (BB)	Receive data	Input
③	TxD (BA)	Send data	Output
④	CTS (CB)	Clear to send	Input
⑤	RTS (CA)	Request to send	Output
⑥	NC (CC)	Not connected	-
⑦	COM (AB)	Signal ground	
⑧	DTR (CD)	Data terminal ready	Input

1.3　RS-232C Cables

Use the following RS-232C cable of the AX-5021 or AX-5022 to connect the COM or RS-232C connector of the personal computer and the RS-232C connector of the sound meter.

- AX-5021 (25 pins, Dsub connector)
  DB-25PF-N (connector:JAE)
  DB-C8-J10-B 3-1 (case:JAE)
  HR-12-10P8PC300 (Hirose Electric)

Approx. 1.1m
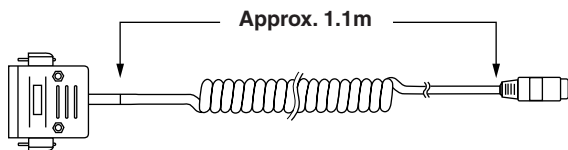
[Connection diagram]
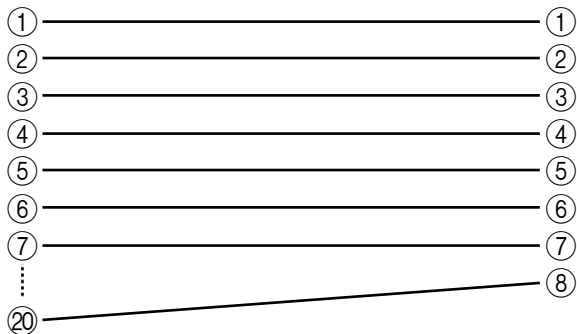
- AX-5022 (9 pins, Dsub connector)
  HDEB-9S (Connector: Hirose Electric Co.,Ltd.)
  HDE-CHT-1 (4-40) (Case: Hirose Electric Co.,Ltd.)
  HR-12-10P8PSAT3042 (Hirose Electric Co.,Ltd.)

Approx. 2m
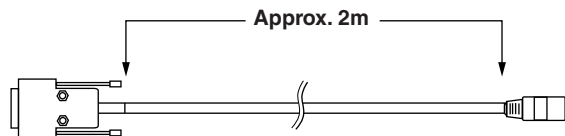
[Connection diadram]
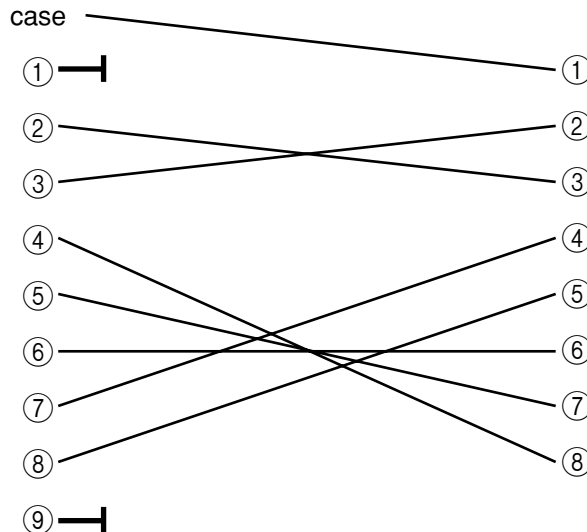
1.4 Setting Communication Conditions

Follow the steps below to set communication conditions.

(1) Press and hold the A/C/FLAT(RS232C) panel key and then turn the power ON. The RS mark appears on the LCD and the transmission rate setup at the bottom is blinking.

(2) Selecting the setup item
(transmission rate, terminator, and flow control)

Press the LEVEL(▲ · ▼) panel key to select the setup item between the transmission rate, terminator, and flow control.

Press the FAST/SLOW(NEXT) panel key to increment or decrement the setup value.

(3) Completing the setup procedure

Press the START(ENTER) panel key.

The communication conditions are established and the sound meter is activated.

• Transmission rate setup

Setup value	01	02	03	04	05	06
Transmission rate (bps)	4800	9600	19200	38400	57600	115200

• Terminator setup

Setup value	01	02	03
Terminator	CR + LF	CR	LA-200

• Flow control

Setup value	01	02
Flow control	ON	OFF

① POWER ON

② Select setup item

Select setup value

③ Complete setup
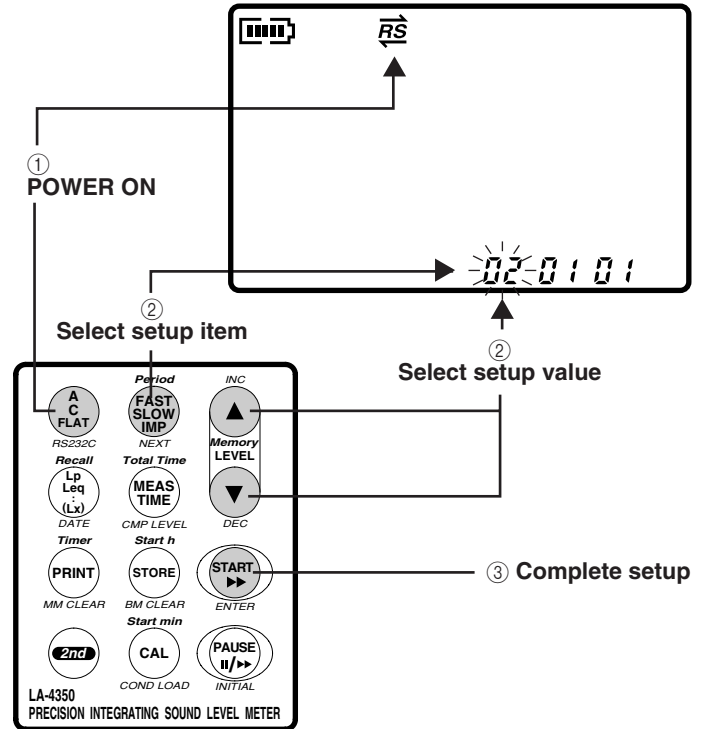
1.5 Command Description

Each RS-232C interface command of the LA-1220/1240/1250/1350/4240/4350 series consists of a 3-uppercase-letter command and additional parameters.

When two or more parameters are supplied, they are separated by a comma. At the end of the command, the terminator is added.

XXXPPP1, PPP2, ... TERM

XXX ....Command (three uppercase letters)

PPP1, PPP2 ....Parameters

               (The number of parameters depends on the command.)

