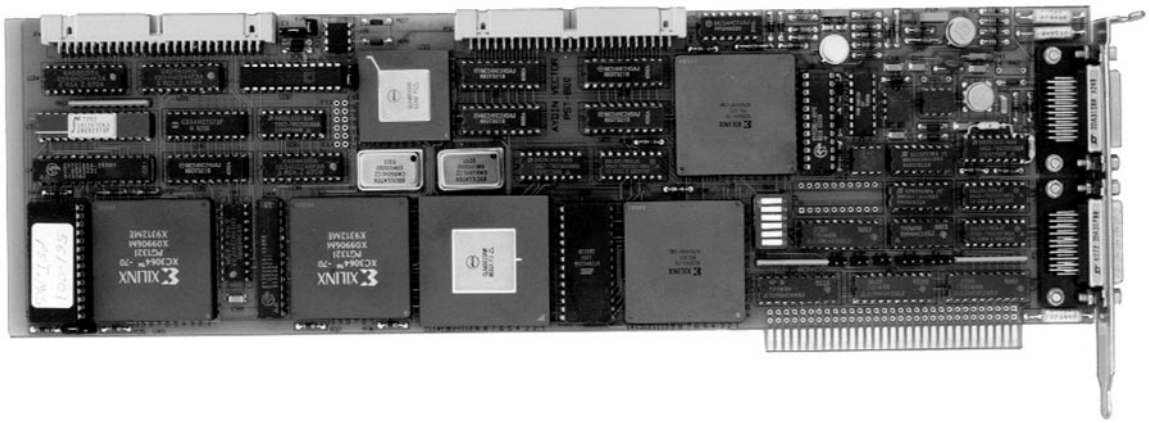
DATA SHEET

PST-800

Programmable System Tester



FEATURES

Verify 1553 data available in a class 1 PCM per IRIG-106-93, Chapter 4

Verify 1553 data available in a class 2 PCM per IRIG-106-93, Chapter 8

Accepts/provides IRIG-A/B/G Time Code; AC/DC in/out for system test

Provide parallel/discrete I/O for ALBUS-1553/System setup/calibration

Emulate Master and/or Remote functions of AYDIN TELEMETRY's ADAS-7000/8000

PCM simulator Function (for test of ATD-800)

Telemetry quick-look of all or selected parameters of incoming PCM

DAC output (strip chart display of selected parameter)

Compatible with any IBM PC/AT or AYDIN TELEMETRY's PCA-800

Menu-driven software fully compatible with AYDIN TELEMETRY's ADASWARE software

DESCRIPTION

The PST-800 is a PC-compatible interface board which supports programming, calibration, integration and test of PCM Data Acquisition system components. The architecture allows software configuration of five (5) powerful hardware functions:

1) Serial PCM Acquisition, including 1553 per IRIG-106-93, Chapters 4 & 8

2) IRIG-A/B/G Time Code Reader/Generator with AC/DC in/out

3) Master Simulator

4) Remote Simulator

5) Parallel I/O interface

This results in a versatile, multi-mode support tool. In addition to test capabilities, the PST-800 can provide the basis for a PC-based data acquisition system when combined with various acquisition cards and other AYDIN TELEMETRY Data Acquisition hardware. When used in AYDIN TELEMETRY's Model S5200 Personal Telemetry Computer or PCA-800 Programmable Computer Assembly, the result is one of the most efficient, DOS-compatible portable instrumentation test systems offered commercially today.

MASTER SIMULATOR OPERATING WITH STORED FORMAT

The PST-800 can be used to check out various types of remote data acquisition units. The PST-800 will emulate an AYDIN TELEMETRY master controller such as the PCU-800, the MMSC-800-S/A (stand alone), or the DPM-800E. Up to 8 clusterable remote data acquisition units can connected to a 10-wire "master" command/response bus. Programmable acquisition parameters such as format, gain and offset are resident in EEPROM on the PST-800. Data from remote units is available for analysis by an external decommutator, or to the internal serial PCM acquisition function of the PST-800. Operation in this mode is self-sufficient and does not require any supervision from the host PC. This function can operate as a PCM simulator for testing the ATD-800, or for testing of decommutation equipment.

