



Installation and Operation Manual  
ProSeries Model SPS390  
Dynamic Signal Analyzer  
Part Three  
Legacy Manual

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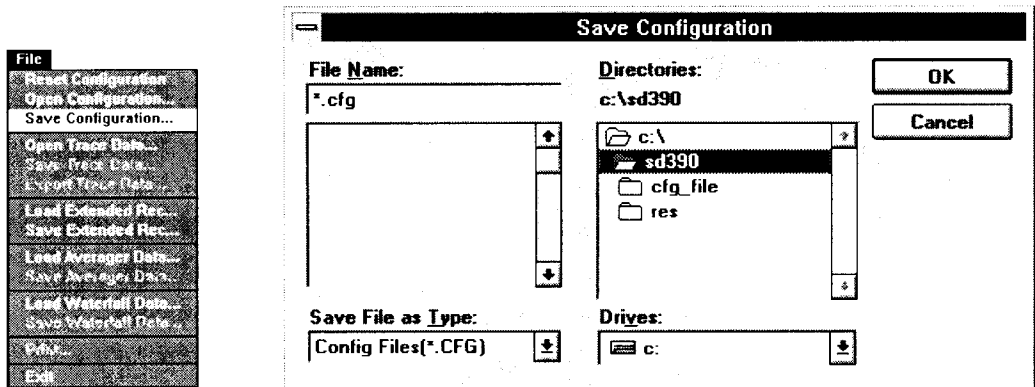
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### 3–10.1.3 Save Configuration

Save configuration saves the current configuration of the SPS390 to a named configuration file for subsequent recall by the **Open Configuration** command. The save configuration includes:

- Current settings for the **Acquisition Setup** Dialog.
- Current settings for the **Analysis Setup** Dialog.
- Current settings for the **Waterfall Setup** Dialog.
- Current settings for an installed and invoked Signal Source Generator (SSG) option.
- All current display windows.



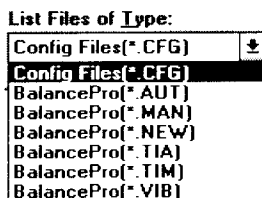
600b-34/20



The **Save Configuration** dialog is used to specify a particular configuration file that will be saved on selected directories of the permanent storage devices. The default directory and storage device is the current directory, **C:/sd390**.

The **Save Configuration** dialog is used to create recallable data files that contain all the settings of the SPS390 for a particular measurement. The SPS390 upon power up will normally be configured in the factory default configuration. During the course of a measurement process an operator may store the current configuration that has been created by making changes to the **Mode**, **Acquisition**, **Analysis**, **Waterfall**, **Signal Source Generator** (optional SSG), and **Display** pages. The **Save Configuration** dialog allows the operator to store these changes for later recall and reuse.

The **Save File As Type:** selection allows the operator to store configurations of specific setups for use with other SPS applications. These types of configuration files are also useful for specific measurements where the SPS390 operates in the background.

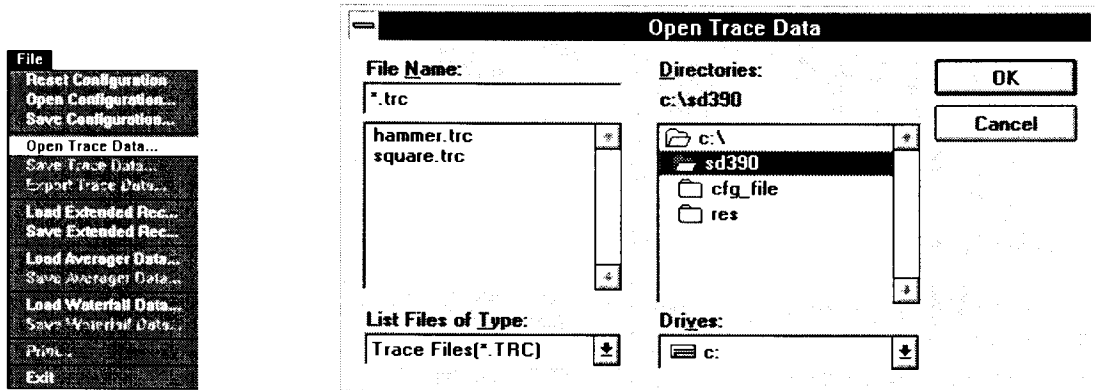


- The **Config Files (\*.CFG)** are user defined SPS390 configuration files. These files are exclusive to the SPS390.
- The **BalancePRO (\*.AUT)** file is the file used to perform the automatic data acquisition of a machine run-up. While many of the settings are made for specific machines or engines, generically the **.AUT** files are intended to store magnitude and phase information in a waterfall file that is acquired on a delta RPM basis. All of the changes made are made on the acquisition, analysis, and waterfall pages. Display and screen changes are optional and not mandatory for **.AUT** files to operate properly. For more information on these files see the SPS610 BalancePRO Installation and Operation Manual, SPS document number 222856.
- The **BalancePRO (\*.MAN)** file is the file used to perform the manual data acquisition of a machine or engine run-up. While many of the settings are made for specific machines or engines, generically the **.MAN** files are intended to store magnitude and phase information in a waterfall file that is acquired on a plus (+) one basis at operator selected speed points. All of the changes made are made on the acquisition, analysis, and waterfall pages. Display and screen changes are optional and not mandatory for **.MAN** files to operate properly. For more information on these files see the SPS610 BalancePRO Installation and Operation Manual, SPS document number 222856.
- The **BalancePRO (\*.TIA)** file is a file used to perform an automatic acquisition of a machine (or engine) run-up and coast down without a tach signal. While many of the settings are made for specific machines or engines, generically the **.TIA** files are intended to store Magnitude information in a Waterfall file that is acquired on a Delta Time basis within a specified time frame. All of the changes made are made on the Acquisition, Analysis, and Waterfall pages. Display and screen changes will influence the overall level that gets reported for display readout. For more information on these files see the SPS610 BalancePRO Installation and Operation Manual, SPS document number 222856.
- The **BalancePRO (\*.TIM)** file is a file used to perform a manual data acquisition of a machine (or engine) run-up or coast down without tach signal within a specified time. While many of the settings are made for specific machines or engines, generically the **.TIM** files are intended to store Magnitude information in a Waterfall file that is acquired at specific operator selected speed points (+1) within a specified time frame. All of the changes made are made on the Acquisition, Analysis, and Waterfall pages. Display and screen changes will influence the overall level that gets reported for display readout. For more information on these files see the SPS610 BalancePRO Installation and Operation Manual, SPS document number 222856.
- The **BalancePRO (\*.VIB)** file is the file used to perform the automatic data acquisition of a machine run-up and/or run-down for a vibration survey. While many of the settings are made for specific machines or engines, generically the **.VIB** files are intended to store Magnitude and Phase information in a Waterfall file that is acquired on a Delta RPM basis. All of the changes made are made on the Acquisition, Analysis, and Waterfall pages. Display and screen changes will influence the overall level that gets reported for display readout. For more information on these files see the SPS610 BalancePRO Installation and Operation Manual, SPS document number 222856.


### 3–10.1.4 Open Trace Data

Open trace data opens a specified data trace file for recall and display. The trace file is read from disk and the data is displayed in a new display window, provided that a new display window can be created. The display parameters are those that were active when the data was saved (see figure below), although the X- and Y-Axis scales are initially set to the default values of the display.

The name of the data file is selected by using the **Open Trace Data** Dialog.

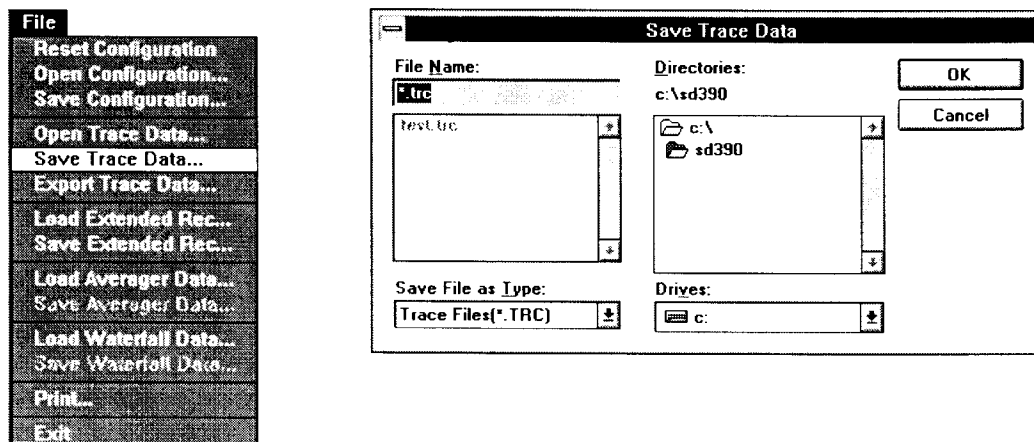



60666-36/31

 If the maximum number of windows are already displayed on the screen, this function will not be processed

### 3–10.1.5 Save Trace Data

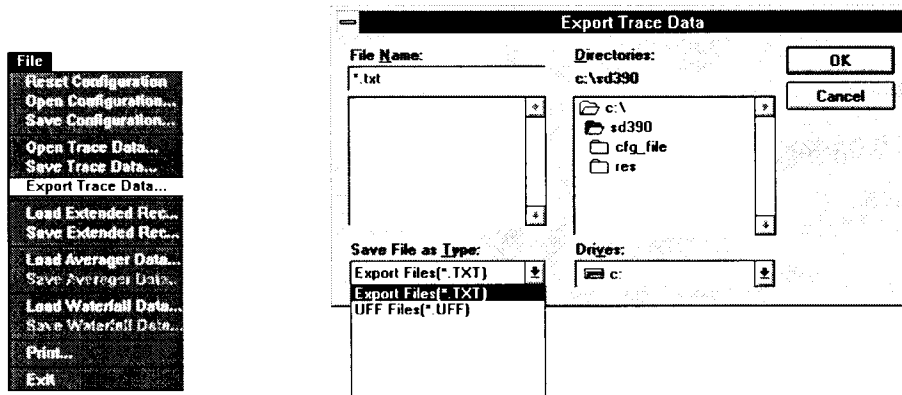
Save trace data saves the data and display configuration for the specified display window to a named data trace file for subsequent recall and display. The display window is selected by moving the arrow cursor to the title bar of the desired window, and clicking the selector button. The **Save Trace Data** dialog will then allow you to name the file.