TERM ....Terminator (CR+ LF or CR)

All commands are categorized into one of the following three types depending on the parameters and function.

Type 1 commands

A type 1 command consisting of only a 3-uppercase-letter command is sent from the personal computer to the sound meter.

Type 2 commands

A type 2 command consisting of a 3-uppercase-letter command and additional parameters is sent from the personal computer to the sound meter.

Type 3 commands

A type 3 command consisting of a 3-uppercase-letter command and additional parameters is sent from the personal computer to the sound meter. In response to this command, the sound meter sends ASCII data back to the personal computer.

1.6 Command Output Method

- To output commands and parameters, describe them with uppercase letters as shown in the following example.
- You can output type 1 and type 2 commands at one time as a command statement.
- A type 3 command can be output at the end of a command statement.
- If a command error is detected, the command is recognized as invalid, command execution is canceled, then the sound meter re-enters the command receive mode.
- Some commands cannot be output as a command statement and others require a wait time for command execution. Use these commands referencing the notes in the command list.
- The LA-1220/1240/1250/1350/4240/4350 series is provided with a 384-character receive buffer for receiving continuous commands from the personal computer. If commands are continuously output in high speed, the command execution on the side of the sound meter cannot keep pace with command reception, resulting in overflow.
  In such a case, put a wait time of about 100ms between commands.

Example of command output :

- **When commands are output one by one :**

  FREA ....(Type 2: Sets A frequency weighting mode.)

  TREF ....(Type 2: Sets FAST dynamic characteristic.)

  STT ....(Type 1: Starts measurement.)

  LPO01, 00020 ....(Type 3: Continuously outputs instantaneous values at fixed intervals.)

- **When commands are output as a command statement :**

  FREATREFSTTLPO01, 00020

- **A space (_) can be inserted between commands as follows.**

  FREA_TREF_STT_LPO01, 00020

2. TYPE 1 Commands

A type 1 command consisting of only a 3-uppercase-letter command is sent from the personal computer to the sound level meter.

Command	Format/function
STT	**[Panel key : START]** Starts measurement. The last calculation value is reset. If output during timer measurement, timer measurement is forcibly terminated. **Command output format STT** * This command does not work during calibration, memory store operation, and memory recall operation.
PAS	**[Panel key : PAUSE]** Pauses and restarts operation. **Command output format PAS** * This command does not work during memory store operation, memory recall operation, and wait time in timer measurement.
RCL	**[Panel key : Recall] (except LA-1220)** Calls data from the selected memory. **Command output format RCL** * When the RCL command is output again, the cancel mode is canceled. * This command does not work during calibration, the memory store operation, and measurement.
DST	Stops data output by the LPO, LCO, CAO, and MBR commands. **Command output format DST**
INI	**[Panel key : INITIAL]** Sets the factory-set panel condition. **Command output format INI** * This command does not work during memory store operation, memory recall operation, and measurement.

Command	Format/function
MMC	**[Panel key : MM CLEAR] (except LA-1220)** Clears the entire contents of the manual memory. **Command output format MMC** * This command does not work during memory store operation, memory recall operation, and measurement. * Put a wait time for command execution about 1s after command output.
BMC	**[Panel key : BM CLEAR] (LA-1250/1350/4350 only)** Clears the entire contents of the block memory. **Command output format BMC** * This command does not work during memory store operation, memory recall operation, and measurement. * Put a wait time for command execution about 3s after command output.
CMC	**(except LA-1220)** Initializes the panel condition memory (COND1 to COND9). **Command output format CMC** * This command does not work during memory store operation, memory recall operation, and measurement. * Put a wait time for command execution about 1s after command output. * After command execution, the resume condition results.
STR	**[Panel key : STORE] (except LA-1220)** Writes data to the selected manual memory address. **Command output format STR** * This command does not work during block memory selection. * This command does not work during calibration, memory store operation, memory recall operation, and timer measurement.

3. TYPE 2 Commands

A type 2 command consisting of a 3-uppercase-letter command and additional parameters is sent from the personal computer to the sound level meter.

Use ASCII alphanumeric characters and supply the specified additional characters.

Even if the parameter is a space (ASCII character:20H), it cannot be omitted.

Command	Format/function

FRE	**[Panel key : A/C/FLAT]**
	Sets the frequency weighting characteristic.
	Command output format FREf
	Parameters
	  f: A = A weighting
	     C = C weighting
	     F = FLAT
	* This command does not work during memory store operation, memory recall operation, and measurement. However, if this command is received while usual measurement is paused, measurement is ended, setting is made, and instantaneous values displayed.

TRE	**[Panel key : FAST/SLOW]**
	Sets the time weighting characteristic.
	Command output format TREt
	Parameters
	  t: F = FAST
	     S = SLOW
	     I = IMPULSE (LA-4240/4350 only)
	* This command does not work during memory store operation, memory recall operation, and measurement. However, if this command is received while usual measurement is paused, measurement is ended, setting is made, and instantaneous values displayed.

Command	Format/function

LVL	**[Panel key : LEVEL]**
	Sets the level range.
	Command output format LVLl
	Parameters
	  l: 1 = 20dB to 80dB
	     2 = 20dB to 90dB
	     3 = 30dB to 100dB
	     4 = 40dB to 110dB
	     5 = 50dB to 120dB
	     6 = 60dB to 130dB
	* This command does not work during memory store operation, memory recall operation, and measurement. However, if this command is received while usual measurement is paused, measurement is ended, setting is made, and instantaneous values displayed.
	* An LA-200 compatible command is available.

FTL	Sets the frequency weighting characteristic, time weighting characteristic, and level range.
	Command output format FTL f, t ,l
	Parameters
	  f: Frequency weighting characteristic
	    (Parameters are the same as those of the FRE command.)
	  t: Time weighting characteristic
	    (Parameters are the same as those of the TRE command.)
	  l: Level range
	    (Parameters are the same as those of the LVL command.)
	* This command does not work during memory store operation, memory recall operation, and measurement. However, if this command is received while usual measurement is paused, measurement is ended, setting is made, and instantaneous values displayed.

