Product Data

Utility Program for the 2140 Family of Analyzers — Type 5306

USES:

- ❍ Importing measurement and set-up data to a PC from a disk written by a 2140 family analyzer
- ❍ Plotting and printing spectra
- ❍ Producing 3D, Contour, Slice and Frequency plots with option WH 3075
- ❍ Converting measurement and set-up data files to Excel (*.XLS) spreadsheet format

FEATURES:

- ❍ Simple menu-driven operation with mouse control
- ❍ Runs under MS-DOS/PC-DOS 3.3 or higher
- ❍ Post-processing of analyzer files, e.g. integration, differentiation, zoom, slice and log/lin Y-axis
- ❍ Device drivers for common printers and HPGL plotter
- ❍ Operation with multiple file selection

The Utility Program Type 5306 for the 2140 Family of Analyzers is a software package that enables you to read and process measurement data stored on disk by an analyzer. The software runs under MS-DOS on a PC. There are two main parts of the program, Plot and Convert.

Plot allows you to see the measurement data in graphical form on a PC screen. These graphics can also be sent to a printer or an HPGL plotter to give you hard copy.

Convert makes a spreadsheet file from the measurement data. This spreadsheet file conforms to Excel format (*.XLS).

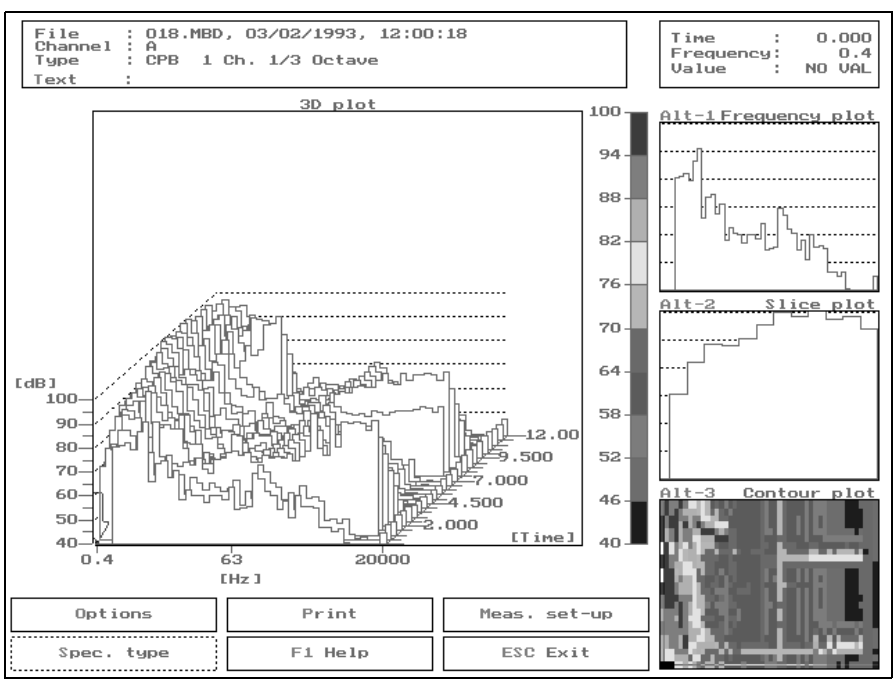

Fig.1 3D plot displayed in the Main Graph field. Other graph fields display Frequency, Contour and Slice plots. The cursors in each window are mutually dependent

Application

In field and laboratory use, the 2140 family of analyzers produce a lot of numerical data relating to the measurements made, particularly in multispectrum analysis mode. By using Type 5306, post processing of this data is made extremely simple.

The analyzer stores the measurements result and the associated analyzer set-up in MS-DOS format on floppy disk. The data files on the disk contain numeric and text information which can be cumbersome to handle.

When these same data files are read by a PC running the Type 5306 software, the raw information is translated into two forms that are more readily useable – graphical representations and spreadsheets. Both forms are easily imported into common wordprocessor and spreadsheet programs, allowing you to produce reports of the measurement data.

Macro facilities offered by spreadsheets and wordprocessors can considerably reduce the time and effort required to produce a meaningful report from an analysis.

Plotting

2D Plots

Fig. 2 shows an example screen dump from the plot section of the program. The file used as raw data for this plot is a measurement file created by a Dual Channel Real-time Frequency Analyzer Type 2144 running software Type 7667. The graph shows a constant percentage bandwidth (CPB) $^1/_3$-octave autospectrum measurement near a small motor. Other operations available for the same raw data are differentiation and integration of the results.