 Compressed Time Displays cannot be Saved as trace data. See load extended recording.

### 3-10.1.6 Export Trace Data

Displayed data can be exported to other programs or other systems by using the **Export Trace Data** function. The desired data is selected by moving the arrow cursor to the title bar of the desired display window, and clicking the selector button.



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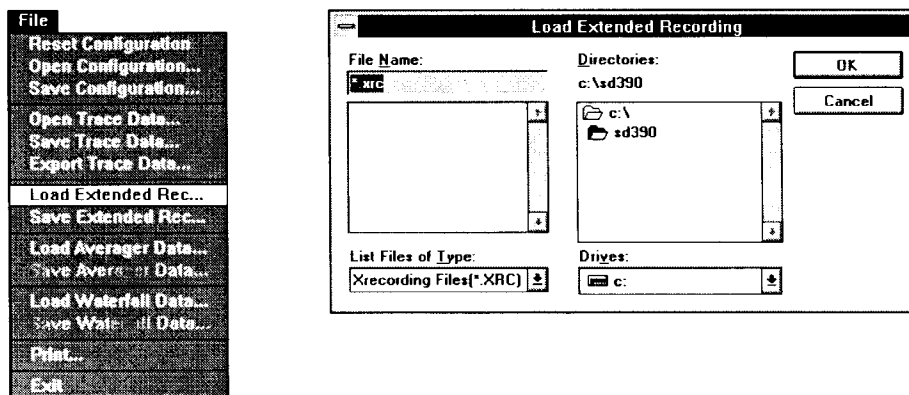
The **Export Trace Data** Dialog will then allow you to name a file where the data is to be placed. The data is stored on a disk file in ASCII format, in the displayed Units. The format of the Export Files is described in this manual.



*Compressed Time Displays cannot be Exported. The default directory and storage device is the current directory, **C:/sd390**.*

### 3-10.1.7 Load Extended Recording

Data from the SPS390 extended recorder memory that has been previously saved to a named disk file is retrieved and loaded into extended recorder memory. The acquisition and analysis parameters that were in effect when the data was saved are also restored.



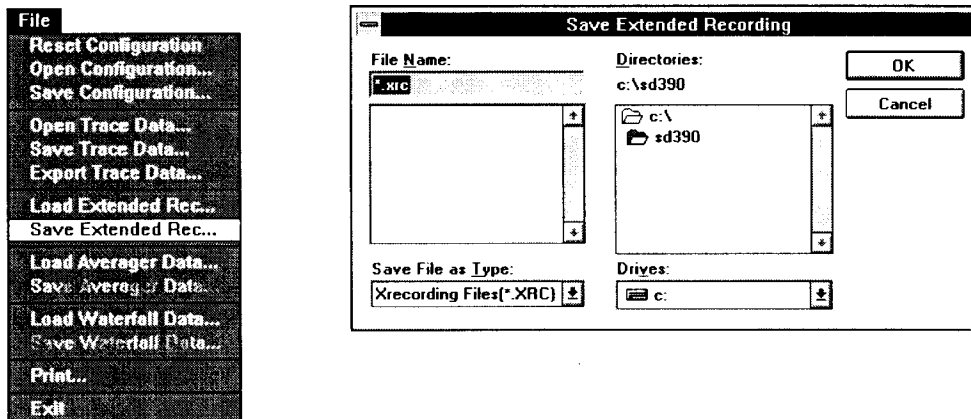
When **Load Extended Rec** is selected, acquisition (and averaging), if active, is stopped. The **Load Extended Recording** dialog will then allow you to name the file from which to retrieve the data.



Data from an extended recording disk file can be loaded at any time. However, all current data and Acquisition and Analysis Parameters are replaced by the saved data and saved parameters. These parameters may not be compatible with the current settings and may invalidate the current Averager and Displays. Therefore, it's good practice to stop acquisition before loading this data, although this function will automatically stop acquisition (and averaging) if active. Parameters that were in effect when the data was saved are also loaded at this time.

### 3-10.1.8 Save Extended Recording

Data in the SPS390 extended record memory can be saved to a named disk file for subsequent playback and analysis. The entire contents of the extended record memory (time domain data) for all active channels is saved.



The extended record memory can be saved at any time. It is good practice to stop acquisition before saving this data, although this function will automatically stop acquisition (and averaging) if active.

The **Save Extended Recording** dialog will then allow you to name a file where the data is to be placed. The data is stored on a disk file in binary format.



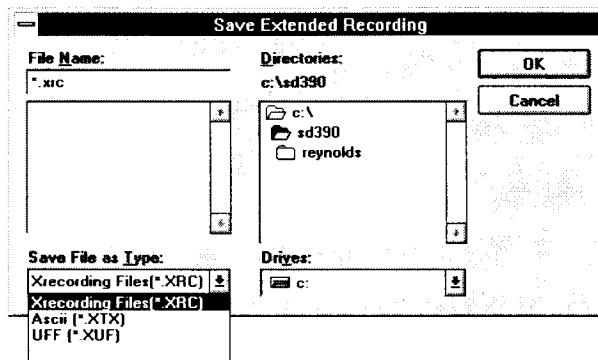
*Extended recorder data cannot be exported.*



*The default directory and storage device is the current directory, C:/sd390.*

The **Save Extended Recording** dialog allows three file type choices. These are:

- **.XRC** - internal format
- **.XUF** - UFF format
- **.XTX** - Text format



When UFF or Text formats are selected, up to 9 separate files are created; 1 file for each active channel, plus a “container” file which is merely a description of the date and number of channels saved in this data set. The container files are:

- <filename>.XUF (UFF format)
- <filename>.XTX (Text format)

The corresponding data files are:

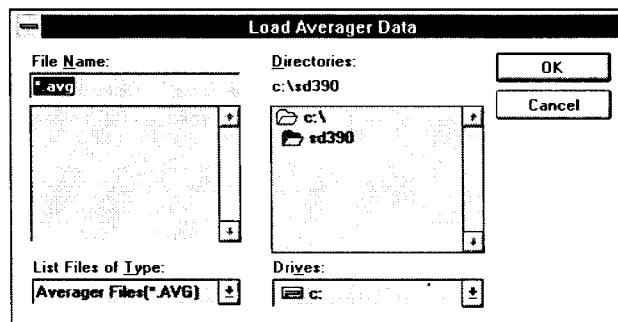
- <filename>.XU1...8 (UFF format)
- <filename>.XT1...8 (Text format)

Each data file contains a single channel, in corresponding UFF or TXT Time format.

Whenever a new ‘set’ is created which will overwrite the existing ‘set’, the user is prompted, and all previous channel files are deleted if the user wishes to replace a data ‘set’. Individual channel data files can not be saved separately.

### 3-10.1.9 Load Averager Data

Averaged data that was previously saved to a named disk file is retrieved and loaded into averager memory.

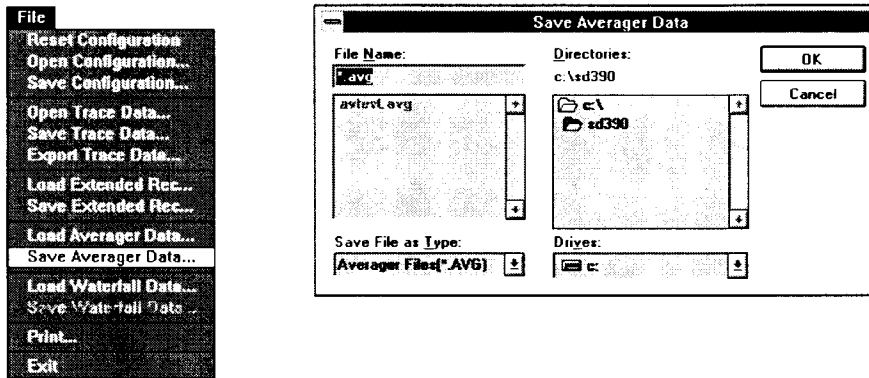


When **Load Averager Data** is selected, the Analyzer is first put into HOLD. The **Load Averager Data** dialog will then allow you to name the file from which to retrieve the data.



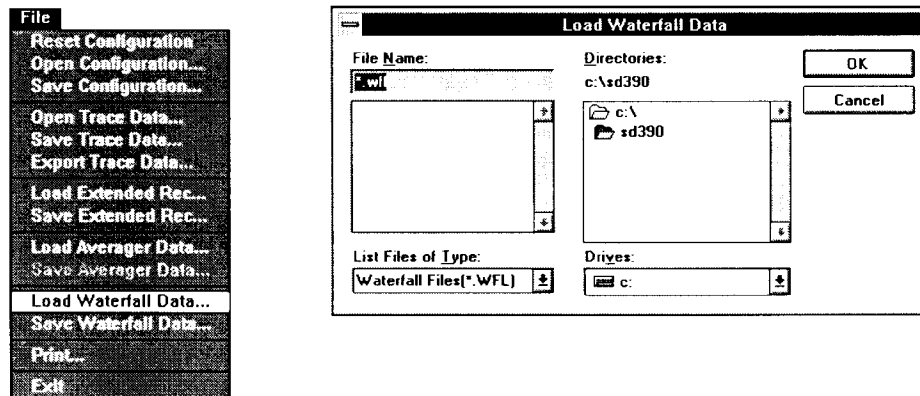
### 3–10.1.10 Save Averager Data

Whenever cross properties averaging is performed (by setting the **Mode** to **Cross Properties** and performing an average measurement), the **Save Averager Data** option is available. This allows you to save the active and reference channel power spectrums, as well as the real and imaginary parts of the cross spectrum between the active and reference channels. All standard Frequency Response Function (FRF) displays, such as FRF magnitude, phase, coherence, and Nyquist, can be formed upon recall of this data. This is a convenient way to save the FRF components for later display and analysis, without having to display all (or any) of the FRF elements.



