2238 Mediator

Integrating Sound Level Meter
Logging SLM Software BZ 7124
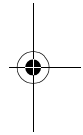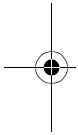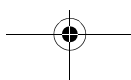
November 1998

Trademarks

2238 Mediator is a trademark of Brüel & Kjær A/S.

Copyright © 1998, Brüel & Kjær Sound & Vibration Measurement A/S

Contents

9 Index

2238 Mediator
Logging SLM Software BZ 7124
User Manual

Chapter 1

Introduction

1.1 About this Manual

1.1.1 Summary of Contents

- **Chapter 1 – Introduction**: provides a general overview of the Logging module and its functions.

- **Chapter 2 – Pushkey Definitions**: provides information about the pushkey functions for the Logging module.

- **Chapter 3 – Measurements Set-up Menu**: gives instructions for setting up the measurement parameters for the Logging module.

- **Chapter 4 – Measuring:** gives instructions for making a logging measurement.

- **Chapter 5 – Data Handling**: contains information about the parameters which are saved in the Logging module, and how to print data.

- **Chapter 6 – Specifications**: technical specifications for the Logging module.

- **Appendix 1 – General:** lists the default parameters and interface error messages that are specific for the Logging module.

- **Appendix 2 – Interface**: gives instructions for using the interface commands and queries for the Logging module

- **Index**

1.1.2 About this Volume

This volume of the User Manual deals only with the instructions and functionality that are specific to the Logging module (Logging SLM Software BZ 7124).

For information about the general operation and functionality of Mediator please refer to the Basic User Manual (BZ 7126)

Conventions Used in this Manual

Pushkeys

References to buttons on the 2238 Mediator are shown with the pushkey's pictogram as it appears on the instrument (for example ⊥̄). Refer to section 2.1 for a complete list of button pictograms and their functions.

Soft Keys

Mediator has two "soft keys" that have different functions depending on the current context. The soft keys functions are denoted by chevrons (<>) and courier type face. The current functions of the soft keys are always shown on the display. The ◻ soft key can have the following functions: `<Select>`, `<Save>`, `<Ok>` or `<Menu>`. The ◻ soft key can have functions: `<Cancel>`, `<Undo>` or `<Close>`. They can also have functions: `<Freq W.>` or `<Time W.>` respectively, depending on the selected parameter in the Measurement Window. This is similar to the functionality from the familiar Windows® environment.

Parameter Text

Text which refers directly to text on the instrument's screen or printouts is indicated using a `Courier` type face.

For example: Press ▼ until `Language` is highlighted in the System menu.

Sockets

Reference to sockets is made in bold type face (for example, **Aux 1**).

1.1.3 Measuring

When a measurement is started, a number of individual logging periods (depending on the set-up) are measured and saved until the total measurement time has expired. At the same time a number of Overall measurement parameters are measured for the total measurement time and are saved as a separate measurement result. This applies irrespective of the display setting during the measurement.

1.1.4 Logging

Logging – Normal

For typical applications with logging intervals of the order of seconds or minutes `Normal` logging mode is used. It allows up to 12 parameters (see section 1.2 below) to be selected for logging.

Logging – Short

`Short` logging is used for specialized measurements and has a fixed 100 ms logging period. It allows logging of up to three parameters:

L_{Xeq}, Aux1 and Aux2

Number of loggings

Logging SLM Software BZ 7124 can store multiple files of any size. The only limit for the number of loggings is the amount of memory that is available. Mediator has 2 Mbyte of memory. Data can also be logged via the serial interface, for example to a PC, in this case no file is created in Mediator.

Time Remaining Check

During measurement set-up Mediator displays the maximum possible measurement time, based on the selected parameters, the logging rate and the available memory. The time value is automatically updated when you change parameters (see section 3.1.4).

Logging Time

The 2 Mbyte of memory in Mediator is shared among all the application modules installed. If a number of files has been created by, for example, the Basic module, the space occupied by these files is not available for the Logging module.

If more memory space is required for logging, you must load the application that occupies file space and the delete the files. If the file space is occupied by log files (extension "M24"), you can simply delete these files with the File Manager. Before deleting files, make sure that they are obsolete, saved to a PC or printed.

Markers

Markers are used to "highlight" various occurrences during a measurement, for example, one type of marker can be used to indicate areas that must be deleted during post-processing. Four markers are available.

1.1.5 Detectors

One of the main features of the Mediator is that it contains two detectors with independent frequency weighting functions. In the Logging module, one is an RMS detector and the other can be set up to measure RMS or Peak (only for `Normal` logging rate). This allows, for example, simultaneous measurement of A- and C-weighted RMS parameters.

Linear and A- and C-weighting can be selected for both detectors. F (Fast), S (Slow) and I (Impulse) time weighting are available simultaneously in both RMS detectors.

Short Logging Mode

Mediator is set to a special mode of operation, when logging period is set to Short. Detector 2 is selected and functions as an RMS detector with a 12 ms time constant and values are logged every 100 ms. For sound input the only parameter

available is L_{Xeq}. This is because standard parameters such as L_p, L_{Min}, etc., are not defined with a 12 ms time constant.

1.1.6 Statistics

The Logging module can display up to seven L_N values which you can set up from your own choice (L_N is the percentile level expressing the level that has been exceeded for N% of the measurement time). The L_N values are saved with the measurement and they are measured for the individual logging periods.

1.1.7 Aux 1

In addition to the AC Output function in the basic version, **Aux 1** can be set up as a DC input for an external signal.

1.1.8 Aux 2

In addition to the DC Output function in the basic version, **Aux 2** can be set up as a DC input for an external signal, a trigger input or a trigger output.

1.1.9 Measurement Set-up Menu

The Measurement Set-up menu contains the following items in the Logging module:

- General (for setting the measurement range, the Peaks Over level and the 2nd exchange rate)

- Logging Periods (for setting up the period time (normal/short) and the logging interval)

- Logging Control (for setting up the destination for logging data (a file or via the serial interface) and for setting the total logging measurement time)

- Weightings (for setting the frequency weightings for Detector 1 and 2)

- Parameters (for selecting and setting up the logging parameters)

- Statistics (for setting up the L_N values and time weighting)

- Correction Filters (for selecting correction filters for sound incidence and windscreen)

- Input/Output (for setting up the **Aux 1** and **Aux 2** sockets)

- Auto Start (for selecting an Auto Start)

- Save Setup (for saving a measurement set-up)

- Recall Setup (for recalling a measurement set-up)

1.2 Measurement Parameters

1.2.1 Parameters for Normal Logging Mode

Table 1.3 lists the parameters available with the Logging module, when Normal mode is selected. The X, V and Y suffixes in the parameter names refer respectively to frequency weightings (A, C or L), frequency weightings (C or L) and time weightings (S, F or I).

Note 1: It is not possible to select the same frequency weighting (A, C or L) for both detectors when they are both set to RMS.

Note 2: Values for statistics are sampled 40 times a second and are derived from the signal on Detector 1 with a pre-selected time weighting (F, S or I). The class width is 0.5 dB. Seven percentiles ($L_{XYN,T}$) are available during measurement at user-selectable levels (1% to 99%).

