5

# *System 824 Views*

This chapter introduces you to the various ways of viewing measured data for a particular setup or ID of the System 824. Specifically, this chapter covers the following topics:

- Status icons

- General views

- SLM+RTA specific views

- Logging SLM specific views

Status Icons and Indicators

When using the System 824 you will encounter a number of different display views. Each display contains an instrument status icon in the upper right hand corner of the display. This icon changes according to the current state of the instrument.
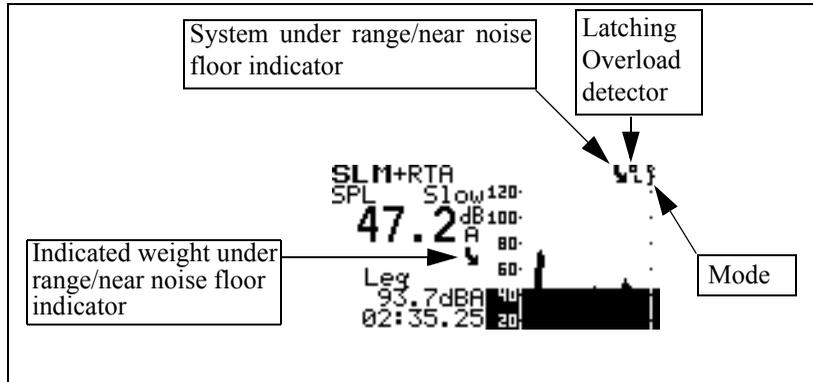
The following table describes the icons that may appear:

Icon	Description
🏃	Animated Running Figure - The instrument is running and acquiring data.
■	Solid Box - The instrument is stopped, data available.
□	Open Box - The instrument is stopped, and reset.
▣	Open Box with small solid box - Viewing a recalled file.
▫	Solid Box with open box in middle - OverAll or Current data are available but not both.

NOTE: To set the noise floor level, go to the "Tools" menu and highlight "Calibration". Scroll down to "Noise Floor" and press the ⊘ key. Enter the noise floor using the value provided by the microphone manufacturer's specifications.

❚❚	Double Bar - The instrument is paused.
▶	Play Symbol - The instrument is ready to run (as soon as stabilization completes).
⬛	Arrow-Under-Range/Near Noise Floor Indicator -The instrument is under range when the arrow is longer. The instrument is near its noise floor when the arrow is shorter. The system indicator, in the upper right corner of the display, will indicate when any A, C, or Flat instantaneous Leq inputs are under range or near the noise floor. The indicated weight indicator, shown just below the db/weight icon, will show whether that particular weight is under range or near the noise floor.
⬛ 0 -20	Block with Dark background and Light numerals-Defines upper and lower limits of linearity range.
❚▶	Bar and Play Symbol - The instrument is in preview. Current SPL and peak levels are displayed, but no data is being acquired.
⧖	Animated Hourglass - The instrument is stabilizing to ensure accurate measurement.
▯	Animated Draining Battery - The battery is low, and the instrument will shut off soon.
⌐L	O.L. - The instrument has been overloaded; measurement may not be accurate due to an overload condition having occurred some time during the measurement.

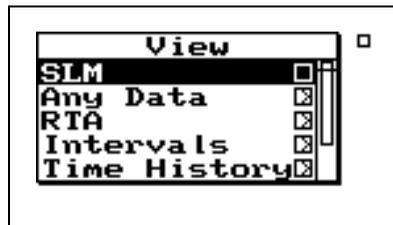|	
H.	Animated shrinking letter M - Indicates that less than 10% of memory is available when shown intermittently or out of memory when shown continuously.
Q	Animated Clock - Indicates that the automatic *run/stop timer* is active.
OVLD	Currently overloaded

General Views

The System 824 presents measurement data in both graphical and numerical/text formats for easy comprehension. This section provides an overview of the basic components of these display views. See the Chapter "Using ID Setting Files" on page 7-1 for detailed descriptions of the available settings contained within any of the System 824 views.

After you have selected the SLM&RTA operating mode or instrument ID, do the following to select the desired view.

Step 1 Press the ⊙ button and a screen similar to the following will appear.

```
        View          □
SLM                  □
Any Data             ⊠
RTA                  ⊠
Intervals            ⊠
Time History         ⊠
```

Step 2 Use the ⬆ and ⬇ arrow keys to highlight the desired view.

**Step 3** Press the Check $\checkmark$ key and the desired view will appear.

SLM Views

The SLM view is available to the ISM, SSA, and LOG instruments.

The SLM view shows the SLM data with a graphic display of Time History. In this graphical format, a running time history based upon 1 second L_{eq} values is scrolled across the screen showing the levels of the last fifty samples. New data points correspond to the detector and weighting selected by their respective settings. The larger digital display indicates the SPL for the selected values of detector and weighting. The smaller digital display indicates the level corresponding to one of the secondary parameters which are being measured concurrently.

The *SLM* view display consists of eight major components:

- Display label

- Selected detector

- Current SPL reading

- Selectable L_{eq} reading

- Weighting

- Elapsed time

- Status

- SPL history graph
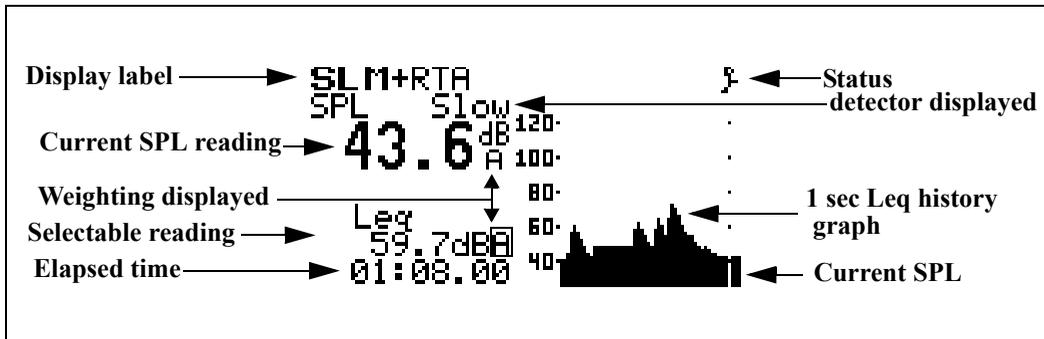
The following is a brief description of each of these components:

Display label - The Display label identifies the display. The example above shows the SLM view for the SLM+RTA Instrument ID.

Selected detector - The selection determines which detector's data (e.g. Fast, Slow, Impl) is to be displayed.

Current SPL reading - Displays the current SPL reading (as does the level of the moving bar on the far right of the SPL history graph). The frequency weighting for SPL can be selected: *A, C,* or *FLAT*. The detector can be selected from: *Slow, Fast* and *Impl.*

All combinations of detector and weighting are measured simultaneously. The detector and weighting selected in the "Settings" menu are for measurements such as Ln and Interval broadband levels.

Selectable reading - This is used to view a second level which can be *Leq, SEL, Min, Max,* or *Peak*.

Weighting - This selection determines which weighting is being displayed for the SPL and selectable reading. When the selectable reading is showing *Peak*, the weighting for the *Peak* can be set to: *A, C* or *Flat* (independent of the current SPL frequency weighting).
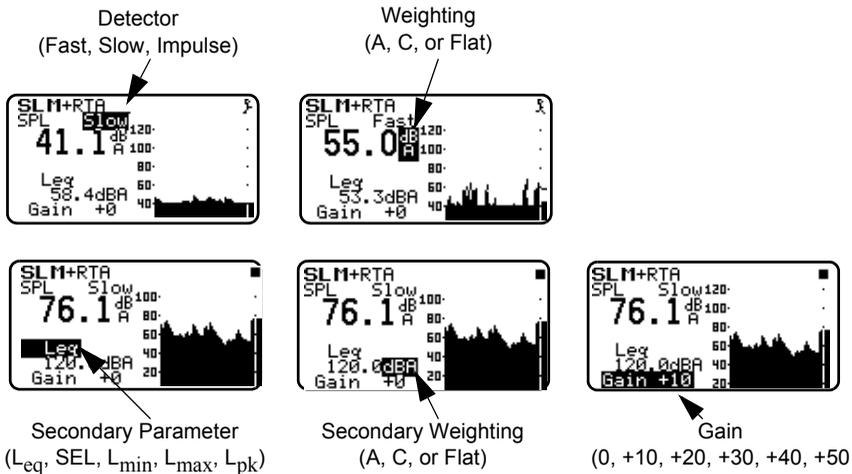
Elapsed time - Displays the current run time for the measurement. It resets to zero when the ⊕ RESET key is pressed, pauses when the ⏸ PAUSE key is pressed, and continues when the ⏸ PAUSE key is pressed again. The timer is displayed as mm:ss.ss, hh:mm:ss or hhhhh:mm.

Status - Status represents the state of the instrument (as described at the beginning of this section).

SPL history graph - This shows one second Leq readings. The far right bar displays the current SPL readings. As readings are taken, they are placed onto the scrolling graph from right to left every second. The time axis, in the SPL history graph, shows time increasing from left to right.

You can use the arrow keys to select the detector, weighting, secondary parameter to be displayed and gain or range as shown below.

Key	Action
▼	Moves to the next setting
▲	Moves to the previous setting
◀ or ▶	Adjusts the current setting

Detector
(Fast, Slow, Impulse)

Weighting
(A, C, or Flat)

Secondary Parameter
(L_{eq}, SEL, L_{min}, L_{max}, L_{pk})

Secondary Weighting
(A, C, or Flat)

Gain
(0, +10, +20, +30, +40, +50

The Any Data View presents a tabular display of SLM data in three different formats.

- Any Level Format

- Any Impl (Impulse) Format

- Any Time Format

The ⬆ and ⬇ arrow keys allow you to change the Any Data format you are viewing. The ◀ and ▶ arrow keys move you through each of the Any Data formats' available displays.

Any Level Format

In this view, five different tables present SPL (Fast and Slow), L_{max} (Fast and Slow), L_{min} (Fast and Slow), L_{eq}, SEL, and L_{peak} measured with A, C and Flat weighting as follows:

```
Any Level-a           ■
 SPL Fast      SPL Slow
60.4dBF      76.8dBF
58.3dBC      74.8dBC
37.0dBA      72.0dBA
```

```
Any Level-b           ■
     Leq         SEL
78.3dBF      82.3dBF
76.3dBC      80.3dBC
73.7dBA      77.7dBA
```

```
Any Level-c           ■
 Lmax Fast    Lmax Slow
99.0dBF      90.8dBF
97.4dBC      89.0dBC
95.4dBA      86.5dBA
```

```
Any Level-d           ■
 Lmin Fast    Lmin Slow
45.2dBF      48.3dBF
42.8dBC      45.4dBC
32.6dBA      34.5dBA
```

```
Any Level-e           ■
 SPL Fast        Peak
60.4dBF     124.0dBF
58.3dBC     123.7dBC
37.0dBA     124.6dBA
```

Any Impulse Format

In this view, three different tables present Impulse weighted parameters alongside similar Fast weighted parameters measured with A, C and Flat weighting as follows:

```
┌─────────────────────┐  ┌─────────────────────┐  ┌─────────────────────┐
│Any  Impl-a        ■ │  │Any  Impl-b        ■ │  │Any  Impl-c        ■ │
│ SPL Fast   SPL Impl │  │ Lmax Fast  Lmax Impl│  │ Lmax Slow  Lmax Impl│
│ 66.8dBF   85.4dBF   │  │ 92.1dBF   93.3dBF   │  │ 86.1dBF   93.3dBF   │
│ 63.0dBC   85.3dBC   │  │ 91.9dBC   93.2dBC   │  │ 86.1dBC   93.2dBC   │
│ 57.4dBA   86.4dBA   │  │ 93.1dBA   94.4dBA   │  │ 87.1dBA   94.4dBA   │
└─────────────────────┘  └─────────────────────┘  └─────────────────────┘
```

```
┌─────────────────────┐  ┌─────────────────────┐
│Any  Impl-d        ■ │  │Any  Impl-e        ■ │
│Takt3 Fast  Takt3 Slow│  │Takt5 Fast  Takt5 Slow│
│ 89.5dBF   83.4dBF   │  │ 90.1dBF   83.4dBF   │
│ 89.4dBC   83.4dBC   │  │ 90.0dBC   83.6dBC   │
│ 90.5dBA   84.4dBA   │  │ 91.1dBA   84.4dBA   │
└─────────────────────┘  └─────────────────────┘
```

Additional views if TAKT functionality is enabled. See page 3-18.

Any Time Format

In this view seven different displays present the level, date and time of Lmax (Fast, Slow, and Impulse), Lmin

(Fast, Slow, and Impulse) and Lpeak measured with A, C and Flat weighting as follows:

```
┌─────────────────────┐  ┌─────────────────────┐  ┌─────────────────────┐
│Any/Time-a         ■ │  │Any/Time-b         ■ │  │Any/Time-c         ■ │
│90.8dBF  Lmax Slow   │  │99.0dBF  Lmax Fast   │  │103.0dBF Lmax Impl   │
│   24Apr1997 14:33:59│  │   24Apr1997 14:33:59│  │   24Apr1997 14:33:59│
│89.0dBC              │  │97.4dBC              │  │102.4dBC             │
│   24Apr1997 14:33:59│  │   24Apr1997 14:33:59│  │   24Apr1997 14:33:59│
│86.5dBA              │  │95.4dBA              │  │100.4dBA             │
│   24Apr1997 14:33:59│  │   24Apr1997 14:33:59│  │   24Apr1997 14:33:59│
└─────────────────────┘  └─────────────────────┘  └─────────────────────┘
```

```
┌─────────────────────┐  ┌─────────────────────┐  ┌─────────────────────┐
│Any/Time-d         ■ │  │Any/Time-e         ■ │  │Any/Time-f         ■ │
│48.3dBF  Lmin Slow   │  │45.2dBF  Lmin Fast   │  │48.3dBF  Lmin Impl   │
│   24Apr1997 14:33:46│  │   24Apr1997 14:33:44│  │   24Apr1997 14:33:44│
│45.4dBC              │  │42.8dBC              │  │45.3dBC              │
│   24Apr1997 14:33:46│  │   24Apr1997 14:33:44│  │   24Apr1997 14:33:44│
│34.5dBA              │  │32.6dBA              │  │34.0dBA              │
│   24Apr1997 14:33:44│  │   24Apr1997 14:33:59│  │   24Apr1997 14:33:44│
└─────────────────────┘  └─────────────────────┘  └─────────────────────┘
```

```
┌─────────────────────┐
│Any/Time-g         ■ │
│124.0dBF     Peak    │
│   24Apr1997 14:33:59│
│123.7dBC             │
│   24Apr1997 14:33:59│
│124.6dBA             │
│   24Apr1997 14:33:59│
└─────────────────────┘
```

SSA Specific Views

The System 824 has various displays for the SSA instrument. Understanding these displays lets you take full advantage of this instrument.

In addition to the *SLM* and *Any Data* views described earlier in this chapter, there are four spectral displays

available in the SSA instrument; the ***RTA Live*** (instantaneous) spectrum, the ***RTA Leq*** or time weighted averaged (since last reset) spectrum, ***RTA Max*** spectrum, which is the spectrum time coincident with the maximum value of the SPL during the measurement interval and ***RTA Min***, which shows the minimum level obtained by each filter during the measurement interval. There are also displays for the Interval History, the Time History, the Run Log and for Ln Centiles.

Like all of the System 824 displays, these views are accessed via the ⊙ View key as described earlier in the "General Views" section of this chapter.

The following briefly describes the main views available to the SSA instrument.

Menu Items	Purpose
SLM	SLM data with graphic display of Time History.
Any Data	Tabular display of SLM data
RTA Live	Real-time frequency analysis display
RTA Leq	Leq frequency analysis display since the last reset
RTA Max	Frequency spectrum associated with the highest SPL RMS level since the last reset
RTA Min	The minimum level recorded for each frequency during the measurement.
Intervals	Shows an Leq spectrum, Max or Min spectral data, a broadband Leq, Lmax, Lmin, SEL, Lpeak and Spectral Lns for each interval period.

To store interval spectral Ln levels, set "Spectral Ln" to "Interval", **enable Ln and Interval histories** and set "Intv Save Ln" to "Yes".

SLM Time History	Shows the Leq for each time history period in graphical form plus the selected advanced T.H. items.
RTA Time History Live/Leq	Shows the spectral data for each time history period.
Run Log	Displays the start and stop times/dates of the active measurement
Ln Centiles	Ln percentile levels exceeded 'n' percent of the measurement time for broadband and spectral data.

SSA Displays

All of the following views can be accessed through the ⊙ View key when using the SSA instrument.

Additionally, the *RTA Live*, *RTA L*$_{eq}$, *RTA Max* and *RTA Min* can be easily switched between each other by using the ⬆ or ⬇ to move to any of the other views. The ▶ or ◀ arrow keys can used to move the cursor.

