

PC Data System



The PC Data System (PCDS) is a tail-end computer designed to complement the capabilities of the existing instrumentation radar. The PCDS combines Commercial Off-the-shelf (COTS) components and custom electronics to provide automated radar calibration, designation, RF and on-axis tracking, and real-time data correction.

The PCDS presently interfaces to eight radar subsystems:

- | | |
|----------------------|---|
| •Range Tracker | Reads range data and provide designate data |
| •Encoder Electronics | Reads AZ/EL pedestal encoder data |
| •Servo Control Unit | Positions AZ/EL pedestal axes |
| •RF Receiver | Reads AZ/EL receiver errors |
| •Level Sensor | Reads pedestal mislevel data |
| •IRIG Time | Synchronizes to radar time |
| •Optics Video | Adds annotation to video display |
| •Radar Console | Operator mode control |

Operator control of the PCDS is through keyboard and mouse using an X-Windows GUI display presentation. The display features three main windows:

- Control Matrix
- Status Self-Scan
- OPCOM

When powered on, the PCDS can always be used to monitor or record data, and when external designate is selected from the radar console, the PCDS has three-axis control over the radar.

The personal computer houses Commercial Off-The-Shelf (COTS) hardware for interfacing with the radar subsystems. Custom Printed Circuit Boards (PCBs) are located in the various subsystems to convert data into standard formats for acquisition.

The PCDS is synchronized to the radar timing system and can be run at various update rates. Once the PCDS is deselected, the radar will operate with total independence even if the PCDS is shut off or disconnected.

The stand-alone graphics option communicates with the PC via a standard Ethernet connection. Data can be displayed real-time on two-dimensional area maps or in a post mission playback mode.

Technical Services

557 Mary Esther Cutoff
Fort Walton Beach, Florida 32548

Electronic Systems

850-244-7752
850-244-7782 fax

Contact [Jim Atkinson](#)

Features and Specifications



CALIBRATION

- Automated Star Calibration
- Automated Star Mislevel Calibration
- Tiltmeter Mislevel Calibration

DESIGNATION

- Five Operator Specified Static Targets
- Constant Acceleration Slew
- Constant Velocity Slew
- Trajectory Acquisition
- First Motion of Trajectory Acquisition
- Real-time Data Corrected Designation
- Remote Data Designation

TRACKING

- RF Track
- On-Axis Track
- Real Time Data Correction
- Data Recording

GRAPHICS

- Retain Multiple Maps
- Plot Aircraft Position Against Local Maps
- Display Alphanumeric Track Data
- Slave Radar to Locations on Map
- Zoom and Pan

PHYSICAL REQUIREMENTS

PCDS Console: The PC/peripherals and graphics station/peripherals are located on a roll-around rack with the following dimensions (in inches): 46" W x 31" D x 35" H. The console interfaces to the radar via one 120 V AC power cord and six data cables.

Customer Interfaces: Three memo-pak slots are required for the URT interface. Two are filled with custom digital logic and a third is for an interface connector. The logic cards require +5V DC power but each draws less than 250 ma. A similar digital interface card is located on a panel near the encoder data chassis. This card also requires +5V DC power and draws approximately 250 ma. The other radar subsystems require no custom interface hardware other than cables, connectors and terminal boards.



For more information, please contact:
Technical Services, Business Development
557 Mary Esther Cut-Off
Fort Walton Beach, Florida 32548
Telephone (850) 244-7752 Fax (850) 244-7782

BAE SYSTEMS