Parameters Which Can Be Logged in Normal Logging Mode				
Parameter	Default screen parameter	Definition	Freq. Weight-ing	Time Weighting
L_{Xeq}	`LAeq`	Equivalent continuous level for the duration of the measurement as defined by IEC 1672	"A", "C" or "L"	–
L_{XIeq}	`LAIeq`	Equivalent continuous level of the impulse weighted SPL	"A", "C" or "L"	"I"
L_{XYmax}	`LAFmax`	Max. L_{XYp} value detected within the elapsed time	"A", "C" or "L"	"F", "S" and "I"
L_{XYmin}	`LAFmin`	Min. L_{XYp} value detected within the elapsed time	"A", "C" or "L"	"F", "S" and "I"
L_{AFTm5}	`LAFTm5`	Averaged "Taktmaximal"	"A"	"F"
L_{AYav4} or L_{AYav5}	`LAFav4 or LAFav5`	Averaged sound level with an Exchange Rate of 4 dB (L_{DOD}) or 5 dB (L_{OSHA})	"A"	"F" and "S"
L_{XYN}	`LAF1 ... LAF99`	Percentile levels	"A", "C" or "L"	"F", "S" or "I"
L_{Vpkmax}	`LCpkmax`	Max. Peak level detected within the elapsed time	"C" or "Lin."	–
AUX1	`AUX1`	DC input from AUX 1	–	–
AUX2	`AUX2`	DC input from AUX2	–	–
Overload%	`Over-load%`	The percentage of time that an overload occurred during a measurement	–	–

Table 1.1   Parameters which can be logged (not instantaneous values) in Normal logging mode

Underrange%	`Under-range%`	The percentage of time that an underrange occurred during a measurement	–	–
Number of Peaks	`#cPeaks`	Counts the number of seconds where a specified peak level is exceeded during a measurement	"C" or "Lin."	–
Instantaneous Parameters (Display Only)				
L_{XYInst}	`LAFInst`	Instantaneous value of RMS level	"A", "C" or "L"	"F", "S" and "I"
L_{XYp}	`LAFp`	Sound pressure level (SPL)	"A", "C" or "L"	"F", "S" and "I"
L_{Vpk}	`LCpk`	Instantaneous peak level	"C" or "Lin."	–
Elapsed Time	`Elapsed Time`	The amount of time that has passed since the current logging period began (measurement time excluding pauses)	–	–
Start Time	`Start Time`	The start time for the current logging period	–	–
Start Date	`Start Date`	The start date for the current logging period	–	–
Time	`Time`	The current time	–	–
Log no.	`Log no.`	The current number of logging periods over the measurement time	–	–

Table 1.1 (cont.) Parameters which can be logged (not instantaneous values) in Normal logging mode

1.2.2   Parameters for Short Logging Mode

If the Short logging mode is selected, only the parameters listed in Table 1.2 can be logged and only a total maximum of three parameters.

Parameters Which Can Be Logged in Short Logging Mode				
Parameter	Default screen parameter	Definition	Freq. Weight-ing	Time Weighting
L_{Xeq}	LAeq	Equivalent continuous level for the duration of the measurement as defined by IEC 1672	"A", "C" or "L"	–
AUX1	AUX1	DC input from AUX 1	–	–
AUX2	AUX2	DC input from AUX2	–	–
Instantaneous Parameters (Display Only)				
Elapsed Time	Elapsed Time	The amount of time that has passed since the current logging period began (measurement time excluding pauses)	–	–
Start Time	Start Time	The start time for the current logging period	–	–
Start Date	Start Date	The start date for the current logging period	–	–
Time	Time	The current time	–	–
Log no.	Log no.	The current number of logging periods over the measurement time	–	–

Table 1.2   Parameters which can be logged (not instantaneous values) in Short logging mode

1.2.3   Parameters for Overall Measurement

Table 1.3 lists the parameters available for an Overall measurement. The overall parameters are valid for all logging periods. The X, V and Y suffixes in the parameter names refer respectively to frequency weightings (A, C or L), frequency weightings (C or L) and time weightings (S, F or I).

Note 1: It is not possible to select the same frequency weighting (A, C or L) for both detectors when they are both set to RMS.

Overall Parameters For Normal Logging Mode				
Parameter	Default screen parameter	Definition	Freq. Weight- ing	Time Weighting
L_{Xeq}	LAeq	Equivalent continuous level for the duration of the measurement as defined by IEC 1672	"A", "C" or "L"	–
L_{XIeq}	LAIeq	Equivalent continuous level of the impulse weighted SPL	"A", "C" or "L"	"I"
L_{XYmax}	LAFmax	Max. L_{XYp} value detected within the elapsed time	"A", "C" or "L"	"F", "S" and "I"
L_{XYmin}	LAFmin	Min. L_{XYp} value detected within the elapsed time	"A", "C" or "L"	"F", "S" and "I"
L_{Vpkmax}	LCpkmax	Max. Peak level detected during the measurement	"C" or "Lin."	–
Overload%	Over- load%	The percentage of time that an overload occurred during a measurement	–	–

Table 1.3 Parameters for an Overall measurement

Underrange%	`Under-range%`	The percentage of time that an underrange occurred during a measurement	–	–
Elapsed Time	`Elapsed Time`	The amount of time that has passed since the measurement began (measurement time excluding pauses)	–	–
Start Time	`Start Time`	The start time for the measurement	–	–
Start Date	`Start Date`	The start date for the measurement	–	–
Number of Peaks	`#cPeaks`	Counts the number of seconds where a specified peak level is exceeded during a measurement	"C" or "Lin."	–
Instantaneous Parameters (Display Only) for Normal Logging Mode				
L_{XYinst}	`LAFInst`	Randomly sampled instantaneous value of RMS level	"A", "C" or "L"	"F", "S" or "I"
L_{XYp}	`LAFp`	Sound pressure level (SPL)	"A", "C" or "L"	"F", "S" and "I"
L_{Vpk}	`LCpk`	Instantaneous peak level	"C" or "Lin."	–
Time	`Time`	The current time	–	–
Overall Parameters for Short Logging Mode				
L_{Xeq}	`LAeq`	Equivalent continuous level for the duration of the measurement as defined by IEC 1672	"A", "C" or "L"	–

Table 1.3 (cont.) Parameters for an Overall measurement

Overload%	Over-load%	The percentage of time that an overload occurred during a measurement	–	–
Underrange%	Under-range%	The percentage of time that an underrange occurred during a measurement	–	–
Elapsed Time	Elapsed Time	The amount of time that has passed since the measurement began (measurement time excluding pauses)	–	–
Start Time	Start Time	The start time for the measurement	–	–
Start Date	Start Date	The start date for the measurement	–	–
Instantaneous Parameters (Display Only) for Short Logging Mode				
Time	Time	The current time	–	–

Table 1.3 (cont.) Parameters for an Overall measurement

Chapter 2

Pushkey Definitions

2.1 Pushkey Definitions

Each pushkey on the Mediator's front panel is marked with a pictogram. This section gives a brief explanation of the buttons.

Power   ⏻   Press this key to switch the instrument on or off. The instrument will be in pause mode when started up.

Calibrate   Press this key to calibrate your instrument.

System   Press this key to display the System menu for configuring the instrument and for changing application programs.

Data Files   Press this key to select the Data Files menu. The menu options in this window allows you to save, delete and print and to access the File Manager facility.

Set-up   Press this key to access/step through the set-up options in the Measurement Set-up menu.

Up/Down Arrows ▲ ▼   Press these keys to step up/down in the menu items in the selected window. Also for entering/exiting edit mode in the Measurement Window.

Left/Right Arrows ◄ ► Press these keys to select the parameters in the selected window.

Note: For the sake of consistency the ▲ ▼ keys are always used to select menu items, and the

2 – 2   2238 Mediator
Logging SLM Software BZ 7124
User Manual   Brüel & Kjær

◄ ► keys are always used to select values.

Range	◨◨◨	Press this key to access the Range Setting menu. Use the ◄ ► keys to step through the available measurement ranges or scroll with the ◨◨◨ key.
Reset	↻	Press this key to reset the measurement (only when the measurement is stopped).
Meas. Results	⌇	Press this key in any of the set-up menus to return to the Measurement Window. If menu changes have not been saved, they will be cancelled.
Start/Stop	⌇	Press this key to start or stop a measurement. A logging cannot be paused and restarted. If you stop a measurement the current logging period is saved as a partial logging with the time that passed until the measurement was stopped. Four markers are available for indicating various occurrences.
Select	▭	Softkey with functions <Select>, <Save>, <Recall> or <Ok> depending on the cursor position in the current menu. The <Menu> function displays the File Manager Options Window.
Cancel	▭	Softkey with functions <Cancel>, <Undo> or <Close> depending on the cursor position in the current menu.

2238 Mediator
Logging SLM Software BZ 7124
User Manual

Backlight   ☼   Switches the display's backlight on or off. To save batteries, the backlight switches off automatically after 30 seconds.

In addition to the functionality of the Basic module, the following pushkeys have added functions in the Logging module:

Freq. W.   ⬛   The `<Freq. W.>` function selects the frequency weighting parameter in the Measurement Window.

Time W.   ⬛   The `<Time W.>` function selects the time weighting parameter in the Measurement Window.

Meas. Window   ☈   Switches between the Overall Measurement Window and the Logging Window.

During Measurement

Marker 1   ⬘   For setting markers type 1

Marker 2   ⊞   For setting markers type 2

Marker 3   ▤   For setting markers type 3

Marker 4   ⚊   For setting markers type 4

Refer to section section 4.1.1 for more information about markers.