For sound intensity measurements or cross spectra you can display velocity, reactive intensity, intensity,

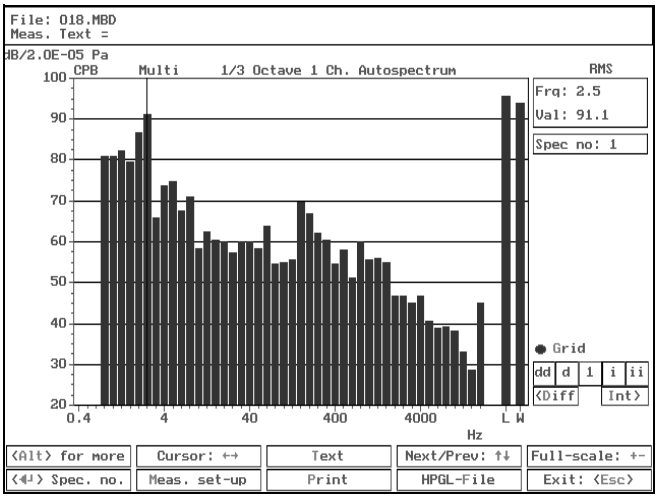

Fig.2 Example screen plot of measurement file

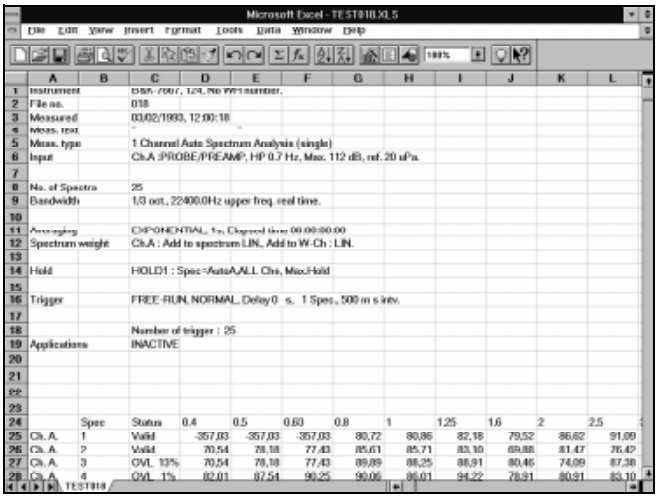

Fig.3 Example spreadsheet after import from Type 5306

phase, magnitude and coherence of the data. Furthermore, the axes can be redefined to show larger or smaller frequency and amplitude ranges. A zoom facility which is a fast way of redefining the frequency scale, allows you to see, for example, $^1/_{24}$-octave plots in more detail. Overlay plot shows up to 20 files as a superimposed plot, for example for simple comparison of files.

When the data has been displayed, the screen can be saved as an HPGL plot file for later use by a plotter or importing into other programs used for report making, for example a wordprocessor.

3D Plots (WH3075 Option)

The 3D facility (Fig. 1) allows you to display a 3D, a Contour, a Slice and a Frequency plot in the same picture. You can import the following files: 1 and 2 channel autospectrum CPB multispectrum files, 1 and 2 channel autospectrum FFT multispectrum files, Zwicker multispectrum files and order files (from Type 2145). The number of spectra and frequencies is only limited by the imported files. You can select which plot is displayed in the main graph area, thereby enabling you to use the zoom facility. The Contour plot is basically a 3D plot seen from the top. The values are represented by 10 different user-definable colours. Difference Plot shows the difference between two files as a contour plot.

Conversion

The example screen dump shown in Fig. 3 is based on the same data as used for Fig. 2, but now shown in spreadsheet format. The result of the conversion process is a file in Excel format, whose screen layout is that shown in Fig. 3. Once imported into a spreadsheet program, the data can be manipulated using the spreadsheet commands and formats to produce customized graphs and reports.

Specifications 5306

5306: Utility Program for the 2140 Family of Analyzers

WH 3075: Optional software for producing 3D, Contour and Difference plots

System Requirements

Software:

Software Format: Supplied on a $3^1/_2$″ 1.44 MB disk in MS-DOS format. A Software protection key is supplied by Brüel & Kjær

Hardware:

The Type 5306 works with the following Brüel & Kjær Analyzer configurations:

- **Type 2143, 2144, 2147** and **2148** loaded with software **Type 7666, 7667, 7669** or **7651**
- **Type 2143** and **2144** with PROM **VP 2611**
- **Type 2145**

Computer requirements:

IBM® PS/2 series or AT, or compatible computer with at least 440 Kbytes of free memory and a floppy disk drive
Operating System: MS-DOS or PC-DOS 3.3 or greater
Parallel Interface: A 25-pin D-type LPT port must be available for the software protection key. This port can still be used by a printer/plotter when the key is installed
Hard Disk: Requires at least 4 Mbytes free file space for the system files
Video Display Adaptor: EGA or VGA

Program Output

Printer: Drivers for the following printers are included; Canon LBP/8, Deskjet, Deskjet 500C, Epson FX, Epson LQ, IBM® Proprinter, IBM® Proprinter X24, IBM® Quietwriter, LaserJet II, LaserJet III, PaintJet, ThinkJet
Plotter: Drivers for the following HPGL plotters are included; 7470, 7475, 7550, 7585
Processed Data: Post-processed data that is saved to disk is in HPGL file format and can be used by any program recognising this file structure
Spreadsheets: Data files converted into spreadsheet format are stored on disk in Excel (*.XLS) format and can be used by any program recognising this file structure

Brüel & Kjær

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