Command	Format/function
CPL	**[Panel key : CMP LEVEL]** Sets the comparison level (option for the LA-0121). **Command output format CPLlll** **Parameters** lll: 040 to 130(dB) ···· 1 (dB) unit

CPS	**[Panel key : CMP LEVEL]**
	Sets the comparator function (option for the LA-0121).
	Command output format CPSc
	Parameters
	 c: F = OFF (Constant high impedance)
	   1 = Low level output when the level exceeds the comparison level
	   2 = High impedance when the level exceeds the comparison level

DDT	**[Panel key : L_P, L_{MAX} or L_P, L_{eq} ···· (L_X)]**
	Sets the measurement items to be displayed.
	Command output format DDTd
	Parameters
	 d: 1 = L_P
	   2 = L_{eq} (except LA-1220)
	   3 = L_E (except LA-1220)
	   4 = L_{MAX}
	   5 = L_{pk} (LA-4240/4350 only)
	   6 = L_{05} (except LA-1220)
	   7 = L_{10} (except LA-1220)
	   8 = L_{50} (except LA-1220)
	   9 = L_{90} (except LA-1220)
	   0 = L_{95} (except LA-1220)
	* This command does not work during calibration.
	* If L_P is selected during memory call, L_{eq} display results.

MTM	**[Panel key : MEAS TIME] (except LA-1220)** Sets the measurement time. **Command output format MTM:hhh:mm:ss**

Command	Format/function
	Parameters hhh = 000 to 199 (hour) mm = 00 to 59 (minute) ss = 00 to 59 (second) * This command does not work during memory store operation, memory recall operation, and measurement. However, if this command is received while usual measurement is paused, measurement is ended, setting is made, and instantaneous values displayed. * If you make panel key setting after setting with this command, 000:00:00 is set. * An LA-200 compatible command is available.
BKE	**(LA-1250/1350/4350 only)** Stops measurement temporarily and performs back erase operation. **Command output format BKE@@@** **Parameters** @@@ = 001 to 100 (data elimination time is in unit of 100ms) * This command works only during measurement. * If there is less data in the buffer memory than data for the time specified by the parameter, only the data in the buffer memory is eliminated. * Measurement is restarted by the PAS command.
CAL	**[Panel key : CAL]** Sets the internal calibration signal outputs ON/OFF. **Command output format CALc** **Parameters** c: N = ON F = OFF * This command does not work during memory store operation, memory recall operation, and measurement. However, if this command is received while usual measurement is paused, measurement is ended and setting is made. * After command execution, instantaneous values are displayed.

8   TYPE 2 Commands

Command	Format/function

DAT	**[Panel key : DATE] (except LA-1220)**
	Sets time to the built-in clock.
	Command output format DAT/YY/MM/DD/hh:mm:ss
	Parameters
	  YY = 00 to 99 (year)
	  MM = 01 to 12 (month)
	  DD = 01 to 31 (day)
	  hh = 00 to 23 (hour)
	  mm = 00 to 59 (minute)
	  ss = 00 to 59 (second)
	* This command does not work during memory store operation, memory recall operation, and measurement.
	* This command does not work during LA-200 compatible command mode setup.

TMM	**[Panel key : Timer] (LA-1250/1350/4350 only)**
	Turns the timer measurement mode ON or OFF (block memory selection).
	Command output format TMMc
	Parameters
	  c: N = ON
	    F = OFF
	* This command does not work during memory store operation, memory recall operation, and measurement. However, if this command is received while usual measurement is paused, measurement is ended, setting is made, and instantaneous values displayed.
	* When ON, the block memory is selected; when OFF, the manual memory is selected.

MAS	**(except LA-1220)** Makes address setting for the selected data memory. **Command output format MASXXXX or MAS@** **Parameters** XXXX = 0001 to 0300 (when the manual memory is selected) 0001 to 1440 (when the block memory is selected)

Command	Format/function
	@ = + : Increments the memory address by 1. = - : Decrements the memory address by 1. * During manual memory recall operation, change to an address without data does is not possible. In this case, the "+" or "-" specification results in change to an address with data. * During block memory selection, only change to an address during recall and having data is possible.
MBS	**(LA-1250/1350/4350 only)** Makes block setting for the block memory. **Command output format MBSx** **Parameters** x = 0 to 9 * This command does not work during manual memory selection and timer measurement.
CLD	**[Panel key : COND LOAD] (except LA-1220)** Calls the setup conditions of the selected condition memory number to the sound meter. **Command output format CLDn** **Parameters** n = 1 to 9 (Condition memory number) * This command does not work during memory store operation, memory recall operation, and measurement. However, if this command is received while usual measurement is paused, measurement is ended, condition call is made, and instantaneous values displayed.

TST	**[Panel key : Start h, Start min] (LA-1250/1350/4350 only)**
	Sets the measurement start time for timer measurement.
	Command output format TSTf or TSThh:mm
	Parameters
	  f = F(OFF)
	  hh = 00 to 23 (hour)
	  mm = 00 to 59 (minute)

TYPE 2 Commands   9

Command	Format/function
	* This command does not work during memory store operation, memory recall operation, and measurement. However, if this command is received while usual measurement is paused, measurement is ended, setting is made, and instantaneous values displayed.
MPR	**[Panel key : Period] (LA-1250/1350/4350 only)** Sets the measurement period for timer measurement. **Command output format MPRhhh:mm:ss** **Parameters** hhh = 000 to 199 (hour) mm = 00 to 59 (minute) ss = 00 to 59 (second) * This command does not work during memory store operation, memory recall operation, and measurement. However, if this command is received while usual measurement is paused, measurement is ended, setting is made, and instantaneous values displayed. * If key operation is performed after setting with this command, 000:00:00 is set.
MTT	**[Panel key : Total Time] (LA-1250/1350/4350 only)** Sets the total measurement time for timer measurement. **Command output format MTThhh:mm:ss** **Parameters** hhh = 000 to 199 (hour) mm = 00 to 59 (minute) ss = 00 to 59 (second) * This command does not work during memory store operation, memory recall operation, and measurement. However, if this command is received while usual measurement is paused, measurement is ended, setting is made, and instantaneous values displayed. * If key operation is performed after setting with this command, 000:00:00 is set.

Command	Format/function
CSR	**(except LA-1220)** Writes the measurement conditions of the selected panel condition memory and returns the success/fail status. **Command output format** **CSRn,f,t,l,hhh:mm:ss,hhh:mm:ss,hhh:mm:ss,hh:mm,c** * This command does not work during memory store operation, memory recall operation, and measurement. **Parameters** n: Panel condition memory number (1 to 9) f: Frequency weighting characteristic (Parameters are the same as those of the FRE command.) t: Time weighting characteristic (Parameters are the same as those of the TRE command.) l: Level range (Parameters are the same as those of the LVL command.) hhh:mm:ss: Measurement time (Parameters are the same as those of the MTM command.) hhh:mm:ss: Measurement period (Parameters are the same as those of the MPR command.) hhh:mm:ss: Total measurement time (Parameters are the same as those of the MTT command.) hh:mm: Measurement start time (Parameters are the same as those of the TST command.) c: ON/OFF setting in the timer measurement mode (Parameters are the same as those of the TMM command.) **Data output format of sound meter c or l** c = Write operation succeeded l = Write operation failed

10 TYPE 2 Commands

4. TYPE 3 Commands

A type 3 command consisting of a 3-uppercase-letter command and additional parameters is sent from the personal computer to the sound level meter. In response to this command, the sound level meter sends ASCII data back to the personal computer.