Chapter 3

Measurement Set-up Menu

3.1 Measurement Set-up Menu

3.1.1 Introduction

This chapter explains how to set up measurement parameters that are specific for the Logging module. Refer to the Basic User Manual for other parameters.

3.1.2 Measurement Set-up Menu

Logging SLM Software BZ 7124 contains the menu items shown in Fig. 3.1.
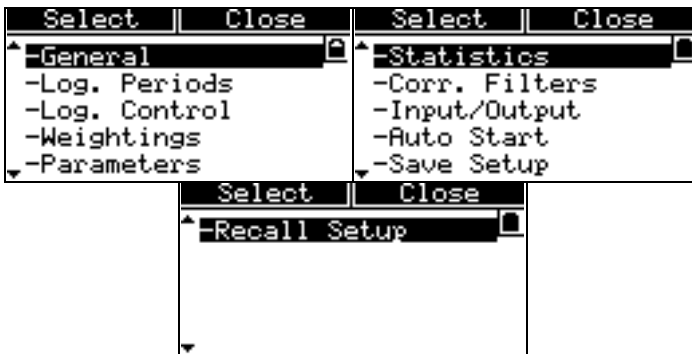

Fig. 3.1 The Measurement Set-up menu (three windows)

3.1.3 Setting the Logging Periods

The `Log. Periods` Window is used for setting the length (duration) of a single logging result. In `Short` mode the logging period is fixed to 100 ms. The `Log. Periods` Window is shown in Fig. 3.2.

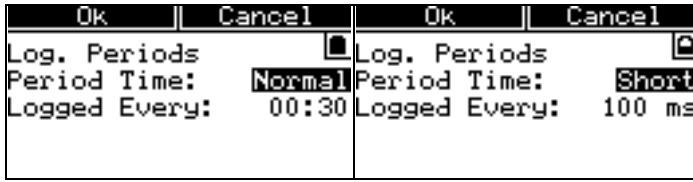**Setting the Period Time**

- `Normal`
- `Short`

Fig.3.2 The Logging Periods Window in Normal and Short logging modes

The Normal setting is used for most measurements and allows you to set the logging duration from 1 second to 60 minutes.

Short is only used for special measurements that require very short logging periods. Short has a fixed logging duration of 100 ms and allows a maximum of three logging parameters to be stored.

Setting the Duration of Each Period

The Logged Every field can only be accessed when the Period Time is set to normal.

● Minutes: Can be set from 00 to 60 in one minute steps

● Seconds: Can be set from 00 to 60 in one second steps

3.1.4 Setting the Logging Control

The Log. Control Window is used for setting the location for storing the logging files and for setting the total measurement time for a logging, see Fig. 3.3.

Fig.3.3 The Logging Control Window

Setting the Destination

● `File`

● `Interface`

Select `File` to store the logging result in Mediator's internal memory. You can store up to 2 Mbyte of data. Files of any size can be handled as long as they are within the 2 Mbyte limit.

Use the `Interface` setting if you want to transfer the logging results directly to a PC or laptop. The PC and Mediator must be set up as described in Chapter 7 in the Basic Manual.

Note: D

ata transfer will stop if an interface command is sent during data transmission

Setting the Measurement Time

● `Continuous`

● `Pre-set`

`Continuous` is normally used with the `Interface` setting above, if you want to transfer logging data continuously to a PC. However, it is possible to use the `Continuous` mode with the `File` setting. In this case logging continues until manually stopped or Mediator's internal memory is full.

When you select `Pre-set` a `Time` field will appear below that allows you set up a maximum desired logging time.

In the `Time` field you can set up any total logging time from 1 second to 7440 hours (310 days and nights) in 1 second steps:

● 00 00: The first two decimals are used for setting hours in thousands and hundreds, the next set of decimals set the tens of hours and the hours.

● 00:01: For setting minutes (first two decimals) and seconds. Minimum measurement time is 1 second.

Example: 411 hours, 15 minutes and 5 seconds appear as:

● 0411:15:05

Note: The `Time` field can only be accessed when `Meas. Time` is set to `Pre-set`.

The `Avail. Time` field provides an approximate (conservative) estimate of the logging time capacity, based on the current set-up and the currently available memory space.

Table 3.1 below shows typical examples of total logging times for different number of standard parameters in dB. The logging period is 1 s. It is assumed that the full 2 Mbyte of memory is available.

No. of Parameters	Time (hours)	Time (days)
1	>173	7
3	>76	3
6	>41	1.7
10	>25	1

Table 3.1 Typical examples of logging times with logging every second

For longer logging periods you can multiply the times in the table with the number of seconds for the desired logging period, for example, you can log three parameters with a 1 minute period for approx. half a year.

3.1.5 Setting Frequency Weightings ("Normal")

The `Weightings` Window is used for setting up frequency weightings for detectors 1 and 2, see Fig. 3.4.

It is not required to set the time weighting (F, S, I) in the Logging module since they are always measured simultaneously.
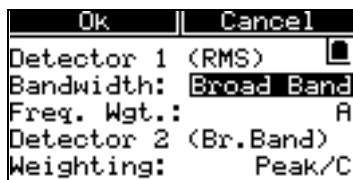
Fig.3.4 The Weightings Window

Setting Bandwidth for Detector 1 (RMS)

- `Broad Band`
- `1/3-octave`
- `1/1-octave`

Select the desired option in the `Bandwidth` field.

Note: The `1/3-octave` and `1/1-octave` options only appear when the $^1/_1$-octave and $^1/_3$-octave Filter Set is installed in Mediator.

Setting Frequency Weighting for Detector 1

- `A, C, L` (Broadband)
- `31.5 Hz ... 8 kHz` (1/1-octave)
- `20 Hz ... 12.5 kHz` (1/3-octave)

Select the desired standardised frequency weighting or centre frequency in the `Freq. Wgt.` field. The centre frequencies depend on the setting in the `Bandwidth` field.

Setting Frequency Weighting for Detector 2 (Broadband)

- `Peak/C`
- `Peak/L`
- `RMS/A`
- `RMS/C`
- `RMS/L`

In the `Weighting` field you can set Detector 2 to Peak with C or L frequency weighting or to RMS with A, C or L frequency weighting.

3.1.6 Setting Frequency Weightings ("Short")

The L_{Xeq} parameter is based on the output from Detector 2. Switching to the Short logging mode results in a change of the logging parameters and Detector 2 is set to RMS.
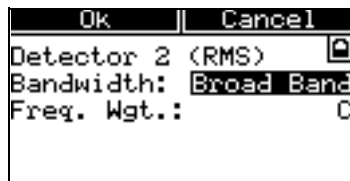

Fig.3.5 The Weighting Window in Short logging mode

Setting Bandwidth for Detector 2 (RMS)

- `Broad Band`
- `1/3-octave`
- `1/1-octave`

Select the desired option in the `Bandwidth` field.

Note: The `1/3-octave` and `1/1-octave` options only appear when the $^1/_1$-octave and $^1/_3$-octave Filter Set is installed in Mediator.

Setting Frequency Weighting for Detector 1

- `A, C, L` (Broadband)
- `31.5 Hz ... 8 kHz` (1/1-octave)
- `20 Hz ... 12.5 kHz` (1/3-octave)

Select the desired standardised frequency weighting or centre frequency in the `Freq. Wgt.` field. The centre frequencies depend on the setting in the `Bandwidth` field.

3.1.7 Parameters

The `Parameters` Window is used for selecting the parameters that are saved with a logging result and to set up the desired weighting for these parameters.

Note: Overall measurement parameters, see Table 1.3, are always measured.

Normal/Short:

When `Normal` logging mode is selected the `Parameters` window will appear as shown in Fig. 3.6. In this mode you can scroll through 12 measurement parameters in three windows. `Short` logging mode is similar, but only contains three parameter fields in a single window.