REMOTE SIMULATOR (PC-based data acquisition system)

In this mode the response to each command resides in a RAM located on the PST-800. The contents of the RAM can be specific data loaded by the host PC, or can be actual data acquired from other sources within the PC such as PC-based plug -in acquisition cards, or data words converted by the PC into engineering units. This mode actually converts the PC into an active Data Acquisition Remote Unit slaved to the PST-800's internal Master function, or to an external Master unit with 10-wire interface capability (such as AYDIN TELEMETRY's PMU-700, PCU-800, ALBUS-1553, etc.) In addition to internal RAM data acquisition, the PST-800 can acquire time from the local IRIG Time Code Reader/Generator for insertion into the PCM.

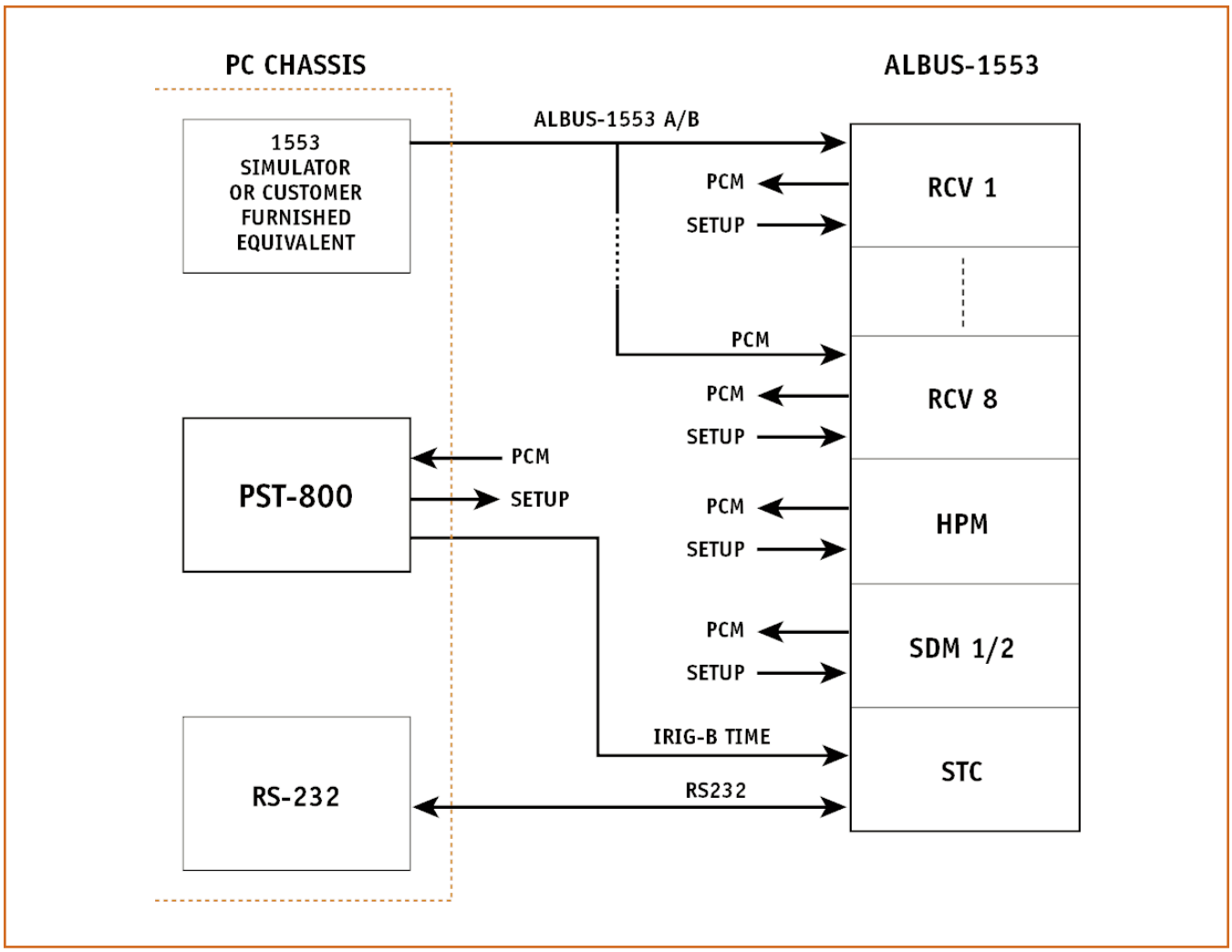


Figure 2 - The PST-800 shown testing an ALBUS-1553.

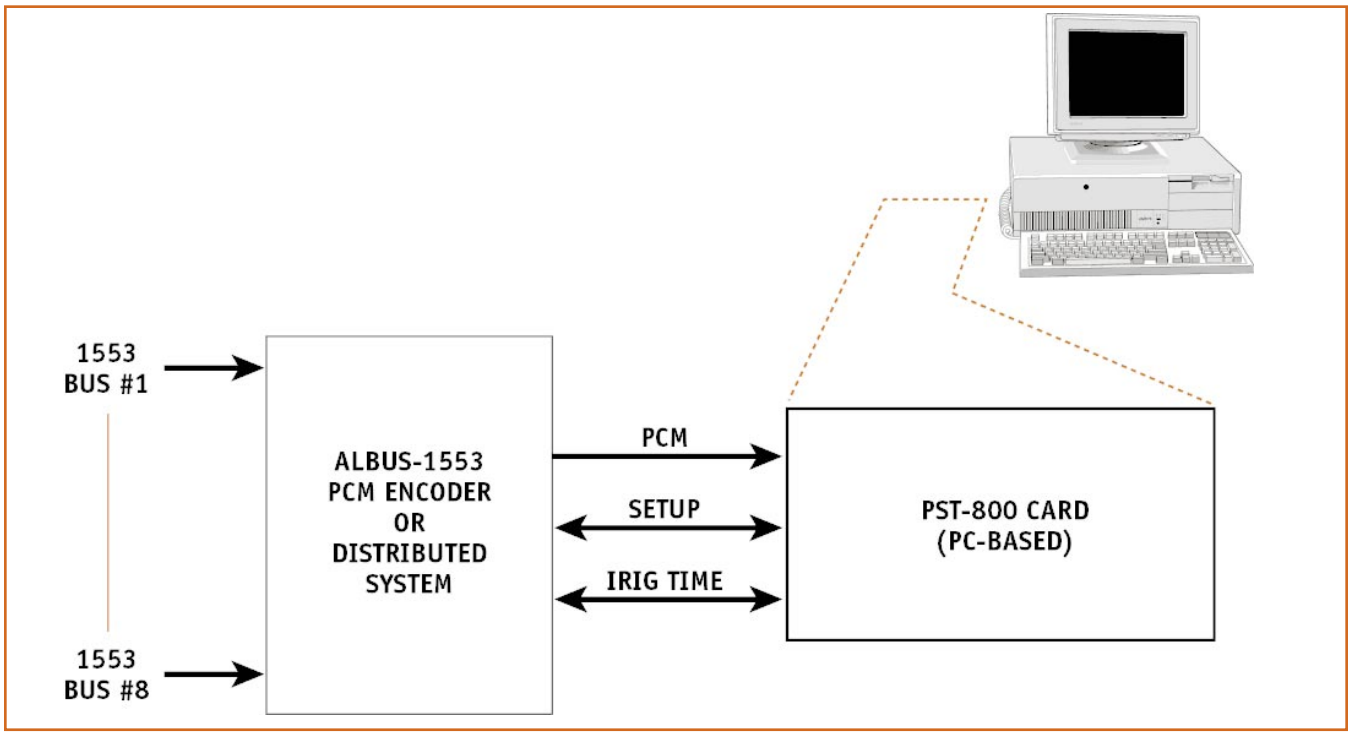


Figure 1 - The PST-800 shown in a typical MIL-STD-1553 test configuration.

