

Jade 2[™]

Noise Monitoring Software

User Guide

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Introduction

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Conventions Used in this Guide

This user guide uses the following conventions:

Menu|Command

This guide uses, for example, the format "choose Measurement|Capture Data..." as a shortcut for "choose Capture Data... from the Measurement menu".

Reference

You can click on any reference to jump directly to the referenced topic in this guide.



This "page turner" symbol indicates that there is more information on the current topic on the next page. Click on the page turner symbol to go to the next page.

Further Reading

In addition to this guide, the following guides are also supplied on the installation disks and are installed in the Jade directory.

- ◆ *Installation Guide* – this guide tells you how to install and register Jade. It also tells you how to obtain technical support. You are recommended to read this guide.
- ◆ *Getting Started* – this guide provides useful information that will help you start using Jade. In particular, this guide contains tutorials to teach you how to use Jade. If you have not used Jade before, you are recommended to print and read this guide.
- ◆ *Advanced Topics* – this guide contains extra information on setting up Jade. This guide is for experienced users and anyone who has to set up Jade for use by other people.

All three guides are supplied in Adobe Acrobat (PDF) format. Windows 3.1 icons or Windows 95 shortcuts are provided for these guides in the Jade Program Manager group or on the Window 95 Start menu.

Jade is also supplied with on-line Help. In particular, the Help provides details of how to fill in the fields in the dialogs. You can access the Help either from the Help menu or by using the Help button in a dialog.

Running Jade on a Portable Computer

When running Jade on a portable computer there are several issues that you might like to consider:

- ◆ Hard disk timeout (see below)
- ◆ Hibernation and suspend modes (see below)
- ◆ Using the keyboard shortcuts (see the Help for details).
- ◆ Changing the screen colors. See the *Advanced Topics Guide* or the Jade Help for details on changing the display colors, help window colors and numeric display colors.

Hard Disk Timeout

Most portable computers power down their hard disk drives when they are not in use in order to save power. If you are running Jade on a portable computer, you should check that the timeout is much shorter than time taken to capture the amount of data in the maximum block size as set by the capture options (see the Help for details). If you do not do this, you may find that when the hard disk powers down it must immediately power up again to save the next block of data. Powering up the hard disk too frequently on a portable computer does not only drain the battery during a long data capture session, but can also shorten the life of the hard disk itself.

Hibernation and Suspend Modes

If you are running Jade on a portable computer and you normally use suspend and hibernation features, you may need to disable these if they are activated by keyboard or mouse inactivity. Otherwise, the system may enter a power saving mode simply because you have not used the mouse or keyboard during a data capture session.

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Calibrating a Meter

In order that Jade can accurately capture data, it is vital that the sound level meter used is fully calibrated before use. Calibration takes three forms:

- ◆ Laboratory calibration
- ◆ Hardware calibration
- ◆ Software calibration

These are described in the sections below. Jade's calibration facility guides you through the last two forms of calibration (that is, hardware and software calibration).

Laboratory Calibration

During laboratory calibration the meter is adjusted to produce results within the prescribed tolerances. This type of calibration can only be carried out by a laboratory accredited to appropriate national standards. Most national noise standards require that all equipment is calibrated by a laboratory at least once a year. Jade lets you record the data of the last laboratory calibration and places a warning in a measurement report if the last laboratory calibration is more than a year before the measurement.

Hardware Calibration

Hardware calibration involves calibrating the meter with an acoustic calibrator. This ensures that the meter measures the correct sound pressure levels during data capture. It is generally considered a good idea to perform a hardware calibration each time a meter is used. You are probably already familiar with this form of calibration.



Software Calibration

Software calibration is the situation in which the result of a hardware calibration is read by the computer. In addition, the volume control on the sound card input is adjusted to find the best level. This form of calibration is essential to Jade as it ensures that the computer can convert voltages received from the meter into decibel levels during data capture.

Calibrating a Meter

Jade insists that a software calibration is performed on a meter before it can be used for data capture. You can calibrate a meter in one of two ways:

- ◆ By performing **a stand-alone calibration**.
- ◆ By **calibrating a sound level meter before data capture**

You can also **validate the accuracy of the meter** after data capture if you wish.


Tip: You can **view the results of a calibration** in the meter library at any time.

Stand-Alone Calibration

Jade's calibration facility lets you calibrate a meter any time you wish (that is, perform a stand-alone calibration). You can also **calibrate a meter before data capture** if you wish.

Note: If Jade detects that your sound card does not have an automatic volume control, you will not be able to perform a stand-alone calibration. In this case, the Calibration menu option and the speed bar button are both disabled and you will have to use a manual volume control utility to calibrate the meter before each data capture session.

To calibrate a meter:

1. Make sure that the sound level meter you wish to calibrate is attached to the sound card. You will also need either a single or dual level acoustical calibrator.
2. Choose Measurement|Calibrate... or choose the  button from the speed bar.
3. In the Meter Calibration dialog, select the meter, calibrator and interface from the drop-down list boxes. Select the frequency weighting for the meter. Type a microphone adjustment, if you wish. A time weighting is not used for data capture with a sound card so set the time weighting on the meter as you wish. When you are ready, choose OK.
4. A summary dialog is displayed asking you to set up the meter. Set the sound level meter to the settings given in the summary dialog and choose OK.
5. A message box is displayed asking you to set up the calibrator. Do the following:
 - (a) Set the calibrator to the level given in the message box.



- (b) Carry out a hardware calibration and adjust the meter to the level specified in the message box (note that the microphone adjustment has been applied to the calibration level). Leave the calibrator turned on and attached to the meter.
 - (c) When you have adjusted the sound level meter and the reading is steady, choose OK.
 - (d) Jade now performs a software calibration, automatically adjusting the volume as it does so. You do not need to do anything except wait between a few seconds and several minutes. As calibration progresses, Jade updates the volume level gauge. Note that after the first calibration, subsequent calibrations take much less time.
6. If you are using a dual level calibrator, Jade will ask you to perform a second calibration:
- (a) Leave the range setting for the sound level meter unchanged.
 - (b) Set the calibrator to the level given in the message box.
 - (c) Carry out a hardware calibration and adjust the meter to the level specified in the message box (again, the microphone adjustment has been applied to the calibration level). Leave the calibrator turned on and attached to the meter.
 - (d) When you have adjusted the sound level meter and the reading is steady, choose OK.
 - (e) Jade performs a second level software calibration. Again, you do not need to do anything except wait.
7. You can now turn off the calibrator and remove it from the meter.



8. A message box tells you whether calibration is successful or has failed:
 - If calibration has failed, you are given the opportunity to try again.
 - If calibration is successful, Jade displays a message box is displayed asking if you wish to view the results of the calibration. Choosing OK opens the Calibration Summary dialog.

Calibration Before Data Capture

In certain circumstances Jade may prompt you to calibrate a meter immediately before a data capture session. Calibration before data capture is very similar to **stand-alone calibration**, except that you do not need to choose a meter or interface as you will have already chosen these for data capture. You can determine when calibration should occur before both full and preview data capture by **setting the calibration options**.

Important: If you have a manual volume control on your sound card, the volume level on the sound card may change between data capture sessions, thus invalidating the readings. You will therefore need to do a calibration before every data capture session.

To calibrate a meter, if requested, during capture:

1. Carry out either a **full data capture session** or a **preview data capture**.
2. Reply Yes to any question asking if you want to calibrate the meter. You can specify how often (if at all) Jade should display this message by setting the **calibration options**.
3. In the Meter Calibration dialog, select the calibrator and type a microphone adjustment, if you wish. When you are ready, choose OK.
4. A summary dialog is displayed asking you to set up the meter. Set the sound level meter to the settings given in the summary dialog and choose OK.
5. A message box is displayed asking you to set up the calibrator. Do the following:
 - (a) Set the calibrator to the level given in the message box.



- (b) Carry out a hardware calibration and adjust the meter to the level specified in the message box (note that the microphone adjustment is applied to the calibration level). Leave the calibrator turned on and attached to the meter.
- (c) When you have adjusted the sound level meter and the reading is steady, choose OK.
- (d) If Jade detects that you have a manual volume control, you may see a dialog asking you to supply the path for your volume utility. Type the path and file name of the volume utility or choose the Browse button to search for the utility. When you have entered the full path and name of the volume utility, choose OK.
- (e) If you are using a manual volume control, Jade runs the volume utility.
- (f) Jade now performs a software calibration.

If you have an automatic volume control, Jade automatically tries each possible volume setting in turn (note that the last setting is usually the highest and may not be the one that is actually used). In this case, you do not need to do anything except wait between a few seconds and several minutes. Note that after the first calibration, subsequent calibrations take much less time.

If you have a manual volume control, you should adjust the volume level so that the gauge reads OK (or High or Low) and the distortion is as low as possible.

If you are using the Windows 95 manual volume control make sure that you are adjusting the volume level on the input and not the output and that the unused channels are disabled. To do this, in the volume utility choose Options|Properties and select Recording. Check (select) the input that you are using and uncheck the other inputs.




6. If you are using a dual level calibrator, Jade will ask you to perform a second calibration:
 - (a) Leave the range setting for the sound level meter unchanged.
 - (b) Set the calibrator to the level given in the message box.
 - (c) Carry out a hardware calibration and adjust the meter to the level specified in the message box (again, the microphone adjustment has been applied to the calibration level). Leave the calibrator turned on and attached to the meter.
 - (d) When you have adjusted the sound level meter and the reading is steady, choose OK.
 - (e) Jade performs a second level software calibration. You do not need to do anything except wait. Note that if you are using a manual volume control utility, you must NOT adjust the volume level this time.
7. You can now turn off the calibrator and remove it from the meter.
8. A message box tells you whether calibration is successful or has failed:
 - If calibration has failed, you are given the opportunity to try again.
 - If calibration is successful, Jade displays a message box is displayed asking if you wish to view the results of the calibration. Choosing OK opens the Calibration Summary dialog.

Once you have calibrated the meter, data capture continues as usual.

Viewing the Results of a Calibration

You can view the results of the latest calibration at any time.

To view the latest a meter calibration:

1. Choose Library|Meters... or choose the  button from the speed bar.
2. In the Meter Library dialog, select the meter for which you wish to view the calibration.
3. Choose the Calibration Results... button.
4. Jade opens the Calibration Summary dialog for you to view the calibration results.


Note: You will only be able to view the calibration results if there is actually a calibration for the meter.

Setting the Calibration Options

Jade provides various calibration options that you can customize to your own preferences. For example, you can specify how often you wish to calibrate before data capture.

Note: These options apply only to **calibration before data capture** and not to **stand-alone calibration**.

To set the calibration options:

1. Choose Options|Calibration... or choose the  button from the speed bar.
2. In the Calibration Options dialog, edit the options.

Note: If you use a totally uncalibrated sound level meter, Jade forces you to calibrate the meter before use, and the calibration options are ignored.

The calibration options are as follows:

Option	Description
Calibration Before Full Capture	These options indicate how often you wish to calibrate a meter before a full capture session (see next page).
Calibration Before Preview Capture	These options indicate how often you wish to calibrate a meter before a preview capture session (see next page).
Maximum Time Between Calibrations	Indicates the maximum time between calibrations. This text box must be filled in if you have set the When Out of Date option in either the Calibration Before Full Capture or the Calibration Before Preview Capture group box.



Option	Description
Validate Meter Accuracy After Data	This checkbox indicates that you wish to validate the accuracy of the meter after data capture.

Calibration Options

The options in the Calibration Before Full Capture and Calibration Before Preview Capture group boxes are:

Option	Description
Always	This option forces a calibration before every data capture.
When Out of Date	This option forces you to calibrate a meter before a data capture if the current calibration on the meter is out of date. Jade uses the interval given in the Maximum Time Between Calibrations field to calculate whether a calibration is due.
Prompt	This option causes Jade to ask if you wish to calibrate the meter each time you start a data capture.
Only If Uncalibrated	This option forces a calibration before a data capture only if the meter is totally uncalibrated. Otherwise a calibration is not done on the meter. If you select this option, you must ensure that the meter is calibrated regularly.

Validating the Accuracy of the Meter

When performing a long data capture session, it is possible that the accuracy of the meter changes during the session. This means that data samples near the end of the session may be less reliable than those at the start. Jade therefore lets you check the accuracy of the sound level meter after a full data capture session and reports on the reliability of the readings.

Note: In order to validate the meter you must **calibrate the meter immediately before data capture**. The reason for this is that Jade uses the pre-capture calibration levels for comparison when calculating the accuracy.

To make sure that validation will occur:

1. Set the **calibration options** to make sure that a calibration is possible.
2. Set the Validate Meter Accuracy After Full Data Capture check box to make sure that the meter will be validated after capture.

To perform the validation:

1. Perform a **full data capture session** as normal, making sure that you choose to calibrate the meter beforehand.
2. After data capture, Jade asks if you wish to validate the meter's accuracy. Choose Yes to validate the meter (or No if you wish to skip the validation).
3. If you choose Yes, a summary dialog is displayed asking you to set up the meter for a first or only validation. Set the meter to the settings given in the summary dialog. Note that, because the pre-capture calibration levels are used for comparison during the validation, Jade automatically knows whether to do a single or dual level validation.



4. A message box is displayed asking you to set up the calibrator. Set the calibrator to the level given in the message box. Do NOT adjust the meter (you are not doing a calibration). When the meter reading is steady, choose OK.
5. Jade reads the level to perform the validation. You do not need to do anything except wait for a few seconds.
6. If you are using a dual level calibrator, Jade will ask you to perform a second validation. Leave the range setting for the sound level meter unchanged and set the calibrator to the level given in the message box. When the meter reading is steady, choose OK.
7. Jade reads the level to perform the validation. Again, you do not need to do anything except wait for a few seconds.
8. A message box tells you validation is complete and asks if you wish to view the results of the validation. Choose Yes to open the Validation Summary dialog and view the results. If the validation failed, you are given the opportunity to try again.

Capturing Data

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Preparing for Data Capture

Before you can start capturing data you must make sure that the following tasks have been done:

- ◆ The sound card has been correctly installed in your computer and the multimedia facilities have been installed.
- ◆ The meter has been set up in the meter library.
- ◆ The calibrator has been set up in the calibrator library. The standard calibrators supplied with Jade should be sufficient in most cases.
- ◆ The meter has been calibrated with the calibrator using Jade's **calibration facility**. A simple hardware-only calibration is not sufficient. Note that a stand-alone calibration is optional and Jade will check that the meter has been calibrated before data capture actually starts. Jade will force you to **calibrate the meter before data capture** if the meter is uncalibrated.
- ◆ A suitable measurement profile has been set up in the profile library (only required for full data capture).
- ◆ A suitable event bar has been set up in the event library (only if you wish to mark noise events during a full data capture session).

Capturing Data

You can do two types of data capture:

Full data capture This is a detailed data capture session. This type of data capture lets you save the data to disk and **use an event bar** to add event labels as necessary.

Preview data capture This is a very short data capture session. This type of data capture does not save any data to disk or let you add event labels to the data. You would typically use this type of data capture to perform a quick test to see if a full data capture session is necessary.

Note: You may need to **prepare for data capture** if this has not already been done for you.