Fig. 3.6 The Parameters Window

Selecting Parameters

Use the ▲ ▼ cursor keys to highlight the desired parameter field and press the ▶ right cursor key or the ☐ Select soft key to get the `Parameter Set-up` Window, see Fig. 3.7.
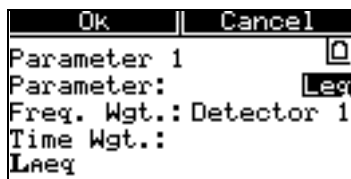

Fig. 3.7 The Parameter Set-up Window

Parameter Set-up

● `Parameter`: For selecting the desired measurement parameter. You can scroll between:

L_{Xeq}, L_{XIeq}, L_{XYmax}, L_{XYmin}, L_{AFTm5}, L_{AFav4}, L_{AFav5}, L_{ASav4}, L_{ASav5}, AUX1, AUX2, Overload, Underrange, L_{Vpkmax}, $\#_V$Peaks, $L_{N1} \ldots L_{N7}$

● `Freq. Wgt.`: For selecting Detector 1 or Detector 2. Only the relevant selections are shown

● `Time Wgt.`: For selecting the time weighting (F, S, I) for the selected parameter. You can only access this field if time weighting is possible with the selected parameter.

The info field at the bottom shows the selected parameter with the current detector set-up.

Note: N.A. is displayed if the selected combination of weightings is not possible with the selected detector. The parameter can still be selected for logging, but you must change the detector setting (Detector 2: Peak/RMS), to allow measurement of the parameter.

3.1.8 Setting the Statistics Parameters

The L_N percentiles express the level that has been exceeded for N% of the measurement time. The L_N values are saved with the measurement and they are measured for the individual logging periods. The percentiles can be set between 1 and 99.

The percentile levels are always based on the output from detector 1 and the associated frequency weighting.

The `Statistics` Window allows you to define seven percentile levels which can be displayed simultaneously in the Measurement Window, see Fig. 3.8.

Setting the Time Weighting for Statistics

● `F, S, I`

2238 Mediator
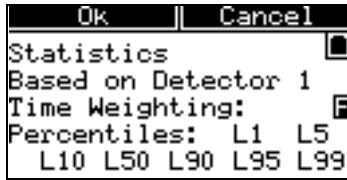Logging SLM Software BZ 7124
User Manual

Fig. 3.8 The Statistics Window

The `Time Weighting` field is used to select the time weighting used for the statistics. You can select the standardised `F`, `S` and `I` time weightings.

Setting the Percentile Levels

● `L1 – L99`

For each of the seven L_N parameters, you can set N to a value between 1 and 99 in steps of 1.

3.1.9   Setting up the Input/Output Function

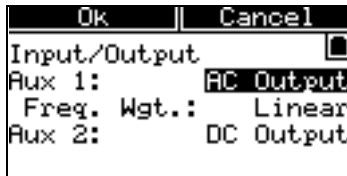The `Input/Output` Window controls the function of the **Aux 1** and **Aux 2** inputs/outputs. See Fig. 3.9.

Fig. 3.9 The Input/Output Window

Setting Up Aux 1

In the `Aux 1` field you can select:

● `AC Output`
● `DC Input`

AC Output is used for switching the AC output signal to the **Aux 1** socket. Frequency weighting depends on the Freq. Wgt. field (see below). Full-scale indication corresponds to 1 V RMS and the output is attenuated according to the selected range. This output signal can be used, for example, for recording the measured signal on a DAT recorder.

DC Input is used to set up the **Aux 1** input to a DC Input. The external DC input must be in the range 0 to 4 V and the resolution is 5 mV. The DC input signal is displayed in the AUX1 parameter field and is saved with the measurement data file, similar to the other measured parameters. This input can be used, for example, for registering the wind speed together with the measurement result.

Selecting Frequency Weighting

The Freq. Wgt. parameter field only appears when AC Output is selected for the **Aux 1** socket:

● Linear

● Det. 1

L frequency weighting is used when Linear is selected. When you select Det. 1, the frequency weighting selected on the RMS detector is used.

In Short logging mode the frequency weighting is always Linear.

Setting Up Aux 2

In the Aux 2 field you can select:

● DC Output

● DC Input

● Trigger Input

● Trigger Output

DC Output supplies a DC output signal equivalent to the AC output signal. It is the time weighted signal (Fast, Inst.) from

detector 1. Full-scale indication corresponds to 4.0 V DC (50 mV/dB).

The function of `DC Input` is similar to that of **Aux 1** . It is used to set up the **Aux 2** input to a DC Input. The external DC input must be in the range 0 to 4 V and the resolution is 5 mV. The DC input signal is displayed in the `AUX2` parameter field and is stored in a similar way to the other measured parameters.

`External Trigger` starts a measurement when an external trigger voltage is applied. The trigger level is 2 V (refer to Specifications). A trigger is ignored if Mediator is not paused and is displaying the Measurement Window.

`Trigger Output` supplies a status voltage that is high (>4 V DC) when a measurement is proceeding or low (0 V) when the instrument is paused. The Trigger Out signal can be used to start/stop external equipment such as tape and level recorders.

Chapter 4

Measuring

4.1   Selecting Measurement Window

Two Measurement Windows are used with the logging module. When one of the Measurement Windows is displayed, and Mediator is stopped or measuring, you can switch between the Overall Measurement Window and the Logging Measurement Window by using the ⌇ key.

Overall Measurement Window

The Overall Measurement Window (Fig. 4.1) shows the parameter values for the total measurement time (as specified in the `Time` field in the `Logging Control` Window). Except for the Marker status box and the fact that only three parameter fields are displayed, this window is similar to the Measurement Window in the Basic and Enhanced modules. All measurement parameters available with the Logging module (see section 1.2) can be measured and displayed in the Overall mode.

Note: Markers can be used when the Overall Measurement Window is displayed, however, the markers are saved with the current logging period and not with the overall measurement result.
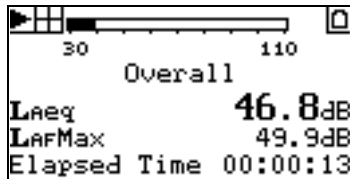

Fig. 4.1 Overall Measurement Window

Logging Measurement Window

The Logging Measurement Window (Fig. 4.2) is similar to the Overall Measurement Window. Note that the four parameter values that are displayed only apply to the current logging period.
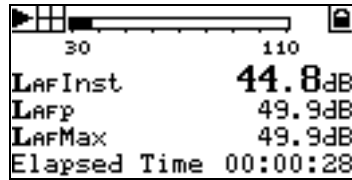
Fig. 4.2 The Logging Measurement Window

Parameters that can be displayed in the Logging Measurement Window are:

- Instantaneous values (L_{XYinst}, L_{XYp}, Elapsed Time, Start Time, Start Date and Log no.)

- Parameters selected for logging (in the `Parameters` Window, including Overload and Underrange).
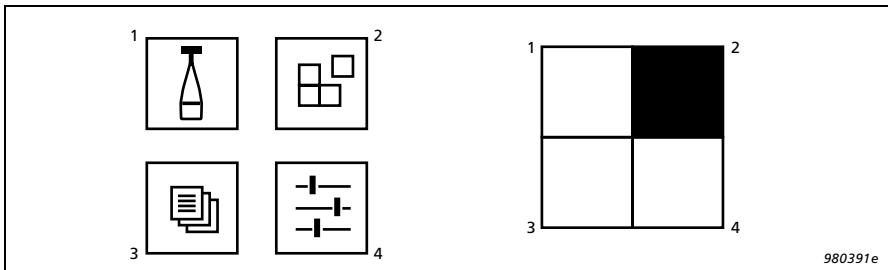

Fig. 4.3   Keys used for markers (only during measurement). When a marker key is activated the corresponding square in the small marker status turns black to indicate which marker key has been activated

4.1.1   Markers

Markers are used to highlight various occurrences during a measurement. Four markers are available and they are referred to as "1", "2" "3" and "4". The keys in Fig. 4.3 are used for activating the markers. These four keys are used for setting markers during a measurement only, otherwise they have their normal function. They have a toggle function, so that

the marker function remains active until the key is pressed again. All four markers can be activated simultaneously. The marker status box in the display indicates which marker is active.

The marker settings are saved with each logging period.

4.2 Setting a Measurement to Start Automatically

Mediator can manage up to four auto starts. Auto Starts are shared among the application modules that support them. Each Auto Start has a number (1 through 4) and is set to start a specific application at a specified time (up to one month ahead) using a specified set-up. See also section 3.1.5 in the Basic User Manual.

From a specific software module, in this case Logging SLM Software BZ 7124, all four Auto Starts can be seen and selected, but you can only set up an Auto Start for the currently running application module. If you want other application modules to start, the Auto Start must be set from that module.

