
Chapter 14

Printing

(Revision 2, April 2005)

The Model 2015 ProBalancer allows you to print propeller balance jobs, rotor track and balance jobs, job setups, and graphic spectra.

The “Print” option is available through the various ProBalancer functions mentioned above as a selection from the “Manage Job” submenus of these functions (shown below in the example banner screen menu for “Propeller Balance”). See the chapters for the individual functions for specifics on how to access the print function within each.

Model 2015 ProBalancer		
Main Menu		
Propeller Balance		
Main Rotor Track & Balance		
Tail Rotor Balance		
Vibration Spectrum Surveys		
Monitor Spectrum		
Monitor IPS and Clock		
Monitor Magnitude and Phase		
Monitor Overall Vibration		
Check Track		
Transfer Data with PC		
Miscellaneous Items		
-Contrast	Default	+Contrast

Model 2015 ProBalancer		
Propeller Balance		
Start Job		
Resume Job		
Manage Jobs		
Manage Setups		
Weight Calculator		

Model 2015 ProBalancer		
Propeller Balance		
Review		
Print		
Print All		
Delete		
Delete All		

Before printing for the first time to a printer, you must first select the printer’s specifics from the ProBalancer memory using the “Printer Data Setup” function as described in the following section, 14.2. Once a specific printer is “setup” you do not have to repeat this step each time you print to that printer. Before printing you must also physically connect the ProBalancer and printer with cables, connectors, etc. as needed for that specific printer. This process is described in section 14.3. The process of selecting and accessing the “Print” function from the sub menu is described in section 14.4.

14.1 – Supported Printers

The Model 2015 ProBalancer supports direct printing to Epson-compatible, serial dot matrix printers, Hewlett-Packard Laser Jet II or higher versions of Laser Jet printers with serial

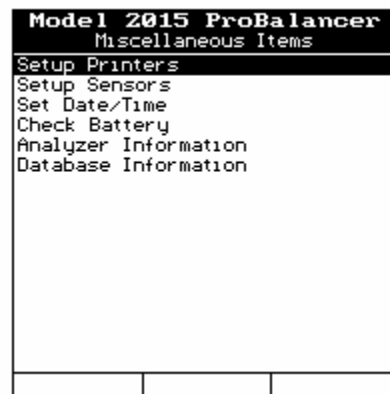
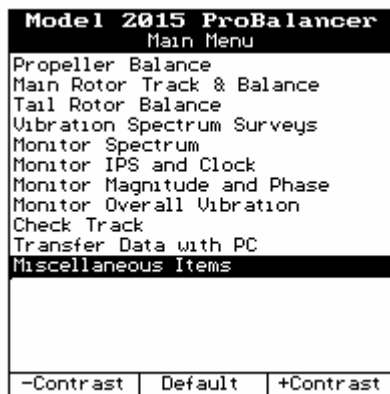
inputs, and Seiko DPU-414 thermal printers, serial input. (See your specific printer manual for Epson compatibility information.)

The ProBalancer supports only the three listed printer types with its *direct serial* output. However, the analyzer also supports printing to parallel printers but a serial-to-parallel print converter is required to accomplish this. The converter can be purchased from ACES Systems or from your local electronics dealer. ACES Systems does not provide technical support for difficulties in printing associated with printer converters not purchased through ACES Systems since there are so many converters available for which we have no technical information.

The communications/printer cable provided with the ProBalancer is a serial communications cable for transfer of data to a personal computer, serial printer, or serial-to-parallel converter. If using a parallel printer, you will also need a standard printer cable (purchase locally) configured for connection of the converter to your parallel printer.

14.2 - Printer Data Setup

Before printing from the ProBalancer to a specific printer for the first time, you must first enter data specific to the printer type into the ProBalancer memory through the “Setup Printers” function. This function is accessed through the Miscellaneous Items option on the Main Menu (see illustrations below). Once a specific printer is “setup,” you do not have to perform the “Printer Setup” process each time you print to that printer.