Sampling Rates and Types of Data

Jade samples data using the following process:

1. The AC signal from the sound level meter is fed into the sound card. The AC signal is drawn *after* a frequency weighting has been applied to the signal but *before* a time weighting is applied. The signal is therefore frequency weighted but not time weighted.
2. Jade samples raw data from the sound card at 11025, 22050 or 44100 times per second (depending on the speed of your computer and the capabilities of the sound card).
3. Jade averages the raw data to generate intermediate RMS samples. There are at least 350 of these intermediate RMS samples per second.
4. Jade uses the intermediate RMS samples to generate the actual Leq and Lp data samples for use by Jade. At this point, a time weighting is applied to the Lp data samples.
5. In addition to the Leq and Lp data samples, Jade generates Lpk data samples directly from the raw data using the highest raw levels. The intermediate RMS samples are not used to generate Lpk samples.
6. The Leq, Lp and Lpk data samples are used to calculate the running statistics during data capture. The Leq, Lp and Lpk data samples are also stored in the Jade measurement file for future use (typically at 1, 2, 5, 10, 25 or 50 times per second).



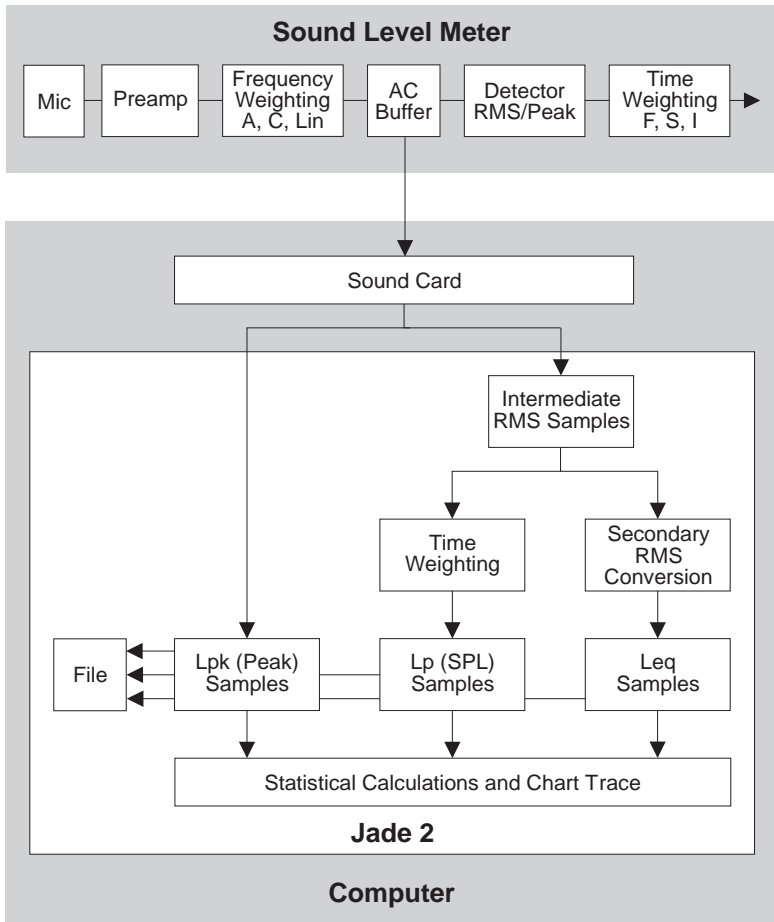
7. In addition to the above, Jade may also average the data samples from step 3 together for displaying in a chart using an appropriate algorithm (for example, an Leq calculation for Leq data samples or an Ln calculation for Lp data samples). Such averaging does not affect the data stored in the measurement file. When viewing data in a chart, the algorithm used is displayed in the status bar at the bottom of the chart window.

You can use the Recording Rate options in the Data Capture dialog to specify how frequently all three types of data samples are generated during data capture. Typical rates are 1, 2, 5, 10, 25 and 50 times per second, depending on the capabilities of your sound card and the processor speed. You can also specify a rate that records data less than once per second (for example, every 5 seconds).

Note: The recording rate specifies the time periods each recorded sample represents, and not how frequently Jade actually samples the data from the meter using the sound card. For example, although you may choose to record data samples at a rate of 10, 5 or even 1 per second, the underlying sound card sampling rate is still 11025, 22050 or 44100 times per second.

This process is summarized in the following diagram:






Performing a Full Data Capture Session

Jade lets you perform a full (detailed) data capture session. This automatically saves the data to disk and lets you add event labels to the data if you wish.

Note: You can also perform a **preview data capture** to test if a full data capture session is necessary.

To perform a full data capture:

1. Make sure that the sound level meter you wish to use for data capture is attached to the sound card interface. You will also need an acoustical calibrator if you intend to **calibrate the meter before data capture** or to **validate the accuracy of the meter** after data capture.
2. Choose Measurement|Capture Data... or choose the  button from the speed bar.
3. In the Data Capture dialog, select the meter and interface from the drop-down list boxes. Select the meter settings and recording rate.
4. Choose the time weighting to be used to calculate the Lp values from the Lp Time Weighting drop-down list. Choose Fast or Slow, according to the weighting required for the statistics. Most statistics use a Fast time weighting. However, some American statistics, such as Losha, require a Slow time weighting.

Note: Jade applies the time weighting. The time weighting in the meter is not used by Jade as the meter generates the conditioned AC signal before the time weighting is applied. Therefore, the meter's time weighting has no effect and you can set the meter's time weighting setting to any setting you choose.



5. Choose the Full Capture button.
6. In the Full Data Capture Session dialog, type a title for the measurement session, choose a measurement profile and an event bar, and set the Start and Continue options.
7. When you are ready choose OK.
8. If Jade detects that the data capture has an indeterminate end time, you will see a message warning you that you can only capture data for a particular length of time. For example, you will see this message if you selected the Until Told to Stop option in the Full Data Capture Session dialog. Note that the time in the message is the total sampling time and does not include any breaks in the data capture (for example, if the measurement profile includes periods when no data capture takes place) .
9. Under certain circumstances Jade may display one of the following warnings:
 - A message telling you that you do not have enough disk space. In this case, you will not be able to proceed with data capture.
 - A message warning you that the data will occupy more than a specified amount of disk space. You will see this message either if the data will occupy more than half the available disk space or if there will be more than a certain number of data samples. By default the specified amount is 250,000 samples (roughly speaking, this is a floppy disk's worth), but you can change this if you wish (see the *Advanced Topics Guide*).
10. In the Notes Before Data Capture dialog, type in any notes that you wish to record and choose OK.



11. If you have set the calibration options to prompt you for a calibration, Jade asks if you wish to calibrate the meter. Choose Yes or No as appropriate.
12. If you have asked to calibrate the meter, or if Jade determines that a calibration is necessary, the Meter Calibration dialog is displayed. This allows you to **calibrate the meter before data capture**.
13. Jade displays a summary dialog that tells you the settings you have chosen for your meter. Set up your meter and choose OK.

Jade displays the capture window and a message box tells you to wait for data capture to start. After an appropriate delay (depending on the start time you specified), data capture starts.

Typing Notes Before Data Capture

Before starting a **full data capture session**, Jade gives you the opportunity to type any notes or observations.

You should make notes on the following:

- ◆ The location (including map references if known).
- ◆ Atmospheric conditions (for example, wind direction and speed, rain, fog, likelihood of temperature inversion, temperature, pressure, humidity).
- ◆ The nature of the ground between the noise source and the measurement location.
- ◆ The variability of the noise source.

You might also wish to record your comments on the following:

- ◆ The possibility of locating the origin of the noise.
- ◆ A possible identification of the noise.
- ◆ The nature of the noise source.
- ◆ The nature of the sound.

Typing Notes After Data Capture

After a **full data capture session**, Jade gives you the opportunity to type any notes or observations.

You should record any conditions that may have changed since data capture started.


Stopping Data Capture

Jade automatically stops data capture in the following circumstances:

- ◆ You are performing a **preview data capture session**.
- ◆ You are performing a **full data capture session** and you choose a measurement profile with a known length.
- ◆ You are performing a full data capture session and you specify a capture end time.

In all other circumstances (for example, if you are using a non-stop profile in a full data capture session or if you wish to stop data capture early), you have to stop data capture yourself.


To stop data capture yourself:

1. Choose Measurement|Stop Capture or choose the  button from the speed bar.
2. Jade stops capturing data and lets you view the chart and statistics.
3. When you are ready, **return to normal** operation.

Returning to Normal Operation

Once data capture is complete and you have studied the statistics and chart, you can return Jade to normal (non-capture) operation.

To return to normal operation:

1. Choose Measurement|Return to Normal or choose the  button from the speed bar.
2. The chart, statistics window and event bar (if shown) disappear.
3. If you asked to **validate the accuracy of the meter** after a full data capture session, Jade asks if you wish to validate the meter. If you choose Yes, Jade guides you through the validation steps.
4. If you have just finished a **full data capture session**, the Notes After Data Capture dialog is displayed. Type any notes you wish to record and choose OK.
5. Jade returns to normal operation.

Using Measurement Profiles

During data capture Jade uses a measurement profile to determine how often and for how long data capture occurs. For example, an eight hour measurement profile causes data capture to last for exactly eight hours.

Measurement Profile for a Full Data Capture Session

During a **full data capture session**, Jade lets you choose a measurement profile from the profile library. You can have any number of measurement profiles in the measurement profile library for use during full data capture.

To use a measurement profile during a full data capture session:

1. Start a full data capture session.
2. Select a measurement profile in the Full Data Capture Session dialog.

Measurement Profile for a Preview Data Capture Session

For a **preview data capture session**, Jade provides a preview measurement profile. To use the preview measurement profile during preview data capture, you do nothing: Jade automatically uses the preview measurement profile.

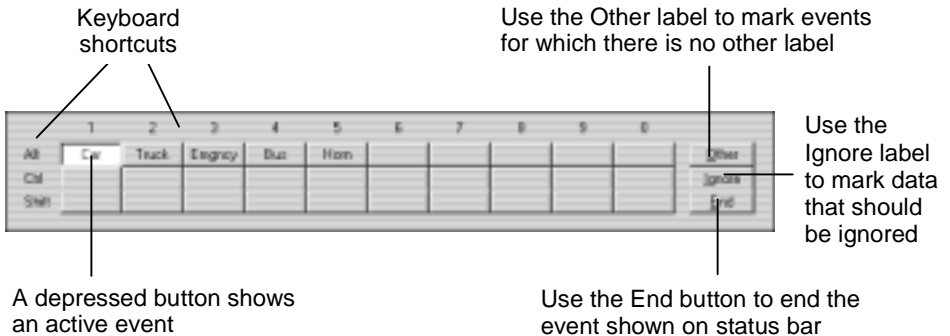
The preview measurement profile is typically a one minute profile. However, you can **edit the preview measurement profile** if you wish.

Using Event Bars

During data capture, you can choose an event bar so that you can assign **event labels** to the data as noise events occur. The current event is shown on the status bar at the bottom of the main window. The **data capture options** determine whether or not the events can be overlapped (that is, you can mark more than one event at a time).

Note: You can use an event bar only in a **full data capture** session. This facility is not available in a **preview capture** session.

An example event bar is shown below.



To use an event bar during data capture:

1. Start a full data capture session.
2. Select an event bar in the Full Data Capture Session dialog.

The event bar is displayed at the bottom of the main window during capture. You can **show and hide the event bar** at any time, if you wish, during data capture.

You can now use the event bar to mark events during data capture (see **marking events** on the next page).

Showing and Hiding the Event Bar

At any time during a **full data capture session**, you can hide or show the event bar. For example, you may wish to hide the event bar to make more room for the chart.

Note: Hiding the event bar does not stop you marking noise events as you can still use the keyboard shortcuts.

The event bar is available only if you choose to use an event bar during a full data capture. In addition, you cannot use an event bar for a preview data capture.

To show the event bar:

Either:

Choose View|Show Event Bar

or:

Choose the  button from the speed bar

or:

Press Alt + B

To hide the event bar:

Either:

Choose View|Hide Event Bar

or:

Choose the  button from the speed bar.

or:

Press Alt + B

Marking Events

During data capture, you can use the **event bar** to mark important noise events.

To mark events using an event bar:

1. When a noise event occurs, mark the data using one of the following methods.

Either:

Click on the appropriate button for the event label on the event bar. If the event is an instant event, the button immediately becomes available again for another event. If the event is not an instant event, the button remains depressed to show that the event is active.

Or:

Type the shortcut key combination for the event label, as indicated by the text to the left and along the top of the buttons on the event bar. To use a shortcut, type one of the keys listed on the left with one of the keys listed along the top.

2. Jade indicates the presence of the noise event by a thick line at the foot of the chart. In addition, the status bar briefly displays the event label's description. If the event label is the most important active label, the description will remain in the status bar for the duration of the event.
3. If the noise event is an instant event, Jade marks only a single data sample. Otherwise you must indicate the end of the noise event yourself using one of the following methods.



Either:

Type the shortcut key combination for the event label again.

Or:

Click a second time on the event label's button on the event bar

You can also use the End button on the event bar or type Alt+E to end the most important event (as shown on the status bar).

You can use the Ignore event label to mark any data that you do not want to be included in the statistics for the noise analysis survey (keyboard shortcut: Alt+I). You can also use the Other event label for any noise event that does not have its own event label on the event bar (keyboard shortcut: Alt+O).

Empty event label buttons are disabled and you cannot use them.

Event Labels

Each event bar contains 32 noise event labels that can be used to mark *noise events*. Of these, 30 event labels can be **edited** by the user. The other two noise event labels are built into Jade, as follows:

Event Label	Description
Other	Used to mark any noise event for which there is no event label in the event bar. This lets you record unexpected events even if no user-defined event label has been set up.
Ignore	Used to mark any noise event that should be excluded from statistical analysis.

System Event Labels

In addition to the 32 noise event labels described above, there are several system event labels built into Jade. These are:

Event Label	Description
Auto	Triggered automatically if a predefined dB threshold is reached. The threshold is one of the capture options .
Lpk	Triggered automatically if the peak pressure level (as sampled by the sound card) exceeds a predefined dB threshold. The threshold is one of the capture options .
Error	Marks lost or unreadable data as it is read from the sound card interface.
Unsure	Marks any data that may be a possible error.




Event Label	Description
Under	Marks any data that is below the meter range chosen for data capture.
Over	Marks any data that is above the meter range chosen for data capture.
Low	Marks any extremely low data (under 5dB).
High	Marks any extremely high data (over 200dB).
Clip	Marks data that is too high for sound card to record.
Quiet	Indicates that the signal level from the sound card has dropped away. This may or may not be an error.

Setting up Automatic Threshold Events

Jade lets you set up automatic threshold events for use during data capture. These are triggered each time a specified decibel threshold level is reached on either Leq or Lp data samples.

To set up the threshold level for the automatic threshold events:

1. Choose Options|Data Capture... or choose the  button from the speed bar:
2. In the Data Capture Options dialog, type the required threshold level in the Automatic Event Threshold text box.
3. During data capture, Jade displays the threshold level for the automatic threshold events as a thin solid line across the chart in the main window.
4. Jade indicates the presence of the noise event by a thick line at the foot of the chart.


Note: Automatic threshold events have a hysteresis level so that an automatic threshold event is not terminated immediately the decibel level drops below the threshold level. As a result, several short automatic threshold events may be merged into one event. This feature prevents a large number of very short threshold events being generated if the decibel level is hovering around the threshold level.

Setting up Lpk Threshold Events

Jade lets you set up Lpk threshold events for use during data capture. These are triggered each time the frequency weighted peak pressure level (as sampled by the sound card) exceeds a specified threshold. Note that Jade samples the frequency weighted peak pressure levels. For example, if the meter is set to A weighting, Lpk threshold events will be triggered on the A weighted Lpk data.