SSA Displays Including 1/1 or 1/3 Octave Spectral Data

The following are examples of the graphical displays for the *RTA Live*, *RTA Leq*, *RTA Max,* and *RTA Min.*
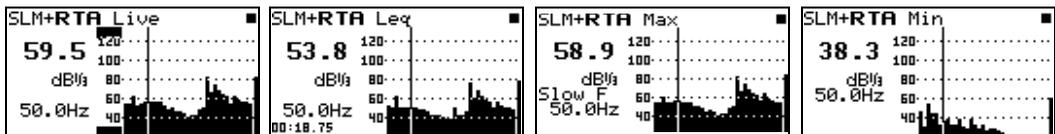
In the above views the cursor position (the vertical bar in the graph) corresponds to the level and frequency values shown. the left side of the display. The cursor or (frequency bar position) can be changed by pressing the ▶ or ◀ arrow keys. As the arrow keys are pressed, the vertical bar moves

to the appropriate position and the frequency readout changes accordingly.

Tabular SSA Views

The Tabular display can also be accessed from the main View menu by highlighting the desired RTA view, pressing the ▶ arrow key, and then selecting Tabular from the submenu that appears.

In addition to a graphical view, a tabular display is also available for the *RTA Live*, *RTA Leq*, or *RTA Max* modes which shows a tabular listing of the dB readings at specified frequency levels in each of these spectra. To access the tabular displays do the following:
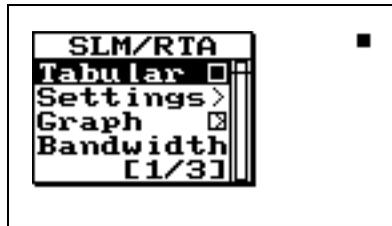
Step 1   Press the ✓ Check key while in the *RTA Live*, *RTA Leq*, or *RTA Max* graphical views. The following menu appears:

```
     SLM/RTA          ■
 Tabular   □
 Settings>
 Graph     ⊠
 Bandwidth
        [1/3]
```

While in the main tabular view, the ▲ and ▼ arrows keys cycle you through the different spectra's (i.e. RTA Live, RTA Max, and RTA L$_{eq}$) tabular displays.

The ▶ and ◀ arrow keys move you through a series of tabular displays showing the current spectra's dB readings at each center frequency.

Step 2   Highlight *Tabular* using the ▲ or ▼ arrow keys then press the ✓ check key. A tabular display like the following screen appears:
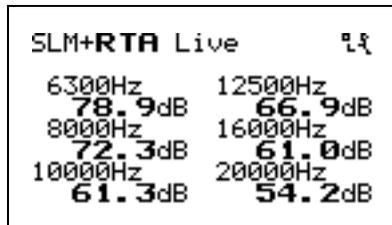
```
SLM+RTA Live        ⌐↓
  6300Hz    12500Hz
    78.9dB     66.9dB
  8000Hz    16000Hz
    72.3dB     61.0dB
 10000Hz    20000Hz
    61.3dB     54.2dB
```

Step 3   To return to the graphical view, press the ✓ check key and the following menu appears:

Select "Spectrum" to view the graph again.

Time History Displays

The following are examples of the graphical displays for the *SLM Time History* and *RTA Time History* Views:
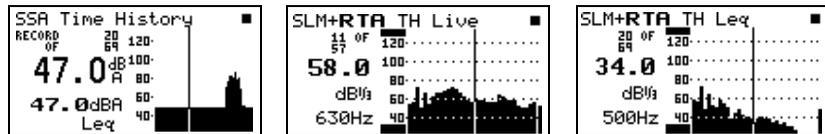
The up ▲ and down ▼ arrow keys change the record you are viewing. The ▶ or ◀ arrow keys change the position of the cursor.

SSA Intervals

NOTE: SSA Intervals are only available when the LOG option is installed.

See the section "Intervals" on page 5-44 for a description of the Interval-a through Interval-d displays.

The Interval History shows a record of various sound pressure data and spectral data (including spectral LNs) gathered in time segments over the run time of the 824. An example would be a measurement where data is gathered in one hour time intervals over a 24 hour period.

Only Min or Max can be displayed.

The SSA instrument has 4 unique interval displays which show the *Max* spectra (at the time the broadband level was at maximum), *Min* spectra, which is a bin by bin minimum, the *Leq* or average of each frequency over the interval period and *Leq By Time* which shows the level for each frequency from each interval record over time.

The following are examples of the interval displays:

Leq 99Au924 14:33:08 ■ **Max** 99Au924 14:33:08 ■ **Min** 99Au924 15:06:08 ■ **Leq By Time** ■

40.9   42.4   32.9   54.7

1000Hz   1000Hz   1000Hz   1000Hz
00:10.00   00:10.00   00:10.00   00:01.00

Interval period

Time of interval

The **Leq** display shows the average level for each filter during the interval period

The **Max** display shows the spectrum corresponding to the maximum broadband level during the interval period

The **Min** display shows the bin by bin minimum level for the interval period

The cursor shows the level for the interval record selected

The up and down arrow keys change the frequency displayed

Do the following to ensure you have Spectral Lns for the interval period:

Go to the "Edit Settings" menu for the SSA instrument.

Setup
Edit Settings:
SLM&RTA   SSA>

In the "Ln" menu set the following settings to [Yes] and [Interval].

Enable Ln [Yes]

Spectral LN [Interval]

In the "Interval" menu set the following settings to [Yes].

Intv Enable [Yes]

Intv Save Ln's [Yes]

In the **Leq**, **Max**, and **Min** interval displays the cursor position (the vertical bar in the graph) corresponds to the SPL level and frequency values on the left side of the display. The up ⬥ and down ⬦ arrow keys change the record you are viewing.

In the **Leq By Time** display the up ⬥ and down ⬦ arrow keys change the frequency displayed. For each frequency the level is shown over time for each interval period. The right ▶ and left ◀ arrow keys move you to the next and previous interval record.

Interval **Spectral LNs** can also be selected for each interval period. Six Ln values are shown for each frequency. Also there are six graphical displays showing spectra for each of the six Ln values. In order to turn on the Spectral Lns for the interval period, go to the SSA settings menu and select "Interval" for the Spectra Ln setting under the "Ln" menu.

To view the Interval Spectral LN displays, press the View ⊙ key and highlight "Intervals".

```
            ┌─────────────────────┐
            │ ┌──── View ────┐  ■ │
            │ │RTA          ⊠│    │
            │ │Intervals    ⊠│    │
            │ │Time History⊠│ ▯   │
            │ │Run Log       □│    │
            │ │Ln Centiles  ⊠│    │
            │ │              │    │
            │ └──────────────┘    │
            └─────────────────────┘
```
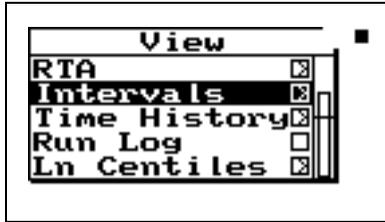
Press the right ▷ arrow key to access the "Interval" display menu and highlight "Ln Spectrum".

*Interval spectral LNs are only available when the LOG option is installed.

```
            ┌─────────────────────┐
            │ ┌─── Intervals ──┐ ■ │
            │ │Intervals     □│▯  │
            │ │Leq Spectrum□│   │
            │ │Max/Min Spec□│   │
            │ │Ln Spectrum ⊠│   │
            │ │              │   │
            │ └──────────────┘   │
            └─────────────────────┘
```
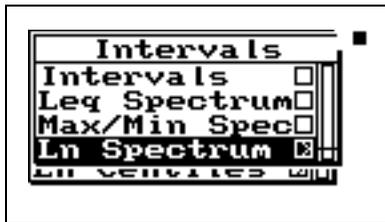
Press the right ▷ arrow key to access the "Interval" Spectral LN displays. The following menu will appear:

```
            ┌─────────────────────┐
            │ ┌───── Ln ─────┐  ■ │
            │ │Spectral    □│    │
            │ │Spectrum 1□│    │
            │ │Spectrum 2□│    │
            │ │Spectrum 3□│    │
            │ │Spectrum 4□│    │
            │ └──────────────┘    │
            └─────────────────────┘
```
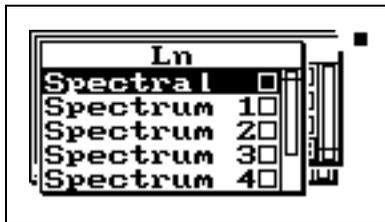
Highlight "Spectral" and press the check ✓ key to view the **INTV-**Ln(f) display.

```
INTV-Ln(f)              ■
≱ 1000Hz          3/    3
L 1.00        L 5.00
      42.0          39.0
L 50.0        L 90.0
      31.0          30.0
L 95.0        L 99.0
      30.0          29.5
```
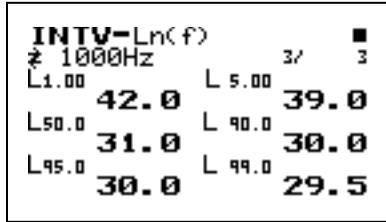
Use the right ▶ and left ◀ arrow keys to move to each one-third octave frequency.

To view the Spectral 1 through Spectral 6 displays (the 6 Ln values) use the up ▲ and down ▼ arrow keys. Below is an example of one of these displays:

See the section "Spectral LNs" on page 5-21 for a detailed description of this display.

```
Ln1 05Jan00 12:58:56      ■
   1/   2  120
L 1.00    100
   83.5    80
   dB⅓     60
   800Hz   40
   01:00.00
```
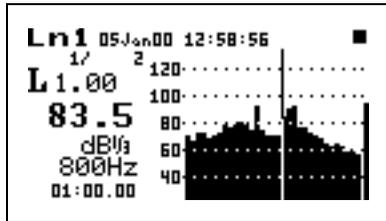
SSA Time History

The *SSA Time History* display consists of six major components:

• Display label

• Record number

• SPL reading at cursor

• Other level

• Status

• SPL history graph

The ***SLM Time History*** display is shown below:
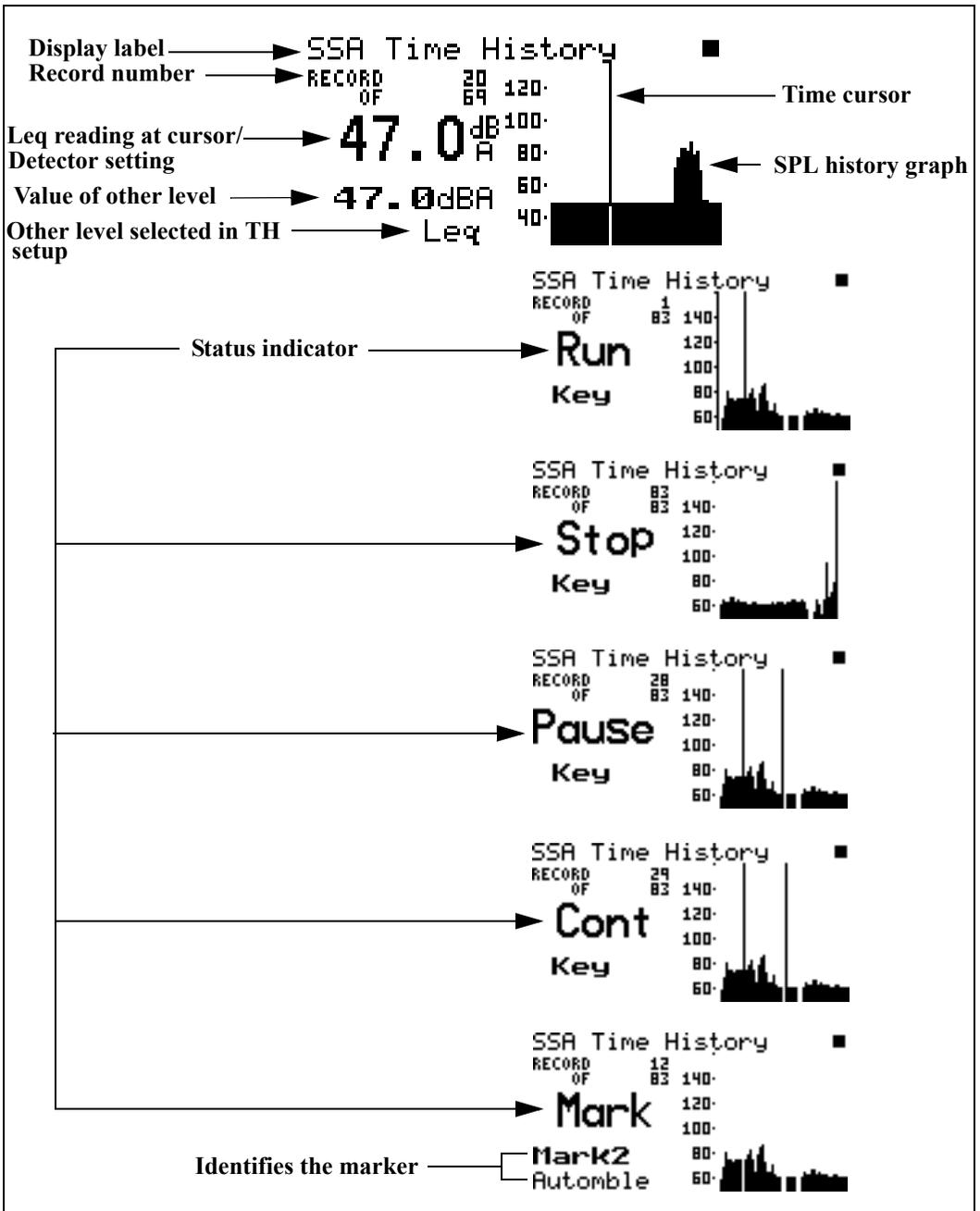
Display label — SSA Time History

Record number — RECORD OF 20 69

Time cursor

Leq reading at cursor/Detector setting — 47.0 dB A

SPL history graph

Value of other level — 47.0dBA

Other level selected in TH setup — Leq

Status indicator

SSA Time History
RECORD OF 1 83
Run
Key

SSA Time History
RECORD OF 83 83
Stop
Key

SSA Time History
RECORD OF 28 83
Pause
Key

SSA Time History
RECORD OF 29 83
Cont
Key

SSA Time History
RECORD OF 12 83
Mark

Identifies the marker — Mark2 Automble

The following discusses each of these display components:

Display label - This shows the current display (in this example, ***"SSA Time History")***.

Leq reading at cursor - Displays the current Leq of the time history period. This level is also shown graphically.

Time cursor/Record number - The Time cursor (the vertical bar) allows you to scroll graphically through the history of the displayed measurement readings using the arrow keys. Notice that as you move back and forth in time that the record number changes. The total number of records is also shown.

Time history graph - Shows the history of Leq readings. Time increases towards the right of the display.

*TH represents **time history** which is the TH setup in the settings menu.*

Value of other level - This shows the value of the other levels selected in the TH setup.

Use the up ⬆ and down ⬇ arrow keys to view each level selected in the TH setup.

Other level - This shows all of the levels selected in the TH setup in the settings menu.

Status indicator -The status indicator will show one of the six possible events that occurred at the point of time referenced by the time cursor:

> Run - Indicates that a measurement started at this time.

> Stop - Indicates that measurement stopped at this time.

> Pause - Indicates that the measurement paused at this time.

> Cont - Indicates that the measurement continued at this time.

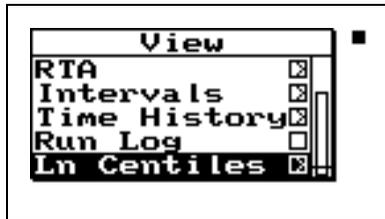> Reset - Indicates that the measurement was reset at this time.

> Mark - Indicates that a marker was set at this point in time.

Run Log   See page 6-41 for a description of the Run Log display.

Ln Centiles   To access the Ln displays, press the View ⊙ key, use the
                                       ▽ key to cursor down and highlight "Ln Centiles".


```
      View           ■
RTA               ⊠
Intervals         ⊠
Time History⊠
Run Log           □
Ln Centiles ⊠
```

Press the right ▷ arrow key to view the Ln displays. The
following menu will appear:

Spectral Lns are enabled by the
"Spectral Ln" setting. These data
and displays are only available when
set to "Overall". See the section
"LOG and SSA Ln Settings" on page
7-20.


```
      Ln             ■
Broadband  □
Spectral   □
Spectrum  1□
Spectrum  2□
Spectrum  3□
```
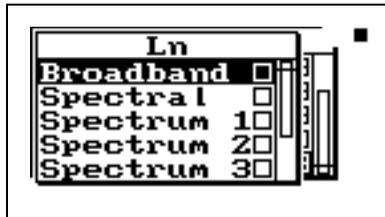
Highlight "Broadband" and press the check ⊘ key to view
the SSA-**Ln**-a display.