### 3–10.1.11 Load Waterfall Data

Data from the SPS390 waterfall memory that has been previously saved to a named disk file is retrieved and loaded into the waterfall memory. The acquisition and analysis parameters that were in effect when the data was saved are also restored.



When **Load Waterfall Data** is selected, the analyzer is first put into HOLD. The **Load Waterfall Data** dialog will then allow you to name the file from which to retrieve the data. I b



Data from a waterfall data disk file can be loaded at any time. However, all current data and acquisition and analysis parameters are replaced by the saved data and saved parameters. These parameters may not be compatible with the current settings and may invalidate the current averager, and/or waterfall memory and associated displays. Therefore, it's good practice to stop acquisition before Loading this data, although this function will automatically stop all acquisition functions if active.



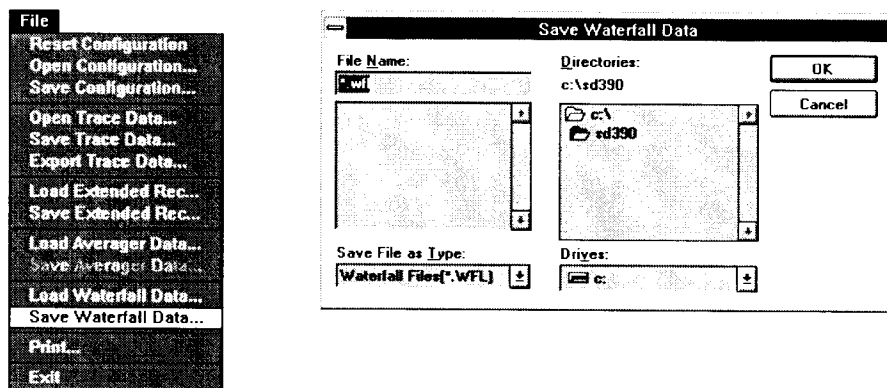
*Waterfall data cannot be exported.*



*The default directory and storage device is the current directory, C:/sd390.*

### 3-10.1.12 Save Waterfall Data

Data in the SPS390 waterfall memory can be saved to a named disk file for subsequent playback and analysis. The entire contents of the waterfall memory (selected waterfall analysis function) for all active waterfall channels is saved.



The waterfall memory can be saved at any time. It is good practice to stop acquisition before saving this data, although this function will automatically stop all acquisition functions if active.

The **Save Waterfall Data** dialog will then allow you to name a file where the data will be placed. The data is stored on a disk file in binary format.

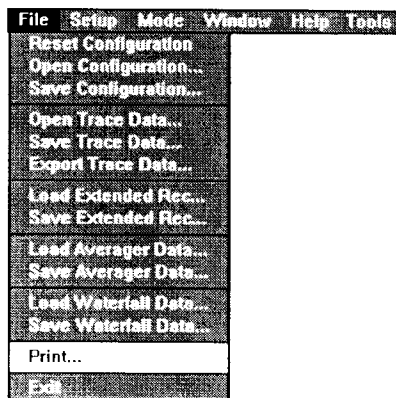
### 3-10.1.13 Print

The **Print** Dialog is used to add a title, comments, select display windows and provide a mechanism to cancel the print dialog before a print command is issued. Batch plot prints a copy of each selected SPS390 display to the attached printer or other hard copy device.

#### To Invoke Printing

To invoke the **Print** Dialog box:

- Use the trackball to:
- Select the **File** menu,
- and then Select **Print**



Selecting **Print** from the File Menu will invoke the print dialog.



The SPS390 analyzer display will cease to update at this point. However, internal signal processing functions such as memory loading or averaging will continue behind the scenes. This will allow you to make changes to the **Title** or **Comments** section without stopping the signal processing. However, these signal processing functions will stop when the print command is issued.

**Print Dialog**

Title: \_\_\_\_\_

Batch Plot     Dual Plot

**Print Information**

<input type="checkbox"/> A-Mag Spec-L1	<input type="checkbox"/> D-Mag Spec-L2	<input checked="" type="checkbox"/> G
<input type="checkbox"/> B-Time-L1	<input type="checkbox"/> E-Mag Spec-A1	<input checked="" type="checkbox"/> H
<input type="checkbox"/> C-Time-L2	<input checked="" type="checkbox"/> F-Mag Spec-A2	<input checked="" type="checkbox"/> I

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_


Print

Cancel

60655-33

Make the appropriate selections on the **Print Dialog** and then either select **Print** or **Cancel**. **Cancel** will cancel any entries or selections that were made and the last SPS390 display will be activated again. Selecting **Print** will start the print process.

**Display Print**

 Print in progress.

Cancel



If you invoked the **Print dialog**, to make changes to the dialog, while the process to be printed was in progress, immediately select **Cancel** from the **Display Print** page. This will invoke the changes made and retain them for a subsequent selection. Selecting **Cancel** will restart the analyzer display and you can take note of the process that was being performed while the changes were made to the **Print Dialog**.

If you have selected **Background Printing** on the Windows **Printer Setup** you will have a very brief time to select **Cancel** on the **Display Print** dialog. Once the **Display Print** dialog disappears and the SPS390 display returns, the **Print Manager** is the only method to cancel a print before or during the actual printing process.

### **Print Dialog and Printer Settings**

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The print dialog works in conjunction with the printer settings that you select in the Windows operating system. There are only two major changes that can take place on the printer settings of the Windows operating system, **Portrait** or **Landscape** formats for the paper. Within the SPS390 **Print dialog** there are three formats that can be selected; **Batch Plot**, **Dual Plot** and **Plot plus List**. **Plot plus List** is a default subset of **Batch Plot** and is not available when **Dual Plot** is selected.

**Batch Plot** will print all selected displays to be printed in order. Remember if you have selected **Batch Plot** you have invoked a series of single plots to go to the printer. If you change your mind and want to **Cancel** the printing process you will have to **Cancel** each and every plot that was selected.

**Dual Plot** will allow two selected displays to be printed one above the other as selected by the operator.

**Plot plus List** will only be available if the operator has previously selected a Marker List for the selected display to be printed. If the Marker list has not been invoked it will not be provided regardless of the fact that markers may appear on the display.

The eventual printed form will change its appearance in accordance with the following rules.

#### **Portrait**

---

**Batch Plot** will plot a single plot per page with the **Title** at the top and the **Comments** on the bottom of the page.

**Dual Plot** will allow two plots per page. The **Title** will appear at the top of the page and the **Comments** will appear at the bottom of the page. Therefore, any comments entered should be common to both plots.

**Plot Plus** List will print a single plot per page and if a **Markers List** has been invoked the listed points will be provided in the lower half of the page below the plot.

## **Landscape**

---

**Batch Plot** will plot a single plot per page with the **Title** at the top and the **Comments** on the bottom. This is the largest printed plot available.


**Dual Plot** is not available in landscape format.

**Plot plus List** is not available in landscape format.

## **Title and Comments**

---

Any text entered into the **Title** or **Comments** lines of the **Print Dialog** will remain as entered until changed by the operator. The entered text will even remain in subsequent sessions of SPS390 sessions even if power is removed.

 **SPS390 HINT** *When a number of plots are going to be produced, to document a measurement process on a single item or a series of items, keep the identifiers you enter in the Title and Comments near the beginning of the text so that incremental changes to the sequence can be made easily. i.e. Plot X of Item Y First Production Run Vibration Test. Where X is the number of the plot and Y is the serial number of the item being tested. In this example, the operator only has to retype the X and the Y for all the plots produced.*

## **Print Date and Time**

---

There is no need to enter the date and time for any printout from the SPS390. Date and Time is an automatic process of the software. The data being printed has a date and time entry as to when the data was taken and the printout has a date and time of when the print is performed. The date and time of when the print is performed shows up on the same line as the Title line on each printed form.