Tip: The maximum frequency weighted Lpk level that can be sampled by the sound card is shown in the Calibration Summary dialog

To set up the threshold level for the Lpk threshold events:

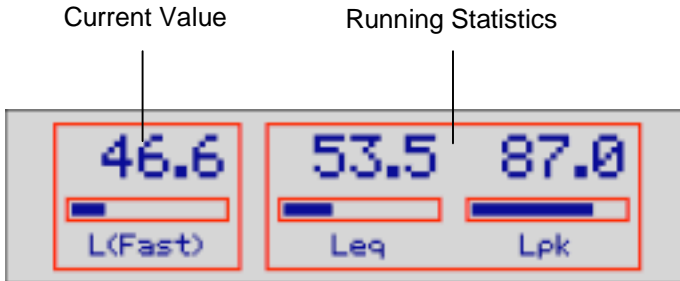
1. Choose Options|Data Capture... or choose the  button from the speed bar:
2. In the Data Capture Options dialog, type the required threshold level in the Lpk Event Threshold text box.
3. During data capture, Jade displays the threshold level for the Lpk threshold events as a thin long-dashed line across the chart in the main window.
4. Jade indicates the presence of the noise event by a thick line at the foot of the chart.

Using the Numeric Display

The numeric display is a large size display that is available in both a **full data capture session** and a **preview capture session**.

The numeric display shows one or two running statistics (you can choose these by **setting the data capture options**). The numeric displays may also show the current data sample (either Leq, Lp or Lpk depending on the trace type chosen for data capture) as it is generated from data from the sound card.

An example of the numeric display is shown below.



The numeric display contains one or two panels (boxes):

- ◆ Running statistics. These are displayed at the right end of the numeric display. If there are two running statistics, these are displayed together in the same panel with a single box drawn around both values.
- ◆ Current data sample. This is at the left end of the numeric display.



Note: If you have chosen two running statistics in the Data Capture options dialog, and one generates non-dB results (such as a percentage), you will not see the current data sample. The reason for this is that non-dB statistics require more room to display their results and so there is not enough room in the numeric display.

For both the running statistics and the current data sample, you will see the name of the statistic or the data type, the current value, the unit (if it is not dB), and a gauge.

You can **show or hide** the numeric display at any time during data capture.

Showing and Hiding the Numeric Display

You can hide or show the **numeric display** at any time during data capture. For example, you may wish to hide the numeric display to make more room for the chart.

To show the numeric display:

Either:

Choose View|Show Numeric Display

or:

Choose the  button from the speed bar

or:

Press Alt + H

To hide the numeric display:

Either:

Choose View|Hide Numeric Display

or:

Choose the  button from the speed bar

or:

Press Alt + H

Showing and Hiding the Statistics Window

During data capture, Jade displays a statistics window to the right of the chart. This shows the current data sample as it is generated from data from the sound card (either Leq, Lp or Lpk depending on the trace type chosen for data capture), and the running statistics.

At any time during data capture, you can hide or show the statistics window (for example, to make more room for the chart).

To show the statistics window:

Either:

Choose View|Show Statistics Window

or:

Choose the  button from the speed bar

or:

Press Alt + W

To hide the statistics window:

Either:

Choose View|Hide Statistics Window

or:

Choose the  button from the speed bar

or:

Press Alt + W






Resetting the Running Statistics

During data capture, Jade displays the running statistics to the right of the chart. Two of these are also displayed in the **numeric display**. You can reset the running statistics at any time during data capture.

Resetting the statistics affects only the running statistics calculated during data capture; the data stored in the measurement file, and the statistics calculated when viewing a chart, are not affected.

To reset the statistics:

1. Choose the appropriate menu option from the Statistics menu or the corresponding speed bar button:

Button	Menu Option	Effect
	Reset Leq	Resets the Leq running statistic
	Reset Dose Statistics	Resets the dose (exposure) running statistics (excluding any Leq statistic)
	Reset Lpk	Resets the Lpk running statistic
	Reset All Lns	Resets all Ln running statistics
	Reset All Statistics	Resets all the running statistics


5. The running statistic is reset. You may see a new value appear in the numeric display and in the running statistics.

The Reset Leq and Reset Dose Statistics menu options and speed bar buttons are present only if you have selected suitable **statistics options**. For example, the Reset Leq option and button are present only if you have selected the Leq statistic for data capture.

Performing a Preview Data Capture Session

Jade lets you perform a preview data capture session. This is typically used to perform a quick test to see if a **full data capture** session is necessary. This type of data capture does not save any data to disk or let you add event labels to the data.

To perform a preview data capture:

1. Make sure that the sound level meter you wish to use for data capture is attached to the sound card interface. You will also need an acoustical calibrator if you need to **calibrate the meter before data capture**.
2. Choose Measurement|Capture Data... or choose the  button from the speed bar.
3. In the Data Capture dialog, select the meter and interface from the drop-down list boxes. Select the meter settings and sampling rate.
4. Choose the time weighting to be used to calculate the Lp values from the Lp Time Weighting drop-down list. Choose Fast or Slow, according to the weighting required for the statistics. Most statistics use a Fast time weighting. However, some American statistics, such as Losha, require a Slow time weighting.
Note: Jade applies the time weighting. The time weighting in the meter is not used by Jade as the meter generates the conditioned AC signal before the time weighting is applied. Therefore, the meter's time weighting has no effect and you can set the meter's time weighting setting to any setting you choose.
5. Choose the Preview Capture button.




6. If you have set the calibration options to prompt you for a calibration, Jade asks if you wish to calibrate the meter. Choose Yes or No as appropriate.
7. If you have asked to calibrate the meter, or if Jade determines that a calibration is necessary, the Meter Calibration dialog is displayed so that you can **calibrate the meter before data capture**.
8. Jade displays a summary dialog showing you the settings you have chosen for your meter. Set up your meter and choose OK.
9. Jade displays the preview data capture window. A message box tells you to wait for data capture to start and after a short delay data capture starts. Data capture continues for a predefined time and then automatically stops.
10. You can now view the final chart and statistics. When you are ready, you can **return to normal operation**.

Note: You can **stop data capture** at any time if you wish.


Setting the Data Capture Options

Jade provides various capture options that you can customize to your own preferences. For example, you can **set up automatic threshold events**.

To set the data capture options:

1. Choose Options|Data Capture... or choose the  button from the speed bar.
2. In the Data Capture Options dialog, edit the options.

To set the data capture options just before data capture:

1. Choose Measurement|Capture Data... or choose the  button from the speed bar (as usual for a data capture session).
2. In the Data Capture dialog, choose the Options button.
3. In the Data Capture Options dialog, edit the options.

Note: If you open the Data Capture Options dialog during data capture, it has less options than if you open it outside data capture.

The options you can set up from within the Data Capture Options dialog are as follows:

Option	Description
Automatic Event Threshold	Use the Automatic Event Threshold text box to set up automatic threshold events . If you wish Jade to generate automatic threshold events during data capture, type the threshold level in this text box. If you leave the text box empty, no automatic threshold events will be generated.



Lpk Event Threshold	Use the Lpk Event Threshold text box to set up Lpk threshold events . If you wish Jade to generate Lpk threshold events during data capture, type the threshold level in this text box. If you leave the text box empty, no Lpk threshold events will be generated.
Allow Overlapped Noise Events	Check the Allow Overlapped Noise Events check box if you wish to allow overlapped noise events when marking events during data capture. The default is to allow overlapped events.
First Statistic	Use the First Statistic drop-down list box to choose the first statistic to be shown in the large numeric display during data capture.
Second Statistic	Use the Second Statistic drop-down list box to choose the second statistic to be shown in the large numeric display during data capture.

The other data capture options are generally not needed so you should not need to change these. See the Help for details on these options.

Setting up the Libraries

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Jade Library Files

When you use Jade, there is some information that is required again and again each time the program is run. Jade stores this information in special data files known as libraries.

The library files have an extension of **.lib** and are located in the **libs** subdirectory of the main program directory. For example, if you have installed Jade in **c:\jade**, the libraries are in **c:\jade\libs**.

There are four libraries:

Library	Purpose
calibs.lib	The calibrator library. Used to set up calibrators .
meters.lib	The meter library. Used to set up meters .
events.lib	The event library. Used to set up event bars .
profiles.lib	The profile library. Used to set up measurement profiles .
stats.lib	The statistics library. Contains the available statistics from which you can choose the statistics to be calculated by Jade (see Setting the Statistics Options).

You can, if you wish, set up the libraries on one computer and then copy them to the **libs** directory on another computer.

In addition to the libraries, you can also view information on the interfaces available on your computer (see **Viewing Information About the Sound Card**).

Setting up Calibrators

Before you can calibrate a sound level meter, you must enter the details of any calibrators you intend to use in the calibrator library. Jade is supplied with a set of generic calibrators in the calibrator library for you to edit.

Jade lets you do any of the following tasks to set up calibrators in the calibrator library:


- ◆ Add a new calibrator to the library.
- ◆ Edit an existing calibrator in the library.
- ◆ Delete a calibrator from the library.

Adding a Calibrator

There are two ways in which you can add a new calibrator to the calibrator library:

- ◆ By creating a totally new calibrator and typing all the details for the new calibrator.
- ◆ By copying an existing calibrator and changing the details as necessary. This is a shortcut way of adding a new calibrator that is very similar to another calibrator already in the library.


To add a totally new calibrator to the calibrator library:

1. Choose Library|Calibrators... or choose the  button from the speed bar.
2. In the Calibrator Library dialog, choose the New button.
3. In the Calibrator Details dialog, type the details for the calibrator.




4. When you have finished typing the details, choose the OK button.
5. Back in the Calibrator Library dialog, choose Done to save the calibrator library.

To add a calibrator to the calibrator library that is similar to one already in the library:

1. Choose Library|Calibrators... or choose the  button from the speed bar.
2. In the Calibrator Library dialog, select a calibrator in the list and choose the Copy button.
3. In the Calibrator Details dialog, edit the details for the new calibrator. In particular, you should change the name to something meaningful.
4. When you have finished editing the details, choose the OK button.
5. Back In the Calibrator Library dialog, choose Done to save the calibrator library.

Editing a Calibrator

To edit a calibrator in the calibrator library:


1. Choose Library|Calibrators... or choose the  button from the speed bar.
2. In the Calibrator Library dialog, select the calibrator you wish to edit and choose the Edit button.
3. In the Calibrator Details dialog, edit the details for the calibrator.



4. When you have finished editing the details, choose OK.
5. Back in the Calibrator Library dialog, choose Done to save the calibrator library.

Deleting a Calibrator

To delete a calibrator from the calibrator library:

1. Choose Library|Calibrators... or choose the  button from the speed bar.
2. In the Calibrator Library dialog select the calibrator you wish to delete.
3. Choose the Delete button.
4. You will be asked to confirm the deletion. Choose Yes if you still wish to delete the calibrator, otherwise choose No.
5. Choose Done to save the calibrator library.

Setting Up Meters

Before you can carry out a data capture session, you must enter the details of any sound level meters you intend to use in the meter library.

Jade lets you do any of the following tasks to set up sound level meters in the meter library:

- ◆ Add a new meter to the library.
- ◆ Edit an existing meter in the library.
- ◆ Delete a meter from the library.

Important: If you have several meters of the same model that you wish to use with Jade, you must create a separate entry in the meter library for each meter, using the meter name to identify it. The reason for this is that individual meters, even of the same model, can vary in their hardware characteristics. Therefore, for greatest accuracy each meter should be given its own entry in the meter library and calibrated with Jade.

Adding a Meter

There are two ways in which you can add a new meter to the meter library:


- ◆ By creating a totally new meter and typing all the details for the new meter.
- ◆ By copying an existing meter and changing the details as necessary. This is a shortcut way of adding a new meter that is very similar to another meter already in the library.




Note: Meters differ from each other in their hardware characteristics and this can affect the accuracy of the data. It is therefore a good idea to create separate copies of all your meters even if they are of the same model.

You must **calibrate the new meter** before use. If you do not calibrate the meter, Jade forces you to **calibrate the meter during data capture**.

To add a totally new meter to the meter library:

1. Choose Library|Meters... or choose the  button from the speed bar.
2. In the Meter Library dialog, choose the New button.
3. In the Meter Details dialog, type the details for the meter.
4. In the Meter Details dialog, choose the Meter Ranges button. This opens the Ranges dialog so that you can **add the ranges** to the meter's details.
5. When you have finished entering the details, choose the OK button.
6. Back in the Meter Library dialog, choose Done to save the meter library.

To add a meter to the meter library that is similar to one already in the library:


1. Choose Library|Meters... or choose the  button from the speed bar.
2. In the Meter Library dialog, highlight a meter in the list and then choose the Copy button.



3. In the Meter Details dialog, edit the details for the new meter. In particular, you should change the name to something meaningful.
4. When you have finished editing the details, choose the OK button.
5. Back in the Meter Library dialog, choose Done to save the meter library.

Editing a Meter

To edit a sound level meter in the meter library:

1. Choose Library|Meters... or choose the  button from the speed bar.
2. In the Meter Library dialog, select the meter you wish to edit and choose the Edit button.
3. In the Meter Details dialog, edit the details for the sound level meter.
4. When you have finished editing the details, choose the OK button.
5. Back in the Meter Library dialog, choose Done to save the meter library.


Note: Editing any details (except the meter's name and the note) invalidates the last calibration for the meter. You must therefore **calibrate the meter** before using it again for data capture.



Deleting a Meter

Note: If the Delete button is disabled (grayed out), this indicates that the meter is a standard meter supplied with Jade and you cannot delete it. However, you can delete your own copies of any supplied meters.

To delete a sound level meter from the meter library:

1. Choose Library|Meters... or choose the  button from the speed bar.
2. In the Meter Library dialog select the sound level meter you wish to delete.
3. Choose the Delete button.
4. You will be asked to confirm the deletion. Choose Yes if you still wish to delete the sound level meter, otherwise choose No.
5. Choose Done to save the meter library.

Setting Up Ranges

When you **set up a meter** in the meter library, you must set up the ranges for the meter.

Jade lets you do any of the following tasks to set up the ranges for a sound level meter in the meter library:

- ◆ Add a range to the meter.
- ◆ Edit a range for the meter.
- ◆ Remove a range from the meter.

Adding a Range

To add a range to the sound level meter:

1. Open the Ranges dialog (see **Setting Up Meters**).
2. Type the bottom of range in the Bottom of Range text box (you may have to type over an existing entry in this text box).
3. Type the top of range in the Top of Range text box (you may have to type over an existing entry in this text box).
4. If necessary, type an offset from 0dB for the range in the Output Offset text box. For most meters, this should be the same as the Range Bottom.
5. Type a description for the range in the Description text box (for example, the range's label on the meter).
6. Set the Smart Calibration check box as appropriate. In general, you should leave it checked. This means that if you use this range for data capture, and it is not suitable for calibration (for example, it is too low for the calibration levels), Jade automatically chooses a suitable range to calibrate the meter.



8 Select one of the calibration option buttons as follows:

Option	Effect
Default Calibration Range	The range must always be used to calibrate this meter. Only one range can have the Default Calibration Range option set. Selecting the Default Calibration Range option for any range automatically converts any previous default range to Can Use for Calibration.
Can Use for Calibration	The range can be used for calibration.
Never Use for Calibration	The range cannot be used for calibration.