The personal computer must receive the fixed number of data characters from the sound level meter. If the CTS line of the receive side does not become active in a certain time duration, note that data output is automatically terminated.

At the end of data, a control code specified as a terminator is added. In the transmission characters in the following data output format of the sound level meter, the terminator is not included.

Command	Format/function
FRE?	Reads the frequency weighting characteristic. **Command output format FRE?** **Data output format of sound level meter f** f: A = A weighting C = C weighting F = FLAT
TRE?	Reads the time weighting characteristic. **Command output format TRE?** **Data output format of sound level meter t** t: F = FAST S = SLOW I = IMPULSE (LA-4240/4350 only)
LVL?	Reads the level range. **Command output format LVL?**

Command	Format/function
	Data output format of sound level meter l l : 1 = 20dB to 80dB 2 = 20dB to 90dB 3 = 30dB to 100dB 4 = 40dB to 110dB 5 = 50dB to 120dB 6 = 60dB to 130dB
FTL?	Reads the frequency weighting characteristic, time weighting characteristic, and level range. **Command output format FTL?** **Data output format of sound meter f,t,l** f : Frequency weighting characteristic (Data is the same as that of the FRE? command.) t : Time weighting characteristic (Data is the same as that of the TRE? command.) l : Level range (Data is the same as that of the LVL? command.)
CPL?	Reads the comparison level (option for the LA-0121). **Command output format CPL?** **Data output format of sound level meter lll** lll: 040 to 130 (dB)
CPS?	Reads the comparator function (option for the LA-0121). **Command output format CPS?** **Data output format of sound level meter** c : F = OFF (Constant high impedanse) 1 = Low level output when the level exceeds the comparison level 2 = High impedance when the level exceeds the comparison level

Command	Format/function

DDT?	Reads the measurement item currently displayed.
	Command output format DDT?
	Data output format of sound level meter d
	d: 1 = L_P
	    2 = L_{eq} (except LA-1220)
	    3 = L_E (except LA-1220)
	    4 = L_{MAX}
	    5 = L_{pk} (LA-4240/4350 only)
	    6 = L_{05} (except LA-1220)
	    7 = L_{10} (except LA-1220)
	    8 = L_{50} (except LA-1220)
	    9 = L_{90} (except LA-1220)
	    0 = L_{95} (except LA-1220)

MTM?	**(except LA-1220)** Reads the measurement time. **Command output format MTM?** **Data output format of sound level meter hhh:mm:ss** hhh = 000 to 199 (hour) mm = 00 to 59 (minute) ss = 00 to 59 (second) * An LA-200 compatible command is available.
CAL?	Reads the ON/OFF condition of the internal calibration signal output. **Command output format CAL?** **Data output format of sound level meter c** c: N = ON F = OFF
MTR?	Reads the actual measurement time. **Command output format MTR?** **Data output format of sound level meter hhh:mm:ss** hhh = 000 to 199 (hour) mm = 00 to 59 (minute) ss = 00 to 59 (second)

Command	Format/function
MSR?	**(except LA-1220)** Reads the measurement start time. **Command output format MSR?** **Data output format of sound level meter** **YY/MM/DD/hh:mm:ss** YY = 00 to 99 (year) MM = 01 to 12 (month) DD = 01 to 31 (day) hh = 00 to 23 (hour) mm = 00 to 59 (minute) ss = 00 to 59 (second)
MER?	**(except LA-1220)** Reads the measurement stop time. **Command output format MER?** **Data output format of sound level meter** **YY/MM/DD/hh:mm:ss** YY = 00 to 99 (year) MM = 01 to 12 (month) DD = 01 to 31 (day) hh = 00 to 23 (hour) mm = 00 to 59 (minute) ss = 00 to 59 (second)
DAT?	**(except LA-1220)** Reads time of the built-in clock. **Command output format DAT?** **Data output format of sound level meter** **YY/MM/DD/hh:mm:ss** YY = 00 to 99 (year) MM = 01 to 12 (month) DD = 01 to 31 (day) hh = 00 to 23 (hour) mm = 00 to 59 (minute) ss = 00 to 59 (second)

12 **TYPE 3 Commands**

Command	Format/function
TMM?	**(LA-1250/1350/4350 only)** Reads the ON/OFF setting of the timer measurement mode (block memory selection). **Command output format TMM?** **Data output format of sound level meter c** c: N = ON F = OFF
MAS?	**(except LA-1220)** Reads the address of the selected data memory. **Command output format MAS?** **Data output format of sound level meter XXXX** XXXX = 0001 to 0300 (when the manual memory is selected) 0001 to 1440 (when the block memory is selected)
MBS?	**(LA-1250/1350/4350 only)** Reads the selected block of the block memory. **Command output format MBS?** **Data output format of sound level meter X** X = 0 to 9 * This command does not work during manual memory selection.
MPR?	**(LA-1250/1350/4350 only)** Reads the condition of the measurement period setup for timer measurement. **Command output format MPR?** **Data output format of sound level meter hhh:mm:ss** hhh = 000 to 199 (hour) mm = 00 to 59 (minute) ss = 00 to 59 (second)
MTT?	**(LA-1250/1350/4350 only)** Reads the total measurement time for timer measurement. **Command output format MTT?**

Command	Format/function
	Data output format of sound level meter hhh:mm:ss hhh = 000 to 199 (hour) mm = 00 to 59 (minute) ss = 00 to 59 (second)
MMR	**(except LA-1220)** Reads the data of the selected manual memory address. **Command output format MMR@@@** **Parameters** @@@ = 001 to 300 (address) **Data output format of sound level meter (actually output in a single line)** **• LA-1240/1250/1350** **f,t,l, hhh:mm:ss,YY/MM/DD/hh:mm:ss,YY/MM/DD/hh:mm:ss,hhh:mm:ss,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@,@@,@@** f : Frequency weighting characteristic (Data is the same as that of the FRE? command.) t : Time weighting characteristic (Data is the same as that of the TRE? command.) l : Level range (Data is the same as that of the LVL? command.) hhh:mm:ss: Measurement time (Data is the same as that of the MTM? command.) YY/MM/DD/hh:mm:ss: Measurement start time (Data is the same as that of the MST? command.) YY/MM/DD/hh:mm:ss: Measurement stop time (Data is the same as that of the MER? command.) hhh:mm:ss: Actual measurement time (Data is the same as that of the MTR? command.) @@@.@@ and @@: Each measurement value (L_{eq}, L_E, L_{MAX}, L_{05}, L_{10}, L_{50}, L_{90}, L_{95}) and judgment value (OK/OV/UD/OU)