Display label ────────▶ SSA-**Ln**-a
                                              dB   A   ■

Percentile values & levels ──┤ L1.67   L8.33
                                        90.6   83.7
                                  L33.3   L50.0
                                        74.2   69.3
                                  L66.7   L90.0
                                        65.0   46.5

The following is a brief description of each of the components of this display:

- **Display label** - The Display label identifies the display which is the SSA-Ln-a display showing six Ln percentages for an overall measurement.

Lns are reset with an Overall Reset

- **Percentile values & levels** - The Ln (percentile levels) level is that level which is exceeded 'n' percent of the measurement time. By modifying the six settings, you can select any six percentile values to be displayed at a time.

NOTE: If Lns are enabled in the SSA instrument, then the Back-Erase feature is no longer available. (See the section "Pause, Back Erase" on page 3-10 for information on the Back-Erase feature)

Use the right $\triangleright$ arrow key to view the SSA-**Ln**-b display.

Display label ⟶ SSA-**Ln**-b Centiles ■
Current percentage shown by cursor L30 ↕
Ln value as shown by cursor ⟶ 75.2 dB A
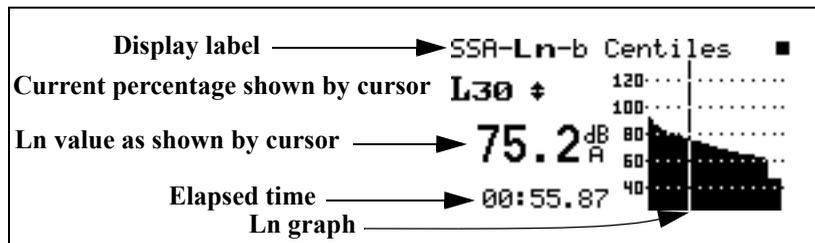Elapsed time ⟶ 00:55.87
Ln graph

The following is a brief description of each of the components of this display:

- **Display label** - The Display label identifies the display which is the SSA-Ln-b display showing Ln percentages 1 through 99 graphically for an overall measurement.

Use the up ▲ and down ▼ arrow keys to move from one percentile to another.

- **Current percentage** - Selects % of Ln to display (1 to 99), using the up ▲ and down ▼ arrow keys to move from one percentile to another.

- **Ln** - This shows the current Ln value.

- **Elapsed time** - Shows the elapsed run time accumulated since the last overall reset.

- **Ln graph** - Graph of Ln's from 1 to 99 (1 being on the left, 99 on the right). There are two levels represented by each bar. The highest of the two are graphed.

Spectral LNs

To return to the Ln display menu, press the View ⊙ key. To view the **Spectral Lns** highlight "Spectral" and press the check ⊘ key to view a tabular spectral display.
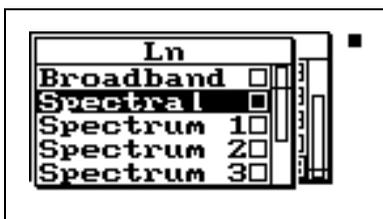
NOTE: Spectral Lns are measured for SSA instrument only. If a display bandwidth of one octave is selected with the "bandwidth" setting these displays will indicate "No Data Available for1/1 octave".

This is a tabular display for each 1/3 octave frequency showing six Ln values for the selected frequency. Below is an example of one of the displays shown for each frequency.

Display label
Selected frequency

Percentile values & levels

The following is a brief description of each of the components of this display:

The '(f)' indicates "Ln of frequency f".

- **Display label** - The Display label identifies the display which is the SSA-Ln (f) display showing six Ln percent values for the frequency displayed.

Use the right ▶ and left ◀ arrow keys to move to each 1/3 octave frequency.

- **Selected frequency** - Shows the values for the frequency shown on the display

- **Percentile values & levels** - The Ln (percentile levels) level is that level which is exceeded 'n' percent of the measurement time for the frequency band. By modifying the six settings, you can select any six percentile values to be displayed. The settings may be changed at any time; spectral Ln data are only calculated while running.

To view the spectral Lns in graphical form highlight "Spectrum 1" and press the check ✓ key.
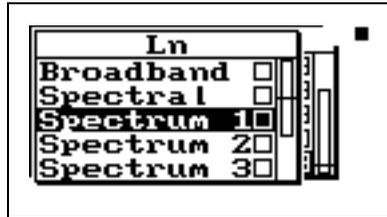
Use the up ▲ and down ▼ arrow keys to move from one spectrum Ln display to another.

There are six displays showing all of the frequencies for each of the six Ln values.

Below is an example of one of the "Spectrum" displays.
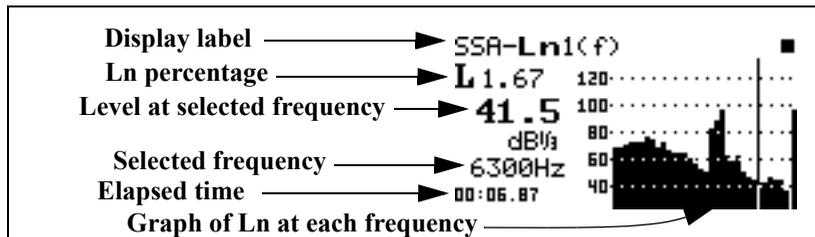
The following is a brief description of each of the components of this display:

- **Display label** - The Display label identifies the display which is the SSA-Ln 1(f) display showing L 1.67 for all of the frequencies in graphical form.

- **Ln percentage** - Shows Ln percentage being displayed.

- **Level at selected frequency** - This shows the Ln level at the frequency selected.

Use the right ▶ *and left* ◀ *arrow keys to change the frequency band.*

Use an "Overall reset" to reset overall data.

- **Selected frequency** - Level shown at this frequency.

- **Elapsed time** - Shows the elapsed run time accumulated since the last overall reset.

- **Ln graph** - Graph of Ln for each frequency at the percentage level displayed.

Logging SLM Specific Views

The System 824 provides a number of different displays for the Logging SLM (LOG) instrument. Understanding these displays allows you to take full advantage of this instrument.

All of these views can be accessed by pressing the ⊙ View key when using the Logging SLM (LOG) instrument. Additionally, the ⊲ or ⊽ arrow keys can be used to cycle through an associated group of views. There are three sets of these grouped views:

- *Any Data including Any Level, Any Impl, and Any Time.*

- *Current SLM, Overall SLM, Exposure, Ln Centiles, and Stats.*

- *Metrics*, *PassBy*, and *Wind / Tach*.

The Logging SLM (LOG) views are available when the Logging SLM is the active setup. These views can be accessed by pressing the ⊙ *view key.*

The following briefly describes the main views available in the Logging SLM (LOG) instrument.

Menu Items	Purpose
SLM	SLM data with graphic display of Time History.
Any Data	Tabular display of SLM data.
Current SLM	Maintains an accumulation of data that may be reset immediately.

Overall SLM	An accumulation of data over the entire measurement period and is reset when the entire measurement is reset.
Exposure	The Exposure displays show dose and projected dose, the sound exposure (E) and C-A.
Ln Centiles	Display shows six selected L_n values, a graph of L_1 to L_{99} and a graph of the percent greater than level.
Stats	The number of overloads and the number of events detected.
Run Log	A listing of each run, stop, pause, continue, and mark action with its cause, and date/time of occurrence.
Time History	Show the time history of L_{eq} and optionally many other levels such as L_{max}, L_{pk} or Advanced TH setup items over short duration periods. Can also show wind or tachometer data using external transducers.
Intervals	Shows a full statistical history over a longer time period by providing TWA, SEL, L_{min}, L_{max}, L_{pk-I}, L_{pk-II}, and six L_n values for each interval period. Can also show wind or tachometer data using external transducers.
Excd History	A special history which is saved when the level goes over a predetermined threshold. Leq, SEL, Lmax, LPK-I, LPK-II, duration and time history (if desired) are saved for each exceedance record. Can also show wind or tachometer data using external transducers.

Daily History	Ldn, CNEL, Leq 24, LPK-I, LPK-II, Ln's (if desired), Lmax and Lmin are calculated daily; and for each hour of the day the hourly Leq, EXCD Leq and background Leq. Can also show wind or tachometer data using external transducers.
Metrics	Measurement readings adjusted for night and day noise impact differences. Adjustments are based on standard nighttime sound penalties criteria (i.e. LDN, CNEL, etc.) The total exceedance and background Leq metrics are also displayed.
PassBy	Shows the largest single 10 dB passby event detected with its Leq, SEL, Lmax, duration, and occurrence date and time.
Wind / Tach	Shows wind or tachometer data.

Current SLM and Overall SLM Views

Current SLM clears and starts over when the ☺ Reset button is pressed while running. Overall SLM does not clear during a reset, but continues accumulating data.

The System 824 contains two independent data buffers that can accumulate data separately. In essence, the instrument becomes two sound level meters in one. The data in the primary buffer is referred to as the "overall" measurement, while data in the secondary buffer is referred to as the "current" measurement.

The ▲ and ▼ arrow keys can be used to cycle between the Current SLM, Overall SLM, Exposure, Ln Centiles, and Stats views.

The **Current SLM** and **Overall SLM** Views have five common displays which can be cycled through using the ▲ and ▼ arrow keys. Since these displays are identical they will be discussed together. These displays are categorized as follows:

        a) SPL

        b) Times

        c) Min/Max

d) Peaks

e) TWA

The different views can also be accessed by simply selecting either Current or Overall SLM with the Ⓥ Check key from within the main View menu then cycling through the views with the ▶ and ◀ arrow keys.

These displays can be accessed directly from the View menu screen by doing the following:

Step 1   Press the ⦿ View key to enter the View menu.

```
┌──────────────────────┐ □
│        View          │
│ SLM               □  │
│ Any Data          ☒  │
│ Current SLM       ☒  │
│ OverAll SLM       ☒  │
│ Exposure          □  │
└──────────────────────┘
```
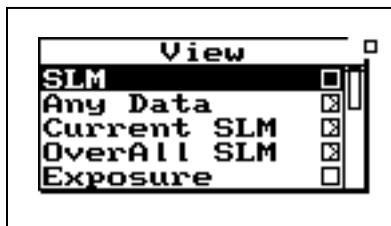
Step 2   Highlight either *Current SLM* or *Overall SLM*. Press the ▶ arrow key and one of the following screen appears:

```
┌─ Current SLM ─┐ ■
│ SPL        □ │☒
│ Times      □ │☒
│ Min/Max    □ │□
│ Peaks      □ │□
│ TWA        □ │□
```

```
┌─ OverAll SLM ─┐ ■
│ SPL        □ │☒
│ Times      □ │☒
│ Min/Max    □ │☒
│ Peaks      □ │□
│ TWA        □ │□
```
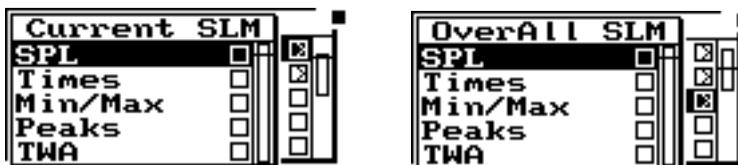
Step 3   Use the ▲ and ▼ arrow keys to highlight the desired view.

The ◀ and ▶ arrow keys allow you to move through the view's available displays.

Step 4   Press the Ⓥ Check key or the ▶ arrow key to enter the selected view.

Current SLM/Overall SLM Display-a (SPL)

The *Current/Overall-a SLM* (or *SPL*) display consists of six major components:

- Display label

- Current SPL reading and weight setting

- Selected detector

- Elapsed time

- Status

- SPL history graph

The ***Current SLM-a*** or ***SPL*** display is shown below:

Display label → ⌐SLM Current-a   ⌐ ← Status

Current SPL reading and weight setting → **54.6**dB A 120· 100·

Detector setting → Slow SPL 80· 60· ← SPL history graph

Elapsed time → 01:02.93 40·

The following discusses each of these display components:

Display label - This shows the current display (in this example, *"SLM Current-a")*. The display represents both Current-a and Overall-a display.

Current reading and weight setting - Displays the current SPL reading. This level is also shown graphically by the bar on the far right of the SPL history graph. The frequency weighting for SPL can be either *A*, *C*, or *FLAT*.

Detector setting - The current detector is indicated (for example, *Slow SPL*) and can be Slow, Fast, or Impl.

Elapsed time - This displays the length of time the current measurement has been running. It will reset to zero when the ⊕ Reset key is pressed (Current SLM only). It will also pause when the ⏸ Pause key is pressed and then continue when it is pressed again. The timer is displayed as mm:ss.ss, hh:mm:ss or hhhhh:mm.

SPL history graph - Shows a recent history of one second Leq readings. The far right bar displays the current SPL reading. As readings are taken, they are placed onto the scrolling graph from right to left once per second.
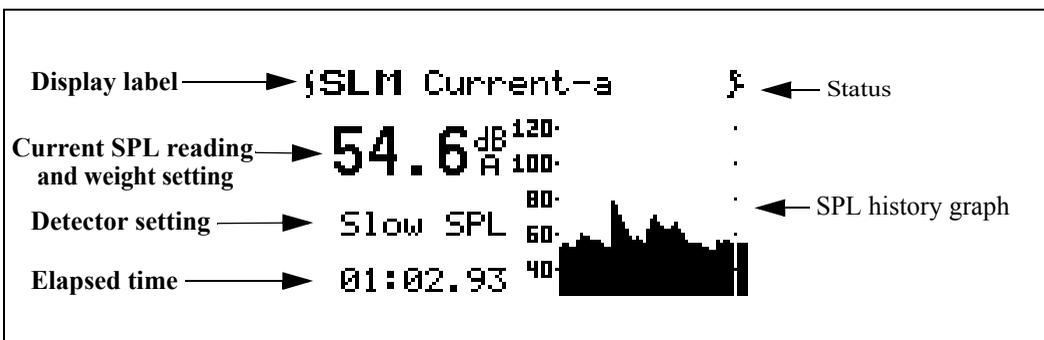
Current/Overall SLM Display-b (Times)

The *Current / Overall-b SLM* or *Times* display consists of four major components:

- Display label

- Start date / time

- Elapsed time

- End date / time

The *SLM Current-b o*r *Times* display is shown below:

```
Display label ────▶ ¡SLM Current-b        }

                    Began
Start date/time ──▶ 02Dec1997 11:02:56
                 to 02Dec1997 11:04:40 ◀── End date / time

                    Elapsed Run Time:
Elapsed time ──────────────▶ 0:01:43.6
```

The following explains each of the display's components:

Display label - This shows the current display (for example, *"SLM Current-b"*). The display represents both Current-b and Overall-b display.

Start date/time - Date and time the current/overall measurement began.

Elapsed time - The Elapsed Time displays the length of time the current or overall measurements have been running. It will restart at zero when the ⏺ Reset key is pressed (Current SLM only). It will also pause when the ⏸ Pause key is pressed and then continue when it is pressed again. The timer is displayed as hhhhh:mm:ss.s
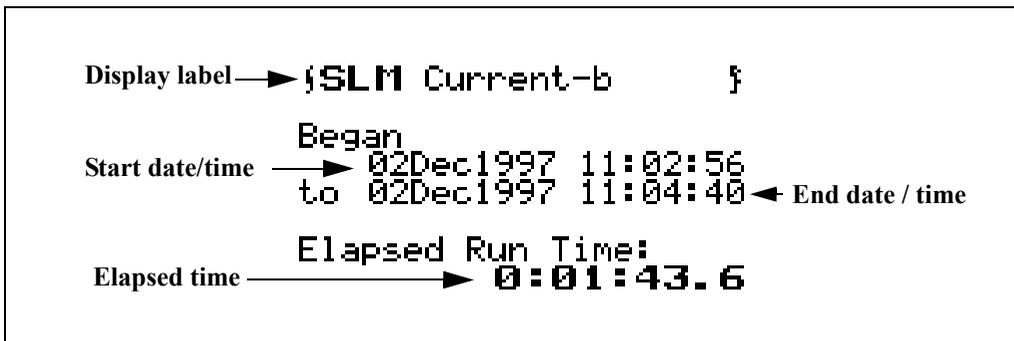
End date/time - Date and time the current/overall measurement ended (or current time if still running).