The “Setup Printer” option allows you to select from three possible printer types (discussed in the previous section, 14.1), three print qualities, horizontal and vertical page margins, and paper size.

Print quality is largely determined by the visual quality of spectral graphics and print desired by the user. The higher quality print takes longer for the dot matrix printer to perform. Experiment with the three quality options to determine which best fits your needs.

To complete the “Setup Printer” process, do the following:

1. Select “Miscellaneous Items” from the Main Menu banner screen.
2. Select “Setup Printers” from the “Miscellaneous Items” banner screen menu.

The “Setup Printer” banner screen shown below appears.

Model 2015 ProBalancer			
Setup Printers			
Printer:	LaserJet (Laser)		
Quality:	Low (Fastest)		
	Horiz	Vert	
Pg Margin:	1.0	1.0	
Pg Size:	8.5	11.0	

3. Use the [⇒] key to toggle between the three printer choices in the “Printer” field to select a printer. (Refer to Chapter 3, “Using the Model 2015 ProBalancer” if you are unfamiliar with using the keypad or the toggle function.)
4. Use the [↓] key to move down to the next field, “Quality.” Select print quality by using the [⇒] key to toggle between the choices.
5. Use the [↓] key to move down to the next field, “Pg Margin, Horiz” Enter the desired margin size using the keypad. Use the [↓] key to move to the next field in this area of the screen. Enter all dimensions in the four fields in this part of the screen using the keypad. The “Pg Margin” fields are fixed for the DPU-414 Printer selection and are not editable.
6. Press [ENTER] to accept your settings and exit the screen.

Proceed to the next section to configure printer equipment (cables, connectors, etc.) for printing.

14.3 – Printer Equipment Setup

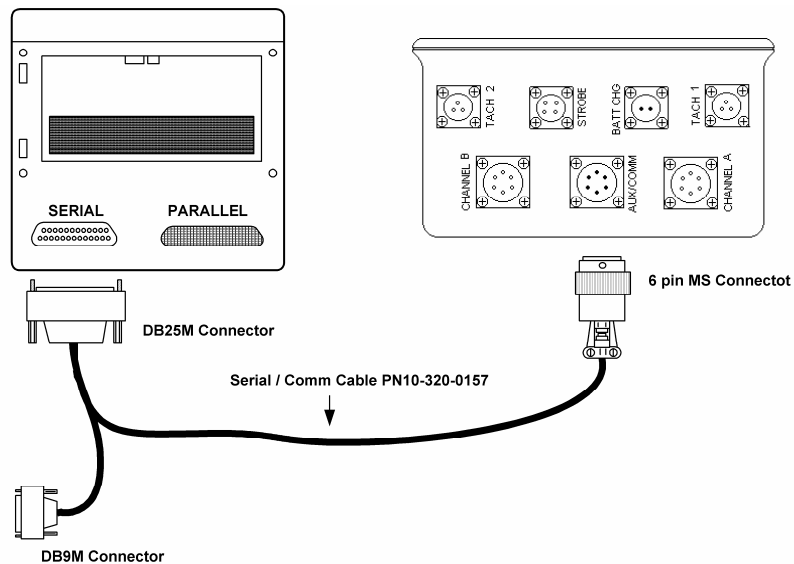
There are four possible printer equipment configurations for printing with the Model 2015 ProBalancer. Each configuration is described in the following sections.

14.3.1 - Print to a Serial Printer with DB25M Connector

14.3.1.1 Equipment Required

1. Epson FX Compatible Printer, Hewlett Packard LaserJet II or newer with Serial port, Seiko DPU 414 Thermal Printer via the serial connection.
2. Model 2015 ProBalancer
3. Serial/Communication Cable (PN10-320-0157)
4. Adapter (Gender Changer) (PN75-900-0201)

14.3.1.2 - Equipment Setup



**Configuration 1; Print to Serial
W / DB25M Connector**

To setup the equipment for this printing configuration, refer to the illustration above and do the following:

1. Connect the 6 Pin MS connector on the Serial/Communication Cable (PN10-320-0157) to the Model 2015 ProBalancer AUX/COM Port.
2. Connect the 25 pin connector end of the Serial/Communication cable (DB25 Connector) to the Adapter (Gender Changer) (PN 75-900-0201).
3. Plug the Adapter into the 25 pin serial port on the printer.