Command	Format/function
	• **LA-4240/4350** **f,t,l, hhh:mm:ss,YY/MM/DD/hh:mm:ss,YY/MM/DD/hh:mm:ss,hhh:mm:ss,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@,@@,@@** f : Frequency weighting characteristic (Data is the same as that of the FRE? command.) t : Time weighting characteristic (Data is the same as that of the TRE? command.) l : Level range (Data is the same as that of the LVL? command.) hhh:mm:ss: Measurement time (Data is the same as that of the MTM? command.) YY/MM/DD/hh:mm:ss: Measurement start time (Data is the same as that of the MSR? command.) YY/MM/DD/hh:mm:ss: Measurement stop time (Data is the same as that of the MER? command.) hhh:mm:ss: Actual measurement time (Data is the same as that of the MTR? command.) @@@.@@ and @@: Each measurement value (L_{eq}, L_E, L_{MAX}, L_{pk}, L_{05}, L_{10}, L_{50}, L_{90}, L_{95}) and judgment value (OK/OV/UD/OU) * If data is not stored in the selected address, this command does not work. * This command does not work during manual memory store operation.
MBR	**(LA-1250/1350/4350 only)** Reads the data in the selected block memory address range. **Command output format MBR@,@@@@,@,@@@@** **Parameters** @,@@@@ = Start block, address to be read (0 to 9, 0001 to 1440) @,@@@@ = Stop block, address to be read (0 to 9, 0001 to 1440)

Command	Format/function
	Data output format of sound level meter **(actually output in a single line)** • **LA-1250/1350** **X,XXXX,f,t,l,hhh:mm:ss,YY/MM/DD/hh:mm:ss,YY/MM/DD/hh:mm:ss,hhh:mm:ss,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@** X: Blocks 0 to 9 XXXX : Addresses 0001 to 1440 f : Frequency weighting characteristic (Data is the same as that of the FRE? command.) t : Time weighting characteristic (Data is the same as that of the TRE? command.) l : Level range (Data is the same as that of the LVL? command.) YY/MM/DD/hh:mm:ss: Measurement start time (Data is the same as that of the MSR? command.) YY/MM/DD/hh:mm:ss: Measurement stop time (Data is the same as that of the MER? command.) hhh:mm:ss: Actual measurement time (Data is the same as that of the MTR? command.) @@@.@@ and @@: Each measurement value (L_{eq}, L_E, L_{MAX}, L_{05}, L_{10}, L_{50}, L_{90}, L_{95}) and judgment value (OK/OV/UD/OU) • **LA-4240/4350** **X,XXXX,f,t,l,hhh:mm:ss,YY/MM/DD/hh:mm:ss,YY/MM/DD/hh:mm:ss,hhh:mm:ss,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@** X: Blocks 0 to 9 XXXX : Addresses 0001 to 1440 f : Frequency weighting characteristic (Data is the same as that of the FRE? command.) t : Time weighting characteristic (Data is the same as that of the TRE? command.) l : Level range (Data is the same as that of the LVL? command.)

Command	Format/function
	YY/MM/DD/hh:mm:ss: Measurement start time (Data is the same as that of the MSR? command.) YY/MM/DD/hh:mm:ss: Measurement stop time (Data is the same as that of the MER? command.) hhh:mm:ss: Actual measurement time (Data is the same as that of the MTR? command.) @@@.@@ and @@: Each measurement value (L_{eq}, L_E, L_{MAX}, L_{pk}, L_{05}, L_{10}, L_{50}, L_{90}, L_{95}) and judgment value (OK/OV/UD/OU) * If data is not stored in the selected block and address range, the portion is not output. * This command does not work during measurement. * Until execution of this command is completed, key operations of the sound meter and external control input (LA-0122) are disabled. * To cancel this command, output the communication break request (13H) by flow control, execute the DST command, then output the communication restart request (11H) to set the communication restart condition. Note : Before sending this command, turn flow control ON. If flow control is not turned ON, communication cannot be stopped with the DST command.
STS?	Reads the condition of the sound meter. **Command output format STS?** **Data output format of sound level meter a** a: N = During measurement operation (normal measurement) T = During measurement operation (timer measurement) W = During measurement standby (timer measurement) P = During measurement break B = During back trace operation Z = Measurement ended R = During memory recall operation

Command	Format/function
MDM	**(except LA-1220)** Reads the presence or absence of data stored in the selected manual memory address. **Command output format MDM@@@** **Parameters** @@@ = 001 to 300 (address) **Data output format of sound level meter e** e: M = Data is stored. E = Data is not stored. * This command does not work during manual memory store operation.
MDB	**(LA-1250/1350/4350 only)** Reads the first and last blocks memorized in the same measurement as the selected block memory, and the last address. **Command output format MDB@** **Parameters** @ = 0 to 9 (block) **Data output format of sound level meter S,E,@@@@** S = If the first block data in the same measurement as the selected block is not stored, [-] is output. E = If the last block data in the same measurement as the selected block is not stored, [-] is output. @@@@ = If the data of the last address (0000 to 1440) of the last block is not stored, 0000 is output. * This command does not work during timer measurement.
ECR?	**(except LA-1220)** Reads the external control input voltage. **Command output format ECR?** **Data output format of sound level meter V**

Command	Format/function
	V: 1 = 0.25V or lower (START) 2 = 0.25V to 0.75V (PAUSE/CONT.) 3 = 0.75V to 1.25V (PRINT, STORE) 4 = 1.25V to 1.75V (START, STOP, STORE) 5 = 1.75V to 2.25V (BACK ERASE/CONT.) H = 2.25V or higher
TST?	**(LA-1250/1350/4350 only)** Reads the measurement start time setup for timer measurement. **Command output format TST?** **Data output format of sound level meter** f = F (OFF) hh = 00 to 23 (hour) mm = 00 to 59 (minute)

BCR	**(LA-1250/1350/4350 only)**
	Reads the condition of the selected block memory.
	Command output format BCR@
	Parameters
	@ = 0 to 9 (block)
	Data output format of sound level meter
	f,t,l,hhh:mm:ss,hhh:mm:ss,hhh:mm:ss,hh:mm
	f : Frequency weighting characteristic
	    (Data is the same as that of the FRE? command.)
	t : Time weighting characteristic
	    (Data is the same as that of the TRE? command.)
	l : Level range
	    (Data is the same as that of the LVL? command.)
	hhh:mm:ss: Measurement time
	            (Data is the same as that of the MTM? command.)
	hhh:mm:ss: Measurement period
	            (Data is the same as that of the MPR? command.)
	hhh:mm:ss: Total measurement time
	            (Data is the same as that of the MTT? command.)