Current/Overall SLM Display-c (Min/Max)

The *Current/Overall-c SLM* or *Min/Max* display consists of three major components:

- Display label
- Current/Overall Lmax reading
- Current/Overall Lmin reading

The *SLM Current-c* or *Min/Max* display is shown below:
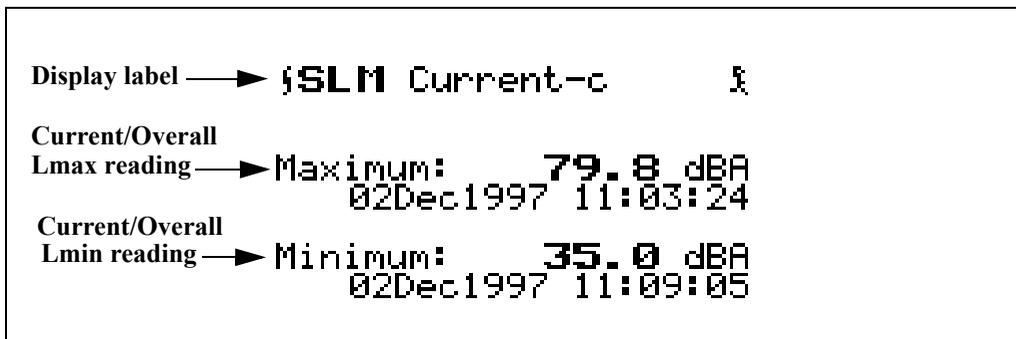
Display label ⟶ {SLM Current-c   ⟩

Current/Overall
Lmax reading ⟶ Maximum: **79.8** dBA
         02Dec1997 11:03:24

Current/Overall
Lmin reading ⟶ Minimum: **35.0** dBA
         02Dec1997 11:09:05

The following explains each of the display's components:

Display label - This shows the current display (for example, "*SLM Current-c*"). The display represents both Current and Overall-c display.

Current / Overall Lmax reading - Displays Lmax or maximum level that occurred, and the date and time when it occurred.

Current / Overall Lmin reading - Displays Lmin or minimum level that occurred, and the date and time when it occurred.

Current/Overall SLM Display-d (Peaks)

The *Current / Overall-d SLM* or *Peaks* Display consists of three major components:

- Display label

- Current / Overall Flat Weighted Peak

- Current / Overall C - Weighted Peak

- Current / Overall A - Weighted Peak

The **SLM Current -d** or **Peaks** display is shown below:

```
Display label ──────▶ ¦SLM Current-d        ¦
                                          Peak
Flat Weighted Peak ──▶ 108.7dBF
                          02Dec1997 11:05:17
 C - Weighted Peak ───▶ 96.5dBC
                          02Dec1997 11:05:17
 A - Weighted Peak ───▶ 93.2dBA
                          02Dec1997 11:03:24
```

The following information explains each of the display's components:

Display label - Shows the display currently being used (for example, *"SLM Current-d"*). The display represents both Current-d and Overall-d display.

Current/Overall Flat Weighted Peak reading - Shows the flat weighted value from the System 824's peak detector along with the date and time that the peak event occurred.

Current/Overall C - Weighted Peak reading - Shows the C weighted value from the System 824's peak detector along with the date and time that the peak event occurred.

Current/Overall A - Weighted Peak reading - Shows the A weighted value from the System 824's peak detector along with the date and time that the peak event occurred.
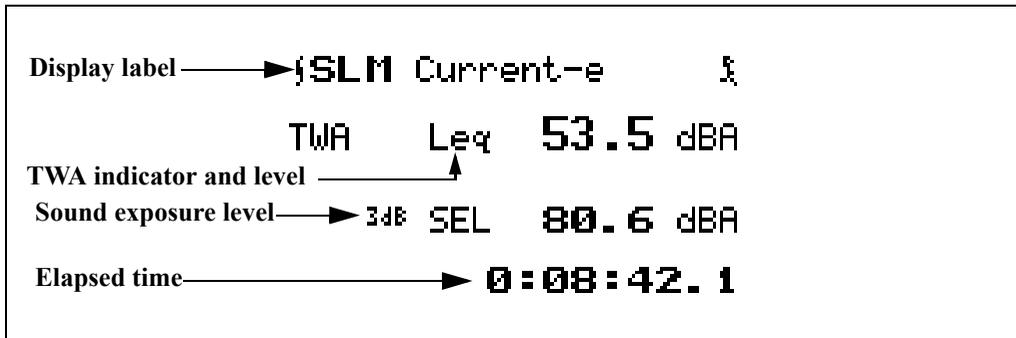
Current/Overall SLM Display-e (TWA)

The *Current/Overall-e SLM* display consists of four major components:

- Display label

- TWA indicator and level

- Sound exposure level

- Elapsed time

The *SLM Current -e* or *TWA* display is shown below:

```
Display label ──────▶ {SLM Current-e      }

                    TWA   Leq  53.5 dBA
TWA indicator and level ─────▲
Sound exposure level ──▶ 3dB  SEL   80.6 dBA

Elapsed time ─────────────▶ 0:08:42.1
```

The following explains each of the display's components:

Display label - This shows the current display (for example, "*SLM Current-e"*). The display represents both Current and Overall -e display.

TWA indicator and level - The indicator is based on the exchange rate (Leq for 3dB exchange rate and threshold = 0. TWA for all others) and the Time Weighted Average level.

Sound exposure level - The Sound Exposure Level (SEL) is measured in dB. This is the TWA normalized to one second.

Elapsed time - This shows the elapsed run time accumulated since the last current/overall reset. This is the time over which the current TWA is averaged.

Exposure Views

The ▲ and ▼ arrow keys can be used to cycle between the Current SLM, Overall SLM, Exposure, Ln Centiles, and Stats views.
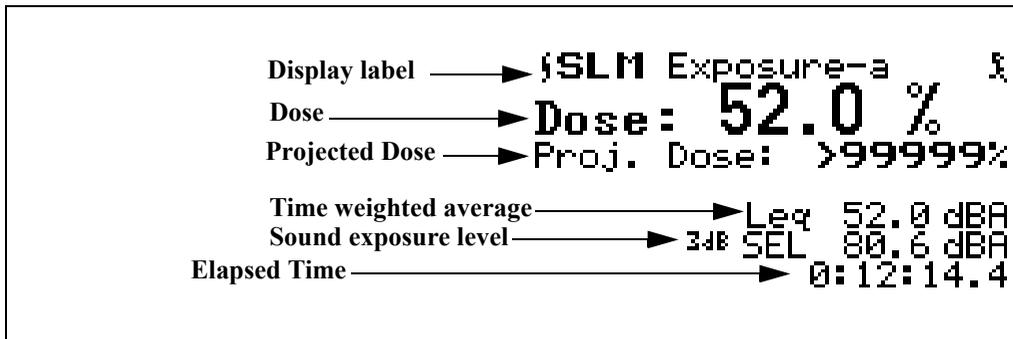
The *Exposure View* has three displays which can be accessed by simply selecting *Exposure* with the ✓ Check key from within the main View menu then cycling through the views with the ▶ and ◀ arrow keys until the desired display appears.

Exposure Display-a

The ***Exposure-a*** display consists of seven major components:

- Display label

- Dose

- Projected dose

- Time Weighted Average

- Sound Exposure Level

- Elapsed Time

The ***Exposure-a*** display is shown below:

Display label ──────▶	¦SLM Exposure-a ⌡
Dose ──────────▶	Dose: **52.0** %
Projected Dose ─────▶	Proj. Dose: >99999%
Time weighted average ──────▶	Leq 52.0 dBA
Sound exposure level ─────▶ 3dB	SEL 80.6 dBA
Elapsed Time ───────▶	0:12:14.4

The following explains each of the display's components:

Display label - This shows the current display (for example, "***SLM Exposure-a***").

Dose - By definition, a person receives 100% dose when exposed to a noise having a TWA equal to the selected criterion level for a time equal to the criterion time (usually eight hours). This corresponds to the maximum safe noise exposure. Exposures at higher levels will result in a 100% dose in less time; or if exposure continues, the exposure will exceed 100% dose.

Projected dose - Projected dose is the dose that will occur if current noise levels continue for the entire criterion time.

Time weighted average - This display shows the Time Weighted Average (TWA) measured in dB.

Sound exposure level - This display shows the Sound Exposure Level (SEL) measured in dB.

Elapsed time - The timer display shows the elapsed run time accumulated since the last overall reset. This is the time over which the overall TWA is averaged.

Exposure-b Display

The *Exposure-b display* consists of five major components:

- Display label
- Sound exposure
- Sound exposure level
- Time weighted average
- Elapsed Time

The *Exposure -b* display is shown below:

Display label ⟶ ʃSLM Exposure-b ■

Sound exposure ⟶ SE: 0.00 Pa²H

Sound exposure level ⟶ Leq 45.4 dBA
Time weighted average ⟶ 3dB SEL 65.0 dBA
Elasped Time ⟶ 0:01:31.4

The following explains each of the display's components:

Display label - Shows the current display (for example, *"SLM Exposure-b"*).

Takt3 and Takt5 are available options if Takt functionality has been enabled. (See the Menu Item "About" on page 3-18).

Sound exposure - Sound Exposure (E) in Pascal squared hours (Pa^2H). The Sound Exposure (E) is a function of the L_{eq} and the elapsed time of the overall measurement.

Time weight average - This display shows the Time Weighted Average (TWA) measured in dB.

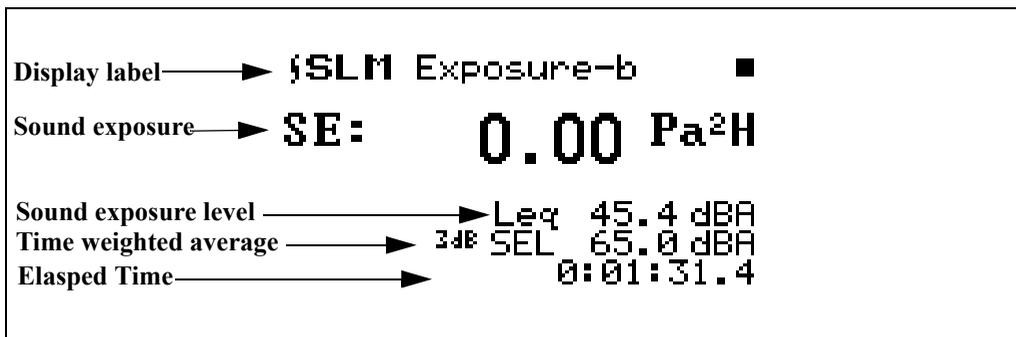**Sound exposure level** - Shows the Sound Exposure Level (SEL) measured in dB.

Elapsed time - Shows the elapsed run time accumulated since the last overall reset. This is the time over which the overall TWA is averaged.

If Takt functionality has been enabled, the Exposure-b display will look as shown below:

```
Display Label  ──────▶  ¦SLM Exposure-b        ■

Sound Exposure ──────▶  SE:       0.00 Pa²H

Takt3 ──────────────────▶ Takt3 101.0 dBA
Takt5 ──────────────────▶ Takt5 101.0 dBA
Timer ──────────────────▶      0:00:17.0
```
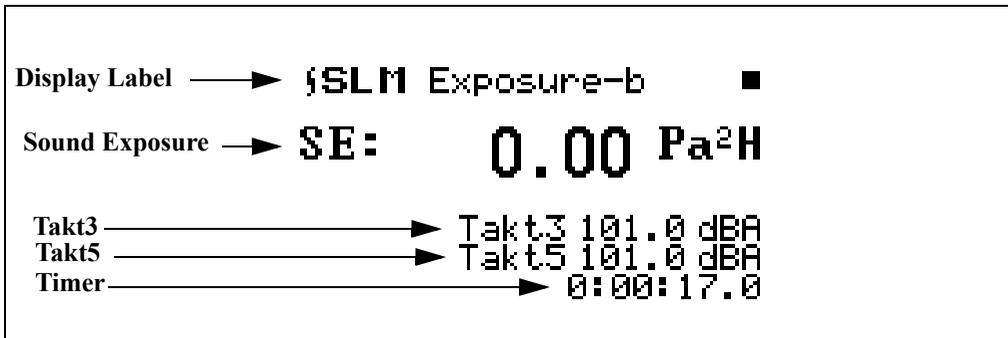
Exposure-c Display

The *Exposure-c* display consists of four major components:

• Display label

• C - Weighted TWA

• A - Weighted TWA

• C minus A TWA

The *Exposure-c* display is shown below:

```
  Display label ─────────►  {SLM Exposure-        {
                             C Minus A

  C - Weighted TWA  ──Leq────►  59.1dB C
  A - Weighted TWA  ──────────►  51.6dB A
  C-A Weighted TWA  ──────────►   7.5dB C-A
```
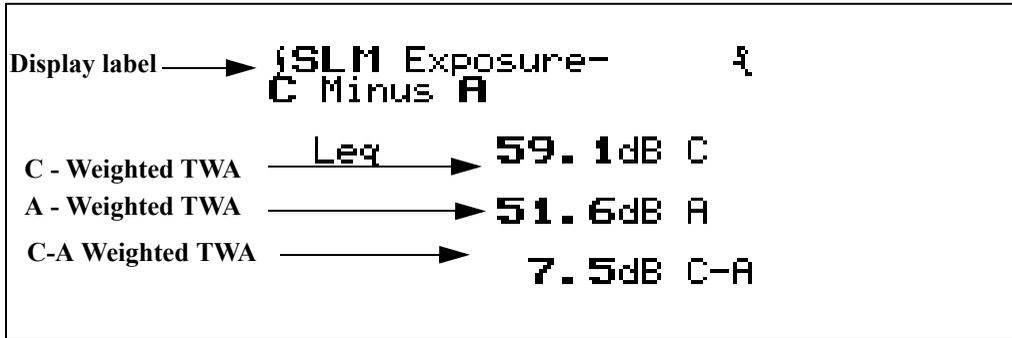
The following explains each of the displays:

Display label - Shows the current display (for example, *"SLM Exposure-c")*.

C-Weighted TWA - This display shows the C weighted TWA (L_{eq}) over the duration of the measurement.

A-Weighted TWA -This display shows the A weighted TWA (L_{eq}) over the duration of the measurement.

This measurement is commonly used for assessing the effectiveness of hearing protection.

C minus A Weighted TWA - This display shows the C weighted TWA (L_{eq}) minus the A weighted TWA (L_{eq}) over the duration of the measurement.

Ln Centiles Views

*The ▲ and ▼ arrow keys can be used to cycle between the Current SLM, Overall SLM, Exposure, Ln Centiles, and Stats views from the **Ln-a** display.*

The **Ln Centiles** View has two displays which can be accessed by simply selecting **Ln Centiles** with the ✓ Check key from within the main View menu then cycling through the views with the ▶ and ◀ arrow keys until the desired display appears.

Ln-a Display

The **Ln-a** display consists of two major components:

- Display label

- Percentile values & levels

The **Ln Centiles-a** display is shown below for the LOG instrument:
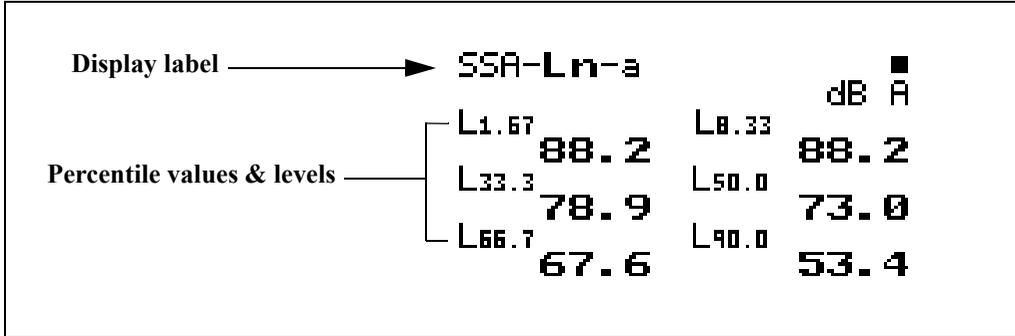
```
Display label ──────────────►  SSA-Ln-a                    ■
                                                       dB A
                            ┌ L1.67              L8.33
Percentile values & levels ─┤      88.2    L50.0    88.2
                            │ L33.3              L50.0
                            │      78.9              73.0
                            └ L66.7              L90.0
                                   67.6              53.4
```

The following explains each of the display's components:

Display label - Shows the current display (for example, "**Ln-a**").

Percentage settings are entered with a 1/100th dB resolution, but are displayed to the nearest 1/10th dB when 10 dB or greater.

Percentile values & levels - The L_n (percentile levels) level is that level which is exceeded 'n' percent of the measurement time. By modifying the six settings you can select any six percentile values to be displayed at a time. For example, if you set one of these settings to 10.5, then $L_{10.5}$ would be one of the six percentiles that is displayed. The value of $L_{10.5}$ is the level that has been exceeded 10.5% of the time during the overall measurement.