To set up an Auto Start:

1. Select `Auto Start` from the Measurement Set-up menu.

   If no Auto Start is set up, for example for Auto Start no. 1, the display appears as:

Fig. 4.4 The basic Auto Start Window

2. Use the ◄ ► cursor keys to select one of the four Auto Starts.

   If the Auto Start is active, the display will show the associated application module as well as the set-up number and the start time.
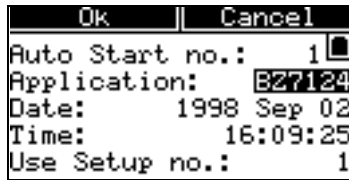
```
┌──────────────────────────┐
│      Ok    ║   Cancel     │
│ Auto Start no.:      1▪   │
│ Application:    BZ7124    │
│ Date:       1998 Sep 02   │
│ Time:          16:09:25   │
│ Use Setup no.:       1    │
└──────────────────────────┘
```

Fig. 4.5 Auto Start set-up

Use the ▲ ▼ cursor keys to select the Application field, and use the ◄ ► cursor keys to select None or BZ7124. None means that the Auto Start is not active (if previously set, the set-up parameters will be deleted if you press Ok). If the Auto Start is already activated by another application module (for example "BZ 7125"), the number of this application module is also among the choices. The display will appear similar to Fig. 4.5.

3. Set up the Date, Time and Use Setup no. fields as required. The date and time can be set to one month ahead.

4. Press Ok to save the Auto Start.

When switching Mediator off, the first occurring Auto Start is activated and the message in Fig. 4.6 is displayed.

Note: An Auto Start only takes effect if Mediator is switched off at the time the Auto Start is supposed to run. If Mediator is already switched on, the Auto Start is cancelled.

If the Auto Start uses a set-up that specifies a pre-set measurement time, the instrument switches off when the measurement is completed, otherwise it will simply keep measuring until manually stopped.
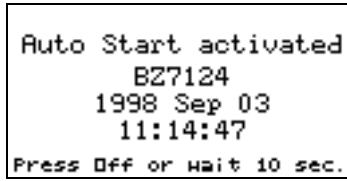
```
┌─────────────────────────────┐
│ Auto Start activated        │
│         BZ7124              │
│       1998 Sep 03          │
│        11:14:47            │
│ Press Off or Wait 10 sec.  │
└─────────────────────────────┘
```

Fig.4.6 Confirmation of an Auto Start when switching Mediator off

Mediator switches on approximately 30 s before the set time for an Auto Start. This allows Mediator to settle and start measuring at exactly the set time.

Chapter 5

Data Handling

5.1 Data Storage

5.1.1 Saved Data

A measurement data file contains both overall measurement data and a number of loggings. It consists of a group of set-up data, a group of associated measurement data and statistics data. The set-up data are:

- Serial number for Mediator unit
- Measurement set-up
- Calibration data
- Measurement data

Measurement data are:

- Overall results
- Logging data (Normal or Short)

5.1.2 Set-up Data

Measurement Set-up

All measurement set-up parameters that were used for the measurement.

Calibration Set-up

- Microphone type
- Sensitivity
- Calibration date

5.1.3 Overall Measurement Data – Normal Mode

Overall Results

- Overload
- Underrange

- Elapsed Time
- Start Time
- Start Date
- Log no.

Broadband Data for Detector 1 and 2

L_{Xeq}, L_{XIeq}, L_{XMax}, L_{XMin}

Peak Data for Detector 2

- No. of peaks
- L_{VpkMax}

5.1.4 Overall Measurement Data – Short Mode

Overall Results

- Overload
- Underrange
- Elapsed Time
- Start Time
- Start Date
- Log no.

Broadband Data

L_{Xeq}

5.1.5 Logging data – Normal Mode

General Results

- Overload
- Under-range
- Markers

Broadband Data for Detector 1 and 2

(Only those selected in the Parameters Window)

L_{Xeq}, L_{XIeq}, L_{XMax}, L_{XMin}, L_{AFTm5}, L_{avF}, L_{avS}, L_{XYN}, AUX1, AUX2

Peak Data for Detector 2

- Number of peaks
- L_{VpkMax}

5.1.6 Logging Data – Short Mode

General Results

- Markers

Broadband Data for Detector 2

(Only those selected in the Parameters Window)

L_{Xeq}, AUX1, AUX2

5.2 Printing Data

Printing is similar to the Basic module, the main difference is that the `Print Options` menu does not exist, i.e. all logged/saved measurement parameters are printed.

You can print the current measurement or you can print a recalled file via the `File Manager` or by using the ▭ `<Print>` softkey.

Note: You cannot print when logging data is being transferred via the interface.

Chapter 6

Specifications

6.1 Specifications for Logging SLM Software (BZ 7124)

Note: These Specifications are additional to the Specifications described in the Basic User Manual
Note: All references to $^1/_3$-octave bands or $^1/_1$-octave bands apply only to instrument versions with filter set installed.

Measurements:

The available measurement parameters are listed in the table. Detector 1 always measures RMS while Detector 2 measures RMS or Peak in parallel (for `Normal` logging mode). The RMS detectors have individual frequency weightings (A, C and L). Time weightings (F, S and I) are available simultaneously in both RMS detectors.

Symbol Key (for measurement parameters):

X: Frequency weighting A, C or L (Note 1)
V: Frequency weighting C or L
Y: Time weighting F, S and I (Note 2)
Q: Exchange rate 4 or 5 dB
N: 1 to 99% (Note 4).

Normal Logging Mode	
Detector 1 RMS	**Detector 2 RMS**
L_{Xeq}	
L_{XIeq}	
L_{XYmax}	
L_{XYmin}	
L_{AFTm5}	–
L_{AFavQ}	
L_{ASavQ}	
L_{XYN} (1 to 99%), (Note4	–
AUX1 (Note 3)	
AUX2 (Note 3)	
Overload%	
Underrange%	

Detector 1 RMS	Detector 2 Peak
L_{Xeq}	L_{Vpkmax}
L_{XIeq}	No. of Peaks
L_{XYmax}	–
L_{XYmin}	–
L_{AFTm5}	–
L_{AFavQ}	–
L_{ASavQ}	–
L_{XYN} (1 to 99%), (Note 4)	–
AUX1 (Note 3)	
AUX2 (Note 3)	
Overload%	
Underrange%	
Instantaneous (display only)	
L_{XYinst}	
L_{XYp}	
L_{Vpk}	
Elapsed Time	
Start Time	
Start Date	
Time	
Log no.	

Short Logging Mode	
Detector 1 RMS (not used)	**Detector 2 RMS**
–	L_{Xeq}
AUX1 (Note 3)	
AUX2 (Note 3)	
Instantaneous (display only)	
Elapsed Time	

Start Time
Start Date
Time
Log no.

Overall Measurement (Normal Logging)
L_{Xeq}
L_{Xleq}
L_{XYmax}
L_{XYmin}
L_{Vpkmax}
Overload%
Underrange%
No. of Peaks
Elapsed Time
Start Time
Start Date
Log no.
Instantaneous (display only)
L_{XYinst}
L_{XYp}
L_{Vpk}
Time
Overall Measurement (Short Logging)
L_{Xeq}
Overload%
Underrange%
Elapsed Time
Start Time
Start Date

Log no.
Instantaneous (display only)
Time

Note 1: When both detectors are set to RMS, it is not possible to select the same frequency weighting for the two detectors.
Note 2: Time weightings F, S and I are available simultaneously.
Note 3: If the Aux 1 or Aux 2 socket is used for input, the signal(s) can be displayed and stored.
Note 4: Values for statistics are sampled 40 times a second and are derived from the signal on Detector 1 with a pre-selected time weighting (F, S or I). The class width is 0.5 dB. Seven percentiles (L_{XYN}) are available during measurement at user-selectable levels (1% – 99%).