Command	Format/function
	hhh:mm: Measurement start time (Data is the same as that of the TST? command.) * If data is not stored in the selected block, this command does not work. * This command does not work during timer measurement.

LPO	Continuously outputs the specified number of instantaneous values (dB) at fixed intervals.
	Command output format LPOpp,XXXXX or LPO?
	Parameters
	pp = 01 to 50: Data output interval (in unit of 100msec)
	XXXXX = 00000 to 65000: Number of data to be output
	* Data output is ended when the specified number of data has been sent or by the DST command.
	  (If 00000 is set, data output is continued until stopped by the DST command.)
	  With LPO?, only one data is output.
	* An LA-200 compatible command is available.
	Data output format of sound level meter @@@.@@,@@
	@@@.@@ and @@ = Instantaneous value and judgment
	                    value (OK/OV/UD/OU)

DDR?	Outputs the measurement value (dB) currently displayed. **Command output format DDR?** **Data output format of sound level meter @@@.@@,@@** @@@.@@ = Display item data (dB) (L_P, L_{eq}, L_E, L_{MAX}, L_{pk}, L_{05}, L_{10}, L_{50}, L_{90}, or L_{95}) @@ = Judgment (OK/OV/UD/OU)
KPR?	Reads the condition of the KEY protection key. **Command output format KPR?** **Data output format of sound level meter c** c: N = ON F = OFF

16   TYPE 3 Commands

Command	Format/function
BAT?	**Reads the battery voltage.** **Command output format BAT?** **Data output format of sound level meter V** V: 0 = 1.6V (battery mark frame + Lo display) 1 = 1.6V to 1.8V (battery mark frame) 2 = 1.8V to 2.0V (battery mark frame + 1 level) 3 = 2.0V to 2.2V (battery mark frame + 2 levels) 4 = 2.2V to 2.4V (battery mark frame + 3 levels) 5 = 2.4V to 2.6V (battery mark frame + 4 levels) 6 = 2.6V to 2.8V (battery mark frame + 5 levels) 7 = 2.8V or higher (battery mark frame + 5 levels)
LCO	Continuously outputs the specified number of calculated values (dB) at fixed intervals. **Command output format LCOpp,XXXXX or LCO?** **Parameters** pp = 10 to 50: Data output interval (in unit of 100msec) XXXXX = 00000 to 65000: Number of data to be output * Data output is ended when the specified number of data has been sent or by the DST command. (If 00000 is set, data output is continued until stopped by the DST command.) With LCO?, only one data is output. **Data output format of sound level meter** **(actually output in a single line)** **LA-1220 @@@.@@,@@** @@@.@@ = Measurement data (dB) (L_{MAX}) @@ = Judgment value (OK/OV/UD/OU) **LA-1240/1250/1350 @@@.@@,@@@.@@,@@@.@@,** **@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@** @@@.@@ = Measurement data (dB) (L_{eq}, L_E, L_{MAX}, L_{05}, L_{10}, L_{50}, L_{90}, L_{95}) @@ = Judgment value (OK/OV/UD/OU)

Command	Format/function
	LA-4240/4350 @@@.@@,@@@.@@,@@@.@@, **@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,** **@@@.@@,@@.** @@@.@@ = Measurement data (dB) (L_{eq}, L_E, L_{MAX}, L_{pk}, L_{05}, L_{10}, L_{50}, L_{90}, L_{95}) @@ = Judgment value (OK/OV/UD/OU)

VER?	Reads the software version, product model name, and option conditions.
	Command output format VER?
	Data output format of sound level meter v.vv,tt,o
	v.vv = Software version number
	tt = 12:LA-1220, 14:LA-1240, 15:LA-1250, 25:LA-1350, 34:LA-4240, 45:LA-4350
	o = 0 : None
	   1 : Comparator output (LA-0121)
	   2 : External control input (LA-0122)
	   3 : Comparator output (LA-0121) and external control input (LA-0122)

CAO	Outputs each calculation value (dB) automatically upon completion of operation. To stop automatic output, output the DST command. **Command output format CAOc** **Parameters** c = N: Outputs measurement value and judgment value. T: Outputs the measurement start time, measurement stop time, and the actual measurement time before output with parameter N. * The parameters work only with LA-1240 and 1250. **Data output format of sound level meter** **(actually output in a single line)**

Command	Format/function

	• Data added in the case of parameter T
	YY/MM/DD/hh:mm:ss,YY/MM/DD/hh:mm:ss,hhh:mm:ss,
	  YY/MM/DD/hh:mm:ss: Measurement start time
	  YY/MM/DD/hh:mm:ss: Measurement stop time
	  hhh:mm:ss: Actual measurement time
	• Data of measurement value and judgment value
	LA-1220 @@@.@@,@@
	  @@@.@@ = Measurement data (dB) (L_{MAX})
	  @@ = Judgment value (OK/OV/UD/OU)
	LA-1240/1250/1350 @@@.@@,@@@.@@,@@@.@@,
	@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@
	  @@@.@@ = Measurement data (dB)
	          (L_{eq}, L_E, L_{MAX}, L_{05}, L_{10}, L_{50}, L_{90}, L_{95})
	  @@ = Judgment value (OK/OV/UD/OU)
	LA-4240/4350 @@@.@@,@@@.@@,@@@.@@,@@@.
	@@,@@@.@@,@@@.@@,@@@.@@,@@@.@@,@@@.
	@@,@@.
	  @@@.@@ = Measurement data (dB)
	          (L_{eq}, L_E, L_{MAX}, L_{pk}, L_{05}, L_{10}, L_{50}, L_{90}, L_{95})
	  @@ = Judgment value (OK/OV/UD/OU)

CSRn?	**(except LA-1220)**
	Reads the setup conditions of the selected panel condition memory number.
	Command output format CSRn?
	Parameters
	  n = 0 (Current panel condition)
	       1 to 9 (Panel condition memory number)
	Data output format of sound level meter
	 n,f,t,l,hhh:mm:ss,hhh:mm:ss,hhh:mm:ss,hh:mm,c
	  n: Condition memory number (0 to 9)
	  f: Frequency weighting characteristic
	    (Data is the same as that of the FRE command.)
	  t: Time weighting characteristic
	    (Data is the same as that of the TRE command.)
	  l: Level range (Data is the same as that of the LVL command.)