Ln-b Display

The **Ln-b** display consists of five major components:

- Display label

- Current % record

- Ln

- Elapsed Time

- Ln graph

The **Ln Centiles-b** display is shown below for the LOG instrument:
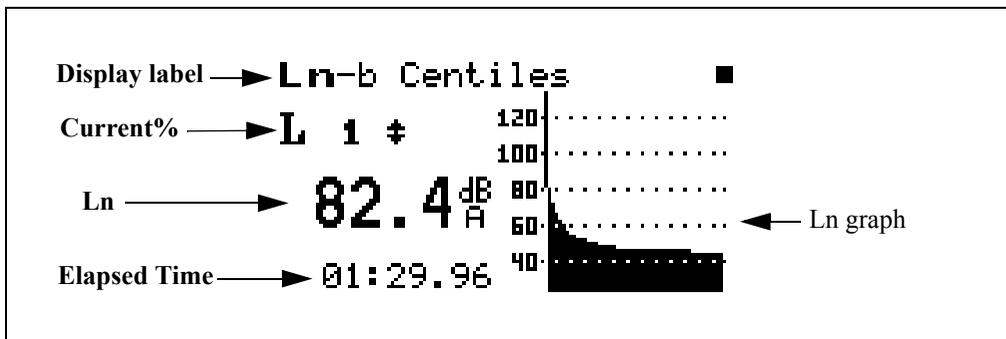
```
Display label ──────▶ Ln-b Centiles               ■
Current% ──────▶ L  1  ‡          120 · · · · · · · · · ·
                                  100 · · · · · · · · · ·
Ln ──────▶      82.4 dB   80 · · · · · · · · · ·
                         A   60 · · · · · · · · · ·   ◀── Ln graph
Elapsed Time ──────▶ 01:29.96    40
```

The following explains each of the display's components:

Display label - Shows the current display (for example, ***"Ln-b Centiles"***).

Current% - Selects percentage of Ln to display (1 to 99), using the ▲ and ▼ arrow keys to move from one percentile to another.

Ln - This display shows the current Ln value.

Elapsed time - Shows the elapsed run time accumulated since the last current reset.

Ln graph- Graph of Ln's from 1 to 99 (1 being on the left, 99 on the right).

NOTE: There are two Lns per bar in the graph. The higher of the two is graphed.

Stats Views

The ***Stats*** View has three displays which can be accessed by simply selecting ***Stats*** with the ✓ Check key from within the main View menu then cycling through the views with the ▶ and ◀ arrow keys until the desired display appears.
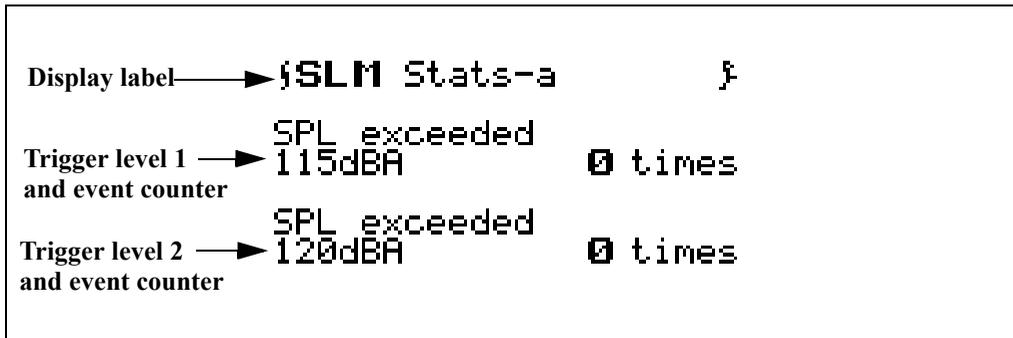
Stats-a Display

The ▲ and ▼ arrow keys cycle between the Current SLM, Overall SLM, Exposure, Ln Centiles, and Stats views.

The **Stats-a** display consists of three major components:

- Display label

- Trigger level 1 and event counter

- Trigger level 2 and event counter

The **Stats-a** display is shown below:

```
Display label ────▶  {SLM Stats-a          }

                     SPL exceeded
Trigger level 1 ───▶ 115dBA          0 times
and event counter

                     SPL exceeded
Trigger level 2 ───▶ 120dBA          0 times
and event counter
```

The following explains each of the display's components:

Display label - This shows the current display (for example, "**SLM Stats-a**").

Trigger level 1 and event counter - This presents a summary of the number of times during the overall measurement that the SPL exceeded the pre-programmed trigger level 1. In this example, trigger level 1 is set to 115 dBA and the SPL exceeded this threshold 0 times. These may be considered as individual events.

Trigger level 2 and event counter - Summary of the number of times during the overall measurement that the SPL exceeded the pre-programmed trigger level 2. In this example, trigger level 1 is set to 120 dBA and the SPL exceeded this threshold 0 times. These may be considered as individual events.

Stats-b Display

The *Stats-b* display consists of three major components:

- Display label

- Peak-I trigger

- Peak-II trigger

The *Stats-b* display is shown below:

Display label ——▶ {SLM Stats-b &

Peak-I exceeded
Peak-I trigger ——▶ 140dBF   0 times

Peak-II exceeded
Peak-II Trigger ——▶ 140dBA   0 times

The following explains each of the display's components:

Display label - This shows the current display (for example, "*SLM Stats-b*").

Peak-I trigger - This presents a summary of the number of times during the overall measurement that the Peak-I level exceeded its pre-programmed trigger level. In this example, Peak-I's trigger level is set to 140dBF and the Peak-I level exceeded this threshold 0 times. These may be considered as individual events.

Peak-II trigger - This presents a summary of the number of times during the overall measurement that the Peak-II level exceeded its pre-programmed trigger level. In this example, Peak-II's trigger level is set to 140dBA and the Peak-II level exceeded this threshold 0 times. These may be considered as individual events.

Stats-c Display

The *Stats-c* display consists of two major components:

- Display label

- Overload message

The ***Stats-c*** display is shown below:

Display label ⟶ |SLM Stats-c |

Overload message ⟶ No Overloads
                   have occurred.

The following explains the display's components:

Display label - This shows the current display (for example, "***SLM Stats-c***").

Overload message - The "Stats-c" display indicates the occurrence of instrument overloads during the measurement. If one or more overloads have occurred, the display shows the total number of overloads. If no overloads have occurred, the display shows a "No Overloads have occurred" message instead.

Run Log (LOG & SSA)

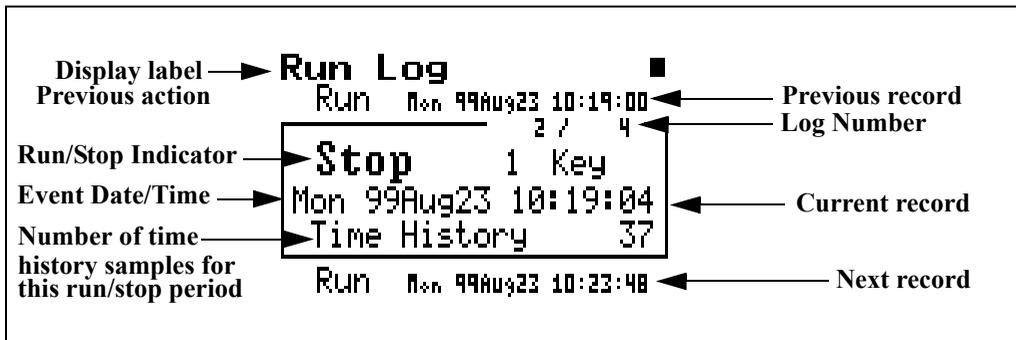The Run Log displays the start and stop times/dates of the active measurement in the System 824's memory. You use the ▲ and ▼ arrow keys to scroll through the log records. The "Run Log" display can be accessed by simply selecting ***Run Log*** with the ✓ Check key from within the main View menu.

The ***Run Log*** display consists of four major components:

• Display label

• Log number

• Event Date / Time

- Run / Stop indicator

The *Run Log* display is shown below for the LOG and SSA instruments:

```
Display label ──────────▶ Run Log              ■
Previous action            Run   Mon 99Aug23 10:19:00  ◀────── Previous record
                                      2 /    4           ◀────── Log Number
Run/Stop Indicator ──────▶ Stop     1 Key
Event Date/Time ─────────▶ Mon 99Aug23 10:19:04  ◀────── Current record
Number of time ──────────▶ Time History      37
history samples for
this run/stop period       Run   Mon 99Aug23 10:23:48  ◀────── Next record
```

The following explains this display's components:

Display label - Shows the display currently being used (for example, *"Run Log"*).

Log Number- The "Run Log" display shows the start and stop times/dates of measurements in active memory. Each measurement is logged in memory in the order that it occurred. The Log Number indicates the order of the displayed log entry in relation to the other log entries currently in active memory.

Event Date/Time - The Event Date/Time shows the time and date that this Log entry either started to run or was stopped.

Run/Stop Indicator- Each measurement reading log has two entries; one corresponding to when the measurement started to run and the other entry corresponding to when the measurement was stopped. The Run/Stop indicator shows whether the log entry indicates the time and date of a Run log entry or a Stop log entry.

With the Time History View you can graphically scroll through and view the SPL readings at different points of time in the measurement readings currently active in memory. You can access the *Time History* display by selecting *Time History* with the Ⓥ Check key from within the main View menu.

Example *Time History* displays are shown below:
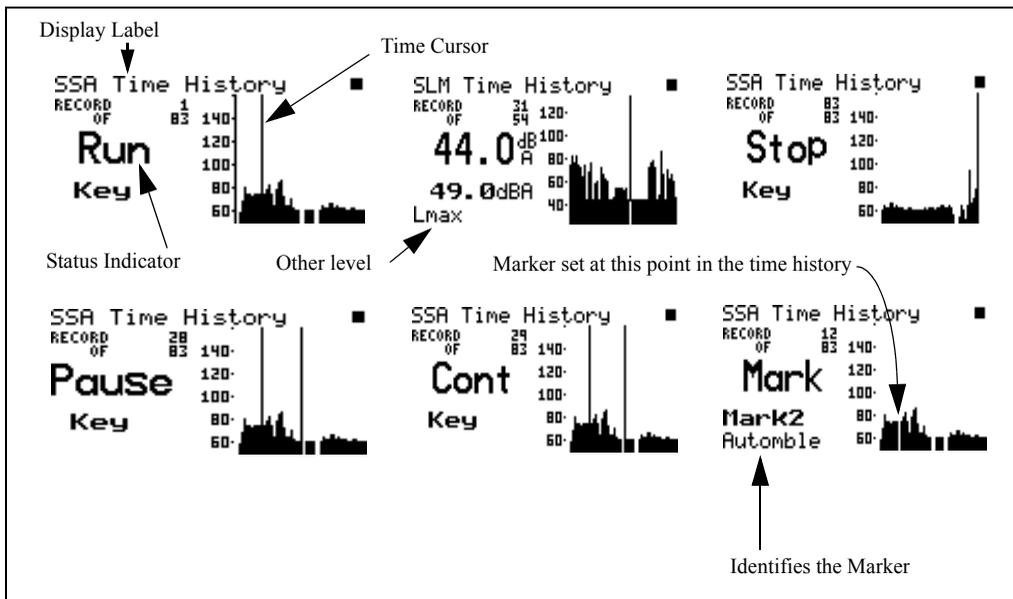
Display Label
Time Cursor
Status Indicator
Other level
Marker set at this point in the time history
Identifies the Marker

The following explains the display's components:

Display label - This shows the current display (for example, "*SLM Time History*").

Status Indicator- The Status Indicator will show one of the three possible events that occurred in the point of time referenced by the Time Cursor:

> **Run** - Indicates a measurement started at this time.

> **Stop** - Indicates a measurement stopped at this time.

Pause - Indicates the measurement paused at this time.

Cont - Indicates the measurement continued at this time.

Mark - Indicates a marker was set at this point in time.

Time Cursor- The Time Cursor (the vertical bar) allows you to scroll graphically through the history of the displayed measurement readings using the ◀ and ▶ arrow keys. The Time History display's Status Indicator will show what event took place at the point in time associated with the Time Cursor's current position.

See the section "Other Level - (LOG only)" on page 7-33 for additional details.
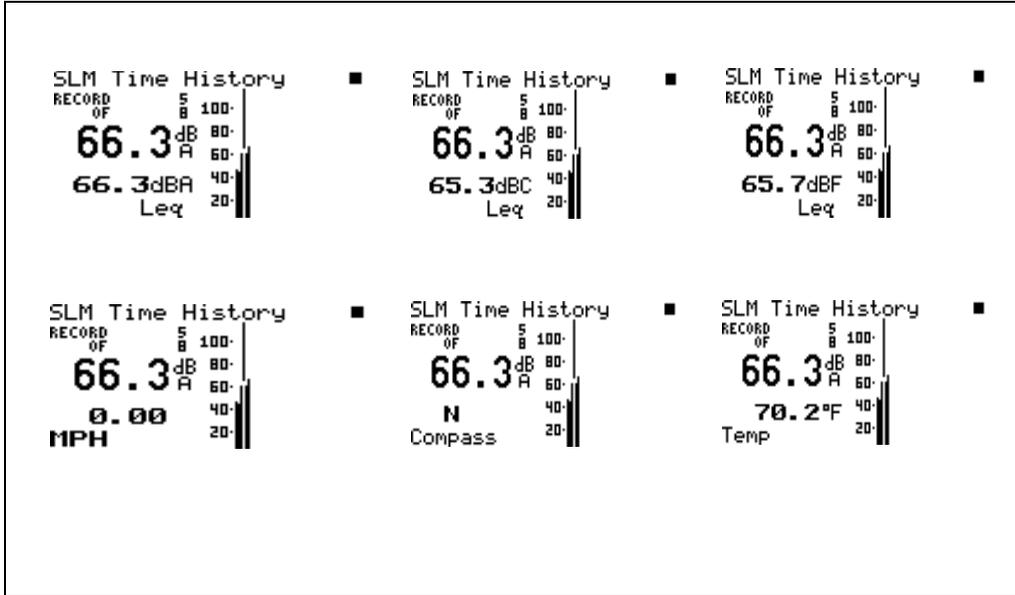
Other level - A wide range of different parameters can be displayed in this window depending upon the setup procedure utilized.

Single Other Level

The simplest situation is when the user selects to display a single alternative sound level parameter, Pk-II, Pk-I or Lmax, which is setup directly using the ***Other Level*** menu in the ***Time History*** menu. In this case, the value of this particular parameter will always appear in the same position as shown by the **Lmax** display in the figure above.

Multiple Other Levels

Alternatively, the user could select from as many as forty different parameters, which could include sound pressure levels with different weightings (A, C, or F) and different averaging times (S, F, I), RTA Spectra and even some non-acoustic parameters such as Wind/Tach data, Temperature (824 interior), External Voltage and Battery Voltage. Setting up for multiple other levels requires the use of the ***Advnc TH*** menu in the ***Time History*** menu. The selected parameters will be displayed in the same position as **Lmax** in the figure above. Use the ▲ and ▼ arrow keys to scroll through the **other** selected parameters. The following shows how six different values of "other parameter" can be displayed on one particular Time History View by using these arrow keys. The graphics on the second row indicate Windspeed, Wind Direction and Temperature (measured using a temperature transducer inside the System 824).

SLM Time History ■

RECORD OF 5/8 100·
66.3 dB 80·
A 60·
66.3 dBA 40·
Leq 20·

SLM Time History ■

RECORD OF 5/8 100·
66.3 dB 80·
A 60·
65.3 dBC 40·
Leq 20·

SLM Time History ■

RECORD OF 5/8 100·
66.3 dB 80·
A 60·
65.7 dBF 40·
Leq 20·

SLM Time History ■

RECORD OF 5/8 100·
66.3 dB 80·
A 60·
0.00 40·
MPH 20·

SLM Time History ■

RECORD OF 5/8 100·
66.3 dB 80·
A 60·
N 40·
Compass 20·

SLM Time History ■

RECORD OF 5/8 100·
66.3 dB 80·
A 60·
70.2°F 40·
Temp 20·

Intervals

The ▲ and ▼ arrow keys show different intervals in history. The ◀ and ▶ arrow keys cycle you through the different Interval screens.

The Intervals view shows a record of various sound pressure data gathered in time segments over a set period of time. An example would be a measurement where data is gathered in one hour time intervals over a 24 hour period. You can access the *Intervals* view display by selecting *Intervals* with the ⓥ Check key from within the main View menu.
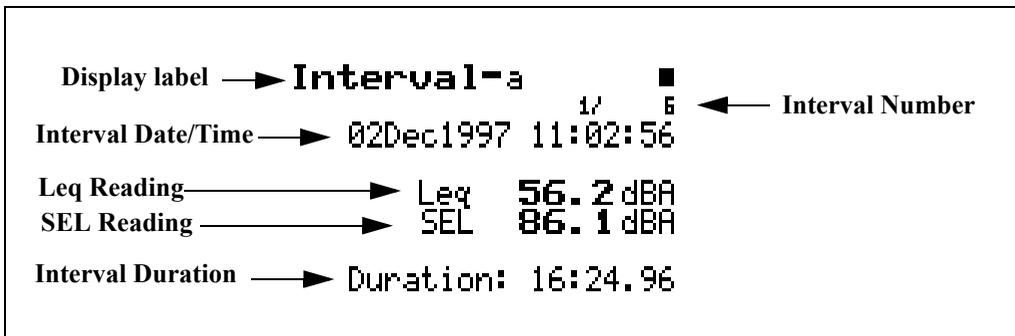
Intervals-a Display

The *Interval-a* display consists of six major components:

• Display label

• Interval Number

• Interval Date / Time

- Leq Reading

- SEL Reading

- Interval Duration

The *Interval-a* display is shown below for the LOG and SSA instruments:

The following explains each of the display's components:

Display label - This shows the current display (for example, "*Interval-a*").