Notes:

- If the meter manufacturer recommends a particular range for calibration, set this to Default Calibration Range. Set all the other ranges that could also be used for calibration to Can Use for Calibration.
- If only one meter range is suitable for calibration (for example, it is the only range suitable for use with your calibrator), set this to Default Calibration Range and set all the other ranges to Never Use for Calibration.
- Set any range which is totally unsuitable for calibration (for example, no calibration level falls within the range) to Never Use for Calibration.
- You must set at least one range to either Default Calibration Range or Can Use for Calibration.



9. If you wish, you can use the Chart Bottom and Chart Top text boxes to specify a range to be used in charts. This lets you use the same range in all charts, regardless of the actual range used for data capture, thus making comparing the data easier.
10. Choose the Add button. The new range is added to the Ranges list box.

Note: You must make sure that you add all the ranges on your meter or you will not be able to use them for data capture.

Editing a Range

To edit a range already specified for the sound level meter:

1. Open the Ranges dialog (see [Setting Up Meters](#)).
2. Select the range you wish to edit in the Ranges list box. The Range Details group box is updated with the current settings for the range.
3. Edit the range settings, as necessary, by changing the following:
 - The bottom of range in the Bottom of Range text box.
 - The top of range in the Top of Range text box.
 - The offset in the Output Offset text box.
 - The description in the Description text box.
 - The Smart Calibration check box.
 - The Default Calibration Range, Can Use for Calibration and Never Use for Calibration option buttons.
 - The chart display range in the Chart Bottom and Chart Top text boxes.



The range is updated automatically when you select another range for editing or choose OK to close the dialog.

Note: If you make a mistake while editing the range, choose the Revert button to undo the changes.

Removing a Range

To remove a range from the sound level meter:

1. Open the Ranges dialog (see [Setting Up Meters](#)).
2. Select the range you wish to remove in the Ranges list box.
3. Choose the Remove button.

The range is removed from the Ranges list box.

Setting up Event Bars

Before you can carry out a data capture session, you must enter the details of any event bars you intend to use in the event library.

Jade lets you do any of the following tasks to set up event bars in the event library:


- ◆ Add a new event bar to the library.
- ◆ Edit an existing event bar in the library.
- ◆ Delete an event bar from the library.

Adding an Event Bar

There are two ways in which you can add a new event bar to the event library:

- ◆ By creating a totally new event bar and setting up the event labels for the new event bar.
- ◆ By copying an existing event bar and changing the event labels as necessary. This is a shortcut way of adding a new event bar that contains a similar set of event labels to another event bar already in the library.


To add a totally new event bar to the event library:

1. Choose Library|Event Bars... or choose the  button from the speed bar.
2. In the Event Library dialog, choose the New button.
3. In the Event Bar Details dialog, set up the event bar by **editing the event labels**.




4. When you have finished editing the event labels, choose Done.
5. Back in the Event Library dialog, choose Done to save the event library.

To add an event bar to the event library that is similar to one already in the library:

1. Choose Library|Event Bars... or choose the  button from the speed bar.
2. In the Event Library dialog, select an event bar in the list and choose the Copy button.
3. In the Event Bar Details dialog, change the name of the event bar to something meaningful.
4. Set up the new event bar by **editing the event labels**.
5. When you have finished editing the event labels, choose Done.
6. Back in the Event Library dialog, choose Done to save the event library.

Editing an Event Bar

To edit an event bar in the event bar library:


1. Choose Library|Event Bars... or choose the  button from the speed bar.
2. In the Event Library dialog, select the event bar you wish to edit and choose the Edit button.
3. In the Event Bar Details dialog, edit the event bar by **editing the event labels**.
4. When you have finished editing the event labels, choose Done.



5. Back In the Event Library dialog, choose Done to save the event library.

Deleting an Event Bar

To delete an event bar from the event library:

1. Choose Library|Event Bars... or choose the  button from the speed bar.
2. In the Event Library dialog select the event bar you wish to delete.
3. Choose the Delete button.
4. You will be asked to confirm the deletion. Choose Yes if you still wish to delete the event bar, otherwise choose No.
5. Choose Done to save the event library.

Setting up Event Labels

Each event bar in Jade contains 32 noise event labels of which 30 are user-definable. When you first add an event bar to the event library, all 30 user-definable event labels are empty and the corresponding buttons in the event bar are blank.

Editing an Event Label

To edit an event label on an event bar:

1. Open the Event Bar Details dialog (see **Setting up Event Bars**).
2. Choose the event label you wish to edit (you can choose either a blank event label or one that is already set up). This displays the Event Label Details dialog.
3. In the Event Label Details dialog, type or edit the short name for the event label in the Short Name text box.
4. Type or edit the description for the event label in the Full Description text box.
5. Edit the priority code in the Priority Code text box if you wish.
6. If the event label represents an instant event, set the Instant Event check box on.
7. Choose OK.

If the event label was empty, the short name for the event label is now shown on the event bar.

Note: You can clear an event label back to its initial empty state if necessary.



Clearing an Event Label

Jade does not allow you to actually delete or remove an event label from an event bar. However, you can clear any unwanted event labels back to their initial empty state.

To clear an event label:

1. Open the Event Bar Details dialog (see **Setting up Event Bars**).
2. Choose the event label you wish to clear. This displays the Event Label Details dialog.
3. In the Event Label Details dialog, choose the Clear button.
4. Choose OK to update the event label.

The corresponding button on the event bar is now blank.

Using Priority Codes

Each event label in an event bar must be given a priority code so that Jade can rank the event labels in order of importance. This means, for example, that Jade can determine which event is to be shown in the chart window during data capture.

Priority codes are in the range 0-149, where 0 is the highest priority and 149 is the lowest priority. Thus the Error event label has the highest priority with a priority code of 0.

Generally speaking, user-defined event labels have a priority code between 30 and 120 and you should try to avoid using priority codes outside this range. Each event label is typically assigned a different priority code, although you can give the same priority code to two different event labels (for example, by default, all user-defined event labels are given a priority of 70).

The following table shows the priority codes for the predefined event labels:

Event Label	Description	Priority Code
Error	Bad or missing data	0
Ignore	Ignored data	5
Unsure	Uncertain data	10
Clip	Clipped data	15
Lpk	Lpk threshold event	15
Low	Extreme under range data	20
High	Extreme over range data	20
Over	Over range data	25
Under	Under range data	25



Event Label	Description	Priority Code
–	User-defined event labels	30 – 120 (the default priority code is 70)
Other	Other event not in library	130
Auto	Auto threshold event	140
Floor	Floor event (too quiet)	145

Setting up Measurement Profiles

Before you can carry out a data capture session, you must enter the details of any measurement profiles you intend to use in the profile library.

Jade lets you do any of the following tasks to set up measurement profiles in the profile library:

- ◆ Add a new measurement profile to the library.
- ◆ Edit an existing measurement profile in the library.
- ◆ Delete a measurement profile from the library.

For example, you may wish to set up one of the following measurement profiles:

Measurement Profile	Description
Fixed day of the week	Data capture starts on a particular day of the week.
Fixed sampling period	Data capture takes place for a fixed period.
Fixed time of day	Data capture takes place at a particular time each day
Non-stop	Data capture starts and stops as determined by a data capture session and not by the measurement profile.
Periodic	Data capture takes place at fixed intervals for a specified length of time.




Adding a Measurement Profile


There are two ways in which you can add a new measurement profile to the profile library:

- ◆ By creating a totally new measurement profile.
- ◆ By copying an existing measurement profile and changing the details as necessary. This is a shortcut way of adding a new measurement profile that is very similar to another measurement profile already in the library.

To add a totally new measurement profile to the profile library:

1. Choose Library|Measurement Profiles... or choose the  button from the speed bar.
2. In the Profile Library dialog, choose the New button.
3. In the Measurement Profile Details dialog, set up the measurement profile's details as appropriate.
4. When you have finished setting up the measurement profile, choose OK.
5. Back in the Profile Library dialog, choose Done to save the profile library.

To add a measurement profile to the profile library that is similar to one already in the library:


1. Choose Library|Measurement Profiles... or choose the  button from the speed bar.
2. In the Profile Library dialog, select a measurement profile in the list and choose the Copy button.



3. In the Measurement Profile Details dialog, edit the measurement profile's details as appropriate. In particular, you should change the name to something meaningful.
4. When you have setting up the new measurement profile, choose OK.
5. Back in the Profile Library dialog, choose Done to save the profile library.

Editing a Measurement Profile

To edit a measurement profile in the profile library:


1. Choose Library|Measurement Profiles... or choose the  button from the speed bar.
2. In the Profile Library dialog, select the measurement profile you wish to edit and choose the Edit button.
3. In the Measurement Profile Details dialog, edit the details for the measurement profile.
4. When you have finished editing the measurement profile, choose OK.
5. Back in the Profile Library dialog, choose Done to save the profile library.

Note: You can also **edit the preview measurement profile**.



Deleting a Measurement Profile

To delete a measurement profile from the profile library:

1. Choose Library|Measurement Profiles... or choose the  button from the speed bar.
2. In the Profile Library dialog choose the measurement profile you wish to delete.
3. Choose the Delete button.
4. You will be asked to confirm the deletion. Choose Yes if you still wish to delete the measurement profile otherwise choose No.
5. Choose Done to save the profile library.

Setting up a Fixed Day Profile

The example below shows how you set up a fixed day profile for a weekend data capture beginning on a Friday.

Tip: You can **test your measurement profile**.

To set up a fixed day profile for a weekend data capture:

1. Open the Measurement Profile Details dialog (see **Setting up Measurement Profiles**).
2. Type a name for the profile (for example, "Weekend") in the Name text box.
3. Check the Friday check box and uncheck all the other check boxes in the Valid Start Days group box to indicate that data capture is to start on a Friday only. Note that you do not need to specify any continuation days as data capture, once started, will continue until the end of the sampling period.
4. In the Start text box, type the start time for the profile (for example, "7:00:00pm"). Note that the format of the time in the text box depends on the International settings in the Windows Control Panel (see **Typing Actual Dates and Times**).
5. Leave the Stop text box empty as data capture will stop at the end of the sampling period.
6. Leave the Interval text box empty as it is not required for this measurement profile.
7. Type "60" in the Count text box so that data capture continues for 60 hours.
8. Select the 1 Hour option in the Sampling Period group box. When this is multiplied by the Count (in this case 60), data capture will continue until 7am on Monday morning.

Setting up a Fixed Period Profile

The example below shows how you set up a simple profile that captures data for a fixed period of time (for example, eight hours).

Tip: You can **test your measurement profile**.

To set up a fixed period measurement profile:

1. Open the Measurement Profile Details dialog (see **Setting up Measurement Profiles**).
2. Type a name for the measurement profile in the Name text box.
3. Leave all the days checked in the Valid Start Days group box as a fixed period profile can start on any day of the week.
4. Leave the Start and Stop text boxes empty so that data capture can start and stop as determined by the settings in the Full Data Capture Session dialog.
5. Leave the Interval text box empty as it is not required for this measurement profile.
6. Set the Sampling Period to a convenient length (for example, 1 hour) and the count as appropriate. For example, for an 8-hour profile, set the sampling period to 1 Hour and the count to 8. If none of the Sampling Period option buttons is suitable, you can type a period in the Other text box (for example, to specify a period of 7 hours 30 minutes).

Setting up a Fixed Time of Day Profile

The example below shows how you set up a profile for a fixed time of day, in this case for an evening.

Tip: You can **test your measurement profile**.

To set up a fixed time of day measurement profile:

1. Open the Measurement Profile Details dialog (see **Setting up Measurement Profiles**).
2. Type a name for the profile (for example, "Evening (7pm - 10pm)") in the Name text box. Include the start and stop times for the measurement profile in the name so that you can easily identify it when you choose a measurement profile for data capture.
3. Leave all the days checked in the Valid Start Days group box as a fixed time of day profile can start on any day of the week.
4. Type the start time for the measurement profile in the Start text box (for example "7:0:0pm"). Note that the format of the time in the text boxes depends on the International settings in the Windows Control Panel (see **Typing Actual Dates and Times**).
5. Type the stop time for the measurement profile in the Stop text box (for example, "10:0:0pm").
6. Leave the Interval and Count text boxes empty as they are not required for this measurement profile.



7. In the Sampling Period group box, either:

Set the sampling period to a convenient sub-multiple of the total measurement profile. For example, set the sampling period to 1 hour so that there will be three sampling periods within the profile (that is, between 7pm and 10pm).

Or:

Select the Continuous option button so that data capture will continue non-stop between the start and stop times.

Tip: Although Jade ignores the sampling period during data capture, Jade does use the sampling period to calculate suitable measurement periods when you view the data. It is therefore a good idea to specify a sensible sampling period instead of using the Continuous option button.

Setting up a Non-Stop Profile

The example below shows how you set up a non-stop profile.

Tip: You can **test your measurement profile**.

To set up a non-stop measurement profile:

1. Open the Measurement Profile Details dialog (see **Setting up Measurement Profiles**).
2. Type a name for the profile (for example, "Non-Stop") in the Name text box.
3. Leave all the days checked in the Valid Start Days group box as a non-stop profile can start on any day of the week.
4. Leave the Start and Stop text boxes empty so that data capture can start and stop as determined by the settings in the Full Data Capture Session dialog.
5. Leave the Interval and Count text boxes empty as these are not required for this measurement profile.
6. In the Sampling Period group box, select the Continuous option button. This means that data capture will continue non-stop until it is terminated by the stop condition specified in the Full Data Capture Session dialog.

Setting up a Periodic Measurement Profile

The example below shows how you set up a periodic profile to perform intermittent data capture (in this example 15 minutes each hour for eight hours).

Tip: You can **test your measurement profile**.

To set up a periodic measurement profile:

1. Open the Measurement Profile Details dialog (see **Setting up Measurement Profiles**).
2. Type a name for the profile (for example, "8 Hours (15 mins each hour)") in the Name text box. Include the interval and sampling period for the measurement profile in the name so that you can easily identify it when you choose a measurement profile for data capture.
3. Leave all the days checked in the Valid Start Days group box as a periodic profile can start on any day of the week.
4. Leave the Start and Stop text boxes empty so that data capture can start and stop as determined by the settings in the Full Data Capture Session dialog.
5. Leave the Interval and Count text boxes empty as these are not required for this measurement profile.
6. In the Interval text box, type the interval between the start of each sampling period. In this example type "1" as data capture is to occur for 15 minutes at 1 hourly intervals with 45 minutes of inactivity between the sampling periods.
7. In the Count text box, type the number of times data capture is to occur. In this example type "8" as there will be 8 sampling periods of 15 minutes each at 1 hourly intervals.



8. In the Sampling Period group box, select a sampling period (for example, 15 minutes). Note that, for a periodic profile, the sampling period must be less than the interval. If none of the option buttons is suitable, you can type a period in the Other text box (for example, to specify a period of 30 minutes).

Testing a Measurement Profile


Jade provides a useful test facility that lets you simulate the effect of using the measurement profile for data capture without needing to actually perform a full data capture session.

To test a measurement profile:

1. Open the Measurement Profile Details dialog for the measurement profile you wish to test (see **Setting up Measurement Profiles**).
2. Choose the Test button.
3. The Test Measurement Profile dialog is displayed.
4. Select a Start option, typing the start time (if necessary) that you wish to test the profile from (this simulates the effect of starting data capture at a specified start time).
5. Select a Continue option, typing the end time (if necessary) for the test.
6. Choose Test Profile.
7. The results of the test are shown in the Measurement Periods list box. This shows the measurement periods that would occur if data capture had actually taken place with the specified Start and Continue options.