Command	Format/function

	hhh:mm:ss: Measurement time
	              (Data is the same as that of the MTM command.)
	hhh:mm:ss: Measurement period
	              (Data is the same as that of the MPR command.)
	hhh:mm:ss: total measurement time
	              (Data is the same as that of the MTT command.)
	hh:mm: Measurement start time
	              (Data is the same as that of the TST command.)
	c: ON/OFF setting in the timer measurement mode
	              (Data is the same as that of the TMM command.)

18 **TYPE 3 Commands**

5. Commands for LA-200 Series Compacibles

By applying the terminator setup of the LA-1220/1240/1250/1350/4240/4350 sound meter to the LA-200, some commands can be made compatible with the RS-232C commands of the LA-200 series sound meters from Ono Sokki.

As a result, Communication between the LA-1220/1240/1250/1350/4240/4350 sound meter and the LA-200 series sound meters from Ono Sokki is made possible.

CAUTION !
* Communication between the LA-1220/1240/1250/1350/4240/ 4350 sound meter and the LA-200 series sound meter with modified specifications may be disabled in some cases.
For details, contact the retail store where you bought the product or Ono Sokki sales office nearby.

Type 2 Compatible Commands

Command	Format/function
MAX	Selects the instantaneous value display or maximum value display and then starts measurement. **Command output format MAXx** **Parameters** x: I = INST (Selects instantaneous value display, sets the measurement time to 000:00:00, then starts measurement.) M = MAXH (Selects maximum value display, sets the measurement time to 000:00:00, then starts measurement.) * This command does not work during calibration, memory store operation, memory recall operation, and timer measurement selection.

Command	Format/function
LVL	Sets the level range (dB). **Command output format LVLlll** **Parameters** lll: _80 = 20dB to 80dB _90 = 20dB to 90dB 100 = 30dB to 100dB 110 = 40dB to 110dB 120 = 50dB to 120dB 130 = 60dB to 130dB * This command does not work during memory store operation, memory recall operation, and measurement. However, if this command is received while usual measurement is paused, measurement is ended, setting is made, and instantaneous values displayed. * The level range is set with a 3-digit number. * [_] indicates entry of a space (20H).
MTM	(except LA-1220) Sets the measurement time. **Command output format MTMhh:mm:ss** **Parameters** hh = 00 to 99 (hour) mm = 00 to 59 (minute) ss = 00 to 59 (second) * This command does not work during memory store operation, memory recall operation, and measurement. However, if this command is received while usual measurement is paused, measurement is ended, setting is made, and instantaneous values displayed. * The time data is set with a 2-digit number (up to 99).

Type 3 Compatible Commands

Command	Format/function
X1R	**(except LA-1220)** Reads the percentile sound pressure level (L_{05}, L_{50}, L_{95}) (dB). **Command output format X1R** **Data output format of sound level meter** **bb,nnn/r.rs,5:xxx.x 95:xxx.x 50:xxx.x cc** bb = 00 fixed (octave number) nnn = Count r. rs = 0.1 fixed (sample interval) 5: xxx.x = L_{05} measurement value 95: xxx.x = L_{95} measurement value 50: xxx.x = L_{50} measurement value cc = Judgment value (OK/OV/UD/OU) * When measurement time is the 1000 seconds or more, a count of 000 is output.
X2R	**(except LA-1220)** Reads the percentile sound pressure level (L10, L90) (dB). **Command output format X2R** **Data output format of sound level meter** **10:xxx.x 90:xxx.x HI:xxx.x LO:xxx.x** 10 : xxx.x = L_{10} measurement value 90 : xxx.x = L_{90} measurement value HI : 000.xxx.x = 0 fixed LO : 000.xxx.x = 0 fixed
MTM?	**(except LA-1220)** Reads the measurement time. **Command output format MTM?** **Data output format of sound level meter hhHmmM:ssS** hh = 00 to 99 (hour) mm = 00 to 59 (minute) ss = 00 to 59 (second) * When the measurement time is 100 hours or more, 00:00:00 is output.

Command	Format/function
CON	Reads the frequency weighting characteristic, time weighting characteristic, and level range. **Command output format CON** **Data output format of sound level meter llldB,f,tttt,c** lll : Level range (_80-130) f : Frequency weighting characteristic (A/C/F) tttt : Time weighting characteristic (FAST/SLOW) c : Measurement condition (R/P: During measurement / stop)
LPO	Continuously outputs the specified number of instantaneous values (dB) at fixed intervals. **Command output format LPO@@,@@@@@** **Parameters** @@ = 01 to 50: Data output interval (in unit of 100msec) @@@@@ = 00001 to 65000: Number of data to be output **Data output format of sound level meter @@@.@** @@@.@ = Instantaneous value (dB) * The output data of measurement value is a decimal number with a 1-digit decimal place. * Pressing the pause key stops data transmission.
LPR	Outputs instantaneous value and maximum value (dB). **Command output format LPR** **Data output format of sound level meter** **@@@.@,M-HOLD:@@@.@,@@** @@@.@ = Instantaneous value and maximum value (dB) @@ = Judgment value (OV/UD/OK) * The output data of measurement value is a decimal number with a 1-digit decimal place.

Command	Format/function
EQR	**(except LA-1220)** Outputs the equivalent continuous sound pressure level (dB), exposure level (dB), and actual measurement time. **Command output format EQR** **Data output format of sound level meter** **00,Leq:@@@.@,LE:@@@.@,hh:mm:ss,@@** @@@.@ = Equivalent sound pressure level and single-shot exposure level (dB) hh = 00 to 99 (hour) mm = 00 to 59 (minute) ss = 00 to 59 (second) @@ = Judgment value (OV/UD/OK) * The output data of measurement value is a decimal number with a 1-digit decimal place. * When the actual measurement time is 100 hours or more, 00:00:00 is output.