Detectors:
Simultaneous detection of RMS and Peak with independent frequency weightings

RMS Detectors:
Time Weighting: The RMS detector facilitates three exponential time weightings (Fast, Slow, Impulse) according to IEC 651 Type 1 (factory checked to meet Type 0)
Frequency Weightings: A, C or L (also $^1/_1$ and $^1/_3$-octave bands with 2238 – A – F)

Peak detector:
L-weighting: Conforms to IEC 651 and IEC 1672
C-weighing: Conforms to IEC 1672
Rise Time <100 μs (L-weighting)

Short Logging Mode:
A special detector setting with a fixed 12 ms time constant is used for short logging mode

Overload detector:
Monitors all signal paths

Auto Start:
The Mediator supports four Auto Starts which allow set-up of measurement start times up to a month in advance

Statistics:
Up to seven L_N values of your own choice can be displayed and stored

BB 1125 – 11   2238 Mediator
Logging SLM Software BZ 7124
User Manual   6 – 3

Aux 1 Output:

Connector: 2-pin LEMO. Can be used as an AC output or a DC input for an external signal

AC Output:

Output Signal: Range-adjusted AC output, L-weighted (Normal and Short logging mode) or with the frequency weighting selected on the RMS detector (Normal logging mode only). Short-circuit protected
Output: 1 V RMS corresponding to full-scale indication
Max. Load: 10 kΩ || 1 nF
Output Impedance: Typically 100 Ω

DC Input:

Voltage Range: 0 to 4 V
Resolution: 5 mV (800 steps)

Aux 2 Output:

Connector: 2-pin LEMO. Can be used as a DC output, a DC input for an external signal, a trigger input or a trigger output

DC Output:

Output Signal: DC version of signal on RMS detector 1 (Fast, Inst). Delayed 0.8 s. Short-circuit protected
Output: 0 to 4.0 V DC, (50 mV/dB)
Update Rate: 160 times per second
Max. Load: 10 kΩ || 1 nF
Output Impedance: Typically 100 Ω

DC Input:

Voltage Range: 0 to 4 V
Resolution: 5 mV (800 steps)

Trigger Input:

Voltage Range: 0 to 4 V
Trigger Level: 2 V

Trigger Output:

Trigger Output: Pause: 0 V, Measuring: 4 V

6.2 Additional Specifications for 2238 – A – F (Version with Filter Set Installed)

Standards:

Conforms with the following:
• EN 61260/IEC 1260 (1995) Octave and $1/3$-octave Bands Class 1
• ANSI S1.11 – 1986 Octave and $1/3$-octave Bands, Order 3, Type 1-D. Optional Range

Octave and $1/3$-octave Band Filters:

Conform to IEC 1260 (1995) and ANSI S1.11 – 1986.
Frequency Rating System: Base 10
Reference Attenuation: 0 dB
Linear Operating Range: As Indicator range
Nominal Octave Band Centre Frequencies:
31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz
Nominal $1/3$-octave Band Centre Frequencies:
20 Hz, 25 Hz, 31.5 Hz, 40 Hz, 50 Hz, 63 Hz, 80 Hz, 100 Hz, 125 Hz, 160 Hz, 200 Hz, 250 Hz, 315 Hz, 400 Hz, 500 Hz, 630 Hz, 800 Hz, 1 kHz, 1.25 kHz, 1.6 kHz, 2 kHz, 2.5 kHz, 3.15 kHz, 4 kHz, 5 kHz, 6.3 kHz, 8 kHz, 10 kHz, 12.5 kHz

$C\epsilon$	CE-mark indicates compliance with: EMC Directive.
EMC Emission	**EN 50081–1:** Generic emission standard. Part 1: Residential, commercial and light industry. **EN 50081–2:** Generic emission standard. Part 2: Industrial environment. **CISPR 22:** Radio disturbance characteristics of information technology equipment. Class B Limits. **FCC Rules, Part 15:** Complies with the limits for a Class B digital device.
EMC Immunity	**EN 50082–1:** Generic immunity standard. Part 1: Residential, commercial and light industry. RF immunity implies that sound level indications of 50 dB or greater will be affected by no more than 0.5 dB. **EN 50082–2:** Generic immunity standard. Part 2: Industrial environment. RF immunity implies that sound level indications of 65 dB or greater will be affected by no more than 0.5 dB.
	These levels of immunity are 9 dB better than required by IEC 1672.
Note: The above conformance is guaranteed only when using the included/optional accessories.	

Brüel & Kjær reserves the right to change specifications and accessories without notice

Chapter 7

Appendix 1: General

7.1 List of Default Parameters

Note: These default parameters are in addition to those described in the Basic User Manual.

Menu	Set-up Parameter	Default Value
Log. Period	Period Time	Normal
	Logged Every	00:30
Log. Control	Destination	File
	Meas. Time	Continuous
Weightings	Bandwidth (Detector 1)	Broad Band
	Freq. Wgt. (Detector 1)	A
	Bandwidth (Detector 2)	Broad Band
	Weighting (Detector 2)	Peak/C
Parameters (Normal logging mode)	1	LAeq
	2	LAFmax
	3	LAFmin
	4	LCpkmax
	5 ... 12	None
Parameters (Short logging mode)	1	LCeq
	2 ... 3	None
Input/Output	Aux 1	AC Output
	Aux 1: Freq. Wgt.	Linear
	Aux 2	DC Output

Menu	Set-up Parameter	Default Value
Statistics	Percentiles: L_N	L1, L5, L10, L50, L90, L95, L99
	Time Weighting	F

Chapter 8

Appendix 2: Interface

BB1125 – 11   2238 Mediator   8 – 1
                    Logging SLM Software BZ7124
                         User Manual

8.1 Controlling Mediator via the Serial Interface

8.1.1 Commands

The command and query messages available with the Logging module are listed in Table 8.1. The interface jobs that are specific for the Logging module are explained in the following. For other interface jobs, refer to the Basic User Manual.

Message	Command	Query	Message	Command	Query
Avail_**T**ime		•	**ID**entify		•
Bandwidth	•	•	**K**ey	•	
Bandwidth_**S**hort	•	•	**PA**rameter		•
Continue	•		**PAU**se	•	
Error		•	**RA**nge	•	•
File		•	**RE**set	•	
Frequency_**W**eighting_**1**	•	•	**SE**tup	•	•
Frequency_**W**eighting_**2**	•	•	**ST**atus		•
Frequency_**W**eighting_**S**hort	•	•	**SY**stem	•	•
Header	•	•	**V**ersion		•

Table 8.1 Command and query message overview

8.1.2   Avail_Time?

The **A**vail_**T**ime**?** query shows how much time remains in Mediator memory for storing logging results. The syntax for the **A**vail_**T**ime**?** query and response returned by the Mediator appear in Fig. 8.1.
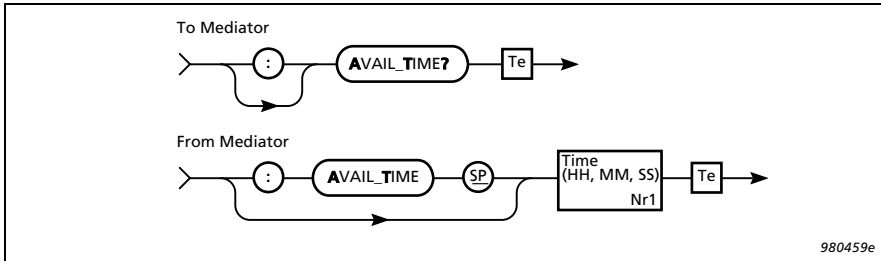
*Fig. 8.1 Syntax for the **A**vail_**T**ime**?** query and Mediator response*

Example (time query):

Interface job from controller:

Avail_**T**ime**?**

From Mediator:

:AVAIL_TIME HH,MM,SS

8.1.3   Bandwidth_Short

The **B**andwidth_**S**hort command is used for setting the bandwidth for Detector 2 in Short logging mode. The syntax is shown in Fig. 8.2.

The default setting is: Broad-band

The **B**andwidth_**S**hort parameters are: **O**ctave_**1**, **O**ctave_**3** and **B**road.
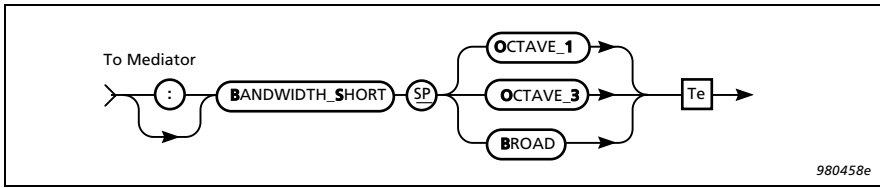
*Fig. 8.2 Syntax for **B**andwidth command*

Note: The $^1/_3$- and $^1/_1$-octave options are only available when the $^1/_1$-octave and $^1/_3$-octave Filter Set is installed in the Mediator.