Editing the Preview Measurement Profile

To edit the preview measurement profile:

1. Choose Library|Measurement Profiles... or choose the  button from the speed bar.
2. In the Profile Library dialog, choose Edit Preview.... This opens the Preview Measurement Profile dialog.
3. In the Preview Measurement Profile dialog, choose a new sampling period for the preview measurement profile.
4. When you have finished editing the preview measurement profile, choose OK.
5. Back in the Profile Library dialog, choose Done to save the profile library.

Using the Sound Card

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Using a Sound Card

Jade requires the use of a sound card and a cable in order to capture data using a sound level meter. You must use a suitable cable to connect the meter to the sound card to avoid damaging the sound card (see the *Getting Started* guide for more information).


Requirements

1. The sound card should be at least SoundBlaster 16, SoundBlaster AWE, or later, compatible, not original SoundBlaster or SoundBlaster Pro compatible. The main requirement is that the sound card supports 16-bit recording at least 11 KHz or more. You may be able to use other sound card standards, such as Business Audio, but these will probably require you to use a manual volume control for calibration.
2. The sound card must have a volume control utility and this must be on the input and not just on the speakers. This should be directly controllable by software using Windows Sound System (Windows 3.1x) or Windows 95 (that is, an automatic volume control). If you do not have an automatic volume control on your sound card, you will have to use a manual volume control to calibrate the meter before each data capture session. In this case you need a separate software volume control utility (this should be supplied by the sound card vendor).
3. If possible, you should use the Aux/Line-in (for example, the left channel). If the microphone (Mic) input is used for data capture, it must not have an automatic gain control (this was the case on the original SoundBlaster card). Some sound cards also have the facility to apply an electret microphone polarization voltage and this should also be turned off. For example, your sound card may require you to set an option to use a Carbon or Dynamic microphone instead of a Condenser one.

Viewing Information About the Sound Card

Jade allows you to view information about the sound card interfaces.

To view the information about the sound card interfaces:


1. Choose Library|Interfaces... or choose the  button from the speed bar.
2. In the Interfaces dialog, select the interface for which you wish to see the information.

The information on the interface is shown in the rest of the dialog. See the Help for details on the information displayed.

Setting up the Manual Volume Utility

If your sound card does not have an automatic volume control, you can use a manual volume control instead. If necessary, Jade will ask you to supply the full path and name of the manual volume control when **calibrating the meter before data capture**. However, you can also set up the manual volume control in the Interfaces dialog.

To set up the manual volume control in the Interface dialog:

1. Choose Library|Interfaces... or choose the  button from the speed bar.
2. In the Interfaces dialog, select the interface for which you wish to set the volume control.
3. If the interface has a manual volume control, you will see a Browse button next to the Volume Control text box.
4. Either:
 - Type the path and file name of the volume utility.
 - Or:
 - Choose the Browse button to search for the utility.
 - Or:
 - Drag and drop the volume utility program icon (for example from the Windows 95 desktop) onto this dialog.

Jade Measurement Files


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Using Jade Measurement Files

Jade stores the data for a measurement in a Jade measurement file. This holds the data, event details and notes for the measurement.

Jade measurement files are held in the Jade data directory on your computer. However, Jade's user-friendly interface means that you can use Jade to handle these files and you should never need to access these files directly. For example, Jade provides facilities to **archive** and **restore** Jade measurement files to and from floppy disks for backup purposes. You can also use Jade to **delete** unwanted measurement files.


To open a measurement file:

1. Choose Measurement|Measurements... or choose the  button from the speed bar.
2. Jade displays the Measurements dialog. This lists all the measurements on your computer. You can now do one of the following:
 - **View a chart**
 - **View a note**
 - **Create a note**
 - **Edit a note**
 - **Delete a note**
 - **Export data to a spreadsheet**
 - **Export a note to a word processor**

Deleting a Measurement

Warning: Deleting a measurement deletes the underlying Jade measurement file. Once you have deleted the measurement, you will not be able to access it again. You are strongly recommended to **archive the measurement** before you delete it from your computer.

To delete a measurement from your computer:


1. Make sure that you have already archived the measurement so that you can reload the measurement if you change your mind.
2. Choose Measurement\Maintenance... or click on the  button on the speed bar. The Maintenance dialog is displayed.
3. In the list box, select the measurement you wish to delete.
4. Choose Delete.
5. You will see a message asking you to confirm that you really wish to delete the measurement. Choose Yes to delete the measurement, otherwise choose No.
6. If you reply Yes, Jade deletes the measurement. The list box is updated to remove the deleted measurement.

Archiving a Measurement to Floppy Disk

Jade lets you archive a measurement to a floppy disk. This allows you to keep backup copies of important measurement files.

Tip: Because the archive facility splits the file across several floppy disks, the archive facility is particularly useful if the Jade measurement file is too big to fit on a single floppy disk.


To archive a measurement to floppy disk:

1. Make sure that you have enough floppy disks to hold the archived measurement. These will need to be formatted and labeled before you start. As a rough guide, approximately 8 hours of data at 10 samples per second occupies one 1.44Mb floppy disk.
2. Choose Measurement|Maintenance... or click on the  button on the speed bar. The Maintenance dialog is displayed.
3. In the list box, select the measurement you wish to archive and choose Archive.
4. You will see a message telling you the size of the file and informing you that Jade will split the measurement over several disks if necessary. Choose OK.
5. Jade prompts you to insert the first disk in the disk drive. Insert the first (or only) disk in the disk drive and choose OK.
6. Jade starts archiving the measurement and prompts you to insert further disks in the disk drive as necessary.
7. When the operation is complete, Jade displays a message telling you that the measurement has been archived to disk.

You can also use the Maintenance dialog to **restore measurements** that have been archived to floppy disk.

Restoring a Measurement from a Floppy Disk

To restore a previously archived measurement from floppy disk:

1. Choose Measurement\Maintenance... or click on the  button on the speed bar. The Maintenance dialog is displayed.
2. Choose Restore...
3. When prompted, insert the first (or only) disk containing the archived measurement in the disk drive and choose OK. Note that if the archived measurement is on more than one disk, the actual order in which you insert the disks does not matter.
4. Jade displays the list of archived measurements on the floppy disk. Select the measurement you wish to restore and choose Restore.
5. Jade starts restoring the archived measurement from the floppy disk and prompts you to insert further disks in the disk drive as necessary.
6. When the operation is complete, Jade displays a message box to tell you that the measurement has been restored.
7. Choose Done to return to the Maintenance dialog.

Changing the Archive and Restore Drive

You can change the drive used for **archiving** and **restoring** measurements.

Note: You can only change the drive used by editing the **jade.ini** configuration file. There is no way of changing the drive from within Jade.

To change the organization name:

1. Exit from Jade if necessary.
2. Take a backup of the **jade.ini** file in the Jade directory (for example, **c:\jade**).
3. Run a suitable editor, such as Notepad.
4. In Notepad, open the **jade.ini** file to be found in the Jade directory.
5. Search for the section called **[Options]**.
6. Add the following line to the end of the section (or edit the line if it already exists):

archive drive=b

where "b" is the new location for the Jade archive files.

Note: Jade archive files are always saved at the root directory. You cannot specify a full destination path.

7. Save and close the **jade.ini** file.
8. Rerun Jade for the changes to take effect.





Viewing Data

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Viewing the Data in a Chart

Jade lets you open one or more measurement periods as a chart.

To view a chart:

1. Choose Measurement|Measurements... or choose the  button from the speed bar. This opens the Measurements dialog to show you a list of all the measurements on your computer.
2. Open the measurement folder () for the measurement.
3. Open the Data folder (). Jade displays a list of measurement periods.
4. Select one or more measurement periods (), or use the Select All Periods button to select all the periods in the Data folder.

Note: Jade attempts to use the measurement period used in data capture. However, if this too large to fit in memory, or is so small that there are too many periods to list in the list box, Jade calculates a suitable period to display.

5. Choose Open. Jade displays the data in a chart window.

Zooming In and Out of a Chart

Jade lets you zoom in and out of a chart in a chart window. As you zoom in, the chart represents a smaller period of time so that you can see the data in more detail. Conversely, as you zoom out, the chart represents a longer period of time so that you can see an overview of the data in the chart. For example, at the top zoom level on a maximized window, the chart typically shows the whole measurement period.

At higher zoom levels the individual points on the chart represent several actual data samples and the data samples are averaged together using an appropriate algorithm for the trace type (for example, for an Leq trace, the samples are averaged using an Leq algorithm). At lower zoom levels, the individual points on the chart may represent a single data sample and the data is shown as real values (unless the measurement period is very large).

The status bar shows the type of averaging applied to the data (if any). If no averaging has been applied, the status bar reads "Real". If averaging has been applied the status bar reads "Leq" (Leq trace), "Skip" (Lp trace) or "Max" (Lpk trace), or shows an Ln type (Ln trace).

To zoom in one level on the chart:

Either:

Choose View|Zoom In

Or:

Click on the  button on the speed bar

Or:

Press the Down Arrow key on your keyboard



To zoom out one level on the chart:

Either:

Choose View|Zoom Out

Or:

Click on the  button on the speed bar

Or:

Press the Up Arrow key on your keyboard.

Tip: You can also move directly to certain levels (see [Going to Predefined Zoom Levels](#)).

Going to Predefined Zoom Levels

Jade lets you go directly to certain predefined zoom levels on the chart. These are the top, bottom and home zoom levels. You can also **zoom in and out of the chart** one level at a time.

Note: Some of the predefined zoom levels may not be available on a particular chart. For example, a chart has top and bottom zoom levels only if there is enough data in the measurement period. Conversely, if the measurement period is very large so that the data is always displayed as averaged values (even at low zoom levels), there will be no home zoom level.

To go to the top level on the chart:

Either:

Choose View|Top

Or:

Click on the  button on the speed bar

Or:

Press the Page Up key on your keyboard

To go to the bottom level on the chart:

Either:

Choose View|Bottom

Or:

Click on the  button on the speed bar

Or:

Press the Page Down key on your keyboard



To go to the home level on the chart:

Either:

Choose View|Home

Or:

Click on the  button on the speed bar

Or:

Press the Home key on your keyboard

Viewing the Statistics for a Chart

Jade displays the statistics for a chart in the statistics window at the right hand end of a chart window.

The statistics window contains two sets of statistics:


- ◆ **Period** – these are the statistics for the entire measurement period.
- ◆ **Chart** – these are the statistics for the visible area of the chart. Note that if the chart shows the entire measurement period, the chart statistics disappear and only the period statistics are present.

Each set of statistics consists of up to 16 statistics (15 user chosen ones and an Lpk). See **Setting the Statistics Options** for more information on how to set up the set of statistics.


You can show or hide the two sets of statistics as you wish. For example, in a short chart window you may only wish to display one set of statistics.

Tip: If you have a slow computer, you may find that Jade runs faster with the chart statistics hidden.

To hide a set of statistics:

Click with the mouse button on either the  symbol or on the text beside the symbol. The lines containing the statistics disappear.

To show a set of statistics:

Click with the mouse button on either the  symbol or on the text beside the symbol. The lines containing the statistics appear.

Changing the Trace Type

When you use a chart to view the data in a measurement, Jade shows the data in a chart using one of five types of traces:

Trace Type	Description
Leq trace	Shows Leq values. If the data needs to be averaged to make one chart point, Jade uses the Leq algorithm.
Lpk trace	Shows Lpk values. If the data needs to be averaged to make one chart point, Jade uses a maximum (peak) algorithm (that is, the highest level is used).
Lp trace	Shows Lp values. If the data needs to be averaged to make one chart point, Jade uses a skip algorithm (that is, the last Lp level is used).
Ln trace	Shows Ln values. Each point on the chart trace represents at least 100 actual data values combined together to calculate a single Ln value using the Ln algorithm. Note that you cannot use an Ln trace if the chart does not contain a substantial number of values to make the Ln calculations possible.
Lp/Ln trace	Shows either Lp or Ln values depending on the resolution of the chart.

To change the type of trace to be used:

1. Select one of the trace types listed in the drop-down list box in the speed bar.
2. After a short while, Jade updates the chart to show the new trace.



The status bar indicates whether the data shows real samples or has been averaged together to create the trace at the current zoom level. If the data is averaged, the status bar also shows the algorithm used to average the data, as follows:

Trace Type	Status Bar Text
Leq trace	Leq
Lp trace	Skip
Lpk trace	Max
Ln trace	Ln


Changing the dB Axis Scale

Jade uses one of three scales for the dB axis:


Scale	Description
Chart range	The ticks on the dB axis match the chart range specified for the meter range in the meter library. Using a chart range allows you to have a common chart display range for all the ranges on a meter (for example, the meter span) – or even for different meters – thus making comparing the data easy.
Meter range	The ticks on the dB axis match the meter range used during data capture.
Min/max values	<p>The ticks on the dB axis are between the minimum and maximum values for the data used to generate the current trace type. For example, if you are currently using an Leq trace, the minimum and maximum values are the minimum and maximum Leq values.</p> <p>The minimum and maximum values are the minimum and maximum values at the home level for the whole data period. This means that the trace for the visible chart may not always extend as far as the top and bottom of the chart.</p>




To use the chart range as the scale for the dB axis:

1. Choose View|dB Axis As Chart Range or click on the  button on the speed bar.
2. Jade adjusts the axis on the chart and the speed bar button is depressed to show you that the chart range is being used.

To use the meter range as the scale for the dB axis:

1. Choose View|dB Axis As Meter Range or click on the  button on the speed bar.
2. Jade adjusts the axis on the chart and the speed bar button is depressed to show you that the meter range is being used.


To use the minimum and maximum values as the scale for the dB axis:

1. Choose View|dB Axis As Min/Max or click on the  button on the speed bar.
2. Jade adjusts the axis on the chart and the speed bar button is depressed to show you that the minimum and maximum values are being used.


Showing and Hiding Events

Normally, when you first open a chart, Jade automatically displays the events for the chart as lines at the bottom of the chart. (If there is not enough room for the events, Jade merges the events into a single line.) However, you can, if you wish, remove the event lines from the chart to make more room on the chart for the trace.

To hide the event lines:

1. Choose View|Hide Events or click on the depressed  button on the speed bar.
2. Jade removes the event lines from the chart. You may have to wait a short time while Jade recalculates the dB axis and redraws the chart.
3. Jade changes the menu option to read "Show Events" and the speed bar button is displayed in a normal position to show you that the event lines are not displayed.


To show the event lines:

1. Choose View|Show Events or click on the  button on the speed bar.
2. Jade adds the event lines to the chart. You may have to wait a short time while Jade recalculates the dB axis and redraws the chart.
3. Jade changes the menu option to read "Hide Events" and the speed bar button is depressed to show you that the event lines are now displayed.


Locking the Chart Scroll Mode

Normally, when you first run Jade and open a chart, Jade automatically lets you scroll left and right off the end of the visible chart. However, you can, if you wish, lock the scroll mode so that you cannot scroll of the ends of the chart. You may find this feature useful on a slow computer if you have to wait a long time for Jade to redraw the chart if you inadvertently scroll too far.

To lock chart scrolling:

1. Choose View|Lock Chart or click on the  button on the speed bar.
2. Jade places a ✓ beside the menu option and the speed bar button is depressed to show you that chart scrolling is now locked.

To unlock chart scrolling:

1. Choose View|Lock Chart or click on the depressed  button on the speed bar.
2. Jade removes the ✓ beside the menu option and the speed bar button returns to normal to show you that chart scrolling is now allowed.