## **Other Print Capability**

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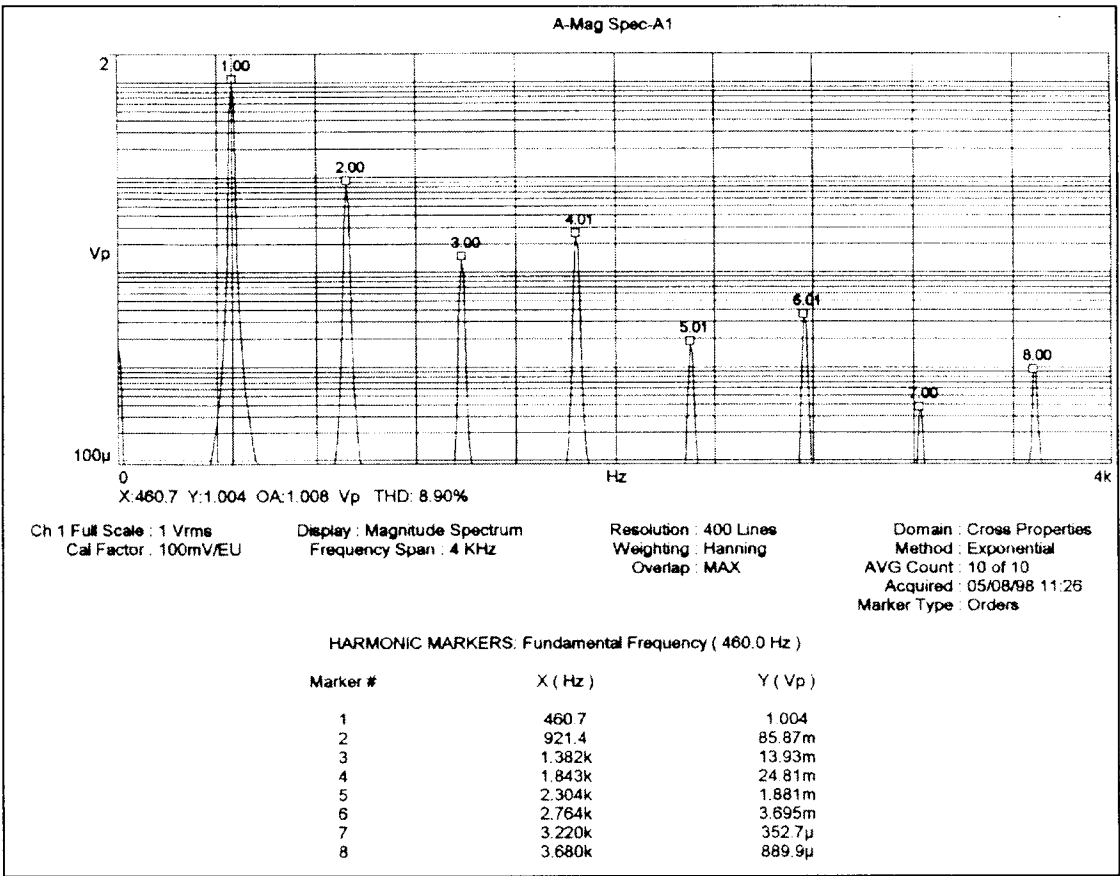
The SPS390 and the standard Windows tools allows for screen capture using the standard 101 keyboard print screen command. This action places the entire SPS390 display screen on the Windows clipboard as a bit mapped (.BMP) file. This BMP file can then be imported directly into other Windows programs that support the importation of .BMP files.

There are a number of more elaborate screen capture programs available for Windows programs and allow for more sophisticated screen captures.



It is important to note that printed data from a bitmap file can be altered in programs such as Microsoft Paintbrush, whereas the prints from the SPS390 print selection cannot be altered.

SPS390 Marker Plus List Presentation



NOTE: Harmonic presentation with marker annotation and marker listing.

Marker Plus List feature is only available in portrait printer mode.

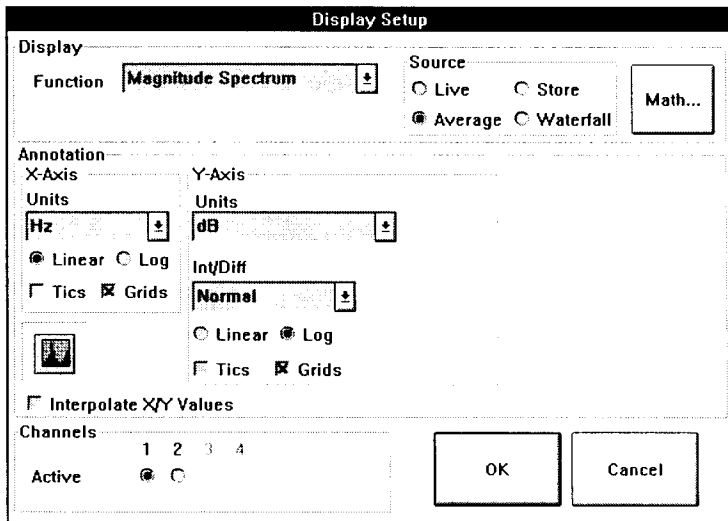
The cursor X/Y interpolate features was selected.

### 3-10.2 Setup Menu

The following parameters can be set, modified, and examined by selecting the appropriate topic from the **Setup** Menu.

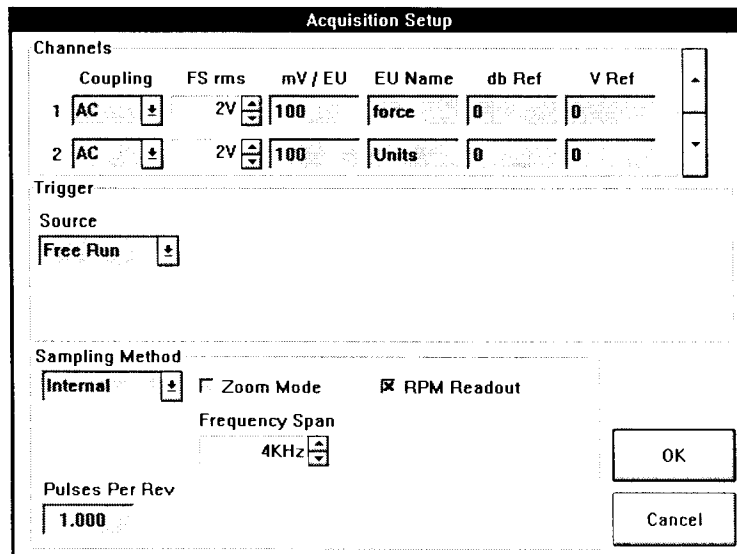
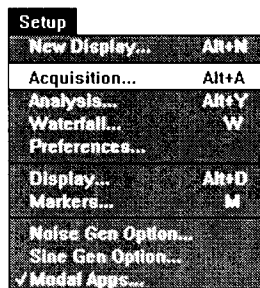
#### 3-10.2.1 New Display

Invokes the **Display Setup** dialog to specify the settings for a new display.



#### 3-10.2.2 Acquisition

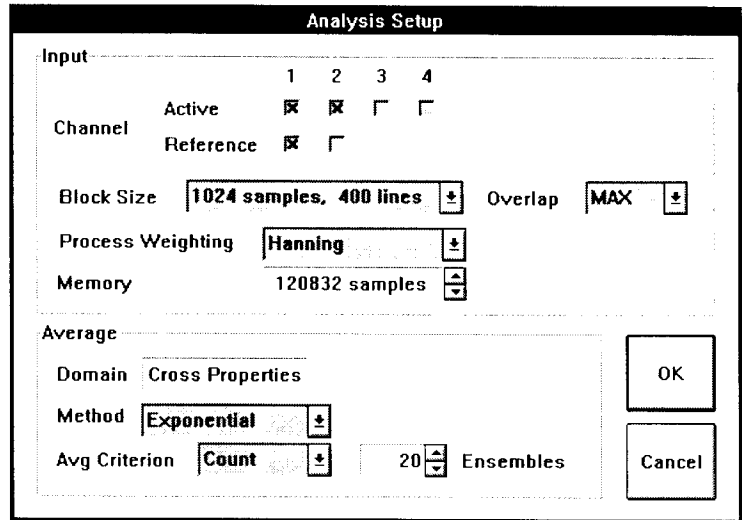
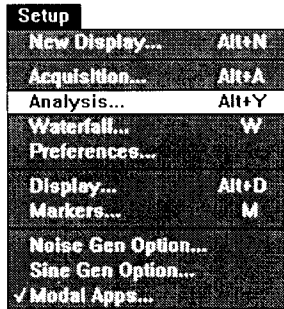
Invokes the **Acquisition Setup** dialog to change the SPS390 data acquisition parameters.





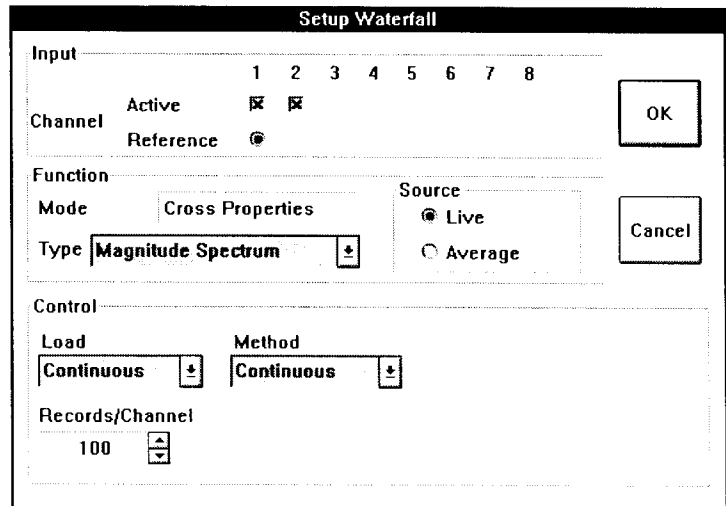
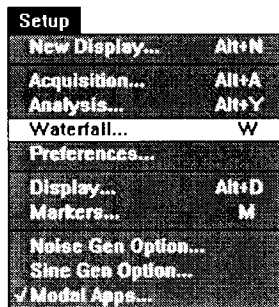
### 3–10.2.3 Analysis

Invokes the **Analysis Setup** Dialog to change the SPS390 analysis parameters.