The syntax for the query **B**andwidth_**S**hort? and the response returned by the Mediator appears in Fig. 8.3.
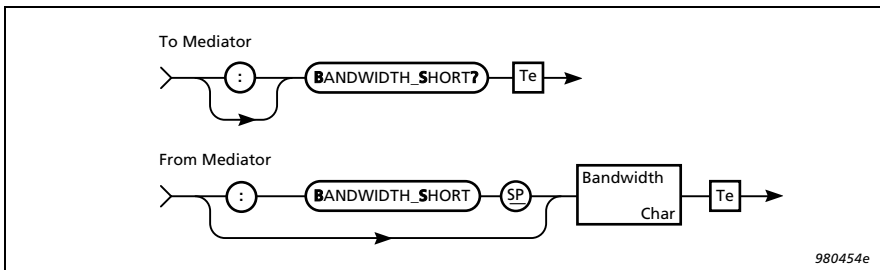
*Fig. 8.3 Syntax for the **B**andwidth_**S**hort? query and Mediator response*

Example (setting Detector 2 to "1/3-octave):

Interface job from controller:

Bandwidth_**S**hort **O**ctave_**3**

Query from controller:

Bandwidth_**S**hort**?**

From Mediator:

:BANDWIDTH_SHORT OCTAVE_3

8.1.4   Frequency_Weighting_2

The **F**requency_**W**eighting_**2** command is used for setting up the frequency weighting options for Detector 2. The syntax is shown in Fig. 8.4.
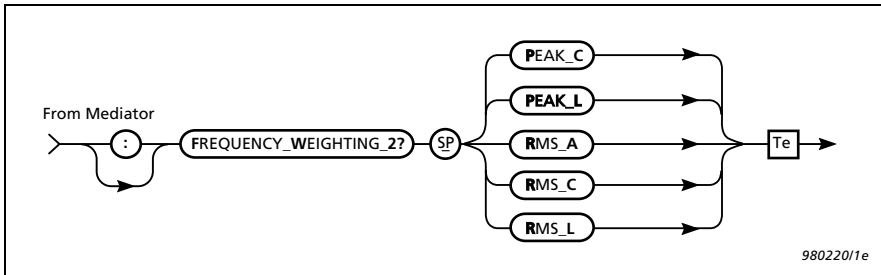
*Fig. 8.4 Syntax for **F**requency_**W**eighting_**2** command*

The default setting is: Peak and C-weighting

Peak weighting can be C or L. The frequency weighting values for RMS are: A, C or L.

Note: Some combinations of weightings are mutually exclusive for the two detectors.

The syntax for the query **F**requency_**W**eighting_**2?** and the response returned by Mediator appears in Fig. 8.5.

Example (setting frequency weighting for Detector 2 to RMS and A-weighting):

Interface job from controller:

Frequency_**W**eighting_**2** **R**ms_**A**

Query from controller:

Frequency_**W**eighting_**2?**

From Mediator:
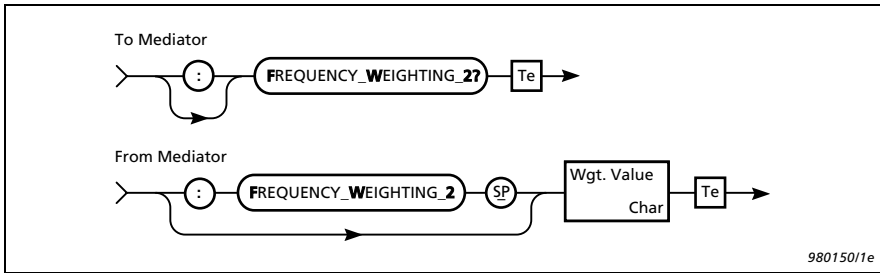
*Fig. 8.5   Syntax for the **F**requency_**W**eighting_**2?** query and Mediator re-sponse*

```
:FREQUENCY_WEIGHTING_2  RMS_A
```

8.1.5   Frequency_Weighting_Short

The **F**requency_**W**eighting_**S**hort command is used for setting up the frequency weighting options for Detector 2 in Short logging mode. The syntax is shown in Fig. 8.6.
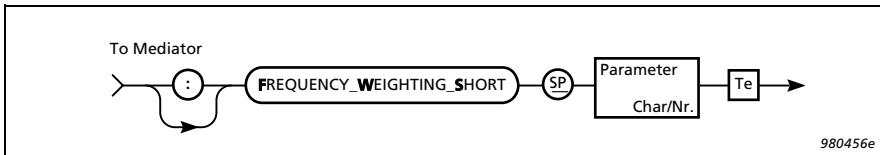
*Fig. 8.6 Syntax for **F**requency_**W**eighting_**S**hort command*

The default setting is: C-weighting

The frequency weighting values are: **A**, **C**, **L**in, **F20**, **F25**, **F31_5**, **F40**, **F50**, **F63**, **F80**, **F100**, **F125**, **F160**, **F200**, **F250**, **F315**, **F400**, **F500**, **F630**, **F800**, **F1K**, **F1K25**, **F1K6**, **F2K**, **F2K5**, **F3K15**, **F4K**, **F5K**, **F6K3**, **F8K**, **F10K**, **F12K5**.

Note 1: The "K" is used as decimal separator.

Note 2: Some combinations of weightings are mutually ex-clusive for the two detectors.

The syntax for the query **F**requency_**W**eighting_**S**hort**?** and the response returned by the Mediator appears in Fig. 8.7.
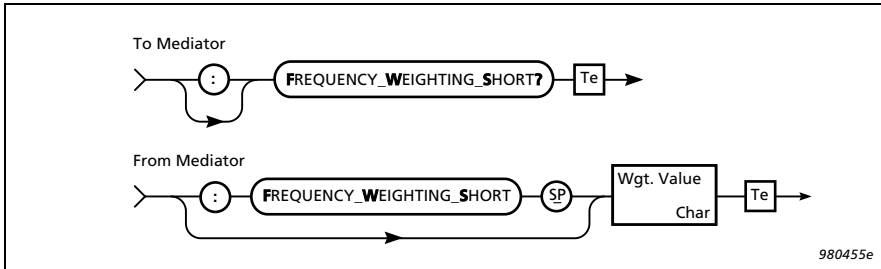
*Fig. 8.7   Syntax for the **F**requency_**W**eighting_**S**hort? query and Mediator response*

Example (setting frequency weighting to A-weighting in Short logging mode):

Interface job from controller:

Frequency_**W**eighting_**S**hort **A**

Query from controller:

Frequency_**W**eighting_**S**hort**?**

From Mediator:

:FREQUENCY_WEIGHTING_SHORT A

8.1.6   PArameter?

The **PA**rameter**?** query is used for checking the selected measurement parameters. The syntax for the query **PA**rameter**?** and the response returned by Mediator appears in Fig. 8.8.

Example (reading the measured L_{Xeq} value):

Query from controller:

PArameter**:LE**q**? A**
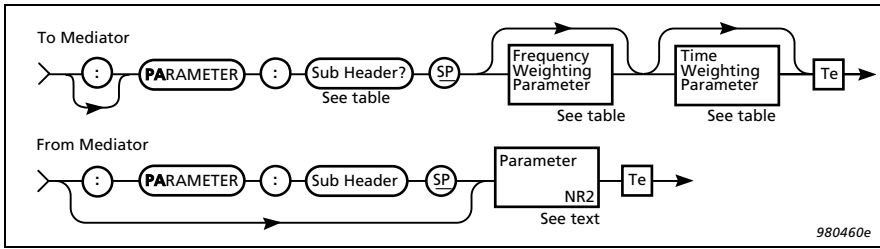
*Fig.8.8 Syntax for the **PA**rameter**?** query and Mediator response*

Sub Header	Frequency Weighting Setting	Time Weighting Setting
ELapsed	—	—
Inst	**A** **C** **L**in **O**ctave	**F**ast **S**low **I**mpulse
LEq	**A** **C** **L**in **O**ctave	—
LIeq	**A** **C** **L**in **O**ctave	—
LMAx	**A** **C** **L**in **O**ctave	**F**ast **S**low **I**mpulse
LMIn	**A** **C** **L**in **O**ctave	**F**ast **S**low **I**mpulse

*Table 8.2 Sub-header and parameter settings for the **PA**rameter**?** query*

Sub Header	Frequency Weighting Setting	Time Weighting Setting
LP	**A** **C** **L**in **O**ctave	**F**ast **S**low **I**mpulse
LPK	—	—
LPKMax	—	—
No_**P**eaks	—	—
Overload	—	—
Underrange	—	—
Start_**D**ate	—	—
Start_**T**ime	—	—

*Table 8.2 (cont.) Sub-header and parameter settings for the **PA**rameter?*

From Mediator (value in dB):

`:PARAMETER:LEQ 52.6`

8.1.7 SEtup

The **SE**tup commands are used for setting up most of the measurement parameters in the Measurement Setting menu.