Printing a Chart

There are two ways you can print a chart using Jade:


- ◆ **Quick printing** – Jade prints the visible chart as a single page on the default printer without asking you to fill in any options first.
- ◆ **Full printing** – Jade lets you specify how you want the chart printed, including the number of pages, the number of copies, and so on.

Note: You may wish to change the printer settings before you print the chart. Choose Measurement|Print Setup to open the standard Print Setup dialog for your printer.

To use the quick print facility to print a chart:

1. Open the chart for viewing and set up the visible chart in the window as you wish to print it. In particular, you may wish to **show or hide the statistics**. You may also wish to adjust the chart window's size.
2. Choose Measurement|Quick Print or click on the  button on the speed bar.
3. After a short pause Jade prints the visible chart to the default printer.

To use the full print facility to print a chart:

1. Open the chart for viewing and set up the zoom level, trace type, event lines and statistics as you wish them to be printed.
2. Choose Measurement|Print... or click on the  button on the speed bar.
3. Jade displays the Print Chart dialog.




4. Fill in the print options as desired and choose OK.
5. You may see a message telling you how many pages the printed chart will occupy and asking you if you wish to continue printing.
6. After a short pause Jade prints the chart to the default printer.

Copying the Visible Chart to the Clipboard

Jade lets you copy an image of the visible chart to the clipboard (for example, for pasting directly into a word processor document).

Tip: Jade also lets you **create an image of the chart** as a Windows Metafile (WMF) file. You may find this a useful alternative if you do not intend using the image immediately.

To copy the visible chart to the clipboard:


1. Open the chart for viewing and set up the visible chart in the window as you wish to see it in the copied image. In particular, you may wish to **show or hide the statistics**. You may also wish to adjust the chart window's size.
2. When you are ready, choose Measurement|Copy to Clipboard or click on the  button on the speed bar.
3. Jade copies an image of the visible chart to the clipboard.

Making a Snapshot Chart Image

Jade lets you create a snapshot image of the visible chart as a Windows Metafile (WMF) file so that you can insert the image in a word processor application. The snapshot image is literally what its name suggests: it is the image of the chart as it is in the chart window at a particular moment in time.

Tip: You can also use the Copy to Clipboard command on the Measurement menu to **copy the image to the clipboard** for pasting directly into the word processor document. You may find this a useful alternative to using the snapshot facility.

To create a snapshot image of the chart:

1. Open the chart for viewing and set up the visible chart in the window as you wish to see it in the snapshot image. In particular, you may wish to **show or hide the statistics**. You may also wish to adjust the chart window's size.
2. When you are ready, choose Measurement|Snapshot Chart... or click on the  button on the speed bar.
3. Jade opens the Snapshot Chart Image dialog.
4. Type the filename in the File Name text box. Jade creates a Windows Metafile (WMF) file so you are recommended to give the filename an extension of **.wmf**.
5. Choose the destination directory. By default, Jade saves the file in the Jade export directory.
6. Check the Add Image Header check box if you need a header in the Windows Metafile (WMF) file. You will probably find that you need a header in order to use the WMF file in a word processor document.
7. When you are ready, choose OK to create the chart image.

Exporting Data

Jade lets you export the data held in a Jade measurement file (for example, so that you can read the data into a spreadsheet). You can also use the same method to **export statistics**.

Jade provides the following data export formats:

Export Format	Description
Period Lp Bin Counts	Outputs the Lp bins for all the measurement periods selected in the Measurements dialog as one measurement period.
File Lp Bin Counts	Segments the Lp bins into individual files. The bins in these files correspond to the data files that would be generated if you exported the data (if the same periods are selected with the same option). For example, if the Small option results in six export data files, using the "File Lp Bin Counts" option with the Small option also results in six Lp bins files. This allows you to match the bins to the contents of the corresponding data file.
Data - All (Comma Separated)	Outputs all three types of data as a list of comma separated values in one or more files. Each data sample is on its own line so that the format is suitable for use in a spreadsheet.
Data - Leq (Comma Separated)	Outputs Leq data as a list of comma separated values in one or more files. Each data sample is on its own line so that the format is suitable for use in a spreadsheet.






Export Format	Description
Data - Lp (Comma Separated)	Outputs Lp data as a list of comma separated values in one or more files. Each data sample is on its own line so that the format is suitable for use in a spreadsheet.
Data – Lpk (Comma Separated)	Outputs Lpk data as a list of comma separated values in one or more files. Each data sample is on its own line so that the format is suitable for use in a spreadsheet.
Data - All (Tab Separated)	Outputs all three types of data as a list of tab separated values in one or more files. Each data sample is on its own line so that the format is suitable for use in a spreadsheet.
Data - Leq (Tab Separated)	Outputs Leq data as a list of tab separated values in one or more files. Each data sample is on its own line so that the format is suitable for use in a spreadsheet.
Data - Lp (Tab Separated)	Outputs Lp data as a list of tab separated values in one or more files. Each data sample is on its own line so that the format is suitable for use in a spreadsheet.
Data - Lpk (Tab Separated)	Outputs Lpk data as a list of tab separated values in one or more files. Each data sample is on its own line so that the format is suitable for use in a spreadsheet.




Export Format	Description
Data - All (No Event Marked)	Outputs any data not marked by an event as a list of comma separated values in one or more files. Each data sample is on its own line so that the format is suitable for use in a spreadsheet. In addition, there is a blank line between any non-consecutive samples.
Data - All (Ignored Event Marked)	Outputs any data marked with the Ignore Event as a list of comma separated values in one or more files. Each data sample is on its own line so that the format is suitable for use in a spreadsheet. In addition, there is a blank line between any non-consecutive samples.
Data - All (Auto Event Marked)	Outputs any data marked with the Auto Event as a list of comma separated values in one or more files. Each data sample is on its own line so that the format is suitable for use in a spreadsheet. In addition, there is a blank line between any non-consecutive samples.

Jade also has export formats to **export the statistics**.

To export data from a Jade measurement:

1. Choose Measurement|Measurements... or click on the  button on the speed bar.
2. Jade displays the Measurements dialog.
3. Open the measurement folder () for the measurement.
4. Open the Data folder () to view the list of measurement periods.









5. Select one or more measurement periods () or use the Select All Periods button to select all the periods in the Data folder.
6. Choose Export.
7. Jade closes the Measurements dialog and opens the Export Measurement Data dialog.
8. Type the first filename in the File Name text box. The last four characters of the filename must be "0001". Jade uses these four digits to sequentially number the export files as the data is exported. The other four characters can be anything you wish.
Warning: Jade does not check that a particular filename already exists. You should therefore choose the filename carefully.
9. Choose the destination directory. By default, Jade saves the exported data in the Jade export directory.
10. Choose the export file format from the Export As drop-down list box.
11. If the export format permits you, select one of the Export File Size option buttons. These indicate the maximum number of data samples in each file. The default sizes are 3000 samples (Small), 6000 samples (Medium) and 9000 samples (Large).
Note: The sizes do not include an allowance for header and footer information in the file. Therefore, the final files may be larger than the figures given above if you choose a format that writes out extra information.
12. When you are ready, choose OK to export the data.

Viewing and Editing Notes

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Viewing a Note

To view a note:

1. Choose Measurement|Measurements... or choose the  button from the speed bar. This opens the Measurements dialog to show you a list of all the measurements on your computer.
2. Open the measurement folder () for the measurement.
3. Open the Note folder (). Jade displays a list of notes.
4. Select a note ( or ).
Note: If the note is read-only (), you can only view the note. You cannot **edit the note**. If you wish to edit the text in a read-only note, you will have to **copy the entire note** to the clipboard and paste the text into an editable note first.
5. Choose Open. Jade displays the note in a note window.






Creating a New Note

To create a new note:

1. Choose Measurement|Measurements... or choose the  button from the speed bar.
2. Open the measurement folder () for the measurement.
3. Open the Note folder ().
4. Press the Insert key on your keyboard.
5. Jade asks you for a name for the new note. Type the name in the text box and choose OK.
6. The new note is inserted in the list box below the Note folder. The  symbol indicates that the new note can be **edited**.





Deleting a Note


To delete a note:

1. Choose Measurement|Measurements... or choose the  button from the speed bar.
2. Open the measurement folder () for the measurement.
3. Open the Note folder ().
4. Select the note you wish to delete and press the Delete key on your keyboard.
Note: You can only delete editable notes (). You cannot delete a read-only note ().
5. Jade asks you to confirm that you really wish to delete the note. Choose Yes to delete the note, and No otherwise.
6. If you reply Yes, Jade deletes the note. The list box is updated to remove the deleted note.

Editing a Note

To edit a note:

1. Choose Measurement|Measurements... or choose the  button from the speed bar. This opens the Measurements dialog to show you a list of all the measurements on your computer.
2. Open the measurement folder () for the measurement.
3. Open the Note folder (). Jade displays a list of notes.
4. Select an editable note (). If there are no editable notes in the measurement, you can **create** one if you wish.

Tip: Some notes are read-only (marked by a ). You cannot edit these notes. However, you can **view** these notes. If you wish to edit the text in a read-only note, you can **copy the entire note** to the clipboard and paste the text into an editable note first.

5. Choose Open. Jade displays the note in a note window.

Formatting a Font

Jade's word processing facility lets you format the font used in a note window.

Tip: You can also choose the font, font size and font attribute (except strike out) directly from the button bar for the note window if you wish.

To format a font:

1. Either select the text for which you wish to change the font settings, or place the insertion point at the point at which you wish to change the font settings for any text you type.
2. Choose Format|Font... to open the Fonts dialog.
3. Select a font from the Fonts list box.
4. Select a font size from the Sizes list box.
5. Set one or more font attributes (**bold**, *italic*, underline or ~~strike out~~) using the Attributes check boxes. You can also use the Normal check box as a shortcut to turn off all these attributes.
6. Set the font to superscript or subscript, or change it back to normal, using the Position option buttons.
7. Choose OK to accept the font settings.

Formatting a Paragraph

Jade's word processing facility lets you format one or more paragraphs in a note window.

Tip: You can also format the margins, indent and alignment directly from the button bar for the note window if you wish.

To format a paragraph:

1. Place the insertion point in the paragraph you wish to format. To format more than one paragraph, select some text in each paragraph (you do not need to select entire paragraphs).
2. Choose Format|Paragraph... to open the Paragraph Format dialog.
3. Set the line spacing options using the Line Spacing option buttons. You can either choose a line spacing or type your own in the text box next to the Free option. Use the in mm check box if you prefer to use millimeters instead of lines.
4. Type the left and right indents and the first line indent. You can use a negative indent for the first line if the first line of the paragraph is to start to the left of the other lines in the paragraph.
5. If you wish to have extra space to the top or bottom of the paragraph, type a distance in the Top or Bottom text box, as appropriate.
6. Choose OK to accept the paragraph format.

Formatting a Border

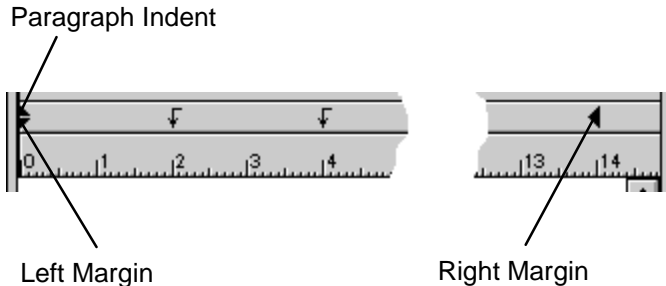
Jade's word processing facility lets you format the border for one or more paragraphs in a note window.

To format a paragraph's border:

1. Place the insertion point in the paragraph for which you wish to format the border. To format the border for more than one paragraph, select some text in each paragraph (you do not need to select entire paragraphs).
2. Choose Format|Border... to open the Border Format dialog. There are no speed bar buttons to format a paragraph's border.
3. Set the Paragraph Border check boxes as desired. You can set the Left, Right, Above and Below boxes individually. Alternatively, use the Box check box as a shortcut to set these four boxes on or off.
4. If you want a double line around the paragraph, check the Double Line check box.
5. Type the width of the line to be used in the Line Width text box.
6. Type the distance of the border from the paragraph in the Distance From Text text box. A small gap is recommended between the paragraph and the border.
7. Choose OK to accept the format for the border.

Setting Margins and Paragraph Indents

You can use the markers on the note window's ruler to change the left and right margins and the paragraph indent.



Note: You can also format the margins and indent by **formatting the paragraph**.

To change the left margin:

1. Place the insertion point in the paragraph for which you wish to change the left margin. You can highlight more than one paragraph if you wish.
2. Click and drag the lower small triangle symbol on the left hand end of the ruler to its new position.
3. Release the mouse button.

To change the paragraph indent:

1. Place the insertion point in the paragraph for which you wish to change the paragraph indent. You can highlight more than one paragraph if you wish.
2. Click and drag the upper small triangle symbol on the left hand end of the ruler to its new position.
3. Release the mouse button.



Tip: The indent is relative to the left margin so adjusting the left margin also changes the position of the indent. You may therefore find it easier to adjust the position of the left margin before you adjust the indent.

To change the right margin:

1. Place the insertion point in the paragraph for which you wish to change the right margin. You can highlight more than one paragraph if you wish.
2. Click and drag the large triangle symbol on the right hand end of the ruler to its new position.
3. Release the mouse button.





Setting Tabs

Jade's word processing facility lets you set the tab positions for text in a note window.

Note: You can set the tabs only with the button bar and ruler for the note window. There is no dialog available to set up the tabs.

To add a tab:

1. Choose the appropriate tab button in the button bar for the note window, as follows:

Button	Name	Description
	Left tab	The text extends to the right of the tab position.
	Right tab	The text extends to the left of the tab position.
	Decimal tab	The text extends either side of a decimal point. This type of tab is used to align numbers around a decimal point.
	Center tab	The text extends either side of the tab position.

2. Click the mouse button on the note window's ruler where you wish to place the tab. The appropriate tab symbol appears on the ruler.
3. To use the new tab position, type a Tab character followed by the text. The text extends in the appropriate direction for the tab as you type.
4. Add any extra Tab characters as necessary to realign the text.



To change the position of a tab:

1. Click and drag the tab symbol for the tab along the note window's ruler to its new position.
2. Release the mouse button.

To remove a tab:


1. Click and drag the tab symbol for the tab off the note window's ruler (for example, into the window's text area).
2. Release the mouse button. The tab symbol is removed from the ruler and the text is reformatted.
3. Delete any redundant Tab characters within the text.

Printing a Note

Jade lets you print all or part of a note to the printer. You can print both editable notes and read-only notes.

Note: You may wish to change the printer settings before you print the note. Choose Measurement|Print Setup to open the standard Print Setup dialog for your printer.

To print a note:


1. Open the note you wish to print.
2. Choose Measurement|Print... or click on the  button on the speed bar.
3. Jade displays the Print Note dialog. This is very similar to the standard Windows Print dialog.
4. Fill in the print options as desired and choose OK.
5. After a short pause Jade prints the chosen pages to the default printer.

Copying an Entire Note to the Clipboard

Jade lets you copy the entire note in the active note window to the clipboard (for example, for pasting directly into a word processor document). Jade places an RTF version of the text on the clipboard in addition to a text-only version. This means that when you paste the text into a word processor application that accepts RTF text (for example, Word for Windows) you will also paste in the formatting information for the text.

Tip: Jade also lets you **export a note** as a Rich Text Format (RTF) file. You may find this a useful alternative if you do not intend to use the text immediately.