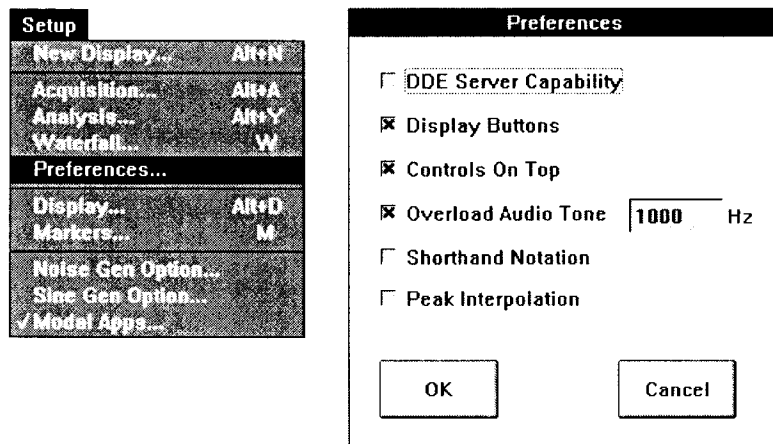
### 3–10.2.4 Waterfall

Invokes the **Setup Waterfall** dialog to configure the SPS390 waterfall analysis parameters.



### 3-10.2.5 Preferences

Clicking on **Preferences** on the Setup menu invokes the Preferences dialog. This allows the user to control some display configuration elements and other features. For example, control buttons can be displayed at the top or bottom of the screen. (Top is the default.)



#### DDE Server Capability

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Clicking in this box activates the dynamic data exchange server, allowing the exchange of data between the SPS390 and other Windows applications.



*See section on dynamic data exchange.*

#### Display Buttons

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When this box is clicked, the buttons along the right-hand edge of the display are shown. (These buttons are labels for the function keys on the SPS390 front panel, and also function independently as on-screen buttons.) If the box is not clicked, these buttons do not appear. However, the function keys remain active at all times.

#### Controls on Top

---

This button determines whether the control buttons are displayed at the top or bottom of the screen. Where these buttons are displayed is a matter of personal preference. The default is to display them at the top.

#### Overload Audio Tone

---

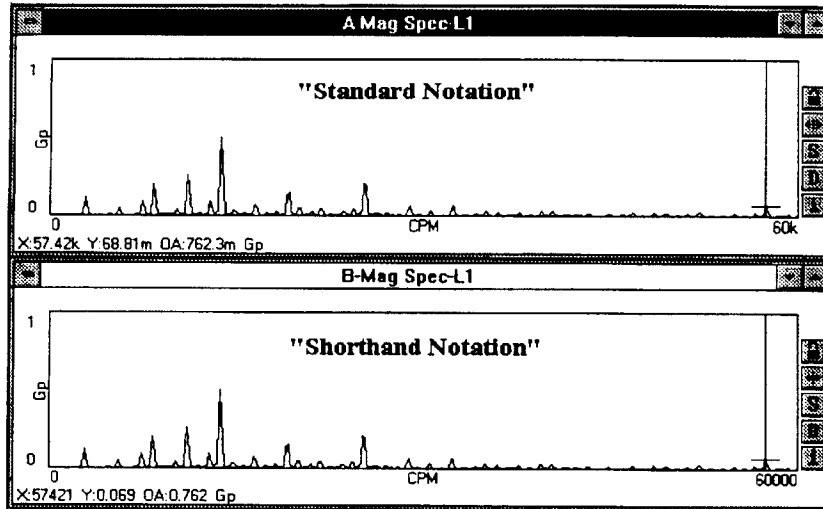
When this box is checked, an audio tone is emitted whenever an overload condition occurs. The frequency of this tone can be set by typing in the desired value in the box to the right. (The default tone is 1000 Hz.)

#### Shorthand Notation

---

This selection provides a choice of standard or "shorthand" notation on the cursor readouts. Standard cursor notation uses prefixes that present the greatest possible dynamic range (milli-, kilo-, micro-, Mega-, etc.). When shorthand notation is used, "real" values are shown for both X- and Y-axis cursor readouts.

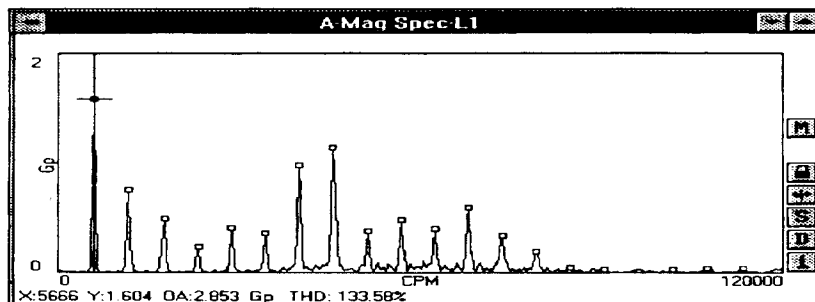
Note the differences in cursor readout in the following two displays. The “shorthand” readout always uses a real number, less any decade or x 1000 multipliers. X-axis resolution is actually increased up to as many as 5 digits in Hz, or 7 digits in CPM, and amplitude values can have as many as 9 digits for large values and down to 0.001 for small values.



### Peak Interpolation

When this box is selected, the peak frequency and amplitude interpolation feature is activated. This feature should be used whenever pinpointing the exact frequency of a signal is important, and when time is of the essence. It is especially useful in applications such as diagnosis of very complex machinery vibration spectra. The effect of interpolation can be an improvement in frequency resolution of orders of magnitude, without the typical time loss associated with longer block lengths or zoom (which are sometimes used to accomplish the same objective). With this improvement in resolution, there is no loss of amplitude accuracy, since the correct peak value is interpolated based on the characteristics of the Hann window.

The advantages of using peak interpolation are well illustrated in the following example:



When these harmonic markers are Listed, the frequency and amplitude may appear as shown in the following list. (See Markers Setup in section 3–11.7 for information on listing markers to the Notepad.)

A-Mag Spec-L1, 04/03/94 12:32:21,			Harmonic Markers
1	5666 CPM		1.604 Gp
2	11332 CPM		0.782 Gp
3	17004 CPM		0.531 Gp
4	22659 CPM		0.276 Gp
5	28340 CPM		0.47 Gp
6	34004 CPM		0.388 Gp
7	39679 CPM		1.032 Gp
8	45347 CPM		1.168 Gp
9	50935 CPM		0.392 Gp
10	56623 CPM		0.505 Gp
11	62361 CPM		0.404 Gp
12	67993 CPM		0.643 Gp
13	73800 CPM		0.336 Gp
14	79200 CPM		0.192 Gp
15	84778 CPM		0.062 Gp
16	90544 CPM		0.034 Gp
17	96300 CPM		0.011 Gp
18	101860 CPM		0.033 Gp
19	107700 CPM		0.042 Gp
20	113306 CPM		0.048 Gp

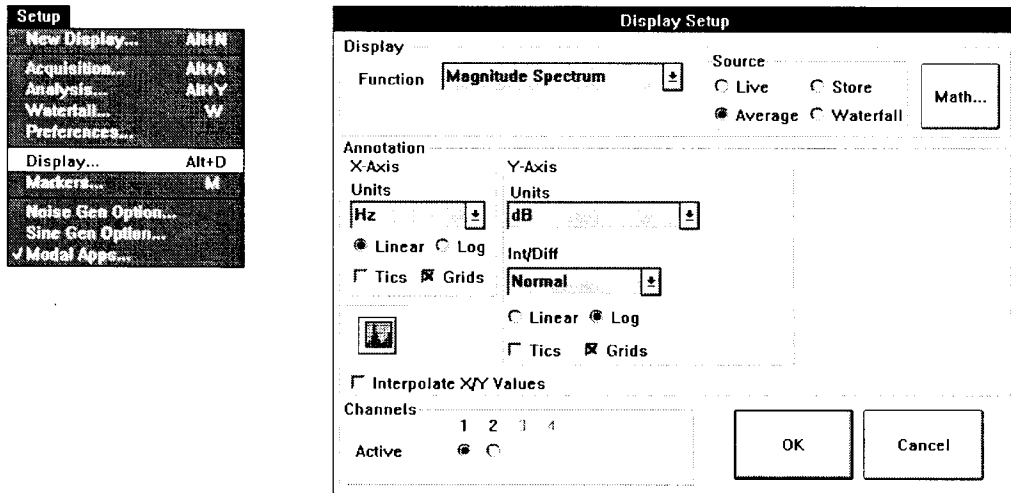
Note that here the FFT bin spacing is 300 CPM, yet with **Interpolation** selected, the effective marker resolution is virtually  $\pm 1$  CPM.

The following Notepad listing shows the same set of harmonic markers, but this time **Interpolation** was turned off. Note that each of these is set on 300 CPM bin-centered values

A-Mag Spec-L1, 04/03/94 12:47:03,			Harmonic Markers
1	5700 CPM		1.59 Gp
2	11400 CPM		0.757 Gp
3	17100 CPM		0.497 Gp
4	22800 CPM		0.239 Gp
5	28500 CPM		0.391 Gp
6	33900 CPM		0.358 Gp
7	39600 CPM		0.987 Gp
8	45300 CPM		1.149 Gp
9	51000 CPM		0.38 Gp
10	56700 CPM		0.484 Gp
11	62400 CPM		0.399 Gp
12	68100 CPM		0.593 Gp
13	73800 CPM		0.336 Gp
14	79500 CPM		0.219 Gp
15	85200 CPM		0.009 Gp
16	90600 CPM		0.033 Gp
17	96300 CPM		0.011 Gp
18	102000 CPM		0.028 Gp
19	107700 CPM		0.042 Gp
20	113400 CPM		0.045 Gp

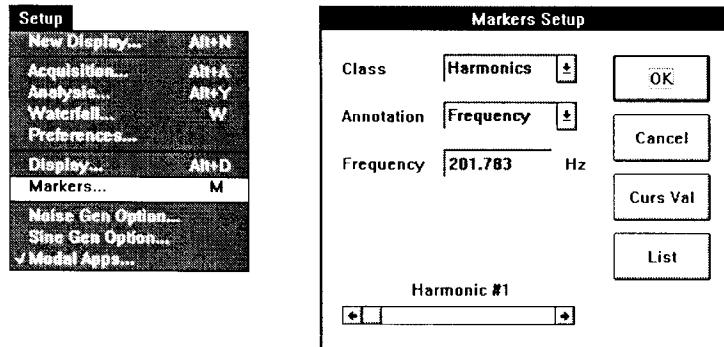
### 3–10.2.6 Display

Invokes the **Display Setup** dialog to modify the settings of the currently active display.