SEtup Commands

The **SE**tup commands (except for Auto Start) use the syntax illustrated in Fig. 8.9.

The syntax for the query **SE**tup**?** and the response returned by Mediator appears in Fig. 8.10.
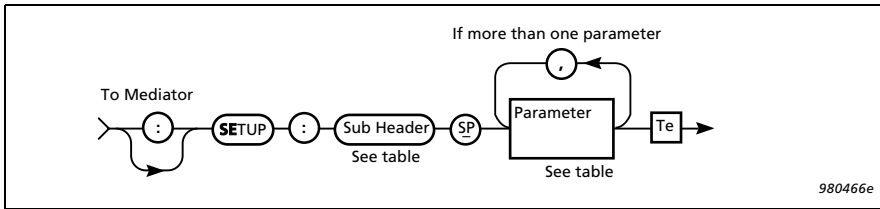
*Fig. 8.9 Syntax for the **SE**tup command*

Sub Header	Parameter			Comments
	No	Setting	Type	
Aux_1	–	**O**ut **I**n	Char	Sets **Aux 1** to AC Output Sets **Aux 1** to DC Input
Aux_1_FW	–	**L**inear_**F**requen-cy_**W**eighting **D**etector_1_**F**req-uency_**W**eighting	Char	Sets Linear Frequency weighting for Detector 1 output to the **Aux 1** out-put
Aux_2	–	**O**ut **I**n **T**rigger_**I**n **T**rigger_**O**ut	Char	Sets **Aux 2** to DC Out-put Sets **Aux 2** to DC Input Sets **Aux 2** to Trigger Input Sets **Aux 2** to Trigger Output
Destination	–	**F**ile **I**nterface	Char	Directs the logging result to Mediator´s memory or to the inter-face
Exchange_**R**ate	–	**4** **5**	NR1	Sets Exchange Rate to 4 or 5 dB

*Table 8.3   Sub-header and parameter settings for the **SE**tup command*

Sub Header	Parameter			Comments
	No	Setting	Type	
Log_**M**eas_ **T**ime	–	**C**ontinuous **P**reset	Char	Sets continuous meas- urement or selects the pre-defined measure- ment time (total logging time)
Log_**T**ime	1	(Hour) **0 ... 7440**	NR1	Sets the overall meas- urement time (total log- ging time)
	2	(Minute) **0 ... 59**		
	3	(Second) **0 ... 59**		
Logged_**E**very_ **N**ormal	1	(Minute) **0 ... 60**	NR1	Sets the logging period for each logging in a Normal logging meas- urement
	2	(Second) **0 ... 59**		

Table 8.3   *(cont.) Sub-header and parameter settings for the **SE**tup com- mand*

BB1125 – 11   2238 Mediator
Logging SLM Software BZ 7124
User Manual   8 – 11

Sub Header	Parameter			Comments
	No	Setting	Type	
Logging_**P**aram-eter_**N**ormal	1	Selector **1 ... 12**	NR1	Selects the position of the succeeding parame-ter
	2	**LMAX** **LMIN** **LTM5** **LEQ** **LIEQ** **LAV** **LN01 ... LN07** **OVERLOAD** **UNDERRANGE** **PEAKS** **PKMAX** **AUX1** **AUX2** **L_LOG_NO** **NOPAR**	Char	Sets the logging param-eters for normal logging mode
	3	**DET**ector_**N**one **DET**ector_**1** **DET**ector_**2**	Char	Selects the detector
	4	**F**ast **S**low **I**mpulse **N**one	Char	Sets the time weighting
Logging_**P**aram-eter_**S**hort	1	Selector **1 ... 3**	NR1	Selects the position of the succeeding parame-ter
	2	**LEQ** **AUX1** **AUX2** **NOPAR**	Char	Sets the logging param-eters for short logging mode

*Table 8.3   (cont.) Sub-header and parameter settings for the **SE**tup com-mand*

Sub Header	Parameter			Comments
	No	Setting	Type	
N1 **N2** **N3** **N4** **N5** **N6** **N7**	–	**1 ... 99**	NR3	Sets the percentile levels
Peaks_**O**ver	–	**0 ... 180**	NR3	Sets the peak counting level
Preset_**T**ime	1	(Hour) **0 ... 99**	NR1	Sets the measurement time for each measurement in an Auto Start sequence
	2	(Minute) **0 ... 59**	NR1	
	3	(Second) **0 ... 59**	NR1	
PEriod_**T**ime	–	**N**ormal **S**hort	Char	Selects normal or short logging mode
Random_**F**rontal	–	**R**andom **F**rontal	Char	Sets Random or Frontal frequency correction
Recall	–	**0 ... 4**	NR1	Recall measurement set-up 0 to 4 (0 is default set-up)
SAve	–	**1 ... 4**	NR1	Saves measurement set-up in memory 1 to 4
SEquence	–	**OF**f, **ON**	Char	Switches the Auto Start sequence On or Off
STatistics_**T**ime-weighting	–	**F**ast **S**low **I**mpulse	Char	Sets the time weighting for the statistics distribution

*Table 8.3 (cont.) Sub-header and parameter settings for the **SE**tup command*

Sub Header	Parameter			Comments
	No	Setting	Type	
Wind_**S**creen	–	**OF**f, **ON**	Char	Switches the wind-screen frequency correction On or Off

*Table 8.3 (cont.) Sub-header and parameter settings for the **SE**tup command*
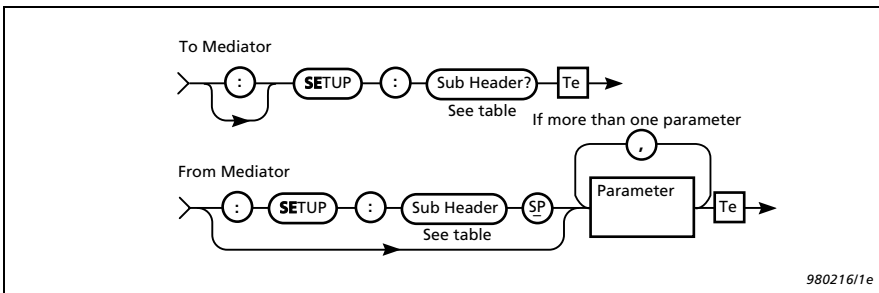
*Fig.8.10 Syntax for the **SE**tup**?** query and Mediator response*

Sub Header
Aux_**1?**
Aux_**1**_**FW?**
Aux_**2?**
Destination**?**
Exchange_**R**ate**?**
Log_**M**eas_**T**ime**?**
Log_**T**ime**?**

*Table 8.4 **SE**tup queries*

Sub Header
Logged_**E**very_**N**ormal**?**
Logged_**E**very_**S**hort**?**
Logging_**P**arameter_**N**ormal**?**
Logging_**P**arameter_**S**hort**?**
N1 ... N7?
Peaks_**O**ver**?**
Preset_**T**ime**?**
Period_**T**ime**?**
Random_**F**rontal**?**
SEquence**?**
STatistics_**T**imeweighting**?**
Wind_**S**creen**?**

*Table 8.4 (cont.) **SE**tup queries*

Example (checking the Preset Time set to 10 minutes):

Query from controller:

SEtup:**P**reset_**T**ime**?**

From Mediator:

:SETUP:PRESET_TIME 0,10,0

2238 Mediator
Logging SLM Software BZ 7124
User Manual

Chapter 9

Index

BB1125−11   2238 Mediator
Logging SLM Software BZ7124
User Manual   **9−1**

Index

9–2
        2238 Mediator
        Logging SLM Software BZ 7124
        User Manual
        Brüel & Kjær

Index