To copy an entire note to the clipboard:

1. Open a note.
2. Choose Edit|Copy Note or click on the  button on the speed bar.
3. Jade copies the entire note to the clipboard.






Exporting a Note

Jade lets you export a note as a Rich Text Format (RTF) file so you can open the note in a word processor application. Using RTF lets you load the file into most Windows word processor applications without losing the paragraph formatting and font information.

Note: If your word processor does not support RTF files, you will have to copy the entire note to the Windows clipboard and paste it into a word processor or editor application.

Tip: You can also use the Copy and **Copy Note** commands on the Edit menu to copy an RTF version of the text to the clipboard. This means that when you paste the text into a word processor application that accepts RTF text (for example, Word for Windows) you will also paste in the formatting information for the text. You may find this a useful alternative to using Jade's export facility.

To export a note from a Jade measurement:

1. Choose Measurement|Measurements... or choose the  button from the speed bar.
2. Jade displays the Measurements dialog.
3. Open the measurement folder () for the measurement.
3. Open the Note folder () to view the list of notes.
4. Select a note ( or ) and choose Export.
5. Jade closes the Measurements dialog and opens the Export Note dialog.
6. Type the filename in the File Name text box. Jade exports the note as a Rich Text Format (RTF) file so you are recommended to give the filename an extension of **.rtf**.



7. Choose the destination directory. By default, Jade saves the exported note in the Jade export directory.
8. When you are ready, choose OK to export the note.

Viewing Statistics

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Statistics in Jade

Jade uses two sets of statistics:

- ◆ Data capture statistics. These are continuously calculated as running statistics during data capture. You can choose up to 8 data capture statistics.
- ◆ Chart viewing statistics. These are calculated by Jade when you view the data in a chart. You can choose up to 15 chart viewing statistics.

Jade lets you customize both sets of statistics to your own preferences.

Note: Each set must contain at least one Ln value (for example, Lmax to see the maximum Lp value detected). In addition, Jade also calculates an additional Lpk statistic for each set of statistics.

You can also export the statistics for one or more measurement periods to a text file (for example, for inclusion in a report). See [Exporting Statistics](#) for more information.

Statistics During Data Capture

During data capture, the running statistics are shown to the right of the chart. These are continually updated as data capture progresses.

You can reset the running statistics at any time during data capture. See [Resetting the Running Statistics](#) for more information.

You can show and hide the statistics window if you wish (for example, to make more room for the chart). See [Showing and Hiding the Statistics Window](#) for more information.



Statistics in a Chart Window

When you view the data in a chart window, the statistics are shown in the statistics window to the right of the chart. This window contains two sets of statistics:

- ◆ **Chart** – these are the statistics for the visible area of the chart. Note that if the chart shows the entire measurement period, the chart statistics disappear and only the period statistics are present.
- ◆ **Period** – these are the statistics for the entire measurement period.

You can show and hide the sets of statistics if you wish (see **Viewing the Statistics for a Chart**). This is particularly useful when you a **print a chart**, as only those statistics that are currently shown are printed with the chart.

Exporting Statistics





Jade lets you export the statistics relating to one or more measurement periods using the following export formats in the Export Measurement Data dialog:

Export Format	Description
Period Summary Statistics	Outputs a summary of the statistics for all the measurement periods selected in the Measurements dialog as one measurement period.
Period Detailed Statistics	Outputs full details of the statistics for all the measurement periods selected in the Measurements dialog as one measurement period.
File Summary Statistics	Segments the summary statistics into individual files. The statistics in these files correspond to the data files that would be generated if you exported the data (if the same periods are selected with the same option). For example, if the Small option results in six export data files, using the "File Summary Statistics" format with the Small option also results in six statistics files. This allows you to match the statistics to the contents of the corresponding data file.
File Detailed Statistics	Segments the detailed statistics into individual files.

These export formats export the statistics in the form of a report for use in a word processor or text editor.



To export statistics from a Jade measurement:

1. Choose Measurement|Measurements... or click on the  button on the speed bar.
2. Jade displays the Measurements dialog.
3. Open the measurement folder () for the measurement.
4. Open the Data folder () to view the list of measurement periods.
5. Select one or more measurement periods () or use the Select All Periods button to select all the periods in the Data folder.
6. Choose Export.
7. Jade closes the Measurements dialog and opens the Export Measurement Data dialog.
8. Type the first (or only) filename in the File Name text box. The last four characters of the filename must be "0001". Jade uses these four digits to sequentially number the export files as the statistics are exported. The other four characters can be anything you wish.
Warning: Jade does not check that a particular filename already exists. You should therefore choose the filename carefully.
9. Choose the destination directory. By default, Jade saves the exported data in the Jade export directory.
10. Choose either the Period Statistics or File Statistics export format from the Export As drop-down list box.



11. If you are using the File Statistics export format, select one of the Export File Size option buttons. These indicate the maximum number of data samples that contribute to the statistics in each file. The default sizes are 3000 samples (Small), 6000 samples (Medium) and 9000 samples (Large).
12. When you are ready, choose OK to export the statistics.


You can now open the resulting file or files in a text editor or word processor program.

Setting the Statistics Options

Jade uses two sets of statistics: one for data capture and one for when you view data in a chart. Jade lets you customize both sets of statistics to your own preferences.

Each set must contain at least one Ln value (for example, Lmax to see the maximum Lp value detected). In addition, Jade also calculates an additional Lpk statistic for each set of statistics.

To set up the sets of statistics:

1. Choose Options|Statistics... or choose the  button from the speed bar.
2. In the Statistics Options dialog, use the Capture and View options to choose which set of statistics you wish to edit.
3. Choose the statistics, using one of the following methods:
 - Select the statistic from the list of available statistics and then choose Add.
 - Choose an Ln value from one of the Ln Values check boxes. You can also type an Ln value in one of the Other Lns text boxes if there is no check box for the value you want. For example, you could type "16.67" for the level exceeded at least 10 minutes out of every hour.

You can choose any combination of exposure statistics (for example, Leq, Losha, Lep,d or TWA) and Ln statistics up to the maximum number allowed.

You can choose the Setup Statistics button (if present) to create a totally new statistic and add it to the available list. Note that this button is available only in some versions of Jade. See the Advanced Topics guide for more information.

What to do if...

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Menu Options or Speed Bar Buttons are Dimmed

Jade is designed to be easy to use, so care has been taken to make sure that commands are available only when they are appropriate. For example, the menu commands and the speed bar buttons change when you start a data capture session. Jade also dims (disables) menu options and speed bar buttons when you have not met certain preconditions in order to run a command. For example, the Return to Normal command is dimmed until you have stopped data capture. This dimming is part of the normal operation.

Calibration and Data Capture Commands

The Data Capture and Calibration commands are dimmed if certain preconditions are not met. These preconditions are:

- ◆ For the Calibration command:
 - (a) The meter library is present
 - (b) The calibrator library has at least one calibrator in it
 - (c) The computer has a sound card installed
 - (d) The sound card has an automatic volume control
- ◆ For the Data Capture command:
 - (a) The meter library is present
 - (b) The calibrator library has at least one calibrator in it
 - (c) The profile library has at least one measurement profile in it
 - (d) The computer has a sound card installed

If the Calibration or Data Capture command is disabled, you should do the following:



1. If the Calibration command is disabled, first check that you have an automatic volume control. You can do this by checking the details of your sound card. If Jade detects that you must use a manual volume control, the Calibration command is disabled.
2. Check that your sound card has been installed correctly by following the advice in **The Sound Card is not Responding**.
3. Check to see if of the appropriate **libraries are missing** or have become corrupted. If so, you will have to **set up the missing library**. (If the library is totally corrupt, you may have to delete the offending library from your computer and copy a new version from the installation disks.)

Buttons or Options in Dialogs are Dimmed

Some of the dialogs in Jade disable buttons or options under certain conditions.

Meter Library Dialog

The Meter Library dialog, disables the following buttons:

- ◆ The Calibration Results and Remove Calibration buttons are disabled if the currently highlighted meter is uncalibrated.
- ◆ The Delete button is disabled if you cannot delete the currently highlighted meter. For example, you may not be allowed to delete the standard meters that are supplied with Jade.

Calibration Options Dialog

You cannot set the Calibration Before Full Capture or the Calibration Before Quick Capture options if Jade detects that you have a manual volume control on your sound card. The reason for this is that with a manual volume control you must calibrate the meter before every data capture.

Statistics Options Dialog

If you choose the maximum number of statistics allowed (8 for data capture or 15 statistics for viewing charts), the Statistics Options dialog does the following:

- ◆ Disables the Add >> button.
- ◆ Disables the unused Chosen Ln Values... check boxes.
- ◆ The empty Other Lns text boxes (if any) disappear.

A Library is Missing

Jade requires the libraries to be present and readable in order to calibrate a meter or capture data. If a library is missing, you may find that one or more of the menu commands and speed bar buttons are disabled. For example, the calibrator and meter libraries are required for calibration.

If a library is missing:

1. Check to see if a backup library exists, as follows:
 - (a) Run either Windows Explorer (Windows 95) or File Manager in Program Manager (Windows 3.1x).
 - (b) Open the Jade directory (for example, **c:\jade2**) and then open the **libs** directory.
 - (c) Look at the file list to see if a **.li@** or **.li~** file exists for the library. For example, if the meter library is missing, look to see if **meters.li@** or **meters.li~** is in the list.
 - (d) Select the either the **.li@** or **.li~** file (if both exist, try selecting the latest file).
 - (e) Choose File|Rename... and rename the file to have a **.lib** extension (for example, rename the **meters.li@** file as **meters.lib**). Choose Yes to any message warning you that the file is write-protected.
 - (f) Exit from Windows Explorer or File Manager.

A library now exists and you can re-run Jade and continue as normal.



2. If no backup library exists, you can extract the original copy of the library from the installation disks using the **/x** option with the setup command (see the **install.txt** file in the Jade directory for details). Alternatively, set up new details for the missing **calibrators, meters, event bars** or **measurement profiles** (as appropriate), or set up new statistics. This will automatically create a new library for you.

The Screen is Difficult to Read

If you are having problems reading the screen, for example because the windows or text in the windows does not show up very well on an LCD on a portable, you may want to change the colors. There are three sets of colors that you can change:

- ◆ The colors on Jade's numeric display
- ◆ Window colors
- ◆ Help window colors

See the *Advanced Topics* guide for more information on changing the screen colors.

Note: On Windows 3.1x, some screen drivers may cause **problems when scrolling the list box** in the Open Measurement dialog.

You are Losing Occasional Data

The main cause of losing occasional data in Jade is that the computer's processing speed is too slow and the computer is unable to process the data samples fast enough. To correct this problem, do the following:

1. Try reducing the Recording Rate in the Data Capture dialog. For example, on a minimum specification computer with a 486 DX33 processor, you may need to choose 5 samples per second.

Note: You are changing only the recording rate and not the underlying sampling rate of the sound card. The sound card will still be sampling the data at 11025, 22050 or 44100 times a second. See **Capturing Data** for more information.

2. If you are still losing data, try unchecking (turning off) the Use Fastest Rate check box in the Data Capture Options dialog. This means that Jade will use the sound card's slowest rate whenever this is possible. Note that this option does not always have an effect as its effect depends on the recording rate chosen for data capture. It is likely, therefore, that reducing the recording rate (see 1 above) will have the greater impact on preventing lost data.

See also **You Get Bad Data or Data Capture is Erratic**.

You Get Bad Data or Data Capture is Erratic

This section explains what to do if you are experiencing any of the following symptoms:

- ◆ You have a large number of bad data samples during capture (for example, up to half the samples).
- ◆ Jade starts capturing data but then stops or hangs after a while.
- ◆ The graph trace is drawn erratically or in a speeded up manner. For example, you see nothing on the trace for a while and then Jade draws the trace all in a rush and at a faster speed than expected. (Note that Jade normally draws the trace in small spurts, but in a steady manner.)

Note: If you are losing occasional data, see [Losing Occasional Data](#) for other suggestions.

The cause of the above problems is often due to some other software on your computer competing with Jade for processor time. This means that Jade is unable to read and process the sound card's data fast enough. This can be caused by the following:

- ◆ Certain sound cards (especially on portable computers) use software rather than hardware to sample data which means that they use valuable processing time.
- ◆ You have other programs running at the same time as Jade.

The solution is to adjust the number of buffers and the buffer size used by Jade when sampling the sound card's data.

To adjust the number of buffers and the buffer size:

1. Exit from Jade if necessary.
2. Take a backup of the **jade.ini** file in the Jade directory (for example, **c:\jade2**).



3. Run a suitable editor, such as Notepad.
4. In Notepad, open the **jade.ini** file to be found in the CEL-Jade directory.
5. Search for the section called **[Options]**.
6. Add the following lines to the end of the section (or edit the lines if they already exist):

Buffers=12

Buffer Size=16000

Note: The default number of buffers is 8 and the default buffer size is 12000. The maximum buffer size allowed is 16000.

7. Save and close the **jade.ini** file.
8. Rerun Jade for the changes to take effect.

The Sound Card is Not Responding

If you see a message telling you that the sound card is not responding, try the following solutions:

1. Try opening the Interfaces dialog to **view the sound cards** in order to see if any interfaces are actually available. If Jade is unable to detect a sound card, then this dialog will not open.
2. Check that the sound card is correctly installed in the computer.
3. Check that the audio and/or multimedia facilities are fully installed in the Windows Control Panel.

Tip: To check that the sound card and audio facilities are is correctly installed, try running the Windows Sound Recorder. This is an easy way of checking that the audio facilities are working correctly. If the Sound Recorder works, then Jade should also work.

The Sound Card is Already in Use

If you see a message telling you that the sound card is already in use, try the following solutions:

1. Make sure that no other programs that might use the sound card are running at the same time as Jade. Apart from checking obvious applications, remember to check for small utilities, such as the system sounds. You should also check all programs in the Start Menu (Windows 95) or Startup Group (Windows 3.1x). Note that some sound cards are unidirectional and only allow software to use either the input or output, but not both together. This means that another Windows application or utility that uses the speakers may prevent Jade from using the sound card input.
2. Make sure that there is no MS-DOS prompt (full screen or window) running at the same time as Jade. There are known problems with Windows sharing the audio sound card with an active MS-DOS session. This is can be a particular problem if you are using an older sound card under Windows 95 with drivers that were written for Windows 3.1x. Newer Plug and Play sound cards designed to run under Windows 95 may not have this problem.

Note: You may have to reboot the computer to clear the problem if the sound card has been left in an indeterminate state.

You Cannot Calibrate a Meter

Note: You will not be able to run the Calibration command under certain circumstances, in which case the Calibration **menu option and speed bar button are dimmed**.

If you run the Calibration command and calibration fails, try the following solutions:

1. Make sure that the sound card is not already in use. Windows may report the sound card as in use even if you do not think it is in use. This is the single most likely cause of a calibration failure, especially if you have an MS-DOS session active at the same time. See **The Sound Card is Already in Use** for more information.
2. Make sure that you have connected the cable to the correct interface.
3. If you are attempting a stand-alone calibration, make sure that you have selected the correct interface in the Meter Calibration dialog.
4. Check that both the meter and calibrator are working. In particular, make sure that the batteries have sufficient charge.
5. If Jade has already calibrated the meter, you may have a corrupt calibration. In this case, you will need to **remove the calibration** on the meter.
5. If Jade displays a manual volume control for you to use to calibrate the meter, make sure that the appropriate input on your computer has been enabled.