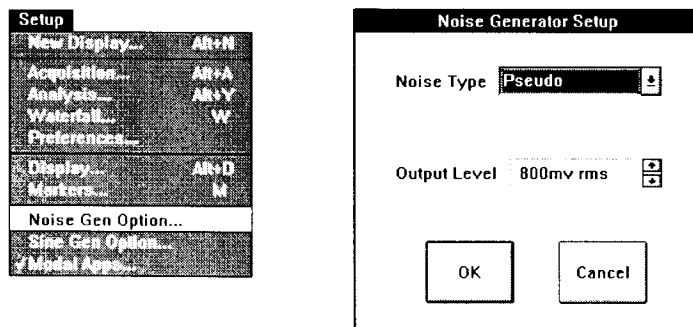
### 3–10.2.7 Markers

Invokes the **Markers Setup** dialog to select and list markers for a specified trace.



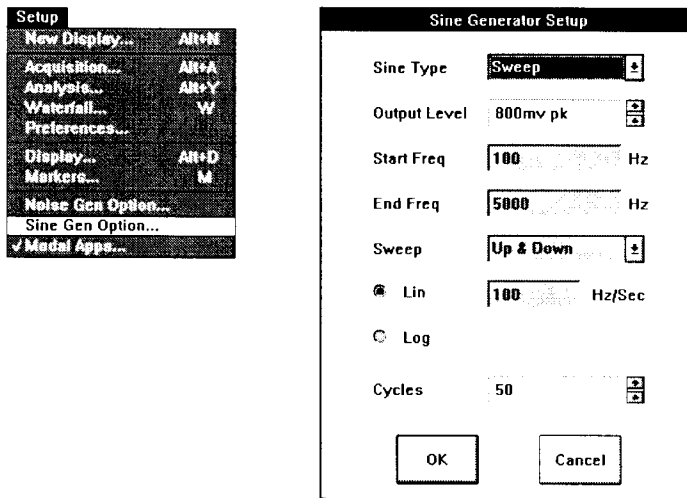
### 3–10.2.8 Noise Generator (Option)

Invokes the **Noise Generator Setup** dialog to set parameters for a random signal source output, and to initialize signal output.



### 3-10.2.9 Sine Generator (Option)

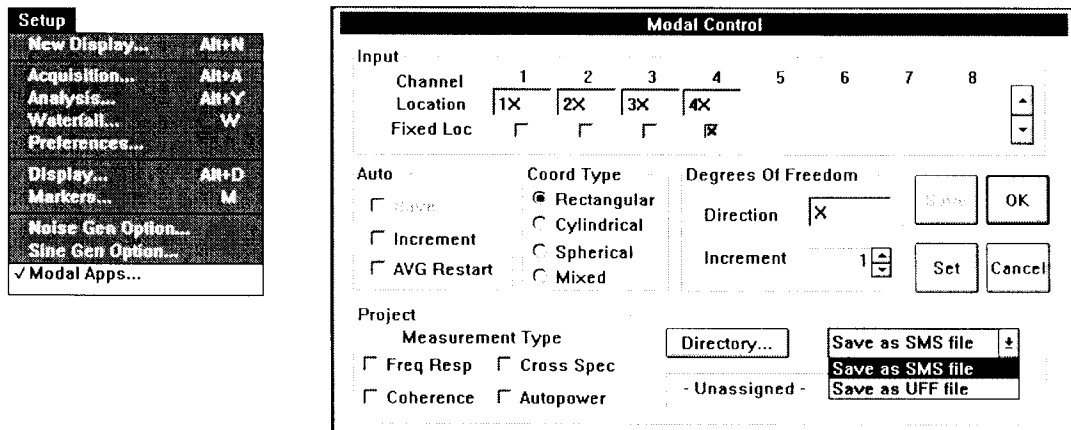
Invokes the **Sine Generator Setup** dialog to set parameters for a swept or dwell sine signal output, and to initialize signal output.



### 3-10.2.10 Modal Apps (Option)

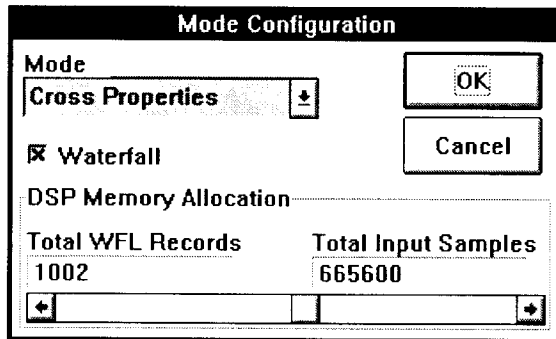
Invokes the **Modal Control** setup dialog to specify parameters and initiate saving FRF data in SMS modal or UFF format.

When **Modal Apps** is selected, button **F10** in the lower right-hand corner of the display will change to a button labeled **Modal**. Click on that button to bring up the **Modal Control** dialog box.



### 3-10.3 Mode Configuration Menu

The Mode Configuration Menu controls the “personality” of the analyzer. Selecting the appropriate mode configuration affects the types of analyses and displays that can be produced and determines the resource utilization of the SPS390. Careful selection of the mode configuration allows a balance between required analysis functions and optimal real-time rates.



#### 3-10.3.1 How To Invoke Mode Configuration

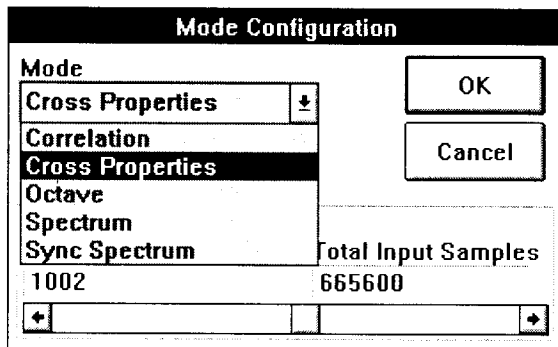
To invoke the **Mode Configuration** dialog:

- Use the trackball to:
  - Select **Mode** from the main menu
  - or
- Use the keyboard and:
  - Hold down the **ALT** key and press the **M** key

Analyzer mode parameters are not set until the **OK** button at the upper right corner of the dialog is pressed. Selecting **Cancel** causes the dialog to disappear without affecting the mode parameters.

#### 3-10.3.2 Mode Configuration

The list of available modes appears in the pull down **Mode** combo box. You may select the desired mode by highlighting and clicking on the appropriate mode item.



The four standard Mode selections are:

### Correlation

---

This mode allows correlation measurements, which can be used to understand certain signal relationships in the time domain and also can give an accurate assessment of signal delay time between two observation points.

### Cross Properties

---

This is the default mode which results in the most versatile use of the SPS390 in spectrum mode, in that power spectrum and cross property data (transfer functions, cross spectrum, etc.) is available, and almost all analyses and displays (except for sync spectra) are available.

### Spectrum

---

This mode is used when only time and power spectral data is required. It conserves internal resources, and allows very high real time rates for live and averaged spectral processing.

### Sync Spectrum

---

This mode is used when time synchronized averaging is required. This mode must be enabled for synchronous spectrum displays as it enables time averaging.



*If the Octave Analysis Option is installed, the Octave Mode selection also appears.*

### Octave

---

This mode enables octave analysis in place of spectrum analysis. Discrete digital filters are used to compute the amplitude levels of the selected bands.

The **Analysis Mode** will also automatically select the averager domain. This determines the types of analyses and displays that can be produced.



*See data sources in the display dialogs for more information.*



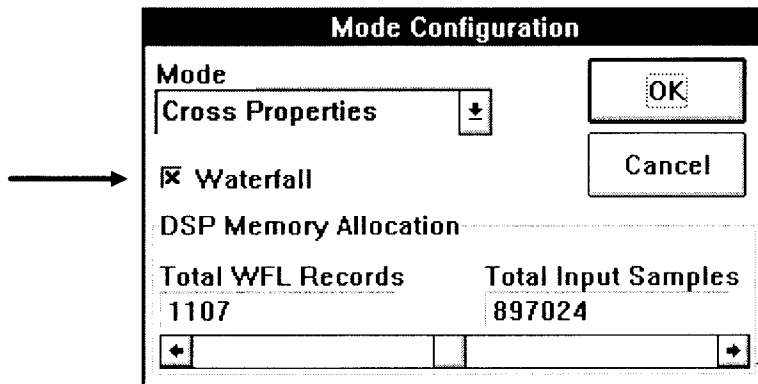
The availability of certain trace displays is affected by the current mode. The factory default **Mode** is set for **Cross Properties**. See the table in the description of the **Display Setup** dialog's display type control.

The real time rate of the SPS390 is controlled by careful selection of the analysis mode. For the fastest real time spectrum analysis rates, set the domain to spectrum. Of course, the prime determinant of the domain setting is the type of analysis required.



### 3–10.3.3 Waterfall Mode Enable Check Box

This check box enables or disables **Waterfall** Mode. When enabled, data can be processed and loaded into the waterfall memory and recalled (or played back) from the waterfall memory.



### 3–10.3.4 DSP Memory Allocation

The amount of available analyzer memory can be divided between XRec memory and waterfall memory when the **Waterfall** mode is enabled. This control proportions the maximum amount of available memory between extended recorder use and waterfall use. The desired amount of memory per channel (up to the maximum allocated from this control) for the extended record is set on the **Analysis Setup** dialog box, and the amount for waterfall is set on the **Waterfall Setup** Dialog box.

