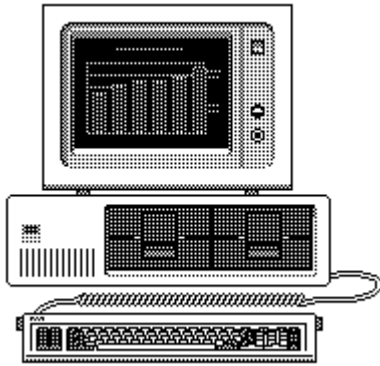# APPLICATION NOTE #111

Model 4801iL Harmonic / Flicker Test System Software

Computer Requirements

Introduction

The Harmonic / Flicker Test System (HFTS) software is an integral part of the 4801iL IEC Test system. This software was developed specifically for this purpose and performs many of the data acquisition, processing and display functions needed to test AC powered products for IEC compliance.

While this software is designed to run on a PC architecture under the Windows™ 3.1 operating system, some specific PC requirements must be met.

This application note provides guidelines on configuring a PC to meet all the requirements of the HFTS software.
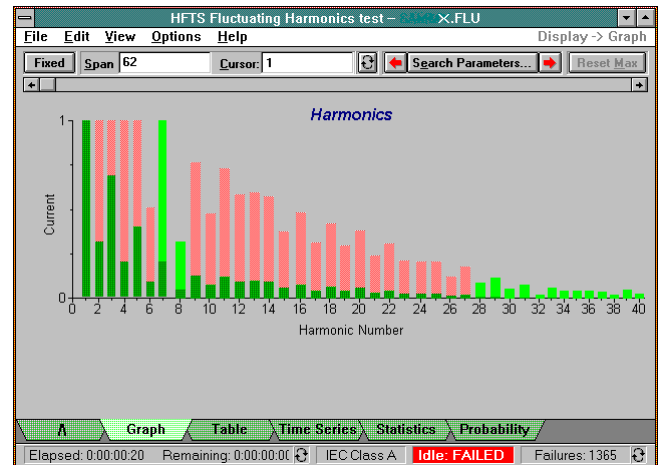
Processor type.

A 80486DX processor is required to run this program. For optimum performance, a Pentium class processor is recommended.

Processor speed

Clock speed is largely determined by the processor type and has less impact on the HFTS performance than the processor type itself. However, for 486DX class processors, a clock speed of 33 MHz or higher is suggested. For Pentium class processors, a minimum clock speed of 75 MHz is recommended.

Display Systems

The HFTS displays were designed specifically for use on standard VGA resolution (640 by 480 pixels) monitors. Use of higher resolution display modes may result in slightly obscured labels and intersecting graphical elements. While there are no functional restrictions to using higher resolution VGA settings, it is recommended to configure the PC's display adapter for standard VGA resolution to obtain optimal displays of graphs and tables.

GPIB Interface

The HFTS software requires a GPIB (IEEE-488.2) interface controller in the PC to communicate with the 4801iL AC source/analyzer. The HFTS was designed to operate with one of the following GPIB controller cards:

- National Instruments model AT-GPIB/TNT
- Hewlett Packard model HP 82335B

Other GPIB controller cards have not been tested with the HFTS software and are not guaranteed to work.

Most PC's will support one or more 16 bit ISA slots to accommodate either of the above interface cards. Follow the manufacturers installation procedures and install the Windows drivers that are shipped with these controller cards.

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Disk Storage Requirements

The HFTS program poses specific demands on hard disk storage. The program itself including support files, requires less than 5 MBytes of hard disk space. Test data files storage requirements are largely determined by the type of test and the test duration. See the table below for guidelines of disk storage requirements by test types and recommended test times. Note that the worst case storage requirements can add up to about 1.5 GBytes of storage space. For most practical applications however, a 200 MBytes hard disk should be sufficient.

Table 1 : Disk Storage Requirements Guidelines

Test Type	Default test time	No. of records	File size	Maximum test time	No. of records	File size
Quasi Stationary Harmonics	2 hours	22500	4.5 MBytes	7 days	1,890,000	400 MBytes
Fluctuating Harmonics	2 hours	22500	4.5 MBytes	7 days	1,890,000	400 MBytes
Flicker	2 hours	12 periods	6.5 MBytes	10 days	999 periods	750 MBytes

Data shown in this table assumes the following conditions:
1. All measurement data is returned, i.e. Test Setup, Advanced selection for Returned Data Type is set to All.
2. 10 minute integration period for flicker measurements
3. Harmonic measurement file sizes are for Rectangular measurement windows at 50 Hz.

Operating Systems

The HFTS software is a 16 bit Windows 3.11 application. The use of the HFTS software on any operating system other than Windows 3.11 - including Windows for Workgroups 3.1, Windows 95, Windows NT or OS/2 - is not supported.

Networking

The HFTS software is not a network aware application. Any network drivers present on the PC may interfere with the program's operation and should be removed. If networked operation of the same PC used to run the HFTS software is considered, we suggest setting up multiple boot configurations and booting the PC for non-networked operation when attempting to run the HFTS software.

Conclusion

Mainstream 80486DX and Pentium based PC's that meet the HFTS software requirements are widely available and compatibility problems are not likely when abiding by the guidelines set forth in this application note.

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