# Chapter 1
# Introduction

**(Revision 2, February 2005)**

The ACES Systems' Model 2020 ProBalancer Analyzer is a versatile analyzer that automates the task of propeller balance, provides automated rotor track and balancing adjustments or provides raw data for use with polar charts, and performs vibration surveys.

Engine, airframe, propeller, or rotor-specific setups can be loaded and stored into the analyzer by the user, then recalled to automatically configure the analyzer for the task at hand. These "Setups" store influence coefficients, which the analyzer updates with each use to minimize the number of required runs for balancing propellers or rotors.

The analyzer is capable of true, two-channel simultaneous data acquisition and provides full graphic-spectrum capabilities.

The Model 2020 ProBalancer Analyzer allows you to print spectra and balance jobs directly to a serial printer, and with the use of a serial-to-parallel converter, to a parallel printer for inclusion in aircraft records or as file copies. Survey spectra and balance reports can also be transferred directly to a personal computer for storage, trending, or manipulation for inspection or troubleshooting purposes.

Overall, the analyzer is designed as a lightweight, portable unit with accuracy and ease of use as primary design goals.

The subsequent chapters of this manual explain the functions and features of the analyzer, supporting information, and troubleshooting. The instructions found in this manual will cover the operation of the Model 2020, Model 2020 TURBO, and Model 2020 HR. Where there is a difference in operation or function, the Model applicability will be identified in parentheses following the text.

The remainder of this chapter presents tips on effectively using the manual.

## 1.1 - Notes, Cautions, and Warnings

Throughout this manual you will encounter "notes, cautions, and warnings." They will be in **BOLD** capital print centered above a short paragraph. The information in the paragraph is defined as follows for each of the three categories.

**NOTE**
**Information considered essential to emphasize for clarity or to ensure the related procedure is correctly accomplished.**

**CAUTION**
**Information that if not heeded, may result in the damage or faulty operation of equipment.**

**WARNING**
**Information that if not heeded, may result in damage or destruction of equipment and/or injury to personnel.**

## 1.2 - Conventions

The following are writing conventions used throughout the manual to describe certain concepts.

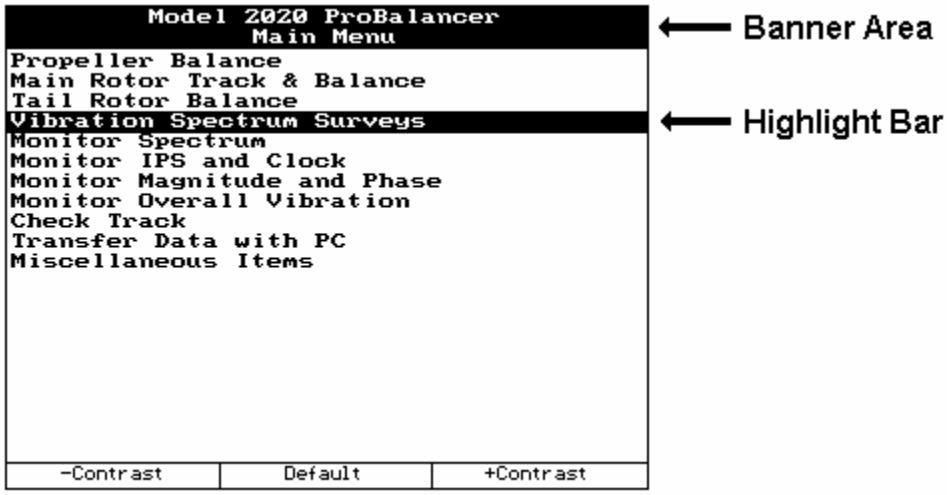
1. This manual indicates keys/keystrokes in square brackets. For example: [ENTER], [CLR], [5], [F1].

2. The term "select," as used in this manual, means to highlight the item on the current menu by using the arrow keys [⇓] [⇑] [⇐] [⇒], then press the [ENTER] key.

3. The term "Setup," as used in this manual, means the complete set of information entered into the analyzer and electronically stored in the analyzer's memory for the purpose of completing a balance, vibration analysis, or track function. This stored information may then be recalled from a "Setup" menu presented for the various functions to rapidly configure the analyzer based on the information contained in the "Setup".

4. The term "Job," as used in this manual, means the stored "Setup" information plus the collected balance, vibration, track, and/or spectral data, and recorded corrective action taken (if applicable) to correct an undesirable condition. In other words, it is a record of the analyzer configuration, acquired data, computed data, and user entered data used in the course of completing the maintenance task.

5. The “Banner” is the uppermost portion of the screen display, which defines its relationship to the currently-running analyzer function. The “Highlight Bar” is the darkened bar (controlled by the use of the arrow keys, [⇓] and [⇑]) used to identify and select the current menu item. (See figure below.) These screens and their selection options are referred to as “banner screen menus” throughout the text of this manual.




6. The term “field” as used in this manual refers to an area that requires input. Fields appear on various screens as areas delineated by boxes with either pointed ends (< >) or square ends ([ ]). Data is entered into the data field ([ ]) by using the keypad to type data. Data is entered in the “Toggle” field (< >) by using the [⇒] [⇐] keys to “toggle” or move among the selections that are preset for the field.

7. The term “Tracker,” as used in this manual refers to the ACES Systems’ Model 540 or Model 540-2 Optical Tracker.

8. The screen captures used in this manual have been taken from the 2020 HR for clarity.