Note: If you are using the Windows 95 manual volume control make sure that you are adjusting the volume level on the input and not the output and that the unused channels are disabled. To do this, in the volume utility choose Options|Properties and select Recording. Check (select) the input that you are using and uncheck the other inputs.


6. If a dual level calibration fails on the second calibration level, try performing a single level calibration instead. It is possible that the sound card volume level is not quite suitable for use with both calibration levels, but will work with a single level.

Tip: You can quite easily set up a dual level calibrator as a single level calibrator by specifying only one calibration level for the calibrator in the calibrator library. Choose the calibration level that is in the middle to top part of the meter's calibration range. For example, if the calibrator has a 94dB and 114dB calibration level and the meter range is 65-135dB, you should use the 114dB level.

You Need to Remove a Calibration from a Meter

If a meter calibration is corrupt, you may wish to remove the last calibration for the meter. You can then **calibrate the meter** correctly.

To remove a meter calibration:

1. Choose Library|Meters... or choose the  button from the speed bar.
2. In the Meter Library dialog, select the meter from which you wish to remove the calibration.
3. Choose the Remove Calibration button.

Note: You will only be able to remove the calibration if there is actually a calibration for the meter.

You Cannot Start Data Capture

If you see a message telling you that data capture cannot start, the most likely cause is that there is a problem with the sound card.

A common cause of sound card problems is that Jade detects that a sound card is present, but Windows reports that the sound card is already in use. Note that Windows may report the sound card as in use even if you do not think it is in use. This is the single most likely cause of a failure to start data capture, especially if you have an MS-DOS session active at the same time.


See [The Sound Card is Already in Use](#) for more information.

Problems Scrolling the Measurements List Box

There is a known problem in Windows 3.1x that means that you may experience various problems in the Measurements dialog list box if you are using certain screen drivers (typically those provided by non-Microsoft vendors). These problems range from a corrupted display to a General Protection Fault.

If you experience any such problems, you should either obtain a replacement screen driver for your computer, or switch to the standard VGA driver provided by Microsoft.

To change to the standard VGA screen driver provided by Microsoft:

1. Close all applications, saving any work.
2. In Program Manager, open the Main program group and run Windows Setup by double-clicking on the  icon.
3. Choose Options|Change System Settings.
4. In the Display list box, select VGA.
5. Choose OK.

Windows will reboot your computer so that the change can take effect.

For further information, see your Windows documentation or the on-line Setup help.

Note: Colors that are displayed correctly in one screen resolution may be approximated in another, and this can also cause display problems. Therefore, if you change the screen resolution, you should also select new color settings in the Control Panel.

Typing Dates and Times

Typing time durations

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Typing actual dates and times

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Typing Time Durations

Jade lets you type time durations in an appropriate combination of units in the following order:

weeks, days, hours, minutes, seconds, decimal fractions of a second

The easiest way to type a duration is as hours, minutes and seconds separated by the separator character specified in the international settings of your Windows Control Panel. You can also use the decimal separator character to add fractions of a second. For example, assuming that the separator is a colon (:), and the decimal separator is a dot (.), you could type the following:

Text Typed	Meaning
1:40:30	1 hour, 40 minutes, 30 seconds
3:50:00.2	3 hours, 50 minutes, 0 seconds, 2 tenths of a second

You can also use a subset of the units (for example, just minutes and seconds), or units larger than an hour (for example, days or weeks), by using the following symbols:

Symbol	Meaning
w	Week
d	Day
'	Minutes
"	Second

Note: If you type a number on its own, Jade assumes that it is the duration in hours.



Examples

Text Typed	Meaning
1w1d	1 week, 1 day
31d	31 days
1d1:40'30"	1 day, 1 hour, 40 minutes, 30 seconds
1d1:40:30	The same again in an alternative format
8	8 hours

Limits

Note that the limits for each unit of time are as follows:

99 weeks

31 days

23 hours

59 minutes

59 seconds

Typing Actual Dates and Times

Jade lets you type any of the following:

- ◆ A date alone. In this case, Jade assumes that the time is midnight.
- ◆ A time alone. In this case, Jade assumes that the date is either today (if the time is later than the current time) or tomorrow (if the time is earlier than the current time).
- ◆ A date followed by a time.
- ◆ A time followed by a date.

Jade lets you type dates and times in a format that is appropriate for your Windows regional (international) settings in the Windows Control Panel. For example, if you have set Windows up to use a 12-hour clock, you may have to type a suffix of "a" or "p". The international settings also determine how you must type dates (for example, whether you type the month or day first).

Tip: Look at the Regional Settings (Windows 95) or International Settings (Windows 3.1x) in the Windows Control Panel to see your current settings for date and time formats.

You can enter dates and times in one of the following forms:

- ◆ Short form using the separators specified by the international settings for short form dates and times. Note that if you are using a 12-hour clock you will need to add "a" or "p".
- ◆ Long form using spaces as separators. In this case, the month name must be typed as the unique initial part of the name and consist of at least three characters. You can use either upper or lower case as Jade will format the date for you.



Typing Dates and Times

Years can be typed in full (for example, "1996") or as just the last two digits (for example, "96"). Note that Jade is year 2000 ready: years typed as two digits below 80 are assumed to be in the 21st century.

Note: You can type an incomplete time if it makes sense to do so. For example, three in the afternoon can be typed as "3p" (12-hour clock) or "15" (24-hour clock).

Examples

	Short Form	Long Form
Australia	25/1/96 2:30:15p	25 jan 1996 2:30:15p
UK	25/1/96 14:30:15	25 jan 1996 14:30:15
USA	1/25/96 2:30:15p	jan 25 1996 2:30:15p

Glossary of Terms

The following pages contain the terms used by Jade and their definitions. A word in *italics* indicates a term that is defined elsewhere in the glossary.

Glossary of Terms

Automatic Threshold Event

An *event label* that marks any data samples above a predetermined noise level. If you **set up the threshold level** for automatic threshold events, Jade automatically assigns this event label to the data whenever the noise level exceeds this threshold.

Automatic Volume Control

A volume control on the sound card that can be directly controlled by software. Having an automatic volume control makes calibrating a meter much easier as Jade can automatically adjust the volume control (gain) on the sound card to find the best setting. Jade stores the automatic volume setting for use in data capture or in subsequent calibrations.

Bottom Level

The chart zoom level with the largest magnification. You cannot zoom in any further than the bottom level of a chart.

Calibrator Library

A *library* that holds details of all the calibrators that you intend using to calibrate your sound level meters.

Chart

A graphical representation of the data, either during data capture or when viewing the data in a *measurement period*.

Dual Level Calibration

The process of using an acoustical calibrator to calibrate a sound level meter in which two different calibration levels are used.

Event Bar

A logical grouping of *noise event labels*. Each noise event label is assigned a short-cut keyboard combination for the easy marking of *noise events* during data capture.



Event Label

A marker representing a specific *noise event* that is assigned to data readings during data capture. For example, if data capturing is taking place at an airport, a typical event label is aircraft noise. There are two types of event labels: *noise event labels* and *system event labels*. Noise event labels are grouped together into *event bars*.

Event Library

A *library* that holds details of all the *event bars* (and the *noise event labels*) that you intend using during data capture.

Exposure

A number that is proportional to the acoustical energy at a location over a duration of time. It can be interpreted as the amount of noise that a person is exposed to over a given period of time. Jade uses the term "dose" as a synonym for exposure.

Frequency Weighting

The process by which the sensitivity of a sound level meter is adjusted with respect to frequency so that the meter is less sensitive at certain frequencies. For example, A weighting ensures that the meter is less sensitive at those frequencies where the human ear is less sensitive. This ensures that the meter readings bear a closer relationship to perceived loudness than that obtained purely from the sound pressure levels.

Gain

Another term for the volume control on the sound card.

Home Level

The zoom level on a *chart* at which data typically appears as real data values (note that with large periods, these may themselves be averaged samples due to memory limitations). At this zoom level, the status bar reads "Real".



This zoom level is available only if there are more than three zoom levels (that is, on very short data periods this zoom level may not be present).

This zoom level is not available when the chart shows an *Ln trace*.

Instant Event

A *noise event* that only lasts for one data sample. An instant event is typically a very sudden noise, such as a car horn.

Interface

A connection on the computer's sound card, for example the left channel on the line-in (aux).

Leq

The equivalent continuous sound level (average sound level) which in the given time period has the same A weighted sound energy as the time-varying sound.

Leq trace

A *trace* that shows *Leq* values. If the data needs to be averaged to make one chart point, Jade uses the *Leq* algorithm.

Library

A file in the computer which stores information that is needed each time a data capture session is performed. For example, the *meter library* allows you to record all the details about the sound level meters that you will use for data capture. In addition to the meter library, there are three other libraries: the *calibrator library*, the *profile library* and the *event library*.

Ln

The level exceeded for the specified percentage of the time (represented by *n*). For example, L90 is the decibel level exceeded for 90 percent of the time. Note that L100 (that is, the level exceeded for 100 percent of the time) is known as Lmin. Similarly, L0 (that is, the level that is never exceeded by the data samples) is known as Lmax.



Note: Some standards define Ln values as the value that is *equalled* or *exceeded* for the specified percentage of the time. Jade lets you use this alternative definition for the calculations if you wish (see the *Advanced Topics* guide for more information).

Ln trace

A *trace* that shows Ln values. Each point on the chart trace represents at least 100 actual data values combined together to calculate a single Ln value using the Ln algorithm.

This type of trace is only available when viewing a chart. It is not available during data capture.

Note that you cannot use an Ln trace if the chart does not contain a substantial number of values to make the Ln calculations possible.

Lp

A *time weighted* sound level.

Lp trace

A *trace* that shows Lp values. If the data needs to be averaged to make one chart point, Jade uses a skip algorithm (that is, the last Lp level is used).

Lp/Ln trace

A *trace* that shows either Lp or Ln values depending on the resolution of the chart. If one point on the chart represents a single data sample, the Lp value is chosen, otherwise the data is averaged using the Ln algorithm.

This type of trace is available only during data capture. When viewing the data in a chart, you must choose either an Lp or Ln trace.

Lpk

The highest (peak) level reached within a given time period.



Lpk Threshold Event

An *event label* that marks any *Lpk* data samples above a predetermined level. If you **set up the threshold level** for Lpk threshold events, Jade automatically assigns this event label to the data whenever the peak pressure level (as sampled by the sound card) exceeds the threshold.

Lpk trace

A *trace* that shows *Lpk* values. If the data needs to be averaged to make one chart point, Jade uses the highest level.

Manual Volume Control

A volume control on the sound card that cannot be controlled by software and therefore requires human intervention to set the volume level. Although Jade works best with an *automatic volume control*, Jade can make use of a manual volume control if necessary. However, because Jade cannot automatically adjust the volume control (gain) on the sound card, the volume control must be set manually before each data capture. This means that stand-alone calibration is not possible and you will need to calibrate the meter before each data capture.

Measurement Period

A subdivision of a Jade measurement session between two times. These are typically the measurement periods specified during data capture. However, Jade will calculate a new set of measurement periods if necessary (for example, when the measurement periods are too large or are too numerous to list in the Measurements dialog). You can select one or more measurement periods for viewing in a *chart*.



Measurement Profile

A time profile for a data capture session. A measurement profile does not necessarily determine when data capture should actually start, but only indicates whether capture should occur at any particular time during data capture (it is in effect a trigger that is continually monitored during data capture). Examples of measurement profiles are working day (that is, working hours from Monday to Friday), evening and night time.

Meter Library

A *library* that holds details of all the sound level meters that you intend using for data capture.

Noise Event Label

An *event label* that can be used to mark *noise events*. There are 32 noise event labels on each *event bar*. Of these, 30 event labels can be **edited** by the user. The other two noise event labels are built into Jade. See **Event Labels** for more information.

Compare with *system event label*.

Noise Event

A significant change in sound pressure level that is of sufficient interest to be recorded. For example, a sudden loud noise that is significantly above the normal background noise level.

Note

Documentary text or observations held in a Jade measurement that can be viewed and (in certain circumstances) edited. Examples of notes are the observations typed by the user before or after data capture, and the measurement details note automatically generated by Jade.



Overlapped Noise Events

The condition in which events can be overlapped as they are marked during data capture. In this case, events can be started and stopped independently. For example, when a new event is marked, any existing event continues to be recorded in the background and either event can be stopped.

Without overlapped events, only one noise event can be active at any one time. In this case, starting a new event automatically ends an existing event.

Preview Measurement Profile

A special *measurement profile* that is used during a preview capture session. Jade has only one preview measurement profile in the *profile library* and this can be edited if necessary.

Priority Code

A numeric code that is given to an *event label* to show its relative importance to other event labels. The lower the number, the higher the priority. Therefore, a low priority is represented by a high number and a high priority is represented by a low number.

Profile Library

A *library* that holds details of all the *measurement profiles* that you intend using for data capture.

Projected statistic

The result calculated using a small sample of data with the assumption that this data is typical of the likely data over the entire period. Projected statistics are usually calculated during data capture when only some of the data has been received from the sound level meter.

Single Level Calibration

The process of using an acoustical calibrator to calibrate a sound level meter in which a single calibration level is used.



Smart Calibration

The situation in which an intelligent algorithm is used to find an appropriate meter range on which to perform a calibration. Smart calibration is used when a meter is calibrated immediately before data capture and the range chosen for data capture is unsuitable for calibration (for example, it is too low). Most sound level meters can use smart calibration.

System Event Label

A special event label that is built into Jade (unlike *noise event labels* which can be edited). See **Event Labels** for more information.

Jade has the following system event labels:

Event Label	Purpose
Auto	Triggered automatically if a predefined dB threshold is reached. The threshold is one of the capture options.
Lpk	Triggered automatically if the peak pressure level (as sampled by the sound card) exceeds a predefined dB threshold. The threshold is one of the capture options.
Error	Marks lost or unreadable data as it is read from the interface.
Unsure	Marks any data that may be a possible error.
Under	Marks any data that is below the meter range chosen for data capture.
Over	Marks any data that is above the meter range chosen for data capture.
Low	Marks any extremely low data (under 5dB).
High	Marks any extremely high data (over 200dB).



Event Label	Purpose
Clip	Marks data that is too high for sound card to record.
Quiet	Indicates that the signal level from the sound card has dropped away. This may or may not be an error.

Time Weighting

A process by which allowance is made for the time taken for a sound level meter to respond to rapid changes in sound levels.

A system of time averaging is used because a sound level meter may not be able to respond quickly enough to changes in sound levels.

Time weightings are less important if the sound level is fairly steady.

During data capture, Jade applies a time weighting to *Lp* data samples.

Top Level

The chart zoom level at which you can typically see the data for the whole *measurement period*.

At this zoom level, the status bar shows the type of averaging applied to the data (depending on the trace type), as follows:

Trace Type	Status Bar Text
<i>Leq trace</i>	Leq
<i>Lp trace</i>	Skip
<i>Lpk trace</i>	Max
<i>Ln trace</i>	Ln



Trace

The line on a *chart* that plots data values against time. There are five trace types:

Trace	Description
<i>Leq trace</i>	Shows <i>Leq</i> values.
<i>Lpk trace</i>	Shows <i>Lpk</i> values.
<i>Lp trace</i>	Shows <i>Lp</i> values.
<i>Ln trace.</i>	Shows <i>Ln</i> values.
<i>Lp/Ln trace</i>	Shows either <i>Lp</i> or <i>Ln</i> values depending on the resolution of the chart.

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