6. Commands in Alphabetical Order

Command	Type	Function
B BAT?	3	Reads the battery voltage. (Refer to page 17.)
BCR	3	Reads the selected block memory. (Refer to page 16.)
BKE	2	Stops operation temporarily and performs back erase operation. (Refer to page 8.)
BMC	1	Clears the entire contents of the block memory. (Refer to page 6.)
C CAL	2	Sets the ON/OFF condition of the internal calibration signal output. (Refer to page 8.)
CAL?	3	Reads the ON/OFF condition of the internal calibration signal output. (Refer to page 12.)
CAO	3	Outputs each calculation value (dB) automatically after the operation end. (Refer to page 17.)
CLD	2	Calls the setup conditions of the selected condition memory number to the sound meter. (Refer to page 9.)
CMC	1	Clears the entire contents of the user open condition memory. (Refer to page 6.)
CON	3	(LA-200 compatible command) Reads the frequency weighting characteristic, time weighting characteristic, and level range. (Refer to page 20.)
CPL	2	Sets the comparison level (option for the LA-0121). (Refer to page 8.)

Command	Type	Function
CPL?	3	Reads the comparison level (option for the LA-0121). (Refer to page 11.)
CPS	2	Sets the comparator function (option for the LA-0121). (Refer to page 8.)
CPS?	3	Reads the comparator function (option for the LA-0121). (Refer to page 11.)
CSR	3	Writes the measurement conditions of the selected panel condition memory and returns the success/fail status. (Refer to page 10.)
CSRn?	3	Reads the setup conditions of the selected panel condition memory number. (Refer to page 18.)
D DAT	2	Sets time to the built-in clock. (Refer to page 9.)
DAT?	3	Reads time of the built-in clock. (Refer to page 12.)
DDR?	3	Outputs the measurement value (dB) currently displayed. (Refer to page 16.)
DDT	2	Sets the measurement items to be displayed. (Refer to page 8.)
DDT?	3	Reads the measurement item currently displayed. (Refer to page 12.)
DST	1	Stops data output by the LPO, LCO, CAO, and MBR commands. (Refer to page 6.)

Command	Type	Function
E ECR?	3	Reads the external control input voltage. (Refer to page 15.)
EQR	3	(LA-200 compatible command) Outputs the equivalent continuous sound pressure level (dB), exposure level (dB), actual measurement time. (Refer to page 21.)
F FRE	2	Sets the frequency weighting characteristic. (Refer to page 7.)
FRE?	3	Reads the frequency weighting characteristic. (Refer to page 11.)
FTL	2	Sets the frequency weighting characteristic, time weighting characteristic, and level range. (Refer to page 7.)
FTL?	3	Reads the frequency weighting characteristic, time weighting characteristic, and level range. (Refer to page 11.)
I INI	1	Sets the factory-set panel condition. (Refer to page 6.)
K KPR?	3	Reads the condition of the KEY protection key. (Refer to page 16.)
L LCO	3	Continuously outputs the specified number of calculated values (dB) at fixed intervals. (Refer to page 17.)
LPO	3	Continuously outputs the specified number of instantaneous values (dB) at fixed intervals. (Refer to page 16.)
LPO	3	(LA-200 compatible command) Continuously outputs the specified number of instantaneous values (dB) at fixed intervals. (Refer to page 20.)

Command	Type	Function
LPR	3	(LA-200 compatible command) Outputs instantaneous value and maximum value (dB). (Refer to page 20.)
LVL	2	Sets the level range. (Refer to page 7.)
LVL	2	(LA-200 compatible command) Sets the level range (dB). (Refer to page 19.)
LVL?	3	Reads the level range. (Refer to page 11.)
M MAS	2	Makes address setting of the selected data memory. (Refer to page 9.)
MAS?	3	Reads the address of the selected data memory. (Refer to page 13.)
MAX	2	(LA-200 compatible command) Selects instantaneous value display or maximum value display. (Refer to page 19.)
MBR	3	Reads the data in the selected block memory address range. (Refer to page 14.)
MBS	2	Makes block setting for the block memory. (Refer to page 9.)
MBS?	3	Reads the selected block of the block memory. (Refer to page 13.)
MDB	3	Reads the first and last blocks memorized in the same measurement as the selected block memory, and the last address. (Refer to page 15.)
MDM	3	Reads the presence or absence of data stored in the selected manual memory address. (Refer to page 15.)

Command	Type	Function
MER?	3	Reads the measurement stop time. (Refer to page 12.)
MMC	1	Clears the entire contents of the manual memory. (Refer to page 6.)
MMR	3	Reads the data of the selected manual memory address. (Refer to page 13.)
MPR	2	Sets the measurement period for timer measurement. (Refer to page 10.)
MPR?	3	Reads the condition of the measurement period setup for timer measurement. (Refer to page 13.)
MSR?	3	Reads the measurement start time. (Refer to page 12.)
MTM	2	Sets the measurement time. (Refer to page 8.)
MTM	3	(LA-200 compatible command) Sets the measurement time. (Refer to page 19.)
MTM?	2	Reads the measurement time. (Refer to page 12.)
MTM?	3	(LA-200 compatible command) Reads the measurement time. (Refer to page 20.)
MTR?	3	Reads the actual measurement time. (Refer to page 12.)
MTT	2	Sets the total measurement time for timer measurement. (Refer to page 10.)

Command	Type	Function
MTT?	3	Reads the total measurement time for timer measurement. (Refer to page 13.)
P PAS	1	Pauses and restarts operation. (Refer to page 6.)
R RCL	1	Calls data from the selected memory. (Refer to page 6.)
S STR	1	Writes the data to the selected manual memory address. (Refer to page 6.)
STS?	3	Reads the condition of the sound meter. (Refer to page 15.)
STT	1	Starts measurement. The last calculation value is reset. (Refer to page 6.)
T TMM	2	Turns the timer measurement mode ON or OFF (block memory selection). (Refer to page 9.)
TMM?	3	Reads the ON/OFF setting of the timer measurement mode (block memory selection). (Refer to page 13.)
TRE	2	Sets the time weighting characteristic. (Refer to page 7.)
TRE?	3	Reads the time weighting characteristic. (Refer to page 11.)
TST	2	Sets the measurement start time for timer measurement. (Refer to page 9.)
TST?	3	Reads the measurement start time setup for timer measurement. (Refer to page 16.)

	Command	Type	Function
V	VER?	3	Reads the software version, product model name, and option conditions. (Refer to page 17.)
X	X1R	3	(LA-200 compatible command) Reads the percentile sound pressure level (L_{05}, L_{50}, L_{95}) (dB). (Refer to page 20.)
	X2R	3	(LA-200 compatible command) Reads the percentile sound pressure level (L_{10}, L_{90}) (dB). (Refer to page 20.)

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