The total amount of memory is shown in **Total Input Samples** available for extended memory and the **Total WFL Records** (at the current block Size) for waterfall memory.



See section 4 for additional XRec memory information.

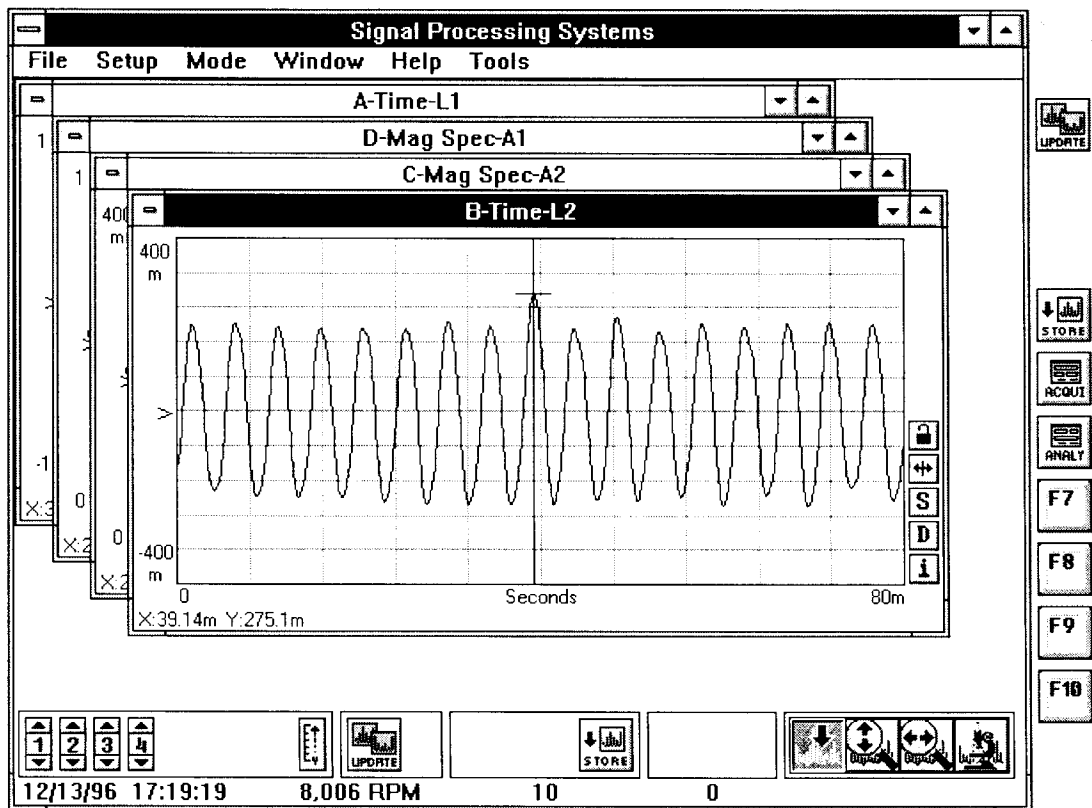
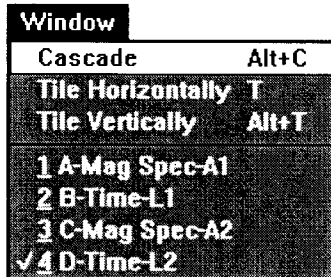


The **Analysis Setup** and **Waterfall Setup** dialog boxes allow selection of these parameters in samples per channel or records per channel.

### 3-10.4 Window Menu

#### 3-10.4.1 Cascade

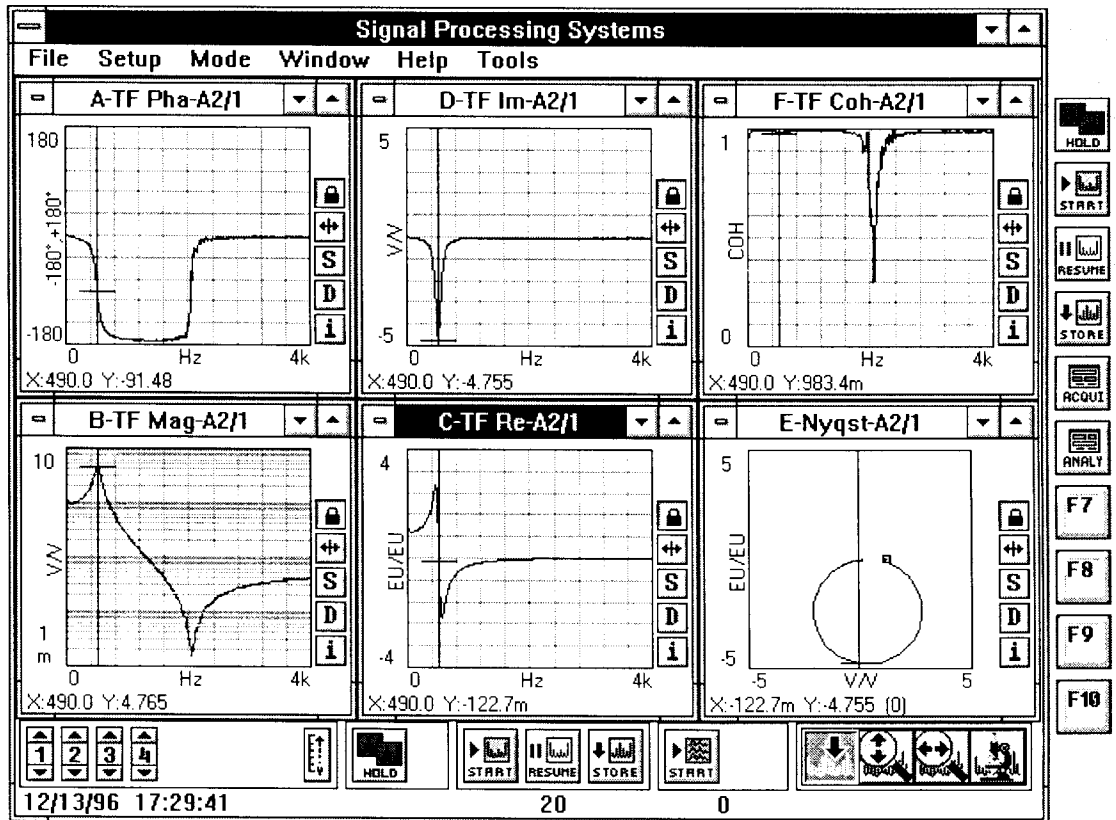
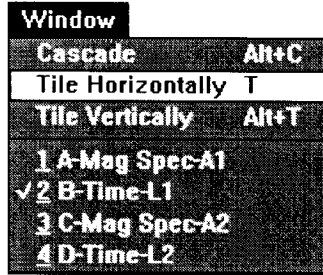
Organizes the display windows so that they stack-up one atop another but with the title bar and left-hand edge of each display window being visible as shown.



60655-04

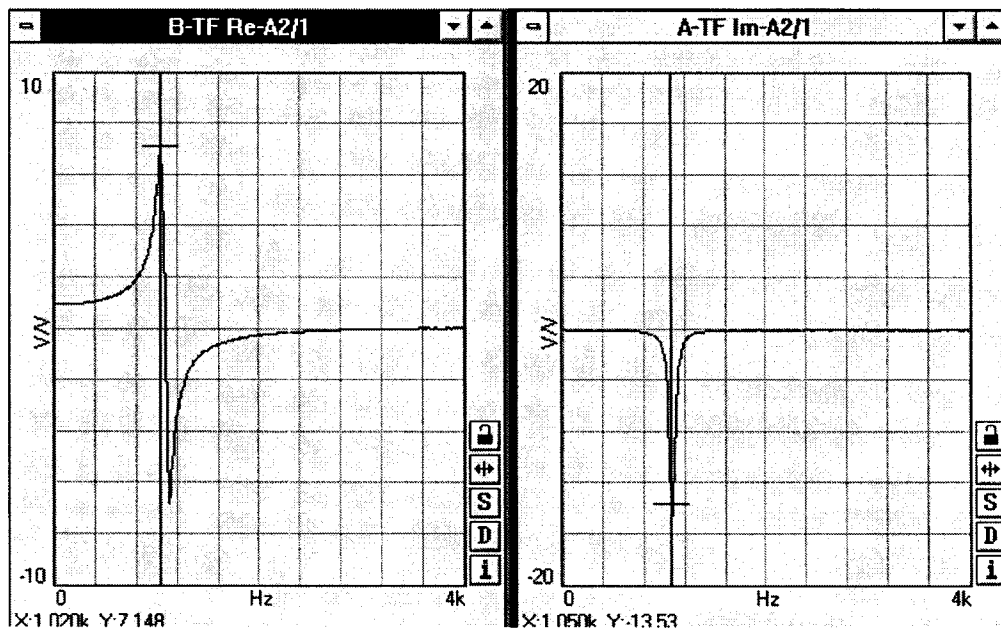
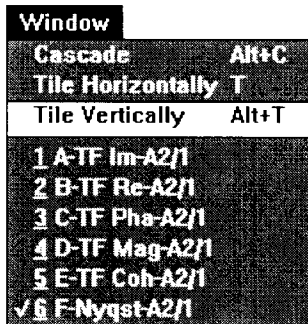
### 3-10.4.2 Tile Horizontally

Tiles all display windows horizontally within the frame window by moving and resizing them so that no display windows overlap one another and all area within the frame window is used, as shown in the following example.