Interval Number- The Interval display shows each measurement interval in the order that it occurred. The Interval Number indicates the order of the displayed interval in relation to the other interval records.

Interval Date / Time - The Event Date/Time shows the time and date that this interval began.

L_{eq} **Reading** - The L_{eq} Reading shows the Leq for the currently displayed interval.

SEL Reading - The SEL Reading shows the SEL for the currently displayed interval.
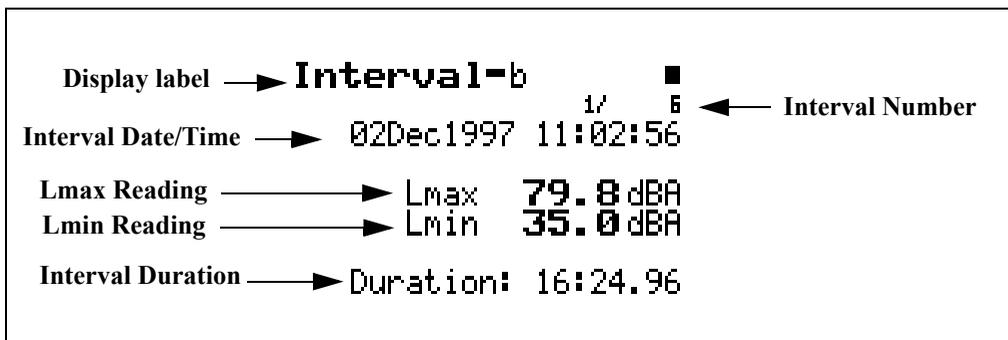
Interval Duration - The Interval Duration shows the length of time of the currently displayed interval.

Intervals-b Display

The *Interval-b* display consists of six major components:

- Display label

- Interval Number

- Interval Date / Time

- Lmax Reading

- Lmin Reading

- Interval Duration

The *Interval-b* display is shown below for the LOG and SSA instruments:

Display label ⟶ **Interval-b** ∎

1/ 5 ◀── **Interval Number**

Interval Date/Time ⟶ 02Dec1997 11:02:56

Lmax Reading ⟶ Lmax **79.8** dBA
Lmin Reading ⟶ Lmin **35.0** dBA

Interval Duration ⟶ Duration: 16:24.96

The following explains each of the display's components:

Display label - This shows the current display (for example, "*Interval-b*").

Interval Number- The "Interval" displays each measurement interval in the order that they occurred. The Interval Number indicates the order of the displayed interval in relation to the other interval records.

Interval Date/Time - The Event Date/Time shows the time and date that this interval began.

Lmin Reading - The Lmin Reading shows the Lmin for the currently displayed interval.

Lmax Reading - The Lmax Reading shows the Lmax for the currently displayed interval.
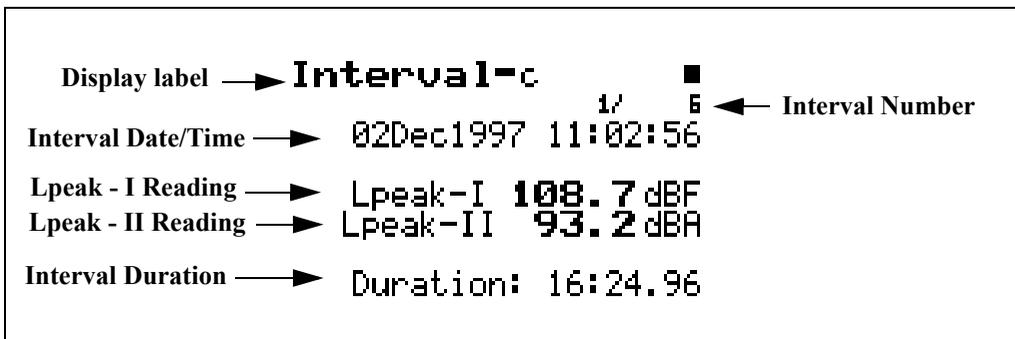
Interval Duration - The Interval Duration shows the length of time of the currently displayed interval.

Intervals-c Display

The *Interval-c* display consists of six major components:

- Display label

- Interval Number

- Interval Date / Time

- Lpeak - I Reading

- Lpeak - II Reading

- Interval Duration

The *Interval-c* display is shown below for the LOG and SSA instruments:

Display label ⟶ **Interval-c** ■
1/ 6 ⟵ **Interval Number**
Interval Date/Time ⟶ 02Dec1997 11:02:56
Lpeak - I Reading ⟶ Lpeak-I **108.7** dBF
Lpeak - II Reading ⟶ Lpeak-II **93.2** dBA
Interval Duration ⟶ Duration: 16:24.96

The following explains each of the display's components:

Display label - This shows the current display (for example, *"Interval -c").*

Interval Number- The Interval Number display shows each measurement interval in the order that it occurred. The Interval Number indicates the order of the displayed interval in relation to the other interval records.

Interval Date/Time - The Event Date/Time shows the time and date that this interval began.

Lpeak - I Reading - The Lpeak - I Reading shows the Lpeak - I reading for the currently displayed interval.

Lpeak- II Reading - The Lpeak - II Reading shows the LPeak - II reading for the currently displayed interval.
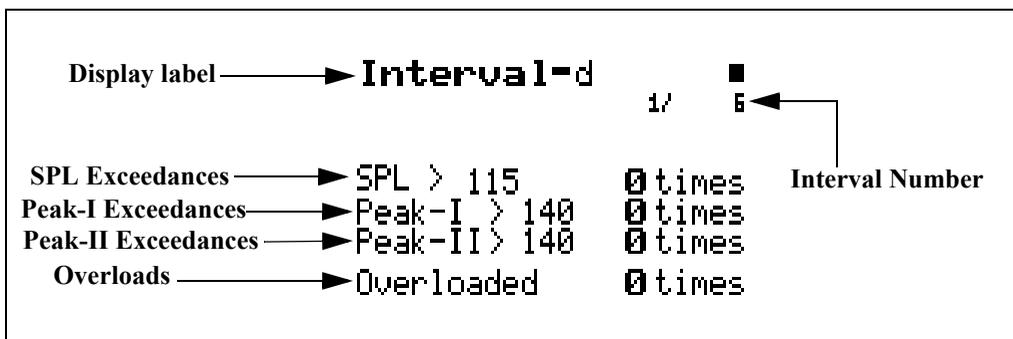
Interval Duration - The Interval Duration shows the length of time of the currently displayed interval.

Intervals-d Display

The *Interval-d display* consists of six major components:

- Display label
- Interval Number
- SPL Exceedances
- Peak - I Exceedances
- Peak - II Exceedances
- Overloads

The *Interval-d* display is shown below for the LOG and SSA instruments:

Display label ⟶ **Interval-d**

1/   6 ◄   Interval Number

SPL Exceedances ⟶ SPL > 115   0 times
Peak-I Exceedances ⟶ Peak-I > 140   0 times
Peak-II Exceedances ⟶ Peak-II> 140   0 times
Overloads ⟶ Overloaded   0 times

The following explains each of the display's components:

Display label - This shows the current display (for example, "*Interval-d")*.

Interval Number- The Interval Number display shows each measurement interval in the order that it occurred. The Interval Number indicates the order of the displayed interval in relation to the other interval records.

SPL Exceedances - SPL Exceedances shows how many times during this interval that the instrument's SPL Exceedance Level was surpassed.

Peak-I Exceedances - Peak-I Exceedances shows how many times during this interval that the instrument's Peak - I Exceedance Level was surpassed.

Peak-II Exceedances - Peak-II Exceedances shows how many times during this interval that the instrument's Peak-II Exceedance Level was surpassed.
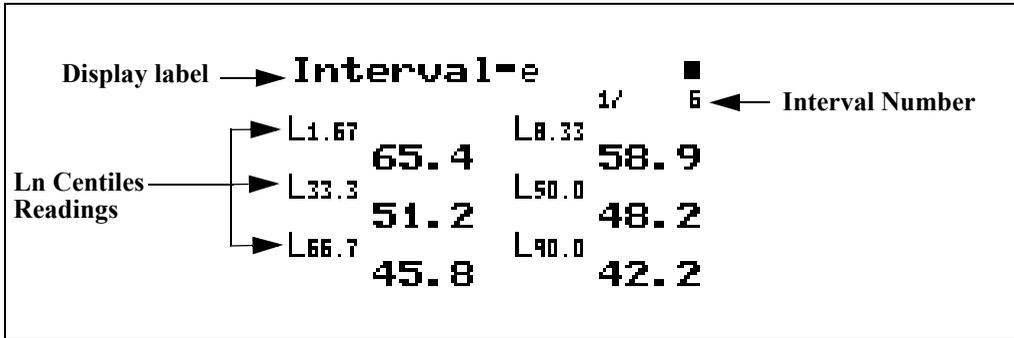
Overloads - This shows how many overloads occurred during this interval.

Intervals-e Display

The *Interval-e* display consists of three major components:

- Display label

- Interval Number

- Ln Centiles Readings

The *Interval-e* display is shown below (LOG instrument only):

Display label ——➤ Interval-e ■

1ʹ 6 ◄—— **Interval Number**

L1.67 65.4 L8.33 58.9

Ln Centiles ——➤ L33.3 51.2 L50.0 48.2
Readings

L66.7 45.8 L90.0 42.2

The following explains each of the display's components:

Display label - This shows the current display (for example, "***Interval-e")***.

Interval Number - The "Interval Number" display shows each measurement interval in the order that it occurred. The Interval Number indicates the order of the displayed interval in relation to the other interval records.
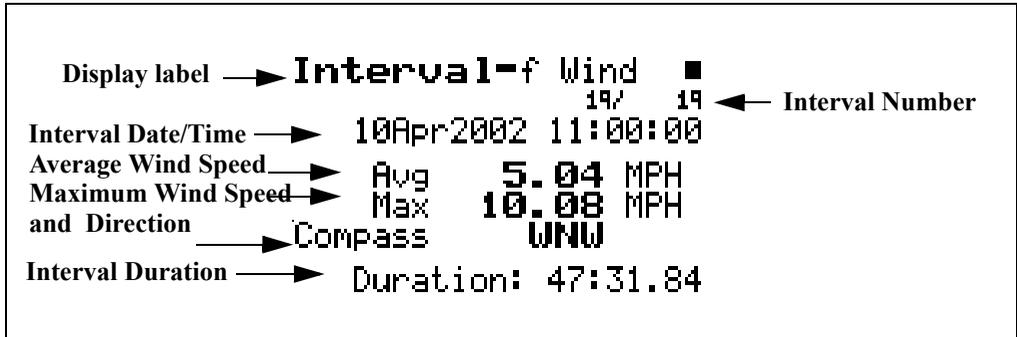
Ln Centiles Readings - Shows the six Ln Centiles readings for this interval.

Intervals-f Display

The ***Interval-f*** display consists of seven major components:

- Display label

- Interval Number

- Interval Date/Time

- Average Windspeed

- Maximum Windspeed

- Direction of Maximum Windspeed

- Interval Duration

The ***Interval-f*** display is shown below (LOG instrument only)

:

Display label ➝ Interval-f Wind ■
19/ 19 ⬅ **Interval Number**
Interval Date/Time ➝ 10Apr2002 11:00:00
Average Wind Speed ➝ Avg 5.04 MPH
Maximum Wind Speed ➝ Max 10.08 MPH
and Direction ➝ Compass WNW
Interval Duration ➝ Duration: 47:31.84

This display will show


```
Interval-          □
   Function
  Not Enabled
```

if the interval setting "Intv Save Ln's" is set to "No".

The following explains each of the display's components:

Display label - This shows the current display (for example, "***Interval-f Wind")***.

Interval Number - The "Interval Number" display shows each measurement interval in the order that it occurred. The Interval Number indicates the order of the displayed interval in relation to the other interval records.

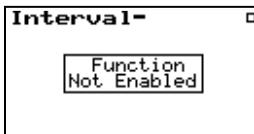**Interval Date/Time** - The Interval Date/Time shows the date and time that this interval began.

Average Windspeed - The Average Windspeed is the numerical average of the windspeed over the duration of this interval.

Maximum Windspeed - The Maximum Windspeed is the maximum instantaneous value of windspeed logged during this interval.

Direction of Maximum Windspeed - The Direction of Maximum Windspeed is the direction of the maximum instantaneous value of windspeed logged during this interval.

Interval Duration - The Interval Duration shows the length of time of the currently displayed interval.

Event recording begins when any one of the three following conditions is satisfied:

- The instantaneous sound pressure level, Lp, exceeds the value of SPL Exceedance Level 1 set by the user.

- The instantaneous peak level Pk-1, exceeds the value of Pk-1 Exceedance Level set by the user.

- The instantaneous peak level Pk-2, exceeds the value of Pk-2 Exceedance Level set by the user.

Event recording ends when all three of these levels, Lp, Pk-1 and Pk-2, are below their respective exceedance levels minus the Hysteresis level setting. The exceedance will only be saved if its duration is longer than the minimum duration setting.

For further information, see sections "LOG and SSA Triggering Settings" on page 7-23 and "Logging SLM Exceedance History Settings" on page 7-40. The System 824 Training Manual, available from Larson Davis, is also an excellent reference.
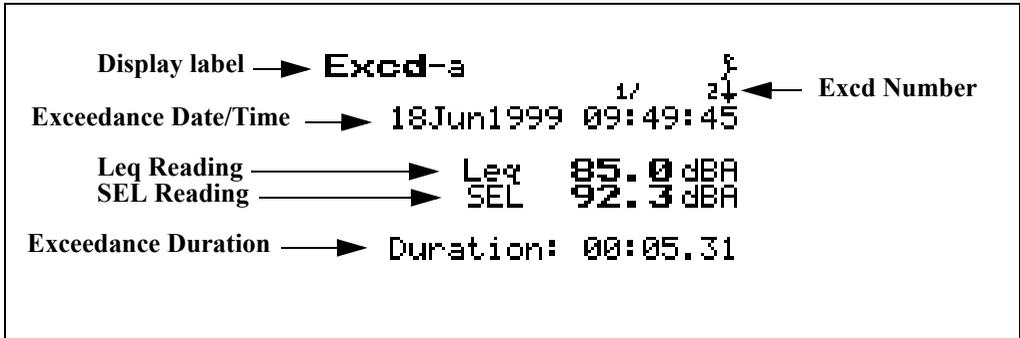
The Exceedance view shows a record of each exceedance recorded when the sound pressure level went over a predetermined threshold. You can access the ***Excd History*** view display by selecting ***Excd History*** with the ⊘ Check key from within the main View menu.

Excd-a Display

The ***Excd-a*** display consists of six major components:

- Display Label

- Exceedance Number

- Exceedance Date / Time

- Leq Reading

- SEL Reading

- Exceedance Duration

The ***Excd-a*** display is shown below:

Display label → **Excd-a**   Excd Number

Exceedance Date/Time → 18Jun1999 09:49:45

Leq Reading → Leq **85.0** dBA
SEL Reading → SEL **92.3** dBA

Exceedance Duration → Duration: 00:05.31

The following explains each of the display's components:

Display label - This shows the current display (for example, "*Excd-a*")

Exceedance Number - The **"**Exceedance" display shows each exceedance record in the order that it occurred. The exceedance number indicates the order of the displayed exceedance in relation to the other exceedance records.

Exceedance Date/Time - The Event Date/Time shows the time and date that this exceedance occurred.

Leq Reading - The Leq Reading shows the Leq for the currently displayed exceedance.

SEL Reading - The SEL Reading shows the SEL for the currently displayed exceedance.