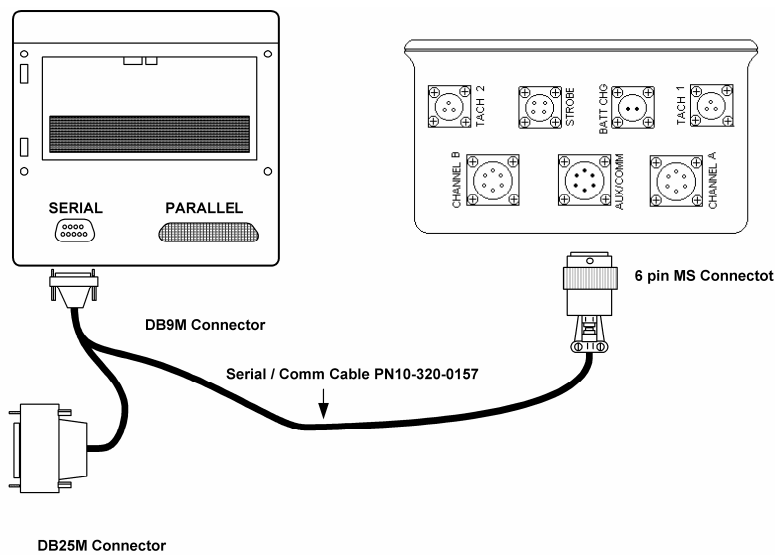
You are ready to print. See section 14.4 to continue with the printing process.

14.3.2 - Print to a Serial Printer with DB9M Connector

14.3.2.1 - Equipment Required

1. Serial Printer, HP LaserJet II or newer (higher) version of LaserJet printer/Epson FX/Seiko DPU-414.
2. Model 2015 ProBalancer
3. Serial/Communication Printer Cable (PN10-320-0157)
4. 9-Pin Null Modem Adapter (PN75-900-0226) (For DPU-414 Printer)

14.3.2.2 - Equipment Setup



**Configuration 2; Print to Serial
W / DB9M Connector**

To setup the equipment for this printing configuration, refer to the illustration above and do the following:

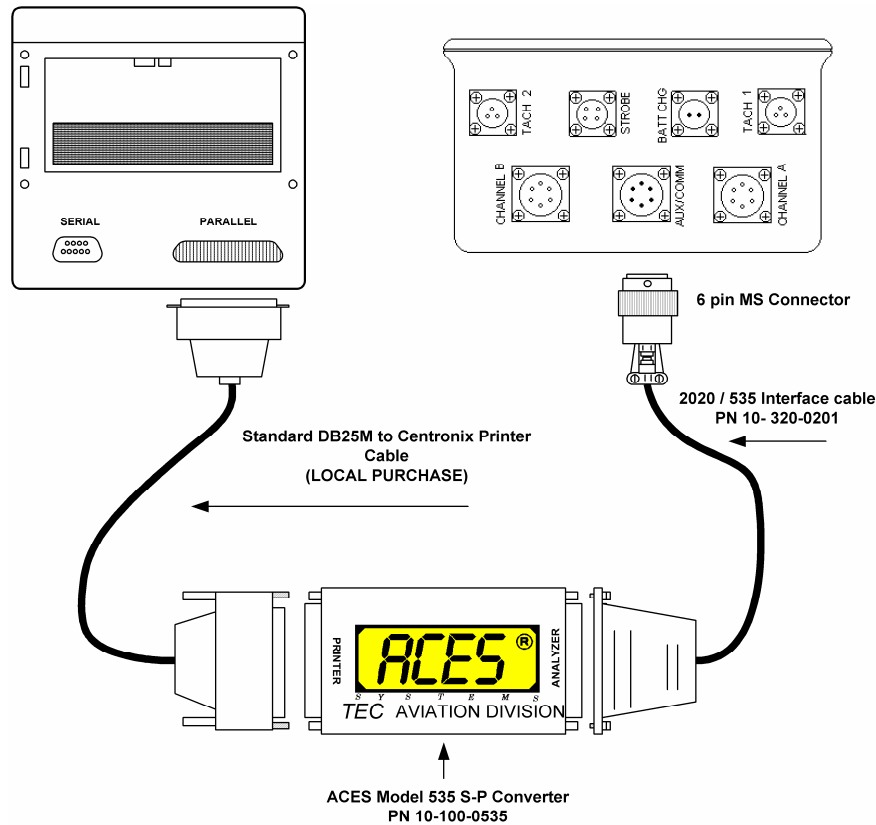
1. Connect the Serial/Communication Printer Cable 6 Pin MS Connection to the Model 2015 ProBalancer.
2. Connect the other end of the Serial/Communication Printer Cable DB9 Connector to the 9-Pin Null Modem Adapter.
3. Connect the Null Modem Adapter to the DB9 Pin port on the Printer.
4. Configure the DPU 414 Printer per Application Note # G-0-2020-PF-DPU414 which can be found on the ACES Systems web page www.acesystems.com.

