

## **Case Study: Radar For Airport Wind Shear Detection And Operational Meteorology**

**Requirement:** Provide radar systems that are capable of reliable, accurate, real-time detection of low level wind shear event hazards at major international airports, and still be able to provide weather radar data for general purpose operational meteorology.

**Solution:** Five fully coherent TDR series radar systems.

The ability to reliably detect low level wind shear near an airport requires a radar with accurate measurement over a wide range of wind velocities plus a high ability to discriminate between ground clutter and valid data. The Civil Aviation Authority of China (CAAC) has TDR radars installed at the Beijing Capital airport, as well as airports in Jiangxi/Ganzhou, Jingdezhen, Sanya and Haikou.

The fully coherent design of TDR radars provides both reflectivity and velocity data with scientific quality and accuracy. Measuring high wind velocities requires a radar with a high PRF. The TDR radars have the highest PRF of any commercially available weather radar.

The TDR radar's offset feed antenna provides the best ground clutter rejection of any commercially available radar system. Ground clutter rejection is particularly important in an airport environment. Only a radar antenna with very low first side lobes can discriminate between moving clutter (ground service vehicles, taxiing aircraft, etc.) and low level winds. The TDR's offset feed antenna has the lowest first side lobes of any commercially available radar.

The TDR radars include software which can automatically detect low level windshear using algorithms similar to the U.S. FAA's TDWR system. Both audible and visual alarms of a wind shear event can be produced and distributed to users in real-time.

In addition, the TDR radars include a full range of capability to produce both PPI and volume scan data products for general meteorological usage. These products can be automatically generated and distributed to users.



**TDR Radar- Beijing Capital Airport**



**TDR Radar- Sanya Phoenix Airport**

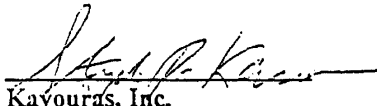
**Kavouras** INC

TDR 3600 HP Doppler Weather Radar for  
Beijing Meteorological center of CAAC

## FINAL ACCEPTANCE TEST CERTIFICATE

This document hereby confirm that Kavouras, Inc. TDR 3600 HP Doppler Weather Radar and related equipment has been installed to the satisfaction of CAAC and performed as specified in the CAAC tender document # 0619 at the Beijing International Airport.


  
CAAC

  
Kavouras, Inc.

18/3-96  
Date

18/3/96  
Date

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On-Site Acceptance Test  
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Please note that Radtec acquired Kavouras' entire radar product line and technology in 2000. The Kavouras model TDR 3600 HP is the predecessor of the Radtec model TDR 43-250GC