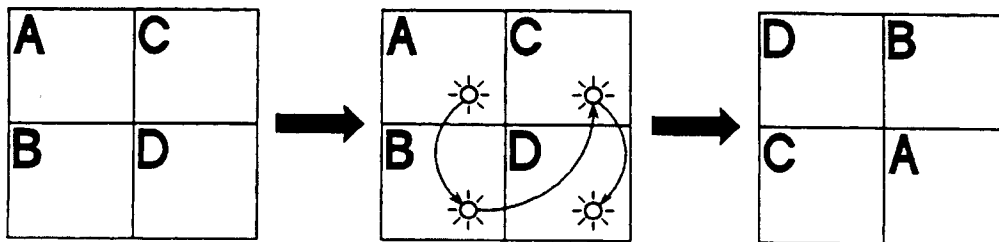


### 3-10.4.3 Tile Vertically

Tiles all display windows vertically within the frame window by moving and resizing them so that no window overlaps another and all area within the frame window is used. Refer to the following example.

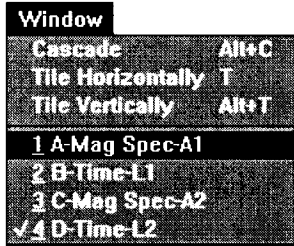


Display windows are tiled in the opposite order in which they are made active (a display window is made active by clicking anywhere on it). The following diagram illustrates this process.



### 3-10.4.4 Display Window List

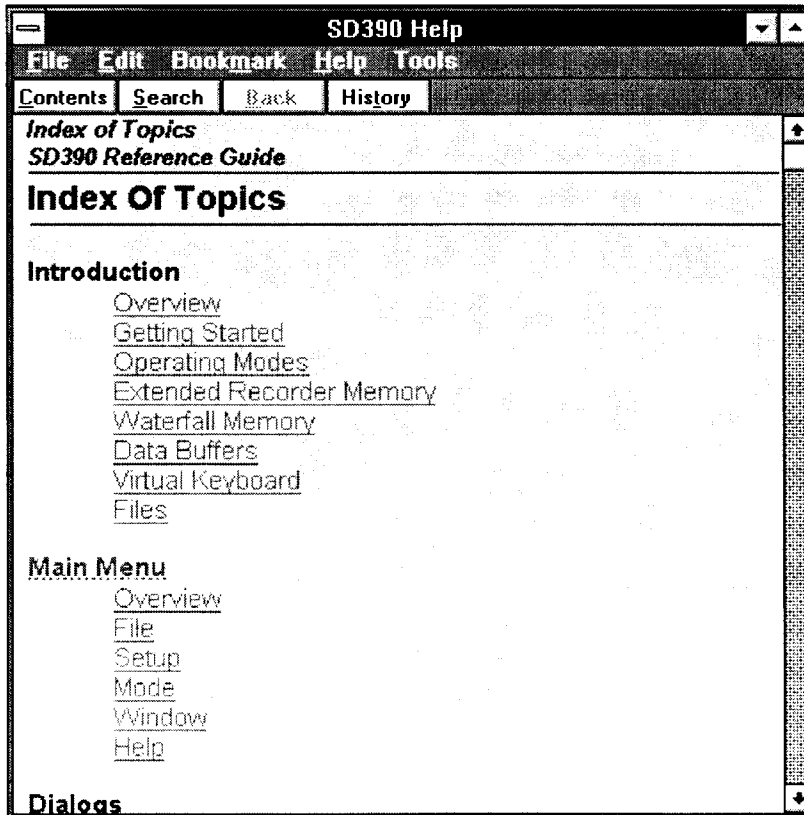
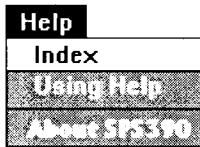
A list of all display windows appears at the bottom of the **Window** menu, separated from the other items by a solid black line. Clicking on one of the titles will make the corresponding display window the active display window and make it visible if it is hidden or iconized.



### 3-10.5 Help Menu

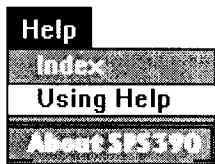
#### 3-10.5.1 Index

This selection invokes the SPS390 on-line manual, beginning at the main index.



### 3-10.5.2 Using Help

The Using Help selection invokes the Microsoft Windows help system user's manual. Use this if you have any questions about the help system.



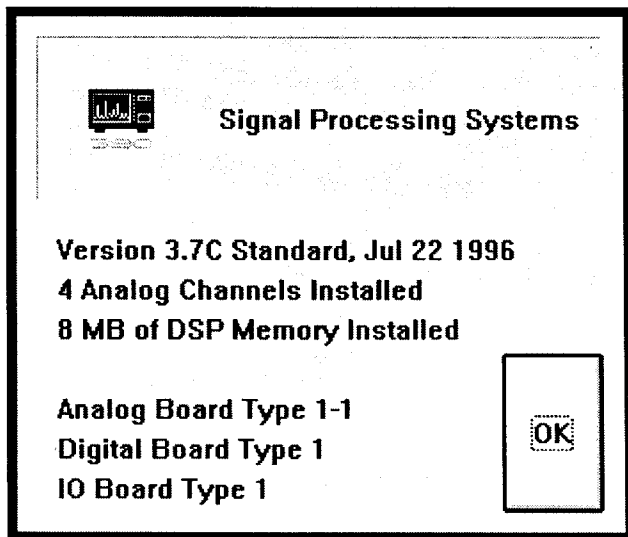
---

### 3-10.5.3 About SPS390

The **About SPS390** dialog displays the hardware configuration of the SPS390 plus the application system version number, as well as the date and time the application version was created.

If you have any question about the configuration of your particular SPS390, refer to this dialog. This dialog can also provide useful diagnostic information concerning the operation of the hardware, and can indicate possible incompatibilities when transferring files from one machine to another.

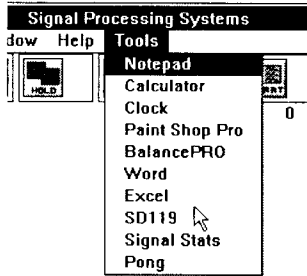
When finished, click on the **OK** button at the bottom right corner of the dialog.



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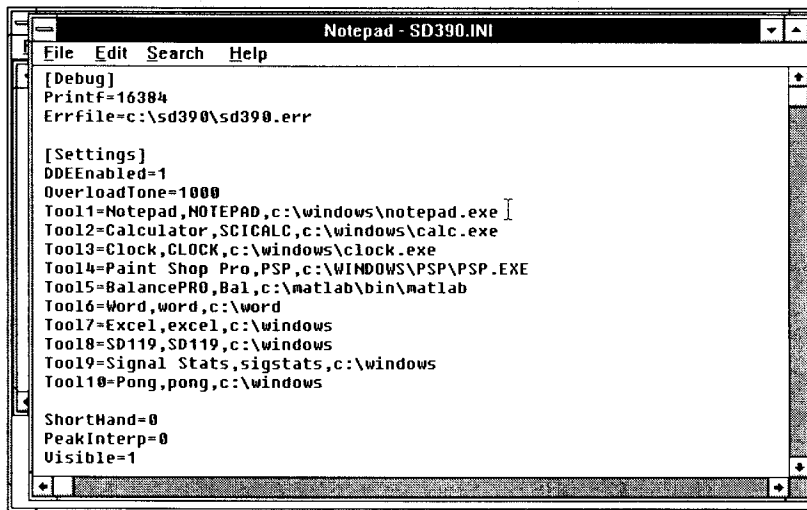
### 3-10.6 Tools Menu

The **Tools** menu permits quick access to up to ten Windows™ programs or routines. Frequently used tools can be activated by a single mouse click, without leaving the SPS390 program.

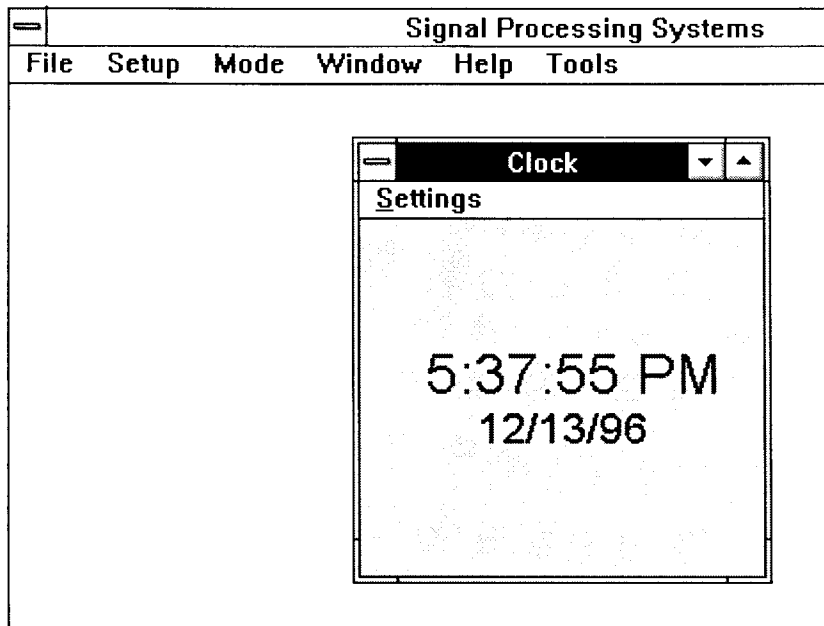


In order for a tool to appear in the **Tools** menu, it must be inserted in the **390.ini** file. Typically, the tools revert to the background during normal SPS390 operations.

Example:



In the example shown, ten tools have been inserted into the **Tools** directory. When you click on a Tool name — **Clock**, for example — that application appears on the SPS390 screen, and can be moved or modified to any position or size desired. To return to the standard SPS390 screen, click anywhere on the SPS390 page.



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