You are ready to print. See section 14.4 to continue with the printing process.

14.3.3 - Print to a Parallel Printer with Converter

14.3.3.1 - Equipment Required

1. Parallel Printer; HP LaserJet II or newer (higher) version of LaserJet printer/Epson FX/Seiko DPU 414
2. Model 2015 ProBalancer
3. Interface Cable (535) (PN 10-320-0201)
4. ACES Systems' Model 535 S-P Converter (PN10-100-0535)
5. Standard DB25M-Centronix Printer Cable (purchase locally)

14.3.3.2 - Equipment Setup**Configuration 3; Print to Parallel
W / Converter**

To setup the equipment for this printing configuration, refer to the illustration above and do the following:

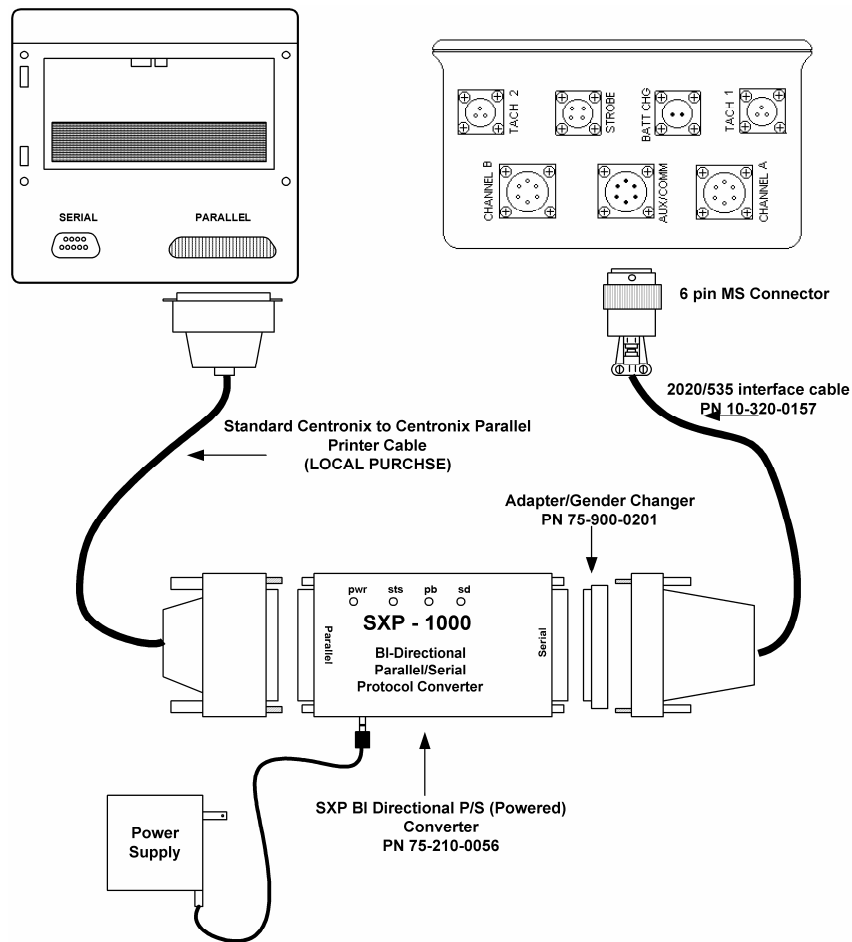
1. Connect the 6 Pin MS connector of the Interface Cable (535) (PN10-320-0201) to the 6-Pin, AUX/COM port of the Model 2015 ProBalancer.
2. Connect the DB25 connector end of the Interface cable to the "" port of the ACES Systems' Model 535 S-P Converter (PN10-100-0535).
3. At the "Printer" end of the ACES Systems' 535 Converter, attach the Standard DB25M to Centronix cable (purchase locally).
4. Connect the Centronix connection to the Centronix connection on the Printer.