Exceedance Duration - The Exceedance Duration shows the length of time this exceedance lasted.
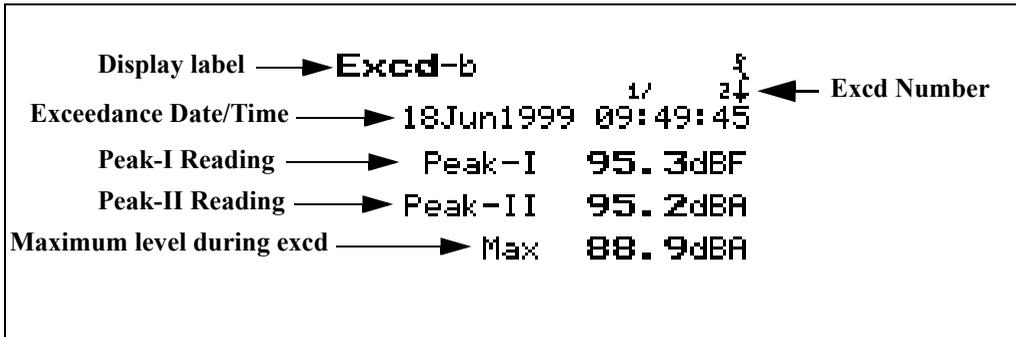
Excd-b Display

The *Excd-b* display consists of six major components:

- Display label

- Exceedance Number

- Exceedance Date / Time

- Peak - I Reading

- Peak - II Reading

• Max Reading

The *Excd-b* display is shown below:

```
Display label ——————► Excd-b                    ⌃
                                          1/   2↓ ◄—— Excd Number
Exceedance Date/Time ——————► 18Jun1999  09:49:45
Peak-I Reading ——————►  Peak-I    95.3dBF
Peak-II Reading ——————► Peak-II    95.2dBA
Maximum level during excd ——————► Max    88.9dBA
```

The following explains each of the display's components:

Display label - This shows the current display (for example, "*Excd-b*")

Exceedance Number - The "Exceedance" display shows each exceedance record in the order that it occurred. The exceedance number indicates the order of the displayed exceedance in relation to the other exceedance records.

Exceedance Date/Time - The Event Date/Time shows the time and date that this exceedance occurred.

Peak-I Reading - The Peak-I Reading shows the Peak-I level recorded during this exceedance.

Peak-II Reading - The Peak-II Reading shows the Peak-II level recorded during this exceedance.
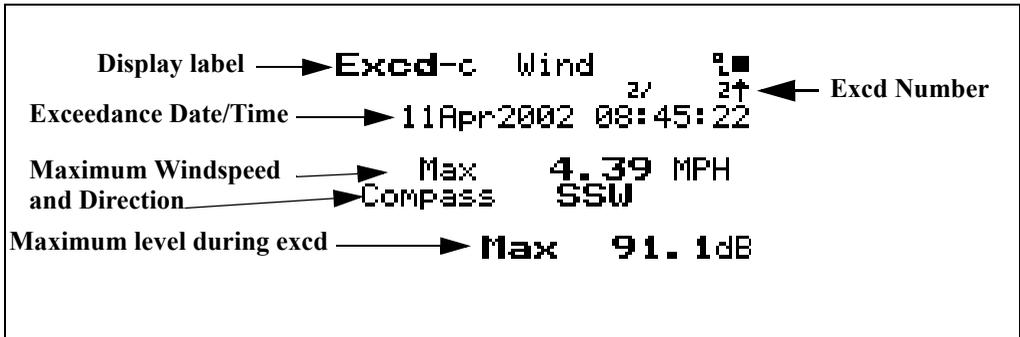
Maximum Reading - The Max Reading shows the maximum level recorded during this exceedance.

Excd-c Display

The *Excd-c* display consists of six major components:

• Display label

• Exceedance Number

• Exceedance Date / Time

- Maximum Windspeed

- Direction of Maximum Windspeed

- Maximum Reading

Display label ⟶ **Excd-c Wind**
Exceedance Date/Time ⟶ 11Apr2002 08:45:22
⟵ **Excd Number**
Maximum Windspeed ⟶ Max 4.39 MPH
and Direction ⟶ Compass SSW
Maximum level during excd ⟶ **Max 91.1dB**

The following explains each of the display's components:

Display label - This shows the current display (for example, "*Excd-c Wind*")

Exceedance Number - The "Exceedance" display shows each exceedance record in the order that it occurred. The exceedance number indicates the order of the displayed exceedance in relation to the other exceedance records.

Exceedance Date/Time - The Event Date/Time shows the time and date that this exceedance occurred.

Maximum Windspeed - The Maximum Windspeed is the highest instantaneous windspeed logged during this exceedance event.

Direction of Maximum Windspeed - The Direction of Maximum Windspeed is the direction of the maximum instantaneous value of windspeed logged during this exceedance event.

Maximum Reading - The Max Reading shows the maximum level recorded during this exceedance.

Excd Time History Display

You have the option of recording a time history for each exceedance by setting "Excd Time-Hist" to "Yes" under the

"Excd History" settings via the SETUP ✐ key. An exceedance time history will be recorded for every exceedance record.

An exceedance time history will only be recorded when all of the criteria have been met such as:

- SPL Exceedance Level I

- Minimum Duration

While displaying any of the Exceedance Displays (a, b or c), the corresponding Exceedance Time History can be displayed by pressing the ✓ key twice. A subsequent double click of the ✓ key will return the display to the corresponding Exceedance Display.

NOTE: For a detailed description of Exceedance Time History settings, see the section "Logging SLM Exceedance History Settings" on page 7-40.

The **Excd Time History** display consists of seven major components:

- Display Label

- Current Record

- Level at cursor

- Time at cursor

- Current sample

- Total number of samples

- Total number of Excd records

- Graph of Exceedance Time History

The **Excd Time History** display is shown below:
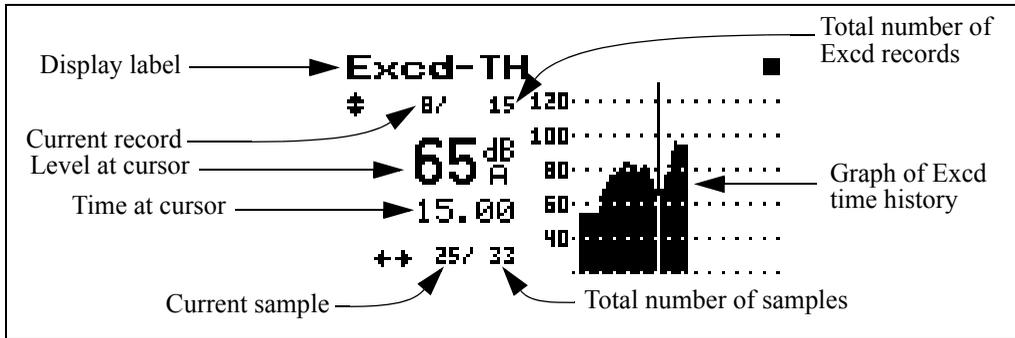
The following explains each of the display's components:

Display Label - This shows the current display (for example, "*Excd-TH*")

Current Record - The "Excd-TH" display shows each exceedance record in the order that it occurred. This number shows that you are viewing the time history corresponding to this particular exceedance record. Use the ⍗ and ⍐ keys to move forward or backwards, respectively, through the sequence of Exceedance History records. Alternately, you can press the ⊘key, highlight Locate, and press the ⊘key again. This will open a window permitting you to jump to the first or last Exceedance or to a selected exceedance record.

Level at Cursor - Shows the level in dB at the point in time indicated by the cursor. Use the ▷ and ◁ keys to position the cursor along the time axis.

Time at Cursor - Shows the time in seconds of the sample indicated by the cursor.

Current Sample - This is the current sample number as indicated by the cursor.

Total Number of Samples -Shows the total number of samples taken for this exceedance.

Total Number of Excd Records - Shows the total number of exceedances recorded.

The exceedance time history includes 10 samples preceding the event and 10 samples after the event. The maximum number of samples that can be stored are 128. In this case only the first 128 samples are stored including the 10 pre-event samples.

Graph of Exceedance Time History - Shows graphically all of the samples taken for the time history. These values follow the instantaneous sound envelope determined by short period Leq samples. As a result, it does not exhibit the relatively slow decay characteristics associated with Slow or Fast detectors.
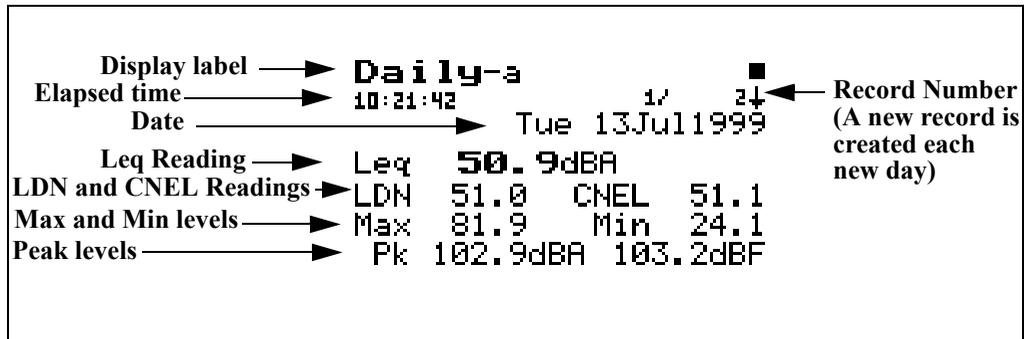
Daily Views

The Daily history logs daily sound statistics including Leq 24, LDN, CNEL, Ln's, Max, Min, and Peak data. The measurement period is from 12:00 midnight to 12:00 midnight each day. For each hour it logs Leq, Background Leq and the hourly Excd Leq. You can access the *Daily* display by selecting *Daily* with the Ⓥ Check key from within the main View menu, then cycling through the views with the ▶ and ◀ arrow keys until the desired display appears. The hourly data is accessed by pressing the Ⓥ Check key while in the *Daily-a* or *Daily-b* displays.

Daily-a Display

The *Daily-a* display consists of 11 major components:

- Display label

- Record Number

- Elapsed Time

- Date

- Leq Reading

- LDN and CNEL Readings

- Maximum and Minimum levels

- Peak level

The *Daily-a* display is shown below:

Display label ——► **Daily-a**
Elapsed time ——► 10:21:42   1/   2↓◄—— Record Number (A new record is created each new day)
Date ——————————►   Tue 13Jul1999
Leq Reading ——► Leq **50.9**dBA
LDN and CNEL Readings ►LDN   51.0   CNEL   51.1
Max and Min levels ——► Max   81.9   Min   24.1
Peak levels ——————► Pk 102.9dBA 103.2dBF

The following explains each of the display's components:

Display label - This shows the current display (for example, "*Daily-a*").

If the 824 is started at 1900 hours, the first Daily record will run from 1900 hours to 0000 hours and then a new day (Daily record) will begin.

Record Number - Each "Daily" record is shown in the order that it occurred. The record number indicates the order of the displayed Daily record in relation to the other records. A new daily record is created each new day. A day is defined as 12:00 midnight to 12:00 midnight.

Elasped Time - This shows the elapsed time of this day's measurement.

Date - This shows the day, date, month and year for this record.

Leq Reading - This shows the Leq for the day.

LDN Reading - The DNL (Day-Night Average Sound Level) display shows the equivalent sound level for a 24-hour period with a +10dB weighting applied to all sounds occurring between the times 22:00 and 07:00.

CNEL Reading - The CNEL (Community Noise Equivalent Level) display shows the equivalent sound level for a 24-hour period with a +5dB weighting applied to all sounds occurring between the times 19:00 and 22:00 and a +10dB weighting applied to all sounds occurring between the times 22:00 and 07:00.

Maximum and Minimum levels - This shows the maximum and minimum levels during this day's measurements.

Peak level - This shows the peak level during the day with different weighting applied.

Daily-b Display

The *Daily-b* display consists of 4 major components:

- Display label

- Record Number

- Date

- Ln Percentiles

The *Daily-b* display is shown below:

The following explains each of the display's components:

Display label -This shows the current display (for example, "*Daily-b*").

Record Number - Each "Daily" record is shown in the order that it occurred. The record number indicates the order of the displayed Daily record in relation to the other records. A new daily record is created each new day. A day is defined as 12:00 midnight to 12:00 midnight.

Date - Day, Date, month and year of the record

Ln Percentiles - The L_n (percentile levels) level is that level which is exceeded 'n' percent of the measurement time. You can select any six percentile values to be calculated and stored with the daily record.
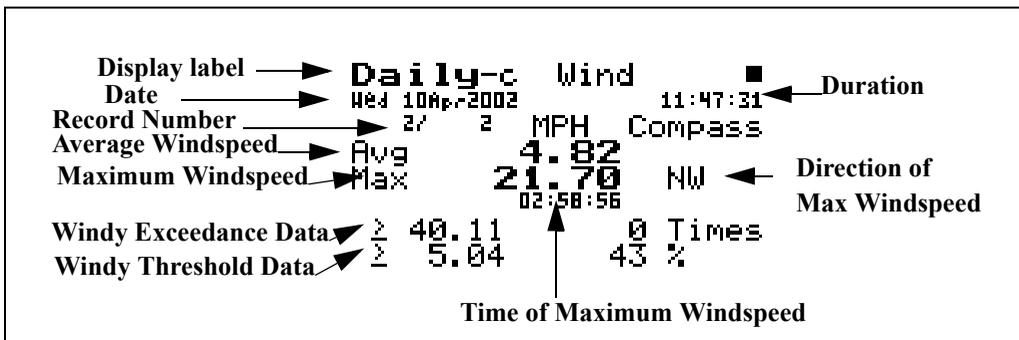
Daily-c Wind Display

If the optional firmware 824-WND is not installed, the following message will appear

```
Wind/Tach        ■
Not Available

This option may be
purchased. Please
contact Larson Davis
```

The *Daily-c Wind* display consists of 10 major components:

* Display label

* Record Number

* Date

* Duration

* Average Windspeed

* Maximum Windspeed

* Direction of Maximum Windspeed

* Time of Maximum Windspeed

* Wind Exceedance Data

* Windy Threshold Data

The following explains each of the display's components:

Display label -This shows the current display (for example, "*Daily-c Wind*").

Record Number - Each "Daily" record is shown in the order that it occurred. The record number indicates the order

of the displayed Daily record in relation to the other records. A new daily record is created each new day. A day is defined as 12:00 midnight to 12:00 midnight.

Duration - The Duration shows the length of time represented by this Daily View (measurement may have been stopped before the complete 24 hour period).

Average Windspeed - The Average Windspeed is the numerical average of the windspeed over the duration of this record.

Maximum Windspeed - The Maximum Windspeed is the highest instantaneous windspeed logged during this record.

Direction of Maximum Windspeed - The Direction of Maximum Windspeed is the direction of the maximum instantaneous value of windspeed logged during this record.

Time of Maximum Windspeed - The Time of Maximum Windspeed is the time (hh:mm:ss) when the maximum windspeed occurred.
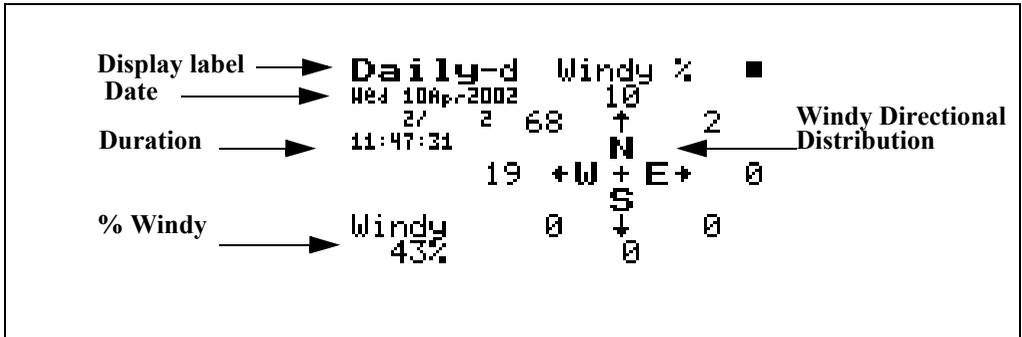
Wind Exceedance Data - The Wind Exceedance Data includes the value of the Wind Exceedance Level (in this instance 40.11) and the number of times the windspeed exceeded this level.

Windy Threshold Data - The Windy Threshold Data includes the value of the Windy Threshold Level (in this instance 5.04) and the percent of the time that the windspeed was above this level.

Daily-d Windy Percent Display

The *Daily-d Windy Percent* display consists of 4 major components:

- Display label

- Record Number

- Date

- Percent Windy Condition

- Windy Directional Distribution

```
Display label ─────▶  Daily-d  Windy %    ■
Date ──────────────▶  Wed 10Apr2002        10
                          2/    2  68      ↑        2      Windy Directional
Duration ──────────▶  11:47:31             N     ◀────── Distribution
                                 19  ◆W ◆ E◆    0
                                          S
% Windy ───────────▶  Windy        0      ↓      0
                          43%              0
```

The following explains each of the display's components:

Display label -This shows the current display (for example, "***Daily-d Wind***").

Record Number - Each "Daily" record is shown in the order that it occurred. The record number indicates the order of the displayed Daily record in relation to the other records. A new daily record is created each new day. A day is defined as 12:00 midnight to 12:00 midnight.

Percent Windy Condition - The Percent Windy Condition is the percent of the time the windspeed was above the Windy Threshold Level.