PC-BASED CONTROL AND ACQUISITION

AYDIN TELEMETRY is offering a PC-based control and acquisition card for applications requiring the integration and test of AYDIN TELEMETRY's ALBUS-1553 Programmable Bus Monitor, as well as other Data Acquisition Systems and Components. The PST-800 works well with AYDIN TELEMETRY's complete line of ADAS-7000 and ADAS-8000 series distributed systems.

SERIAL PCM ACQUISITION

The PST-800 acquires data from a PCM data source (ALBUS-1553, external PCM encoder, or the Master Simulator portion of the PST-800), by direct connection to bit clock, frame clock, and serial NRZ-L data signals. Data rate can range up to 6.0 megabits per second.

Full-frame capture and buffering is provided for Class 1 (fixed format) or Class 2 (asynchronous embedded format) data streams. Special provisions for 1553 data per IRIG-106-93, Chapter 8 format are provided. This allows dynamic selection of the desired data or data source(s) under program control. Data is presented per Chapter 8 label definitions, or in raw, decimal, HEX, or binary formats.

The circuit automatically adapts to format parameters such as frame length and bit rate without the need to reconfigure the hardware of software. The acquired PCM data is "snapshot buffered" using a 4K FIFO.

The PST-800 can capture any word(s) of interest using a 8Kx8 RAM to steer the data to FIFO, DAC, gated NRZ-L/clock outputs,or external peripherals through the PST-800's I/O port (P4).

IRIG-A/B/G TIME CODE

The PST-800 has an IRIG-A/B/G compatible Time Code Reader/Generator Function which automatically synchronizes to an external time code source. Time is also loadable and readable via the PC facilitating applications requiring time stamp of data, time correlation, interval measurements, etc. The PST-800 also provides a Time Code Generator furnishing IRIG-A/B/G outputs in AC/DC format. This time can be used by an ALBUS-1553 for time-tagging command words to one (1) microsecond resolution, or by any other product with a time code reader.

PARALLEL I/O INTERFACE

A universal 32-bit input/output interface is provided. On-card registers are initialized by the PC to direct parallel output information to external sources, or to acquire parallel input information from external sources. Programmable data paths provide extensive flexibility when choosing the source and/or destination of this information. The interface is also useful in programming certain EEPROM-based systems which provide parallel access to the memory device (such as the MMP-900E, MMSC-800 or the DPM-800E).

A PST-800 is shown in Figure 2 testing AYDIN TELEMETRY's ALBUS-1553 Programmable Bus Monitor. The parallel I/O of the PST-800 is used to control the various connector strapping options; the IRIG Time Code Generator provides ALBUS-1553 time input; a 1553 simulator card or equivalent customer-furnished 1553 data source provides stimulus; and an RS232 serial communication card provides EEPROM programming. The PCM output is monitored by the PST-800 for compliance with IRIG-106-93, Chapter 4/8 requirements. Extensive data filtering simplifies testing of Class 2 PCM, presenting results in an annotated tabular format. Hardware intercabling is available to fully support specific test requirements.

There are many other possible configurations of hardware, tailorable to suit individual requirements. The PST-800 provides a powerful yet flexible solution for typical needs encountered in today's cost-minded flight test environment.

ORDERING INFORMATION

For further information about PST-800 Programmable System Tester, contact your nearest AYDIN TELEMETRY Sales Representative or the AYDIN TELEMETRY Sales Office in Newtown, PA.

Specifications subject to change without notice.

AYDIN TELEMETRY

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