You are ready to print. See section 14.4 to continue with the printing process.

14.3.4 - Print to a Parallel Printer with Powered Converter

14.3.4.1 - Equipment Required

1. Parallel Printer, HP LaserJet II or newer (higher) version of LaserJet printer
2. Model 2015 ProBalancer
3. Serial/Communication Printer Cable (PN10-320-0157)
4. Adapter (gender changer) (PN75-900-0201)
5. SXP 1000 bi-directional (Powered) Converter (PN75-210-0056)
6. Standard Centronix to Centronix Cable (purchase locally)

14.3.4.2 - Equipment Setup

**Configuration 4; Print to Parallel
W / External Powered
Converter**

To setup the equipment for this printing configuration, refer to the illustration above and do the following:

1. Connect the 6-Pin MS connector of the Serial/Communication Printer Cable (PN10-320-0157) to the AUX/COM port on the Model 2015 ProBalancer.
2. Connect the other end of the Serial/Communication Printer Cable DB25 Connector to the Adapter (Gender Changer) (PN75-900-0201).
3. Connect the Adapter to the DB25 connector on the SXP 1000 Converter (PN75-210-0056).
4. Connect the Standard Centronix Printer Cable to the SXP 1000 Converter and the other end to the Centronix connection on the printer.

NOTE

For this configuration, the DIPswitches on the SXP1000 must be set as follows: 1,3,7,8,9&10 OFF. 2,4,5&6 ON. "DTE" must also be selected. The DIP switches and DTE switches are located on the side of the converter adjacent to the external power cord port.

You are ready to print. See section 14.4 to continue with the printing process.

14.4 – Print

To print a propeller balance job, rotor track and balance job, job setup, or graphic spectra, do the following:

1. Turn the printer on and ensure you have sufficient paper loaded for the print job.
2. From the ProBalancer Main Menu banner screen, select the procedure you intend to print from, such as "Propeller Balance," "Tail Rotor Balance" or "Vibration Spectrum Surveys."
3. Select "Manage Jobs" or "Manage Setups."
4. From the "Manage Jobs" or "Manage Setups" menu, select "Print."
5. Select the job or setup you want to print.
6. Press "Enter" to print.

The ProBalancer screen will display the message "Printing in Progress," and when all data has been transferred from the ProBalancer to the printer's print buffer, the ProBalancer will display the message "Output to Printer Complete." Press the [F3] "Continue" key to return to the procedure's sub menu.

If the print job was not successful, recheck the printer for possible problems. Examples of problems include inadequate paper quantity, paper jam, pauses, printer not turned on, improper connection of the cable, improper converter, the wrong printer is selected on printer setup, or loss of power. Check these potential problem areas, then try to print again. If the print function still does not work, call ACES Systems' Customer Support at the phone number listed at the front of the manual.