Windy Directional Distribution - The Windy Directional Distribution is shown on a compass rose with indications of the percent of the time that windspeeds above the Windy Threshold Level were in the directions covered by each of the eight directional coordinates. For example, in this instance winds having levels above the Windy Threshold Level of 5.04 (shown on the Daily-c View) were from the North West 68% of the time.

Hourly Leq Display

The ***Hourly Leq*** display consists of 7 major components:

- Display label

- Date

- Record Number

- Hourly Leq reading

- Exceedance Leq

- Background Leq

- Partial hour indicator

- Hourly Leq graph

The **Hourly Leq** display is shown below:
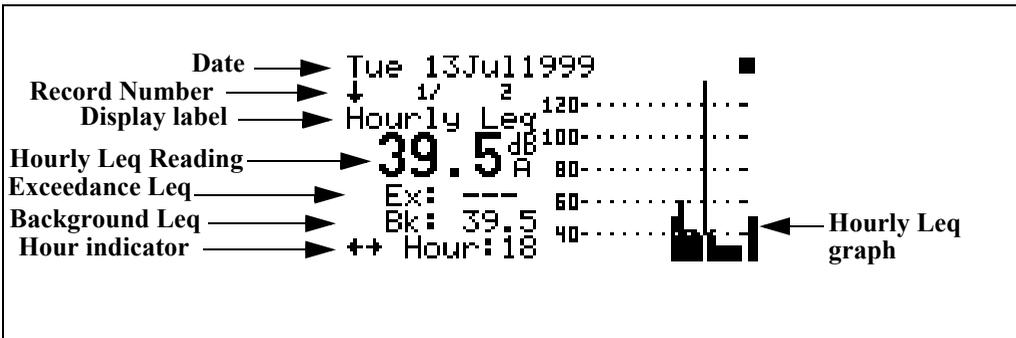
The following explains each of the display's components:

Display label - This shows the current display (for example, "*Hourly Leq*").

Date - Date of the record

Record Number - The record number indicates the order of the displayed Daily record in relation to the other records.

Hourly Leq Reading - This is the hourly Leq as shown by the cursor.

Exceedance Leq - This shows the average level of all of the exceedance events.

Background Leq - The background Leq is the hourly Leq minus the exceedance Leq.

Hour indicator - The hour indicator shows which hour of the day is being displayed. A "p" following the Hour indicator means that the measurement was not for a full hour.

Hourly Leq graph - This graph shows the Leq value for each hour. Use the $\blacktriangleright$ and $\blacktriangleleft$ arrow keys to move the cursor to view the Leq, background Leq and exceedance Leq for each hour.

Metrics

The $\blacktriangle$ and $\blacktriangledown$ arrow keys can be used to cycle between the Metrics, PassBy, and Wind / Tach views.
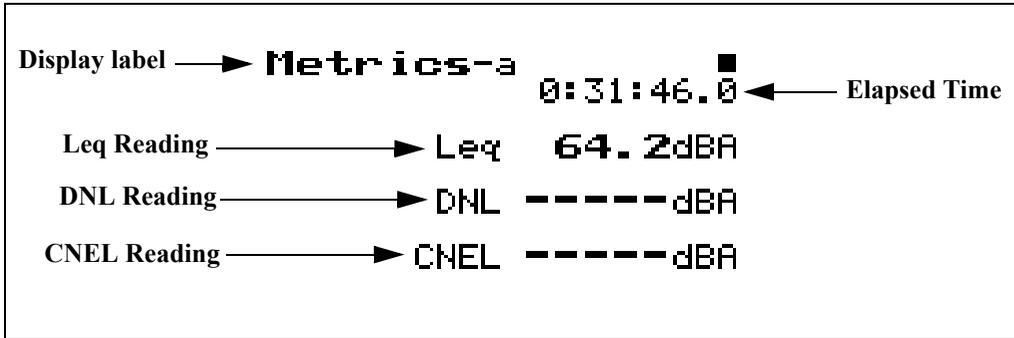
The **Metrics** View has two displays which can be accessed by simply selecting **Metrics** with the $\checkmark$ Check key from within the main **View** menu then cycling through the views with the $\blacktriangleright$ and $\blacktriangleleft$ arrow keys until the desired display appears.

Metrics-a Display

The **Metrics-a** display consists of five major components:

- Display label

- L_{eq} Reading

- DNL Reading

- CNEL Reading

- Elapsed Time

The **Metrics-a** display is shown below:

```
Display label ────► Metrics-a          ■
                                0:31:46.0 ◄──── Elapsed Time
   Leq Reading ──────────────► Leq   64.2dBA
   DNL Reading ──────────────► DNL ─────dBA
  CNEL Reading ──────────────► CNEL ─────dBA
```

The following explains each of the display's components:

Display label - This shows the current display (for example, "*Metrics-a"*).

Leq Reading- This display shows the average level over the elasped time.

DNL Reading - The DNL (Day-Night Average Sound Level) display shows the equivalent sound level for the entire measurement period with a +10dB weighting applied to all sounds occurring between the times 22:00 and 07:00.

CNEL Reading - The CNEL (Community Noise Equivalent Level) display shows the equivalent sound level for the entire period with a +5dB weighting applied to all sounds occurring between the times 19:00 and 22:00 and a +10dB weighting applied to all sounds occurring between the times 22:00 and 07:00.

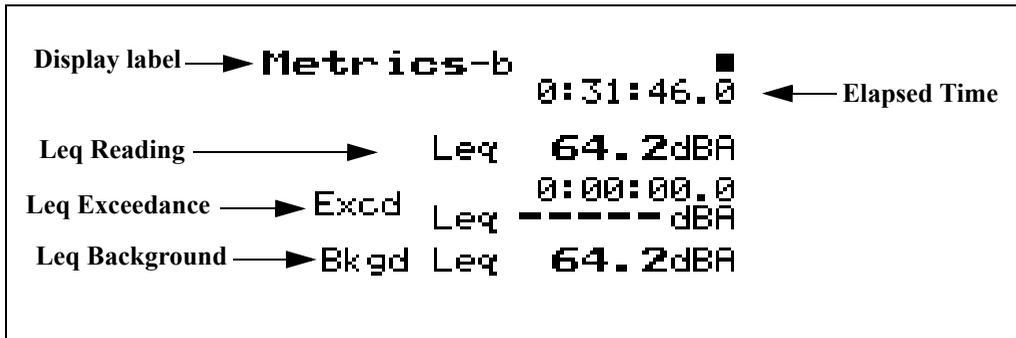**Elapsed Time**- This shows the elapsed time of the overall measurement.

Metrics-b Display

The *Metrics-b* display consists of six major components:

- Display label

- L_{eq} Reading

- L_{eq} Exceedance

- L_{eq} Background

• Elapsed Time

The *Metric -b* display is shown below:

```
Display label ──▶ Metrics-b                ■
                                 0:31:46.0  ◀── Elapsed Time

Leq Reading ─────────────▶  Leq   64.2dBA
                                 0:00:00.0
Leq Exceedance ──▶ Excd  Leq ─────dBA
Leq Background ──▶ Bkgd Leq   64.2dBA
```

The following explains each of the display's components:

Display label - This shows the current display (for example, "*Metrics-b")*.

L_{eq} **Reading** - This shows the level of a constant sound over a specific time period that has the same sound energy as the (unsteady) sound over the same period.

Exceedance L_{eq} - This displays the average L_{eq} of all the exceedance events.

Exceedance Duration - Total time of all exceedances.

Background L_{eq} - This display shows the average L_{eq} for the total measurement period minus the combined event L_{eq}.

Elapsed Time - This shows the elapsed time of the overall measurement.
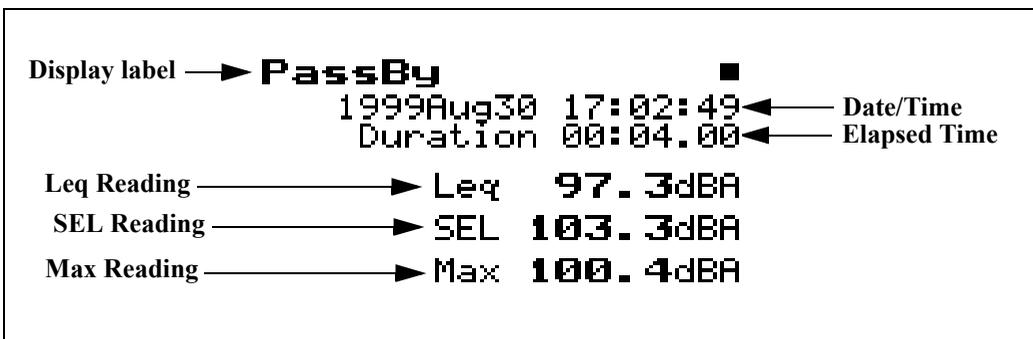
PassBy

The ⬆ and ⬇ arrow keys can be used to cycle between the Metrics, PassBy, and Wind / Tach views.

The *PassBy* View has a single display that shows the largest single 10dB passby event detected. The display can be accessed by simply selecting *PassBy* with the Ⓥ Check key from within the main View menu.

The *PassBy* display consists of six major components:

- Display label

- L_{eq} Reading

- SEL Reading

- Max Reading

- Date/Time

- Elapsed Time

The *PassBy* display is shown below:

The following explains each of the display's components:

Display label - This shows the current display (for example, "*PassBy")*.

L_{eq} Reading- This is the Leq for the Passby event including all energy between the 10dB down points centered around the maximum.

SEL Reading - This display shows the total sound energy of a measurement compressed into one second.

Max Reading - This display shows the maximum sound pressure level that occurred during the passby.

Date/Time -This displays the date and time of the passby.

Elapsed Time - This shows the elapsed time between the 10dB down points prior to and following the maximum level measured.

NOTE: The Passby triggering system can be used to create an exceedance record of each passby; set "Excd Trigger" to [Passby].

Wind/Tach

The ⬆ and ⬇ arrow keys can be used to cycle between the Metrics, PassBy, and Wind / Tach views.

The **Wind/Tach** View has three displays which can be accessed by simply selecting **Wind/Tach** with the ✓ Check key from within the main View menu then cycling through the views with the ▶ and ◀ arrow keys until the desired display appears.

Wind-a Display

The **Wind-a** display consists of five major components:

- Display label

- Sound Pressure Level

- Windspeed

- Wind Direction

- Frequency of Windspeed Signal

The **Wind-a** display is shown below:
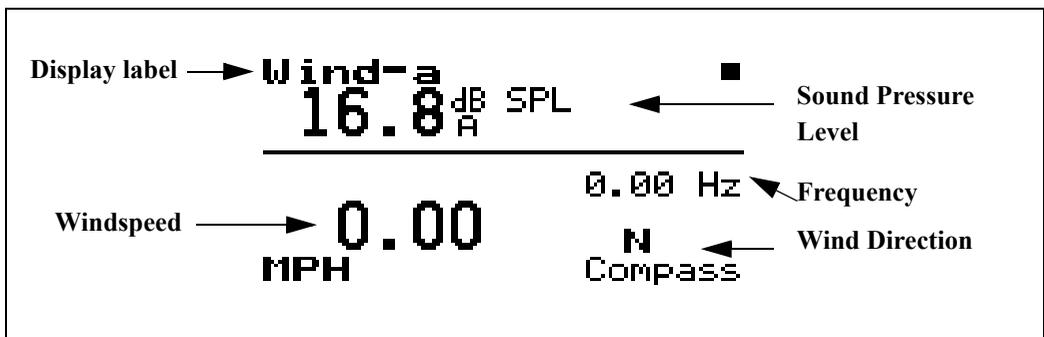
Display label → **Wind-a**
16.8 dB SPL A ← Sound Pressure Level

0.00 Hz ← Frequency

Windspeed → **0.00**
MPH

N ← Wind Direction
Compass

The following explains each of the display's components:

Display label - This shows the current display (for example, "*Wind-a")*.

Sound Pressure Level - This displays the instantaneous sound pressure level

Windspeed - This displays the instantaneous windspeed.

Wind Direction - This displays the instantaneous wind direction using compass coordinate points or in degrees.
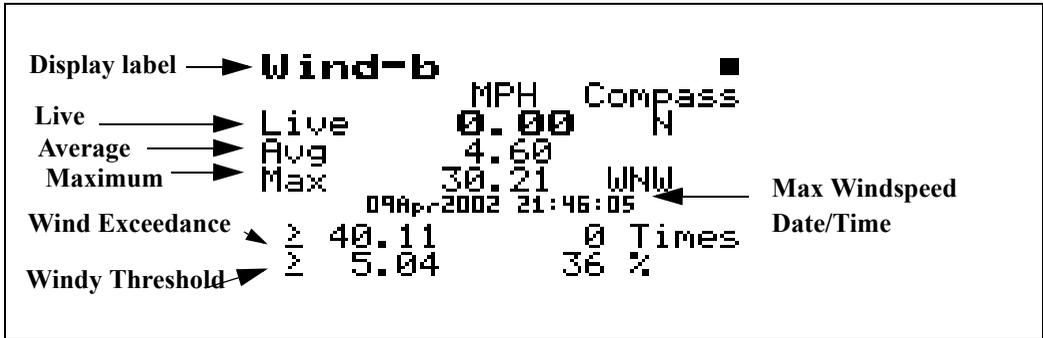
Frequency - This displays the instantaneous frequency of the signal from the windspeed transducer. This parameter is used primarily for troubleshooting.

Wind-b Display

The *Wind-b* display consists of seven major components:

- Display label

- Live Wind Speed and Direction

- Average Windspeed

- Maximum Windspeed and Direction

- Date/Time of Maximum Windspeed

- Wind Exceedance Data

- Windy Threshold Data

The *Wind-a* display is shown below:

The following explains each of the display's components:

Display label - This shows the current display (for example, "***Wind-b")***.

Live Windspeed and Direction- This displays the instantaneous value of windspeed and direction.

Average Windspeed - This displays the average value of windspeed calculated since the initiation of the measurement or since the last data reset.

Maximum Windspeed and Direction- This displays the maximum value of windspeed and its direction since the initiation of the measurement or the last data reset.

Date/Time of Maximum Windspeed - This displays the data and time of the maximum windspeed.

Windy Exceedance Data - The Windy Exceedance Data includes the value of the Windy Exceedance Level (in this instance 40.11) and the number of times the windspeed exceeded this level.

Windy Threshold Data - The Windy Threshold Data includes the value of the Windy Threshold Level (in this instance 5.04) and the percent of the time that the windspeed was above this level.

Wind-c Percent Display

The *Wind-c Percent* display consists of three major components:

- Display label

- Live Windspeed

- Live Wind Direction

- Percent Windy Condition
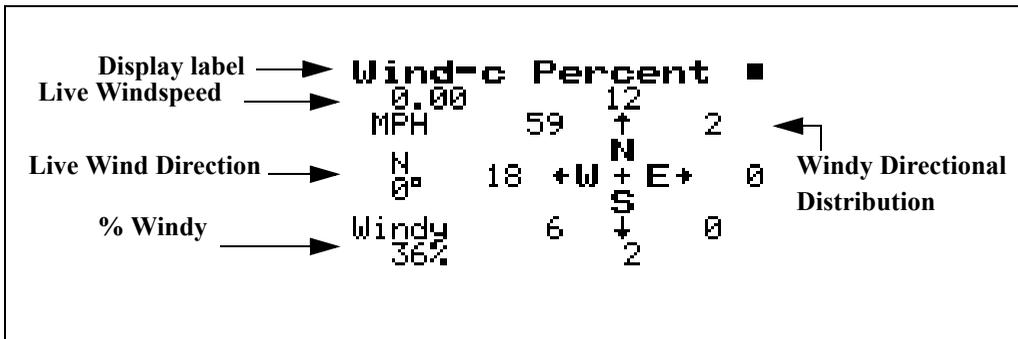
- Windy Directional Distribution

```
Display label ──────▶  Wind-c Percent  ■
Live Windspeed ──────▶     0.00         12
                       MPH      59   ↑      2   ◀──┐
                                         N
Live Wind Direction ──▶  N.      18  ◂W ＋ E▸   0  │ Windy Directional
                         0°               S          Distribution
% Windy ─────────────▶  Windy    6   ↓      0
                        36%                2
```

The following explains each of the display's components:

Display label -This shows the current display (in this case, "***Wind -c Percent***").

Live Windspeed - The Live Windspeed is the instantaneous value of windspeed.

Live Wind Direction - The Live Wind Direction is the instantaneous wind direction, indicated in both compass coordinates and degrees.

Percent Windy Condition - The Percent Windy Condition is the percent of the time the windspeed was above the Windy Threshold Level.

Windy Directional Distribution - The Windy Directional Distribution is shown on a compass rose with indications of the percent of the time that windspeeds above the Windy Threshold Level were in the directions represented by each of the eight directional coordinates. In this instance we can

see that winds having levels above the Windy Threshold Level of 5.04 (shown on the Windy-b View) were from the North West 59% of the time.

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